

# GraybaR TOOLS

*for*

**LINE CONSTRUCTION AND MAINTENANCE**

*Overhead and Underground*



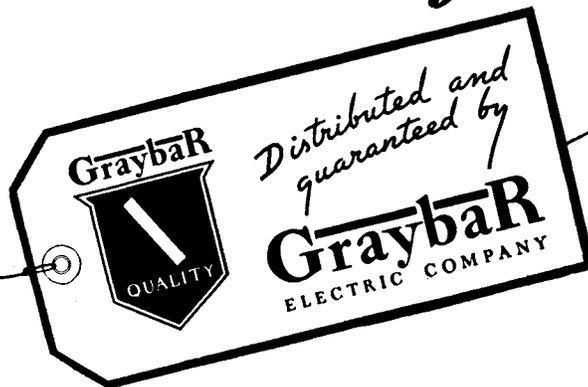
**CATALOG NO. U-31**

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**LINE CONSTRUCTION AND MAINTENANCE**

*Overhead and Underground*



**GRAYBAR ELECTRIC COMPANY, Inc.**  
**Executive Offices: 420 Lexington Avenue, New York**

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# Graybar

## Has a Specialized Service for Tool Users and Buyers

### TESTED PRODUCTS

Even under normal conditions, your linemen's lives depend on the quality of the tools and protective equipment they use. Likewise, in meeting emergency jobs, the maintenance of your service to the public depends on the quality and design of the tools with which your men work. For this reason, construction and maintenance tools supplied to utilities by Graybar have been designed and manufactured particularly for utility use, and have been tested in actual field conditions to meet all work requirements. There is no substitute for tested quality when the lives of your men are at stake or when service to the consumer is interrupted or curtailed. Something "just as good" may be lower in first cost, but in the end, the most expensive "saving" ever made.

### AVAILABILITY

In choosing your source of supply on tools, availability is an important factor. To meet your needs, Graybar stocks in eighty-six strategically located warehouses hundreds of the more frequently needed tools. Consequently, you can consider the Graybar warehouse as one of your own. (See list on page 2 for your nearby warehouse.) As evidence, Graybar service to the power-and-light and telephone industries in times of emergency has proved itself on many occasions. Why not use this service for your day-to-day tool needs also?

### SERVICE

Service is a much abused word, and one that requires definition. What we mean by the word is the assurance of prompt and efficient final delivery — the equipment **you want — where and when you want it.** We mean further that all of our 71 years of experience, all the resources of our 86 branches coupled with those of scores of our suppliers' can (and will, if necessary) be focused immediately on meeting your requests. Special situations are included, too, and if you need special equipment, we will do our level best to get it to you promptly and minus extra cost.

### SELECTION—No. U-31 TOOL CATALOG

As part of our specialized service on construction tools and equipment, we have prepared this comprehensive catalog primarily to aid you in selecting quickly and easily the right tool for the right job. We have endeavored to list and describe all the tools and equipment that you would ordinarily use. However, if some particular item that you are interested in is not contained in this catalog, a phone call or letter to our nearest office will receive the prompt attention of a Graybar Specialist. Always feel free to consult Graybar on construction tools and equipment and "everything electrical."

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## IMPORTANT

All prices shown in this catalog are approximate list prices for comparison only, and are not to be used as a basis for quotations. Prices are subject to change without notice.

# MECHANICAL LINE CONSTRUCTION and MAINTENANCE TOOLS

## All-Steel Utility Body Model B-7



For  $\frac{3}{4}$  and 1-ton truck chassis with cab to axle dimension of approximately 50 inches, Model B-7 is built for years of service in diversified fields of operation.

The body has 30 square feet of floor space. The side panels open to roomy compartments which house supplies, tools and associated equipment

needed for the installation, maintenance and repair of telephones, electric lines, etc.

Because of the many purposes it serves, the B-7 fits the needs of electric light and power companies, gas departments, REA cooperatives, electrical contractors, independent telephone companies and the like.

Front and side panels are built of 18-gage stretcher leveled steel. Compartment tops are covered with 16-gage stretcher leveled steel.

Constructed of 13-gage diamond plate steel, the floor is securely riveted to the cross sills of the understructure. A  $1\frac{1}{2}$ -inch flange of the floor is riveted to the panels. The understructure of the body is reinforced with  $1\frac{1}{2} \times 2$ -inch steel strips welded to the 3-inch, 5-pound cross sills.

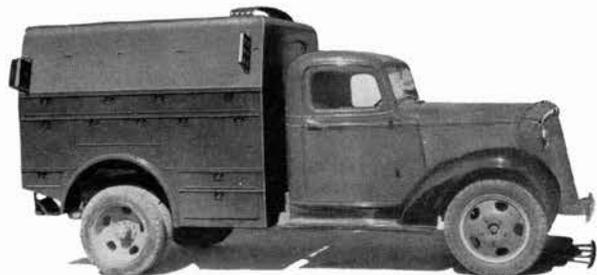
Compartment Dimension — Body Closed

	No. of Compartments	Width Inches	Height Inches	Depth Inches
1	1	16	18	11½
2	6	4	10	10½
3	6	4	8	11½
4	1	8	10	10½
5	1	8	8	11½
6	1	36	7	10½
7	1	36	11	11½
8	1	31	13	11½
9	1	12½	13	18
10	1	3	13	84
11	1	6	3	84
12	1	12½	13	18
13	1	42	9	11½
14	1	42	9	11½
15	1	42	18	11½
16	1	31	13	11½

Compartment doors are 76 inches long and 13 inches wide. All doors operate on a full length, 2-inch piano type hinge and are fitted with hasp type handles which can be locked.

The tailgate of the B-7 is constructed of 14-gage stretcher leveled steel and operates on 3 hinges. May be lowered to the same parallel of the body's floor, increasing the floor length 14 inches. The floor level is only 26 inches from the ground.

Ladder racks are built of  $1\frac{1}{2}$ -inch pipe, inserted in castings riveted to the body. Ladders, pike poles and other equipment can be carried on the racks.

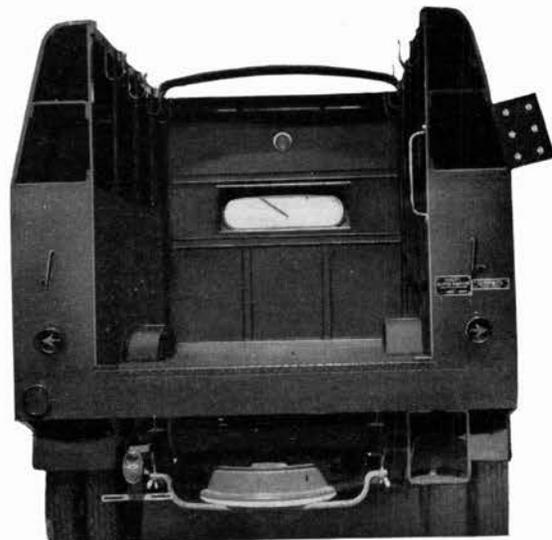


Model U-8

The Model U-8 All-Steel Line Maintenance Body illustrated here, is designed to meet the requirements of the smaller utility companies, independent telephone companies, and REA cooperatives.

The body is 96 inches long, 76 inches wide with tool compartments 12 inches deep. The loading space is 52 inches wide and 72 inches long. The Model U-8 Body will fit a  $1\frac{1}{2}$  ton capacity truck with a CA dimension of 57 inches.

The standard body is equipped with tarpaulin bows, material hooks, ladder racks, rear step, and grab handle. A winch compartment can be furnished at a slight additional cost.





## ALL-STEEL PUBLIC UTILITY BODIES



The Series 50M Standard Meter Installation and General Service Body is a compact, convenient, all-purpose body which may be equipped for either electric or gas meters, or both. Body arrangements also provide for street light patrol duty, light overhead maintenance, tree trimming or for hauling large appliances. Other uses are made possible by a rearrangement of the partitions or shelves.

These bodies are furnished in two standard lengths: The Series 50M in 74½ inch length for ½-ton chassis, has a CA dimension of approximately 38 inches; the Series 60M in 84½ inch length for ¾-, 1-ton chassis, has a CA dimension of approximately 48 inches.

The entire body is constructed of stretcher leveled cold-rolled steel, electrically welded into one complete unit.

Rear fenders are made as a part of the body which saves the purchaser the added cost of chassis rear fenders and provides additional compartment space.

The main compartment on the left side of the body on both the Series 50M and the Series 60M is divided into two sections, the rear section of which is equipped with a full length tray. The main compartment on the right side is equipped with a removable tote tray. This compartment also contains fourteen individual bins for miscellaneous supplies on the Series 50M, and eighteen bins on the Series 60M. A folding vise bracket is provided at the rear of this section. Additional compartment space is provided in front and rear of the wheel housing on both sides of body. The front lower units are accessible through outside doors and rear units are reached by lowering the end gate. A pipe rack is provided in the right lower compartment and extends the full length of the body.

The fact that these bodies are standardized in general design, makes possible the considerably low-cost of this type. It also makes possible a uniform appearance.

The Series 55M-65M Standard Meter Installation and General Service Body is primarily designed for electric meter installation. This body is also arranged and equipped to be used in service connection work, light overhead maintenance, light patrol duty, tree trimming and for hauling appliances.

The standard body is furnished in two lengths, the Series 55M being 74½ inches in length and the 65M being 84½ inches long. The overall width of each body is 81 inches, with an interior width of 46 inches. Compartment sections on each side are 12½ inches wide.

The approximate compartment space in the Series 55M

is 57,000 cubic inches and in the Series 65M, approximately 66,000 cubic inches.

The 55M Body is suitable for mounting on a ½-ton chassis having a CA dimension of approximately 38 inches and the 65M Body is for mounting on a ¾-, 1-ton



chassis with a CA dimension of approximately 48 inches.

Both bodies are constructed of stretcher leveled cold-rolled steel, electrically welded into one complete unit. They are easily interchangeable and should last the life of several truck chassis.

The ladder rack shown in the photo above is a side mounting type. However, the body may also be had with overhead ladder mounting. In the overhead type, the rear rack is removable and can be carried on the front rack section. If desired, compartment space and shelves may be rearranged to meet any individual requirements. Bodies can be furnished either in prime coat of paint or finished in any desired color. They can be mounted either at destination or at the factory.

### Series 500

The Series 500 Line Construction and Maintenance Body is designed to meet all modern requirements, yet it is also built to fulfill every need in line construction and maintenance work. Because of its unique construction features, it possesses unusual strength, yet is light in weight. Its compartments are large, convenient and planned to carry all necessary tools and materials.

### Series 600

The Series 600 is a DeLux Line Construction and Maintenance Body which incorporates every known improvement in utility body design. Every inch of space is utilized—every convenience necessary is included. It provides exceptionally large and roomy compartments, combining ample storage with easy accessibility. The Series 600 is, without doubt, the last word in appearance, design, construction and efficiency.

## BODIES

Standard Type Bodies are designed and constructed to fit the standardized services offered by Public Utility Service Departments at a price which is unusually low. Many operators, however, desire alterations to fit their own particular requirements and this can be done with little or no extra cost.

Should you desire a type body not listed among these Standard Models, Graybar will be glad to furnish you detailed drawings, specifications and prices. Or, if you should like to embody certain changes from the standard types, Graybar offers specialized aid toward the solution of your problems.

## POLE TRAILERS

Heavy-duty Pole Trailers are built to give long, trouble-free service. Models A-20 (2-ton), A-30 (3-ton) and A-50 (5-ton) have their forward frame ends tapered to a forged drawbar eye. This type trailer employs the center pole of the load as a tongue by attaching a drawbar clamp to the pole.

Models AP-30 (3-ton) and AP-50 (5-ton) have an adjustable tubular steel tongue which eliminates use of drawbar. Both 5-ton models (A-50 and AP-50) are equipped with helper springs. The total load of poles is carried on the trailer on all models. Cab controlled electric or hydraulic brakes are available.

### SPECIFICATIONS

	Model A-20	Model A-30	Model A-50	Model AP-30	Model AP-50
Rated capacity in tons	2	3	5	3	5
Size of rolled channel frame	4"	5"	5"	5"	5"
Size of bolster channels	4"	5"	5"	5"	5"
Size of Axle (square)	2"	2 1/2"	3"	2 1/2"	3"
Axle capacity	5000 lbs.	7000 lbs.	12000 lbs.	7000 lbs.	12000 lbs.
Wheels — Budd Stud type or to suit your specifications	Single	Single	Dual	Single	Dual
Size of tires (recommended)	32x6	7.50x20	7.00x20	7.50x20	7.00x20
Tread	58"	63"	66 1/2"	63"	66 1/2"
Overall width	60"	70"	80"	70"	80"
Type of tongue	Tapered to drawbar eye	Tapered to drawbar eye	Tapered to drawbar eye	Adjustable tubular tongue	Adjustable tubular tongue
Size of main springs	5/8" x 2 1/2" 10 leaves	5/8" x 2 1/2" 10 leaves			
Size of helper springs	None	None	3/8" x 2 1/2" 6 leaves	None	3/8" x 2 1/2" 6 leaves

## POLE TRAILERS

No. 2064-3

### SPECIFICATIONS

Capacity—3 tons  
Tires—38x9 singles  
Tread—64"  
Wheels—Budd disc  
Overall width—72"  
Overall length—127"  
Frame—5" channel  
Height empty—40"  
Bolsters—Stationary type with sliding uprights  
Weight—1750 lbs.



## POLE DINKIES

Model 1485 Trailer . . . a three to four ton heavy duty pole dinky for construction service. Tongue is 4" seamless steel tube with truss rods. Axle is 3 3/4" tube insuring great strength without excessive weight. Bolsters are electric cast steel 37" wide with eyelets for chain binder. Budd dual disc wheels on Timken bearings. Tires are 6.00/20 duals, tread 61". Overall length 92". Weight 790 pounds.



## CABLE SPLICERS CART

Model S Cable Splicers Cart . . . an all-steel cable splicers cart that is compact, rugged and theft-proof. Compartments provide a place for every tool within easy reach of the splicer. A folding leg supports the front end of the cart when parked. Capacity 1000 pounds; overall length 74"; height 41", axle 1 1/4" square; tread 34"; wheels steel spoke; Timken bearings; tires 4.75/19-4 ply; weight 480 pounds.



## CABLE REEL TRAILERS



steel axle heat treated; weight

Model CR38 . . . a combination cable reel and pole trailer to handle reels up to 38"x84". Tread 74"; tires 9.00/20 singles; width of bolster 72"; steel spoke wheels; Timken bearings; and 2 3/4"x2 3/4" high carbon 2590 pounds.



Bolster Attachments for CR Trailers . . . easily and quickly attached to the frame of the trailer and secured in position with a wrench. Bolsters permit hauling poles in place of cable reel. Weight 2960 pounds.

## EARTH BORING UNIT



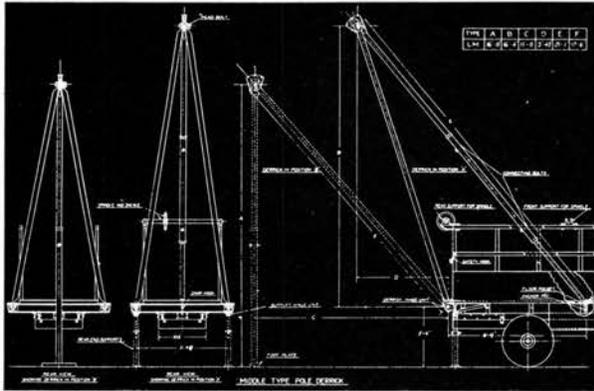
An exceptionally strong rear mounted earth boring machine unit that is designed for combination line construction and maintenance service. The boring machine is compact in design and requires only a few feet of the body floor space. Plenty of room is available for carrying men, materials, tools, supplies and the like. The body is especially designed for the mounting of the boring unit and has all the desirable features of a regular line construction body. The rugged Four Wheel Drive chassis is perfectly adaptable to Utility Service. The added traction, made possible by its four-wheel drive feature, makes motorized line construction practical under the most exacting conditions.

## MODEL HS BORING MACHINE UNIT

The Model HS Boring Machine Unit is designed for light and medium line construction and maintenance service. It is powered by an 84 horsepower 6-cylinder engine; is equipped with 6-volt starting and lighting system, 7" heat treated frame, transmission having five speeds forward and one reverse, and with a power take-off built into the transfer assembly. The Type D boring machine is mounted in the center of the platform and comes equipped with a 13-ft. rack bar to dig 7-ft. holes to a maximum diameter of 20".



### THE LM DERRICK



**LM DIMENSIONS**

The LM Derrick is undoubtedly the most popular derrick in the Graybar line, being of an ideal size for general purpose work, not only for maintenance but for average line construction as well. This derrick is suitable for installation on trucks of 2 tons and larger capacity, and has a lift of 20 feet. It is built to handle the average 45 ft. pole with ample reserve for safety of men and equipment. Detailed specifications as well as lifting capacities are shown below:

#### LM SPECIFICATIONS

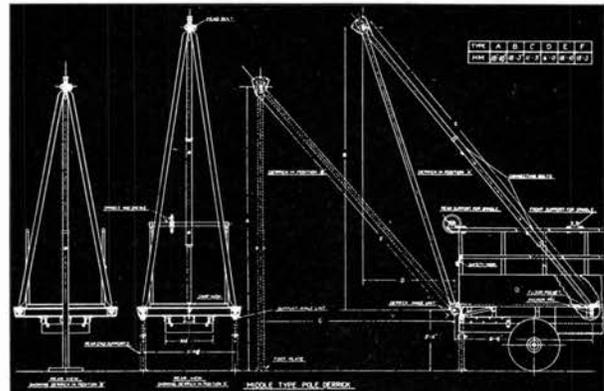
- DERRICK HEAD SHEAVE—Malleable iron, 8" diameter.
- DERRICK HEAD PLATES—Mild steel,  $\frac{1}{8}$ "x12x13 $\frac{1}{2}$ ".
- MIDDLE LEG UPPER SECTION—3 $\frac{1}{2}$ "x.134". 11'7" long. Shelby Tube.
- MIDDLE LEG MIDDLE SECTION—4x.134". 96" long. Shelby Tube.
- SIDE LEGS—3 $\frac{1}{2}$ "x.134". 17'10 $\frac{1}{2}$ " long. Shelby Tube.
- HEAD BOLT—Mild steel, 1 $\frac{1}{4}$ "x8 $\frac{3}{4}$ ".
- CONNECTING PINS—Mild steel, 1x5 $\frac{1}{4}$ ".
- ANCHOR PIN— $\frac{7}{8}$ " bolt stock, 7 $\frac{1}{2}$ " long. 1 $\frac{1}{8}$ " head.
- FOOT PLATE—7", 15-pound I beam, 24" long.
- WEIGHT—425 pounds.

#### LIFTING CAPACITIES

- GROUND POSITION (Center Leg Fully Telescoped)—10,000 pounds.
- GROUND POSITION (Center Leg Fully Extended)—6,000 pounds.
- TRUCK POSITION—3,000 pounds.

The LM Derrick is also available with Telescoping Side Legs at slightly higher cost. This feature was developed to allow the derrick to be transported more compactly and to allow free opening of both cab doors when the derrick is in carrying position. The capacity of the derrick is the same as the standard derrick. This feature changes the dimensions of the side legs which are made in two sections with the following dimensions: Side Leg Upper Section—8'10". Side Leg Lower Section—10'8".

### THE HM DERRICK



**HM DIMENSIONS**

The HM Derrick is similar to the LM Derrick but it is intended for handling larger sized poles and is recommended for installation on trucks of 3 tons and larger capacity. The HM derrick has a lift of 22 $\frac{1}{2}$  feet, and is designed to handle the average 55 ft. pole. Detailed specifications as well as lifting capacities are shown below:

#### HM SPECIFICATIONS

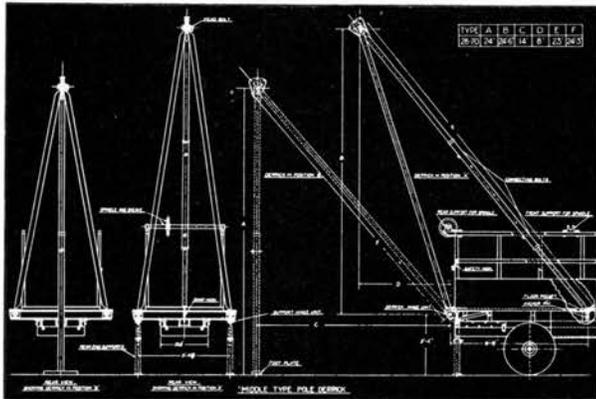
- DERRICK HEAD SHEAVE—Malleable iron, 8" diameter.
- DERRICK HEAD PLATES—Mild steel,  $\frac{1}{8}$ "x12x13 $\frac{1}{2}$ ".
- MIDDLE LEG UPPER SECTION—3 $\frac{1}{2}$ "x $\frac{3}{16}$ ". 11'7" long. Shelby Tube.
- MIDDLE LEG MIDDLE SECTION—4x $\frac{3}{16}$ ". 9'11" long. Shelby Tube.
- MIDDLE LEG LOWER SECTION—2 $\frac{3}{4}$ "x $\frac{3}{16}$ ". 6'6" long. Shelby Tube.
- SIDE LEGS—3 $\frac{1}{2}$ "x $\frac{3}{16}$ ". 19'10" long. Shelby Tube.
- HEAD BOLT—Mild steel, 1 $\frac{1}{4}$ "x8 $\frac{3}{4}$ ".
- CONNECTING PINS—Mild steel, 1x5 $\frac{1}{4}$ ".
- ANCHOR PIN— $\frac{7}{8}$ " bolt stock, 7 $\frac{1}{2}$ " long. 1 $\frac{1}{8}$ " head.
- FOOT PLATE—7", 15 pound I beam, 24" long.
- WEIGHT—560 pounds.

#### LIFTING CAPACITIES

- GROUND POSITION (Center Leg Fully Telescoped)—12,000 pounds.
- GROUND POSITION (Center Leg Fully Extended)—7,200 pounds.
- TRUCK POSITION—4,000 pounds.

The HM Derrick is also available with Telescoping Side Legs at slightly higher cost. This feature was developed to allow the derrick to be transported more compactly and to allow free opening of both cab doors when the derrick is in carrying position. The capacity of the derrick is the same as the standard derrick. This feature changes the dimensions of the side legs which are made in two sections with the following dimensions: Side Leg Upper Section 9'10". Side Leg Lower Section 11'7".

## THE 2870 DERRICK



### 2870 DIMENSIONS

The 2870 Derrick is an extra heavy middle type derrick, suitable for use on trucks of 3 tons and larger capacity. This derrick is designed for handling exceptionally long and heavy poles. It has a lift of 28 feet, and is built to handle the average 70 ft. pole. Special tubing is used in this derrick and reinforcements are used at point of greatest strain. Detailed specifications as well as lifting capacities are shown below:

### 2870 SPECIFICATIONS

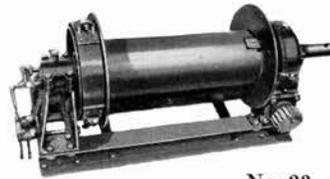
**DERRICK HEAD SHEAVE**—Malleable iron, 8" diameter.  
**DERRICK HEAD PLATES**—Mild steel,  $\frac{1}{8}$ " x 12" x 13 $\frac{1}{2}$ ".  
**MIDDLE LEG UPPER SECTION**—4 $\frac{1}{2}$ " x  $\frac{3}{16}$ ". 14'2" long. Shelby Tube.  
**MIDDLE LEG MIDDLE SECTION**—5 $\frac{1}{4}$ " x  $\frac{3}{16}$ ". 10' long. Shelby Tube.  
**MIDDLE LEG LOWER SECTION**—3 $\frac{3}{4}$ " x  $\frac{3}{16}$ ". 9'2" long. Shelby Tube.  
**SIDE LEGS**—4 $\frac{1}{2}$ " x  $\frac{3}{16}$ ". 25' long. Shelby Tube.  
**HEAD BOLT**—Mild steel, 1 $\frac{1}{4}$ " x 8 $\frac{1}{4}$ ".  
**CONNECTING PINS**—Mild steel, 1 x 5 $\frac{1}{4}$ ".  
**ANCHOR PIN**— $\frac{7}{8}$ " bolt stock. 7 $\frac{1}{2}$ " long. 1 $\frac{1}{8}$ " head.  
**FOOT PLATE**—7", 15 pound I beam. 24" long.  
**WEIGHT**—875 pounds.

### LIFTING CAPACITIES

**GROUND POSITION (Center Leg Fully Telescoped)**—13,500 pounds.  
**GROUND POSITION (Center Leg Fully Extended)**—10,000 pounds.  
**TRUCK POSITION**—5,000 pounds.

The 2870 Derrick is also available with Telescoping Side Legs at slightly higher cost. This feature was developed to allow the derrick to be transported more compactly and to allow free opening of both cab doors when the derrick is in carrying position. The capacity of the derrick is the same as the standard derrick. This feature changes the dimensions of the side legs which are made in two sections with the following dimensions: Side Leg Upper Section 13'9". Side Leg Lower Section 13'9".

## WINCHES



No. 23

### ROPE CAPACITY OF No. 23 WINCH

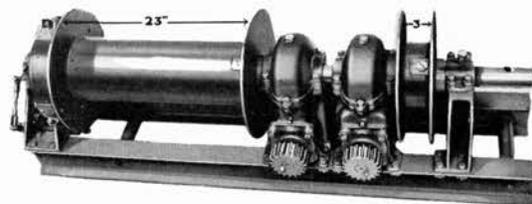
Size and Type	No. of Feet
$\frac{3}{8}$ " Steel	2047
$\frac{1}{2}$ " Steel	1400
$\frac{5}{8}$ " Steel	1150
$\frac{3}{4}$ " Steel	736
$\frac{3}{8}$ " Manila	506
1" Manila	300

### SPECIFICATIONS

**Pulling Capacity** . . . 12,000 lbs.  
**Diameter of Drum** . . . 8"  
**Diameter of Flange** . . . 16"  
**Length of Drum Inside** . . . 23"  
**Worm Gear Ratio** . . . 29 to 1  
**Worm Shaft Bearings** . . . Bronze  
**Thrust Bearings** . . . Bronze-Steel  
**Castings** . . . Electric Furnace Steel  
**Winch Bed** . . . 2-5" 10 lb. I Beam  
**Winch Shaft Bearings** . . . Bronze

**Winch Shaft** . . . 2-7/16" S.A.E. 1035 Steel, Hardened and Ground  
**Clutch** . . . Three Jaw Type  
**Brake** . . . Band Type  
**Automatic Winch Worm Brake**  
**Weight, Winch only** . . . 510 lbs.  
**Weight with S.A.E. Power Take-off and Controls** . . . 675 lbs.  
**Weight with Split Shaft Power Take-Off and Controls** . . . 825 lbs.

**Cable speeds**—Cable speeds with S.A.E. type, two speed, power take-off will range from 25 to 55 feet per minute forward on empty drum with motor speed at 1000 R.P.M. With split shaft power take-off, 27 to 144 R.P.M.



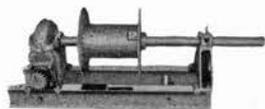
No. WD 300

### SPECIFICATIONS

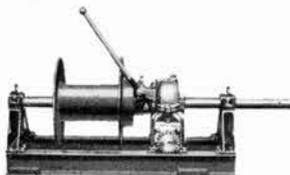
**Pulling Capacity Each Drum** . . . 10,000 lbs.  
**Diameter, Each Drum** . . . 8"  
**Length of Drums** . . . 12" and 6"  
**Worm Gear Ratio** . . . 29 to 1  
**Worm Shaft Bearings** . . . Bronze  
**Worm Thrust Bearings** . . . Steel-Bronze  
**Castings** . . . Electric Furnace Steel  
**Winch Bed** . . . 2-5" 10 lb. I Beam

**Winch Shaft** . . . 2-7/16" S.A.E. 1035 Steel, Hardened and Ground  
**Clutch** . . . Jaw Type—Extra  
**Brake** . . . Band Type—Extra  
**Automatic Winch Worm Brake on Each Drum**  
**Weight, Winch only** . . . 650 lbs.  
**Weight with Split Type Power Take-Off and Auxiliary Drive** . . . 1000 lbs.

**Cable speeds**—Cable speeds with split shaft power take-off will range from 27 to 144 ft. per minute with motor at 1000 R.P.M.

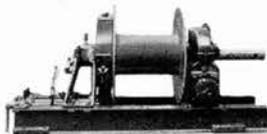


No. 12



No. L 12 CD

ROPE CAPACITY OF No. 12 WINCH	
Size and Type	No. of Feet
3/8" Steel	1068
1/2" Steel	720
5/8" Steel	600
3/4" Steel	384
3/4" Manila	264
1" Manila	156



No. L 12 CB

**SPECIFICATIONS**

- |                                       |  |
|---------------------------------------|--|
| Pulling Capacity . . . 10,000 lbs.    | S.A.E. 1035 Steel Hardened and Ground                              |
| Diameter of Drum . . . 8"             | Clutch . . . Jaw or Spline—Extra                                   |
| Diameter of Flange . . . 19"          | Brake . . . Band or Disc—Extra                                     |
| Length of Drum . . . 12"              | Automatic Winch Worm Brake.  |
| Worm Gear Ratio . . . 29 to 1         | Weight, Winch only . . . 430 lbs.                                  |
| Worm Shaft Bearings . . . Bronze      | Weight with S.A.E. Power Take-Off and Controls . . . 580 lbs.      |
| Thrust Bearings . . . Bronze-Steel    | Weight with Split Shaft Power Take-Off and Controls . . . 780 lbs. |
| Castings . . . Electric Furnace Steel |  |
| Winch Bed . . . 2-5" 10 lb. I Beam    |  |
| Winch Shaft Bearings . . . Bronze     |  |
| Winch Shaft . . . 2-7/16"             |  |

Cable speeds—Cable speeds with S.A.E. type, two speed, power take-off will range from 25 to 55 feet per minute forward on empty drum with motor speed at 1000 R.P.M. With split shaft power take-off, 27 to 144 R.P.M.

**UNIVERSAL TRAILER HOOK**



The Universal (No. 1320) heavy-duty towing hook assures a safe, flexible connection between trucks or tractors hauling heavily loaded trailers.

One of the outstanding features of this unusually sturdy hook is its universal action. The hook automatically adjusts itself to pulls received from any direction, at any angle, and handles the most cumbersome loads under any hauling condition.

It is easily mounted and is held firmly in place by four heavy bolts. The draw-bar is made of one-piece drop forging and is attached to a heavy coiled chrome vanadium steel spring which absorbs the shocks and strains thrown onto the draw-bar. The heavy cast steel draw-bar bracket, which is bolted to the truck or tractor, easily withstands all of the severe stresses and strains to which it is subjected. Weight, 200 pounds.

**POLE BINDERS**



The Sure Binder—This portable binder is a small winch with a ratchet type holding attachment. All surplus cable is carried on the drum of the small winch and there are no loose ends. The binder can be tightened at any time without releasing hold on the load. Weight, 18½ pounds.



Model 17719 Eccentric Pole Binder operates on the eccentric principle and is used with chain for wrapping pole loads. Weight each, 8 pounds.

**DERRICK ACCESSORIES**



Winch Line Hook. This hook is built special for attaching to wire rope lines as used on truck winches. It is easily attached to a line or loop and holds firmly until the pole is set. Slack in line then permits detaching from ground with pike pole. Weight, 4½ pounds.



Safety Hook. Used in raising derrick to operating position. Line is passed over spindle bar, threaded through derrick sheave, and attached to safety hook. Winch power then raises the derrick so it can be bolted in place by lineman. Hook is forged steel, designed to carry heaviest load on heaviest section of hook. Weight, 3½ pounds.

**TOWING HOOK**



Model 1417 Towing Hook attaches to frame of truck with braces to the side bars. Has coil spring to cushion starting and stopping shocks. Positive locking latch eliminates danger of uncoupling. For trucks up to 3½ tons capacity. Weight, 48 pounds.

**DRAW BARS**



Type L (Light Duty) Drawbar attaches to wood poles and forms link for connecting to pintle hook on truck. For use with pole dinkey and light trucks. Size of pintle eye ring inside diameter 2½". Weight, 31 pounds.



Type H (Heavy Duty) Drawbar attaches to wood poles and forms link for connecting to pintle hook on truck. For use with large size trucks and pole dinkey capable of hauling several poles. Size of pintle eye ring inside diameter 2½". Weight, 55 pounds.

## SIMPLEX POLE PULLING AND STRAIGHTENING JACKS



No. 329

No. 329 Jack will handle any pole, large or small. Single acting, automatic raising and lowering. No. 318 is similar to No. 329 in height, rise and capacity. However, the working mechanism of No. 318 is the tripping type.

No. 325 is the Simplex Junior Pole Jack. For poles up to 30 feet in height. Handy as a guy line tightener and for pulling underground cables. Single acting, automatic raising and lowering.

No. 310A is usually thought of as an Emergency—All-Purpose Jack. Pivots on its base, making an excellent Pole Pulling and Straightening Jack where the amount of life is not of primary importance. Single acting, automatic raising and lowering.

Jack No.	Capacity Tons	Height Inches	Lift Inches	Weight lbs.	Weight Complete	Code	List Price
310A	15	22 1/4	14	72	106	Caoaq	\$48.00
318	15	39	24	90	187	Ptrip	62.50
325	5	48	37	33	100	Poguy	45.00
329	15	37 1/2	21	96	193	Polot	70.00



No. 529

### DUFF-NORTON SMALL POLE PULLING JACK

To help speed rural line construction and reduce costs, Duff-Norton offers the Small Pole Pulling Jack. Designed especially for lifting or moving small poles, such as are found on rural lines, the Duff-Norton No. 529 Jack eliminates laborious, time-consuming digging to loosen poles for pulling. It has plenty of power to move the pole quickly and easily.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Complete Weight Pounds	LIST PRICE	
					Complete	Without Chain
529	5	28	18	96	\$28.00	\$25.00



No. 1030-CR

### DUFF-NORTON AUTOMATIC LOWERING CABLE REEL JACK

This jack is built for heavy cable reels 36" to 84" in diameter, and for outside work where uneven ground conditions are encountered. The sectioned T-frame base will not warp. Furnished in pairs—one left and one right.

The top hook is for 3-inch diameter spindles—the two lower hooks for 2 1/2-inch diameter spindles.

#### Single Acting Jack

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price Each
1030-CR	10	30	14	104	Chew	\$55.00

## SCREW TYPE CABLE REEL JACKS



No. 530-CR

Though simple in design these rugged jacks are most reliable and efficient on the job. Merely lift the curved cap up to the reel spindle, spin the three-way nut down to the frame and operate by inserting a 3/4-inch steel bar in the three-way nut and turning. The lifting hook will accommodate up to 2 1/4" diameter spindles.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price
520-CR	5	20	11 1/2	51	Chan	\$18.00
530-CR	5	30	16 1/2	89	Char	24.00

For reels of 42 inches to 60 inches in diameter, use No. 520-CR.  
For reels 60 inches to 90 inches in diameter, use No. 530-CR.

## AUTOMATIC LOWERING CABLE REEL JACKS



No. 521-CR

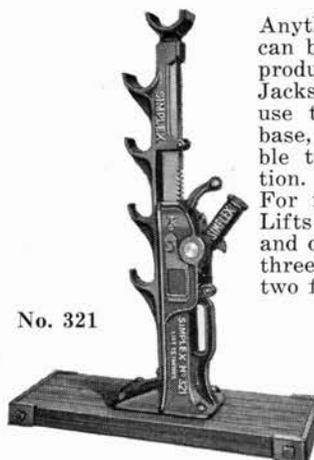
The No. 521-CR is equipped with the new Duff Adjustable Cable Reel Lift, incorporating a steel hook which can be placed at any point on the lifting rack. It is thus enabled to pick up reels of different diameters. No. 521-CR is especially adapted for warehouse use, handling cable, wire and hemp rope, leather belting, etc.

The No. 518-CR and No. 539-CR are equipped for handling reels of different sizes up to 90" in diameter. 4-foot steel operating level furnished with each jack.

#### Single Acting Jacks

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price
521-CR	5	21	14	68	Cabre	\$30.00
518-CR	10	38	12	108	Cabto	50.00
539-CR	15	39	11	138	Cabfu	65.00

## SIMPLEX CABLE, ROPE AND BELTING, REEL OR DRUM JACKS



No. 321

Anything on spools, drums or reels can be paid out faster, safely and productively with Simplex Reel Jacks. Where footing is uneven, use the No. 322. Its "T" shaped base, with 3 threaded and adjustable tie rods, insures firm foundation. (Base area 319 sq. inches.) For reels 36" to 84" in diameter. Lifts or lowers on both upward and downward stroke of lever. Has three lifting hooks, one for 3" and two for 2 1/2" spindle.

No. 321 handles reels from 20" to 96"; No. 320A reels from 20" to 60". Both are single acting. No. 321 has five lifting hooks, one for 3 1/2", one for 3" and three for 2 1/2" spindles.



**Nos. 1CR, 2CR, 41CR, 42CR, 43CR, 81CR, 82CR, 83CR, 84ACR**

The 41CR double acting and 81CR single acting series are dual purpose Portable Cable Reel Jacks. They handle reels up to 24" to 48" and loads up to 5 tons. 41CR have 2" spindle hook and 81CR Series have 2 1/4" spindle hook.

Three-way nut on Screw Type Reel Jacks enables fast, safe handling of reels. No. 1CR for reels 40" to 60" in diameter; No. 2CR for reels 60" to 92" in diameter.

**SPECIFICATIONS**

Jack No.	Capacity Tons	Height Inches	Lift Inches	Weight Pounds	Length of Lever	List Price
1CR	5	19 3/4	13 1/4	60	—	\$18.00
2CR	5	30 1/2	18	88	—	24.00
41CR	1	11 1/2	8	16 1/2	14"	16.00
42CR	1 1/2	13 1/4	9 1/2	17	30"	18.00
43CR	2	14 3/4	11 1/4	18	36"	20.00
81CR	2	13 1/4	7	17	14"	16.00
82CR	2	13 1/4	8 3/4	18	30"	18.00
83CR	2	14 1/2	9 1/2	19	36"	20.00
84ACR	5	16	7	35	30"	22.00
320A	5	21	10	48	30"	30.00
321	10	34 1/4	15	108	4'	50.00
322	10	29	13 3/4	104	4'	55.00

**DUFF-NORTON AUTOMATIC LOWERING JACKS**



No. 1022

Duff-Norton Automatic Lowering Jacks are famous throughout the Public Utilities industry for their speed, safety and exceptionally long life. This has been made possible by the genuine Barrett mechanism, an exclusive feature of Duff-Norton Automatic Lowering Jacks. This spring-actuated mechanism is self-contained in a housing and can be easily removed bodily from the jack for occasional adjustment, or renewal after long service.

These jacks can be readily furnished with curved top, grooved top for use with chain, or auxiliary shoe, for special applications

at slight extra cost. Raises given below indicate the total travel of the rack.

**Single Acting Jacks**

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price
1017	10	17	9	40	Glean	\$22.00
1020	10	20	11 1/2	50	Glow	24.00
1022	10	22	12	60	Grope	25.00
1522	15	22	11 1/2	78	Grape	38.00
1528	15	28	18	91	Green	40.00
2028	20	28	18	94	Giant	45.00

**DUFF-NORTON COMBINATION TRIP AND AUTOMATIC LOWERING JACK**



No. 110

This jack embodies both the features of the automatic lowering and trip jacks. It is a veritable "jack of all trades." It can lower loads gradually or trip or drop loads from any elevation in its range. The load is instantly dropped by the small trip at top of base casting, or gradually lowered by raising lever at the side of the frame, whichever is desired.

The No. 110 enjoys great popularity in the utility industry due to its adaptability to so many widely different kinds of work.

**Double Acting Jack**

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price
110	15	22	13	59	Dike	\$21.00

**LOW HEIGHT BALL BEARING JACKS**

No. 2510-C-1



These jacks represent our latest model of journal jacks. They incorporate all the distinctive qualities of our previous line of both Duff and Norton Journal Jacks, for many years the recognized standard ball-bearing journal jack of the railroad industry. Easy to carry and operate, rapid raising and lowering, powerful in lifting ability, and absolutely safe up to rated capacity. Furnished with solid steel operating lever with pinch bar end.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	List Price
111-C	15	10	5	29	Cake	\$25.00
2509-C-1	25	9	4 1/2	35	Cardo	36.00
2510-C-1	25	10	5	36	Claro	36.00
3510-C-1	35	10	5	50	Cisco	55.00
5010-C	50	10	4 1/2	61	Cabel	95.00
*1007	10	7	2 1/2	22	String	23.00
*5017	50	19 3/4	7	180	Carl	135.00
5016	50	16	7	110	Obfis	122.50

\* 1007 Cone Bearing instead Ball-Bearing.  
\* 5017 has a detachable foot lift.

**HEAVY DUTY BALL BEARING SCREW JACKS**

No. B-2522



These jacks are especially suitable for heavy duty utility service, all working parts being of sturdy design. Every part is accurately finished to gauges to insure easy and positive movement and prompt, easy replacement.

Minimum effort is required to handle the load on account of leverage used.

Foot lift, rated at half the capacity of the jack, is very convenient for handling low loads.

50-ton size designed with large head.

Jack No.	Capac. Tons	Height Inches	Raise Inches	Diam. of Base Inches	Weight Pounds	Code Word	List Price
B 1522	15	22	10	7 1/2 x 7 1/2	105	Abyss	\$ 60.00
*F	15	24	12	8x9	128	Fruit	65.00
60	15	26	13	8x9	130	Omar	70.00
B 2522	25	22	10 1/4	8x9 3/4	140	Adjust	90.00
B 2526	25	26	14 3/8	8x9 3/4	157	Atlas	96.00
B 3522	35	22	10 5/8	9x10 1/2	171	Absent	130.00
B 3526	35	26	14	9x10 1/2	201	Amber	138.00
B 5024	50	24	9 5/8	14	266	Alto	150.00
B 5027	50	27	13 3/8	14	298	Anchor	150.00

\* Style F jack is designed to give double speed over other types listed.

## DUFF-NORTON 4-WAY GENERAL

### PURPOSE JACKS



No. 1523

Widely used in the Public Utilities industry, these dependable general purpose jacks are featured by a hinged or pivotal base, permitting the jack to be operated at an angle for shoving or pushing. It can be locked in upright position. It is ideal for all general lifting purposes; is conveniently handled, and easily operated by one man. The steel chain fits into slots on top of jack and can be used as a sling to engage various objects. Double socket lever aids effective operation in close quarters.

### Single Acting Jacks

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	LIST PRICE	
						Complete	Without Chain
523	5	23	13½	40	Gars	\$22.00	\$19.00
*1523	15	23	12½	67	Genpu	48.00	38.00

\* Furnished with 4 foot steel operating lever, pinch bar end.

No. 523 furnished with 36" steel operating lever.

## DUFF-NORTON POLE JACK



No. 500

The No. 500 pole jack possesses many features that make it unquestionably the most efficient of all jacks for lifting, straightening or moving poles of all kinds. It eliminates the necessity of laborious digging around stumps before moving or straightening. It therefore saves an immense amount of time and expensive labor. It is able to move the heaviest pole with ease, regardless of size or depth in the ground.

### Single Acting Jack

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	Code Word	LIST PRICE	
						Complete	Without Chain
*500	15	37½	23	116	Polej	\$70.00	\$60.00

\* When purchased complete, is furnished with steel operating lever, I beam base and chain.

## DUFF-NORTON POLE SNUBBING JACK



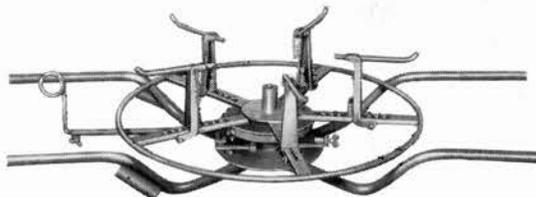
No. 565

The need for a quick and efficient method of snubbing poles is met with this pole snubbing jack. With it, poles can be tied quickly, tighter, neater and easier than by any other method.

It is easily attached. Simply drive a nail into the existing pole where the new pole is to be tied. A slot on the jack fits over the nail leaving the operator's hands free to place wire in position. By turning the handle easily the poles are held together tightly for permanent clamping.

Jack No.	Height Inches	Pulling Range Inches	Weight Pounds	Code Word	List Price
565	13½	6¼	20	Chet	\$16.00

## OSHKOSH COMBINATION PAY-OUT AND TAKE-UP REEL



An extremely lightweight, yet strong and durably constructed pay-out and take-up reel. The frame is made of stout tubing. To add to the ease of portability, the guide pins fold flat so that the whole reel is compact and easy to carry or slide in truck. These guide pins are easily and quickly adjustable to take any size coil of wire from 13" to 27" inside diameter.

Another important feature is the automatic brake. As the wire is pulled the brake releases and the wire pays out freely. The instant tension is released, the brake sets and any possibility of back-lashing is prevented.

For converting into a Take-Up Reel two braces are furnished which hold the reel in an upright position. Attaching the hand crank, it is easy to do a fast job of taking-up.

The carrying frame is easily removable so that the reel can be bolted to a truck. A thumb screw terminal is also provided for grounding the reel.

Length overall .....	63"
Width .....	34"
Height overall (guides up) .....	13¼"
Height overall (guides down) .....	8¾"
Sizes of coils which can be used	
Inside diam. maximum .....	27"
Inside diam. minimum .....	13"
Outside diam. maximum .....	34"
Weight .....	75 lbs.

## OSHKOSH FOLDING TAKE-UP REEL

The Oshkosh take-up reel is a handy tool to have on a truck. When taking down good wire, it will coil it neatly in standard sized coils entirely uninjured. In taking down or picking up wire to be sold as scrap it is easier to handle and takes up less space when in coils.

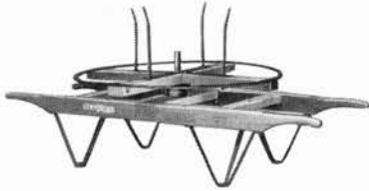
The two parts—the reel itself, and the wooden stand—both collapse so that when not in use very little room is occupied. The reel part is made of malleable iron and steel. The stand is made of hardwood, mortised and framed, and reinforced with steel so as to make it rigid. When reel is filled and coil is to be taken off, the reel is collapsed in a second and ready to put into the truck or be set up again for use.



No. 897—For 21 in. coil.....Weight—42 lbs.



## WESTERN UNION TYPE BARROW REEL



Made of heavy material for heavy wire and heavy work. Strongly made of hardwood, braced and reinforced with steel. A wide bearing, together with a long pivot and sleeve allow the reel to turn easily no matter how heavy the coil of wire on the reel. The small amount of friction developed by this bearing does not prevent the reel from turning freely, and its purpose is to keep the reel from paying out the wire too fast and tangling it. A well built, efficient and high quality reel. Reel pins adjustable for 12, 18 and 24 inch coils.

No. 900 ..... Weight 80 lbs.  
 No. 901 Extra guard pin..... Weight per set, 1½ lbs.

## AERIAL CABLE AND WIRE TENSIONING JACK



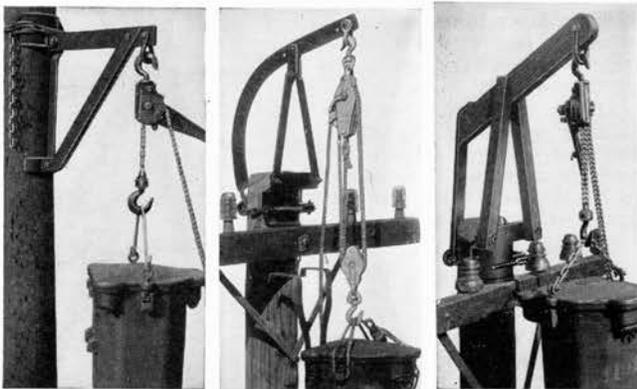
No. 324

The Simplex No. 324—single acting—automatic tensioning and releasing jack is sufficiently powerful to easily pull overhead and underground cables and to take up slack in trolley, guy and transport wires. Weighing only 13 pounds, it does not handicap a man in overhead work. The speed trigger permits instant slack "take up" at any point when the jack is not under load. The steel lever is furnished with a safety spring clip that prevents it from falling.

### SPECIFICATIONS

Jack No.	Capacity Tons	Travel Inches	Weight Pounds	List Price
324	2	20¼	13	\$25.00

## COFFING TRANSFORMER GINS



ST

OST

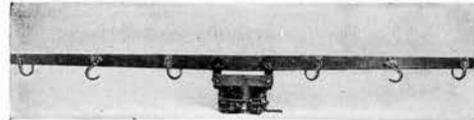
WT

**Model ST**—This gin is designed to clamp on side of pole. Made of malleable iron and steel and weighs only 28 pounds.

**Model OST**—Clamps securely to top of any size pole. Made of special spring steel, angle iron legs and malleable iron clamp. Weight 33 pounds.

**Model WT**—The main body and legs of this gin are made of seasoned hickory, bolted to sturdy malleable iron clamp that cannot be pulled off top of pole. Weighs only 28 pounds and is a non-conductor of electricity. All models have been tested to more than 3000 pounds with no signs of yielding. Price \$14.00

## TEMPORARY CROSS ARMS



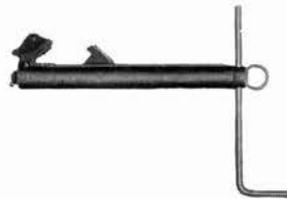
Coffing Temporary Cross Arms are built to stand hard usage. They weigh much less than a standard cross arm, and no line truck should be without at least one set. They will pay for themselves many times a year through emergency and general use.



**Model 10-A** for electric work. Hooks are self-locking, made of certified malleable iron, large enough to hold line hose to prevent current from arcing. Price, \$13.50

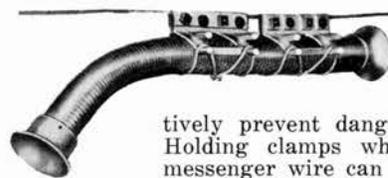
**Model 10-C** for changing cross arms on corners. Price, \$11.50

## TEMPORARY GUY CLAMP



Coffing Guy Clamps are built on the vise principle, with vise screw enclosed in a steel magazine. They have a very powerful grip, are easy to handle, and are indispensable for necking guys. This prevents driving the three-bolt clamp on the neck and thus stripping off the protective coating. An automatic grip placed on one end permits necking as close to the pole as desired without slipping. Weight, 3½ lbs. Price, \$5.00

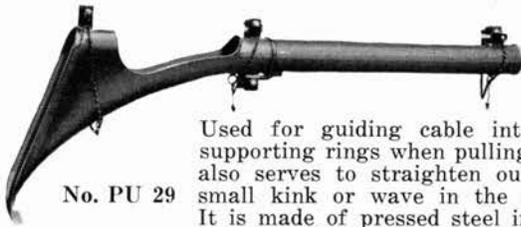
## COPE AERIAL CABLE FEEDER AND STRAIGHTENER



For pulling in aerial cable. The wide mouth aluminum bells and flexible steel tubing positively prevent danger to cable or sheath. Holding clamps which securely grip the messenger wire can also be used for dead-ending and splicing work. All interior surfaces are smoothly finished to accommodate up to 3" cables.

Complete with 6-Foot Tube, 2 Pairs Malleable Iron Clamps .....each \$20.00  
 Extra Lengths of Tubing.....per foot .90  
 Holding and Splicing Clamps.....per pair 4.00

## B & L AERIAL CABLE GUIDE AND STRAIGHTENER



No. PU 29

Used for guiding cable into the supporting rings when pulling, and also serves to straighten out any small kink or wave in the cable. It is made of pressed steel in two parts, readily joined together: a curved open section for guiding and a straight closed section for straightening. The complete assembly is supported by the messenger strand and is securely clamped to prevent end motion. The standard size will take cable of 2 5/8" in diameter. Smaller straighteners to fit standard guide can be furnished for smaller diameter cable. Approximate weight, 24 pounds.

Price Complete, \$36.50 each

	Weight Each	Price Each
Guides only .....	15 lbs.	\$24.50
Straighteners only .....	9 lbs.	12.00
Special Size for 1 5/8" Diameter Cable Complete .....	20 lbs.	40.00
Guides only .....	15 lbs.	24.50
Straighteners only .....	5 lbs.	15.50

## SINGLE SHEAVE CABLE BLOCKS



Closed Open

This tool is used to guide the winch line or pulling in line from the cable rings and messenger to the winch, or whatever power apparatus is used. For this reason, the sheave is made of cast iron, instead of wood, as it has been found that the winch line would be apt to damage a wooden roller. Another use for this Cable Block is for pulling cable around a slight corner.

Standard Size Cable Block will take 2 5/8-inch Diameter Cable—Weight 11 lbs. each.

Price complete, each .....	\$ 9.00
*Extra Sheave, each .....	4.00
Extra Sheave Pin, each .....	.25

Special Size for 3 1/4-inch Diameter Cable—Weight 13 3/4 lbs. each.

Price complete, each .....	20.00
*Extra Sheave, each .....	7.00
Extra Sheave Pin, each .....	.25

Special Size for 4-inch Diameter Cable—Weight 23 3/4 lbs. each..... Price on application

\* Price on extra sheaves includes the Supplementary Steel Sleeve.

## AERIAL CABLE CARS



PU 36

The Aerial Cable Car is sturdily constructed, light in weight. It will withstand the abuse to which it is necessarily subjected. Useful for placing cable rings on the messenger, troubleshooting, replacement of rings, rearrangement of rings, etc. Chain links permit adjustment between messenger strand and seat

for men of varying heights. Weight, 21 1/4 lbs.; price, \$24.00. Weight with Rubber Wheels, 24 lbs.; price, \$40.00.

Extra Parts Only .....	List
Frame Complete with Wheels and Links .....	\$ 9.40
Sling Belts with Snap Hooks .....	12.70
Snap Hooks Only .....	Each 1.00
Wood Seats Only .....	4.40
Wheels Only, with Sleeves .....	Each 1.20
Pins Only .....	Each .30
Wheels Only, Rubber, with flange bronze bushing with supplementary sleeve .....	Each 10.50

## AERIAL CABLE GUIDES



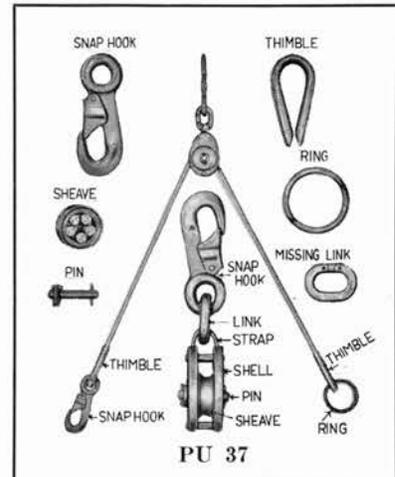
PU 39

Used for pulling large cable into the supporting rings. Consists of a steel frame so designed that the upper part can be attached to the strand by means of a hook and special clamp, while the lower part carries two sheaves so placed as to provide an easy bend for the cable as it approaches the rings. Made as light as practical, and at the same time strong enough to

withstand the abuse it is apt to receive, such as being thrown into the truck or to the ground. Weight, 32 lbs., price, \$40.00.

Extra Wood Rollers. Weight 4 1/4 lbs. ....	\$8.00
Extra Pins with Thumb Nuts complete .....	7.00

## AERIAL HAND LINE



PU 37

The B & L Star Brand Aerial Hand Line affords a safe method of transporting

tools and material to the man aloft. Consists of 3-inch single roller bushed galvanized hollow steel block, two snap hooks, ring, two thimbles, missing link and rope.

### Price Complete with Rope and Blocks with

60 feet 3/8-inch diameter Rope .....	\$7.00
75 feet 3/8-inch diameter Rope .....	7.60
60 feet 1/2-inch diameter Rope .....	8.40
75 feet 1/2-inch diameter Rope .....	9.30

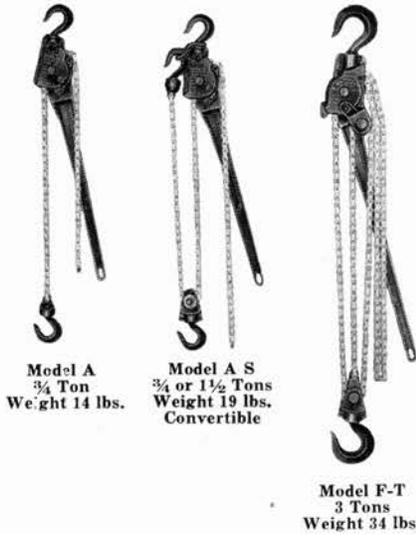
Assembled or furnished separately if desired.

### Parts Only, Without Rope

Single Block, no connection .....	\$1.80
2 Snap Hooks \$1.00 each .....	2.00
1 Ring .....	.20
2 Thimbles \$0.10 each .....	.20
1 Missing Link .....	.30
Weight of complete parts less rope, 2 1/2 lbs. Total	\$4.50



## COFFING SAFETY PULL HOISTS



Model A  
3/4 Ton  
Weight 14 lbs.

Model A S  
3/4 or 1 1/2 Tons  
Weight 19 lbs.  
Convertible

Model F-T  
3 Tons  
Weight 34 lbs.

The Coffing Safety-Pull ratchet lever hoist is built on the ratchet and pawl principle. The load is always locked by sprocket and ratchet pawls. (Cannot slip or drop load.)

Automatic stops prevent handle from spinning in case hand should slip off handle. Reversible handle permits operating hoist in any position.

"Safety-valve" handle; that is, handle will bend before chain will break or hooks will straighten out.

Free chain for quick load adjustment when there is no weight on hoist. Special hooks of drop forged, heat treated alloy steel.

Cadmium plated roller chain to meet Navy specifications, standard on all models.

The frame and lever parts are of certified malleable iron.

Sprockets and ratchets are of alloy steel, heat treated and ground.

Reversing mechanism, bearing pins, etc., heat treated alloy steel to meet their specific functions.

The lightest hoist on the market. Capacities range from 3/4 to 15 tons and unit weights from 14 to 150 pounds.

All Coffing hoists are factory tested at 100% over rated capacity.

\* SPECIAL NOTICE—Models A, A-S, A-T, F, F-S and F-T with intermediate locking pawl, and push button control, add \$5.00 to list price shown below.

The double pawl hoist can be stopped on a half stroke of the handle and has the added safety feature of two locking pawls instead of one. It is well worth the additional cost.

### Specifications and Prices on Single Pawl Ratchet Hoists and Load Binders

Model	*A	*AS	*AT	*F	*FS	*FT	Z4 1/2	Z6	W9	W11	W13	W15	Load Binder	
													A	F
Rated Capacity in Tons.....	3/4	1 1/2	1 1/2	1 1/2	3	3	4 1/2	6	9	11	13	15	2	3
Net Weight in Pounds.....	14	19	17	25	36	34	49	59	120	130	140	150	11 1/2	24
Minimum Distance Between Hooks.....	13"	15"	15"	16"	18"	17"	25"	25"	30"	30"	30"	30"		
Lifting Speed per Minute.....	36"	18"	18"	48"	24"	24"	18"	12"	9.6"	8"	7"	6"	36"	48"
Pounds Required on Lever to Lift Rated Capacity.....	56	60	60	116	120	120	124	124	124	124	124	124		
Standard Lift in Inches.....	56 1/2	56	55 1/2	56 1/2	55 1/2	55	51	52	60	60	60	60	20 1/2	19 1/2
Extra Chain per Lifting Foot.....	\$0.90	\$1.80	\$1.80	\$1.60	\$3.20	\$3.20	\$4.80	\$6.40	\$8.00	\$9.60	\$11.20	\$12.80	\$0.90	\$1.60
Price.....	\$33.00	\$41.00	\$41.00	\$47.50	\$59.50	\$59.50	\$108.00	\$115.00	\$235.00	\$255.00	\$275.00	\$300.00	\$15.00	\$20.00
Super Attachment (Special Iron Block).....		\$4.75			\$6.25									

### COFFING LOAD BINDERS



For booming poles, logs, pipe, etc., the Coffing Load Binder is the safest and most powerful boomer on the market today. The Model A weighs only 11 1/2 lbs., and will boom a load of 4,000 lbs. The Model F boomer weighs 24 lbs., and will boom a load of 6,000 lbs.

### COFFING LITE LINE PULLER



For pulling telephone and light wires. Built on the ratchet and crank principle. Equipped with a special steel load tape, with 6-ft. pull. This tape has the advantage of being very compact and strong and, being entirely metallic, eliminates the use of long jumper wires while replacing splices. Rated capacity 600 lbs., and factory tested at 100% overload. Weight, 5 lbs. Price, \$16.00.

### COFFING SPUR GEAR CHAIN HOIST



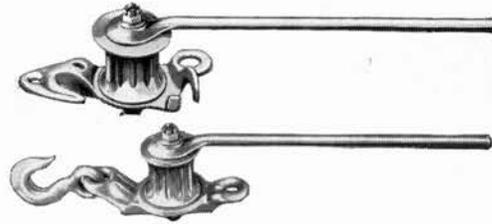
The new Model C is designed and constructed for a maximum amount of safety, speed, durability, and efficiency. Mechanically this hoist is better. All working parts are fully inclosed in certified malleable iron housing. This hoist has the most efficient gear reduction system used in any spur geared hoist today; the gear system being sealed and run in oil. It is equipped throughout with lubri-sealed precision ball bearings. It also has the special designed load hooks and a new special alloy steel electric welded chain. All Coffing Spur Gear Chain Hoists are tested at 100% over rated capacity. (See following page for specifications and prices.)

## COFFING SPUR GEAR CHAIN HOIST (contd.) SPECIFICATIONS AND PRICES

Model	C	C	C	CD	CD
Capacity in Tons.....	½	1	1½	2	3
Price Complete Standard Lift.....	\$60.00	\$73.20	\$85.00	\$98.00	\$110.00
Standard Lift.....	8	8	8	9	10
Price Per Lifting Foot of Extra Chain (Including hand & load chain).....	1.50	1.60	1.60	2.50	2.50
Price Per Lineal Foot of Extra Load Chain.....	.80	.90	.90	.90	.90
Price Per Lineal 2 Feet of Extra Hand Chain.....	.35	.35	.35	.35	.35
Minimum Distance Between Hooks.....	12¼"	14¾"	14¾"	18½"	18½"
Net Weight in Pounds.....	75	90	90	108	108
Chain Pull to Lift Full Load.....	50	75	90	75	90
Chain overhauled to Lift Load One Foot.....	23'	32'	44'	64'	88'
Hoisting Speed (feet per minute)	F-9 H-18 Q-26	F-4½ H-9 Q-12	F-4 H-8 Q-10	F-2¼ H-4½ Q-6	F 2 H-4 Q-5

F—Full Load H—Half Load Q—Quarter Load D—Double Chain

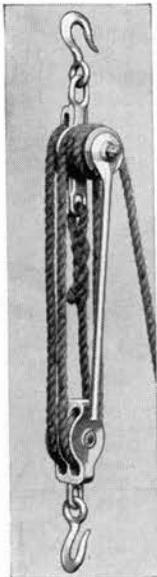
## CHANCE DETACHABLE CAPSTAN



Chance Detachable Capstans are operated in much the same way as the Chance Capstan Pulley Blocks. Simply hook into a set of blocks, pull the luff line taut, wrap it three times around the capstan drum, hold it tight with one hand and work the ratchet handle with the other. The drum is aluminum, the handle is drop-forged steel and the base castings are malleable.

Cat. No.	Capacity in Pounds	Weight, Each Pounds	E. Zone Price	W. Zone Price
3	2000	5	\$ 9.35	\$10.65
5	4000	11	15.40	17.55

## CHANCE CAPSTAN PULLEY BLOCK



The Capstan Pulley Block is a light weight tool that is easy to handle. It has a leverage ratio of 32 to 1 and a pulling power of from 2,000 to 5,000 pounds, depending on the size of the block used. There is no dangerous dangling chain, no heavy blocks or hooks to fall. Pulleys and drum are aluminum. Handle, housing and hooks are drop forged steel. Rope is manila.

Cat. No.	Capacity, Pounds	Size Rope In.	Net Wt. Pounds	E. Zone Price	W. Zone Price
2	2000	½	15	\$12.65	\$14.50
*2A	2000	½	13	11.85	13.50
4	4000	¾	25¼	18.70	21.35
*4A	4000	¾	20½	17.35	19.75
22	3000	½	19¼	17.35	19.75
*22A	3000	½	16¾	15.95	18.20
44	5000	¾	31¼	25.85	29.50
*44A	5000	¾	25¾	24.75	28.25

\* Without Rope.

## SNATCH BLOCKS

In the use of the pole derrick, pulling aerial cable, erecting a pole for replacement, using the old pole in place of the derrick, etc., the operator is often-times obliged to use a Snatch Block. The PU 35 was made expressly for this purpose.

All galvanized with sheave for wire rope, with graphite-bronze self-lubricating bushing. Rope guard prevents rope interfering with safety attachment.



PU 35

### Blocks Complete

Size Block Inches	Size Wire Inches	Weight Each Lbs.	Price Each
6	¾	15	\$9.00
8	½	32½	12.00
10	¾	52	18.00

### Extra Iron Sheaves

Size Sheave Inches	Weight Each Lbs.	Price, Each
6 x 1 x ¾	3½	\$1.90
8 x 1¼ x ¾	8	3.75
10 x 1¼ x 1	12	5.05

## SNATCH BLOCKS

This B & L Snatch Block has malleable iron shell, extra heavy drop-forged flatted stiff swivel hook, wrought iron straps, safety-locking link and smooth rounded edges to prevent chafing rope. Furnished with sheaves for wire rope, if desired.



PU 2357, Open

### Blocks Complete

Length Shell Inches	Size Sheave Inches	For Diameter		Five Roll Bearing Each	Star Graphite Bearing Self-Lubricating Each		Graphite Bronze Bearing Self-Lubricating Each		Metaline Bearing Self-Lubricating Each		Approximate Weight Each
		Manila Rope Inches	Wire Rope Inches		For Manila	For Wire	For Manila	For Wire	For Manila	For Wire	
6	3 x 1½ x ½	¾	½	\$5.30	\$4.60	\$4.85	\$5.90	\$6.20	\$6.55	\$6.90	8 lbs.
8	4½ x 1¾ x ¾	1	¾	7.55	6.65	7.00	8.20	8.65	9.10	9.60	14 lbs.
10	5¾ x 1¾ x ¾	1¼	¾	11.80	10.25	10.80	12.80	13.50	14.25	15.00	26 lbs.



### B & L STAR METAL BLOCKS



PU 2325-L-S



PU 2326-L-S



PU 2327-L-S

All Japanned

Size Sheave Inches	DIMENSIONS			IRON BUSHED			PATENT-SIX-ROLLER BUSHED			GRAPHITE- BRONZE BUSHED Self-Lubricating		
	For Dia. Rope Inches	Length Shell Inches		Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each
1 3/4 x 1/2 x 3/8	3/8	3		\$1.70	\$2.30	\$2.90	\$1.90	\$2.80	\$3.40	\$2.20	\$3.40	\$4.20
2 x 5/8 x 3/8	1/2	3 1/2		1.90	2.50	3.30	2.10	3.10	3.90	2.40	3.70	4.80
2 1/4 x 5/8 x 3/8	1/2	4		2.00	2.70	3.50	2.20	3.30	4.30	2.50	4.00	5.20
3 x 3/4 x 3/8	5/8	5		2.50	3.40	4.40	2.80	4.00	5.40	3.20	4.70	6.40
3 1/2 x 1 x 1/2	3/4	6		2.90	4.10	5.40	3.30	4.90	6.60	4.00	6.30	8.40
4 1/4 x 1 x 1/2	7/8	7		3.70	5.30	7.30	4.00	6.00	8.20	4.60	7.00	9.70
4 3/4 x 1 1/8 x 5/8	1	8		4.40	6.70	9.00	5.00	7.90	10.80	5.70	9.00	12.30
5 1/2 x 1 3/8 x 5/8	1 1/8	9		5.90	8.90	12.10	6.50	10.50	13.90	7.20	11.90	16.00
6 1/4 x 1 1/2 x 3/4	1 1/4	10		7.10	11.10	16.80	8.60	13.00	19.70	9.40	15.00	22.40
8 x 1 5/8 x 3/4	1 3/8	12		10.50	18.50	26.80	12.30	22.30	32.00	13.10	23.80	34.20
9 1/2 x 1 7/8 x 7/8	1 1/2	14		22.50	36.80	49.50	24.50	38.80	52.50	25.00	39.80	54.00

All Galvanized

1 3/4 x 1/2 x 3/8	3/8	3		\$1.80	\$2.50	\$3.10	\$2.00	\$3.00	\$3.60	\$2.30	\$3.60	\$4.40
2 x 5/8 x 3/8	1/2	3 1/2		2.00	2.70	3.60	2.20	3.30	4.20	2.50	3.90	5.10
2 1/4 x 5/8 x 3/8	1/2	4		2.20	2.90	3.80	2.40	3.50	4.60	2.70	4.20	5.50
3 x 3/4 x 3/8	5/8	5		2.80	3.80	5.00	3.10	4.40	6.00	3.50	5.10	7.00
3 1/2 x 1 x 1/2	3/4	6		3.30	4.70	6.20	3.70	5.50	7.40	4.30	6.90	9.20
4 1/4 x 1 x 1/2	7/8	7		4.20	6.10	8.60	4.50	6.80	9.50	5.10	7.80	11.00
4 3/4 x 1 1/8 x 5/8	1	8		5.20	8.10	10.90	5.80	9.30	12.70	6.50	10.40	14.20
5 1/2 x 1 3/8 x 5/8	1 1/8	9		7.10	10.70	14.50	7.70	12.30	16.30	8.40	13.70	18.40
6 1/4 x 1 1/2 x 3/4	1 1/4	10		8.50	13.40	20.10	10.00	15.30	23.00	10.80	17.30	25.70
8 x 1 5/8 x 3/4	1 3/8	12		12.80	22.20	30.70	14.60	26.00	36.90	15.40	27.50	39.10
9 1/2 x 1 7/8 x 7/8	1 1/2	14		26.00	42.00	56.50	28.00	44.00	59.50	28.50	45.00	61.00

### INSIDE IRON STRAPPED BLOCKS



PU 2207



PU 2208



PU 2209

Length Shell Inches	DIMENSIONS For Dia. Rope Inches	IRON BUSHED			SIX-ROLLER BUSHED			GRAPHITE-BRONZE BUSHED Self-Lubricating			WEIGHTS OF BLOCKS COMPLETE		
		Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each Lbs.	Double Each Lbs.	Triple Each Lbs.
3	3/8	\$.67	\$1.24	\$1.67	\$1.04	\$1.92	\$2.76	\$1.23	\$2.37	\$3.57	1 1/8	1 5/8	2 1/8
3 1/2	3/8	.72	1.39	1.92	1.09	2.09	3.00	1.33	2.62	3.80	1 1/2	2	2 3/4
4	1/2	.81	1.54	2.04	1.15	2.15	3.09	1.42	2.76	3.95	1 3/4	2 1/2	3 3/8
5	5/8	.86	1.67	2.15	1.19	2.23	3.32	1.67	3.19	4.51	3	4 1/4	6 3/4
6	3/4	1.04	1.90	2.76	1.42	2.71	4.19	2.09	3.80	5.51	4 1/4	6 1/2	9
7	7/8	1.24	2.28	3.33	1.60	3.19	4.76	2.37	4.27	6.37	6 5/8	9 1/4	15
8	1	1.80	3.12	4.64	2.45	4.54	6.55	3.55	6.22	9.28	8 7/8	14	20
9	1	2.02	3.71	5.19	2.73	5.14	7.92	4.04	7.37	10.91	11	18	23
10	1 1/8	3.00	4.91	6.81	3.82	6.55	9.28	5.19	9.28	13.64	17	25	36
12	1 1/4	4.85	8.19	11.61	5.79	10.04	14.40	7.37	13.64	20.19	25	40	54

### CONDUCTOR STRINGING SNATCH BLOCKS

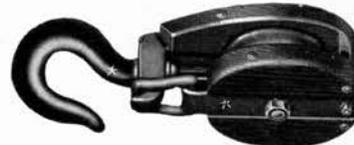


PU 38

This straight mortised block is equipped with specially designed roller bearings to insure freedom of action, as any failure would create a dangerous abrasion of the conductors. This method could be carried out with standard commercial snatch blocks, but one block jamming would cause damage to the conductor, even though the remaining blocks were functioning properly.

These blocks are made with special wide throats when so desired, so as to accommodate any large splicing that may run over the sheave. The extra cost over the standard block is very small.

### CONDUCTOR STRINGING SNATCH BLOCKS



Blocks Complete with Roller Bushed Galvanized Iron Sheaves

Size Block	Size Sheave Inches	Weight Lbs.	Price Each	EXTRA SHEAVES Price Each
PU No. 4	4 x 1 1/4 x 5/8	9	\$4.80	\$0.70
PU No. 8	8 x 1 1/4 x 5/8	22	7.75	1.80

When ordering these Blocks Specify the Size Cable to be used and we will furnish a sheave with Score to fit.

## BOOSTER HOOK

The Booster Hook supports the cable while being pulled through the supporting rings. Some rings, while adequate for supporting a stationary cable, tend to creep when performing the dual function of supporting and resisting movement while the cable is being placed. The Booster Hook is securely clamped to the messenger strand and presents a smooth rounded surface to the moving cable sheath. Approximate weight 3 pounds. Price \$3.00 Each.

## B & L HOOKS—C HOOKS



PU 28

The C Hook is a convenient means for connecting the winch or pulling line to the cable grip or core hitch. It is also used at the end of the winch line for attaching to poles, transformers, etc. General uses for this simple tool readily suggest themselves. Approximate weight 2½ pounds. Price \$3.00 each.

### Flatted Swivel Hook for Come-Along PU 41

Made in TWO SIZES, ALL GALVANIZED

½" for 3" Double Blocks.....	Each	\$2.28
Length 7¼" over all, 2" opening.....	Weight	5 lbs.
¾" for 4" Double Blocks.....	Each	\$3.57
Length 8" over all, 2½" opening.....	Weight	1 lb.

## KLEIN'S TACKLES AND HAND LINES

### HOWES WIRE TOOLS



The swivel hook is forged steel with an opening large enough to go round an insulator pin or other convenient object. The shank of hook is lengthened out so as to reach under D. P. insulator when necessary. The forward end has a locking device to hold the load at any distance. It is arranged so that a grip can be attached. All metal parts are galvanized finish.

Cat. No.	Size	Weight Each
1702-20	Single purchase. Strap 1¼ inch wide, 7 ft. long	2½ lbs.

## CHICAGO LINE MEN'S TOOLS



This set is a combination of "Chicago" Grip No. 1613-30 with Howes Wire Tool No. 1702-20. It is largely used by telephone companies. Detailed description of Grip and Wire Tool are given under their individual catalog numbers.

Other sizes of grips can be furnished in this combination to order only.

Cat. No.	Weight Each	
1700-30	For No. 6 wire and smaller down to No. 13.....	4 lbs.

## SELF-LUBRICATING HEAVY BLOCK TACKLES



Consists of two special double sheave blocks. The spring guarded snap hooks and eye are drop forgings. The side plates are wrought. Pulleys are bronze bushed and self

lubricating. Galvanized finish. The rope used is best quality Manila four strand, spliced to eye of block with galvanized thimble. Runs free and does not twist in the way cheaper ropes do.

Cat. No.	Weight Each	
1802-40	Furnished with 30 ft. of 1½ in. best quality Manila rope, 4 strand.....	15½ lbs.
1802-50	As above with ¾ in. rope.....	17¾ lbs.
1802-60	As above with ¾ in. rope.....	19½ lbs.

Other lengths of rope furnished to order.

## SELF-LOCKING BLOCK TACKLE



Consist of light steel shell blocks galvanized, fitted with a snubbing hook to lock load in any position. This is a great convenience and time-saver for the man on the pole. Also in handling a vertical load. To lock the load, simply pull the luff rope under the hook. To release, simply pull the rope. The blocks are arranged with spring guard snap hooks. When pulling up wire to make a splice it may be used with two grips attached to the snaps, or with the drop forged hook No. 258 to anchor to an insulator-pin or other convenient anchorage. (The hook is specially shaped to fit under D. P. insulator on cross arm.) The rope is best quality and will not twist as the cheaper grades do. (Shipped unassembled.)

Cat. No.	Weight Each	
1802-30	Furnished with 25 ft. ¾ in. 4 strand Manila rope and detachable anchor hook (No. 258).....	3 lbs.

## SELF-LOCKING BLOCK TACKLE (With Guarded Snaps)



The No. H-1802-30 set of blocks is identical with the No. 1802-30 set described above except that the snaps are "guarded."

To accomplish this feature the nose of each hook has been lengthened to extend over the latch or keeper. This does away with any necessity of taping the snaps after come-along has been engaged.

Cat. No.	Weight Each	
H-1802-30	Furnished with 25 ft. ¾ in. 4 strand Manila rope and detachable hook (No. 258).....	3½ lbs.



### ANCHOR HOOK FOR TACKLES



This hook is a solid steel drop forging. It is approximately 5½ inches overall length x 3¼ inches across the hook. The eye has an inside diameter of ⅝ inch to engage with snap on Klein Tackles 1802-30 and H1802-30. Galvanized finish.

Specially shaped to slip under

D. P. insulator and engage insulator pin on cross arm.

Cat. No.	Weight Per Dozen
258 Drop Forged Hook 2 in. opening, ⅝ in. eye.....	4 lbs.

### KLEIN'S HAND LINE

(With Drop Forged Snap Hook No. 443-A)



These lines are designed for maximum safety and service. The rope is best quality and does not twist. It will far outlast cheaper material. Spliced to eye of snap hook with galvanized

steel thimble. The snap hook is drop forged and similar to those used on safety straps except that it has round eye. It opens to ¾ inch.

Can be furnished with any different length of rope to order.

Cat. No.	Weight Each
1803-50 With 75 ft. ⅜ in. best quality Manila rope, 4 strand and No. 443-A Snap.....	3½ lbs.
1803-120 As above with 120 ft. of rope and No. 443-A Snap .....	5¼ lbs.

### SNAP FOR HAND LINES AND LIGHT HOISTS



Cat. No.	Weight Per Dozen
443-A Forged Snap. Eye 1⅛ in. I. D. Length Overall 5½ in.....	6½ lbs.

This snap is used on hand lines, 1803 series. It will be found a real convenience for many uses. Can be used on all light hoisting—for roofers, etc. Galvanized Finish. The hook and eye are an integral drop forging. Duck bill nose closes around latch. Will carry loads up to 1,250 lbs. When fitted to a 4-inch tackle block this hook provides an ideal means for connecting with come-along; no taping is necessary.

The opening will take up to ¾ inch.

### AMERICAN MANILA ROPE

#### "AMCO ALL-WEATHER"



Made from the same fibre which goes into our "American Superior," and then treated with a special cordage solution which contains no tar, graphite, creosote or substance of this nature. The treatment waterproofs and rotproofs the fibre, thereby giving it extra life. "Amco" weighs no more per pound, costs no more per pound, than regular manila. It remains soft and pliable

when wet and will not freeze up in cold weather. Particularly recommended for Public Utilities. Packed in 1,200 ft. coils.

#### "AMERICAN SUPERIOR"

Is the very best quality manila rope made in this country. It is carefully and uniformly manufactured from choice manila fibre. Constantly tested through every step of production, this rope meets all exacting requirements for weight and strength. For years "American Superior" has been widely used by famous steamship companies and by great industrial concerns. Strong, durable, easy to handle, "American Superior" lasts longer and gives better service. Packed in 1,200 ft. coils.

### MARLINE



Marline is a 2 yarn tarred hemp twine used by manufacturers of fittings for bundling, and by cable, conduit, electric appliance, and telephone companies. Made in two grades: Tarred Clipper Hemp and Tarred India Hemp. Can be furnished in 3 yarn and, when ordering, it is well to specify whether 2 or 3 yarn is wanted. Put up in 100 and 150 pound

bales in 1, 5 and 10 pound balls or tubes and in 5, 10, 25 and 50 pound coils.

### ROYAL OAKUM

Royal Oakum, made from a good grade Jute fibre is widely used for caulking bell and spigot joints, soil pipes, and gas mains. Supplied in both Spun and Unspun form and packed in 50 lb. bales.

# HAND TOOLS FOR LINE CONSTRUCTION AND MAINTENANCE

## OSHKOSH SHOVELS



Oshkosh improved straight shovel is absolutely straight from end to end. This gives the shovel more stiffness than the old type and is much handier in lining up the sides of the hole.

Handles are made of selected second growth Northern white ash, tough, strong Highland hickory, or hard rock maple. Handles are extra large in diameter, measuring  $1\frac{1}{8}$ " and are carefully selected as to quality. Blades are made of special high carbon steel, the carbon running between .70 and .80. The straps are extra long, being 22" in length. Blades are not polished for the natural black finish wears better, cleans better, and resists rust.

### Straight Shovels—Maple Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
867	7'	22"	8 lbs.	993	4 lbs.
868	8'	22"	9 lbs.	994	5 lbs.
869	9'	22"	10 lbs.	995	6 lbs.
870	10'	22"	11 lbs.	996	7 lbs.

### Crooked Shovels—Maple Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
874	7'	22"	8 lbs.	1000B	4 lbs.
875	8'	22"	9 lbs.	1000	5 lbs.

### Straight Shovels—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
1032	7'	22"	8 lbs.	1005	6 lbs.
1033	8'	22"	9 lbs.	1006	6 lbs.
1034	9'	22"	10 lbs.	1007	7 lbs.
1035	10'	22"	11 lbs.	1008	7 lbs.

### Crooked Shovels—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
1040	7'	22"	8 lbs.	1014	6 lbs.
1041	8'	22"	9 lbs.	1015	6 lbs.
1042	9'	22"	10 lbs.	1016	7 lbs.
1043	10'	22"	11 lbs.	1017	7 lbs.

## OSHKOSH MASTER SHOVELS Alloy Steel Blades

The Oshkosh Master shovel is made of special alloy developed by one of the foremost alloy steel mills. It is tough, hard and strong, and is made to stand up under the most trying conditions.

The blade is forged to a special straight pattern and it is heat-treated in automatically controlled furnaces which eliminate the possibility of carelessness and guess work. The straps are electrically seam welded to blade. The weld will not come apart.

Each Master shovel has a handle of second growth air seasoned Northern white ash or tough, strong Highland hickory of the very best grade fitted tightly and completely into the blade.



### Straight Shovels Alloy Steel Blades—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
2032	7'	22"	8 lbs.	2005	6 lbs.
2033	8'	22"	9 lbs.	2006	6 lbs.
2034	9'	22"	10 lbs.	2007	7 lbs.
2035	10'	22"	11 lbs.	2008	7 lbs.

### Crooked Shovels Alloy Steel Blades—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles	
				No.	Wt. Each
2040	7'	22"	8 lbs.	2014	6 lbs.
2041	8'	22"	9 lbs.	2015	6 lbs.
2042	9'	22"	10 lbs.	2016	7 lbs.
2043	10'	22"	11 lbs.	2017	7 lbs.

## OSHKOSH SHORT HANDLED SHOVELS High Carbon Steel

Oshkosh short handled or 4½' shovels have a special bend or crook in the handle which together with the balance resulting from their design make them easy to use. On account of the special bend in the handle, the blade sets flat on the ground in the best shoveling position. The blades are furnished in the same steel as used in the long handled shovels and spoons. The handles are made of Northern white ash, air seasoned and of best quality.



### High Carbon Steel

Cat. No.	Length of Handle	Weight
1090R	4½ ft.	5 lbs.
1090S	4½ ft.	5 lbs.

### Extra Handles

Cat. No.	Length of Handle	Weight
1091	4½ ft.	2 lbs.

## OSHKOSH D HANDLED SHOVELS High Carbon Steel

For fast and efficient digging we recommend the D handled shovels as the best for their particular purpose. On account of the very sharp bend of the handle it permits the user's hand to get closer to the blade and the load. This makes greater leverage, so that the work is more balanced. The handle is second growth Northern white ash and is fitted with a pressed steel D top. Steel tops are used, for they will not break or split like wood. The blades are of the same quality of steel as other Oshkosh shovels.



### High Carbon Steel

Cat. No.	Weight
1092R D Handle	4 lbs.
1092S D Handle	4 lbs.

### Extra Handles

Cat. No.	Weight
1093 D Handle	2 lbs.



## MASTER SHORT HANDLED SHOVELS

### Alloy Steel Blade

These Oshkosh Master Shovels have an alloy steel blade of special analysis developed by one of the foremost alloy steel plants. It is tough, hard, and strong for hard work. Each blade is carefully heat-treated and then checked by a Brinnell reading. Straps are electrically seam welded. It is equipped with an exceptionally fine quality Ash handle, bent correctly so as to give fine balance and to make them easy to use.

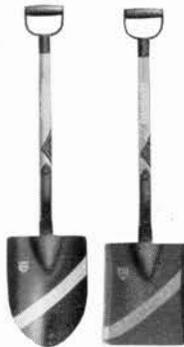


Alloy Steel		
Cat. No.	Length of Handle	Weight
2090R	4½ ft.	5 lbs.
2090S	4½ ft.	5 lbs.
Extra Handles		
Cat. No.	Length of Handle	Weight
2091	4½ ft.	2 lbs.

## MASTER D HANDLED SHOVELS

The Oshkosh D Handled Master Shovel is an exceptionally fine shovel. Its alloy steel blade gives you a hard, tough and strong blade. The handle is of clear, straight grained Ash.

Alloy Steel		
Cat. No.	Length of Handle	Weight
2092R	D Handle	4 lbs.
2092S	D Handle	4 lbs.
Extra Handles		
Cat. No.	Length of Handle	Weight
2093	D Handle	2 lbs.



## OSHKOSH SPOONS

Oshkosh spoons are made in two types to meet the demands of the user. Each spoon, like the shovel, is carefully inspected for material and workmanship in order to meet the high demands placed upon it. The blades are of the same materials, the straps the same lengths and handles of the same sizes and material as furnished with shovels.

### Western Pattern Spoons—Maple Handles

No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
859	7'	22"	10 lbs.	993	4 lbs.
860	8'	22"	10 lbs.	994	5 lbs.
861	9'	22"	11 lbs.	995	6 lbs.
862	10'	22"	12 lbs.	996	7 lbs.

### Western Pattern Spoons Ash or Hickory Handles

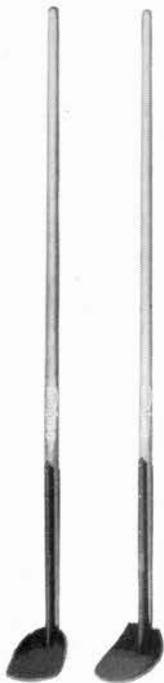
No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
1023	7'	22"	10 lbs.	1005	6 lbs.
1024	8'	22"	10 lbs.	1006	6 lbs.
1025	9'	22"	11 lbs.	1007	7 lbs.
1026	10'	22"	12 lbs.	1008	7 lbs.
1027	12'	22"	14 lbs.	1009	8 lbs.

### Eastern Pattern Spoons—Maple Handles

No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
859E	7'	22"	10 lbs.	993	4 lbs.
860E	8'	22"	10 lbs.	994	5 lbs.
861E	9'	22"	11 lbs.	995	6 lbs.
862E	10'	22"	12 lbs.	996	7 lbs.

### Eastern Pattern Spoons Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
1023E	7'	22"	10 lbs.	1005	6 lbs.
1024E	8'	22"	10 lbs.	1006	6 lbs.
1025E	9'	22"	11 lbs.	1007	7 lbs.
1026E	10'	22"	12 lbs.	1008	7 lbs.
1027E	12'	22"	14 lbs.	1009	8 lbs.



## OSHKOSH MASTER SPOONS

### Alloy Steel Blades

The Oshkosh Master spoon has an alloy steel blade made of the same steel as used in the Master shovel. Is tough and strong and made for hard work. On each blade will be found the Brinnell mark signifying that the blade has been inspected and found satisfactory. The handle and assembly of these spoons are the same as on the shovels.

### Western Pattern Spoons—Alloy Steel Blades—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
2023	7'	22"	10 lbs.	2005	6 lbs.
2024	8'	22"	10 lbs.	2006	6 lbs.
2025	9'	22"	11 lbs.	2007	7 lbs.
2026	10'	22"	12 lbs.	2008	7 lbs.
2027	12'	22"	14 lbs.	2009	8 lbs.

### Eastern Pattern Spoons—Alloy Steel Blades—Ash or Hickory Handles

No.	Handle	Strap	Wt. Each	Extra Handles No.	Wt. Each
2023E	7'	22"	10 lbs.	2005	6 lbs.
2024E	8'	22"	10 lbs.	2006	6 lbs.
2025E	9'	22"	11 lbs.	2007	7 lbs.
2026E	10'	22"	12 lbs.	2008	7 lbs.
2027E	12'	22"	14 lbs.	2009	8 lbs.



## SEYMOUR HERCULES DIGGER

Handles—Northern ash 4' handles with square butts bolted into sockets.

Frame—The heavy malleable iron frame is held together with a heavy bolt in wide bearings, thus eliminating all side motion of the handles. This digger is especially substantial.

Blades—Heavy gauge alloy steel 9" long riveted to heavy shouldered frame.

Finish—Handles sanded and varnished. Blades and frame lacquered bright red.

Weight Per Dozen—Regular 4' handle, 117 lbs.; 8' handle, 150 lbs.

Tied 1/6 doz. in a bundle.

Also made in Extra Heavy Hercules Pattern weighing 137 lbs. per dozen.



## SEYMOUR EUREKA DIGGER

Handles—Northern ash split handles 4' long bolted to iron sockets. All pairs matched.

Frame—Malleable iron with wide bearing hinged on steel bolt.

Blades—Nine inches long riveted to iron frame under shoulder.

Finish—Handles sanded and varnished. Blades and frame lacquered bright red.

Weight Per Dozen—Regular 4' handle, 102 lbs.; 8' handle, 134 lbs.

Tied ¼ dozen in a bundle.

Also made in Extra Heavy Eureka weighing 124 lbs. per dozen, and the Johnson Pattern Eureka weighing 152 lbs. per dozen, tied 1/6 dozen in a bundle.



## SEYMOUR IWAN AUGER

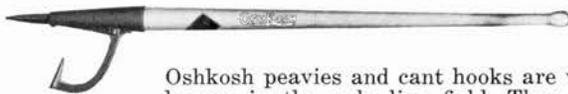
Wood cross handle of selected northern ash.  
Iron pipe standard and malleable iron tee and yoke.



Blades of heavy gauge alloy steel are held together at the center points by a riveted strap which prevents the blades from spreading out of line and thus losing their efficiency. The blades are lacquered light blue and the iron standard bright red. Made in sizes 2" to 16". Tied ¼ dozen in a bundle.

Size	Wt. per dozen	Wt. Each
2" Size	70 lbs.	5.83 lbs.
2½" Size	72 lbs.	6.00 lbs.
3" Size	78 lbs.	6.50 lbs.
4" Size	82 lbs.	6.83 lbs.
5" Size	88 lbs.	7.33 lbs.
6" Size	102 lbs.	8.50 lbs.
7" Size	106 lbs.	8.83 lbs.
8" Size	115 lbs.	9.58 lbs.
9" Size	126 lbs.	10.50 lbs.
10" Size	135 lbs.	11.25 lbs.
12" Size	264 lbs.	22.00 lbs.
14" Size	324 lbs.	27.00 lbs.
16" Size	348 lbs.	29.00 lbs.

## OSHKOSH PEAVIES AND CANT HOOKS



Oshkosh peavies and cant hooks are well known in the pole line field. They are fitted with handles made of selected air seasoned second growth hickory or hard rock maple. They are designed and constructed for perfect balance and easy handling and finished with a high polish. Sockets, clasps, and toe rings are of the best grade of malleable iron, light in weight and strong. Duck bill hooks and pikes correctly shaped and hammered out of crucible steel. A stop is provided to prevent hook from falling back onto handle and injuring the fingers. Just one of the features of careful design.

### Malleable Socket Peavies

No.	Size	Material	Wt. Each
121	2¼" x 4'	Maple Handles	7 lbs.
122	2¼" x 4½'	Maple Handles	7 lbs.
124	2½" x 4'	Maple Handles	9 lbs.
125	2½" x 4½'	Maple Handles	9 lbs.
134	2¼" x 4'	Hickory Handles	8 lbs.
135	2¼" x 4½'	Hickory Handles	8 lbs.
137	2½" x 4'	Hickory Handles	9 lbs.
138	2½" x 4½'	Hickory Handles	10 lbs.

Order Extra Handles as listed under Cant Hooks



### Cant Hooks—Maple Handles

No.	Size	Wt. Each	Extra Handles	
			No.	Wt. Each
188A	2¼" x 4'	7 lbs.	541	3 lbs.
189A	2¼" x 4½'	8 lbs.	542	3 lbs.
188	2½" x 4'	8 lbs.	544	3 lbs.
189	2½" x 4½'	8 lbs.	545	4 lbs.

### Hickory Handles

No.	Size	Wt. Each	Extra Handles	
			No.	Wt. Each
199A	2¼" x 4'	7 lbs.	572	3 lbs.
200A	2¼" x 4½'	8 lbs.	573	3 lbs.
199	2½" x 4'	8 lbs.	575	4 lbs.
200	2½" x 4½'	9 lbs.	576	4 lbs.

## OSHKOSH CARRYING HOOKS



Oshkosh carrying hooks are made for the exclusive purpose of carrying poles. The handles are made of selected air seasoned rock maple. Hooks, forged out of crucible steel, are attached to the handle with a swivel which makes easier operation of tool.

### Regular Pattern—Malleable Clasp and Swivel

No.	Size	Wt. Each	Extra Handles	
			No.	Wt. Each
295	2½" x 4'	7 lbs.	593	3 lbs.
296	2½" x 4½'	8 lbs.	594	4 lbs.
297	2½" x 5'	8 lbs.	595	4 lbs.
298	3" x 5'	12 lbs.	963	5 lbs.
299	3" x 6'	13 lbs.	964	6 lbs.
300	3" x 7'	14 lbs.	965	7 lbs.

## WOODEN JENNEY POLE SUPPORTS



This wooden jenny type pole support is strong, stiff, light in weight, and compact when folded. It is made of clear, select straight grained fir, measuring 1¾" thick, and 3½" wide. Steel pikes, fastened to the bottom of each leg, stop any tendency to slide.

No. 842	6 foot	Weight 25 lbs.
No. 843	7 foot	Weight 30 lbs.
No. 844	8 foot	Weight 35 lbs.

## OSHKOSH PIKE POLES



Oshkosh pike poles were designed with the aid of practical men in the field using pole line tools. Experience has proven old growth yellow Washington fir to be the lightest, stiffest, and sturdiest wood, and only straight, close grained fir is used. The pike is of special steel made of one piece with upset face, which takes the end thrust and distributes it over the entire end of the handle. Ferrule is of malleable iron.

No.	Size	Wt. Each	Extra Handles	
			No.	Wt. Each
805	2" x 10'	6 lbs.	970	6 lbs.
806	2" x 12'	8 lbs.	971	7 lbs.
807	2" x 14'	10 lbs.	972	9 lbs.
808	2" x 16'	11 lbs.	973	11 lbs.
817	2½" x 10'	12 lbs.	981	11 lbs.
818	2½" x 12'	13 lbs.	982	12 lbs.
819	2½" x 14'	14 lbs.	983	13 lbs.
820	2½" x 16'	15 lbs.	984	14 lbs.
821	2½" x 18'	18 lbs.	985	17 lbs.
822	2½" x 20'	20 lbs.	986	19 lbs.

## RAISING FORKS



Two-inch size not tapered, 2½" size tapered to 2" at both ends. The socket and fork with two prongs are of one piece malleable iron, driven onto pole and secured by a rivet.

No.	Size	Weight Each
832	2" x 10'	10 lbs.
833	2" x 12'	12 lbs.
834	2" x 14'	13 lbs.
795	2" x 16'	15 lbs.
796	2½" x 12'	13 lbs.
797	2½" x 14'	14 lbs.
835	2½" x 16'	15 lbs.
836	2½" x 18'	16 lbs.
837	2½" x 20'	18 lbs.



### OSHKOSH PIKE POLE GUARD



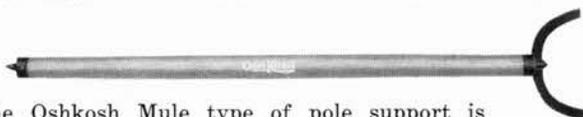
The Oshkosh guard fastens securely in either the guarded or open position. When in the unguarded position the guard is completely out of the way snugly fitted around the pole. When in the guarded position it automatically locks in place and provides complete protection from the pike point. It will fit either the 2" or 2½" pike poles. It is light in weight, adding only 7 oz. to pike pole.

No. 10 Guard Shipping Weight ¾ lb.

### OSHKOSH SPECIAL PIKE POLE FINISH

Oshkosh pike poles finished with a new specially developed coating prevents those lost-time hours caused by splinters and splinters. It gives a smooth, hard transparent finish that will last a long time. It keeps the grain from raising. It is a non-conductor of electricity. It is put on at the factory and costs very little.

### OSHKOSH WOODEN MULE POLE SUPPORTS



The Oshkosh Mule type of pole support is strong and durable but light in weight. Made of select Washington Fir, its largest diameter is in the center and tapers slightly to each end. Each end is banded and a forged crucible steel fork is driven in one end, and a pike in the other end.

No. 845 6 ft. x 4 in. dia. Weight 23 lbs.  
 No. 846 7 ft. x 4 in. dia. Weight 26 lbs.  
 No. 847 8 ft. x 4 in. dia. Weight 29 lbs.

### OSHKOSH FIR DEADMAN



This deadman is manufactured of the same clear, straight grained fir as Oshkosh pike poles. It measures 3 x 3 inches square, 8½ feet overall. The steel fork has three prongs which prevent pole from rolling or slipping. At the lower end a pike is provided to prevent the deadman from sliding along the ground. Each end is banded, with rivets entirely through band, wood, and fork or pike.

No. 740—8 feet, Weight 40 pounds

### OSHKOSH STANDARD DEADMAN



This deadman is the same type as that used by the American Telephone and Telegraph Company. The pole is made of rock maple 2 inches thick, 4 inches wide, with rounded edges. Each end is banded and a special steel fork is fastened to the upper end by a rivet running through band, wood, and fork. A pike is fastened in the lower end in the same secure way.

No. 848—8 feet, Weight 29 pounds

### OSHKOSH LIGHT TAMPING BAR



The Oshkosh light tamping bar is adopted as standard by linemen who prefer a large tamping head. It is made of rock maple with a ¼" thick steel shoe securely riveted to the head. The handle and head are one piece. The tamping head measures 1¾" wide by 4" long.

No.	Length	Wt. Each	Extra Handles	
			No.	Length Wt. Each
854	7 ft.	13 lbs.	1002	7 ft. 7 lbs.
855	8 ft.	14 lbs.	1003	8 ft. 8 lbs.
856	9 ft.	16 lbs.	1003A	9 ft. 9 lbs.

### OSHKOSH ELECTRIC TAMPING BAR



This tamping bar is made entirely of metal. It has a large easy gripping handle of steel tubing 1⅝" in diameter. The tamping heads are of different sizes and are made of malleable iron. They are shrunk onto the handle so that they cannot become loose.

No. 1044—8 feet long, Weight 15 lbs.

### OSHKOSH HEAVY TAMPING BAR



The handle of the Oshkosh heavy tamping bar, which measures 1⅝" in diameter, and the head are made of rock maple from one piece of wood. The head is faced with a heavy steel shoe measuring ½" in thickness. The size of the tamping face is 1¼" wide by 3½" long.

No.	Length	Wt. Each	Extra Handles	
			No.	Length Wt. Each
1054	7 ft.	13 lbs.	2002	7 ft. 5 lbs.
1055	8 ft.	15 lbs.	2003	8 ft. 5 lbs.
1056	9 ft.	17 lbs.	2003A	9 ft. 6 lbs.

### OSHKOSH LOY OR SLICK



The loy or slick is a digging tool, which on account of its rugged construction and the wide blade located to one side, giving more leverage, is preferred by some users. The handle is made of selected straight grain rock maple. The steel blade 4" wide by ½" thick is tapered to a digging edge.

No. 853—8 foot Handle, Weight 18 lbs.  
 No. 1001—Extra Handles, Weight 8 lbs.

### OSHKOSH DIGGING BARS

Oshkosh digging bars are made of a special crucible steel. This steel is stiff so bar will not bend, yet not brittle, so it won't chip or break. Each bar is perfectly straight. The chisel end is nicely forged and sharpened.

#### Octagon Crow and Digging Bars

2" chisel on one end, pointed on the other end

No.	Size	Length	Wt. Each
1061	1 in.	7 ft.	20 lbs.
1062	1 in.	8 ft.	23 lbs.
1064	1½ in.	7 ft.	26 lbs.
1065	1½ in.	8 ft.	28 lbs.
1066	1½ in.	9 ft.	31 lbs.

#### Octagon Tamping and Digging Bars

2" chisel on one end, malleable iron tamper on other end

No.	Size	Length	Wt. Each
1071	1 in.	7 ft.	21 lbs.
1072	1 in.	8 ft.	24 lbs.
1074	1½ in.	7 ft.	27 lbs.
1075	1½ in.	8 ft.	30 lbs.

#### Octagon Plain Digging Bars

2" chisel on one end

No.	Size	Length	Weight
1081	1 in.	7 ft.	20 lbs.
1082	1 in.	8 ft.	23 lbs.
1084	1½ in.	7 ft.	26 lbs.
1085	1½ in.	8 ft.	28 lbs.

## OSHKOSH DIGGING SPUD WITH TAMPER



Many crews prefer the Oshkosh digging spud to the regular digging bar, on account of its ease and great digging ability. The digging spud is well balanced, which means that the weight is distributed properly and that it is easy and not tiring to use. The handle is made of steel tubing  $1\frac{1}{8}$ " in diameter, which is an easy gripping size. The blade and its socket are made of one piece of high grade steel and the tamping head of malleable iron. Both tamping head and blade are shrunk onto handle, allowing no possibility of either coming off. The blade measures  $3\frac{1}{2}$ " in width—just right for most efficient work.

No. 852.....9 foot long, weight 20 lbs.

## OSHKOSH DIGGERS

The blades are made of well-known special alloy steel which withstands the severest kind of usage. Welding is used for attaching the blades instead of riveting, making a durable joint. The fulcrum members are of heavily constructed, channel-shaped, steel forgings.

There are two pivot points for the blades, one on each side. This gives much stronger leverage and greater durability.

The handles are made of straight grained hard wood. They are evenly turned and smoothly sanded.

Measurement marks are placed on the handles so that the workman can easily determine the exact depth of the hole.

The diameter of the circle circumscribed by the digger blades is 6 inches.

Cat. No.	Weight Lbs.
2050—8 ft. Handles.....	13 each
2051—8 ft. Handles.....	14½ each



## COFFING POWER PIKE POLE

The Power Pike Pole is entirely new in the Coffing line of utility tools. It is built of two pieces of galvanized pipe, one telescoping the other. Power is obtained through the use of a Coffing Load Binder or Safety-Pull Hoist. For straightening leaning poles one man, with this tool, can do the work of from two to six men. The Power Pike Pole has a heavy steel base, and the top is so constructed that it cannot slip off pole. Minimum height 8' 2"; maximum height 11' 7". Weighs 32 lbs., and the Load Binder or Hoist can be used for many other purposes.

Complete with Model A Load Binder.....\$29.00  
Power Pike Pole only..... 14.00

## ANCHOR INSTALLING TOOLS



The Chance Expanding and Tamping Bar greatly aids expanding anchor installations because of the special hook arrangement which holds it to the anchor rod and prevents it from sliding off the anchor top plate.

The Never-Creep Installing and Tamping Bar has a special hook which holds Never-Creep anchors rigid for easy installation. Also used as a tamp.

## SEYMOUR SMITH JOINTED PIKE POLE



A well made, efficient pike pole made in sections (each 6 feet or 8 feet long) that has many practical uses and can be easily carried in passenger car or small truck.

A sharp, hardened, forged tool steel point with brass fitting which fits into the ferrule joint of the No. 2 Telephone Pruner Extension poles. Light weight but strong poles that can be quickly and easily made up or taken down. Each point furnished with a rubber hose guard.

	Weight	Price
No. 15—Pike Pole Point (without poles)	2 lbs.	\$1.50
No. 2—6-ft. Extension Section Pole for above	5½ lbs.	4.25
No. 2—8-ft. Extension Section Pole for above	5¾ lbs.	5.50

## CHANCE REVERSIBLE POINT PIKE POLE



Here is a way to reduce pike pole replacement costs and, at the same time, provide line crews with a pike pole that takes a better grip on the poles and that can be carried on trucks without a hazardous projecting point. The spiral point may be reversed in the ferrule as shown and it can be replaced for practically nothing, compared to the cost of buying a new pole when points become worn. The spiral point is easier to insert and holds tight. Poles are carried, point in, on trucks. Change is made by a simple button release.

## SEYMOUR SMITH RANGING ROD

The Model 15 Seymour Smith Telephone Ranging Rod is perfectly suited for all surveying work. It is made of selected Sitka Spruce (airplane weight wood) and, while remarkably light, is extremely strong. The Rod consists of two sections which are easily assembled for use or taken apart for carrying or storing away. All brass joints are securely riveted to pole.

No. 15 Ranging Rod..... \$4.25  
Weight ..... 3½ lbs.

Packed 6 in a carton

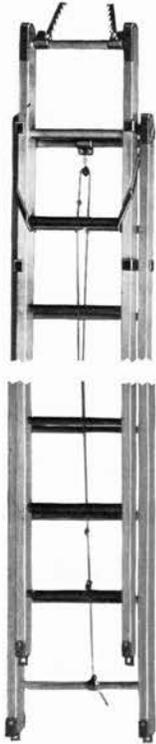


## OSHKOSH LADDERS

### SAFETY EXTENSION LADDER

A light weight Safety Extension Ladder designed expressly for Public Utilities. It is a great improvement over anything in this line of equipment which the Utility Field has ever been offered.

One of the outstanding features is the automatic safety lock. The ladder is extended by merely pulling the rope. The instant the operator lets go of the rope, the locking device drops into place and the top section is firmly



locked. To lower, the operator gives a slight pull on the rope; then lets the top section slowly descend. It cannot accidentally drop.

The side rails are made from straight grained, properly seasoned airplane Spruce. Selection standards are most rigid, requiring that the grain must not depart from parallelism more than one inch throughout the entire length of the ladder.

The rungs are made from tough Mountain Hickory and they, too, are absolutely straight grained. Each rung has a shouldered tenon joint which is pressed tightly into the side rails assuring a safe, tight fit. The side rails of each section are connected at top, middle, and bottom with steel tie-rods. This combination makes a most rugged, durable construction. Either section can be used separately as an individual ladder, both being equipped with safety tips and pikes.

Other exclusive safety features are rubber faced tips; transparent safety finish; safety pole grippers; rubber guarded safety pikes. All metal parts are parkerized.

### OSHKOSH SECTIONAL LADDERS

Each section is 6 feet long, making a handy ladder to have around for miscellaneous uses where a long extension ladder is larger than the need requires.

For small service trucks, one or two of these sections can be hooked on and carried around all the time so that a ladder is always handy for emergency use.

The sections join together interchangeably, lapping 1 foot. One section fits into the other at either end as shown in the illustration. The joint is stiff, solid and secure.

Outside width of top, 16½ inches; inside width of bottom, 17 inches; rungs diameter, 1½ inches; side rails, 1½x2¼ inches.

Side rails are selected airplane Spruce; rungs are straight grained Mountain Hickory; metals, parkerized steel.

Special transparent finish.

Rubber pikes at bottom, on special order.

Weight per running foot, 2 pounds.



NON-SLIP  
AUTOMATIC

### PUTNAM LADDERS

#### NO-SLIP AUTOMATIC

A Special "A" Shaped Ladder, fitted with patent bottom fixtures. When ladder is stepped on, the wheels roll out, allowing the legs of the ladder to go to floor, which prevents rolling. Made in all sizes, of all woods.

### DOUBLE FOLDING PORTABLE



Is one of the strongest and most useful ladders made. The steps on both sides allow it to be used in narrow aisles. It is fitted with heavy malleable iron hinges and special heavy wrought iron spreaders. Our No. 235 Bottom Brake can be attached when required.

Made of Oak or Birch in Walnut or Mahogany finish. Carried in stock in 3, 4 or 5 steps.

### MECHANICS' STEP



Each step is reinforced by a steel rod, equipped with strong and durable hinges or ears securely riveted. Back legs are equipped with second growth Hickory ladder rung opposite each step, making the back fully as strong as the front. Lengths from 4 to 16 feet.

#### SPECIFICATIONS

Top: 7/8 in. x 7½ in. x 17½ in.  
Fronts: 7/8 in. x 3 in.  
Back Legs: 1½ in. x 2¼ in.  
Steps: 7/8 in. x 3¾ in.  
Rungs: 1½ in. diameter Hickory.

### PLATFORM STEP



A strong and durable step ladder for all kinds of heavy duty work. Manufactured of Clear Spruce, guarded on three sides. Rigidly braced front and back. In lengths from 4 to 20 feet.

#### SPECIFICATIONS

No. 28

Top: 7/8 in. x 5 in. x 19½ in. Oak.  
Fronts: 1½ in. x 3¾ in.  
Backs: 1½ in. x 2½ in.  
Platform: 15 in. x 21¾ in.  
Steps: 1 in. x 3¾ in.  
Bars: 7/8 in. x 1¾ in.

All Metal Parts Cadmium Plated

### DOUBLE FOLDING SAFETY STEP



Strongest and most durable factory and mill ladder. Well braced, reinforced and firmly riveted in every part. The steps are reinforced by truss rod. The back is equipped with flat bars, making the back as strong as the front. Hinges and spreaders forged from 1¼ soft steel. Made in 6, 8, 10, 12, 14, 16, 18, 20 foot lengths.

#### SPECIFICATIONS

Top: 1 in. x 7 in. x 17½ in.  
Fronts: 1½ in. x 3¾ in.  
Back legs: 1½ in. x 2¼ in.  
Steps: 1 in. x 3¾ in.  
Bars: 7/8 in. x 1¾ in. Oak.

All Metal Parts Cadmium Plated

## CHAMPION EXTENSION

Manufactured from Clear Spruce. Rungs hand-split and hand-shaved from straight-grained Oak and Ash, with malleable automatic spring locks, guide-irons, hand forged, large rope and pulley complete, two guide-irons on top of bottom section and two guide-irons on bottom of sliding section. All metal parts Cadmium plated. All rung tenons oil-dipped.

### SPECIFICATIONS

Side rails: 1 3/8 in. x 3 and 3 1/2 in.  
Size of rail increased with length.  
Rungs: 1 3/8 in. hand split and hand shaved.  
Hand forged guide-irons.  
Outside width, top section 16 1/4 in.  
Outside width, bottom section, 19 1/2 in.

Air Dried

## LOCK-NUT SECTIONAL

Made in 6-foot sections, each end protected with iron plates, and equipped with large bolts with thumb nuts, making them safe and durable. Each section interchangeable. Sanded Hickory rungs. All rung tenons oil-dipped.

### SPECIFICATIONS

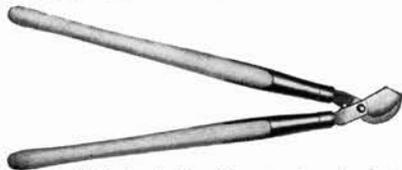
Side rails: 1 3/8 in. x 3 in.  
Rungs: 1 3/8 in. diameter sanded hickory.  
1/2 in. x 3 1/2 in. carriage bolts; large 1/2 in. wing nuts.  
Outside width at top, 18 1/2 in.  
Outside width at bottom, 22 in.

All Metal Parts Cadmium Plated

## WHEEL SPUR



## SEYMOUR SMITH "EZY-CUT" PRUNER



A rugged, powerful tool for heavy land clearing, brush cutting, clearing right of way, etc. Tempered, forged steel cutting parts with best, heavy strap ferruled second growth Ash handles riveted on. Easily cuts 2 inch brush.

No.	Per Dozen
25—22 inch handles—28 inches overall.....	\$36.00
26—30 inch handles—36 inches overall.....	48.00

## "SUPER-CUT" PRUNER



An extremely easy cutting, strong, powerful pruner for difficult land and right of way clearing, brush cutting, etc. Will stand the hardest use. Cutting parts and handles are forged in one piece from special chrome-molybdenum alloy steel, carefully hardened, tempered and ground. Fitted with large, hardwood hand grips, riveted so that they cannot loosen or come off. Cuts 2 inch diameter branches.

No.	Per Dozen
726—26 inches long overall.....	\$42.00
730—30 inches long overall.....	45.00

## TELEPHONE PRUNER



Strong rugged pruners with operating mechanism in the pruner head. Preferred by Public Utilities Companies and many tree pruning companies because of its rugged construction and easy cutting quality.

The Sitka or Aeroplane Spruce poles are in sections with simple, positive brass locking joints that do not get out of order, and are quickly made up or taken down. We recommend for general use a complete outfit as No. 1—18, No. 12—18, or No. 11—18 consisting of pruner head, 1 head pole, 6 ft., 2 extension poles, 6 ft. each, making a complete tree trimmer with 18 ft. pole.

### Small Pruners (1" Capacity) and Poles

		Shipping Wt. Each	List Each
No. 1—18	Complete Outfit	10 lbs.	\$9.50
No. 1	Pruner Head only	1 1/2 lbs.	1.75
No. 1—6 ft.	Head Pole	2 1/3 lbs.	2.00
No. 1—6 ft.	Extension Pole	3 lbs.	3.00
No. 1—8 ft.	Head Pole	2 1/2 lbs.	2.55
No. 1—8 ft.	Extension Pole	3 1/4 lbs.	3.75

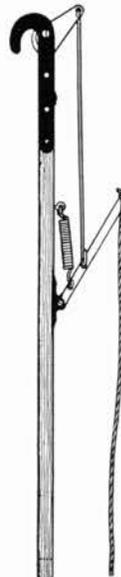
## IMPROVED TELEPHONE PRUNER



A new and improved design of pruners with many advantages, such as lighter weight, greater cutting power, strength, and greatly improved spring action which eliminates spring breakage. No. 12 cuts 1 1/2 in. branches. No. 11 cuts 1 inch branches. Uses same poles as No. 2 and No. 1 Pruners above.

		Shipping Wt. Each	List Each
No. 12—18	Complete Outfit	19 lbs.	\$15.50
No. 12	Pruner Head only	4 lbs.	5.00
No. 11—18	Complete Outfit	10 lbs.	10.00
No. 11	Pruner Head only	1 1/2 lbs.	2.20

## SPECIAL STANDARD PRUNER



Rope operated pruner with only a short operating wire. This design is preferred by tree experts and tree surgeons because it is more convenient to use when operator is standing in a tree as the cutter can be operated from any point along the length of the pole. Also the user is protected from electrical shock should the pruner come in contact with electric wires.

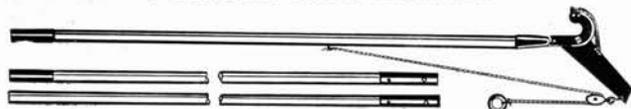
A strictly high grade pruner cutting up to one inch branches and made of the best materials throughout. It's standard equipment with many of the country's largest tree expert companies.

Length	Shipping Wt. Per Dozen	List Per Dozen
No. 13—10 ft.	52 lbs.	\$25.30
No. 13—12 ft.	60 lbs.	28.00
No. 13—14 ft.	68 lbs.	31.30

Packed 1/2 dozen in shipping bundle.



### OSHKOSH TREE TRIMMER



The new Oshkosh Tree Trimmer cuts easily, is light, strong, and has positive locking ferrules. The head is made of two pieces of light forged steel riveted together. These sides act as a guide for the thin saw steel cutting blade, and will not let the blade climb over the wood and wedge to one side. The blade is pivoted and starts cutting the moment the rope is pulled with a slicing motion, just as wood is cut on a slant with a knife. It cuts limbs up to 1½" in diameter very easily. The handle is made in three sections of 1½" diameter straight grained clear Washington Fir; one six foot section attached to head, and two seven foot lengths, all equipped with positive couplings of very rigid construction, yet easily dismantled. It is furnished complete with handle and a short section of rope to which can easily be attached any kind and size rope wanted.

No. 915 Trimmer ..... Weight 13 lbs.

#### PARTS

- No. 915B Blade ..... Weight 10 oz.
- No. 915S Spring ..... Weight 2 oz.
- No. 915EM 7 ft. Middle Extension ..... Weight 4 lbs.
- No. 915EE 7 ft. End Extension ..... Weight 4 lbs.
- No. 915R ½ in. rope, 18 ft. long ..... Weight 1½ lbs.

### OSHKOSH TREE SAW



The new Oshkosh Tree Saw fills a great need and, when used along with the Oshkosh Tree Trimmer, gives the lineman a complete tree trimming outfit. He can cut off with the trimmer branches 1½" or smaller and saw off the larger ones easily.

The saw blade is a strong, thin, fine tooth blade. The frame is of steel and has a hook for hanging saw in tree or pulling cut branches out that have caught in the tree. The 6' handle has a ferrule on bottom to which can be connected the regular extensions of the Oshkosh tree trimmer, so that when purchasing both tree saw and tree trimmer only one set of extensions is required.

- No. 916 Tree Saw ..... Weight 5 lbs.
- No. 916B Saw Blade ..... Weight ¼ lb.
- No. 916T Saw Tightener ..... Weight ¼ lb.

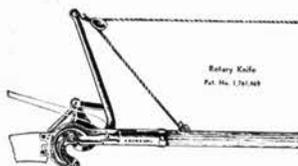
### KLEIN'S TREE TRIMMER HEAD

#### Rotary Knife

The design of this trimmer differs from any other. The entire head, comprising hook and socket, into which handle fits is sturdily constructed of pressed steel. The knife, made of tempered tool steel, is round in shape and arranged to rotate slightly with each cut, thus providing the entire circumference of the blade for cutting and giving an edge more than three times the length of that on the ordinary blade.

The leverage makes this trimmer cut easily limbs up to 1¼ inch, both green and dry. Knife may be readily removed for sharpening or renewal.

Two threaded holes are provided for attaching saws shown in this catalog.



Cat. No.	Size	Wt. Each
3628	Head only. No saw, rope or handle. 12½ inch	3 lbs.

### CIRCULAR KNIFE FOR TREE TRIMMER



This knife is made of first quality tool steel, oil tempered. Diameter, 2¾ inches. Hole at center, ½-inch diameter. Double bevel for easy cutting.

Cat. No.	Weight Per Dozen
No. 3628-K 3628-K Circular Knife, 2¾ in. dia.	2 lbs.

### TREE TRIMMER SAW



Teeth set to cut on up and down stroke. Readily attached to tree trimmer. Particularly efficient and easy cutting even for large limbs.

Cat. No.	Size	Weight Per Dozen
913-12	12 in.	4½ lbs.
913-15	15 in.	4¾ lbs.

### KLEIN'S TREE TRIMMER HANDLES



No. 3605

Handles are 1½ inches round selected Washington Fir turned at ends for ferrules. The inner ferrules are brass 5x1½" diameter. The outer ferrules are of seamless steel tubing 7½ inches long—galvanized. The brass ferrule carries the ⅝" locking pin which engages in hole drilled in steel ferrule and is held in position by a concealed coil spring inside the handle. The locking pin can be depressed readily by thumb pressure when assembling the handle sections or taking them apart.

Cat. No.	Weight Per Dozen Sets
3605-6 One set 18 ft. 3 sections with locking ferrules	125 lbs.
3605-9 One set 18 ft. 2 sections with locking ferrules	123 lbs.
3601-6 One set 18 ft. 3 sections with plain brass socket ferrules	120 lbs.
3601-9 One set 18 ft. 2 sections with plain brass socket ferrules	118 lbs.

### SEYMOUR SMITH PRUNING SAWS



No. 920

The ideal saw for the heaviest cutting by tree experts. Strong, rigid for extra heavy duty work. Blade made of highest grade saw steel with special files and set Champion or Tuttle teeth. Skew back. Handle has extra large hand hole for gloved hand with full size comfortable grip with all corners rounded. Dowel pin through grip of handle for extra strength.

	Length of blade	Width at point	Width at butt	Weight per doz.	Packed per box	List per doz.
No. 920	20 in.	1 in.	5 in.	16 lbs.	½ doz.	\$30.00
No. 924	24 in.	1¼ in.	6 in.	18 lbs.	½ doz.	\$39.00



No. 820

The most popular saw for general heavy cutting with the tree expert. Will cut efficiently both small branches and big limbs. A strong, durable blade with scientifically designed teeth which cut on both push and draw strokes for fast, easy cutting; carefully tempered and polished. Fitted to a fine handle that can be used in all positions and which is reinforced by dowel through grip which eliminates breakage.

	Length of blade	Width at point	Width at butt	Pts. per inch	Weight per doz.	Packed per box	List per doz.
No. 820	20 in.	1 in.	5 in.	7	16 lbs.	½ doz.	\$27.00
No. 826	26 in.	1¼ in.	6 in.	6	21 lbs.	½ doz.	\$42.00



No. 714

A type of pruning saw preferred by many. It has the advantage of a thin, narrow blade that cuts very clean, fast and easy and one that can easily be replaced in the field when dull. By taking several sharp blades on the job, the user can keep his saw in condition at all times without filing; the dulled blades removed can be sharpened at some later convenient time.

A strong rust-proofed steel frame and comfortable hard wood handle holding a  $\frac{3}{4}$ " blue finished blade. Blade adjustable to 4 positions. Handle set at special angle on the frame for most efficient and non-tiring use.

No.	Length overall	Length of blade	Width at point	Width at butt	Pts. per in.	Wt. per doz.	Packed per box	List per doz.
714	21½ in.	14 in.	1¼ in.	6 in.	8	18½ lbs.	1/6 dz.	\$30.00
Saw Blades only, list per doz.								\$3.60



### "TELEPHONE" POLE SAW HEAD

Light weight malleable iron mounting with large hook for pulling out branches, hanging up tool and the like. Has paint brush holder for holding paint brush to paint over cuts. Saw blade is highest quality, needle toothed, polished and taper ground, 16 inches long, attached with bolt and wing nut and is adjustable to three positions.

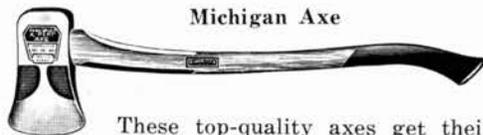
List per doz.

No. 10	—Complete except pole	\$30.00
No. 10B	—Saw Blade only for above	21.00
No. 10G	—Leather Guard for Blade	21.60

## EVANSVILLE "X-PERT" AXES



Reversible Axe



Michigan Axe

These top-quality axes get their name from a special steel which is refined only for Evansville Axes. Tough "ringing steel" that cuts fast, holds its edge, and stands up under hard usage. This axe appeals to men who like the finest tools. Can be furnished 28", 30", 32", 34", 36" handles. We recommend that No. 1 or Extra Grade handle be used in "X-Pert" Axes. Be sure to specify grade, pattern and length of handle. Packed handled ½ dozen to the box; unhandled 1 dozen to the box.

### PRICE (Base Weight—3½ lbs.\*)

	Single Bit per doz.	Double Bit per doz.
Without Handle	\$15.50	\$19.50
With No. 2 (B.R.) Grade Handle	19.50	23.50
With No. 1 (B.W. or A.R.) Grade Handle	20.00	24.00
With Extra (A.W.) Grade Handle	21.00	25.00
* 4 lbs.	\$1.00 doz.	extra
4½ lbs.	2.00 doz.	extra
5 lbs.	3.00 doz.	extra

## EVANSVILLE HATCHETS



Broad Hatchets

RUSTLESS BLACK FINISH Nos.	Size	Width of Bit Inches	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Price Per Doz.
G11	1	4	24	22	\$16.00
G12	2	4½	28	25	16.00
G13	3	5	34	34	18.00
G14	4	5½	40	42	20.00

Packed 6 to the box.



Half Hatchets

RUSTLESS BLACK FINISH Nos.	Size	Width of Bit Inches	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Price Per Doz.
G51	1	3¼	15	20	\$12.00
G52	2	3⅝	21	23	12.00
G53	3	4	27	28	13.20

Packed 6 to the box.

## KLEIN'S TREE CLIMBERS



No. 1907

These climbers are furnished with extra long gaffs necessary to penetrate bark in tree climbing. The gaffs are 5½ inches long, measured on the outside, and 3 inches long, measured on the underside. They are set high in the leg iron so that the points clear the ground when walking. These are the standard tree climbers used by Forest Rangers, High Riggers, Fire Wardens and Surveyors.

Stock sizes 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from the instep to the end of shank. Other sizes to order. Every climber individually tested.

Cat. No.	Weight Per Pair
1907 Punched strap loops	4 lbs.



### KLEIN'S LINEMEN'S CLIMBERS



1939

The newly designed No. 1939 eliminates the use of any unnecessary metal. Leg irons are flexible and tapered in width and thickness. The critical section from 3 inches above the gaff to half way across the stirrup has been designed for ample strength. The gaffs are slender type—preferred on treated ("Black Jack") poles. A wrought ring carries the ankle strap.

These climbers are approximately one-third lighter in weight than standard patterns and about 10% lighter than the original "light-weight." They offer every possible comfort and a full factor of safety.

Gaffs 3½ inches long, measured on the outside. Stock sizes 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from instep to end of shank. Other sizes to order. Every climber individually tested.

Cat. No.		Weight Per Pair
1939	Riveted top loop, ring at ankle	2½ lbs.
1900	Riveted strap loops	3¾ lbs.
1901	Punched strap loops	3¾ lbs.



No. 1901



No. 5301-1

### KLEIN'S CLIMBER STRAPS

The set consists of: 2 upper (or calf) straps, 1¼"x22"  
2 lower (or ankle) straps, 1¼"x22"  
2 square pads, 4"x4"

Cat. No.		Weight Per Doz. Sets
5301-1	Set complete with plain pads	20 lbs.
5301-2	Set complete with sheep-lined pads	20 lbs.
5301-3	Set complete with felt-lined pads Same as above but straps 1" wide	20 lbs.
5301-11	Set complete with plain pads	18 lbs.
5301-12	Set complete with sheep-lined pads	18 lbs.
5301-13	Set complete with felt-lined pads	18 lbs.



No. 5301-6

The set consists of:  
2 upper (or calf) straps, 1"x22"  
2 lower (or ankle) straps, 1"x26"  
2 special pads as shown

Cat. No.		Weight Per Doz. Sets
5301-6	Set complete with plain pads	14 lbs.
5301-7	Set complete with sheep-lined pads	15 lbs.
5301-8	Set complete with felt-lined pads	15 lbs.

(These pads are made of select leather, arranged with loops for climber straps and climber. Tapering 3¾" to 2¾" x 6¼" deep.)



### KLEIN'S ANKLE STRAPS

Cat. No.		Weight Per Doz. Pairs
5301-16	One pair (2 straps) 1¼"x24"	10 lbs.
5301-26	One pair (2 straps) 1"x24"	8½ lbs.

These special straps are made in two pieces and are furnished with rivets and burrs. Punched ready for quick attachment. (We will rivet these ankle straps to No. 1939 climbers when so ordered.)

### KLEIN'S CLIMBER STRAPS



Without Pads



With Pads

Cat. No.		Weight Per Doz. Pairs
5301-4	One pair (2 straps) 1¼"x22"	8 lbs.
5301-9	One pair (2 straps) 1"x22"	6 lbs.
5301-14	One pair (2 straps) 1¼"x26"	9 lbs.
5301-10	One pair (2 straps) 1"x26"	8 lbs.
5301-5	One pair (2 straps) 1¼"x22" with two plain pads 4"x4"	12 lbs.
5301-15	One pair (2 straps) 1"x22" with two plain pads 4"x4"	11 lbs.

### KLEIN'S CLIMBER PADS

(Standard Square Shape)

Cat. No.		Weight Per Doz. Pairs
8200	One pair (2 pcs.) Sheep-lined, 4"x4"	4 lbs.
8201	One pair (2 pcs.) Felt-lined, 4"x4"	4 lbs.
8202	One pair (2 pcs.) Plain Leather, 4"x4"	4 lbs.

Made of select harness leather with loops at back through which climber strap passes.



### KLEIN'S PEAR SHAPE CLIMBER PADS



Cat. No.		Weight Per Doz. Pairs
8206	One pair (2 pcs.) Plain Leather, 3½"x6"	4½ lbs.

These pads are made of two thicknesses of select harness leather riveted together. The outer piece is punched with two slots for the climber strap and one cross slot through which the leg iron of the climber is passed. They are very comfortable, having all edges round.

### KLEIN'S "BELL SYSTEM" TYPE CLIMBER PADS

Cat. No.		Weight Per Doz. Pairs
8203	One pair (2 pcs.) Plain Leather	6 lbs.
8204	One Pair (2 pcs.) Sheep-lined	6 lbs.
8205	One Pair (2 pcs.) Felt-lined	6 lbs.

### KLEIN'S CLIMBER GAFF GUARDS

Cat. No.		Weight Per Doz. Pairs
1929G	One pair (2 pcs.)	1¾ lbs.

Made of harness leather. The "wings" of the guard fit around leg iron of climber just above the gaff and snap on. The gaff is covered and protected by the leather "fold over." A simple safety item.

## KLEIN'S DERRICK BELT

Made in One Size—Adjustable from 36" to 44"

This belt is designed for maximum safety for use by derrickmen, structural steel workers, tree surgeons, tower erectors, etc. The main belt is one piece of first quality harness leather three inches wide at the back, tapered to two inches in width at the buckle. A three-inch forged steel dee ring is set at center of back to provide means for securely anchoring the life line or rope. The buckle is solid forged frame fitted with double tongues to guard against slitting the belt in event of a fall. Designed to stand a load of 250 lbs. on a dead fall of five feet. Adjustable for sizes 36" to 44".



Cat. No.	Weight Per Dozen
5212 3 in. wide. 1 "Dee" Ring.....	30 lbs.

## KLEIN'S STEEL WORKER'S BELT

Made in One Size—Adjustable from 36" to 44"

Steel Worker's belt made of one piece of first quality harness leather two inches wide and fitted with three forged dee rings for attachment of life line in most convenient position. A leather loop is provided for wrench.



The main belt passes through the dee rings which are held in place by backing pieces of latigo leather stitched and riveted to the belt proper.

The two-inch buckle is of the double tongue type with solid forged frame.

Distance between outer dee rings 24". Adjustable for sizes 36" to 44".

Cat. No.	Weight Per Dozen
5214 2 inches wide. 3 Dee rings.....	28 lbs.
5214-0 Same as above but without wrench loop	27½ lbs.

## KLEIN'S FABRIC TOOL BELT

Made in Sizes 36, 38, 40, 42, 44, and 46 inches

This belt is constructed throughout of a new rubberized fabric specially designed to provide the full factor of safety required.

The fabric is made up of a number of plies laid and vulcanized in live rubber in such a way as to secure the flexibility necessary for comfort as well as to protect the fabric from the weather. The inner surfaces are left untreated to prevent condensation from body heat which might otherwise occur.

The cushion is 3 inches wide tapered at the hips where it is returned through the double bar "dee" rings. The body, or top strap, is 1½-inches wide riveted to the cushion to form four tool loops of convenient size. It also passes through the "dees" as an additional safety precaution. All edges are lock stitched with genuine linen thread. "Dee" Rings and Buckle are solid steel drop forgings, individually tested to 1500 lbs. Galvanized finish.

Line Patrolmen, Inspectors, Service men and others who must carry a belt for occasional use will find this



one particularly convenient on account of its light weight and ability to pack into very small space.

(We are in a position to make to order variations of the design shown and will be pleased to quote on special requirements.)

Cat. No.	Weight Per Dozen
5227-KK With Standard "D" Rings. Width 3".....	25 lbs.
H-5227-KK With "Hank's" "D" Rings. Width 3".....	25 lbs.

## KLEIN'S LEATHER TOOL BELTS

Made in sizes 36, 38, 40, 42, 44 and 46 inches (Other sizes to order)



This belt is a new and somewhat novel pattern providing, in our opinion, the ultimate in safety and comfort.

The cushion—4½ inches wide at center of back and tapered to 3½ inches wide at the front—is made of one piece of soft, pliable, yet tough russet latigo leather, doubled to form comfortable rolled edges and returned at each end.

The body strap is first quality russet harness leather 2 inches wide, stitched to the cushion at back and passing through loops at end of cushion as well as through the "dee" rings. A russet harness leather tool strap 1¼-inches wide with five loops in the 1¼-inch loop strap is carried on leather hangers from the body strap to which it is looped at the ends. This arrangement keeps the tool loops from contracting when belt is buckled on and is also another "comfort" feature.

So constructed that no rivets come through to inside of belt—a safety insulation feature that will be appreciated.

The "dee" rings are single bar type solid steel drop forgings as is also the buckle. All hardware tested to 1500 lbs. Galvanized finish.

Fitted with leather plier pocket, knife snap and tape thong complete.

Cat. No.	Weight Per Dozen
5228 With Standard (Single Bar) "D" Rings. Width 4½ inches (complete).....	45 lbs.
H-5228 With "Hank's" "D" Rings. Width 4½ inches (complete).....	45 lbs.

## KLEIN'S "TEXAS" BELT

A popular belt made for comfort and safety. The main belt is in one piece lined throughout with soft pliable latigo leather. Width at center of back 4 inches, tapered to 2¼ inches at hips. Dee Rings and Buckle solid steel drop forgings tested to 1500 lbs. Galvanized finish.

No rivets go through belt—a special insulating feature. All rivets are solid copper hand set with burrs. Sewing is with hot waxed linen thread, lock stitched.

Has latigo flap to which plier pocket may be riveted.

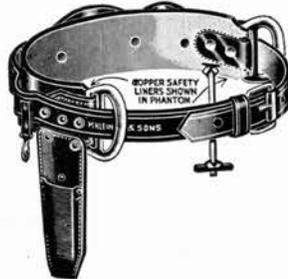
Cat. No.	Weight Per Dozen
5204-T.S.O. With Standard "D" Rings (Single Bar). Width 4 in.....	36 lbs.
H-5204-T.S.O. With "Hank's" "D" Rings. Width 4 in.....	36 lbs.



### KLEIN'S LEATHER TOOL BELTS

Made in Sizes 36, 38, 40, 42, 44, and 46 inches.  
(Other sizes to order.)

First quality and selection harness leather throughout. The cushion, 3½ inches wide, carries the Dee rings. The outer strap or tool loop is 1½ inches wide, formed into loops by riveting to the cushion. As an additional safety factor it is also passed through the Dee rings. Dee rings and buckle are solid steel drop forgings of improved design, everyone tested to 1500 lbs. Surfaces taking the wear of the Dee rings are protected by copper safety liners riveted through the full thickness of the belt. A leather pocket is provided for pliers, also a convenient snap for carrying knife. At the other end of the belt a rawhide thong is attached with fibre cross bar for carrying tape. All rivets are solid copper, hand set with burrs. Sewing is with linen thread, hot waxed and lock stitched. A safety belt that is safe. The wide cushion makes it preferred by some for the comfort it gives in use. "D" rings and buckle galvanized finish.



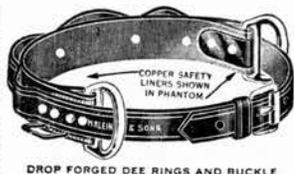
Cat. No.	Description	Weight Per Dozen
5204-D.E.	With Standard "D" Rings. Width 3½"	38 lbs.
H-5204-D.E.	With "Hank's" "D" Rings. Width 3½"	38 lbs.



Made of select first quality harness leather. The cushion 3½ inches wide carries the "D" rings. The outer or loop layer is 1½ inches wide formed into tool loops by riveting to the cushion. It also passes through the "D" rings and is furnished with a strong drop forged buckle tested to 1500 lbs.

The "D" rings are solid steel drop forgings tested to 1500 lbs. Surfaces taking the wear of the "D" rings are protected with copper safety liners riveted through the full thickness of the belt. All rivets are solid copper set with burrs and sewing is with hot waxed linen thread, lock stitched. "D" rings and buckle galvanized finish.

Made of select first quality harness leather. The cushion 2¼ inches wide carries the "D" rings. The outer or loop layer is 1½ inches wide formed into tool loops by riveting to the cushion. It also passes through the "D" rings and is furnished with a strong drop forged buckle tested to 1500 lbs.



The "D" rings are solid steel drop forgings of improved design, tested to 1500 lbs. Surfaces taking the wear of the "D" rings are protected with copper safety liners riveted through the full thickness of belt. All rivets are solid copper set with burrs and sewing is with hot waxed linen thread, lock stitched. "D" rings and buckle galvanized finish.

Cat. No.	Description	Weight Per Dozen
5202	With "Standard" "D" Rings (double bar). Width 2¼"	32 lbs.
H-5202	With "Hank's" "D" Rings. Width 2¼"	32 lbs.

### KLEIN'S SAFETY LEATHER HARNESS

This harness has been designed for use where danger from gassing is present. Working in gassy manholes, gas tanks, oil tanks and even boilers, men are frequently overcome and an emergency arises instantly. This harness provides a sure means by which the patient can be brought to safety, and the danger overcome. The design of the harness is such that it slings the wearer in a perpendicular position so that he can be readily hauled through an ordinary manhole opening. A solid harness leather back plate 2¼ inches by 10 inches is stitched and riveted around the 1¼-inch adjustable belt strap. The back plate also carries a tested drop forged "D" ring to which the ¾-inch manila life line, 25 feet in length, is permanently attached. The shoulder straps are ¾ inch and made adjustable and riveted to the belt at the single ends.



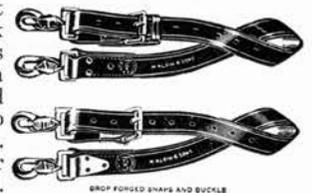
These straps serve to hold the belt in position around the chest, so as not to encumber the wearer while working.

### KLEIN'S LEATHER SAFETY STRAPS

1¾" Wide

Drop Forged Tested Hardware

These straps are cut from first quality harness leather, back or center stock only. All rivets solid copper, hand set with burrs. Snaps and buckles solid steel drop forgings tested to 1500 lbs. Galvanized finish. Straps may be lengthened or shortened by adjusting buckle.



Cat. No.	Size and Description	Weight Per Dozen
KL-5251	1¾ in. x 5 ft. 8 in. "Klein-Lok" Snaps. Leather wear pad at buckle	32½ lbs.
5251	1¾ in. x 5 ft. 8 in. Standard Snaps. Leather wear pad at buckle	32½ lbs.
H-5251	1¾ in. x 5 ft. 8 in. "Hank's" Snaps. Leather wear pad at buckle	32½ lbs.
KL-5250	1¾ in. x 5 ft. 8 in. "Klein-Lok" Snaps. Stainless Clips	32½ lbs.
5250	1¾ in. x 5 ft. 8 in. Standard Snaps, Stainless Clips	32½ lbs.
H-5250	1¾ in. x 5 ft. 8 in. "Hank's" Snaps. Stainless Clips	32½ lbs.

### KLEIN'S LEATHER EXTENSION STRAPS



Cat. No.	Size and Description	Weight Per Dozen
5215	1¾ in. x 15 in. Forged "D" Ring	15½ lbs.
H-5215	1¾ in. x 15 in. "Hank's" "D" Ring	17 lbs.

These extension straps are worn permanently attached to one "D" ring on body belt. They are brought into use when a large pole makes it necessary to "extend" the regular safety strap.

## KLEIN-KORD



"Klein-Kord" Safety Straps are standard equipment with leading Public Utility Companies, Telephone Companies and others desiring the maximum of safety for their men.

"Klein-Kord" Red Center, provides for the first time something Safety Engineers have sought for years—a definite warning when to discard a safety strap.

"Klein-Kord" Red Center fabric is made of six plies of long staple cotton of special weave, each ply laid in rubber and vulcanized. This construction provides maximum strength and safety.

Red rubber is used on the two center plies to provide an unmistakable signal when the use of the strap should be discontinued.

The "Klein-Kord" Red Center Safety Strap may be used with perfect safety until two outside plies are worn completely through. Then it speaks for itself.

### ADVANTAGES

1. Guess work as to safe period of time eliminated.
2. Great tensile strength. Factor of safety—plus.
3. Weatherproof.
4. Extremely tough; resists damage from accidental cuts, heat, etc.
5. Uniformity of thickness and strength.
6. Safety Straps can be made any length required.
7. Low conductivity. Flexible.
8. Permits use of regular tongue buckle for positive length adjustment.
9. No stretch in use.
10. Can be used for all purposes. On poles, towers or tree trimming work.

## KLEIN'S LEATHER SAFETY STRAPS

2" Wide



These straps are cut from first quality harness leather, back or center stock only. All rivets solid copper set with

burrs. Drop forged roller snaps and buckles tested individually to take 1500 pounds, galvanized finish. Straps may be lengthened or shortened by adjusting buckle. Reinforced both ends with stainless steel safety clips riveted through double thickness of the leather.

Cat. No.	Size and Description	Wt. Per Doz.
KL-5253	2 in. x 5 ft. 8 in. "Klein-Lok" Snaps. Stainless Clips	40 lbs.
5253	2 in. x 5 ft. 8 in. Standard Snaps. Stainless Clips	40 lbs.
H-5253	2 in. x 5 ft. 8 in. "Hank's" Snaps. Stainless Clips	40 lbs.



This strap is similar to the No. 5253 but has a double tongue buckle. First quality and selection harness leather cut

strictly from center or back stock only. Securely sewed with linen thread, hot waxed, lock stitched. Solid copper rivets and burrs set by hand. Snaps and buckle are solid steel drop forgings individually tested to 1500 lbs. They are made in Klein's own shops and are galvanized to prevent rust. The strap may be lengthened or shortened by adjusting buckle. One end reinforced, with stainless steel safety clip. The single end is returned through roller of snap and securely sewed and riveted.

Cat. No.	Size and Description	Wt. Per Doz.
5257-S	2 in. x 5 ft. 1½ in. "Bell System" type. Drop Forged Roller Snaps	39 lbs.
5257-L	2 in. x 5 ft. 10 in. "Bell System" type. Drop Forged Roller Snaps	41 lbs.

This strap is a heavy duty type following the N.E.L.A. specifications. First quality and selection harness leather



throughout, cut from center or back stock only. Sewing is with linen thread, hot waxed, lock stitched. Solid copper rivets with burrs hand set. Snaps and buckle are solid steel drop forgings tested to 1500 lbs. They are made in Klein's own shops and galvanized to prevent rust. The strap may be lengthened or shortened by adjusting the buckle. Reinforced at buckle end with stainless steel safety clip, at the fixed snap the strap is returned and secured by sewing and riveting.

Cat. No.	Size and Description	Wt. Per Doz.
KL-5258	2 in. x 5 ft. 6 in. "Klein-Lok" Snaps. Stainless Clip	40 lbs.
5258	2 in. x 5 ft. 6 in. Standard Snaps. Stainless Clip	40 lbs.
H-5258	2 in. x 5 ft. 6 in. "Hank's" Snaps. Stainless Clip	40 lbs.

## KLEIN'S "KLEIN-KORD" SAFETY STRAPS

Red Center

To avoid substitutes see that every strap has the registered trade name, "Klein-Kord," molded into the surface.



Cat. No.	Size and Description	Wt. Per Doz.
KL-5233	1¾ in. x 5 ft. 8 in. "Klein-Lok" Snaps. Stainless Clips	36 lbs.
H-5233	1¾ in. x 5 ft. 8 in. "Hank's" Snaps. Stainless Clips	36 lbs.
5233	1¾ in. x 5 ft. 8 in. Standard Snaps. Stainless Clips	36 lbs.

(Other lengths furnished to order)

## KLEIN'S "KLEIN-KORD" SAFETY STRAPS

(Fixed Length Type)

On properties where there is no great variation of pole sizes the uniform strength of "Klein-Kord" fabric often makes it possible to adopt a safety strap of fixed length. With conventional straps the greatest wear is usually close to the buckle. The fixed length strap avoids this due to the smooth way it moves on the pole. We can furnish the above types of safety straps in any desired length to order.



Cat. No.	Size and Description	Wt. Per Doz.
KL-5234	1¾ in. x 56 in. (effective length) with "Klein-Lok" Snaps	25½ lbs.
5234	1¾ in. x 56 in. (effective length) with Standard Snaps	25½ lbs.
H-5234	1¾ in. x 56 in. (effective length) with "Hank's" Snaps	25½ lbs.

## KLEIN'S PLIERS SIDE CUTTING PLIERS

Genuine Klein Linemen's Side Cutting Plier is one of the most popular pliers in use today. Its handles are shaped to the curvature of the hand, a much desired feature. Powerful leverage and keen reinforced cutting knives make this plier adaptable for heavy cutting.



No. 201

Full clearance back of the knife permits use on insulated wire. (Specifications on following page.)



### SIDE CUTTING PLIERS—Continued

Cat. No.	Size	Wt. Per Dozen
201-5	5-inch	3 lbs.
201-6	6-inch	5¼ lbs.
201-7	7-inch	7¼ lbs.
201-8	8-inch	11¾ lbs.
201-9	9-inch	14 lbs.

#### No. 212

Is the same as 201 but with sleeve joint twister.

Cat. No.	Size	Wt. Per Dozen
212-6	6-inch	5¼ lbs.
212-7	7-inch	7¼ lbs.
212-8	8-inch	11¾ lbs.

(This series of pliers can be modified with meter seal instead of sleeve openings to order only.)

#### No. 201 N.E.

Is the same as 201 but has round nose.



No. 201 N.E.

Cat. No.	Size	Wt. Per Dozen
201-5 N.E.	5-inch	3 lbs.
201-6 N.E.	6-inch	5¼ lbs.
201-7 N.E.	7-inch	7¼ lbs.
201-8 N.E.	8-inch	11¼ lbs.
201-9 N.E.	9-inch	13½ lbs.

(All Pliers, Polished Heads and Handles Temper Blued. Standard Package 6 in a box.)

#### No. 212 N.E.

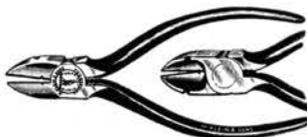
Is identical to 201 N.E. but has opening for twisting double tube sleeve joint.

Cat. No.	Size	Wt. Per Dozen
212-6 N.E.	6-inch	5¼ lbs.
212-7 N.E.	7-inch	7¼ lbs.
212-8 N.E.	8-inch	11¾ lbs.

(This series of pliers can be modified with meter seal instead of sleeve openings to order only.)

### KLEIN'S OBLIQUE CUTTING PLIERS No. 202 SW

This plier is the all-purpose cutting tool for telephone installation and maintenance work. The "W" notches will slit acetate cellulose and other insulation from wires up to .058 O.D. A stripping hole .052 diameter is provided in blades. Sleeve openings in handles.



No. 202 SW

Cat. No.	Size	Wt. Per Dozen
202-5-SW	5½-inch	3¾ lbs.

#### No. 202

The narrow head of the No. 202 permits its use in confined places. The knives are perfectly fitted, so that they meet accurately at all points.

Cat. No.	Size	Wt. Per Dozen
202-5	5-inch	3¾ lbs.
202-6	6-inch	4 lbs.

#### No. 245

Is the same as 202 but slightly smaller in all dimensions.

Cat. No.	Size	Wt. Per Dozen
245-5	5-inch	3 lbs.

(All Pliers, Polished Heads and Handles Temper Blued. Standard Package 6 in a box.)

#### No. 245-W

This tool has two "W" shaped notches at back of the cutting knives. Specially designed for removing acetate cellulose insulation from .050 and .058 wires used on telephone distributing frames, etc.

Cat. No.	Size	Wt. Per Dozen
245-5-W	5-inch	3 lbs.

Similar to 202 except heavier for general work.

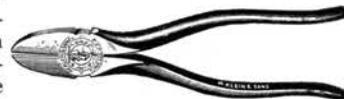


No. 242

Cat. No.	Size	Wt. Per Dozen
242-6	6-inch	4¼ lbs.

### "AUTO" OBLIQUE CUTTING PLIER "Handform" Handles

Made especially for automotive mechanics and others who demand a high quality plier of this pattern. The knives are close cutting and carefully matched for their full length. Useful for pulling cotter pins, for choke wires, etc. The "Handform" handles provide full leverage and comfort for continual use.



Cat. No.	Size	Wt. Per Dozen
220-7	7-inch	7 lbs.

### END CUTTING PLIER

A generally useful end cutting plier for electrical mechanics. Has stout jaws and broad cutting knives. There is ample room in the throat of pliers when needed. Frequently used for enclosed work which cannot be reached with the oblique type of cutter.



Cat. No.	Size	Wt. Per Dozen
232-5½	5½-inch	3¼ lbs.
*232-7	7-inch	7½ lbs.

\* The 7-inch size has "Handform" handles as used on our side cutting pliers.

### DIAGONAL CUTTING PLIER With Raised Knives

This plier has perhaps as many uses as the oblique pattern. It has long cutting knives well matched, so as to permit close and clean cutting. The head is narrow to penetrate confined places and work between binding posts, etc. The knives are correctly constructed to cut clean and to give lasting service.



Cat. No.	Size	Wt. Per Dozen
235-6	6-inch	3¼ lbs.

## LONG NOSE PLIER, WITHOUT CUTTERS

This style of plier has been perfected to meet a long-felt want of the electrician and general mechanic. Special features are its adaptability to stripping the ends of insulated wire and the extra long reach of the jaws which permits getting into difficult places. For switchboard, telegraph, and telephone work, armature winding, etc.

This tool is especially hardened and tempered to insure positive grip at point of nose when pressure is applied. Point  $\frac{3}{8}$  in. round.



Cat. No.	Size	Wt. Per Dozen
301-5	5-inch	3 $\frac{1}{4}$ lbs.
301-6	6-inch	3 $\frac{3}{4}$ lbs.
*301-7	7-inch	4 $\frac{1}{4}$ lbs.

\* This plier has extra long nose—measuring 2  $\frac{3}{4}$ " from center of hinge to point.

## CHAIN NOSE PLIER, WITHOUT CUTTERS

This plier is intended for general use where a shorter nose is desirable. Made in one size only—6 inch.



Cat. No.	Size	Wt. Per Dozen
317-6	6-inch	3 $\frac{1}{2}$ lbs.

## HEAT-COIL PLIER

Particularly adapted for the removing of heat coils from switchboards and telephone terminals, the points of the nose being shaped to fit the coils. This tool is also serviceable in removing caps from batteries or from binding posts, as well as holding any cylindrical object.



Cat. No.	Size	Wt. Per Dozen
313-6	6-inch	3 $\frac{3}{4}$ lbs.

## LONG FLAT NOSE PLIER

Extra long wide flat nose makes this an especially useful plier. This plier is hardened and tempered, so that the jaw will not spring when pressure is applied. This tool is adaptable to switchboard work, telephone and telegraph work, armature winding, etc. A very handy tool for spring adjusting. This plier can be supplied with inside of jaws left smooth if desired.



Cat. No.	Size	Wt. Per Dozen
305-6	6-inch	3 $\frac{1}{2}$ lbs.

## LONG DUCK BILL PLIER

This plier is fitted with duck bill jaws wider and heavier than those of the ordinary flat nose plier. This affords a tool with a firmer gripping surface. Also in general use as a weaver's plier.



Cat. No.	Size	Wt. Per Dozen
304-6	6-inch	3 $\frac{1}{2}$ lbs.

## LONG CURVED NOSE PLIER

A handy plier for working around switchboards, terminals and telephones, due to the nose being curved. The angle is arranged to give full clearance and prevent skinning of knuckles. Users will find this tool adaptable to a great variety of uses. The jaws will not lose their shape or set due to pressure applied, owing to the quality of steel used, its hardening and tempering.



Cat. No.	Size	Wt. Per Dozen
302-6	6-inch	3 $\frac{1}{4}$ lbs.

## LONG NOSE SLEEVE PLIER Bell System Type

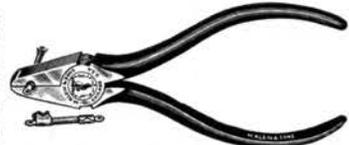
This plier is identical with No. 301-6 but with the addition of sleeve openings for twisting No. 17 N.B.S. and small copper sleeves. Particularly useful for telephone work. Point  $\frac{3}{8}$  in. round.



Cat. No.	Size	Wt. Per Dozen
316-S	6-inch	3 $\frac{3}{4}$ lbs.

## CORD TIP CLOSING PLIER

The jaws of this tool are of sturdy design to permit its use as a hand press for closing cord tips such as W.E. 101 and 102. The circular opening in the jaws is correctly sized to ensure a perfect connection when the closure is completed.



Cat. No.	Size	Wt. Per Dozen
039	5-inch	3 lbs.

## HEAVY DUTY LONG NOSE CUTTING PLIER

A long round nose cutting plier for heavier gauge wires as used on elevator control boards, etc. The round nose 2  $\frac{3}{4}$  in. long is for forming loops. A flat space ahead of the knife holds objects securely, will also "crack" insulation conveniently. The "Handform" shaped handles afford maximum comfort and powerful leverage.

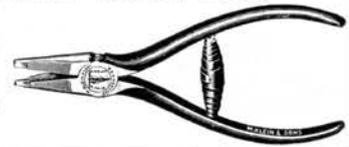


Cat. No.	Size	Wt. Per Dozen
203-8	8-inch	8 lbs.

## LONG NOSE PLIER

(Volute Spring—With  $\frac{1}{4}$ " Knife at Point)

A plier designed to provide for light cutting in spaces beyond the reach of regular cutting pliers. Largely used in manufacturing and servicing of radio sets.

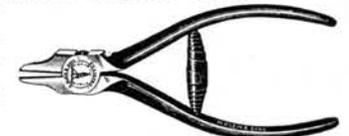


Cat. No.	Size	Wt. Per Dozen
301-6-VP	6-inch	4 lbs.

## OBLIQUE CUTTING PLIER

(Volute Spring—Narrow Tapered Head)

This plier is especially useful for light cutting in confined spaces. Largely used in radio tube shops. Volute spring keeps plier open.



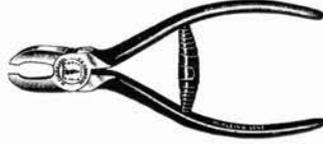
Cat. No.	Size	Wt. Per Dozen
202-5-VO	5 $\frac{1}{2}$ -inch	3 $\frac{3}{4}$ lbs.



### OBLIQUE CUTTING PLIER

(Volute Spring—Cutout Knives)

A tool specially designed for cutting at tip only with balance of knife removed, thus providing a space 1/8-inch wide to clear any interfering obstruction. (Largely used on radio tube construction.) Volute spring keeps plier open for use.



Cat. No.	Size	Wt. Per Dozen
202-5-VC	5 1/2-inch	3 3/4 lbs.

### "UTILITY" SLIP JOINT PLIER

The special features of this plier, which is of the heavy duty type, are adaptability as a pipe wrench and wire cutter.



Has sure grip jaws which readily accommodate objects of irregular shape. It is also made of tempered tool steel like the item above.

Cat. No.	Size	Wt. Per Dozen
407-7	7-inch	6 1/4 lbs.

### SLIP JOINT PLIER

Made of tempered tool steel (like all Klein Pliers) this tool will give service that cannot be expected from the ordinary plier of similar pattern. Has a wire cutter and a screw-driver handle.



Cat. No.	Size	Wt. Per Dozen
406-6 1/2	6 1/2-inch	6 lbs.

### BENT NOSE SLIP JOINT PLIER

A plier of the bent nose type. Specially designed for use in difficult places. An excellent general purpose tool that should be included in every mechanic's kit. Made of tempered tool steel and can be relied on for maximum service. (Sometimes referred to as Bent Nose Gas Plier.)



Cat. No.	Size	Wt. Per Dozen
408-8	8-inch	7 1/2 lbs.

### KLEIN'S "CHICAGO" GRIPS FOR BARE WIRES

The 1613 series is constructed with the plain type of jaw as suited for bare wire.



Cat. No.	Maximum Wire Size	Minimum Wire Size	Approx. Max. Opening	Safe Load	Weight Each	Size No.
1613-30	No. 6 B. & S. Solid (.162")	No. 12 B. & S. Solid (.081")	.22 in.	1,500 lbs.	1 1/2 lbs.	1
1613-30B	As above but bronze lined jaws.					
1613-40	No. 0 B. & S. Strand (.373")	No. 10 B. & S. Solid (.102")	.44 in.	2,250 lbs.	3 lbs.	2
1613-40B	As above but bronze lined jaws.					
(1613-40, 1613-40B supersede previous Nos. 1613-40A and 1613-40AB.)						
1613-50	No. 4/0 B. & S. Solid (.460")	No. 6 B. & S. Solid (.162")	.52 in.	4,000 lbs.	8 lbs.	3
1613-50B	As above but bronze lined jaws.					
1613-50A	No. 4/0 B. & S. Strand (.552")	No. 6 B. & S. Solid (.162")	.62 in.	4,000 lbs.	8 lbs.	3A
1613-50AB	As above but bronze lined jaws.					

Bronze lining of jaws prevents slippage and consequent surface abrasion of conductor or strand.



### KLEIN'S "CHICAGO" GRIPS FOR INSULATED WIRE

The 1611 series is similar to the 1613 series in construction but the necessary extra width in the jaws is "lipped" out to avoid unnecessary weight. The upper jaw has "saw-tooth" gripping notches.



Cat. No.	Maximum Wire Size	Minimum Wire Size	Approx. Max. Opening	Safe Load	Weight Each	Size No.
1611-20	No. 4 B. & S. Weatherproof Solid (.391")	No. 10 B. & S. Weatherproof Solid (.250")	.50 in.	2,200 lbs.	3 lbs.	6
1611-30	No. 1 B. & S. Weatherproof Solid (.500")	No. 6 B. & S. Weatherproof Solid (.313")	.56 in.	3,500 lbs.	3 3/4 lbs.	4
1611-40	No. 2/0 B. & S. Weatherproof Strand (.672")	No. 1 B. & S. Weatherproof Solid (.500")	.75 in.	3,750 lbs.	7 3/4 lbs.	5
1611-50	No. 4/0 B. & S. Weatherproof Strand (.860")	No. 2/0 B. & S. Weatherproof Strand (.672")	.94 in.	3,750 lbs.	7 3/4 lbs.	5A

(Supersedes 1611-ST series.)

## KLEIN'S IMPROVED "CHICAGO" GRIP The "All Purpose" Tool



This grip has been designed to provide in one tool a grip to handle almost every requirement on the usual job.

The jaws have been lengthened and the leverage increased. No. 1628-5B has bronze-lined jaws to prevent slippage and consequent damage to galvanized finish or to copper or aluminum conductors. For "all purposes" on any strand or solid wire up to 1/2 inch diameter with load up to 8000 lbs. Weighs only 6 lbs. Forged from alloy steel—heat treated.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Opening	Safe Load	Weight Each
1628-5B	With bronze lined jaws 4/0 B. & S. 7 Strand Copper (.522") 3/0 A.C.S.R. (.502")	No. 4 B. & S. Solid Copper (.202") No. 6 A.C.S.R. (.198")	.58 in.	8,000 lbs.	6 lbs.
1628-5	As above but without bronze lining in jaws.				

## KLEIN'S "CHICAGO" GRIPS FOR STRANDED CONDUCTORS



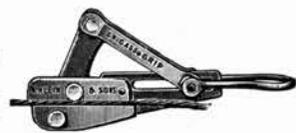
The 1626 series is similar to the 1613 series construction but the necessary extra width in the jaws is "lipped" out to avoid unnecessary weight. Both gripping jaws are smooth.

NOTE: Grips for other size Cables made to order.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Opening	Safe Load	Weight Each
1626-39	300,000 C.M. A.C.S.R. (.680") 350,000 C.M. Copper (.679")	3/0 A.C.S.R. (.502") 4/0 Copper Strand (.522")	.75 in.	3,750 lbs.	7 1/2 lbs.
*1626-39B	As above but bronze lined jaws.				
1626-40	500,000 C.M. A.C.S.R. (.904") 600,000 C.M. Copper (.891")	4/0 A.C.S.R. (.563") 250,000 C.M. Copper (.575")	.97 in.	3,750 lbs.	7 1/2 lbs.
*1626-40B	As above but bronze lined jaws.				
*1626-AB	Furnished to order. Forged from Alloy Steel—Heat Treated Bronze-lined jaws.				
	300,000 C.M. A.C.S.R. (.680") 350,000 C.M. Copper (.679")	3/0 A.C.S.R. (.502") 4/0 Copper Strand (.522")	.75 in.	8,000 lbs.	7 1/2 lbs.

\*Bronze lining of jaws prevents slippage and consequent surface abrasion of cable.

## KLEIN'S "CHICAGO" GRIPS FOR MESSENGER AND GUY STRAND, HEAVY CABLES, WIRE ROPE, ETC.



These grips successfully fill a long-felt want taking the heavy loads incident to larger strands without injury to the strand itself. Forged from alloy steel heat treated. Gripping jaws are machined smooth. Rivets are machine turned and workmanship throughout is first class.

These grips frequently can be modified to accommodate cables of larger diameters. Write us on your special requirements.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Opening	Safe Load	Weight Each
1628-6	7/16" Galvanized Steel Strand (.438") No. 2/0 B. & S. Copper Strd. (.414") No. 1/0 A.C.S.R. (.398")	3/8" Galvanized Steel Strd. (.188") No. 5 B. & S. Copper Solid (.182") No. 7 A.C.S.R. (.177")	.50 in.	8,000 lbs.	8 1/2 lbs.
1628-6B	As above but bronze lined jaws for stranded conductors.				
1628-16	5/8" Galvanized Steel Strand (.625") No. 300,000 C.M. Copper Strd. (.629") No. 4/0 A.C.S.R. (.563")	5/16" Galvanized Steel Strd. (.312") No. 1/0 B. & S. Copper Solid (.325") No. 2 A.C.S.R. (.316")	.69 in.	15,000 lbs.	15 1/2 lbs.
1628-16B	As above but bronze lined jaws for stranded conductors.				
1628-16BP	As 1628-16 but jaws extra width and bronze lined—for larger cables.				
	No. 550,000 C.M. Copper Strd. (.853") No. 477,000 C.M. A.C.S.R. (.883")	No. 1/0 B. & S. Copper Solid (.325") No. 2 A.C.S.R. (.316")	.94 in.	15,000 lbs.	17 lbs.

Bronze lining of jaws prevents slippage and consequent surface abrasion of strand.



## KLEIN'S "CHICAGO" GRIP FOR HOLLOW CORE AND OTHER LARGE DIAMETER CONDUCTORS AND CABLES



In the case of hollow conductors and other large diameter cables the jaws of the grip must be shaped to provide maximum enclosure and contact with the circumference of the cable itself. When so made the grip will function at maximum efficiency. Slippage is prevented and danger of crushing or collapsing hollow conductors is avoided. For the above reasons we hold the grips in blank and finish as necessary for any particular requirements. These Grips are forged from alloy steel—heat treated. The jaws are bronze lined.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Opening	Safe Load	Weight Each
1628-30B	1,000,000 C.M. Hollow Conductor (1.257")	350,000 C.M. Hollow Conductor (1.00")	1.35 in.	20,000 lbs.	28 lbs.
	1,250,000 C.M. Copper Strand (1.288")	550,000 C.M. Copper Strand (.853")			
	1,033,500 C.M. A.C.S.R. (1.246")	477,000 C.M. A.C.S.R. (.883")			
1628-40B	1,250,000 C.M. Hollow Conductor (1.430")	1,000,000 C.M. Hollow Conductor (1.257")	1.60 in.	25,000 lbs.	32 lbs.
	1,750,000 C.M. Copper Strand (1.525")	1,250,000 C.M. Copper Strand (1.288")			
	1,590,000 C.M. A.C.S.R. (1.545")	1,033,500 C.M. A.C.S.R. (1.246")			

Bronze lining of jaws prevents slippage and consequent surface abrasion of conductor.

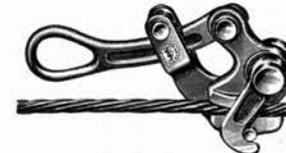
## KLEIN'S "HAVEN'S" STEEL GRIPS



These popular grips have been improved in design and materials. All parts solid steel drop forgings, heat treated as necessary for maximum strength and service. The eye is pear shaped ( $\frac{7}{8}$  inch and  $1\frac{1}{8}$  inch wide respectively) and a roller fitted to the body yoke makes the motion free and allows the load to come on smoothly. Instantaneous hold, yet a shake on the tackle rope releases the grip. These grips will not slip due to the hand cut serration in the face of the eccentric. Galvanized finish.

Cat. No.	Approximate Max Opening	Approximate Min. Opening	Description	Safe Load	Weight Per Doz.
1604-10	$\frac{3}{4}$ in. (.24 in.)	$\frac{1}{8}$ in. (.06 in.)	For No. 4 B. & S. Wire and smaller	2000 lbs.	12 lbs.
1604-20	$\frac{1}{2}$ in. (.53 in.)	$\frac{3}{16}$ in. (.14 in.)	For $\frac{1}{2}$ in. wire and smaller	5000 lbs.	28½ lbs.

## KLEIN'S IMPROVED "HAVEN'S" GRIP



This grip is another improved design. All the desirable features have been retained, but by the use of alloy steel drop forgings properly heat treated the weight has been reduced over forty per cent at the same time the safe load rating has been increased sixty per cent. Suitable for use on solid or strand wires. The swing latch engages stud on the lower jaw preventing any distortion of the body or cross bolt under load. This grip is a favorite for use on trolley wire and weatherproof. It can be readily adapted at slight extra cost for hot line work on weatherproof (insulated) conductors. The swing latch holds the tool on the line in position for the pull. The handle or draw piece works smoothly against steel roller set in yoke of body arm. The eye is pear shaped  $1\frac{1}{4}$  inch wide, permitting use of oversized sister hook on the tackle. Hand cut serration in the face of eccentric assures a hold that cannot slip. Almost automatic in action. Galvanized finish.

Cat. No.	Approximate Max. Opening	Approximate Min. Opening	Description	Safe Load	Weight Per Doz.
1625-20	$\frac{3}{4}$ in. (.78 in.)	$\frac{3}{8}$ in. (.22 in.)	For wires $\frac{3}{4}$ in. to No. 6 B. & S.	8000 lbs.	45 lbs.

## CRESCENT WIRE GRIPS

A new tool, perfected by testing under actual service in the field. All parts are of forged steel, heat treated. It gives a tight grip, that cannot slip, yet will not injure the wire. Easily released by a flip of the rope—and it will not jam. Special hook prevents it from dropping off wire and injuring someone below. No jaw springs. Can be placed on wire with ease, with jaws at capacity opening.



Pulling eye is large enough to accommodate hook on tackle block.

Regularly furnished with corrugated jaws, but can also be supplied with smooth jaws for aluminum wire only.

Cut at left shows the addition of a ring for use with hot line hooks—furnished at slight extra cost.

### SPECIFICATIONS

For bare or insulated wire—regular jaws. For aluminum wire only—smooth jaws.

Number	Max. Cap.	Min. Cap.	Safe Load	Weight
*383	$\frac{3}{8}$ in.	$\frac{3}{16}$ in.	5,000 lbs.	2 lbs.
383-2	ditto	ditto	with smooth jaws for aluminum wire.	
385	$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	10,000 lbs.	4½ lbs.
385-2	ditto	ditto	with smooth jaws for aluminum wire.	

\* CAPACITY—No. 6 to No. 00 Solid copper (American or B. & S. Standard). Max. opening for weatherproof wire,  $\frac{7}{16}$  in.

FINISH: Cadmium plate.

Can also be furnished with ring for hot line hook.

## KLEIN'S "CHICAGO" FISH-TAPE PULLER

Here is a simple, husky come-along for Fish-Tape. To engage puller on fish-tape place the tape sideways in slot and give puller a slight forward motion while pushing tape deeper into the slot. This slips tape under the ratchet wheel. Now pull. You have a positive grip on the tape. Slide forward on tape to position for new bite.

Klein's "Chicago" Fish-Tape Puller grips like a vise—never slips—simple, strong, automatic. Does not injure the tape. 3¾ inches long. Can be carried in the pocket.



Cat. No.		Weight Per Dozen
1629	For Standard Fish Tapes.....	2½ lbs.
1629-A	Modified for No. 12 Iron Wire.....	2½ lbs.

## KLEIN'S "XELA" ELECTRICIAN'S KNIFE

Blades are made of high grade cutlery steel, carefully tempered.

It automatically locks the screwdriver blade when open, yet a slight side pressure of the thumb releases the lock and permits the blade to be closed readily. Handle of cocobola—hard and durable.



No. 1550-2

Cat. No.		Weight Per Dozen
1550-2	Double Blade .....	2 lbs.

## KLEIN'S SKINNING KNIFE

The "half hard" rubber handle is molded on securely and provides adequate insulation as well as a good generous grip. Shouldered out at the blade to prevent accidental cutting of glove or finger. The shape of the blade brings the point below the curve—a real safety feature. Back of blade ground flat for scraping.



No. 1560-3

Cat. No.		Weight Per Dozen
1560-3	Length overall 8". Blade 3".....	4¼ lbs.

## KLEIN'S CABLE SHEATH SPLITTING KNIFE

Blade tempered and ground to keen edge. Has strong leather handle, securely riveted. A sturdy knife that will stand up to hard usage. Length over all, 9¼ inches. Blade, 4½ inches.

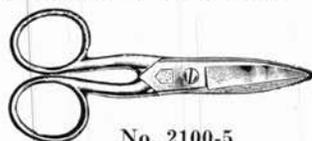


No. 1515-1

Cat. No.		Weight Per Dozen
1515-1	.....	13 lbs.

## KLEIN'S "XELA" ELECTRICIAN'S SCISSORS

A scissor designed for the electrician and mechanic. Will stand continued hard service. Made of high-grade steel properly tempered. Screw hinge allows adjustment. Nickel plated finish.



No. 2100-5

Cat. No.	Size	Weight Per Dozen
2100-5	5-inch .....	2 lbs.

## KLEIN'S CANVAS "TOOL-PACK"

Every mechanic will recognize the advantages of the "Tool-Pack". It is a sturdy, brown, canvas bag, approximately 6"x12". A heavy zipper instantly opens or closes the full length mouth. Just the thing to keep a selection of frequently used small tools separated where they can be found at once—no "digging" around in the big bag. Plenty of room for pliers, small screwdriver, drill, wrenches, etc.



No. 5139

Cat. No.	Size	Weight Per Dozen
5139	6"x12" .....	3 lbs.

## KNIFE POCKET

This harness leather pouch is made specially for the No. 1560-3 Skinning Knife. It can be carried in the hip pocket or riveted to belt as preferred. Lock stitched with genuine hot waxed linen thread. Opening at bottom prevents accumulation of dirt or water.



Cat. No.	Size	Weight Per Dozen
5163	3"x9" .....	4 lbs.

## COMBINATION TOOL POCKETS



5118-K



5118-S



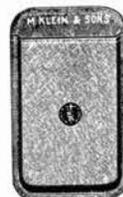
5118-R

Made of heavy harness leather. Opening at bottom prevents accumulation of dirt or water. Top flap of double thickness leather for riveting to belt. Plier compartment fits 6, 7, 8 and 9-inch side cutting plier.

Cat. No.	Size and Description	Weight Per Dozen
5118-K	4¾"x8" For Plier and Knife.....	7½ lbs.
5118-S	4"x8" For Plier and Screwdriver..	5½ lbs.
5118-R	4¾"x8" For Plier and 6 ft. Rule.....	7½ lbs.

## KLEIN'S HIP POCKET TOOL CASE

For carrying pliers or other tools in hip pocket. Prevents cutting of clothes, or possible injury to the person. Made of black leather.



No. 5111

Cat. No.	Size	Weight Per Dozen
5111	5"x7" .....	5½ lbs.

## POUCH FOR RUBBER GLOVES

Scotch chrome leather pocket for carrying rubber gloves (folded). Comes equipped with snap and "D" ring, ready to attach to body belt.



Cat. No.	Size	Weight Per Dozen
5120-9	7½"x9" deep .....	4½ lbs.
5120-15	Same as 5120-9 but larger to accommodate gloves without folding.....	7 lbs.



**INSPECTOR'S HARNESS LEATHER TOOL BAG**



No. 5108

Made of harness leather and will stand rough and hard usage. Has a shoulder strap combined with a pad and hand strap. Bottom is three ply and is protected with steel studs. Retaining straps pass clear around the bag. All seams are sewed with hot waxed linen thread, lock stitched.

Cat. No.	Size	Weight Each
5108-14	14x8 inches	5 lbs.
5108-16	16x8 inches	5 3/4 lbs.
5108-18	18x8 inches	6 lbs.
5108-20	20x8 inches	6 1/2 lbs.
5108-22	22x8 inches	7 lbs.
5108-24	24x8 inches	7 1/4 lbs.

**LINEMEN'S CANVAS TOOL BAG, LEATHER BOTTOM**



No. 5102



No. 5105

Made of one piece of white duck reinforced all around the bottom with heavy bag leather, 3/4 inches up on the 5102 series, 8 inches up on the 5105 series. The bottom is made of heavy leather outside and duck inside, lock stitched all around. The bottom is protected with strong steel studs. Bottoms and sides are joined together with lock stitched leather welt seams. Mouth of the bag is formed by a 12-gauge steel frame; the canvas is clinched between this frame and an inside secondary steel frame. Has harness leather handles and two retaining straps with buckles.

Cat. No.	Size	Weight Each	Cat. No.	Size	Weight Each
5102-12	12-inch	2 1/4 lbs.	5102-24	24-inch	4 lbs.
5102-14	14-inch	2 1/2 lbs.	5105-16	16-inch	3 lbs.
5102-16	16-inch	3 lbs.	5105-18	18-inch	3 1/2 lbs.
5102-18	18-inch	3 1/4 lbs.	5105-20	20-inch	3 3/4 lbs.
5102-20	20-inch	3 1/2 lbs.	5105-22	22-inch	4 lbs.
5102-22	22-inch	3 3/4 lbs.	5105-24	24-inch	4 1/4 lbs.

The above bags can be furnished with lock and key, also shoulder strap to order at slight additional cost.

**SALISBURY LINEMEN'S TOOL BAGS**

**No. 30 Tool Bag**

Made of No. 2, 31-ounce duck with a single side seam together with top and bottom fastenings strongly sewed. The heavy leather bottom extends 3 inches up the sides. The top is held open, in round form, by a stout non-metallic ring. A 1/2" rope handle is firmly spliced to the bag through leather reinforcements. A utility pocket is provided on the inside to accommodate small tools, bolts, washers, etc. Bag is collapsible. Diameter 12". Height 16". Weight 2 1/4 lbs.



**No. 40 Tool Bag**

This bag is made of No. 6, 18-ounce duck, with a single side seam together with top and bottom fastenings strongly sewed. The heavy leather bottom extends 2 1/2 inches up the sides. The top ring is non-metallic and will hold its shape permanently. A 3/8" rope handle is spliced to the bag through a heavy leather reinforcement. This bag folds into a small space. Diameter 8". Height 14". Weight 1 3/4 lbs.



**KLEIN'S LINEMAN'S WRENCH**

Cat. No.	Size	Weight Per Dozen
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**3146** 13", for 5/8" hardware ..... 23 lbs.  
This wrench is forged of select bar steel, heat treated, and is of the open end type with two openings of different size at each end. There is a hole provided at the larger end so that the wrench may be used for turning in standard pole steps.

The wrench is particularly adapted for use on the heavier 3-bolt guy clamps on which the clearance for a wrench is limited and is generally suitable for 5/8 inch hardware.

Openings: Large end 1 1/8" and 1 1/16"  
Small end 1 1/8" and 5/8"

(For 5/8" through bolt, 1/2" lag screw, 3/8" carriage bolt, 1/2" and 5/8" guy clamps.)

Cat. No.	Size	Weight Per Dozen
----------	------	------------------

**3146-A** 13", for 3/4" hardware ..... 23 lbs.

Openings: Large end 1 1/8" and 1 1/16"  
Small end 5/8" and 7/8"

(For 3/4" and 5/8" through bolt, 1/2" lag screw, 3/8" carriage bolt, 1/2" and 5/8" guy clamps.)



**CHANCE LINEMEN'S SOCKET WRENCH**



Linemen's Socket Wrenches fit the heads and nuts of all standard bolts used for pole and guy work. They are drop forged and can also be used as hammers.

Cat. No.	For Nut Size, inches	Net Wt., Pounds	E. Zone Price	W. Zone Price
154	5/8 and Smaller	2 1/2	\$3.00	\$3.45
234	3/4 and Smaller	3 1/4	3.25	3.70

**PLIER POCKETS**

Made of a good quality leather. For carrying 6, 7, 8 or 9 inch pliers when at work. Bottom is left open to prevent collection of dirt. A loop is riveted at back through which belt may be passed or can be riveted on.

Cat. No.	Size	Weight Per Dozen
5112	3 1/2 in. x 9 in.	4 3/4 lbs.



**NEATSFOOT OIL**



Cat. No.	Weight Per Dozen
N.O.—1	Pint Can ..... 15 lbs.
N.O.—2	Quart Can ..... 27 lbs.
N.O.—4	Half Gallon Can ..... 52 lbs.

## PORTER CLIPPERS AND CUTTERS

### No. 12X-1855 PORTER BOLT CLIPPERS

Capacity up to 1/4-inch annealed bolts in the thread, 3/8-inch soft rods. Stops have rubber buffers. Length, 12 inches.

No. 12X-1855, weight, 1 1/2 pounds..... per dozen \$36.00  
 Jaws ..... per pair 1.60



**HKP FORESTERS**

No. 1 is especially designed for light shrub cutting, root cutting and any general clearing up.

No. 2 is suitable for forest pruning, brush and shrub cutting and root cutting. Especially recommended as a forestry tool where pine pruning and rust control programs are being carried out. Convenient in close growth.

No. 3 is capable of cutting up to its rated capacity in hard wood such as oak, maple and beech. Designed for use on such jobs as brush cutting, trail clearing, roadside stripping and any general improvement cutting in stands of all ages.

These foresters have the slide shift 3-power slot which provides great extra power in the middle of a difficult cut by the simple shift from one notch of the power slot to the next. Power can be increased 50 or 100 per cent. Use of the power slot is easy, instantaneous and with a few minutes' practice, instinctive.

Ruggedly built for life time use. Easily sharpened by the use of a half round, second cut file of the proper size. Edges are protected when the handles are closed. All parts are carefully heat treated, and fully interchangeable. Cuts clean without damage to bark.

No. ....	1	2	3
Each .....			
Length .....	20	27	34
Capacity Cut .....	1 1/8	1 1/2	2
Weight .....	2 5/8	4 5/8	7 1/4

### COHARDITE INSULATED CUTTERS



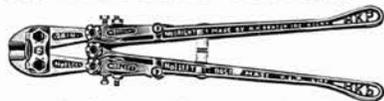
Rugged and durable lineman cutter with cohardite insulation molded onto handles—a safety measure against abrasion and puncture.

No. ....	1	*1	2	*2
Rigid, Clipper Cut .....	each \$16.00	\$24.00	\$18.25	\$34.00
Rigid, Center Cut .....	each 16.25	24.25	18.50	34.25
Swivel, Clipper Cut .....	each 18.50	26.50	21.25	37.00
Swivel, Center Cut .....	each 18.75	26.75	21.50	37.25
Cutterhead Complete .....	each			
Jaws .....	per pair			
Cohardited Handles .....	per pair 13.25	13.25	14.75	14.75
Approx. Length .....	inches 26	26	31 1/2	31 1/2
Jaw Opening .....	inches 3/4	3/4	1 1/8	1 1/8
Cap. Solid Copper Wire .....	inches 3/8	3/8	1/2	1/2
Approx. Weight .....	pounds 7	7	10 1/8	10 1/8

\* Fireman's cutters with automatic search hook.

### RIGID AND SWIVEL TYPE BOLT CLIPPERS

Right: Rigid Type  
 Bottom: Swivel Type



The swivel type flexible bolt clipper permits cutting at any desired angle. This is made possible by ball and socket joints and a positioning spring. The cutting jaws of rigid type clipper cut and center cut clippers are firmly fixed in line with the handles. Clipper cut jaws are beveled almost entirely from one side for close cutting. Center cut jaws are beveled equally, bringing cutting edge at center of jaw. Clipper cut regularly furnished.

### Rigid Type

No.	Clipper Cut Each	Center Cut Each	*Complete Cutterheads		*Jaws		Ap- prox. Lgth. of Tool in In.	Cap., In.		Ap- prox. Wt. Lbs.
			Clipper Cut Each	Center Cut Each	Clipper Cut Pr.	Center Cut Pr.		neal- ed Bolts Thrd.	Soft Rods	
100K	\$4.00	\$4.25	\$2.50	\$2.70	\$2.00	\$2.20	10	3/16	1/8	1 1/2
140K	4.50	4.75	2.80	3.00	2.20	2.40	14	1/4	3/8	2 1/4
0NE	5.50	5.75	3.20	3.40	2.50	2.70	18	5/16	3/4	3 1/4
1NE	7.00	7.25	4.00	4.30	3.20	3.50	24	3/8	7/8	5 1/4
2NE	8.75	9.00	4.90	5.30	4.00	4.40	30	1/2	1	8 1/2
3NE	11.25	11.75	6.00	6.50	5.00	5.50	36	5/8	1 1/8	12 1/2
4AR	15.50	16.50	8.00	9.00	6.80	7.80	42	3/4	1 1/4	17 3/4

### Swivel Type

0NE	\$7.75	\$8.00	\$3.20	\$3.40	\$2.50	\$2.70	19	5/16	1/4	4
1NE	9.50	9.75	4.00	4.30	3.20	3.50	25	3/8	5/8	6 1/4
2NE	11.75	12.00	4.90	5.30	4.00	4.40	31	1/2	3/8	9 3/4

\* Same jaws and heads can be used for either rigid or swivel.

### PORTER HEAVY DUTY SHEAR TYPE CABLE CUTTERS



For insulated cable. Two sharp edges avoid mashing or damaging cable strands. Made in two types: For regular cable, telephone office inside cable, fine stranded flexible conductors, not armored, and for armored cable, stranded copper conductors No. 12 3-wire BX, also for up to 500,000 cm.

No. ....	1	2	3
Complete .....	each \$6.50	\$7.50	\$8.50
Cutterhead, Complete .....	each 5.00	6.00	7.00
Straight Blades .....	per pair 2.05	2.55	2.65
Curved Blades .....	per pair 2.15	2.65	3.00
Approx. Length .....	inches 20	27	34
Capacity Insulated Cable .....	inches 1	1 3/8	1 3/4
Approx. Weight .....	pounds 2 5/8	4 5/8	7 1/4

### ELECTRIC WIRE CUTTERS With Insulated Handles



Cuts wire and cable insulation. Cutting capacity limited to opening at heel of jaws. Will not cut hardened material.

No. ....	0	1	2	3
Rigid, Complete .....	each \$8.25	\$10.75	\$12.75	\$16.50
Swivel, Complete .....	each 10.50	13.25	15.75	
Cutterhead, Complete .....	each 3.40	4.30	5.20	6.30
Jaws .....	per pair 2.70	3.50	4.30	5.30
Rubber Handle Covers .....	per pair 3.10	3.60	4.60	5.60
Approx. Length .....	inches 20	26	32	37
Jaw Opening .....	inches 5/8	3/4	1 1/8	1 1/4
Cap. Solid Copper Wire .....	inches 1/8	3/8	1/2	5/8
Approx. Weight, Rigid .....	pounds 3 1/2	5 3/4	9 1/4	13 1/2
Approx. Weight, Swivel .....	pounds 4 1/4	6 3/4	10 1/2	

### STORAGE BATTERY CUTTERS Not Insulated



For cutting neck of large power plant battery plates. Narrow nose and long cutting edges assure easy work and long service. Available with clipper cut or center cut jaws.

No. ....	1	2
Rigid, Complete .....	each \$11.25	\$18.00
Swivel, Complete .....	each 13.75	21.00
Cutterhead, Complete .....	each 8.50	14.25
Jaws .....	per pair 7.75	13.25
Approx. Length .....	inches 26	32
Jaw Opening .....	inches 1 1/8	1 1/8
Approx. Weight, Rigid .....	pounds 5 1/4	8 1/2
Approx. Weight, Swivel .....	pounds 6 1/4	9 3/4



### HIGH TENSILE WIRE CUTTER

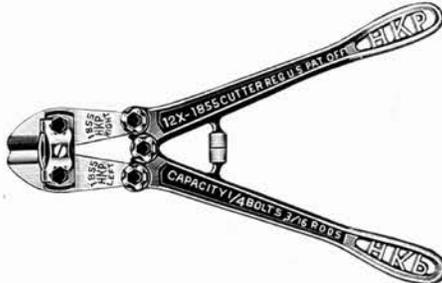


No. 10 CCRE

A light, handy tool specially tempered for cutting high tensile telephone and telegraph line wire. Fitted with a sturdy holster, it can be readily hung from the lineman's belt. Instantly available for quick and efficient cutting on the ground or aloft.

Especially suitable for the new No. 85 and No. 135 high strength wire in 9-10-12-14 BWG as well as for the three strand conductor used in rural electrification. Length of tool, 10". Weight, 1½ lbs. Price, \$4.25.

### No. 12 CUTTER



A handy cutter for comparatively light work. It cuts efficiently up to its rated capacity of ¼" bolts in the thread and ⅜" soft rods.

The No. 12 is well up to Porter standards in material and workmanship, having all the standard Porter design features except the adjusting sections. Wear on the cutting edges may be taken up by filing back the stops beneath the buffers.

Tool Designation .....	12
Approximate Length of Tool .....	12"
Approximate Weight in Pounds .....	1½
Capacities:	
Annealed Bolts in Thread .....	¼"
Soft Rods .....	⅜"
List, Complete Tool .....	\$3.00
List, Complete Cutterhead .....	2.10
List, Pair of Jaws .....	1.60

### FIREMAN'S CUTTERS With Insulated Handles



Special groping hook guides wire into jaws. Wide jaw opening for heavily insulated wires.

No. ....	1	2	3
Rigid, Complete .....	each \$16.75	\$26.50	\$31.00
Swivel, Complete .....	each 19.25	29.50	
Cutterhead, Complete .....	each 10.50	19.50	21.50
Jaws .....	per pair 3.50	4.30	5.30
Rubber Handle Covers .....	per pair 3.60	4.60	5.60
Approx. Length .....	inches 27	33	39
Jaw Opening .....	inches ¾	1½	1¾
Capacity Solid Copper Wire .....	inches ¾	½	⅝
Approx. Weight, Rigid .....	pounds 6	8½	14
Approx. Weight, Swivel .....	pounds 7	10¾	

### PORTER ELECTRIC WIRE CUTTERS

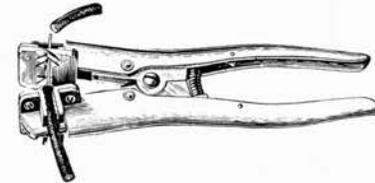
Not Insulated



With wide jaw opening for heavily insulated wire on lines which are dead.

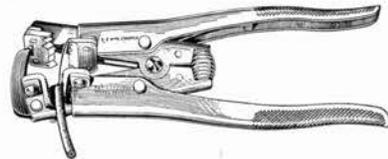
No. ....	0	1	2	3
Rigid, Complete .....	each \$5.75	\$7.25	\$9.00	\$11.50
Swivel, Complete .....	each 8.00	9.75	12.00	
Cutterhead, Complete .....	each 3.40	4.30	5.20	6.30
Jaws .....	per pair 2.70	3.50	4.30	5.30
Approx. Length .....	inches 19	25	31	36
Jaw Opening .....	inches ¾	¾	1½	1¾
Capacity Solid Copper Wire				
.....	inches ⅝	¾	1½	¾
Approx. Weight, Rigid .....	pounds 3¼	5¼	8½	12½
Approx. Weight, Swivel .....	pounds 4	6¼	9¾	

### IDEAL WIRE STRIPPERS



**Standard Model**—For stripping solid wires; also used for stranded wire. Cutting edges are shielded. Blind centers of the V-notches on blades prevent cutting or scarring of wire.

**Automatic Model**—For stripping stranded wire; used equally well on solid wire. Lever stops return of arms until wire is removed. After stripping, they are quickly



snapped back to normal. Lever will not operate unless wire with insulation .050 inch or larger is inserted between grippers. When no wire is inserted, lower gripper moves upward when handles are squeezed, pushing trigger and lever up and out of action.

### SPECIFICATIONS

No. ....	0	1	2	3
Standard Model .....	each \$5.00	\$5.00	\$5.00	\$5.00
Automatic Model .....	each 6.00	6.00	6.00	6.00
For Stripping Solid or Stranded Wire				
.....	gauge 20-30	12-18	10-16	8-10
Shipping Weight .....	pounds 1½	1½	1½	1½
Extra Blades .....				per set \$9.00

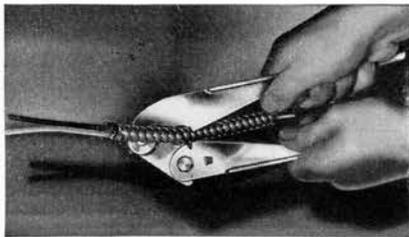
### No. 4 IDEAL CABLE RIPPERS



For use on non-metallic sheathed duplex cable or lead covered cable. Ripper is squeezed onto the cable and pulled, ripping the cable with one simple operation. Can also be used for ripping the outer sheathing of other cords, lead cables, etc., where outside diameter is not greater than ⅝ inch.

No. 4 ..... each \$1.00

## IDEAL BX ARMOR CUTTERS



This cutter is a lightweight pocket tool which cuts armor perfectly in one operation. For use on either two or three wire, No. 12 or No. 14 cable. Eliminates nicked wires and shorts. Each .....\$2.75

## GRIFFIN HACK SAWS

### NEW GRIFFIN



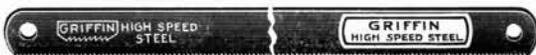
**Hardened Edges—Spring Center**  
**Tungsten Steel Milled Teeth**  
**For Hand Frames**

Size	List Per Gross	Reg-ular	Teeth Per Inch			Weight Per Gro. Lbs.
			Special	Medium	Fine	
8x <sup>7</sup> / <sub>16</sub> "x.025 or 23 ga.	\$8.00	18	—	24	32	3 <sup>3</sup> / <sub>4</sub>
10x <sup>1</sup> / <sub>2</sub> "x.025 or 23 ga.	10.00	14	18	24	32	4 <sup>3</sup> / <sub>4</sub>
12x <sup>1</sup> / <sub>2</sub> "x.025 or 23 ga.	12.00	14	18	24	32	5 <sup>3</sup> / <sub>4</sub>
12x <sup>1</sup> / <sub>2</sub> "x.025 or 23 ga.	13.50	14	18	24	—	6 <sup>3</sup> / <sub>4</sub>

Packed <sup>1</sup>/<sub>2</sub> gross in a box.

14 teeth to inch, for soft steel, cast iron, bronze.  
18 teeth to inch, for general shop use.  
24 teeth to inch, for tool steel, hard metals, etc.  
32 teeth to inch, for iron pipe, tubing and sheet metals.

## GRIFFIN HIGH SPEED STEEL



**For Hand Frames**  
**Tempered Singly Milled Teeth**

Lth. In.	Wth. In.	Thickness	List Per Gross	Teeth Per Inch	Weight Per Gro. Lbs.
12	9-16	.025 or 23 ga.	48.96	14-18-24-32	7
10	5/8	.032 or 21 ga.	90.00	18	8
12	5/8	.032 or 21 ga.	108.00	18	10

Packed <sup>1</sup>/<sub>2</sub> gross in a box.

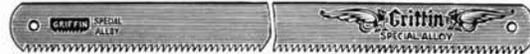
**For Use in Heavy Power Hack Saw Machines**

Lth. In.	Wth. In.	Thickness	List Per Gross	Teeth Per Inch	Weight Per Gro. Lbs.
12	1	.049 or 18 ga.	\$172.80	14	26 <sup>1</sup> / <sub>2</sub>
12	1	.065 or 16 ga.	172.80	6-10	35
14	1	.049 or 18 ga.	201.60	14	30 <sup>1</sup> / <sub>2</sub>
14	1	.065 or 16 ga.	201.60	6-10	40 <sup>1</sup> / <sub>2</sub>
14	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	252.00	4-6-10	50
17	1	.049 or 18 ga.	244.80	14	37
17	1	.065 or 16 ga.	244.80	6-10	48
17	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	306.00	4-6-10	61 <sup>1</sup> / <sub>2</sub>
18	1	.065 or 16 ga.	259.20	10	50 <sup>1</sup> / <sub>2</sub>
18	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	324.00	4-6-10	64
18	1 <sup>1</sup> / <sub>2</sub>	.072 or 15 ga.	427.68	4-6	85
21	1 <sup>1</sup> / <sub>2</sub>	.065 or 16 ga.	453.60	4-6-10	90
21	2	.072 or 15 ga.	665.28	4-6	134
24	1 <sup>1</sup> / <sub>2</sub>	.065 or 16 ga.	518.40	6-10	106
24	2	.072 or 15 ga.	760.32	4-6	159

Packed one dozen in a box.

ALL BLADES measure from center to center of holes except the 14, 17 and 18 inch lengths which measure <sup>1</sup>/<sub>2</sub> inch less.

## GRIFFIN SPECIAL ALLOY



Made from molybdenum steel and have remarkable qualities for continuous cutting of high speed and all other modern types of alloy steel.

**For Hand Frames**  
**Tempered Singly Milled Teeth**

Lth. In.	Wth. In.	Thickness	List Per Gross	Teeth Per Inch	Weight Per Gro. Lbs.
10	1/2	.025 or 23 ga.	\$40.00	18-24-32	5
12	1/2	.025 or 23 ga.	48.00	14-18-24-32	6 <sup>1</sup> / <sub>2</sub>
10	5/8	.032 or 21 ga.	67.50	18	7 <sup>3</sup> / <sub>4</sub>
12	5/8	.032 or 21 ga.	81.00	18	9 <sup>3</sup> / <sub>4</sub>

Packed <sup>1</sup>/<sub>2</sub> gross in a box.

**For Use in Heavy Power Hack Saw Machines**

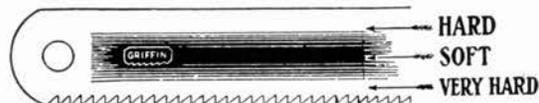
Lth. In.	Wth. In.	Thickness	List Per Gross	Teeth Per Inch	Weight Per Gro. Lbs.
12	1	.049 or 18 ga.	\$120.96	14	25
12	1	.065 or 16 ga.	120.96	6-10	31 <sup>3</sup> / <sub>4</sub>
14	1	.049 or 18 ga.	141.12	14	27 <sup>1</sup> / <sub>2</sub>
14	1	.065 or 16 ga.	141.12	6-10	35 <sup>1</sup> / <sub>2</sub>
14	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	176.40	4-6-10	47
17	1	.049 or 18 ga.	171.36	14	35
17	1	.065 or 16 ga.	171.36	6-10	44 <sup>1</sup> / <sub>2</sub>
17	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	214.20	4-6-10	56
18	1	.065 or 16 ga.	181.44	10	47
18	1 <sup>1</sup> / <sub>4</sub>	.065 or 16 ga.	226.80	4-6-10	61
18	1 <sup>1</sup> / <sub>2</sub>	.072 or 15 ga.	298.08	4-6	78
21	1 <sup>1</sup> / <sub>2</sub>	.065 or 16 ga.	317.52	4-6-10	85
21	2	.072 or 15 ga.	463.68	4-6	140
24	1 <sup>1</sup> / <sub>2</sub>	.065 or 16 ga.	362.88	6-10	97 <sup>1</sup> / <sub>2</sub>
24	2	.072 or 15 ga.	529.92	4-6	146

Packed one dozen in a box.

ALL BLADES measure from center to center of holes except the 14, 17 and 18 inch lengths which measure <sup>1</sup>/<sub>2</sub> inch less.

Blades finished in smooth, attractive gray.

## NEW GRIFFIN HACK SAW BLADES



Made from tungsten-toughened steel. The back is hard, the toothed portion, for about a quarter the width of the blade, is harder, but the center is left moderately soft. By this process a blade is produced that has the best of cutting and wearing qualities, with the stiffness of all-hard blade and the freedom from breakage found in the flexible blade.

## ALLWAY MASTER SAW



Any cutting job that ordinarily presents a problem can now be handled effectively with the new Allway Master Saw. The handle is made of malleable iron (unbreakable) with a resilient black rubber handle. Blade is of Tungsten alloy steel, specially hardened and heat treated. Available on cards containing 4 compass saws (10 teeth to an inch), 2 stub blades (10 teeth to an inch), 2 keyhole blades (14 teeth to an inch). Packed 6 and 12 cards to a carton, approximate weights 30 and 60 lbs. Blades packed 1 dozen to box, 12 boxes to carton, approximate weights, per dozen, compass, 2<sup>1</sup>/<sub>2</sub> lbs., stub, 2 lbs., keyhole, 2 lbs.



### PILOT HACK SAW FRAMES



Special composition handle shaped to give firm, comfortable grip, eliminating hand-cramp and insuring complete control. The blade is tightened by means of a wing nut located in back, and can be faced in four directions. No. 28 is made of  $\frac{1}{8} \times \frac{11}{16}$ " steel. Depth,  $3\frac{1}{4}$ ". Nicked and buffed. Packed 1 to a box, 2 dozen to a carton. Gross weight, 41 lbs.

### EVANSVILLE HAMMERS

#### NAIL HAMMERS

Adze Eye—Bell Face



Polish Finish No.	Size	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Suggested Retail Price	Price Per Doz.
707	13	7	10	\$1.15	\$ 9.20
713	12	13	14	1.20	9.60
716	11½	16	18	1.25	10.00
720	11	20	21	1.50	12.00

Packed 6 to the box.

#### RIPPING HAMMER

Adze Eye—Bell Face



Polish Finish No.	Size	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Suggested Retail Price	Price Per Doz.
R716	11½	16	18	\$1.25	\$10.00

Packed 6 to the box.

#### ELECTRICIANS' HAMMER

Long Neck—Ripping Claw



Polish Finish No.	Size	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Suggested Retail Price	Price Per Doz.
77	11½	16	18	\$1.75	\$14.00

Packed in individual box.

### BALL PEIN HAMMERS



Polish Finish Nos.	Size	Wt. without Handle Oz.	Shp. Wt. Per Doz. Lbs.	Price Per Doz.
504	5/0	4	5	\$ 7.60
506	4/0	6	7	7.60
508	3/0	8	10	8.00
512	2/0	12	13	8.00
516	0	16	16	8.35
520	1	20	20	8.80
524	2	24	23	9.60
528	3	28	26	10.30
532	4	32	30	11.00
540	6	40	39	12.65
548	8	48	45	14.65

Packed 6 to the box.

### HAND DRILLING HAMMERS



Ebony Finish Nos.	Wt. without Handle Lbs.	Handle Length Ins.	Shp. Wt. Per Doz. Lbs.	Price Per Doz.
3002	2	10½	30	\$11.25
3002½	2½	10½	35	12.10
3003	3	10½	42	12.10
3003½	3½	10½	47	12.65
3004	4	10½	55	13.35

Packed 6 to the box.

### LINEMAN'S DOUBLE FACED STRIKING HAMMER



A drop forged hammer with special short neck designed to deliver a heavy, accurate blow in confined spaces such as the lineman often has to work in. Weight of head, 2¼ lbs.

Cat. No.	Weight doz.	Price each
13	35 lbs.	\$2.30

### LINEMAN'S HAMMER STRAIGHT PEIN



This hammer is drop forged and individually tempered. It is particularly adapted for line construction work. The face is used for ordinary work while the straight pein makes it useful for chipping. A special hammer for the linemen. Weight of head, 3½ lbs.

Cat. No.	Weight doz.	Price each
4638	48 lbs.	\$2.00

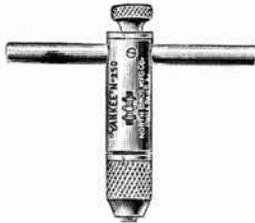
## CHANCE NEVER-CREEP MAUL



The Maul is used especially for driving Never-Creep Rods. It has two wood faces and two iron faces.

Cat. No.	Net Weight	E. Zone Price	W. Zone Price
16	12 lbs.	\$2.20	\$2.55

## "YANKEE" RATCHET TAP WRENCH



No. 250

Ratchet mechanism is the same construction used in other "Yankee" Tools. With the shifter at top, it is left hand; at bottom, right hand; and in center, rigid, as ordinary tap wrench.

The crossbar is held central by a friction device and of ample leverage for even larger taps than the chuck will hold.

A knurled thumb piece at top of wrench affords a ready means of starting in and backing out the tap quickly. In the end of this thumb piece is a countersunk hold to use tap wrench on lathe center when desired, for holding small drills, etc.

No. 250—Holds up to  $\frac{1}{8}$  in. taps, outside diameter of chuck,  $\frac{3}{8}$  in.; length overall,  $3\frac{1}{4}$  in.

No. 251—Holds up to  $\frac{1}{8}$  in. taps, outside diameter of chuck,  $\frac{7}{8}$  in.; length overall, 5 in.

Net weight per dozen—No. 250,  $4\frac{1}{4}$  lbs.; No. 251,  $6\frac{3}{4}$  lbs.

## "YANKEE" VISES



Vise proper has body and sliding jaw of cast iron with hardened steel faces. Machined so it can be used on either side or end as well as on base in Drill Press, etc. Hardened steel block with V shaped grooves is provided for holding round or irregular shaped work. Upper part

of swivel base has a taper part to receive corresponding end of vise proper, and with set screw in one end to force tapers into position, thus clamping vise and base perfectly rigid.

### Without Swivel Base

Dimensions	No. 991	No. 992	No. 993	No. 994
Base, Length	3 $\frac{3}{8}$ ins.	4 $\frac{7}{8}$ ins.	7 $\frac{1}{4}$ ins.	10 $\frac{1}{2}$ ins.
Base, Width	1 $\frac{1}{2}$ ins.	2 ins.	2 $\frac{3}{4}$ ins.	4 ins.
Jaws, Opening	1 $\frac{1}{2}$ ins.	1 $\frac{3}{8}$ ins.	3 $\frac{1}{8}$ ins.	4 ins.
Jaws, Depth	$\frac{7}{8}$ ins.	1 $\frac{1}{4}$ ins.	1 $\frac{7}{8}$ ins.	2 $\frac{1}{8}$ ins.
Jaws, Width	1 $\frac{1}{2}$ ins.	2 ins.	2 $\frac{3}{4}$ ins.	4 ins.
Height, over all	1 $\frac{1}{2}$ ins.	2 $\frac{1}{8}$ ins.	3 ins.	4 $\frac{1}{8}$ ins.
Length, over all	4 $\frac{3}{8}$ ins.	6 ins.	8 $\frac{3}{4}$ ins.	12 $\frac{1}{4}$ ins.
Net Weight	1 lb. 6 oz.	3 lbs. 6 oz.	9 lbs. 2 oz.	28 lbs. 6 oz.
Gross Weight			11 lbs. 4 oz.	32 lbs.

### With Swivel Base

In addition to above	No. 1991	No. 1992	No. 1993	No. 1994
Swivel Base, diam.	2 $\frac{1}{2}$ ins.	3 $\frac{1}{4}$ ins.	4 $\frac{1}{2}$ ins.	6 $\frac{1}{2}$ ins.
Height, over all	3 $\frac{1}{8}$ ins.	4 $\frac{1}{8}$ ins.	5 $\frac{3}{4}$ ins.	7 $\frac{7}{8}$ ins.
Net Weight	2 lbs. 6 oz.	5 lbs. 7 oz.	13 lbs. 6 oz.	41 lbs.
Gross Weight			15 lbs. 8 oz.	45 lbs.

Nos. 991-992-1991-1992, packed one only in cardboard box.  
Nos. 993-1993 packed one only in fibre box.  
Nos. 994-1994 packed one only in wood box.

## GREENLEE Nos. 482 AND 483 AUTOMATIC PUSH DRILLS



Both drills designated by the above numbers are spring controlled and are supplied with eight sizes of drill points  $\frac{1}{16}$  to  $\frac{1}{4}$ -inch.

Handles of both tools serve as magazines for the eight drill points, and these are readily accessible by turning the metal cap adjacent to the outer guide sleeve. The No. 482 has a hardwood handle with a transparent plastic ring next to the metal cap, making the cutting parts of the points visible. The No. 483 is furnished with a completely transparent handle, giving full visibility of drill points, thus permitting easy choice of size to be used. Both handles are well proportioned and, due to materials used, no metal contacts the operator's hand.

The working parts of these tools are fully enclosed, preventing the entry of dirt and grit. The drive nut, which, in connection with the spiral, takes the full thrust of the drilling action is made from phosphor bronze, formed under a pressure of 100 tons. These two features prolong the life of these tools, greatly increasing the length of service. Tools are individually boxed.

### List Price and Weight Per Dozen

	Price	Weight
No. 482 Wood Handle	\$29.40	6
No. 483 Transparent Handle	33.60	6 $\frac{3}{4}$
Sets of 8 Drill Points	10.20	$\frac{3}{4}$

## GREENLEE SPIRAL SCREW DRIVERS



Greenlee Spiral Screw Drivers have several outstanding features, the most important of which is the completely enclosed spiral, to prevent injury to the operator. This also permits thorough lubrication and prevents dirt and grit from entering the working parts. All exposed parts of these tools, except the handle and drive bits, are chromium plated, the inner sleeve dull finish, other parts highly finished.

Another feature is their ability to stand up for long service. This is due to the phosphor bronze drive nuts, formed under a pressure of 100 tons, which, in connection with the spiral, take most of the wear. Adjustments are convenient, as the shifter button is close to the handle for operating with the thumb, without changing position of the hand, and the spiral is locked by a simple forward movement of the outside sleeve.

These tools are made in three sizes, each being furnished in two styles. These are the regular spiral ratchet type and the spiral ratchet type with spring return. Each tool is packed individually in a box with three sizes of drive bits.

### List Price and Weight Per Dozen

	Price	Weight
Regular Spiral Screw Drivers		
No. 441 Small	\$31.80	7
No. 442 Medium	42.80	14 $\frac{1}{4}$
No. 443 Large	57.45	21
Spring Return Spiral Screw Drivers		
No. 451 Small	37.80	7 $\frac{1}{2}$
No. 452 Medium	48.90	16
No. 453 Large	66.00	22 $\frac{1}{2}$



### No. 220 SHORT SOCKET FIRMER CHISEL



Has beveled edges, and is fitted with three-ply leather-tipped hardwood handle. This chisel is made of the highest quality material, the blade measuring 4½ inches from cutting edge to shoulder. Overall length ranges from 11½ inches on the smaller sizes to 12½ inches on the larger. Packed ½ dozen in a box.

#### List Price and Weight Per Dozen

Weight in Pounds					
Size	Price	Weight	Size	Price	Weight
1/8"	\$14.00	3¼	7/8"	\$18.00	4¼
1/4"	14.00	3¼	1"	18.50	5
3/8"	14.00	3¼	1¼"	20.50	6
1/2"	14.00	3½	1½"	22.00	6¾
5/8"	15.50	3¾	1¾"	24.00	8
3/4"	16.00	4	2"	25.00	9½

Net extra for beveled edges, see discount sheet

### "YANKEE" RATCHET BRACE

No. 2100—Ratchet case is dust and moisture proof. Pawls of tool steel. Quick, positive shifter. Quick centering, ball bearing chuck, holds any bit, round, square or taper, up to ½ inch diameter accurately, and will not loosen. The hole in end of chuck takes square Bit Shanks 5/8-inch across corners used in larger Auger Bits, but Chuck will not hold larger round shanks than ½-inch diameter. Packed 2 in a box.



No. 2100

No. 2101—Same construction as No. 2100 but with a modified finish and less expensive packing to reduce the price for benefit of large users of braces, such as telephone, public utilities and other industrial concerns. Packed 6 of one size in wooden box.

	Sweep Sizes	8	10	12	14 in.
Nos. 2100 and 2101, weight net	3	3 3/8	3 1/4	3 1/2	lbs.
No. 2100, weight packed 2 in paper box	6 3/8	7	7 3/8	8 1/8	lbs.
No. 2101, weight packed 6 in wooden box	25	25	26	30	lbs.

### "YANKEE" BIT EXTENSION



No. 2150—made to follow 11/8-inch bit or larger. No. 2151 made to follow 7/8-inch bit or larger for heavy work. Will accommodate large range of square shanks. This is important, due to lack of uniformity in square shanks and difficulty in holding them in many extensions. Square shank is held firmly by socket. Taper end of shank is accurately machined; bits will not loosen and come out while in use. Packed one only in paper box.

	15 inch	18 inch	21 inch	24 inch
No. 2150	15 oz.	1 lb. 2 oz.	1 lb. 4 oz.	1 lb. 7 oz.
No. 2151	1 lb. 8 oz.	1 lb. 12 oz.	1 lb. 14 oz.	2 lb. 1 oz.

### "YANKEE" PLAIN SCREW DRIVERS



No. 90



No. 95

Strong, well-balanced tools of the same high quality of materials and workmanship as other "Yankee" tools. Fastening of blade and handle is such they cannot be loosened in use, or in even the usual abuse. Blades and ferrules are finely polished, the handle of hard wood finished in satin black. Each is thoroughly tested and guaranteed in every particular as to quality. Packed ½ dozen in paper box.

#### No. 90 Standard Style

Sizes	Net Weight Per Doz.	Sizes	Net Weight Per Doz.	Sizes	Net Weight Per Doz.
1½"	1 lb.	6"	4 lbs.	12"	9¾ lbs.
2"	1 1/8 lbs.	7"	5¾ lbs.	15"	11¼ lbs.
3"	1 1/4 lbs.	8"	6 lbs.	18"	17½ lbs.
4"	2 1/2 lbs.	9"	6 1/4 lbs.	24"	21½ lbs.
5"	3 3/4 lbs.	10"	8½ lbs.	30"	26 lbs.

30-inch sizes have double grip handles

#### No. 95 Cabinet Style

Sizes	Net Weight Per Doz.	Sizes	Net Weight Per Doz.	Sizes	Net Weight Per Doz.
2½"	1 1/8 lbs.	6½"	1 5/8 lbs.	10½"	2 5/8 lbs.
3½"	1 1/4 lbs.	7½"	2 1/4 lbs.	12½"	2 3/4 lbs.
4½"	1 3/8 lbs.	8½"	2 3/8 lbs.	15½"	3 1/4 lbs.
5½"	1 1/2 lbs.	9½"	2 1/2 lbs.		

Packed one-half dozen in strong paper box.

### "YANKEE" RATCHET SCREW DRIVERS



No. 10

Friction in ratchet mechanism is so slight as to be hardly felt. Backward movement simple and noiseless. Ratchet and pawls cannot bend, break, wear or get out of order. Bits are forged from best cast steel, properly tempered, ground and polished. Every bit thoroughly tested before leaving factory. ½ dozen in box. Adjustment for right or left hand is made by slide moved in direction of length of blade.

Lgth. of Blade	Net Weight Per Doz.	Lgth. of Blade	Net Weight Per Doz.	Lgth. of Blade	Net Weight Per Doz.
2"	1 1/4 lbs.	5"	3 3/8 lbs.	10"	7 1/4 lbs.
3"	3 lbs.	6"	4 5/8 lbs.	12"	7 3/4 lbs.
4"	3 1/8 lbs.	8"	5 3/8 lbs.		

Half dozen in box.

### "YANKEE" AUTOMATIC DRILLS



No. 41

The drill point is revolved by pushing on handle, while a spring forces the handle up and ready to be pushed down again. One push causes several revolutions of drill point. No. 41—The Drill Point revolves backward in upward movement of handle to clear chips. Has magazine for Drill Points in handle. Eight Drill Points 1/16" to 1/4" with each Drill. Entire length, as cut, 11 3/8 inches. Packed one in a box. Net weight per dozen, 7 1/2 lbs.

## "YANKEE" BREAST DRILLS

Adjustable ball bearings, malleable iron frame, steel spindle, cut gears. Large gear, 5¼", small gear, 1⅞" diameter. Finished in dull black, bright parts chrome plated and polished.



No. 1555

Adjustable ball bearings, malleable iron frame, steel spindle, cut gears. Large gear 4½ inches, small gear 1½ inches diameter. Wood handle 4½ inches long, 2½ inches diameter, and can be detached from frame by milled nut to use interior of handle as a magazine for drills. Finished in dull black, bright parts chrome plated and polished.

## HAND DRILLS

Adjustable ball bearings, malleable iron frame, steel spindle, cut gears. Large gear 4½ inches, small gear 1½ inches diameter. Wood handle 4½ inches long, 2½ inches diameter, and can be detached from frame by milled nut to use interior of handle as a magazine for drills. Finished in dull black, bright parts chrome plated and polished.



No. 1540

## HAND DRILLS



No. 1530

Malleable iron frame, steel spindle, cut gears. Large gear 3 inches, small gear ⅞-inch diameter. Wood handles 4 inches long, 1½ inches diameter, and can be detached from frame by the knurled nut to use interior of handle as a magazine for drills. Extreme length of drill is 10½ inches. Net weight, 1¼ lbs. Packed one in a box.

## "YANKEE"—PHILLIPS SCREW DRIVERS Heavy Duty



Both Heavy Duty and Regular styles have polished alloy steel blades tempered to correct degree to insure long life and satisfactory service. Heavy Duty type handles of hardwood with black satin finish. Regular type—natural finish handles. Packed ½ dozen in box.

### Heavy Duty

Number	Length of Blade	Point Size	Overall Length	Weight per Doz.
901	3"	1	6⅞"	1½ lbs.
902	4"	2	9¼"	3 lbs.
903	6"	3	11⅞"	4½ lbs.
904	8"	4	13⅞"	6¾ lbs.

Packed one-half dozen in paper box.

### Regular

Number	Length of Blade	Point Size	Overall Length	Weight per Doz.
941	3"	1	6¾"	1¼ lbs.
942	4"	2	9"	2½ lbs.
943	6"	3	11½"	4 lbs.
944	8"	4	14¼"	6½ lbs.

Packed one-half dozen in paper box.

## GREENLEE Nos. 5 AND 6 SETFAST EXPANSIVE BITS



Consists of five pieces only—body, two cutters, adjusting barrel, and eccentric pin. Fitted with an 8-pitch square thread. All parts are securely locked by the action of the eccentric pin.

The No. 5 will bore ⅝ to 1¼ inch, and the No. 6, ⅞ to 3 inch with standard cutters and to 4 inch with an extra length cutter. Standard packing is in leatherette case, one in a box, half dozen to a carton.

### List Price and Weight Per Dozen Weight in Pounds

	Price	Weight
No. 5 Small, ⅝" to 1¼"	\$22.00	5
No. 5A Cutter, ⅝" to 1⅞"	3.00	¼
No. 5B Cutter 1⅞" to 1¾"	3.75	⅜
Extra Adjusting Barrels	1.50	⅛
Extra Eccentric Pins	1.50	⅛
No. 6 Large, ⅞" to 3"	26.00	8¼
No. 6A Cutter, ⅞" to 1¾"	5.25	⅜
No. 6B Cutter, 1¾" to 3"	6.00	⅜
No. 6C Cutter, 2½" to 4"	9.00	⅞
Extra Adjusting Barrels	1.80	¼
Extra Eccentric Pins	1.80	¼

## No. 22 SOLID-CENTER AUGER BIT



The Greenlee Solid-Center Auger Bit has a double-cutter head with extension lips, and is fitted with medium-pitch screw point. The center stem gives added stiffness and the single spiral easily elevates chips. Sizes 1¼-inch and smaller are packed ½ dozen in a box; larger sizes, ¼ dozen.

### List Price and Weight Per Dozen Size in Sixteenths—Weight in Pounds

Size	Price	Weight	Size	Price	Weight
3	\$4.50	¾	16	\$9.00	4¾
4	4.00	1	17	10.50	6
5	4.00	1¼	18	10.50	6½
6	4.00	1½	19	12.00	6¾
7	4.50	1¾	20	12.00	7¼
8	5.00	2	21	13.50	7½
9	5.50	2¼	22	13.50	7½
10	6.00	2½	23	15.00	8¼
11	7.00	3	24	15.00	8½
12	7.00	3½	26	17.00	8¾
13	8.00	3¾	28	19.00	10
14	8.00	4	30	21.00	11
15	9.00	4½	32	23.00	12

## No. 57 SINGLE-SPUR CAR BIT



This new Car Bit has been especially designed for pole, bridge, and other wood construction. The head is of the single-cutter type with one outlying spur, which permits smooth boring and insures long life. The single-spiral twist is employed. Tools are regularly packed ½ dozen in a box, and sizes and lengths listed in accompanying table are carried in stock. (See next page for prices.)



### No. 57 SINGLE-SPUR CAR BIT (Continued)

List Price and Weight Per Dozen  
Weight in Pounds

Size	Price	Weight
7/16 x 12-inch twist	\$17.00	6¾
8/16	17.00	7½
9/16	19.00	8½
10/16	21.00	9¾
11/16	23.00	10½
12/16	25.00	11¾
13/16	27.00	12
14/16	29.00	13½
15/16	31.00	15
16/16	33.00	16
17/16	35.00	17½
9/16 x 18-inch twist	26.25	10¾
10/16	29.00	12
11/16	31.75	13½
12/16	34.50	15¾
13/16	37.25	16½
14/16	40.00	19¼
15/16	42.75	22
16/16	45.50	22½
17/16	48.25	25½
9/16 x 24-inch twist	33.50	12¾
10/16	36.75	14¼
11/16	40.25	16½
12/16	43.50	18¾
13/16	46.75	20¼
14/16	50.00	24¾
15/16	53.50	24¾
16/16	57.00	29
17/16	60.50	33½

Tools with 12-inch twist are 17 to 18 inches overall; with 18-inch twist, 23 to 24 inches overall; and with 24-inch twist, 29 to 30 inches overall. Prices on special sizes and lengths quoted on application.

### EIGHT-INCH SHIP AUGER CAR BIT



The Greenlee No. 62 Ship Auger Car Bit has 8-inch twist and is 12 inches overall. This bit has a single chip channel with a heavy section of twist, which gives it strength and rigidity.

Those regularly furnished have medium coarse screw points. The twists and the round portion of the shanks are polished, while screw points and heads are bright.

As No. 62-J we furnish bits with the hollow of the twist jappaned.

Standard package, ½ dozen in a box.

List Price and Weight Per Dozen  
Size in Sixteenths—Weight in Pounds

Size	Price	Weight	Size	Price	Weight
4	\$10.00	1½	12	\$11.00	7¼
5	10.00	1¾	13	12.00	8¼
6	10.00	2½	14	12.00	9¼
7	10.00	2¾	15	13.50	10
8	10.00	3¼	16	13.50	11¼
9	10.00	4¼	17	15.00	11½
10	10.00	5½	18	15.00	14¼
11	11.00	5¾	20	16.50	14½

### TWELVE-INCH SHIP AUGER CAR BIT



The Greenlee Ship Auger Car Bit is made with 12-inch twist and measures about 17 to 18 inches overall. It is recommended for its strength, rigidity, easy cutting and free clearance.

In the regular finish, the twist, round and screw are fully polished. Available in sizes up to and including the 24/16 inch. Also a Ship Auger Car Bit with jappaned hollows, known as No. 64-J, which comes in all sizes listed.

Standard package, ½ dozen in a box.

List Price and Weight Per Dozen  
Size in Sixteenths—Weight in Pounds

Size	Price	Weight	Size	Price	Weight
4	\$11.00	2	16	\$14.50	16½
5	11.00	2½	17	16.00	17½
6	11.00	3½	18	16.00	19½
7	11.00	3¾	19	18.00	20¾
8	11.00	4½	20	18.00	21½
9	11.00	6	21	20.00	22¼
10	11.00	6½	22	20.00	23
11	12.00	6¾	24	23.00	31
12	12.00	9¼	26	27.00	33
13	13.00	10½	28	32.00	35
14	13.00	12¾	30	38.00	42
15	14.50	14½	32	45.00	48

### GREENLEE No. 16 UNISPUR AUGER BIT



This pattern of electricians' bit is fast becoming popular, due to its easy and smooth-boring qualities. It has a single-cutter head and only one outlining spur. It is fitted with a deeply-cut, 8-pitch single screw point for boring one inch in 8 turns, provided the screw follows its natural lead. The twist of this bit is made 5½ inches long and the tool has an overall dimension of 10 inches, not including the screw point. Standard package, ½ dozen in box.

List Price and Weight Per Dozen  
Size in Sixteenths—Weight in Pounds

Size	Price	Weight	Size	Price	Weight
10	\$6.00	2¾	14	\$8.25	4½
11	7.00	3¼	15	9.50	5
12	7.00	3½	16	9.50	5¼
13	8.25	4¼			

### GREENLEE No. 31 DOUBLE-SPEED AUGER BIT



Electricians prefer our Double-Speed Auger Bit as it is the fastest boring and longest-lived tool on the market. It has a screw point which leads six turns to the inch or 25% faster than most electricians' bits, and the double-cutter head with two spurs provides maximum wear. Twist length is 5½ inches, overall length 10 inches. Standard package, ½ dozen in box.

List Price and Weight Per Dozen  
Size in Sixteenths—Weight in Pounds

Size	Price	Weight
10	\$6.00	2¾
11	7.00	3¼
12	7.00	3½

### No. 44 SHORT UNISPUR AUGER BIT



This pattern of Auger Bit is made with a short twist and an overall length for electricians' use in boring holes for pipe and conduit. Sizes 1-inch and smaller have about 3-inch twist, 5½-inch overall dimension, and larger sizes have a 2¼-inch twist with the same overall length. The smaller sizes have a medium-pitch screw point, and the larger sizes, to permit easier boring, are fitted with a finer point. Standard package is six, in sizes 1¼-inch and under; three, in sizes over 1¼-inch.

List Price and Weight Per Dozen  
Size in Sixteenths—Weight in Pounds

Size	Price	Weight	Size	Price	Weight
8	\$5.00	1¼	18	\$12.00	4
10	6.00	2	20	14.00	4½
11	7.00	2½	22	16.00	5
12	7.00	2¾	24	18.00	5¼
13	8.25	2¾	28	22.00	6
14	8.25	2½	32	26.00	8
15	9.50	2¾	36	52.00	9
16	9.50	3	40	56.00	10

## GREENLEE DRIVE ARRANGEMENT FOR 1/2-INCH KNOCKOUT PUNCH



Left—No. 1387 AV Drive Screw  
Right—No. 1388 AV Drive Nut

This supplementary driving arrangement will fit the standard No. AV121 Punch and No. AV122 Die for 1/2-inch conduit, as furnished with the No. 735 set, and it takes the place of the No. AV322 3/8-inch Cap Screw.

The No. 1387AV Drive Screw has a small diameter of 3/8-inch, threaded to fit the standard No. AV121 Punch, and a large diameter of 1/2-inch with No. 20 U. S. Standard thread to fit the No. 1388AV Drive Nut. The 3/8-inch threaded section of the screw merely holds the punch in place, and the actual drive is made by turning the 1-inch hexagon nut on the 1/2-inch threaded section.

### List Price and Weight Each Weight in Pounds

	Price	Weight
No. 1387AV Drive Screw	\$ .75	1/8
No. 1388AV Drive Nut	.35	1/4

## Nos. 738 AND 739 KNOCKOUT PUNCHES



Nos. 738 and 739, to cut holes 2 7/8 and 3 1/2-inch diameter for 2 1/2 and 3-inch conduit respectively. They are packed and sold individually. These large sizes are driven by means of a double-diameter screw and nut. The small section of the screw is 3/4-inch diameter, threaded

to fit the hole in the punches, and the large diameter is 1-inch with No. 12 thread to fit the 1 1/2-inch diameter Drive Nut. Guaranteed to cut through sheet metal 10 gauge or lighter.

### List Price and Weight Each Weight in Pounds

	Price	Weight
No. 738 for 2 1/2-inch Conduit	\$14.00	5 3/4
No. 739 for 3-inch Conduit	19.00	7 1/4

## No. 740 KNOCKOUT CUTTER



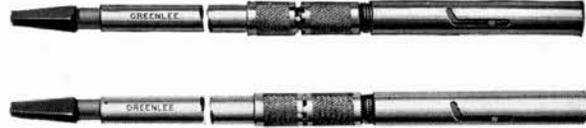
Will handle the enlargement of knockouts to accommodate 1 1/2, 2, 2 1/2 and 3-inch conduit. Will cut material up to 1/8-inch or 10 gauge thickness. The tool is hand driven, and any ordinary wrench can be used. The cutting is done by the drive action of two wheel cutters. The hexagon nut revolves the tool, while the other nut is used for feeding the cut-

ters into the metal. The discs, which are 1 1/8, 2 3/8, 2 7/8 and 3 1/2-inch diameter for the above sizes of conduit, support the metal from the side opposite the cutters, which move in a circle in line with the circumference of the top supporting disc. Center shaft is 3/4-inch diameter for passing through standard knockouts. Packed in leather case.

### List Price and Weight Each Weight in Pounds

	Price	Weight
No. 740 Knockout Cutter (for 1 1/2, 2, 2 1/2 and 3-inch conduit)	\$15.00	4 1/2

## GREENLEE BIT EXTENSIONS



Top—Lock Sleeve Open  
Bottom—Lock Sleeve Closed

The Greenlee No. 900 Bit Extension has two outstanding features. First, the design which permits sufficient strength to drive a bit up to 1-inch diameter but small enough to follow a 3/8" bit. The second feature is its positive lock, which prevents the loosening of the holding sleeve, insuring an absolute grip on the shank at all times.

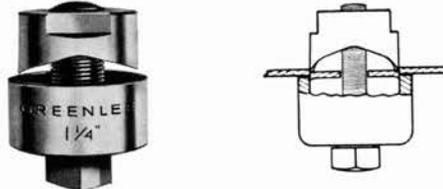
The Greenlee No. 925 Bit Extension is similar to the No. 900 in every way, except that it is made extra heavy to follow a 1 1/8" Auger Bit and drive tools up to 2-inch diameter.

Standard packing is one in a leatherette case.

### List Price and Weight Each Weight in Pounds

	12"	15"	18"	21"	24"	30"
No. 900 Price	\$2.10	\$2.20	\$2.25	\$2.35	\$2.40	\$2.50
No. 925 Price			\$2.75		\$3.00	
Weight	3/4	1	1 1/8	1 1/4	1 3/8	1 7/8
			18"		24"	
			1 7/8		2 1/4	

## No. 730 RADIO CHASSIS PUNCHES



Greenlee Radio Chassis Punches, driven by screw action, follow the design of Knockout Punches, which have been successfully used for a number of years. Consists of 3 parts—the punch for cutting the metal, the die for supporting the metal and the screw for providing power. Right-hand illustration above shows proper setup for operation.

Holes can be punched rapidly by hand for socket mounting, without distorting the metal in the least.

### List Price and Weight Each Weight in Pounds

	Price	Weight
3/4" Complete	\$2.15	1/4
AV113 Punch	1.25	1/8
AV114 Die	.65	1/8
7/8" Complete	2.15	3/8
AV121 Punch	1.25	1/8
AV122 Die	.65	1/8
AV322 Screw for 3/4" and 7/8" punches	.25	1/8
1 1/8" Complete	2.50	5/8
AV91 Punch	1.45	1/4
AV92 Die	.80	1/4
1 1/4" Complete	2.50	5/8
AV115 Punch	1.45	1/4
AV116 Die	.80	1/4
1 1/2" Complete	2.50	3/4
AV117 Punch	1.45	1/4
AV118 Die	.80	3/8
1 3/8" Complete	2.85	7/8
AV119 Punch	1.65	3/8
AV120 Die	.95	3/8
AV112 Screw for 1 1/8" to 1 3/8" inclusive	.25	1/8



### Nos. 735 AND 737 KNOCKOUT PUNCHES



Both of these Knockout Punch Sets permit rapid and easy cutting. The No. 735 has four punches for cutting  $\frac{7}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$  and  $1\frac{1}{2}$ -inch holes for  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1 and  $1\frac{1}{4}$ -inch conduit. The No. 737 has two units for punching holes  $1\frac{1}{2}$  and  $2\frac{3}{8}$ -inch diameter for  $1\frac{1}{2}$  and 2-inch conduit. The  $\frac{7}{8}$ -inch punch for  $\frac{1}{2}$ -inch conduit will cut a hole where no standard knockout is provided. This size is driven by a  $\frac{3}{8}$ -inch cap screw, and to use this size, a  $\frac{3}{8}$ -inch hole must first be drilled. The larger sizes are driven by  $\frac{3}{4}$ -inch cap screws, which will pass through the  $\frac{7}{8}$ -inch hold, cut by the small punch, or through standard knockouts. Both sets are packed in leather cases.

**List Price and Weight Each**  
Weight in Pounds

	Price	Weight
No. 735 Knockout Punch Set (for $\frac{1}{2}$ , $\frac{3}{4}$ , 1 and $1\frac{1}{4}$ -inch conduit).....	\$10.00	2 $\frac{3}{4}$
No. 737 Knockout Punch Set (for $1\frac{1}{2}$ and 2-inch conduit) .....	10.00	4 $\frac{1}{4}$

### DIAMOND HAMMER DRILL



The light weight, hard hitting Diamond Hammer Drill was developed particularly for use in installing expansion shields and anchors. In this type of work the cost of drilling the holes has always exceeded the cost of the shields

or anchors used. On jobs where the number of holes is large this cost becomes an important factor. This drill reduces the drilling cost to such an extent that it will pay for itself on the first big job where it is used.

The anvil end of this telescopic Hammer slides accurately with each  $7\frac{1}{2}$ " stroke. This perfect contact means full efficiency from each blow. It is impossible to strike the hand or wrist.

The Diamond Hammer Drill without points weighs 4 $\frac{3}{4}$  lbs., is 17 $\frac{1}{4}$ " long and lists at.....\$10.00 each

### DI $\diamond$ FORGE TWIST DRILLS



Forged from a solid bar of Vanadium tool steel. This process produces a tougher and more durable drill than can be had by the machine process. It is intended to be used with a hand or electric hammer. Rotate clockwise between each blow if used with hand hammer. Rotate continuously if used with electric hammer.

Diamond Rubber-Grip Drill Holders are made of Vanadium steel, with a soft rubber grip with flange to protect the hand of the operator.

Diameter	List per Dozen	Length Overall	Depth of Hole	Weight per Doz.
$\frac{3}{16}$ "	\$10.80	2 $\frac{5}{8}$ "	1 $\frac{1}{4}$ "	$\frac{1}{2}$ lb.
$\frac{1}{4}$ "	10.80	3 $\frac{1}{8}$ "	1 $\frac{1}{2}$ "	$\frac{3}{4}$ lb.
$\frac{5}{16}$ "	12.80	3 $\frac{7}{8}$ "	2"	$\frac{7}{8}$ lb.
$\frac{3}{8}$ "	14.80	5 $\frac{1}{8}$ "	3 $\frac{1}{4}$ "	1 $\frac{1}{4}$ lbs.
$\frac{7}{16}$ "	18.80	5 $\frac{1}{4}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{2}$ lbs.
$\frac{1}{2}$ "	22.80	5 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	2 lbs.
$\frac{9}{16}$ "	26.80	5 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ lbs.

DI  $\diamond$  Forge Twist Drills are also put up in sets containing one holder and one each  $\frac{3}{16}$ ",  $\frac{1}{4}$ ",  $\frac{5}{16}$ ",  $\frac{3}{8}$ ",  $\frac{7}{16}$ " and  $\frac{1}{2}$ " DI  $\diamond$  Forge Twist Drill Points.

With Type "C" Rubber Grip Holder.....\$8.00 per set  
With Type "B" Holder..... 7.00 per set

### "DIAMOND N" DRILL HOLDERS AND POINTS

The "Diamond N" Drill Holder and loose points is a combination which will be found very convenient for lines of industry where numerous small holes must be drilled for fastening up small fixtures.

The drills are very carefully tempered to insure sufficient hardness at the point to withstand the wear of cutting and the temper is drawn away toward the shank, so as to produce a softer steel where it enters the handle to prevent its breaking off at that point.



**List Prices and Dimensions Per Dozen**

Size	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{7}{16}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	
Price	\$24.00	\$8.50	\$8.50	\$8.50	\$9.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00
Length	4 $\frac{1}{2}$ "	4"	4 $\frac{1}{2}$ "	4"	5"	6 $\frac{1}{4}$ "	6"	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	
Wt. lbs.	8 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{7}{8}$	4 $\frac{1}{4}$	4 $\frac{3}{4}$	6

When ordered in sets, each set comprises one holder, one ejector pin, and six points assorted of any of the following sizes:  $\frac{1}{4}$ ",  $\frac{5}{16}$ ",  $\frac{3}{8}$ ",  $\frac{7}{16}$ ",  $\frac{1}{2}$ ",  $\frac{5}{8}$ ",  $\frac{3}{4}$ ". Sets put up in wooden boxes make a most convenient drill outfit in most compact form for those requiring various sizes of holes for different diameter of expansion bolts. Drill Holders and points may be ordered separately.

List Price in Sets, \$7.50

## "DIAMOND N" DRILLS

The heat treatment of "Diamond N" Drills is scientifically conducted. Heats for hardening and drawing the temper are determined by pyrometer and thermometer, which give greater accuracy and uniformity than possible under the old method of determining the heat by color.



Top—4 Point Drill  
Bottom—Single Point Drill

We recommend the "Diamond N" Four Point Drill for brick, softer stone and concrete. For very hard concrete, granite, bluestone and the like, we recommend the Diamond Stone Drill with a single cutting edge as shown left. This type of drill permits of easier sharpening than the Four Point.

Diamond Point Drills (single cutting edge) are made in long lengths up to 1½" diameter. Lengths usually furnished for this work are 3, 4, 5 and 6 feet.

### List Prices and Weights Per Dozen

Length	¼"	⅝"	⅜"	⅞"	½"	⅞" and ⅝"	1⅞" and ¾"	⅞"	1"	1⅞"
8"	\$8.25	\$8.25	\$8.25	\$8.70	\$9.65	\$11.65	\$13.70	\$15.30	\$17.00	\$23.00
Wt. Lbs. Two-thirds weight of 12"										
12"	8.50	8.50	8.50	9.00	10.00	12.00	14.00	16.00	18.00	24.00
Wt. Lbs.	2	3	4	5	5	9	12	15	21	27
18"	11.00	11.00	11.00	11.50	12.50	15.00	17.50	20.00	22.50	28.00
Wt. Lbs.	3	4½	6	7½	7½	13½	18	22½	31½	41
24"	13.50	13.50	13.50	14.00	15.00	17.50	20.00	22.50	25.00	32.00
Wt. Lbs.	4	6	8	10	10	18	24	30	42	54
Length		1¼"	1⅜"	1½"	1⅝"	1¾"	1⅞"	2"	2¼"	2½"
12"		30.00	40.00	50.00	60.00	75.00	90.00	105.00	135.00	165.00
Wt. Lbs.		27	35	42	42	43	53	54	55	79
18"		35.00	45.00	56.00	66.00	81.00	97.00	112.00	145.00	175.00
Wt. Lbs.		41	53	63	63	65	80	81	83	119
24"		40.00	50.00	62.00	72.00	87.00	104.00	120.00	165.00	195.00
Wt. Lbs.		54	70	84	84	86	106	108	110	158

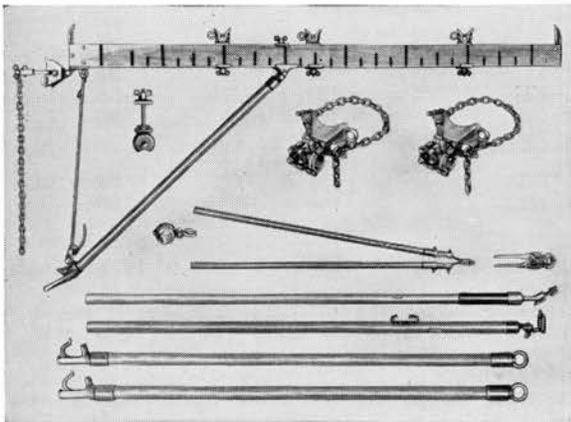


## CHANCE HOT LINE SCREW ANCHOR WRENCH

The screw anchor wrench gives ample leverage for turning a screw anchor into the ground. Steel and malleable.

Cat. No.	Net Weight	Price
600	36 lbs.	\$9.00

## MAINTENANCE SET



Maximum Span 300 Feet—Conductor Size Up to No. 1 Copper or Aluminum

Cat. No.	Description	Price
M4800-10	Tips Rural Tool Set Complete.....	\$184.25

### Equipment Included in Above Set

M4800-1—Tips Auxiliary Cross-Arm, 8'0" (3 holders).

M4800-12—Wire Tong Butt Swivel Holder for attaching Wire Tong to Cross-Arm.

M4741-1—Tips 1½" Wire Tong Saddle Pole Clamp used on M4800-1.

M1729—Tips Wire Tong Band for 2" diameter Wire Tong.

M4740-4—Tips Saddle and Tightener for 2" diameter Wire Tong (2 required).

M1861-1—Tips Insulated Plier Handles with 8" Pliers or 10" Cutter (optional).

M1855-2—Tips Blade Tie Stick, 1¼"x8' Laminated Spruce Pole.

M1760—Tips Universal Pole. Tie Wire Asst. 1¼"x8'.

M4455-17—Tips Universal Tie Stick Head.

M4655-2—Tips Wire Tong, 1½"x8', with Butt Swivel.

M4656-3—Tips Wire Tong, 2"x12', with Butt Swivel.

## DIAMOND BULL POINTS OR GADS



Size Steel	12" LENGTH		18" LENGTH		24" LENGTH	
	Weight Lbs.	Price	Weight Lbs.	Price	Weight Lbs.	Price
½"	¾	\$0.43	1⅞	\$0.51	1½	\$0.59
⅝"	1¼	.52	2	.63	2½	.77
¾"	1½	.58	2¼	.73	3	.88
⅞"	2	.73	3	.93	4	1.13
1"	2¾	.96	4¼	1.24	5¼	1.52
1⅞"	3½	1.20	5¼	1.55	7	1.90
1¼"	4¼	1.46	6½	1.90	8¾	2.34
1½"	6¼	2.08	9½	2.73	12¾	3.37

30" and 36" lengths made to order.

Special shanks furnished to fit any Electric or Pneumatic Drilling Machine.



### TIPS INSULATED JUMPER CLAMPS



Equipped with 5,000-volt rubber covered extra flexible cable for extra protection to linemen doing general low voltage maintenance work.

Tips rubber covered insulated jumper clamps are designed for maximum safety and convenience to the operator, incorporating

Large positive gripping surface.

Handle of corrugated, medium hard rubber.

Rubber will not break or crack if dropped from pole.

Cable easily and securely attached.

Handle will accommodate 1-inch maximum overall grounding cable.

Cat. No.	Description	Wire Size		Lgth.	Wt.
		Main Line	Jumper		
G4767-2	Set of two jumper clamps only. No cable.	Min. No. 10 Solid Cu. to Max. 750,000 CM Str. Cu.	Max. ground cable 2/0 5000 volt.	9"	1 3/4 lbs. each clamp Price \$7.70

Each Tips Perma-Grip clamp in every size has been carefully proportioned to give the proper electrical conductivity, maximum mechanical strength and a pleasing symmetrical appearance. The current carrying capacity is in proportion to that of the maximum jumper

### TIPS PRONG AND BLADE TIE STICKS



Prong type for tying or untying tie wires—can be used for various purposes—center finger makes short bends possible. Assistant on side of pole helps to pry loose tight ends.

Cat. No.	Description	Overall Length	Net Wt.	Price
M1855-1	1 1/4" prong tie stick with 18" fibre sleeve	8'2"	3 1/4 lbs.	\$9.00
M1855-5	1 1/4" prong tie stick fibre sleeve and short offset prong head	8'	3 lbs.	9.00
M3002	Hand Guard for 1 1/4" tie stick		4 ozs.	.55

Many prefer the blade type of tie stick because it gets into the tight places and makes a quick job of tying or untying. Furnished with universal head for attaching a variety of fittings.

Cat. No.	Description	Overall Length	Net Wt.	Price
M1855-6	Blade tie stick	8'6"	3 1/2 lbs.	\$13.10

### TIPS TAP-OFF CLAMP



wire for which each clamp is designed. Tests reveal a minimum yield point of 165 inch lbs. and an ultimate strength in excess of 260 to 500 inch lbs. (depending on size) applied torque on the eye screw. The gripper is designed for three point contact with the conductor.

#### Catalogue Series S1725

Type Nos.	Type of Connection	MAIN LINE		JUMPER WIRE		Wt., per 100	Price Ea.
		Maximum	Minimum	Maximum	Minimum		
CC	Cu to Cu	2/0 str.	No. 6 Sol.	CU	ACSR	64	\$.68
GP	General Purpose	Copper	Copper	2 str.	3	64	.72

#### Catalogue Series S1730

Type Nos.	Type of Connection	MAIN LINE		JUMPER WIRE		Wt., per 100	Price Ea.
		Maximum	Minimum	Maximum	Minimum		
CC	Cu to Cu					55	\$0.90
CA	Cu to Al	300M CM	No. 4 Sol.	CU	ACSR	56	.95
GP	General Purpose	str. Copper	Copper	2/0 str.	1/0	95	.96
AA	Al to Al	2ACSR with Armor	No. 6				
AC	Al to Cu	266,800 CM ACSR	ACSR	2/0 str.	1/0	55	.95
						56	.90

### TIPS GRIP-ALL STICK



The Tips Grip-All Clamp Stick is safer, easier to handle and has more uses than any other clamp stick on the market.

To open the jaws it is necessary to release the safety catch. This operation calls attention to the opening of the jaws and prevents doing it accidentally. Safety catch closes automatically when jaws are closed. By simply sliding the hand grip along the handle it is possible to pull clamps, etc., into the end of the stick, making a rigid connection. This makes it easy to hook the clamp over conductors. Full universal action is obtainable and eye

screw may be turned with stick at a 0° to 90° angle to screw axis.

A special large ring attachment makes it possible to open and close large porcelain cutouts. Universal tool adapter makes it a Universal pole usable with all Universal fittings.

The poles are of the best grade hard wood thoroughly tested to withstand 75,000 volts per foot for five minutes. Castings are aluminum and bronze.

Cat. No.	Pole Dia. and Length	Overall Length	Net Wt., Lbs.	Price
M1865-4	1 1/2" x 4'	4'6 3/4"	4 1/2	\$15.50
M1865-6	1 1/2" x 6'	6'6 3/4"	5 1/4	17.00
M1865-8	1 1/2" x 8'	8'6 3/4"	6	18.50
M1866	Large ring attachment		1	3.75
M1867	Universal tool adapter		1/2	2.00

# SPlicing AND SOLDERING TOOLS

## No. 31 NICOPRESS TOOL



This tool was developed principally for high tensile steel conductors and offers a means of making positive, strong splices on these new type wires. The No. 31 tool is light, compact and easy to handle. It is 11 inches long and weighs only 2 lbs. List Price \$14.00.

## NICOPRESS TOOLS



Type No. 17  
8 in. long  
Weight 9 oz.



Type No. 0  
10 in. long  
Weight 1 1/4 lbs.



Type No. 41  
15 in. long  
Weight 3 1/2 lbs.



Type No. 51  
18 in. long  
Weight 4 lbs.

Tool	Use	Approx. Ship. Wt. each	Price each	Quantity Discounts
Stock No. 17-1	For drop and bridle wires.	10 oz.	\$4.00	No Quantity Discount
Stock No. 17-2	Same as No. 17-1 except additional groove for inside wires.	10 oz.	5.00	
Type No. 0	For telephone, telegraph and signal wires.	2 lbs.	12.00	50 or More 5%
Type No. 41	For power distribution.	4 lbs.	29.00	1 to 10 Net 10 to 25 5% 25 to 50 10% 50 or more 20%
Type No. 51	For copper, copper-weld and aluminum power lines.	4 1/2 lbs	30.00	
Type No. 3	For high-strength steel power lines.	13 lbs.	55.00	

For all tools, except Nos. 17-1 and 17-2, specify desired groove combinations.  
(For Trade Discounts See Discount Sheet)

## TOOL HOLSTER

Leather holsters that may be carried on the line-man's belt are available for the No. 0 and No. 31 Nicopress Tools. Price, \$2.00 each.



## ANACONDA ROLLED SEAMLESS CONNECTORS

For splicing telephone, telegraph, signal and power line conductors, form splices of higher strength and lower resistance than the wire itself.

This new type of connector consists of a short piece of seamless copper tubing.

A slight dent midway between the ends, serves as a stop for the ends of the wires and insures equal distribution of the gripping action upon the wires to be spliced. The rounded ends slip easily over pole cross arms.



The inside surface of the connector is lacquered. Embedded in the lacquer are hard carbon particles that lock both ways on the conductor and in the connector as the connector is rolled on the wire.

The connector is rolled on with a simple tool, which



exerts heavy pressure, fitting the wire so tightly that internal corrosion is prevented, and therefore the ohmic resistance of splice remains constant.

Rolling the connector works the metal so that it is hardened and lengthened to give a long, sure grip on the wire.

Anaconda Rolled Seamless Connectors cover a range



of wire sizes from No. 4 Awg. to and including No. 12 Awg. Orders for connectors should state the number required for each size of wire and gauge number or nominal diameters of wires to be spliced.

## ANACONDA ROLLING TOOLS

The roll faces of this tool are designed with flat sections so that the wire may be inserted and the connector started in its proper groove and the completed splice removed from the tool.

The rolls give tremendous pressure upon the connector, but are easily turned by a ratchet handle mounted on an auxiliary shaft.

Five standard types of rolling tools cover the range of wire sizes, and each tool is marked for the sizes of wires it will splice.



### Type A

Groove	A	B	C
Wire Size Awg.	4	6	8

### Type B

Groove	B	C	E
Wire Size Awg.	6	8	10, 12

### Type D

Groove	B	D	E
Wire Size Awg.	6	9	10, 12

### Type C

Groove	C	D	E
Wire Size Awg.	8	9	10, 12

### Type E

Groove	B	C	D
Wire Size Awg.	6	8	9

U. S. Patent Nos. 1,599,356 and 1,896,512

## KLEIN'S SPlicing CLAMPS

This clamp has five sets of chambers for twisting double tube sleeves. Intended for telephone, telegraph and power line work.



No. 105-17 (Type "B")

The chambers are arranged to fit the sleeves snugly so that sleeves are not injured in twisting and insure perfect mechanical and electrical joints.

Cat. No.	Size	Weight Per Doz.
105-17	10 3/4-inch	17 lbs.
Copper sleeves Nos. 6, 8, 10, 12 and 14, B. & S.		
Copper sleeves Nos. 12, 14 and 17, N. B. S.		
Iron sleeves Nos. 8, 10, 12, 14, 16 and 19, B. W. G.		



## KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

For General Telephone Line Work



No. 132-15

Has five round holes for twisting bare wire. One oval hole for guy strand, .437 x .624.

The reverse side has

five double chambers for twisting double tube sleeves.

Cat. No.	Size	Weight Per Doz.
132-15	11 1/4-inch	18 lbs.
Copper wire Nos. 4, 6, 8, 10, 12, B. & S.		
Iron wire Nos. 6, 8, 10, 12, 14, B. W. G.		
Oval hole .437 x .624.		
Copper sleeves Nos. 6, 8, 10, 12, 14, 17, B. & S.		
Iron Sleeves Nos. 8, 10, 12, 14, 16, 19, B. W. G.		

## KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

For General Power and Light Line Work



No. 132-46

This clamp is similar to No. 132-15 but is arranged to take copper sleeves No. 4 to No. 12 B. & S. It is intended

particularly for use of power companies requiring this range of sizes. Sleeve openings modified for single (oval) tube sleeves to order.

Cat. No.	Size	Weight Per Doz.
132-46	11 1/4-inch	17 3/4 lbs.
Copper wire Nos. 4, 6, 8, 10, 12, B. & S.		
Iron wire Nos. 6, 8, 10, 12, 14, B. W. G.		
Oval hole .437 x .624.		
Copper sleeves Nos. 4, 6, 8, 10, 12, B. & S.		
Iron sleeves Nos. 6, 8, 10, 12, 14, B. W. G.		

## KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

For Railroad Signal and Telegraph Work



No. 132-30

The sleeve openings are for N.B.S. and B.W.G. sizes 9 and 8 respectively. The remaining five openings cover the

range of wire sizes generally used on Railroad Signal and Telegraph construction.

Cat. No.	Size	Weight Per Doz.
132-30	11 1/4-inch	18 lbs.

## KLEIN'S "COPPERWELD" SLEEVE CLAMP



No. 132-48 (for Copperweld)

This clamp has four chambers for twisting single tube (oval) sleeves used for making joints on Copperweld conductors sizes 4A, 6A, 8A and 3 No. 12. These chambers also accommodate single tube (oval) sleeves as per following table.

- 4A Copperweld or No. 1 solid B. & S. or No. 2 strand B. & S. Copper
- 6A Copperweld or No. 3 solid B. & S. or No. 4 strand B. & S. Copper
- 8A Copperweld or No. 4 solid B. & S. or No. 5 strand B. & S. Copper
- 3 No. 12 Copperweld or No. 5 solid B. & S. or No. 6 strand B. & S. Copper

The swing latch provided holds the head securely closed while joint is being twisted, preventing any slippage or "burning" which might develop otherwise from bowing of handles when twisting the larger sleeves.

Cat. No.	Size	Weight Per Doz.
132-48	11 1/2-inch	18 lbs.

## KLEIN'S STRAND AND WIRE HOLDING TOOL



No. 132-39

This tool serves as a temporary clamp to hold together two sections of strand or wire while placing permanent clamps or splicing and serving. A real convenience and time saver.

Openings will fit:

- 7/16" strand (16,000 lb. Bell System)
- 3/8" strand (10,000 lb. Bell System)
- 5/16" strand (6,000 lb. Bell System)
- 3/16" strand (2,200 lb. Bell System)
- 7/64" solid No. 12 B. W. G. Iron or No. 10 B. & S. Copper Wire
- 3/8" solid No. 13 B. W. G. Iron or No. 11 B. & S. Copper Wire

Cat. No.	Size	Weight Per Doz.
132-39	11 1/4-inch	18 lbs.

## KLEIN'S "DI-STOCK" SLEEVE TWISTER



No. 107-20

This tool supersedes previous No. 107-2. It has been improved by making the handles tubular 7/8" diameter and threading them onto the head. They can be readily attached or removed—a real convenience when clearance is limited, also affording considerable reduction in weight.

For use on all types and makes of sleeves from No. 4 B. & S. Solid up to No. 3/0 B. & S. Strand. Space between yokes is 3"—usually sufficient for three sleeve openings.

The head is readily tightened onto the sleeve and securely held by means of a thumb nut operating in the hinged yoke as illustrated.

Cat. No.	Weight Each
107-20 (for oval or double tube sleeves) (copper or aluminum)	3 1/4 lbs.
Length overall, 23 1/2 in.	

## KLEIN'S "DI-STOCK" SLEEVE TWISTER

Heavy Duty Type No. 107-34

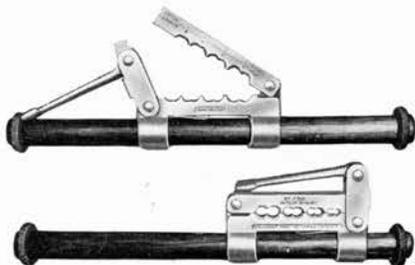
Similar to the No. 107-20 but is of heavier construction for use on larger size sleeves. Of ample capacity for sleeves No. 3/0 B. & S. up to 500,000 c.m. B. & S. and corresponding size aluminum. The handles are tubular 1 1/8" diameter. A hand operated lock lever closes the head easily on the sleeve and maintains it securely in position while the joint is being made.

Distance between the yokes on the head is approximately 4 inches giving ample room for two or even three sleeve openings of large size.

Cat. No.	Weight Each
107-34 (for oval or double tube sleeves) (copper or aluminum)	8 3/4 lbs.
Length overall, 34 in.	

NOTE—There being no standard on sleeves, actual samples for which twisting tools are desired should accompany order. When this cannot be done the following data MUST be furnished. (1) Trade name or name of manufacturer. (2) Sleeve number or size. (3) Type of sleeve (oval, double-tube, etc.). (4) Size and type of conductor sleeves will be used on.

## CRESCENT SLEEVE WRENCH



### Features

Sliding handle clears tackle allowing full turns in close quarters.

Oil impregnated hickory handle makes practically perfect insulation, preventing flash if contacted with hot wire.

Cam and lever action closes jaws easily and locks positively when closed. Readily released with one hand even with heavy gloves.

Design of the openings is such that maximum strength of the joint is secured. Tests indicate that joints made with No. 750 Sleeve Wrench give nearer 100 per cent of the theoretical strength of the sleeve than with any other method.

Sleeve can be twisted six full turns without cracking or injury.

Can be carried in loop on tool belt.

### Specifications

Finish — Metal parts are cadmium plated. Hickory handle impregnated with linseed oil.

Material — Jaws and cam lever are heat treated, forged steel.

Length—Over all 14½ or 20 inches.

Weight—2¼ pounds.

Packed—One in a box.

Handles — Handles 14½ inches long are standard on wrenches taking a sleeve smaller than No. 1/0. Wrenches taking No. 1/0 or larger are equipped with 20-inch handles. The 20-inch handles can be furnished on any size at no extra cost.

## AMERICAN BEAUTY SOLDERING STAND



A thermostatically controlled device for regulating temperature of electric soldering irons. Soldering iron is maintained at working temperature, ready for instant use.

Thermostat may be set for the maintenance of any desired temperature to meet requirements of particular uses or conditions.

For use with electric soldering irons up to 660 watts consumption and on circuit up to 240 volts AC only.

Cat. No.	Net Weight	List Price
475	27 ozs.	\$4.95

## AMERICAN BEAUTY SOLDERING IRONS



No. 3138

Primarily adapted for light work—radio, telephone, telegraph, ignition, factory and production work of a light nature; for telephone installation and switchboard work, etc.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price
3138	⅜ in.	100	16 oz.	12⅞ in.	⅞ in.	2 lbs.	\$7.20



No. 3158

For the same purposes as No. 3138 and for work of a somewhat heavier nature. Used by electric starter and ignition manufacturers, and for repair work and other purposes where more capacity is required.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price
3158	⅝ in.	200	28 oz.	13⅝ in.	1¼ in.	3 lbs.	\$8.60



No. 3178

For use on heavier work; on light commutators; and for service and production work. A very useful iron for general purposes.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price
3178	⅞ in.	300	42 oz.	14⅞ in.	1⅞ in.	4 lbs.	\$11.50



No. 3198

For use on still heavier work of all kinds. Supplies a very large volume of heat at high temperature. Used by manufacturers in many different lines; for shop, service and production work, etc.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approx. Ship. Wt.	List Price
3198	1⅛ in.	550	60 oz.	15 in.	1¾ in.	5¼ lbs.	\$15.00



No. S-76

Is a special light, compact iron designed for light work of various kinds. It heats up very quickly and consumes only 50 watts. Its construction is somewhat different from that of the standard irons, having a specially treated copper core, with aluminum head, on to which the tip screws with taper fit.

Cat. No.	Dia. of Tip	Watts	Length	Diameter of Body	Net Weight	Approx. Ship. Wt.	List Price
S-76	⅞ in.	50	11⅝ in.	⅝ in.	6 oz.	14 oz.	\$4.50

## VULCAN SOLDERING TOOLS



No. 60

Cat. No.	Watts	Equal to Old Style Copper	Net Wt.	Tip Dia. In.	Price Complete	Extra Tip	Heating Head	Handle	Cord & Plug
10	44	1 lb. per pr.	⅝ lbs.	⅞	\$3.75	\$.30	\$2.30	\$.40	\$.65
20	50	1 lb. per pr.	⅝ lbs.	⅞	5.00	.30	3.55	.40	.65
30	60	1½ lbs. per pr.	¾ lbs.	½	6.25	.40	4.70	.40	.65
40	90	2½ lbs. per pr.	¾ lbs.	½	7.00	.40	5.45	.40	.65
50	130	3½ lbs. per pr.	1¼ lbs.	⅞	8.00	.65	6.20	.40	.65
60	175	4½ lbs. per pr.	1¾ lbs.	1	9.25	.90	6.95	.65	.65

### SOME OF THE USES

No. 10—Specially designed for light Radio Repairs and Home Use. (No. 20 recommended for industrial use.)

No. 20—Finest instruments, smallest fuses, light telephone repairs, radio and all very light soldering.

No. 30—Radio and Home Use, fuses, instruments, inspectors' or linemen's tool kits, etc.

No. 40—Telephone switchboards, electrical instruments, light manufacturing, fuses and radio apparatus. High speed tool.

No. 50—Fast telephone work, art glass, light automobile repairs, light tinware and general home use.

No. 60—Light automobile repairs, light tinware, general utility and home use.



## VULCAN SOLDERING TOOLS



Cat. No.	Watts	Equal to Old Style Copper	Net Wt.	Tip Dia. In.	Price Complete	Extra Tip	Heating Head	Handle	Cord & Plug
25	50	1 lb. per pr.	5/8 lb.	3/4	\$4.00	\$.30	\$2.55	\$.40	\$.65
35	100	1 1/2 lbs. per pr.	1 1/8 lbs.	3/8	6.25	.40	4.70	.65	.65
45	150	2 1/2 lbs. per pr.	1 1/4 lbs.	1/2	7.00	.50	5.35	.65	.65

### SOME OF THE USES

No. 25—Small fuses, light telephone repairs, radio and all very light soldering.

No. 35—Radio and Home Use, fuses, instruments, inspectors' or linemen's tool kits, etc.

No. 45—Telephone switchboards, electrical instruments, light manufacturing, fuses and radio apparatus.

### General Information

All "VULCAN" irons equipped with 6-foot (10,000-cycle) approved heater cord with rubber plug cap, except No. 25, which is equipped with 6 feet of Tirez rubber cord and plug—smaller and more suitable for this size. They will operate equally well on either A.C. or D.C. Stocked in standard voltages. Special voltages \$1.00 extra. (No. 10 Iron supplied only in 110 or 120 volts.) In the screw tip type tool, the bevel and thread of each tip exactly fits the head, resulting in exceptional heat conduction efficiency.

## MERCURY ELECTRIC SOLDERING TOOLS

Mercury Electric Soldering Irons have been especially designed to meet the requirements of those needing a reliable, low-cost soldering iron.

These irons are intended for intermittent duty. They are exceptionally efficient for light and medium work with a minimum of repair and replacement expense.

The handles are cool and comfortably shaped. They are adjustable, permitting the irons to be lengthened or shortened to suit the convenience of the operator and can be easily slipped off the stem for inspection of the cord connections. Each iron is equipped with six-foot cord and rubber plug cap. Made to operate on either A.C. or D.C., 110 to 120 volts.

Cat. No.	Watts	Equal to Old Style Copper	Net Wt.	Tip Dia. In.	Price Complete	Extra Tip	Heating Element
1	50	1 lb. per pr.	8 oz.	1/2	\$1.50	\$.40	\$.70
2	80	2 lbs. per pr.	11 oz.	3/4	2.75	.70	1.60
3	140	3 1/2 lbs. per pr.	18 oz.	1	3.85	.90	2.25

### SOME OF THE USES

No. 1—Specially designed for light Radio Repairs and Home Use.

No. 2—Radio repairs, toys and Home Use.

No. 3—Auto repairs. Wiring, Tinwear, Lamp Shade Frames, School Laboratories, Home Use.

## VULCAN ELECTRIC GLUE POTS

### Water Jacket Type with Thermostat Control



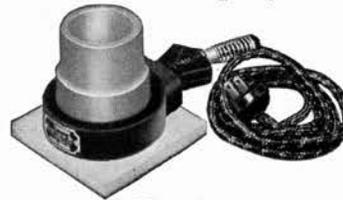
For use on 110-120 or 220-230 volts. Heavy cast iron with attached base. Inside pot or bowl is vitrified porcelain lined. Glue is held to a maximum temperature of 150°F. by thermostat. Takes about 45 minutes to heat from 70° to 145°F. Flat, enclosed, replaceable heating elements. Furnished with 8-foot Underwriters' listed heater cord and plug.

When ordering specify whether for A.C. or D.C.

No.	Each	Cap.	Outside Diam.	Height	Dimen., In. Watts	Ship. Wt. Lb.
1808	\$6.50	1/2 Pt.	5 3/4	5 1/4	150	7
1809	8.25	1 Pt.	6 1/4	6 1/2	200	10
1810	10.50	1 Qt.	7	7 1/4	250	13
1811	16.00	2 Qt.	8 1/2	8 1/2	450	17

## VULCAN ELECTRIC SOLDER POTS

### High Speed and Standard



No. 1600



No. 1606

For tinning parts, leads, and fast dip soldering. Rate of speed of pot soldering depends on correct size of pot, size of parts, and melting point of the solder used.

Replaceable element. Always specify voltage wanted when ordering.

No. 1600 is cast in one piece and attached to a square base of heat resisting material. Flat type element.

No. 1606 is cast in two pieces, well insulated from each other against heat loss. Flat type element.

No. 1701 has cast iron pot securely assembled in an outer casing of heavy

sheet steel. Flat type element.

No. 1703 comprises a replaceable unit and cast iron pot. Nos. 1700, 1702, 1704, 1705, 1706, and 1716 have heavy cast iron pots with outer casing of heavy sheet steel. Cartridge type elements.

Cat. No.	High	Watts		List Price	Dimensions				Capacity Solder Approx.
		Medium	Low		Inside Dia.	Depth	Outside Dia.	Height	
1600	150	(Single Heat)		\$4.75	1 3/8	1 3/8	3 1/4	3 3/8	14 ozs.
1606	350	(Single Heat)		5.25	3 1/8	1 1/2	5	3 1/2	3 lbs.
1700	200	120	80	15.00	2	1 1/2	5	4 1/2	1 1/4 lbs.
1701	250	(Single Heat)		8.50	3	1 1/2	5	4 1/2	4 lbs.
1702	250	150	100	15.00	3	2 1/2	5	4 1/2	5 lbs.
1703	200	(Single Heat)		8.50	1 1/2	1 3/8	4 3/8	4 3/8	14 ozs.
1704	350	200	150	20.00	3 3/4	3	6	5 1/2	10 ozs.
1705	550	275	137	20.00	4 3/4	3	7 1/2	5 1/2	15 ozs.
1706	750	375	187	20.00	5	3 1/2	7 1/2	6 1/2	20 ozs.
1716	2000	(Single Heat)		55.00	8	4	12	6 1/2	45 ozs.

## CLAYTON AND LAMBERT FIRE POTS



No. 22A

Terrific heat and large volume of flame of No. 22A makes it especially efficient in inaccessible corners for melting joints. It has a broad base, sturdy uprights, sets low and is designed to handle a full six-inch metal pot without being top heavy; a powerful pump produces air pressure quickly. Pump bushings and filler plugs are fitted with lead washers, the filler plug cap is dust proof.

List Price

No. 22A—6 1/2" top shield, weight in carton 13 3/4 lbs. Capacity one gallon.....	\$13.30
No. 24A—Large 9 1/4" top shield and large top plate, otherwise same as No. 22A; weight in carton 17 1/4 lbs. Capacity one gallon.....	15.80



No. 44A

This fire pot is identical in all respects with the No. 22A with the exception of the coil unit. The No. 44A coil unit has a flame control device which allows the flame to be varied in size and volume. A pot of metal can be rapidly melted and then, by an adjustment of the flame control valve, be held at the desired temperature until the melted metal is needed; thus gasoline is conserved and the oxidation of the metal and loss through the making of dross is much reduced.

List Price

No. 44A—Weight in carton 13 3/4 lbs. Capacity one gallon.....	\$13.80
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No. 75

No. 75 produces an extra large, powerful Blast Flame which may be closely regulated by the flame control device. Has a large, quick-acting pump. Patented construction enables user to remove burner unit and insert new in forty-five seconds. Substantial construction throughout, no nuts to rattle loose, no disassembling for cleaning purposes. Quickly melts 75 pounds of solder, kettle of paraffin, or insulating compound.

	List Price
No. 75—Weight in carton 22½ lbs. Capacity one gallon	\$23.80
No. 77—Smaller top plate and 8-inch straight top shield, otherwise same as No. 75. Weight in carton 21½ lbs. Capacity one gallon	21.30



### METAL POTS

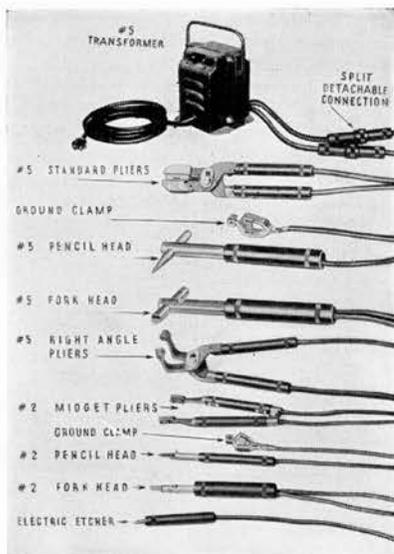
Size, Inch	5	6	7
Weight, Lbs.	2½	3	6½
List Price	\$1.65	\$2.00	\$5.00

### WROUGHT STEEL LADLES



Size, Inch	2½	3	3½	4	5	6
Weight, Lbs.	½	¾	1	1¼	2½	3
List Price	\$1.00	\$1.20	\$1.40	\$1.60	\$2.10	\$2.40

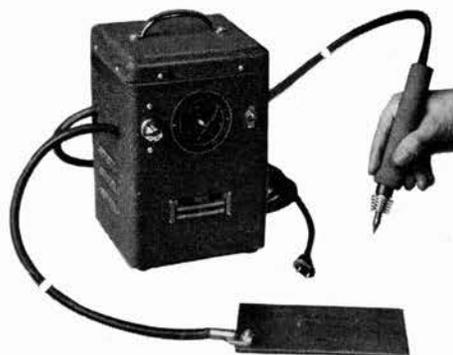
### No. 5 IDEAL DELUXE THERMO-GRIP SOLDERING SETS



A general all-purpose soldering unit. Attachments are interchangeable with transformer. Available complete or with attachments as selected. Includes the following:  
**No. 5 Transformer:** Furnished with quick make-and-break connectors so that any one of the Deluxe Thermo-Grip attachments can be used, and easily interchanged. For 110 volts, 50-60 cycles.....each \$13.00  
**No. 5 Standard Plier Type Head:** Grips work while heating. For applying or removing solder lugs and terminals

up to 400-ampere size, and sweating or unsweating threadless copper pipe and fittings up to 1 inch in diameter.....each \$16.00  
**No. 5 Pencil Type Head:** A single pointed, round carbon rod clamped in suitable holder. Furnished with ground clamp for seam and spot soldering. Especially suitable for soldering lids on cans, wires to terminals, etc.....each \$16.50  
**No. 5 Fork Type Head:** Has two carbons mounted on a single handle. For soldering small lugs, terminals or connections in restricted spaces. Also for sweating and unsweating small pipe joints.....each \$19.50  
**No. 5 Right Angle Plier Type Head:** Made with long tong-like jaws that reach into places where straight tools cannot be used. For soldering in switch boxes and transformer cases, flush against the back of switchboards, or return bends on refrigerator units.....each \$21.00  
**No. 2 Midget Plier Type Head:** For small and lighter soldering work such as small terminals and lugs up to 150-ampere size, or sweating threadless copper tubing and fittings to ⅜-inch in diameter.....each \$13.00  
**No. 2 Pencil Type Head:** Fitted with special ¼-inch diameter carbon electrode, fixed either in line with or at 45° to handle. For spot or seam welding in tight places. Overall length, 8½ inches.....each \$9.50  
**No. 2 Fork Type Head:** This tool is only 8½ inches long. It is especially suited for soldering in close places such as switchboxes, refrigerators, etc. Both carbons are held in single handle.....each \$13.00  
**No. 25 Electric Etcher:** Used like a pencil for the permanent writing or marking of tools, gages, dies and hard metal parts.....each \$12.00  
**No. 5 Set Complete:** Consists of the transformer and all the attachments listed above, supplied with a carrying case.

### No. 12 IDEAL HEAVY DUTY ETCHERS



Permanently marks, labels and engraves identification data on smooth surfaced iron, steel, case hardened steel, etc. Operates on resistance-burning principle.  
 Operates from a 110-volt, 60 cycle A.C. outlet. Other voltages and frequencies are available at a slight additional cost.  
 Weight complete, 35 pounds.  
 No. 12 Complete.....each \$56.25

### KLEIN'S FURNACE

These furnaces are especially made to stand up to the field requirements of Public Utility Companies. Quick starting is ensured by multi-coil burner, which is economical and vaporizes the fuel thoroughly, producing an intensely hot fire. Simple cleaning device to remove carbon deposit without taking burner apart. One gallon capacity tanks formed of heavy gauge steel with bottom rolled in. Furnished with pump in front.

Cat. No.	Wt. Each
3529 Gasoline - Kerosene Furnace, pump in front with windshield No. 3010	20½ lbs.

Shipped with Windshield No. 3010 as shown unless otherwise ordered.





### KLEIN'S TORCHES

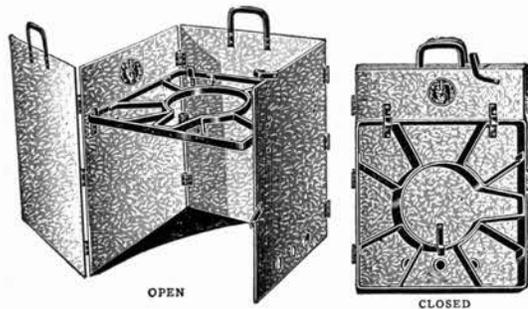
Cat. No.	Size	Wt. Each
3428	One Quart. Pump built in	5½ lbs.

Has double length generating channels for quick starting. Flame is intensely hot, easily regulated from minimum to full blast. Will not back generate. Clean out plugs at all angles. Needle has positive shoulder stop which prevents damage to burner by enlarging orifice.

Pump well made and sturdy. Tank heavy gauge copper. Capacity one quart.



U.S. PAT. NO. 1,676,352



OPEN

CLOSED

Cat. No.	Size	Wt. Each
3428-C	One Quart. Pump built in	5½ lbs.

This torch is similar in construction to No. 3428, but has different head with coil burner. "Carbon Choke" nuisance is done away with. Fuel vaporizes rapidly so it burns as a dry gas with intensely hot flame.



In use, this grate is brought up to a horizontal position, where it is held firmly in two clips riveted to the leaf of the shield opposite the one from which it is permanently suspended.

### CLAYTON AND LAMBERT TORCHES

#### KLEIN'S TORCH HEAD (COIL)

Cat. No.	Size	Wt. Each
808-C	Complete	1½ lbs.

This assembly comes complete, ready to install on conventional torch and convert it into a "coil burner" with all the advantages of this construction.



No. 325

No. 325 is a Universal Torch for extra heavy work under the most severe weather conditions. The powerful burner produces a strong blue blast of remarkable volume and heat intensity which may be regulated for ordinary work. Greatly improved internal vein construction insures long burning life, and smooth operation. A large pump produces ample pressure quickly. The torch will burn in any position as it has a curved internal fuel supply pipe.

#### SHIELD FOR KLEIN FURNACE

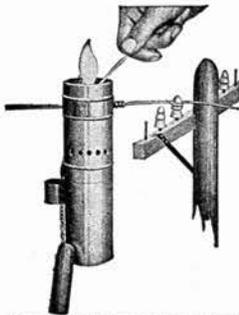
(One of these shipped with each furnace unless ordered otherwise)



Made of heavy gauge sheet steel. The top edge is rolled and the bottom is reinforced with a heavy ring. All joints welded. Diameter at top 9 inches.

Cat. No.	Wt. Each
3010	For Furnace No. 3529.....3 lbs.

#### "STAYSALITE" LINEMEN'S TORCH



Showing Torch suspended on the line

The "Staysalite" Torch has these main features: It "Staysalite" in a wind. It is light; it is small. It is lit and extinguished in a moment, as wanted. It burns alcohol without odor or noise. It has no adjusting parts, therefore it cannot get out of order. It is carried in the line-man's belt and does away with the ground man. It is hung directly on the wire under the joint to be soldered. It can be used as a small heater or soldering iron. It is provided with a cup for holding a soldering paste.

Cat. No.	Wt. Each
3420	1¼ lbs.



No. 99

Designed for sweating fittings on residential sizes of copper tubing. Pint size for close quarters. Blue flame from 1¼ inches long to 5 inches long. 5/8-inch diameter mouth. Burns in any position.

Cat. No.	Wt. in carton	Capacity	List Price
No. 99	4¼ lbs.	one pint	\$7.40



No. 99

#### No. 144A

A remarkable value in a medium-priced torch. It produces an excellent flame only slightly smaller than that of No. 32A. With the exception of the burner, it is similar to our No. 32A.

Cat. No.	Wt. in carton	Capacity	List Price
No. 144A	4¾ lbs.	one quart	\$7.10

#### KLEIN'S FOLDING WINDSHIELD

Cat. No.	Wt. Each
3020	Folding Windshields for use with furnaces. 24 in. high x 18 in. square, with welded grate.....42 lbs.

This shield is a folding design made of heavy galvanized sheet steel in four leaves, each 24" high by 18" wide, hinged together, the hinges being securely riveted. The grate is made of 3/8" x 3/4" steel, welded, and swings on one leaf of the shield.



No. 252

### No. 252

Compact—2 inches thick; 5 inches long; 9½ inches high. Convenient to carry in tool kit and to use in corners and close places. Flame, 5½ inches long when opened wide.

List  
Price

No. 252—Weight in carton  
4½ lbs. Capacity  
one pint .....\$8.80



No. 32A

### No. 32A

This is a general Purpose Torch for the use of mechanics who like good tools. The hot blue flame is 7 inches long when wide open, and C. & L. special construction permits the flame to be reduced to a small flame and still burn blue.

The burner is two-piece construction, and the generating veins are lined with steel to prevent carbon formation. Wire cable in the main vein prevents flame pulsation. The burner is protected with a full-skirted windshield which assists in the generation of the burner, and improves performance in cold or windy weather.

List  
Price

No. 32A—Weight in carton 5 lbs. Capacity one quart..\$9.10



No. 600A

### No. 600A

Gives efficient, economical service. The tank is brightly finished, polished brass with concave bottom for easy filling and forged brass filler plug. The burner has a tapered burner tube closed at the back, producing a hot, well-controlled flame 6½ inches long when wide open. The control valve wheel is of Bakelite, cool to the hand. The pump is quick-acting, having T Handle and lock-down feature.

List  
Price

No. 600A—Weight in carton 4¾ lbs. Capacity one  
quart .....\$5.10



No. 158A

### No. 158A

The finely finished Chrome Plated brass tank makes this torch outstanding in appearance. Burners of this type have rendered satisfactory service on over a million C&L torches. The flame is 6½ inches long when wide open. The burner is protected by a windshield for use outdoors. The pump T handle locks down, preventing plunger rising after pumping pressure. Filler Plug is of forged brass.

List  
Price

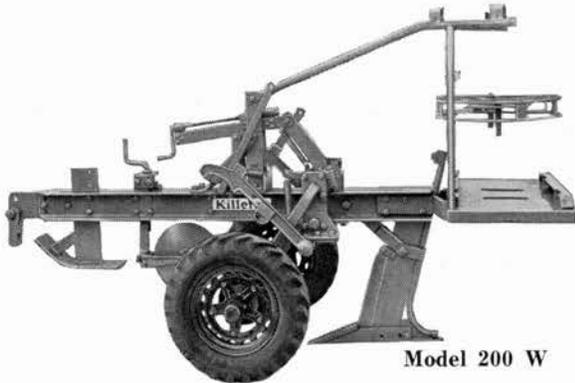
No. 158A—Weight in carton  
4¾ lbs. Capacity  
one quart .....\$6.10

# UNDERGROUND TOOLS AND SPECIALTIES

## KILLEFER WIRELAYER

The Killefer Wirelayer is designed for burying specially insulated conductors underground. Several dependable wire manufacturers have made excellent progress in developing this type of wire.

Without preliminary preparation, the Killefer Wirelayer buries wire underground in one operation without ditching or backfilling. It can be pulled with a truck, tractor, or winch and cable. One or two reels of underground wire, 2500 feet long, can be mounted on the platform. The wire



Model 200 W

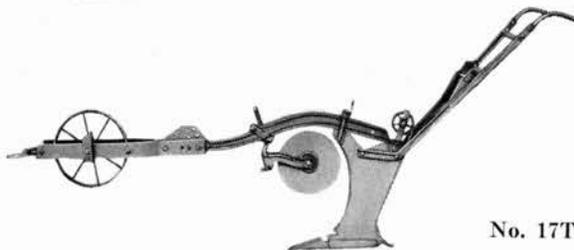
is then threaded through the pulley at the top of the machine into the steel conduit at the rear of the digging standard and attached to a stationary object. A pull of the rope releases the latch and lowers the machine to the working position. As the Wirelayer is pulled forward, it penetrates the soil to the desired depth and automatically unreels and buries the wire at the bottom of the narrow slot made by the digging standard. After the required length of wire is buried, a pull of the rope engages the lifting rack and lifts the digging standard out of the ground and locks the machine in the transport position. Reels are centered on the platform and do not revolve. They are centered and locked by a swinging reel guide. Mounting and removing the reels is a simple, easy operation.

Killefer Wirelayers are equipped with a rolling couler to cut the sod in front of the digging standard. It cuts a narrow groove slightly wider than 1 inch in the soil. This slot can be easily closed by running the truck tire over it.

On short runs where uneven ground will not permit the use of the truck for power, a winch and cable can be used. For this work, the Wirelayer is equipped with a sled-type runner to hold the machine in a level position.

All wearing parts of the Killefer Wirelayer are removable and replaceable. Other features are: a structural steel frame, Timken equipped wheels with heavy-duty rubber tires, a positive working mechanical lifting device, a rolling couler—adjustable for depth, a sled-type gauge shoe, a reversible shin blade, and a removable point and wire guide on the digging standard.

## GRAYBAR WIRE LAYING PLOW



No. 17T

Used for placing U distribution wire and shield wire from the road or main run to the subscriber's premises. Designed to be pulled through the ground with a light

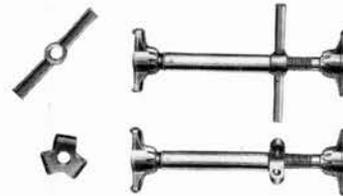
construction truck direct or with the winch rope from such a truck. A 5000-lb. shear pin towing connection protects plow when an obstruction is met. This shear pin is a 1/4x2-inch steel rivet.

Plow is of all steel construction; replaceable plow point and landside are of special iron. Two loading weights are furnished. These weights mount, without bolts, on cross-bar near handle.

Shipped in five bundles. Can be assembled by connecting parts and placing six bolts. Weight: complete plow, less loading weights, 170 lbs.; loading weight, 75 lbs.

## DUFF-NORTON EXTENSIBLE

### STEEL TRENCH BRACES



These braces are regularly furnished with two-way lever nut, but can be furnished with three-way nut for pinch bar use, when desired. The two-way lever nut provides great strength and safeguards against

bending or breaking. The three-way nut will be found advantageous when working in close quarters. The ball and socket joint at each end permits easy adjustment to any angle. Lugs on the face of each shoe sink deeply into the sheeting and hold firmly regardless of sliding or unevenness of trench. They are easily adapted to any width trench by using longer or shorter lengths of standard black pipe.

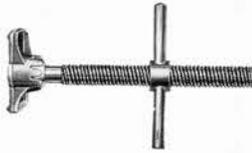
Brace No.	Pipe and Screw Diam. Inches	Length of Brace Closed Inches	Length of Screw Inches	Safe Exten. of Screw Inches	Weight per Dozen Pounds	Code Word	List Price per Dozen
1001	1½	16	10	6	180	Abaft	\$46.00
1002	1½	18	12	7	200	Aband	46.00
1003	1½	21	14	8	212	Abase	48.00
1004	1½	24	14	8	221	Abba	48.00
1005	1½	27	16	9	240	Abdal	52.00
1006	1½	30	16	9	247	Abear	52.00
1007	1½	36	18	10	273	Abet	54.00
1008	1½	42	18	10	300	Abib	56.00
1009	1½	48	18	10	325	Acme	58.00
1011	2	36	18	10	538	Ader	102.00
1012	2	42	18	10	564	Acorn	104.00
1013	2	48	18	10	580	Ague	106.00
1014	2	54	18	10	608	Afar	108.00
1015	2	60	18	10	630	Alert	110.00

## DUFF-NORTON EXTENSIBLE STEEL TRENCH BRACES AND FITTINGS



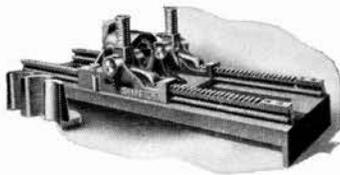
Brace Fitting No.	Diam. of Screw Inches	Length of Screw Inches	Safe Ext. of Screw Inches	Weight per Doz. Pounds	Code Word Complete	List Price Complete per Doz.	List Price Socket Butts Only per Doz.
C-14	1½	10	6	168	Bare	\$40.00	\$10.00
C-15	1½	12	7	174	Bait	40.00	10.00
C-16	1½	14	8	180	Bail	42.00	10.00
C-17	1½	16	9	186	Bar	44.00	10.00
C-18	1½	18	10	192	Baste	46.00	10.00
C-19	2	18	10	438	Beak	90.00	24.00

## BRACE FITTINGS



Screw End No.	Diam. of Screw Inches	Length of Screw Inches	Safe Exten. of Screw Inches	Wt. Pounds per Dozen	Code Word Screw Ends Only	List Price Screw Ends Only per Doz.
C-32	1½	10	6	110	Sare	\$30.00
C-33	1½	12	7	117	Sabre	30.00
C-34	1½	14	8	126	Slab	32.00
C-35	1½	16	9	133	Sled	34.00
C-36	1½	18	10	142	Sad	36.00
C-37	2	18	10	322	Spear	66.00

## SIMPLEX PIPE PUSHING AND PULLING JACKS



Nos. R-332R and R-334R have reversible carriages which eliminate the necessity of reversing the complete pipe pusher to pull pipe.

Double levers and double track insure accurate, powerful and

economical pushing of pipe under paved streets, alleys, tracks, lawns, sidewalks, etc. Pipe can be pulled for lead pipe and duct installations, etc., or "backed out" by reversing the carriage. The tapered steel jaws completely surround the pipe, preventing crushing or flattening.

Regardless of the length of pipe pushed, the Simplex is never more than 30" from the working face — handles standard or short lengths of pipe without buckling or binding.

No. R-332R will push pipe ¾" to 2" in diameter. No. R-334R will push pipe 2" to 4" in diameter. Specify the size, or sizes, of pipe to be pushed. An adapter, furnished at \$15.00 additional list price, enables the No. R-334R to push ¾" to 2" pipe.

Jack No.	Capacity Tons	Travel Inches	Weight Complete Pounds	Weight Jack only, lbs.	Code	List Price Complete	List Price Extra Jaws Per Set
R-332R	15	30	220	155	Rccb	\$125.00	\$12.00
R-334R	25	28	310	209	Rccdy	160.00	15.00

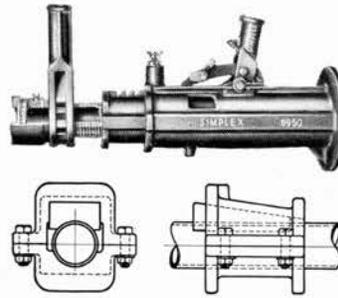
Equipment—One set tapered jaws, one pilot, two 4' steel lever bars and two steel pipes for extending lever bars. Specify size of jaws and pilot required.

For average soil conditions we recommend the following: 1" pipe for 25'—2" for 50'—3" for 75'—4" for 100'. Not practical in dry sand.

### EXTRA PILOTS

¾", 1" or 1¼"—List Price	\$0.75
1½"—List Price	1.00
2"—List Price	1.25
2½"—List Price	1.75
3"—List Price	2.50
3½"—List Price	2.75
4"—List Price	3.00

## SIMPLEX PIPE PULLER



No. 5950 Service Pipe Pullers provide six important advantages resulting in savings on every service pipe replacement job:

1. Tremendous "break away" power (20 ton) by means of the 2 7/8" screw and handy ratchet that loosens the pipe in any soil.
2. Simplex lever action by means of pawl and rack provides quick

"backing out" of pipe after "break away".

3. Easy to set up and easy to operate.
4. Costly digging and trenching is minimized.
5. Reduces street resurfacing expense—minimizes damage to parkways and lawns and makes detours unnecessary.
6. Prevents labor accidents.

The Wedge Pipe Clamp and Wedge are readily applied or removed. Operates on pipe up to 1½" including coupling. Cut costs, improve public relations and reduce work hazards by using a Simplex No. 5950 instead of digging. Every utility service truck should carry this tool.

No.	Capacity —Tons	Screw Travel Inches	Lever Travel Inches	Weight lbs.	List Price Complete*
5950	20	12	11¼	75	\$72.00

\*Includes Wedge Clamp and one Wedge as specified—¾", 1", 1¼" or 1½". Be sure to specify size of Wedge.

Extra Wedges ..... \$5.00 each

If complete equipment is not desired deduct \$12.00 for the Wedge Clamp and Wedge.

## GREENLEE No. 790 HYDRAULIC PIPE PUSHER



The No. 790 has six different operating speeds available for varying soil conditions, and pressures ranging from 6,500 to 40,000 pounds against the pipe clamp can be developed by one operator.

It has the power for handling sizes 1¼ to 4-inch inclusive, and a separate clamp is required for each size of pipe. The clamps are of the hinged pattern, assembled to prevent loss of parts, and the grooved bore, which is off center to provide greater leverage, will hold against any pressure which can be developed by the power unit. A clamp can be reset in about a minute, as only one hexagon nut must be loosened.

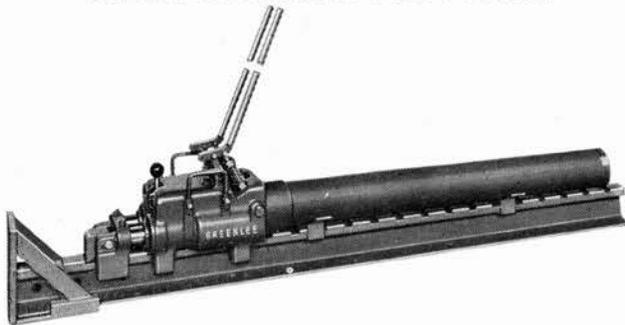
The No. 790 is an easy machine to handle. Weighing 140 lbs., exclusive of the base, it can be set in position very easily. A cross-section view of the trenching and blocking necessary for successful operation is shown above. By reversing the power unit on the base and by blocking the opposite end, the machine can be converted into a puller. (See following page for prices.)



**GREENLEE No. 790 HYDRAULIC PIPE PUSHER**  
List Price and Weight Each  
Weight in Pounds

	Price	Weight
No. 790 Power Unit only.....	\$185.00	160
5½ ft. Base and equipment.....	30.00	145
6½ ft. Base and equipment.....	35.00	165
7½ ft. Base and equipment.....	40.00	185
8½ ft. Base and equipment.....	45.00	205
1¼-inch Quick-Acting Clamp.....	10.00	10
1½-inch Quick-Acting Clamp.....	10.75	10
2-inch Quick-Acting Clamp.....	11.50	10
2½-inch Quick-Acting Clamp.....	12.75	11
3-inch Quick-Acting Clamp.....	15.00	16
3½-inch Quick-Acting Clamp.....	17.50	16
4-inch Quick-Acting Clamp.....	22.50	18

**No. 795 HYDRAULIC PIPE PUSHER**



The power unit of No. 795 develops pressures against the pipe of 25,000 to 150,000 lbs. at six different operating speeds.

Due to the style of the power unit required, pipe must be pushed from the end, eliminating the use of clamps. Pipe in sizes up to 8-inch can be pushed. When forcing large drain ducts underground, one or two machines are used, depending on the size of work. The power unit is mounted on 90 lb. steel rail base, and this can be purchased in lengths to suit the pipe or duct to be handled.

List Price and Weight Each  
Weight in Pounds

	Price	Weight
No. 795 .....	\$325.00	280
Base .....	10.00 per ft.	90 per ft.

**DUFF-NORTON PIPE PULLING AND PUSHING JACK**



No. 725

Duff-Norton Pipe Pulling and Pushing Jacks provide a quick, easy method of pushing pipe under highways, streets, lawns and sidewalks, without digging ditches.

The No. 725 jack was designed for pulling or pushing without changing the position of the jack, which is braced in the pit after having been lined up in the direction which pipe or rod is to be pulled or pushed. The mechanism is of the geared type and represents the strongest construction and most powerful tool of this type on the market.

Jack No.	Length Feet	Travel Inches	Weight Pounds	Code Word	List Price
725	6	36	395	Parep	\$200.00

**Nos. 770 AND 775 HYDRAULIC CONDUIT AND PIPE BENDERS**



Greenlee Hydraulic Benders save the cost of many manufactured fittings and make it easier to pull in wire and cable. They are easily portable and can be taken directly to the job.

The No. 770 with regular equipment will bend 1¼, 1½, 2, 2½ and 3-inch conduit or pipe. It weighs 118 lbs. without shoes, and the shoes weigh 48 lbs. No. 775 with regular equipment will bend 3, 3½, 4 and 4½-inch conduit or pipe. It weighs 214 lbs. without shoes, and the shoes weigh 106 lbs. Maximum piston pressure of No. 770 is 50,000 lbs. and of No. 775, 80,000 lbs., both of which can be developed by one operator. In addition to the regular equipment, each machine is supplied with necessary open-end and spanner wrenches for making adjustments. Complete operating and servicing instructions are furnished.

List Price and Weight Each  
Weight in Pounds

	Price	Weight
No. 770 for 1¼ to 3-inch.....	\$170.00	190
No. 775 for 3 to 4½-inch.....	235.00	365

**No. 770-T HYDRAULIC THIN-WALL CONDUIT BENDER**



When the No. 770 power unit is furnished with attachments for bending thin-wall electric metallic tubing, it is designated by No. 770-T. This machine can bend conduit of this type quickly and without crushing. The design is such that a 90-degree bend can be made by one complete forward movement of the ram. Regular attachments will handle sizes 1¼, 1½ and 2-inch.

Attachments can also be furnished for bending ¾, 1, 1¼, 1½ and 2-inch I.P.S. tubing of various materials and also for 1⅛, 1⅜, 1½ and 2⅛-inch OD. Copper Tubes.

List Price and Weight Each  
Weight in Pounds

	Price	Weight
No. 770-T .....	\$230.00	266
Attachments only .....	120.00	190

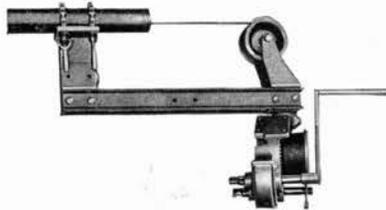
## COPE CABLE BENDERS



Cope Cable Benders have been designed to overcome the difficulties of forming and bending large size cables in underground construction. They may be used for straightening as well as bending the cable. Made in two types and sizes to accommodate both light and heavy types of cables. Prices: Type A, \$10.00; Type C, \$15.00.

Left—Type A  
Right—Type C

## No. 765 CABLE PULLER



The Greenlee No. 765 Cable Puller has been designed to provide maximum power, ease of operation, portability and convenient, positive anchorage. The machine will exert a maximum pull of 7500 lbs., and it has two speeds, through a direct gear and through a back gear. Shear pin is provided in the back gear shaft to eliminate damage under an excessive pull, and a dog on the back gear

prevents unwinding of the cable in the event of pin shearing. The 15/16-inch square drive shafts extend from both sides of the machine, for either one or two operators. Two cranks are supplied for hand operation or, if preferred, ratchet wrenches can be used. The machine can also be driven by a portable electric power unit.

The complete machine has a net weight of 170 lbs., making it readily portable, either by auto or truck. For further convenience in transporting or making set-ups, the tension drum weighing 85 lbs., can be disconnected from the roller bracket extension.



### List Price and Weight Each Weight in Pounds

	Price	Weight
No. 765 Cable Puller with two cranks, but without cable.....	\$160.00	225

## FLEXIBLE MANDREL



The Flexible Mandrel is constructed for testing conduits having bends through which a rigid mandrel would not pass. It will withstand a pull of over 5,000 lbs. Price, \$25.00

## COPE TEST MANDREL



The Test Mandrel is 12" long. It is made to the exact size for testing conduits after laying and has tool steel cutting ends to remove concrete or other light obstructions.

### Prices

Round	Square
3".....\$4.00	3".....\$5.00
3½".....5.00	3½".....6.00
4".....6.00	4".....7.00

## COPE LAYING MANDREL



36" long with a body of well seasoned maple. The rear end is equipped with a leather wiping washer and the forward end with a countersunk steel hoop and tool steel cutting edge. Diameters to fit any size conduit.

### Prices

3" x 36".....	\$4.50
3½" x 36".....	5.00
4" x 36".....	6.00

## COPE JAR HAMMERS



One of the most important of all conduit cleaning tools. It is used in connection with all types of cutters for removal of stubborn obstructions such as heavy silt, cement, etc. Made of 2" diameter steel tubing with heavy piston and hammer working inside the cylinder.

### Prices

8" stroke.....	\$15.00
12" stroke.....	17.00
18" stroke.....	20.00

## COPE PICKUP



Used to recover rods or tools lost in the conduit. Also on long pulls where it is desirable to work from both ends. Has two steel shutters with beveled notches and spring action, so that it will recover and catch firmly no matter what position it may be in within the conduit. Price, \$15.00.

## COPE ROD GRAPPLE

Extremely useful where long lines of conduit are to be rodded. Will permit rodding from both ends of conduit and provide a sure connection where they meet. The several hooks will always engage the opposite ends. Price, \$7.50.



## RODDING PICK-UP TOOL



Cuts rodding time in half. Used on long runs. Rod in from each end and pick-up. Pick-up tool made for either Flat Steel Tape or any size Wooden Duct Rod. Pick-up made to fit any size of duct, either round or square. Total weight of tool, 2¼ lbs.; Head, ¾ lbs.; Pick-up, 1½ lbs. Price, \$20.00 each.



## B & L CABLE FEEDER



The Cable Feeder is designed to protect and guide underground cables into ducts, particularly in congested manholes. The Standard Cable Feeder consists of a 7-foot and a 3-foot length of 4-inch galvanized flexible metal hose which may be joined together, to make up an uninterrupted length — also two nozzles: One No. 2 for 3-inch ducts and one No. 3 for 3½-inch ducts (shipping weight approximately 100 pounds). Extra lengths of hose may be obtained for increasing the length of Feeder for use in large or deep manholes.

Parts	Price Each	Shipping Wt. Lbs.
One 7-foot length of 4-inch metal hose (only)	\$63.20	32
One 3-foot length of 4-inch metal hose (only)	37.75	16
One No. 2 Nozzle for 3-inch Ducts	18.20	7
One No. 3 Nozzle for 3½-inch Ducts	18.20	7
Crate		31
<b>Total</b>		<b>93 lbs.</b>

Special Feeders made up for any requirements. When ordering, specify size Duct.

### Price of STANDARD CABLE FEEDER Complete \$137.35

EXTRA NOZZLES can be furnished for various size Ducts as follows:

Size	Size Duct Inches	Weight Each Lbs.	Price Each
No. 1	2	8 1/8	\$25.00
No. 1-A	2 1/2	7 1/2	26.20
No. 2	3	7	18.20
No. 3	3 1/2	7	18.20
No. 4	4	7	20.45
No. 5	4 1/2-5	6 3/4	31.80
No. 6	On application		

## COPE PULL-IN-GUIDE OR CABLE FEEDER



The Pull-In-Guide is used to lead the cable from the street reel into the mouth of the conduit without injury. Its funnel mouth facilitates the application of the cable pulling compound.

It is constructed with heavy cast brass bell, completely finished, securely fixed to a length of heavy flexible steel tubing. The conduit end has a steel sleeve which will accommodate various size brass nozzles to fit the several sizes of conduit.

Guides		Nozzles	
9' long	\$45.00	3" conduit	\$ 7.50
12' long	48.00	3 1/2" conduit	8.50
16' long	52.00	4" conduit	10.00
20' long	56.00		

## CABLE DRAWING-IN PROTECTORS

To be used in mouth of conduit to protect lead sheath of cable from injury while being drawn into conduit.



	Prices
2" Round	\$3.50
2 1/2" Round	3.75
3" Round	4.00
3 1/2" Round	4.25
4" Round	4.50
4 1/2" Round	5.00
3" Square	4.50
4" Square	5.00

## B & L PULLING IN FRAME



Constructed to help install cable in underground ducts. The sheave support consists of two 13-foot sections of 6-inch channels, fastened together at each end by two sections of 4-inch steel channels. Each 13-foot section is provided with 24 holes on 6-inch centers in order to allow the two sheaves to be adjusted to the proper position on the sheave support for any cable installation. Two aluminum sheaves are used with each sheave support; one large sheave and one small sheave which have diameters of 20 inches and 5 3/4 inches respectively. The diameter and groove of the large sheave are of sufficient size to allow a cable to be pulled over it, without harming the cable sheath. An important feature is that each sheave is provided with Graphite Bronze self-lubricated Bushing which makes the use of a lubricant unnecessary.

	Price Complete	Weight
PRICE COMPLETE	\$120.00	260 lbs.
PARTS: FRAME only	37.10 each	216 lbs.
20-inch Diameter Aluminum Sheave	60.00 each	28 lbs.
5 3/4-inch Diameter Aluminum Sheave	18.10 each	7 1/2 lbs.
Pins (two pins to each frame)	2.70 each	4 1/2 lbs. each

## COPE CABLE PULLING RIGGING



### Type B

The cable pulling rigging is to provide a direct pull through the conduit. When in the manhole, the lower sheave is located opposite the conduit with the upper sheave above the street line to lead to the winch.

Type B is constructed of 6", 8.2 lb. channel, welded. The two sheaves with 10" minimum diameter have large, well finished grooves to prevent injury to the cable. Each sheave is mounted on a 1" steel shaft.

	Prices		
	9'	10'	12'
Type B	\$32	\$34	\$40

### CABLE SHEAVE AND SHACKLE



The sheave is made of special aluminum alloy for light weight, 20 inches in diameter, with a groove large enough to take a 2 5/8" cable. The hook is drop-forged. Approximate weight, 51 pounds.

**Price Complete \$80.00**

	Weight lbs.
FRAME complete less Sheave...\$20.00	29
20-inch diameter Aluminum Sheave .....	60.00 28

### COPE SAFETY COMPOUND KETTLE



The Safety Compound Kettle is constructed of heavy steel, welded throughout, with an extra heavy bottom which is inset 1" from the base. The tight fitting lid prevents loss of compound. The use of this kettle will show

minimum savings of 40% in fuel and time.  
 Price.....3-gallon capacity, diameter 10", height 12".....\$8.00.



### SIMPLEX MANHOLE SHEAVE

Used on the end of a truck or over the top of a manhole in connection with snatch block in manhole, eliminating use of manhole skids. Handles cable up to 3" diameter, or any size winch line.

Large Sheave		Small Sheave		*Weight Pounds	Code	List Price
Diameter Inches	Width Inches	Diameter Inches	Width Inches			
7 3/4	3	4 3/4	3	96	Mansh	\$40.00

\*Add 15% for boxed weight for export.

Furnished with a 1/4" chain, 24" long, with special hook, as shown, for anchoring when winch line is released suddenly.

### COPE MANHOLE GUARD RAILS

#### No. 110

Guard Rail No. 110 is of somewhat lighter construction than No. 264 while still holding to the same material. It is equipped with flag holder and steel hook for holding it rigid while open. Dimensions: 32"x32"x42" high, open; 32"x3"x42" folded. Weight, 40 lbs. Price, \$12.50.



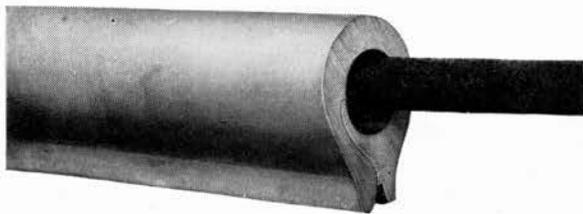
#### No. 264

The bow-shaped wing brace holds the No. 264 Guard Rail absolutely rigid against collapse when in place, leaving the open side entirely free for work. The chains allow the rail to be padlocked to any pole. Dimensions: 32"x32"x42" high, open; 32"x2"x42" folded. Weight, 49 lbs. Price, \$15.50.



# SAFETY EQUIPMENT

## SALISBURY STANDARD LINE HOSE



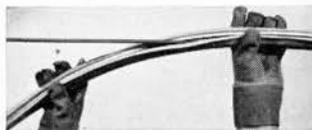
### Net Weights

SIZES	LENGTHS		
	3'	4½'	6'
¼" I.D.	1½ lbs.	2 lbs.	3 lbs.
⅜" I.D.	2 "	3 "	4 "
⅝" I.D.	2½ "	4 "	5 "
1" I.D.	3½ "	4½ "	7 "
1¼" I.D.	4½ "	6½ "	9 "
1½" I.D.	6 "	9 "	12 "

Instruction sheets showing the correct method of attaching and detaching Line Hose are sent with each shipment.

Salisbury's Line Hose has proven to be the best adapted and most convenient device for protecting linemen from accidental contact with energized lines. The self-locking lip prevents the hose from being accidentally detached. Short bends can be made without exposing the conductor it covers. The Line Hose will readily follow the bends of taps, jumpers or leads.

Line Hose is as simple to place as if it were split rubber tubing. It slides on the wire either from above or below. It can be removed easily. Being of relatively small diameter, light and compact, it is conveniently transported, raised and handled aloft.



For Power and Light Companies, the ⅝" diameter will serve satisfactorily for lines up to 1/0 weatherproof; for wires and cables up to 4/0 weatherproof, the 1" hose should be used. The 1¼" and 1½" sizes are available for the larger cables or lines that have bulky joints at the connections.

The ¼" and ⅜" diameter hose is used by telephone and telegraph companies where lines run parallel to high tension power lines and are in danger of becoming energized to a high voltage by induction.

## LINE HOSE CONNECTOR

For use where two or more pieces of straight Line Hose are employed on one wire. Prevents the pieces from slipping apart and eliminates the possibility of the conductor being exposed between adjoining ends. A series of ribs placed on the inside surface gives the Connector a tight hold. Length, 12". Made in two sizes to fit over either ⅝" or 1" line hose. In ordering please specify hose size.

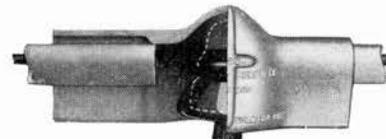


## CONNECTOR END LINE HOSE



Standard Line Hose with the additional feature of an integral built-on "Connector End" which overlaps and securely holds an adjoining piece of line hose. Also useful to cover various types of enlarged wire connections, bulky tap joints, and similar conditions otherwise requiring special protection.

## RUBBER INSULATOR HOODS



Salisbury's Insulator Hoods are used in conjunction with Line Hose to cover tie-wires and conductors as they pass the insulators. They completely cover this point of hazard in a close fitting and positive manner as shown above.

The Hoods require no accessory attachments to hold them in place. They securely lock themselves to the under side of the insulators and cannot open, turn, slide or become accidentally dislodged.

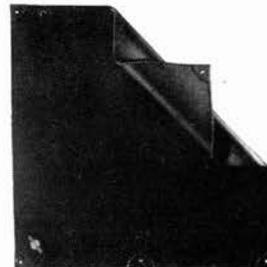
Insulator Hoods may be used on double-arm as well as single-arm construction. They are so built that one extending arm has a larger dimension than the other which permits the large arm to overlap the small arm of the adjoining Hood. When applied to opposite insulators on double arms, a telescopic joint is formed which provides for the varying distance between pins. Solid rubber flanges extending inwardly from the under sides of the body portion serve to grip the under side of the insulators.

For Telephone Use—Telephone and Telegraph companies use a special Hood that is shaped to fit telephone style insulators. As it is used on single-arm poles only both extending arms of the Hood are of the same diameter and will snugly grip the ¼" size Line Hose. In ordering, specify "Telephone Type".

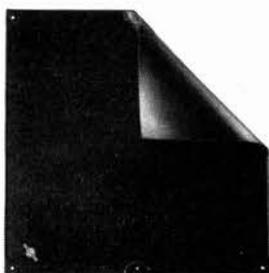
## SALISBURY LINEMEN'S BLANKETS

### ALL RUBBER

Highest quality rubber carefully compounded for maximum life. Light in weight, extremely flexible, and yet tough enough for the hardest kind of usage. Actual dielectric strength far exceeds rated capacity. Edges are beaded, eyelets are reinforced. Two sizes, with or without eyelets. Guaranteed on acceptance to test 20,000 volts for three minutes.



No. 300	36"x36"x⅛"	Plain	Weight 6½ lbs.
No. 300-E	36"x36"x⅛"	Eyelets	Weight 6¾ lbs.
No. 400	27"x36"x⅛"	Plain	Weight 5 lbs.
No. 400-E	27"x36"x⅛"	Eyelets	Weight 5¼ lbs.



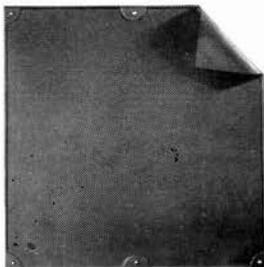
### DUCK INSERTED

A strong but light fabric is inserted all the way through the center to add strength and to prevent the rubber from stretching thin at any point when the blanket is pulled around energized equipment. Has ample flexibility. The original construction and still popular. Guaranteed on acceptance to resist 20,000 volts for three minutes.

No. 100	36"x36"x 1/8"	Plain	Weight 8 1/2 lbs.
No. 100-E	36"x36"x 1/8"	Eyelets	Weight 8 3/4 lbs.
No. 200	27"x36"x 1/8"	Plain	Weight 6 lbs.
No. 200-E	27"x36"x 1/8"	Eyelets	Weight 6 1/4 lbs.

### PURE GUM CENTER

For classes of work requiring maximum electrical resistance and flexibility. The center is pure gum rubber which gives highest dielectric strength for its thickness. Outer surfaces or plies, are rubber that is compounded to resist the deteriorating action of light, heat and air. Guaranteed on acceptance tests to resist 30,000 volts for three minutes.



No. 500	36"x36"x 1/8"	Plain	Weight 6 1/2 lbs.
No. 500-E	36"x36"x 1/8"	Eyelets	Weight 7 lbs.
No. 600	27"x36"x 1/8"	Plain	Weight 5 lbs.
No. 600-E	27"x36"x 1/8"	Eyelets	Weight 5 1/4 lbs.



This illustrates special Salisbury method of reinforcing eyelet holes with solid rubber. The molds form this reinforcement and it is vulcanized as an integral part of the blanket. The reinforcement is placed on each corner and in the center of two parallel sides of the "Eyelet" styles.

"Plain" Blankets are popular with many companies who use clamp pins to fasten them in place. They are less expensive than the "Eyelet" styles.

### SALISBURY SNAP-ON-JACKETS

Snap-on-Jackets are found most suitable for covering certain types of dead ends, single pot-heads, arrestors, cut-outs, and the like, which do not require the use of a full size blanket. Being but 22"x22" they can be adjusted over small apparatus without the inconvenience of handling a blanket larger than needed for the service.



Reinforced-edge eyelets are spaced 3" apart on all four sides. Twelve hard rubber buttons are furnished with each Jacket. Guaranteed on acceptance test to resist 20,000 volts for three minutes. Weight, 2 3/4 lbs. Dimensions, 22"x22"x 1/8" thick.

Line men have no difficulty in applying and snapping the buttons through the opposite eyelets even with gloves and protectors on their hands. The button heads snap through by thumb pressure on the under side. Once in place, the buttons hold firmly but nevertheless are interchangeable. They can be moved quickly and easily from eyelet to eyelet as required. The blanket is opened simply by jerking the edges apart. Because of the larger heads on the lower ends of the buttons, they remain in the eyelets where they were originally placed.



### LINE HOSE BAG

This bag provides a safe and convenient method to raise Salisbury's Line Hose up the pole. It will hold several pieces in an available position while protective equipment is being placed. Capacity, 8 pieces of 3 ft., or 4 1/2 ft. lengths of 1" diameter hose.

It can also be used to raise protective rubber blankets that are rolled and held closed with tape fastenings before being placed in the bag.

Line Hose Bags are 48" long and 7" in diameter. Made of No. 6, 18-ounce duck. The bottom is made of hardened and waterproofed leather, reinforced with a 3" harness leather cuff trimmed with raw hide. The top is held in form with a 3/8" non-metallic ring. A heavy rope handle is spliced through leather reinforcements. It is very substantially made and renders long service. Weight, 2 1/4 lbs.

### SALISBURY LINEMEN'S RUBBER GLOVES

Salisbury Rubber Gloves are made with a view toward high insulation, low leakage, strength, flexibility and long life. To satisfy all demands, Salisbury's Gloves are furnished in either the standard straight finger or the new curved finger styles. The curved finger style offers linemen the advantage of greater comfort and convenience. There is no surplus rubber to "bunch" in the palm and this permits a better grasp on tools. The curved shape of the fingers is less conducive to hand fatigue. All gloves are steam cured, seamless and form fitting, with finger lengths and widths adjusted to best meet average conditions.



All Salisbury Rubber Gloves are guaranteed to pass the most thorough inspection and to meet the A.S.T.M. and Government Specifications. Replacement will be made, or returns accepted of all gloves which fail under initial tests at their rated voltage.

### STRAIGHT FINGER STYLE

Sizes: 9, 9 1/2, 10, 10 1/2, 11, 12. Lengths, 14" and 19". Packed one pair to a box. Shipping weight, 1 1/2 lbs. per pair.

- No. 90-B, 10,000 Volt, Class B
- No. 90-A, 10,000 Volt, Class A
- No. 90-15, 15,000 Volt
- No. 90-20, 20,000 Volt



### CURVED FINGER STYLE

Sizes: 9, 9 1/2, 10, 10 1/2, 11, 12. Lengths, 14" and 19". Packed one pair to a box. Shipping weight, 1 1/2 lbs. per pair.

- No. 100-B, 10,000 Volt, Class B
- No. 100-A, 10,000 Volt, Class A
- No. 100-15, 15,000 Volt
- No. 100-20, 20,000 Volt



## PROTECTIVE BAGS FOR LINEMEN'S GLOVES



Glove Bags are furnished in three types and two lengths: 15" to hold gloves flat, or 9" for an easy fold at the wrist. Bags will lie flat when empty. Made large enough to accommodate leather protector gloves also. All styles are equipped with snap hooks and "D" rings for attaching to belt.

No. 35—15" long, 8" wide...Weight, 12 oz.  
No. 25—9" long, 8" wide...Weight, 9 oz.

## LINEMEN'S PROTECTOR GLOVES

Designed to be worn over Linemen's Rubber Gloves to protect them from snagging, tearing or abrasive wear. Made expressly for this work, they should not be confused with the ordinary work gloves often offered for this purpose. Salisbury's Protector Gloves combine the maximum of comfort with wearing qualities.

Made of specially tanned Grade "A" Buffed Horsehide (Maroon Color), and from selected weights. These protector gloves remain soft and pliable under all conditions and will not become slippery when wet. Resist wire puncture to the greatest degree as no belly or shank leather is used.

All outside seams, No. 12-4 cord thread, lock stitched. Finger seams sewed at back away from wearing surface. Base of two middle fingers extend under palm and are fastened with strongest method of stitching. Extra wide reinforcement at thumb seam, making double leather thickness at this point of hardest wear. Finger tips are semi-moccasin style. Gloves are equipped with leather pull straps and self-engaging buckle to tighten at wrist. Gauntlets do not flare.

Each of the three styles are available with either closed or open backs, and also with long thumb crotches for straight finger rubber gloves or short thumb crotches for curved finger rubber gloves.



### Band Top Style

For Use with Straight Finger Rubber Gloves

No. 14-C Closed Back  
No. 14 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 16-C Closed Back  
No. 16 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

### For Use with Curved Fingers

No. 114-C Closed Back  
No. 114 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 116-C Closed Back  
No. 116 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

### Semi Gauntlet (2¾")

For Use with Straight Finger Rubber Gloves

No. 22-C Closed Back  
No. 22 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 24-C Closed Back  
No. 24 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

### For Use with Curved Fingers

No. 122-C Closed Back  
No. 122 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 124-C Closed Back  
No. 124 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

### Full Gauntlet (4")

For Use with Straight Finger Rubber Gloves

No. 18-C Closed Back  
No. 18 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 20-C Closed Back  
No. 20 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

### For Use with Curved Fingers

No. 118-C Closed Back  
No. 118 Open Back  
To cover sizes 9, 9½, 10 rubber gloves.  
No. 120-C Closed Back  
No. 120 Open Back  
To cover sizes 10½, 11, 12 rubber gloves.

Order by Number. Average weight ½ lb. per pair.

## RUBBERCUFF PROTECTOR GLOVES

Protects the entire rubber glove from mechanical injury and wear. The cuffs are made from fabric-inserted, voltage-resisting rubber and extend up to within ¼" from the top edge of the rubber gloves.

These cuffs last much longer than the leather parts of the gloves and can be transferred easily to new leather parts at the factory.

No. 26 for Straight Finger rubber gloves.

No. 126 for Curved Finger rubber gloves.

The above numbers for use with sizes 9, 9½, 10 rubber gloves.

No. 28 for Straight Finger rubber gloves.

No. 120 for Curved Finger rubber gloves.

The above numbers for use with sizes 10½, 11, 12 rubber gloves.



## SALISBURY LINEMEN'S RUBBER SLEEVES FULL LENGTH SLEEVES



Made by a new method whereby they are formed and vulcanized while under great pressure in chromium plated molds. This gives proper density to the rubber, increases its dielectric and tensile strength and eliminates imperfections. The surfaces are perfectly smooth. The rubber used is of the highest quality and compounded to obtain long resistance to age without sacrificing pliability.

Fastened across the shoulders by an adjustable rubber strap with hard rubber buttons. The new chest strap feature prevents the top of the sleeves from sliding back and is so positioned that it does not interfere with the linemen's work.

The "Regular" size is standard. The "Large" size is preferred by men of large build and those with long arms; also by men of average size for winter use when heavy clothing covers their arms. Both guaranteed on initial tests to resist 10,000 volts for three minutes with water electrodes. Packed one pair to carton. Weight, 3½ lbs. per pair.

Regular size: Outside arm length 25". Inside arm length 17½". Wrist opening 5½". Arm opening 11".  
Large Size: Outside arm length 27". Inside arm length 18". Wrist opening 6". Arm opening 12".

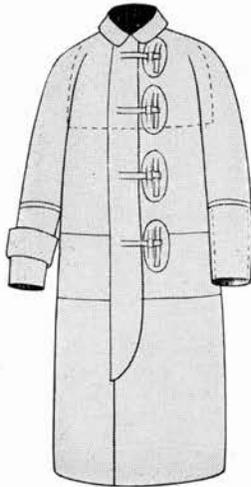
## ELBOW LENGTH SLEEVES

Elbow Length Sleeves are used where protection of the forearm is needed to a point just above the elbow. Many companies who have used extra length rubber gloves for forearm protection now prefer the use of short sleeves in conjunction with standard length gloves. Salisbury's Short Sleeves are made of the same high quality rubber as the long sleeves. They are molded in one seamless piece.

The "Regular" size fits fairly close around the forearm but permits free arm movement. The "Full" size is the same length but larger in diameter, for use over heavy clothing in winter weather. Both are guaranteed to pass acceptance tests of 10,000 volts for three minutes between water electrodes. Packed one pair to carton. Weight, 1¾ lbs. per pair.  
Regular size: Outside arm length 16¼". Inside arm length 13½". Wrist opening 4¼". Arm opening 6¾".  
Full Size: Outside arm length 16¼". Inside arm length 13½". Wrist opening 4¾". Arm opening 7".



### STATIC RESISTING LINE COAT



The Static Resisting Line Coat is an exclusive Salisbury product. (Patent 1,642,670.) The design is the result of joint effort on the part of linemen and safety engineers.

As the name implies, the special construction of this coat retards static tingling at the neck or wrists when the garment is used during wet weather on work that is adjacent to energized conductors. This decided safety factor, combined with other features of comfort and strength makes the static resisting Line Coat of great benefit to line and troublemen.

Since its introduction eleven years ago, this coat has been found worthy of adoption by hundreds of operating companies.

Furnished in sizes 36 to 46 inclusive. 47" long. The all rubber collar is standard. Corduroy faced collar will be furnished if desired.

Guaranteed to be free from all defects in material or workmanship.

Packed one to a carton. Shipping weight 7½ lbs.

### OSHKOSH WARNING SIGN



This warning sign is light in weight, yet durable. Legs are of ½-inch high carbon steel. Has 1¼-inch flange around edge of lettered side.

Has two hollow handles for adjusting angle of the legs. These handles also serve as flag sockets, and each is equipped with a lantern lock.

Black letters, 5½ inches high, on traffic yellow background.

Height, 43 inches.

Width, 28 inches.

Thickness, 1¼ inches.

Size folded. 28x28x1¼ inches.

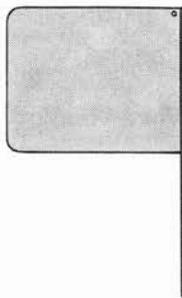
Weight, 23 pounds.

Warning Sign ..... Each \$4.00

### METAL FLAG

Light and strong—being made of 16 Ga. steel welded to a 5/8" hollow iron staff. The flag is painted bright red and the staff black. Note the little peg hole near the top for conveniently hanging up in the truck.

Staff ..... 20" high  
Flag ..... 12"x10"



### FLAG AND FLAG HOLDER

The Coffing Flag Holder is designed to fit all poles. Main body casting and locking handle are made of certified malleable iron. The chain wraps around the pole and hooks into main body of clamp. Strong coil spring between chain and main body assures tension on locking chain. The Coffing Flag is made of 6-ounce army duck, is 12"x16", and has a 1"x18" hardwood staff. Net Prices:

Flag Holder ..... \$2.10  
Flag ..... .50  
Flag Holder and Flag ..... 2.50



### M.S.A. FIRST AID

#### 10-Unit All-Weather Kit Cat. No. FA-12018



#### 24-Unit All-Weather Kit Cat. No. FA-12025

### ALL-WEATHER FIRST AID KITS

M.S.A. All-Weather First Aid Kits are waterproof and dustproof; strongly made of welded heavy gauge steel and contain complete assortments of first aid materials in standard Type D packages of unit size or multiples of unit size. Each dressing is complete in itself, sterilized and hermetically sealed, with sufficient material for single treatment. Liquids are hermetically sealed in ampoules or vials to prevent leakage. Unit packages fit like blocks in cases—simplifying refilling.

#### 10-UNIT ALL-WEATHER KIT

Cat. No. FA-12018

##### CONTENTS

- 1 pkg. 4" Compress Bandage
- 1 pkg. 2" Compress Bandage
- 2 pkg. 1" Adhesive Compresses
- 1 pkg. Foille for Burns
- 1 pkg. Iodine Brushes
- 1 pkg. Ammonia Inhalants
- 1 pkg. 40" Triangular Bandage
- 1 pkg. Tourniquet and Forceps

10-Unit All-Weather Kit, complete, Mounting Brackets  
Optional ..... Cat. No. FA-12018

#### 24-UNIT ALL-WEATHER KIT

Cat. No. FA-12025

##### CONTENTS

- 3 pkg. 4" Compress Bandage
- 3 pkg. 2" Compress Bandage
- 3 pkg. 1" Adhesive Compresses
- 2 pkg. 40" Triangular Bandage
- 1 pkg. Foille for Burns
- 2 pkg. Absorbent Gauze Compress
- 2 pkg. Iodine Brushes
- 1 pkg. Ammonia Inhalants
- 1 pkg. Ammonia Ampoules
- 2 pkg. Wire Splint
- 1 pkg. 4" Gauze Bandage
- 1 pkg. Paper Cups
- 1 pkg. Tourniquet and Forceps

24-Unit All-Weather Kit, complete, Mounting Brackets  
Optional ..... Cat. No. FA-12025

### OTHER M.S.A. FIRST AID TREATMENTS

#### Cat. No. FA-2912 Snake Bite Outfit

Contains glass suction syringe for removing venom by suction, lancet for enlarging wound, U. S. Army tourniquet, iodine ampoule for painting wound, ammonia inhalant, and paper cup. Comes in 2-Unit Type D package with instructions. Also available in pocket size metal case. Ask for Cat. No. FA-2913.

#### Cat. No. FA-2682 Poison Ivy Wash

Type D package of six vials. When applied in early stages, effectively relieves irritation and dries up inflammation.

## Cat. No. FA-2294 No. 50 Pocket First Aid Packet

Contains handy assortment of first aid materials for minor injuries, arranged in metal box small enough to fit in the pocket. Contents include ammonia inhalants, iodine applicator, adhesive compresses, compress bandages, and Foille for burns.

## Cat. No. FA-2604 Creosote-Burn Wash

Type D package of six vials for effective treatment of burns or irritations of the skin, caused by contact with creosote from line poles, ties and creosoted timber.

## Cat. No. FA-12323 Foille For Burns

Modern burn treatment for emergency and hospital use. May be applied directly to injured area at scene of accident; does not require removal when treatment is continued by physician. Provides quicker emergency aid with marked control of pain and resultant shock. Rapidly anesthetizes injured tissues with characteristic absence of infection. Foille aids rapid healing, lessens contractures and reduces scarring. Type D package contains two 1-oz. tubes. Full instructions on package.

## MISCELLANEOUS

### CENTRAL FLARE LIGHTS



Central Flare Lights are manufactured to the same specifications as railroad fuseses. They are guaranteed full burning time and unequalled for color and brilliance. They are equipped with either wood handles or spike points and friction cap ignition (no matches required).

### SPIKE POINT FLARE LIGHTS

#### No. 2 Type (Fuseses) Spike Point, Friction Cap Ignition

5 min. Red, Green or Yellow:	
No. 2305 (3/4") case of 144	\$13.25
No. 2705 (7/8") case of 144	13.75
10 min. Red, Green or Yellow:	
No. 2310 (3/4") case of 144	\$15.00
No. 2710 (7/8") case of 144	15.75
15 min. Red or Green:	
No. 2315 (3/4") case of 144	\$18.25
No. 2715 (7/8") case of 144	18.75
20 min. Red or Yellow:	
No. 2720 (7/8") case of 72	\$11.25
30 min. Red or Yellow:	
No. 2730 (7/8") case of 36	\$ 7.75

### WOOD HANDLE FLARE LIGHTS

#### No. 1 Type—Pointed Wood Handle, Friction Cap Ignition

5 min. Red, Green or Yellow:	
No. 1305 (3/4") case of 144	\$13.75
No. 1705 (7/8") case of 144	14.25
10 min. Red, Green or Yellow:	
No. 1310 (3/4") case of 144	\$15.50
No. 1710 (7/8") case of 144	16.25
15 min. Red or Green:	
No. 1315 (3/4") case of 144	\$18.75
No. 1715 (7/8") case of 144	19.25
20 min. Red or Yellow:	
No. 1720 (7/8") case of 72	\$11.50
30 min. Red or Yellow:	
No. 1730 (7/8") case of 36	\$ 8.00

### SPECIFICATIONS

Item No.	Standard Package	Weight Per Case	Code Word
1305	144	39 lbs.	Beacon
1310	144	58 lbs.	Bead
1315	144	74 lbs.	Beast
1705	144	48 lbs.	Bedding
1710	144	72 lbs.	Bedstead
1715	144	93 lbs.	Beefsteak
1720	72	64 lbs.	Beet
1730	36	51 lbs.	Belfry
2305	144	36 lbs.	Bicycle
2310	144	55 lbs.	Billiards
2315	144	71 lbs.	Billow
2705	144	45 lbs.	Binding
2710	144	69 lbs.	Birch
2715	144	90 lbs.	Biscuit
2720	72	61 lbs.	Bison
2730	36	50 lbs.	Bitter

### LINEMEN'S FLARE LIGHTS



A quickly available light, invaluable during outages or other emergencies which require a quick, general illumination. Also useful as a warning signal in case of truck breakdowns or when power lines are down on highways.

Central Linemen's Flares burn with a brilliant silvery yellow light for either twenty or thirty minutes and are not affected by wind, rain or snow.

Equipped with Friction Cap Ignition for instantaneous lighting—no matches are required. Easily lighted in any weather conditions.

Equipped with spike point and removable handle, Linemen's Flares can be stuck in a post, tree or in the cross arm of a pole, or in the ground where they afford ample illumination for safe, speedy work. Can be carried in the hand on line patrol.

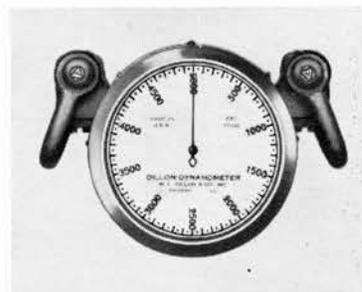
Central Linemen's Flares are a part of the regular equipment of many Public Utility Companies throughout the United States.

A high candle power utility and warning flare. 7/8" diameter.

No. 3020 (20 min.) case of 72 (63 lbs.)	\$12.00
No. 3030 (30 min.) case of 36 (50 lbs.)	9.00

### DILLON DYNAMOMETER

The Dillon Dynamometer is built for determination of strains and adapted for wide variety of uses where traction or pull is to be measured. The instrument is used for applying a known or uniform tension or to hold tension below maximum when pulling wires or messenger; for measuring the pull on a guy wire; for getting the strain even where more than one guy wire is used to hold a pole, or where two or more cable messengers are parallel; for measuring strain of lines crossing railroads, in order to be sure of having the right factor of safety, etc.



The instrument is used in series with the load and may be used in any position—separately or with other apparatus. Any ordinary workman without the slightest engineering knowledge can quickly place power transmission, cable messenger or guy strand at the proper tension or sag with the Dillon Dynamometer. (Prices next page.)



## DILLON DYNAMOMETER (Continued)

Price F. O. B. Chicago

15,000 pound Capacity.....	\$117.50	Each
10,000 pound Capacity.....	97.50	Each
7,500 pound Capacity.....	91.00	Each
5,000 pound Capacity.....	84.50	Each
3,500 pound Capacity.....	78.00	Each
1,000 pound Capacity.....	65.00	Each
500 pound Capacity.....	50.00	Each

### SPECIFICATIONS

Metal, High Duty Alloyed Steel. Tested to 100%, overload. Dimensions, 7½" x 5¾" x 2⅜". Weight 5½ pounds.

### SALISBURY NON-SPILLABLE P. B. PAINT POTS



Single Compartment Pot with capacity of one pint for insulating compound only. Weight 1⅝ lbs.

Whenever a tape wrapping is to be coated, to prevent it from unraveling or drying out, or whenever insulating compound is to be applied with a brush, one of these pots is found to be a real advantage. In addition to the safety factor afforded, it is most convenient because both material and brush are contained in the one unit. Moreover it will stand upright or can be hung on a wire, buss bar, or brace.

Salisbury's Rubber P. B. Paint Pots provide a safe and convenient means to carry insulating paint and brushes. They eliminate the use of metal containers, glass bottles, and other makeshift devices. Being made of semi-hard durable rubber, these pots are non-conducting, non-breakable, and unaffected by the usual P. B. compound used.



Double Compartment Pot with small pocket for soldering paste and pint container for compound. Weight 1¼ lbs.

### G. E. HOOK-ON VOLT-AMMETER

Type AK-1 gives instantaneous alternating current and voltage readings from insulated and non-insulated conductors of 2 in. maximum diameter.

Four current ranges, 0-15/60/150/600 amperes, and two voltage ranges, 0-150/600 volts are available at the setting of a convenient six-position snap switch.

A sturdy, molded Textolite case houses and protects the instrument.



### WESTON CLAMP AMMETER

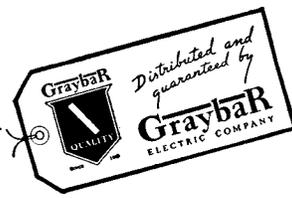
Model 633 bakelite-encased ac clamp ammeter combines 6 ranges in one instrument, and will measure current flow through conductors (insulated or non-insulated) up to 2¼ in. in diameter.

Instrument is equipped to measure low as well as high values. Actual full scale ranges are 10/, 25/, 50/, 100/, 250/ and 500/ amp. Any one of these 6 ranges may be selected by easily operated range changer at the thumb position.



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