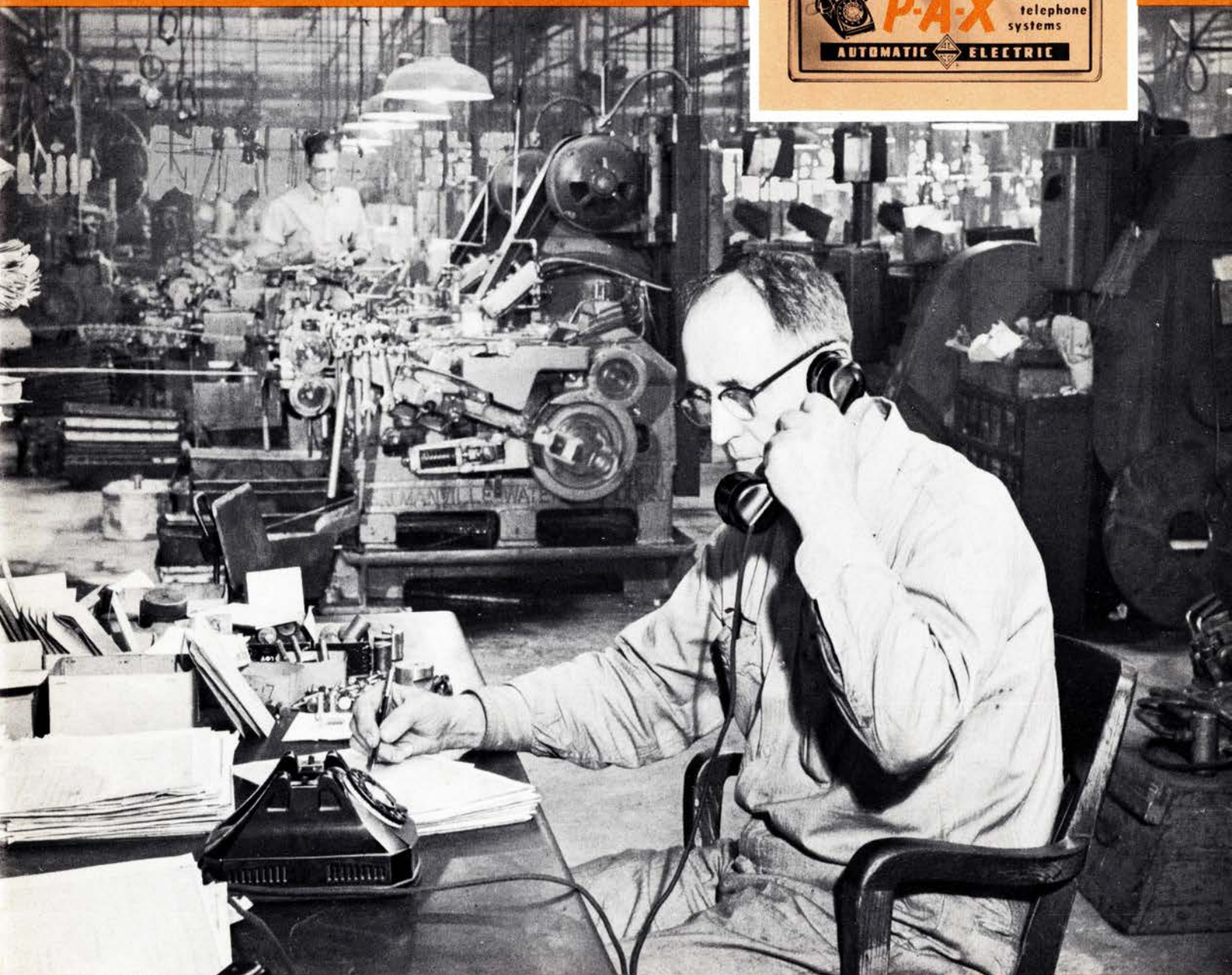


Pheoll Manufacturing Company, like others, depends on the individual foreman. The Pheoll foreman, in turn, depends on his P-A-X Telephone (with anti-noise handset) for clear, fast contact with his superiors.

BUSINESS TELEPHONE SYSTEM REPORT NO. 109

One of a series of studies showing how progressive business management uses internal telephone service.



How **P-A-X** helps
Pheoll Manufacturing Company
co-ordinate and
speed its operations

PHEOLL depends on **P-A-X** to maintain its huge output of screws, nuts, and bolts



"Did you know that some 30 screws are necessary to hang the average door and secure the hardware — to say nothing of the screws in the lock mechanism itself?"

With that question, Mason Phelps, Jr., aggressive young president of Pheoll Manufacturing Company, Chicago, drives home to his visitors the importance of the ordinary wood or machine screw in our modern life. In his firm's spacious shops on Chicago's Far West side, miles of wire are daily converted by row upon row of headers and punch presses into hundreds of thousands of screws, nuts, and bolts to fill American industrial needs.

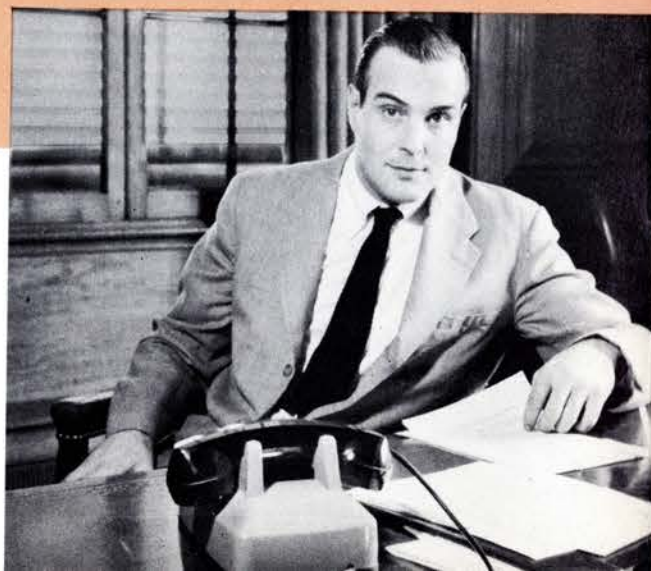
The Pheoll Manufacturing Company of Chicago, now nearly 50 years old, exemplifies the expanding economy of the past decades and confidence in a still greater future. Starting with a three-man shop in 1907, the company today furnishes metal fasteners to some 2,500 firms and employs nearly 1,000 workers in three extensive one-story buildings. As it developed into an organization of many departments, internal communications became a major operational problem — now happily solved by their 100-line privately-owned P-A-X Business Telephone System that handles all "inside" calls — saving time, effort, and money year after year.

It's a busy daily schedule for personable Mason Phelps, Jr., president of Pheoll. He depends on his P-A-X "inside" telephone to provide fast, private communication with all department heads.

■ Why P-A-X was selected

Previous to P-A-X, Pheoll's switchboard was swamped continuously. Their operator could not handle the big load of telephone traffic with speed and efficiency. Busy signals were followed by numerous "call-backs" between members of the firm. Production was often behind schedule. Employees and executives experienced constant delay in getting information, walked about seeking it, or sent messengers for it with much loss of time. Sensing the need, Mason Phelps, Sr., founder of Pheoll, sought a communication system to give all employees private and efficient inter-communication.

In 1937, after thorough investigation, a P-A-X with some 40 telephones was installed. The P-A-X has since expanded to 100 telephones. As Mr. Phelps recalls: "Our biggest single problem in quick volume supply to our customers was the need for better internal communications to promote teamwork, end telephone conflicts, and reduce operating overhead. We decided to install P-A-X—a decision based on Automatic Electric's reputation in the field,



With 373,000 square feet of floor space under roof, the Pheoll Manufacturing Company produces millions of fasteners for customers far and wide, is ready to expand its facilities to meet growing industrial demands.

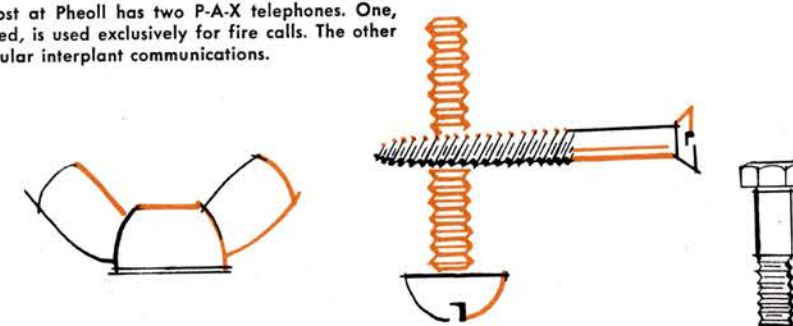
and on a comparison of P-A-X with both non-telephone communication systems and other rented telephone arrangements as proposed by the telephone company. We concluded that P-A-X would best provide the *fast, private communications* we wanted—and save us money. Moreover, it was a system available to everyone regardless of his job or location—an investment that would pay for itself many times over in lower telephone costs, speedier operations, and the elimination of much wasted time by employees."

■ A vital system to a vital industry

The screw industry, of which Pheoll is an important part, is a fundamental supplier to many types of manufacturers. "We're a basic industry," says William Ylvisaker, Pheoll Sales Manager. In fact, every business requiring hinged parts in the construction of its products is a ready prospect for Pheoll screws, nuts, and bolts. Pheoll's biggest volume comes from the automotive, aircraft, appliance, and communication fields. Fasteners are usually considered a standard supply item, and in many companies are the last item



Guard post at Pheoll has two P-A-X telephones. One, colored red, is used exclusively for fire calls. The other is for regular interplant communications.



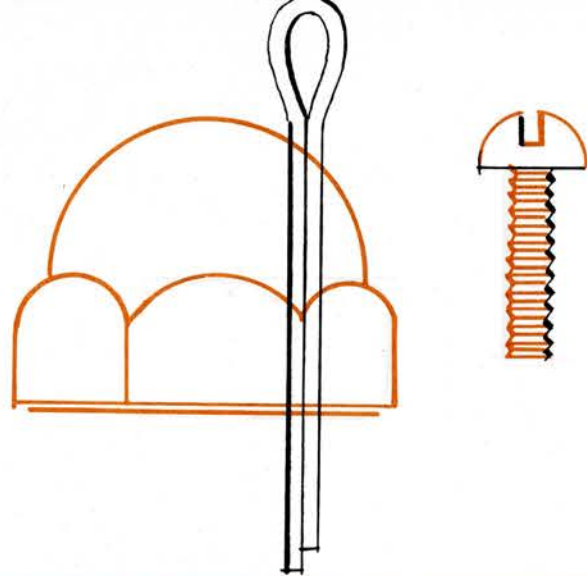
Joe Daniels, Pheoll maintenance man, finds the privately-owned P-A-X System is easy to maintain, requires but a routine monthly check-up and occasionally the simple change of telephone locations.

to be ordered. This means, as Production Control Manager Tom Black explains, that service—immediate and accurate—is a great part of the commodity that Pheoll sells. And P-A-X has proved important in providing that service as well as in creating the actual product itself.

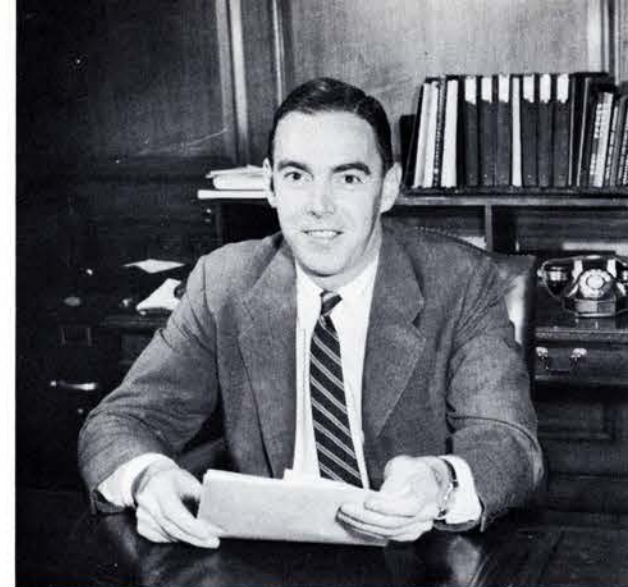
■ Solving the telephone "traffic jam"

A trip through the Pheoll premises bears out the strong dependence placed on their P-A-X Business Telephone System. Each salesman has a regular city telephone for "outside" calls, and a P-A-X telephone for "inside" calls. Activity throughout the day for the Sales Department is a succession of calls from customers, and to and from various departments. Every salesman must have fast, no-delay telephone service. This is only possible if the service is kept free from the usual switchboard "jam" and disconnections prevalent where both "inside" and "outside" calls come over the same telephones. With the separation of these calls through P-A-X, both types of calls are transmitted and received without conflict.

Pheoll's order desks are kept busy answering two types of inquiries: (1) "Have you got it?" and (2) "Can you deliver it?" Most of the answers come from a liaison de-



F. W. Kuehn, Purchasing Agent, holds "outside" call without risk of disconnection, while he gets necessary information over his P-A-X telephone, then gives "yes" or "no" answer to supplier.



Bill Ylvisaker, Sales Manager, considers a large order from one of Pheoll's 2,500 accounts. He finds P-A-X answers the problem of eliminating a constant switchboard "jam" and holding down telephone call charges and costly, time-consuming "call-backs."



Two telephones on a desk! That's the pattern for Pheoll's General Sales office. Each employee needing a city telephone for outside communication has one—and EVERY employee has inside communication through the P-A-X System.

partment known as Sales-Service. Here, a crew of expeditors are constantly talking on the city telephones, then on the P-A-X telephones, and switching back again. What the situation would be if all telephoning were done over the same instrument by pressing buttons and shifting from "outside" to "inside" call is well-expressed by the head of this department. "We would be pressing buttons incessantly with the ever-present danger that in the confusion much of our work would be tangled up in a maze of cross-telephone messages. But with our dual facilities, customers can contact us quickly, we handle their business immediately. Nothing impresses a customer so much," he declares, "as to hear an expeditor call a foreman or the shipping manager about his order. He feels he's getting prompt attention — and he is!"

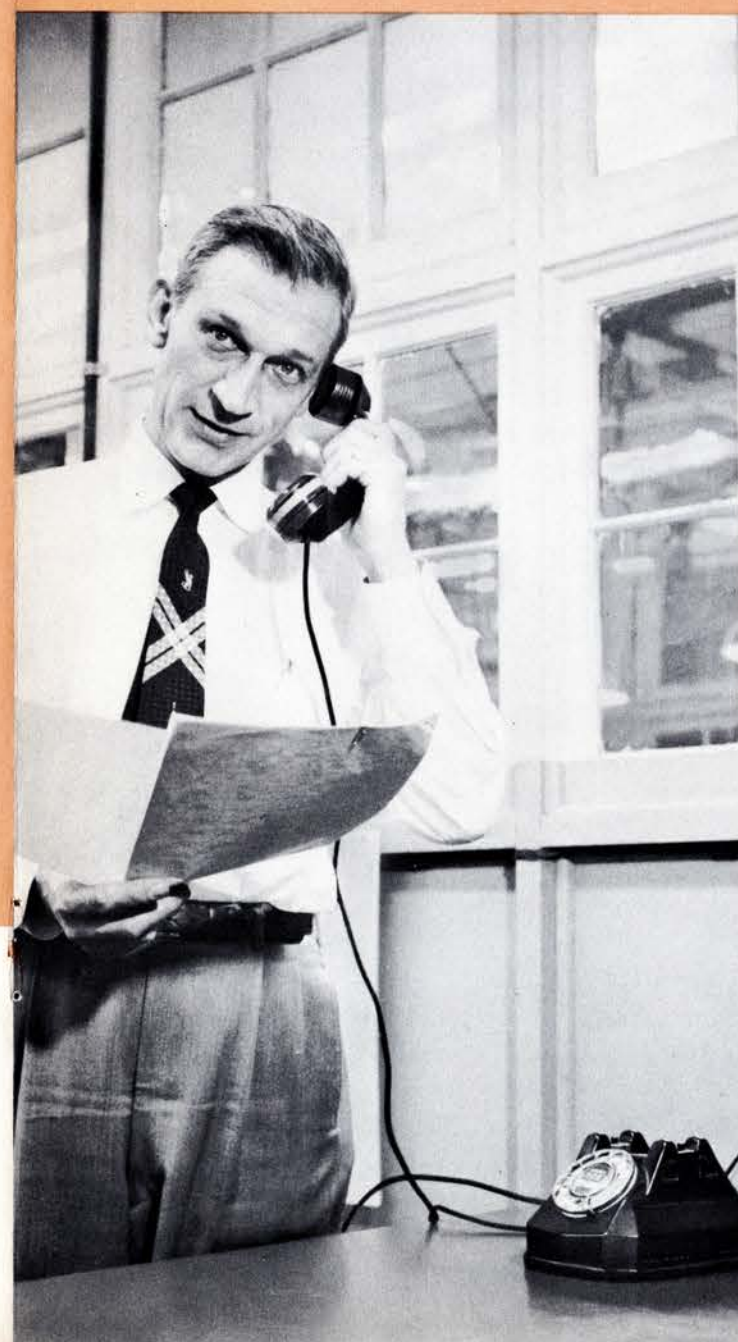
Handling customer's inquiries at Pheoll is a screening job for the switchboard operator. She must decide the department or individual with whom each outside caller should talk. If a certain individual is requested, she connects the caller to him. But in those cases where she isn't sure as to whom he should contact, she uses her P-A-X telephone to locate the proper party, then quickly plugs in the caller on that party's "outside" telephone. Using the P-A-X System, she cannot accidentally disconnect the caller holding on the "outside" line while she makes her inquiry, for P-A-X is a separate independent system, and the transfer-

ring of calls, usually necessary in such cases, is avoided.

■ Purchasing with P-A-X

In his work, F. W. Kuehn, Purchasing Agent, is constantly in contact with stockroom and production men in the extreme north end of Pheoll's main building. All telephone connections must be prompt and clear or costly errors will result. "The fast communication P-A-X provides between purchasing and other departments helps eliminate errors, makes my job easier", says Kuehn. As an example, he notes that any variation in tensile strength of a wire can throw out a whole batch of screws. "I find the use of our P-A-X System ideal to help plant men who have ordered wires of certain tensile strength to obtain them," he says. To assure the right tensile strength and other exact requirements, Kuehn depends on P-A-X communications between purchasing and receiving on a two-or-three-way hookup. Through this feature of P-A-X—Conference Service—it is possible to link by telephone the purchaser in his office, the receiving man at the dock, and the requisitioner somewhere in the plant — privately and immediately!

Sometimes he sends out inquiries on a specific material. Suppliers call in; with certain modifications, Pheoll can get material of better quality, or at lower price, or with better delivery. Will he accept these modifications? Kuehn dials



J. D. Goodall, Works Manager, uses his P-A-X "inside" telephone constantly to check reports and co-ordinate the work of all personnel under him. It helps maintain Pheoll's tight production schedule, is especially valuable for 'round-the-clock needs.

the requisitioner over the P-A-X System. If the latter agrees, the "go ahead and ship" is immediately conveyed to the supplier. Time is saved, and Kuehn observes, "It's our experience that thousands of dollars are saved annually this way — traceable to our dual telephone facilities."

■ Plant noise doesn't affect P-A-X

J. D. Goodall, Works Manager, emphasizes the need for communications with "little or no noise at each end." The Pheoll shops, with their punch presses, conveyor belts, and steel trucks carrying loads of materials over the concrete flooring, are noisy like most plants in the metal trades. One of the features of the Pheoll P-A-X—the special telephone handsets enabling one to hear despite the noise—has proved invaluable. Formerly a management consultant with wide experience, Goodall is enthusiastic about P-A-X. "Without it we simply couldn't function", he says. Its 24-hour operation *without an operator* is especially important to him and to those on the night shift (and all "off duty" hours) when the city switchboard is closed.

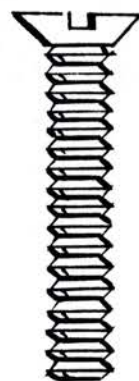
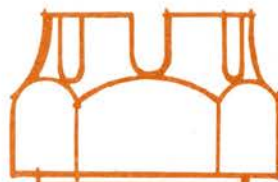
■ Use of P-A-X in emergencies

Nurse Mildred Thompson, in charge of Pheoll's dispensary, must always have a free "outside" line for any emergency. At the same time, with her P-A-X telephone she can reach





"In an emergency, it's vital that we have separate telephones for 'inside' and 'outside' calls," says Nurse Mildred Thompson, in charge of Pheoll's dispensary. She is proud of the company's excellent low rate of injury and mishap.



any department immediately. Should someone get hurt, she has two-way communications with the injured man or his department head via P-A-X telephone, and the doctor or hospital via her city telephone.

Traffic Manager G. M. Kostka's main concern in any emergency is *outside communication* to call railroads, truck lines, and express terminals. It is essential that his "outside" lines be free of "inside" calls. In fact, Kostka has a special city telephone apart from the regular directory listing for the company, so that truckers can get him or his night-duty assistant at any time. And, of course, he has a P-A-X telephone on his desk for instant contact with any department.

Every precaution is taken to protect the premises from fire. In this connection, two red P-A-X telephones are all-important to Pheoll. One of these is at the switchboard where the operator receives fire calls during the day. The other is at the guard post station at the side of Pheoll's No. 1 building. Any employee dialing "10" on his P-A-X telephone rings the red telephone at the switchboard; the operator inquires as to the fire location, then alerts the Phe-

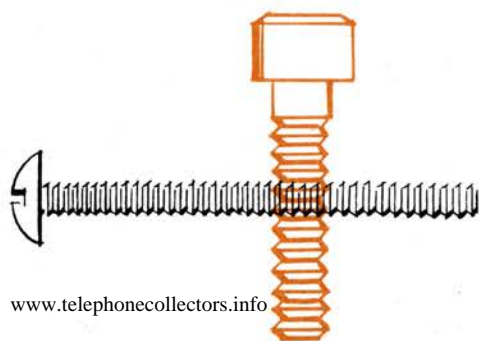
oll "fire brigade" through the special "fire call" signal system. If the city fire department is needed, the operator makes the call.

At night, when "10" is dialed, the red telephone at the guard station rings. The guard is alerted, presses a button to sound the general alarm, and calls the city fire department. A fire call always has a clear telephone line.

■ Maintenance negligible

The P-A-X Control Unit occupies only about 12 square feet of space in a convenient spot. Its simple wiring and cable system requires little attention. In fact, the System costs Pheoll only about 15c per month to maintain each telephone—a nominal sum in comparison with other office equipment. For instance, every month, there are certain large office machines that require adjustment or replacement. As for P-A-X, the problem is as simple as relocation of telephones and a periodic checkup of the equipment.

Discussing the overall aspects of the P-A-X Business Telephone System, Office Manager Joseph Bocian points





"What is the amount of the last invoice they sent us?" Treasurer N. J. Sell asks the Accounts Payable Section over his P-A-X telephone. The monthly savings with P-A-X are Sell's reason for strong approval of the System.



"Weighing out" at Pheoll. After inspection, every shipment is checked out and a report made to the traffic manager via P-A-X. As at other stations along the chain of operations, the P-A-X telephone here is essential to a smooth flow of goods.

out that since Pheoll has enjoyed it for some 18 years, all depreciation has been written off. Because it is as useful today as the day it was purchased, it should continue to "make money" for them for years to come through continuing benefits.

■ How much does P-A-X save on communication costs?

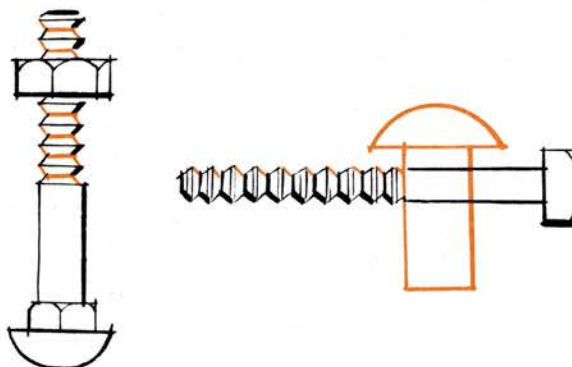
Pheoll's monthly telephone bills are sent to Bocian, then forwarded to Treasurer N. J. Sell. "When we get down to paying the bills, we've got to look at our comparative costs," says Sell. The whole question is—"Are we saving, month to month, per regular accounting methods, with our company-owned 'inside' telephone system?" Then he answers his own question. "Without the private system, our two-position city switchboard now in use would be inadequate. A larger rental system would cost more each month, and probably require an additional operator, both of which Pheoll wishes to avoid." Here are his conclusions: telephone activity at Pheoll—considering "outside" calls alone—amounts to some 350-400 incoming calls, and about 100 outgoing calls daily. Yet this large volume of calls is only

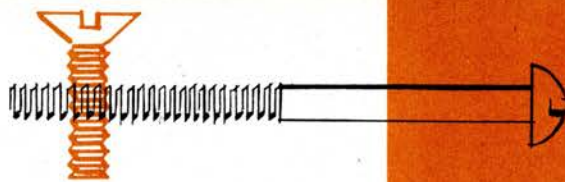
about 35% of Pheoll telephone traffic. "Inside" communication accounts for the rest. And costs can be held down only if the "outside" calls alone are handled by the switchboard operator.

With 60 city telephones and 100 P-A-X telephones, Pheoll saves nearly \$340.00 per month. Mr. Sell estimates that at least 40 additional city telephones would be needed to provide internal communication approaching that which they now enjoy. Each telephone would rent for an average of \$1.40 per month—which means that \$56 additional would be expended each month. The additional switching equipment necessary would cost approximately \$249.00 monthly. Ten per cent excise tax adds \$30.50. Total extra monthly bill: \$335.50.

"Let's not forget," he says, "without our P-A-X System we would still be paying for equipment used primarily for intercommunication." Treasurer Sell's analysis shows Pheoll's concern for cutting out every item of operating overhead possible, in preparation for the day when a relatively few such items may mean the difference between profitable and non-profitable operation.

The work of the Sales-Service Department means answering one telephone call and making another, incessantly. Here's a big job that's accomplished only by reason of Pheoll's dual telephone facilities, officials say.





■ What is P-A-X and what does it do for you?

P-A-X is a completely automatic business telephone system that you can adapt to *your* business operations and needs. It meets *all your inter-communication requirements* and greatly improves *outside* telephone service. You *own* your P-A-X, and thereby substantially reduce monthly telephone charges, limiting them to your outside calls and equipment necessary to make such calls! Greatest returns on your investment in P-A-X come in the stepped-up efficiency that modern telephone communication can introduce into your business methods.



P-A-X
DESK TELEPHONE

P-A-X WALL
TELEPHONE

P-A-X
COMPACT
TELEPHONE

■ P-A-X benefits to Pheoll

In summary, the benefits provided by the P-A-X Business Telephone System in Pheoll operations are:

- ✓ **1.** Direct cost savings on monthly telephone bills estimated at \$4,158 per year.
- ✓ **2.** Indirect savings of thousands of dollars in company operations through elimination of much walking-waiting time by employees.
- ✓ **3.** Management contact and control facilitated by quick, 24-hour "inside" telephone service which coordinates company operations, promotes efficiency.
- ✓ **4.** Every department head and employee aided by P-A-X throughout the plant and offices — saving time, effort, errors, and costly delays. In emergencies, as well as in day-to-day use, P-A-X is invaluable.
- ✓ **5.** P-A-X serves Pheoll as a "customized" System, singularly suited to Pheoll's special needs, with features and equipment that officials describe as "indispensable".
- ✓ **6.** Expansion, modification, and use of the P-A-X System is directly and solely under Pheoll's own management, to control costs and keep pace with company requirements.

■ P-A-X meets the needs of manufacturing plants of every size and type

Communication in manufacturing plants is complicated by the large areas and many departments involved. P-A-X Business Telephone Systems extend inter-communication throughout these areas — link them closely together with two-way talking convenience. P-A-X also meets the need for precise timing because P-A-X telephones are *fast* — the dial system speeds both routine and critical calls. No wonder so many manufacturing plants own P-A-X Business Telephone Systems. Among them:

American Woolen Company
C. F. Braun Company
Charles Bruning Company
Bulova Watch Company
Philip Carey Company
Cincinnati Milling Machine Company
Electric Auto-Lite Company
Elgin National Watch Company
General Electric Company
Kennecott Copper Company
Leeds and Northrup Company
Libby-Owens-Ford Glass Company
Mosler Safe Company
The Pullman Company
Raytheon Manufacturing Company
Singer Sewing Machine Company
Sunbeam Corporation

■ Automatic Electric Consultation Service

is available to you to meet the special needs of your company. A letter or telephone call will bring an experienced Automatic Electric communications specialist to your office to give you complete data on how P-A-X can help your business. Or we will send detailed literature upon request. No obligation, of course.

For further information on how P-A-X can serve you, write:

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