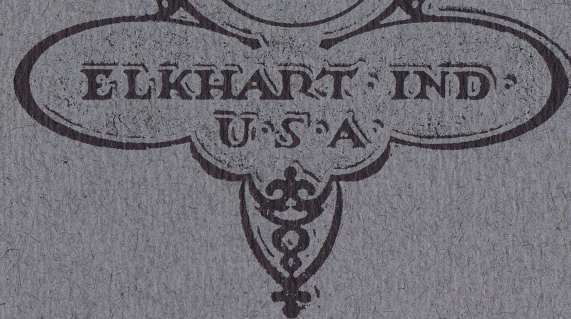


CHICAGO TELEPHONE SUPPLY CO



Catalogue Number Forty - Three

**Success depends upon doing things
a little better than anybody else**



Chicago Telephone Supply Company

Factory and General Offices:

Elkhart, Indiana, U. S. A.

**New York Salesroom
150 Broadway**

**Pacific Coast Branch House
Rialto Building, San Francisco**



Material and workmanship guaranteed against inherent defects.

All apparatus fully warranted to give satisfaction in the work for which it is designed, when properly installed.

No risk is incurred in buying Chicago Telephones.

This factory guarantees every part as well as the complete instrument without any time limit.

In this way purchasers are protected by the Chicago Telephone Supply Company, the largest and strongest factory in the world devoted to the production of Bridging Telephones.

A guarantee bond will be furnished with every shipment.

Ten days net to parties having good commercial ratings or satisfactory references.

Goods sent C. O. D., by freight or express, if desired. Prices subject to change without notice.

Goods sent C. O. D., by freight or express, as desired. Prices subject to change without notice. Care is exercised to pack all goods securely, but our responsibility ends when we receive a receipt from carrier. If goods are damaged in transit, customers must make claim for damages to railroad or express company delivering the shipment.

Write for our special price list on line material.



EXPERIENCE AS A FACTOR

Years of experience have enabled this factory to overcome points of weakness until at this time every Chicago Telephone is as indestructible as a plow, as finely finished as a piano and as carefully made as a watch. A Guarantee Bond will be furnished with every instrument, if desired, and there is no time limit on the guarantee.

Success in building a high-grade telephone is simply the result of taking infinite pains in every detail. That is why so few factories have succeeded in establishing a durable reputation for their product. This factory does not claim to make the only telephone, but purchasers may be assured that Chicago Telephones represent the highest state of the art in every particular. Thousands of satisfied customers stand ready to vouch for the efficiency, durability and piano-like finish of these instruments. Purchasers will be furnished with references in their own vicinity upon request.

In the following pages are illustrations and descriptions of Chicago Switch Boards, Telephones and Parts. The merits of each part and instrument are set forth in appropriate places, so that purchasers may know exactly what they are buying and determine for themselves the fact that every feature is the result of years of experience, and is conscientiously constructed from the best materials obtainable on lines approved by the highest engineering talent.

We boldly claim that such superior apparatus would be impossible to produce by any factory of less experience, because the many details are as much the result of practical use as of engineering design. Any factory with less experience or with less careful inspection in every department will encounter many difficulties which will prevent uniformity in the durability and efficiency of the apparatus.

We recognize that a telephone is a piece of furniture as well as an electrical instrument; consequently every Chicago Telephone is mounted in a cabinet which cannot be excelled in point of finish. Quarter-sawed oak of the best grade is given a hand-rubbed golden oak finish of the highest quality. A Chicago Telephone may be placed in the finest homes among the most expensive and finely finished furniture, with the assurance that it will please the eye as well as satisfy the subscriber in its operation. The wiring scheme is so arranged that all wires are concealed and protected, but at the same time are easily accessible.

Prices are made as reasonable as possible, consistent with the extreme care taken in the manufacture and finish of every part.

We do not attempt to compete in point of price, but purchasers of Chicago apparatus are assured of efficient service by a guarantee which is as good as a government bond.



THE CHICAGO METHOD

The Generators used in Chicago Bridging Telephones are constructed on strictly scientific lines, and retain their power permanently without deterioration. The Chicago method is the most expensive, but the superior degree of excellence justifies the higher cost.

The Chicago method is to divide each bar into three distinct magnets, and consequently a Chicago Five-Bar Bridging Generator requires fifteen magnets.

A larger quantity of magnet steel is used on the Chicago Bridging Generator than on any other generator on the market.

All magnet steel used by reputable factories is made after the same formula. After making the steel it must be hardened and magnetized. It must be hardened perfectly or it will not permanently retain magnetism. The hardening process is to bring the steel to a cherry red heat and then chill it instantly. The smaller the cross section of the steel the quicker it will chill at the center and consequently the harder it will be. Other factories do not divide the magnet bars into three sections; consequently the center of such bars requires a longer immersion in the chilling medium, and since the chilling process is slower the same degree of temper is not secured. Ask your blacksmith or any steel worker about this.

The Chicago magnets never have any soft spots, while more than half of the generator magnets built on the old plan with larger cross section have soft spots through which the magnetism will leak out like water from a bucket with a small hole in the bottom.

It will be seen that to insure permanency the Chicago method is reliable, whereas any other method which does not employ laminated bars is not. The facts outlined above are not based upon any new or mysterious principle. They are based upon common sense, experience, and the accepted principle of lamination.

Lamination is so plainly advantageous that to mention the fact seems almost superfluous. A compound magnet will always give better results than a simple one; that is, a magnet of a given size will be much stronger and more permanent if it be made up of a number of small magnets than it will if made of one piece. That is what is meant by lamination. In dynamos of all sizes and kinds, motors and other electrical apparatus, the principle of lamination is demanded. The electrical law is constant, and therefore the same principle must be advantageous in generator construction.



THE CHICAGO METHOD



Well-posted telephone men will not require argument to agree with the statement that lamination is desirable in the construction of electrical apparatus. No reputable factory makes a bridging generator which is not equipped with a laminated armature. Every manufacturer admits the advantages of lamination, but strangely and inconsistently enough, few of them apply the principle in any marked degree to magnets used on bridging generators. The reason is not far to seek. By taking advantage of modern methods and modern machinery it takes no more time and no more manual labor to make a large magnet than a small one. More power is consumed, but that item is too small to count in the cost. If a five-bar generator is made without lamination, five magnets are made.

If a five-bar generator is produced by the Chicago method fifteen magnets are made. The item of labor in preparing the magnets of a Chicago Five-Bar Bridging Generator is three times as much as the same item in a five-bar bridging generator on which laminated magnets are not used. The expense of assembling a laminated magnet is also much greater. These facts will instantly appeal to any unprejudiced mind.

The other specifications of Chicago Bridging Generators are as near perfection as the present state of the art will permit.

The laminated armature is larger than is used by competitors and consists of more than one hundred pieces, perfectly insulated and wound with more silk-covered magnet wire than is used on any competing generator. The air gap between the armature and the fields is as small as possible; the gear is large, wide and noiseless. The automatic cut-in is of a design which has proved its worth by twenty years of continuous usage. The entire generator is self-contained and mounted in the box in such a manner that it may be removed instantly.





CHICAGO BELL TYPE EXPRESS SWITCH BOARD

The Switch Board is the heart of a telephone system. Any defect in it will render useless the best of telephones and line construction.

In the Chicago Bell Type Express Switch Board the drops and jacks are self-contained and each drop and jack may be removed from the board without interfering with any other drop and jack. The jacks may be removed from the drops if desired. Each drop is encased in a tube of Norway iron, which is insulated from the frame of the drop and from all other parts. The night bell circuit is insulated from all other parts; this point is important because in other boards if two or more drop coils become grounded on their cores, there is a possibility of their being connected with each other through the night bell circuit and thus to cause confusion.

The coil of each drop can be removed from the drop and from the board in thirty seconds, without taking the drop from the board and without interfering with any other part. In the event of coils being injured by lightning, they can, therefore, be replaced in thirty seconds without the necessity of removing the drops from the board. The armature and trigger are removable from the drop without the use of tools. In fact, throughout the construction of this board we have so arranged that all parts are easily accessible and can be removed and replaced without interfering with any other part. This applies even to the number on the drop shutters. Hard rubber insulation is used throughout.

The Chicago Bell Type Express Switch Board embodies all the latest features contained in all other switch boards, and at the same time presents many new and novel features that are very desirable. Each coil is self-contained in a tubular shell. The coils in these shells are removable by any inexperienced person.

The jack has heavy stamped brass framework, springs of heavy German silver mounted in a pure hard rubber block. The entire jack is mounted on a metal shell thoroughly insulated in front and rear by two heavy rubber plates. The two main line springs in the jack are provided with binding posts, and the connecting wires, or line wires, are fastened under a screw head. The construction insures the firmest contact, and at the same time allows the line wires to be readily removed from the drop for testing.

The night alarm on this board is absolutely perfect, as there are no circuits taken through any hinge joints or construction of similar character. When the shutter falls, it is impossible for the night bell to fail to ring, provided, of course, the night bell switch is turned on.

The drops are held in place by two screws which are held in perpendicular heavy brass bars. All the drops and parts of this board are held together by superstructure metal. Nowhere are any wooden supports used. The keys are very simple in construction and accomplish anything that any other key on the market does, and at the same time they are composed of fewer parts which are more durable and simpler in design than any other key on the market.





Only pure hard rubber is used in the insulation, and the friction of the key is reduced to a minimum by the use of rollers. It is impossible for the roller cam to ever stick or become stiff in its action. The springs are unusually heavy and are made of pure German silver of the best grade. All springs are straight and are mounted in an upright position. Each spring is provided with platinum points, both in the talking and ringing circuits.

The back of the key is composed of heavy three-sixteenth inch brass stamping and this back is mounted to a handsome nickel-plated escutcheon plate. It is impossible for the operator to pull the cam out of adjustment. No matter what degree of rough usage it may receive, the key will always be in perfect order.

All parts are of stampings, no castings being used. This insures a perfect uniformity in the manufacture of this key. Black, polished hard rubber handles are provided, and the key in general outlines presents a handsome appearance.

Especial attention is called to the operator's jack, this being usually a very weak portion of a switch board. This jack is used for cutting in the operator's head telephone, and at the same time automatically closing the transmitter battery circuit.

The jack frame is made from one piece of brass throughout, with contact springs mounted directly on a projecting knob, thus making the whole self-contained. It is attached to the board by machine screws on the inside, making a very rigid case, and at the same time not marring the face of the jack. The transmitter arm has a double adjustment, is made from brass highly nickel-plated, and is graceful in appearance. Cords, weights, and binding posts are provided with the arm.

The balance of the apparatus contained in this board is our very best product, and special attention has been paid to every detail in the manufacture of this board in order to produce a perfect switch board. Full equipment of batteries and night alarm is provided for the board.

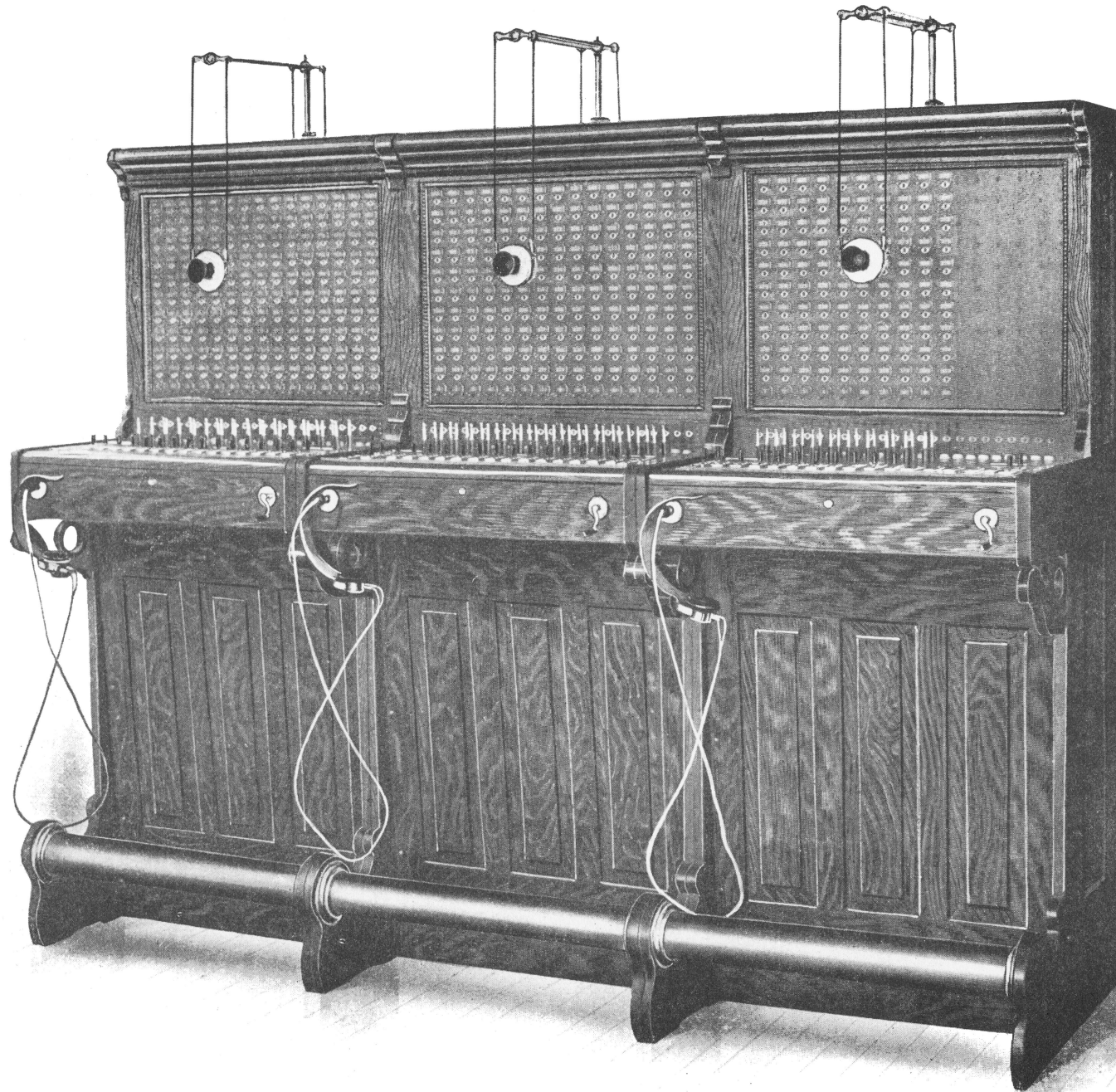
All switch board cable is made of tinned wire with two insulations of silk and one of cotton.

The switch board cords are the "kind that won't wear out."

Multiple or flashlight transfer boards furnished for exchanges of any size.

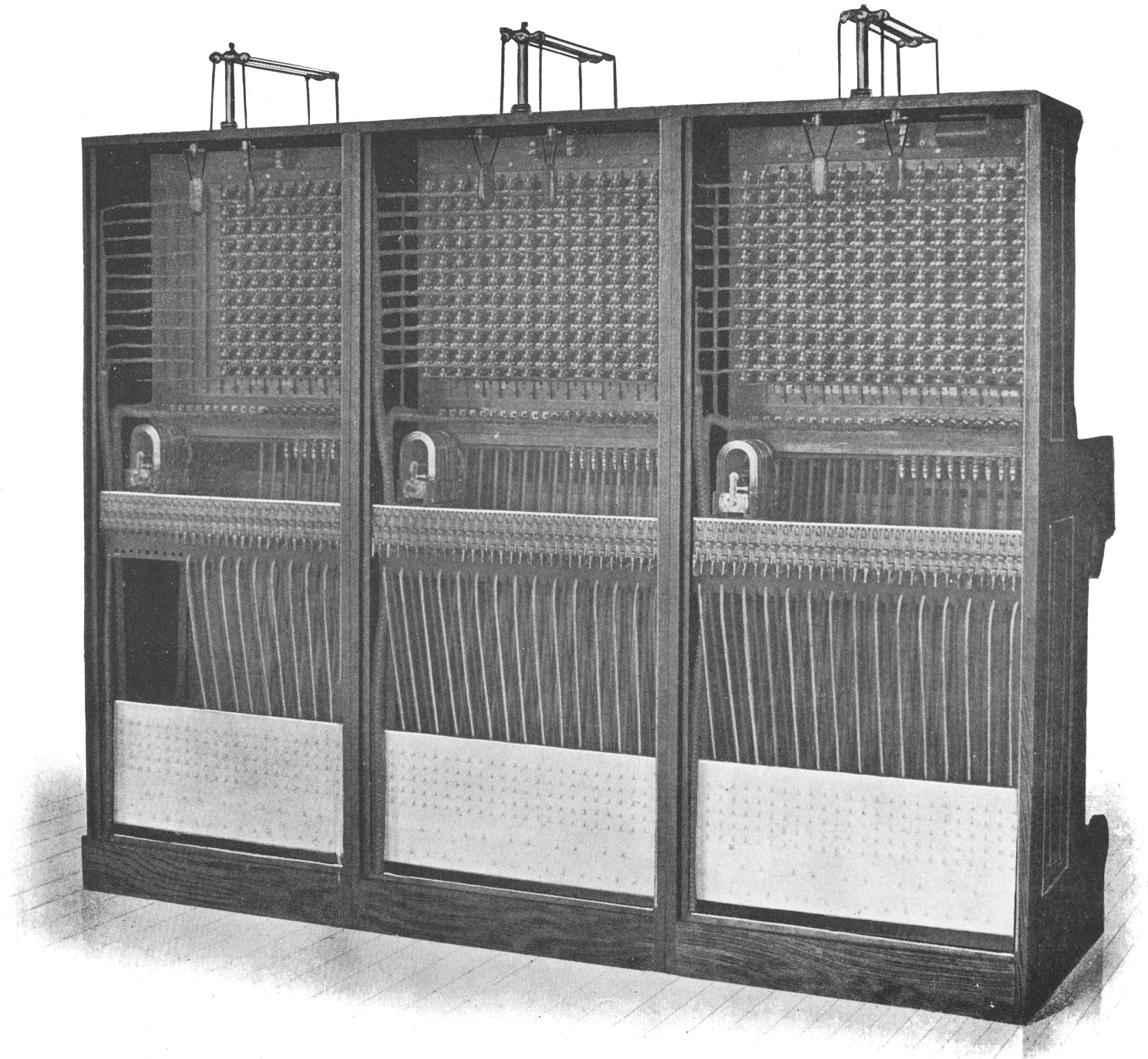


CHICAGO BELL TYPE EXPRESS SWITCH BOARD



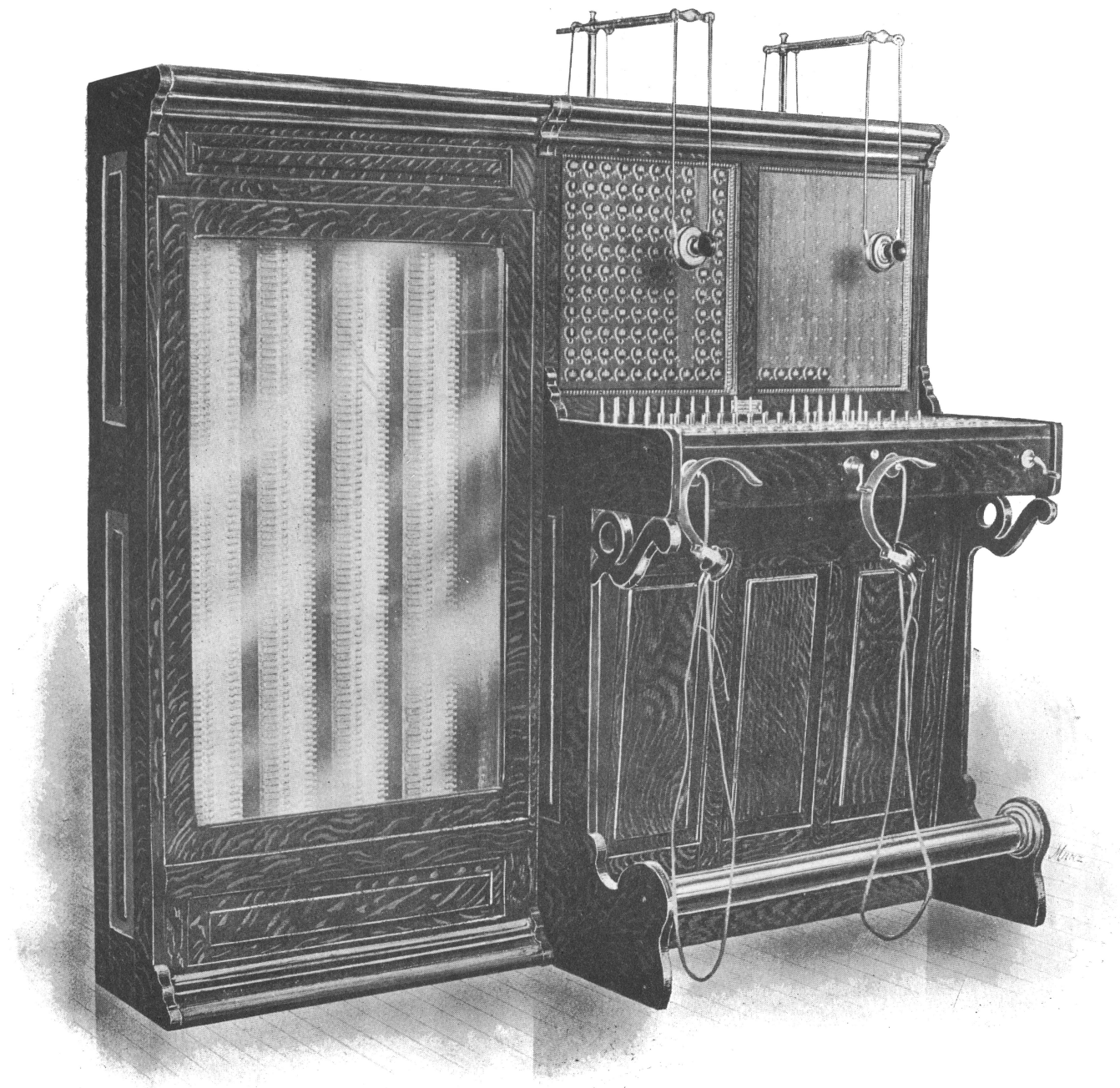
Cabinet Capacity, 450. Transfer Capacity, 750. Installation, 400. Sections of, 150. Code Number, 75.

CHICAGO BELL TYPE EXPRESS SWITCH BOARD



Rear View

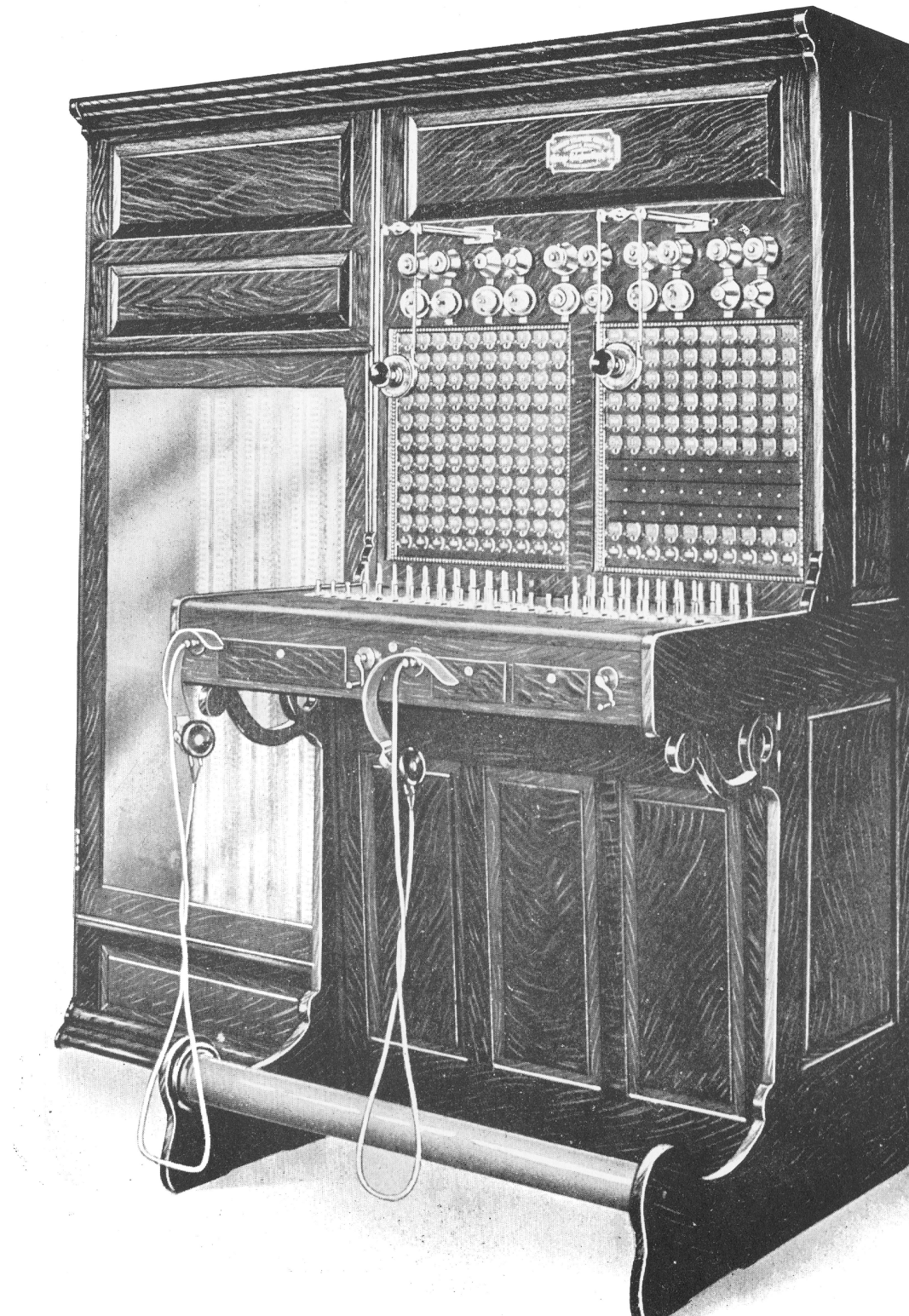
CHICAGO BELL TYPE EXPRESS SWITCH BOARDS



200 Lines. Code Number, 76.

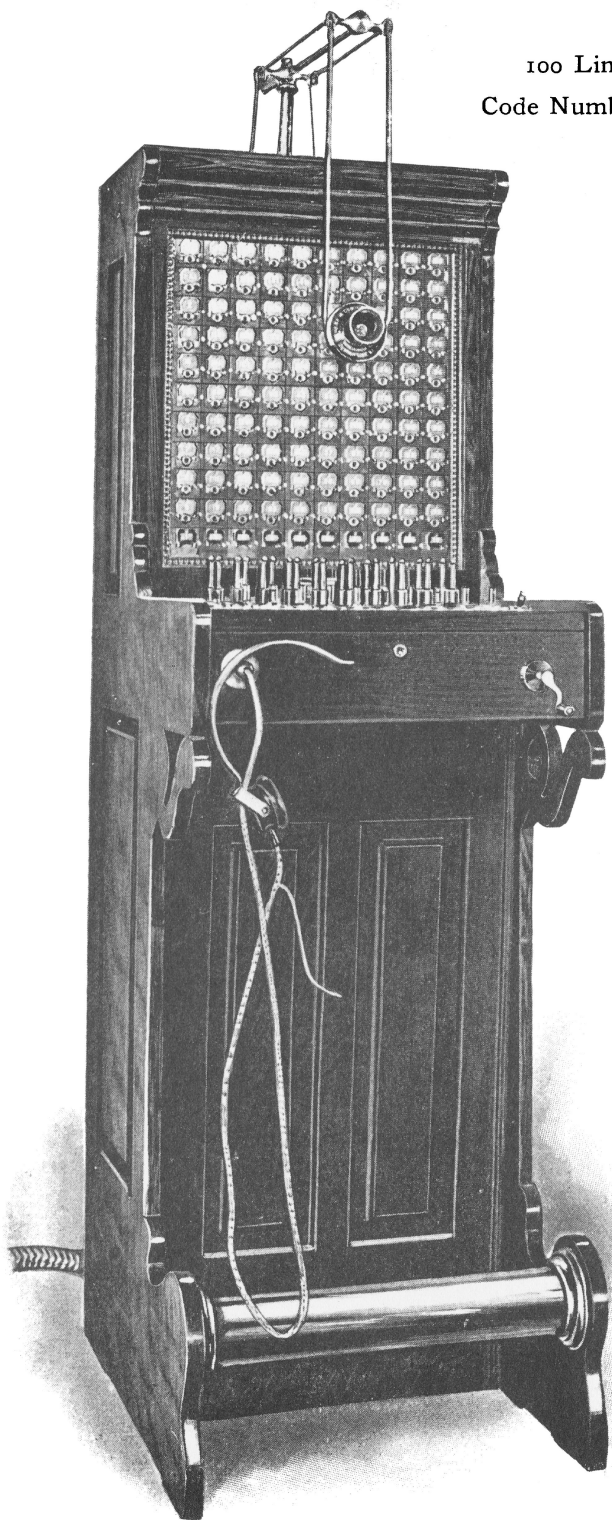


CHICAGO
BELL
TYPE
EXPRESS
SWITCH
BOARD



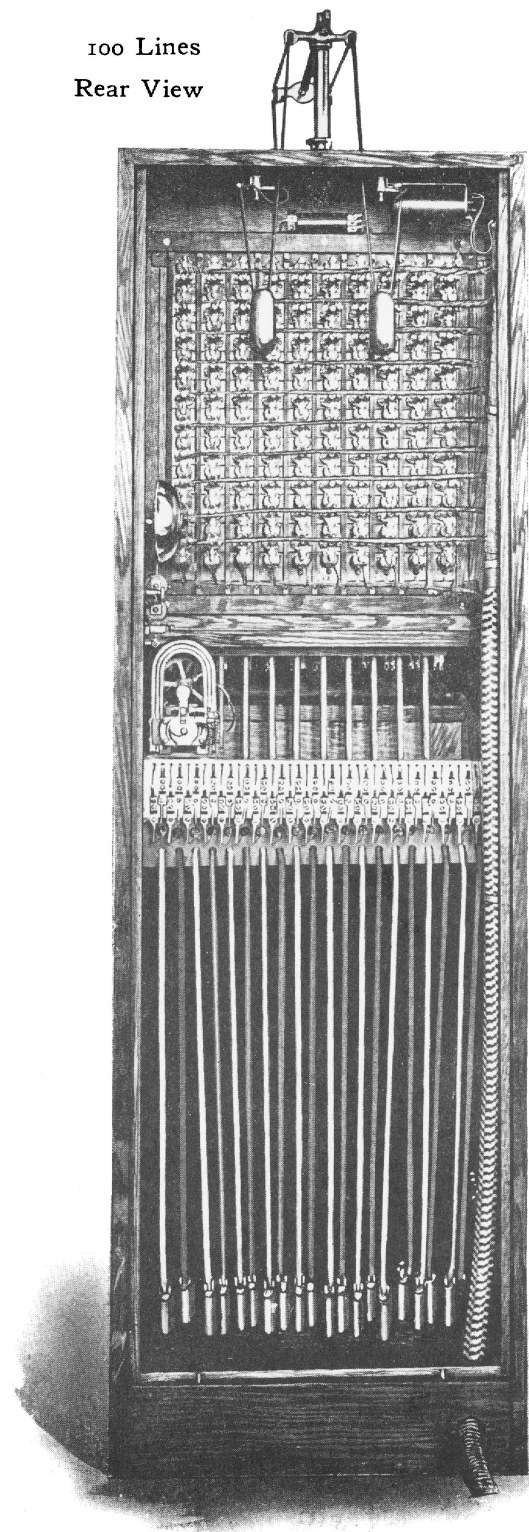
Special Cabinet
with
Distributing
Cabinet

200 Lines.
Code Number, 77.



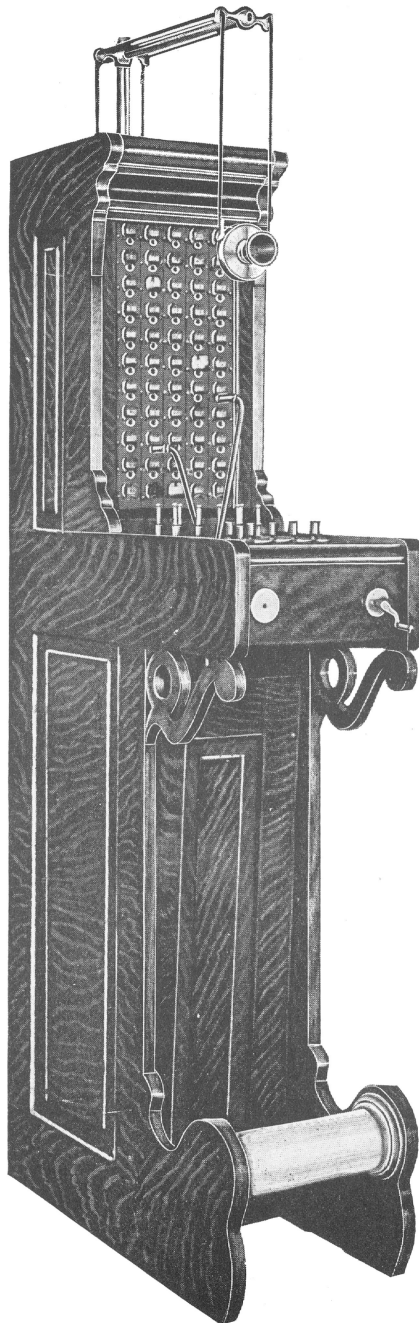
100 Lines
Code Number 78

CHICAGO
BELL
TYPE
EXPRESS
SWITCH
BOARD

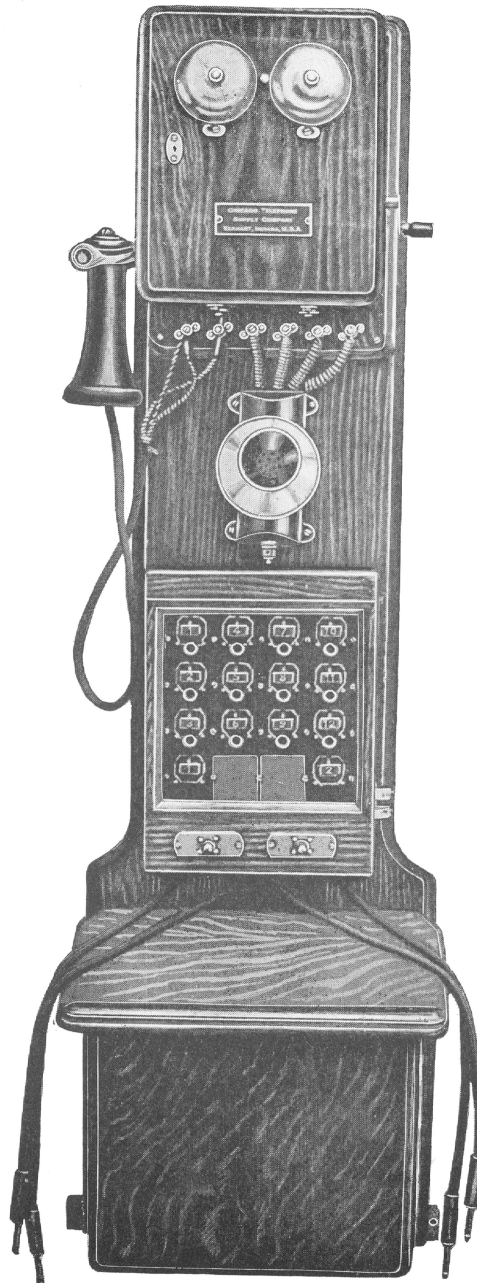


100 Lines
Rear View

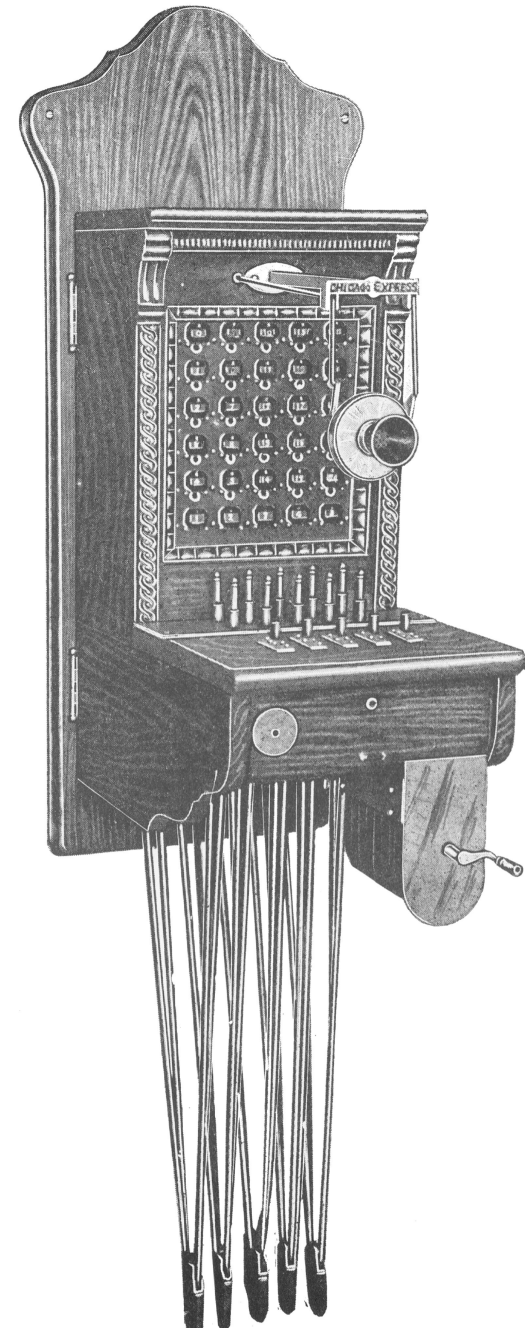
Chicago Bell Type Express Switch Boards



50 Lines
Code Number 79

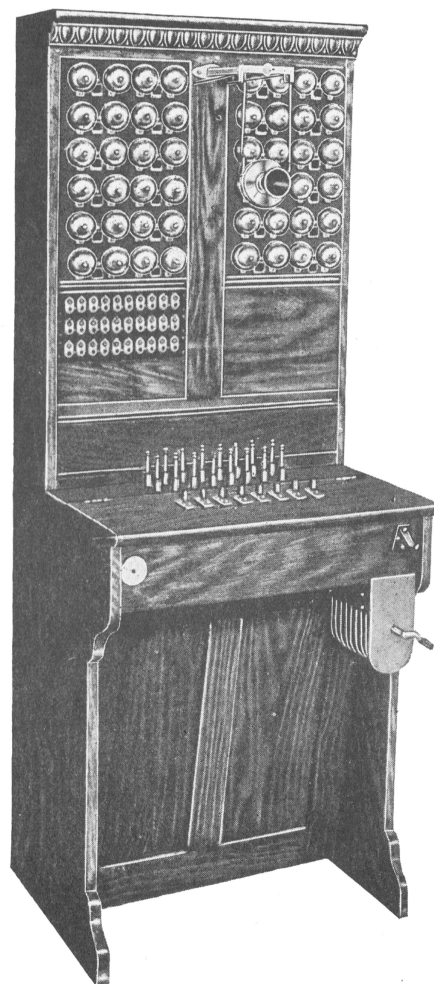


Code Number 81



25 Lines
Code Number 80

Chicago Toll Board



This board is intended for use in making connections between party lines. It is so arranged that incoming signals are received by ringer movements (strickers), mounted on the board. Immediately below each ringer movement is mounted a drop shutter which will fall when the ringer movement is energized.

In this manner the ringer movement indicates whether or not the switch board is wanted, and the drop shutter indicates which line is calling.

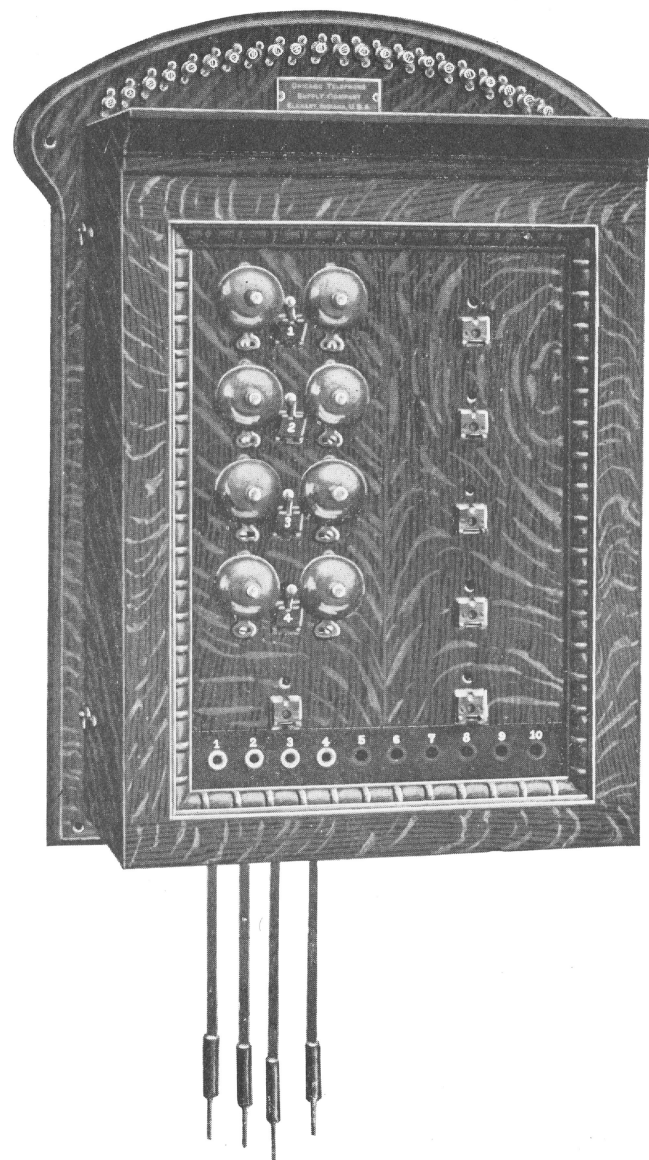
The Toll Board will be especially valuable in branch exchanges where the board is located in a store or office and the operator has other duties besides attending the switch board.

Code Number 82

For local lines having only one telephone on each line the toll board may be equipped with drops, thus forming a combination local exchange and toll board.

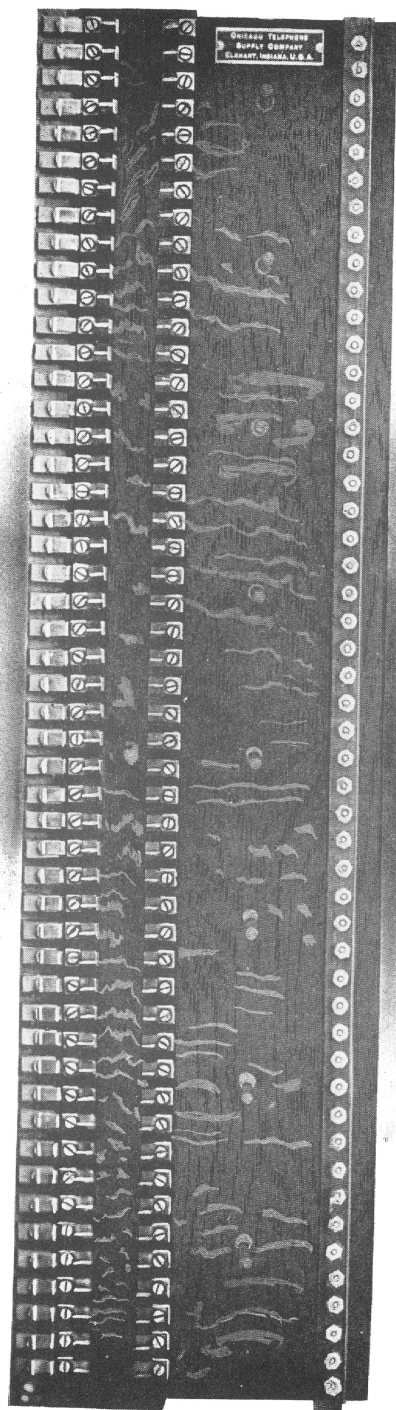
This board has capacity for twenty-four bridging lines (bells), or for twelve bridging lines (bells) and fifty local lines (drops).

Chicago Rural Line Switch Board



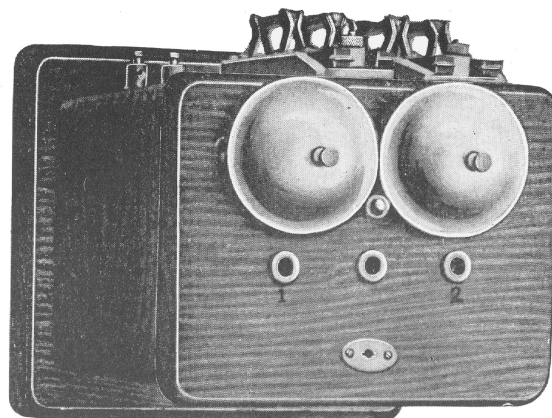
Code Number 83

This board operates in same manner as the Chicago Toll Board. It is not equipped with operator's set and must be used in connection with a telephone located at the central office. It is especially designed for work where ten or less lines converge at one point.



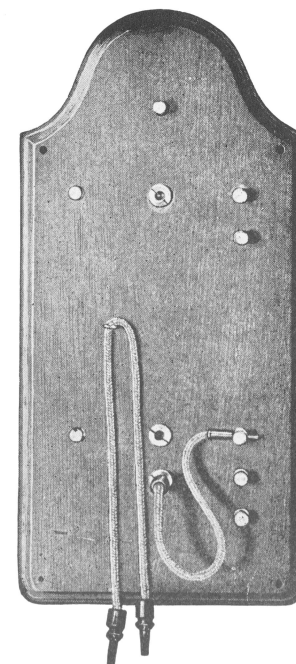
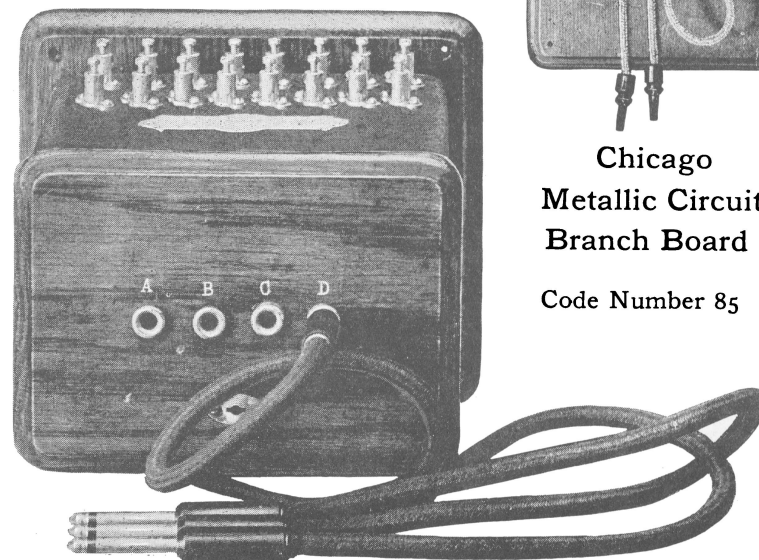
Code Number 86

Special Distributing Board and Lightning Arrester



Three Way
Jack Box

Chicago Plug Board
Code Number 84
For Ground Circuits



Chicago
Metallic Circuit
Branch Board

Code Number 85

For use in connection with extension bells for receiving signals from and making connections between bridging party lines.

These boards may be arranged to accommodate any number of lines, but are particularly recommended for use at stations where from two to six lines converge. At such points they will give as good satisfaction as equipment costing ten times as much.





CHICAGO COMMON BATTERY SYSTEM

Our Aim

SIMPLICITY is our aim in the construction of Chicago Common Battery Switch Boards and Telephones. Our specialty is the manufacture of small sized switch boards of from twenty-five to one thousand line capacity.

In designing the Chicago line of common battery apparatus we realize that in order for our apparatus to be popular and successful with the managers of small exchanges, we must produce equipment that is as simple in operation and construction as the magneto system. This we have done.

Contrary to the general conception of the telephone public the relay, when properly built, is a far more satisfactory piece of apparatus than a tubular line drop with which all telephone men are familiar. Chicago signals are especially reliable and are so constructed that it is impossible for them to fail to register a call at all times and under all conditions. As many contacts as possible have been eliminated. In the Target Board there are twenty relays per hundred lines.

Any man who is capable of installing a Magneto Board will find it no difficult feat to install and operate a Common Battery System. We have adopted a low voltage which has been standard with the Bell Company for years, and no annoying leaks are experienced through trees, etc., as is common in high voltage systems. The Chicago system is entirely free from any self-induction or cross talk, as all of our lines are perfectly balanced. We accomplish this feat without the use of any retardation coils. There is never any trouble in the Common Battery system where the lines are always kept balanced in the board. This we have accomplished in a very simple and effective manner. The right and left hand side of the lines in our boards are always of the same degree of resistance and retardation; hence, a perfectly balanced circuit.

In the larger Switch Boards the same degree of simplicity characterizes Chicago apparatus. Divided into outfits they are complete in themselves and when once purchased there are no additional parts to buy. One complete shipment is made with full and concise instructions showing how to erect and maintain a Common Battery system. It is, therefore, no more difficult for a novice to install one of these systems than it would be for him to install the other type of system known as "The Magneto."

Hamlets, villages, and towns, by the installation of the Chicago line Common Battery apparatus, are enabled to give their patrons metropolitan service, thoroughly modern and up-to-date in every particular. We wish to state here with due emphasis that we are prepared to furnish small Common Battery Boards for any hamlet, village, or town that may desire them, regardless of what the conditions are covering the source of charging power.

Only the best of materials enter into the construction of this line of apparatus; only the best German silver springs are used, platinum contacts, pure hard rubber, well seasoned wood and thoroughly and carefully insulated wire.

SIMPLICITY in our apparatus means that it can be maintained at the lowest possible cost; that its operation is always positive and reliable and that our outfits may be placed in the most out-of-way places and left in the hands of men who need not necessarily be experts.

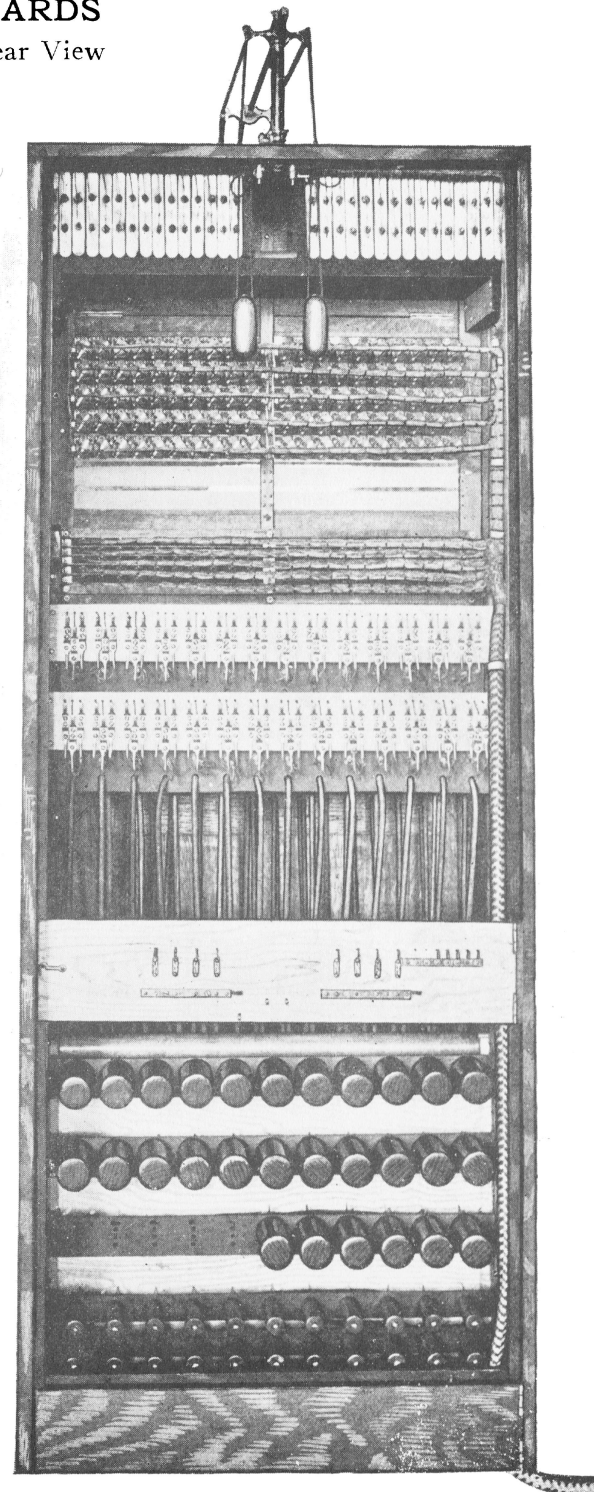
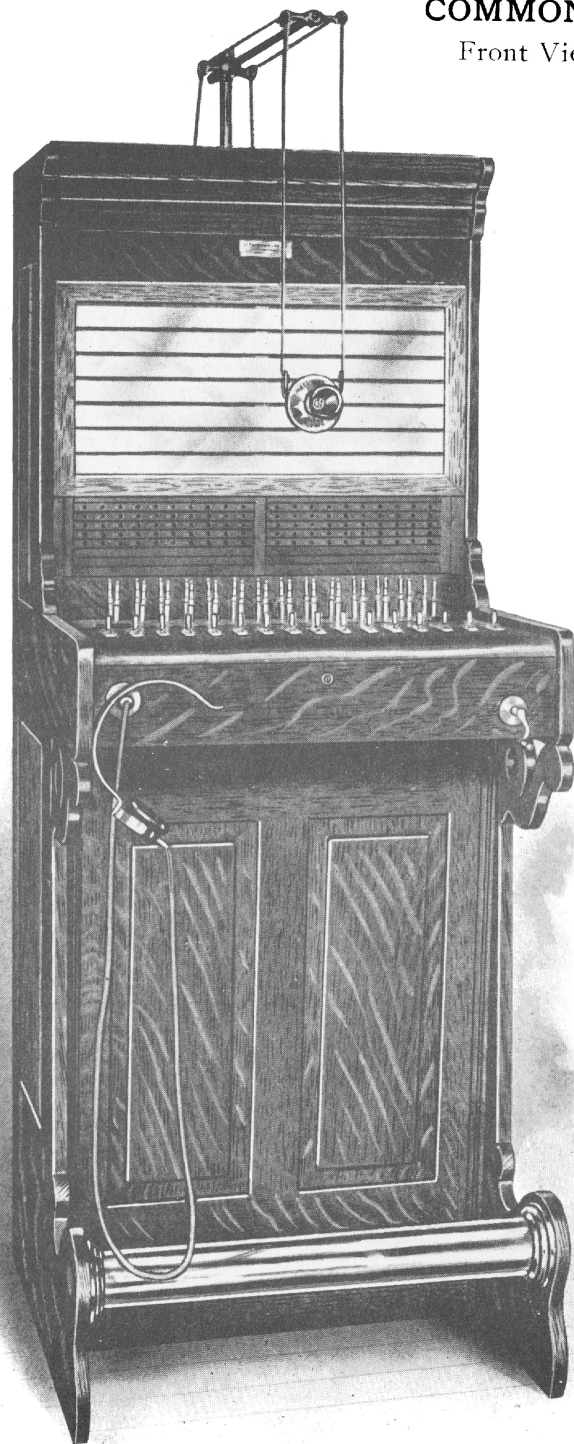


COMMON BATTERY SWITCH BOARDS

Front View

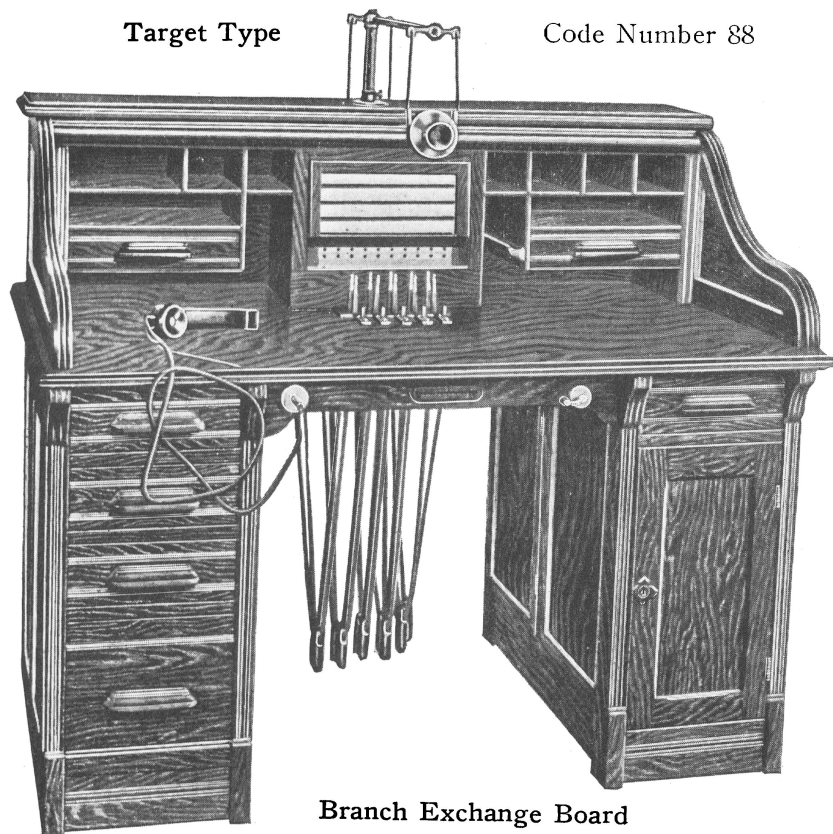
Target Type
Code Number 87

Rear View



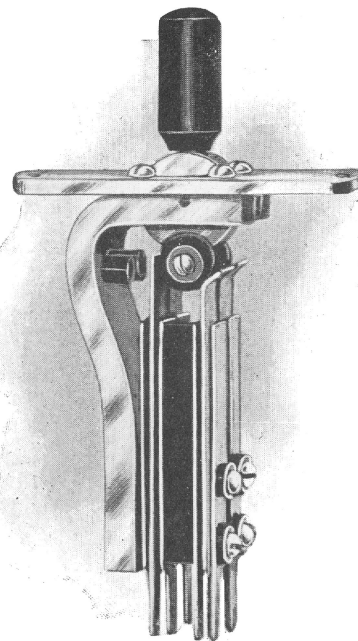
Target Type

Code Number 88

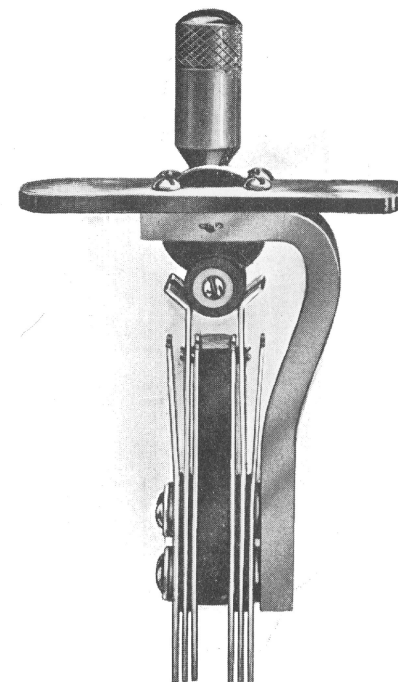


Branch Exchange Board

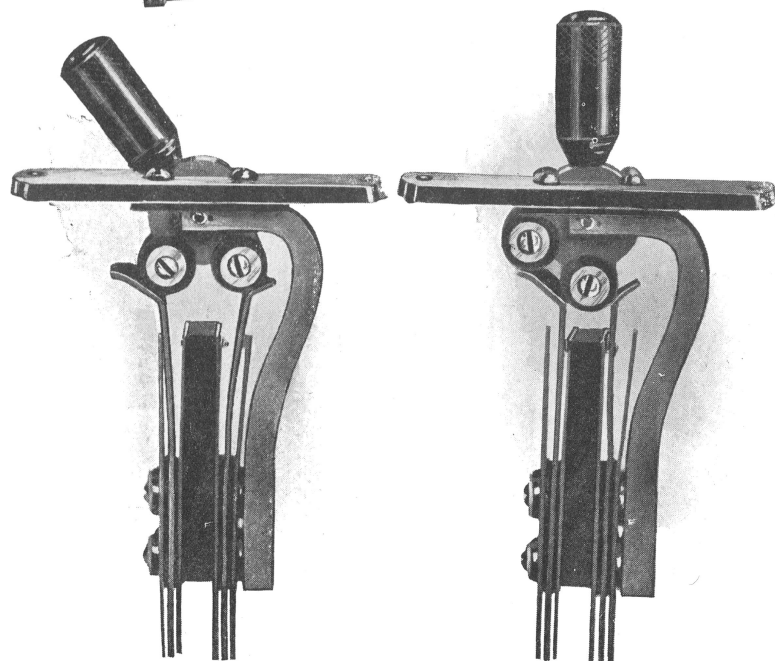
SPECIAL KEYS



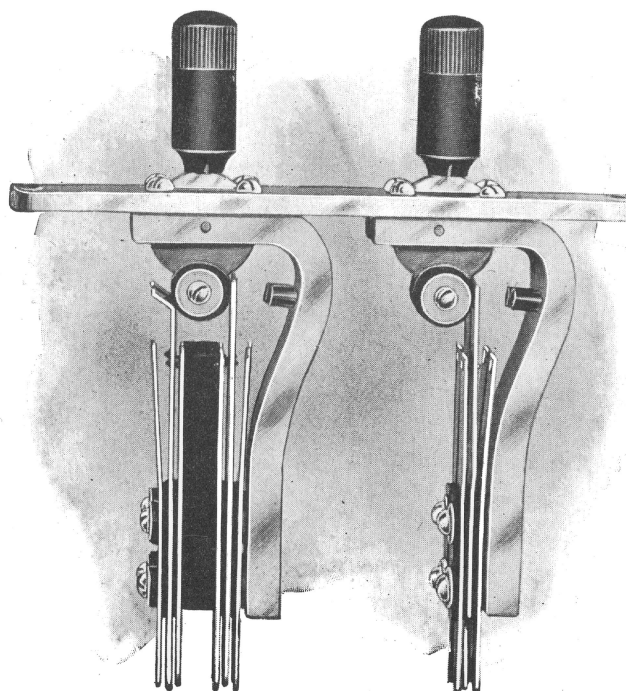
Code Number 310



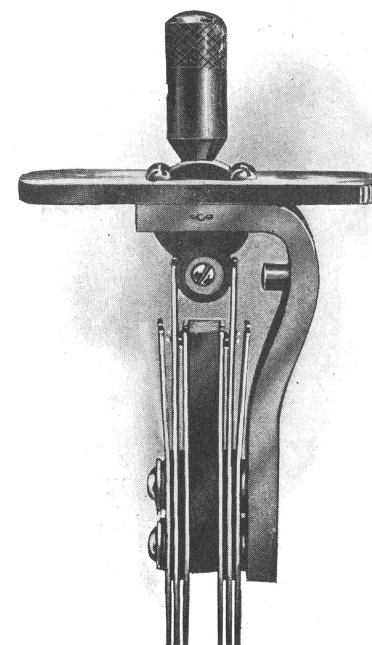
Code Number 311



Two Views. Code Number 312.



Code Number 313



Code Number 314