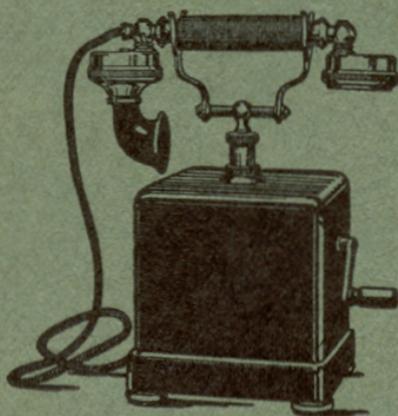


American Electric

TELEPHONE APPARATUS

BULLETIN
No. 65-C



*The Prices Stated Herein Are
Subject to Trade Discounts*

American Electric Company

State and 64th Streets
CHICAGO, U. S. A.

WORKS ESTABLISHED IN 1893

Medals Awarded:

Cotton States Exposition,
Atlanta, Ga., 1895

Tennessee Centennial,
Nashville, Tenn., 1897

International Exposition,
Omaha, Neb., 1898
Paris Exposition, 1900

We manufacture telephone instruments for every purpose and magneto ringing and central battery switchboards of any capacity, for city and country exchanges and special equipment for Government war and navy requirements, also for railway and mining use.

We have manufactured telephone equipment for more than twenty-five years, own our factory buildings and our financial responsibility warrants complete confidence in our ability to fulfill all undertakings.

Our export department is in the hands of men who are thoroughly familiar with packing, invoicing and forwarding to all foreign countries. Our long experience in manufacturing telephone equipment for export gives us first hand knowledge of requirements in the different parts of the world. We have designed a line of equipment that conforms to standard practice of the different countries, with careful consideration of climatic conditions. Our engineering department will prepare plans and estimates, also act in an advisory capacity—This department is at your service.

In ordering, please use catalog numbers.

In order to avoid delay, parties not having an established credit rating are requested to furnish suitable references or send remittance with order.

Cable Address "Microphone Chicago"

Codes used

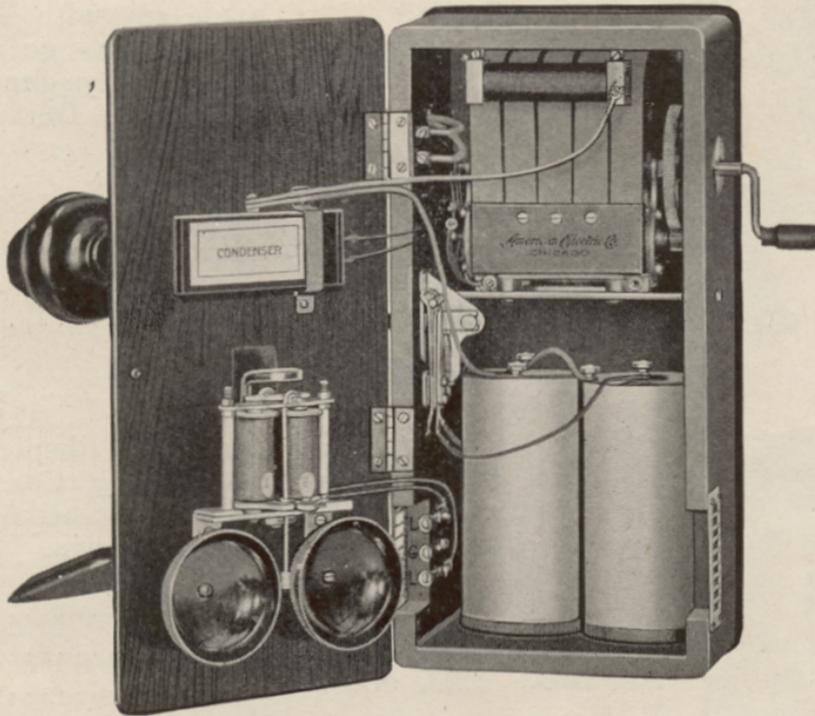
Western Union, A. B. C., 5th Improved

American Electric Company

CHICAGO, U. S. A.

If interested in Radio Apparatus, ask for literature on our high grade head telephones, jacks, plugs, arresters, etc.

No. X69 MAGNETO TELEPHONE



Full length adjustable transmitter arm.

Lightning arrester of air-gap type. No carbon dust.

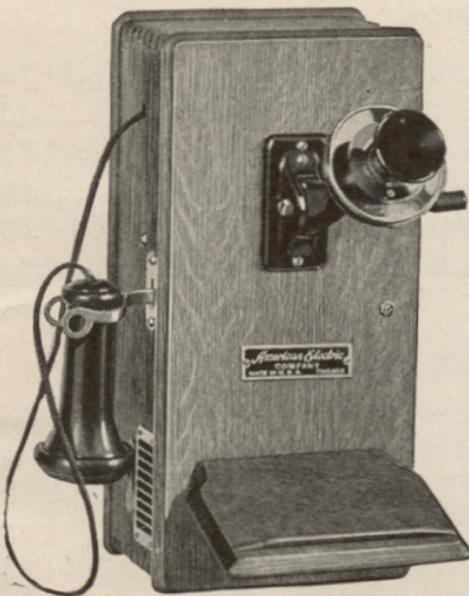
The No. X69 Magneto Wall Telephone is made up with enclosed gongs—a new arrangement of parts—the latest standard practice. Smaller and neater cabinet.

The Ringer with 3-inch gongs is mounted inside of the cabinet. Slotted plates on each side of the cabinet permit the ringing of the bells being distinctly audible.

Wiring is provided so that condenser can be installed at any time, or condenser installed if so specified.

All parts of this telephone are of the standard designs which have proven their superiority through years of use.

Packed for shipment weight 25 lbs. Size packing case, 6x8 $\frac{1}{4}$ x16 $\frac{1}{2}$ inches.

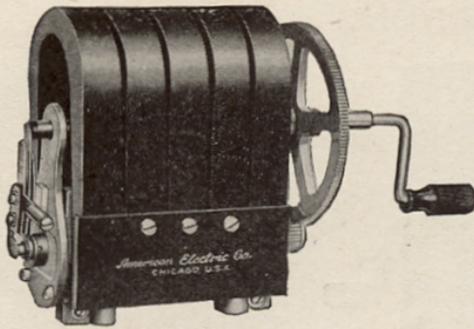


Cut 1/6 actual height

Less batteries and condenser.

No. X 695.	3 bar, 1,000 ohm.....	\$15.75
No. X 696.	4 bar, 1,000 ohm.....	16.10
No. X 697.	4 bar, 1,600 ohm.....	16.30
No. X 698.	5 bar, 1,000 ohm.....	16.45
No. X 699.	5 bar, 1,600 ohm.....	16.65
No. X6911.	5 bar, 2,500 ohm.....	17.05
	Add for condenser, if wanted.....	.45
	Push button non-interfering, metallic..	.40
	Push button non-interfering, grounded.	.75

TELEPHONE GENERATORS

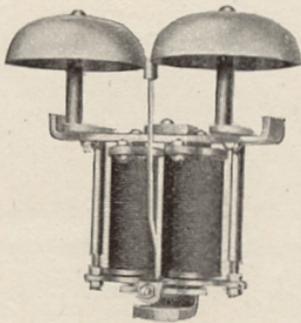


No. 93

These generators are made up with special steel flat bar magnets, extra heavy cast gears and long brass bearings. A heavy duty generator that meets every requirement. Detachable handle.

- No. 92. 3 bar, bridging.....\$5.20
- No. 103. 4 bar, bridging..... 5.55
- No. 93. 5 bar, bridging..... 5.90
- No. 104. 3 bar, compact..... 5.80

No. 76 RINGER

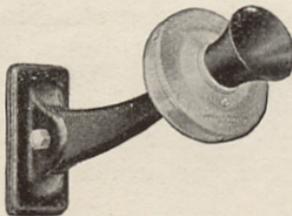


No. 76

All parts of this ringer are of simple construction and self-contained. Long Coils and strong permanent magnet used. Positive locking adjustment. Complete with gongs.

- No. 76C. 1,000 ohm.....\$2.90
- No. 76E. 1,600 ohm..... 3.10
- No. 76G. 2,500 ohm..... 3.50
- Ringer without gongs deduct..... .30

No. 50 TRANSMITTER

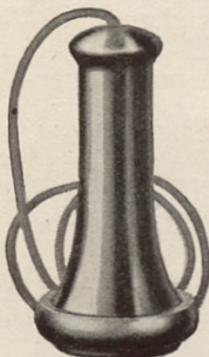


**No. 54—Arm
No. 50—Transmitter**

A standard long distance transmitter constructed along most modern lines. Especially prepared carbon assures long life, low battery consumption and clear articulation. Transmitter is damp and rust-proof.

- No. 50. 3 volt, local battery\$1.75
- No. 51. 40 volt, common battery 1.75
- No. 52. 24 volt, common battery 1.75
- No. 54A. Transmitter arm only, long.... .60
- No. 54B. Transmitter arm only, short.... .60
- No. 54T. Arm with No. 50 Transmitter... 2.35

No. 60 RECEIVER



No. 60

Electrically welded magnets assure high efficiency in these receivers. Soft core magnets are attached directly to ends of the steel magnets. Extra heavy cap and shell.

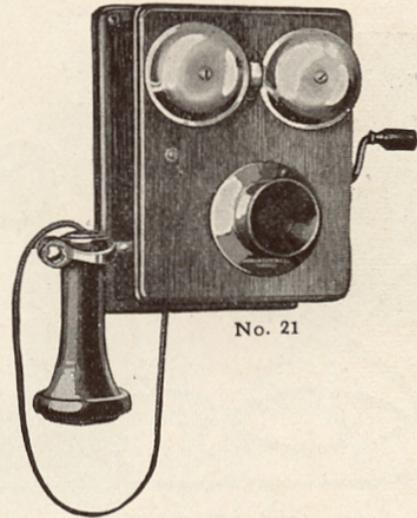
- No. 60. Receiver, less cord.....\$1.65
- No. 60. Receiver, with 30 inch cord..... 1.90

No. 21 MAGNETO RINGING TELEPHONE

Standard parts same as No. X69. No space provided for batteries.

Complete less batteries.

No. 215.	3 bar, 1,000 ohm.. . . .	\$15.00
No. 216.	4 bar, 1,000 ohm.. . . .	15.35
No. 217.	4 bar, 1,600 ohm.. . . .	15.55
No. 218.	5 bar, 1,000 ohm.. . . .	15.70
No. 219.	5 bar, 1,600 ohm.. . . .	15.90
No. 2111.	5 bar, 2,500 ohm.. . . .	16.30



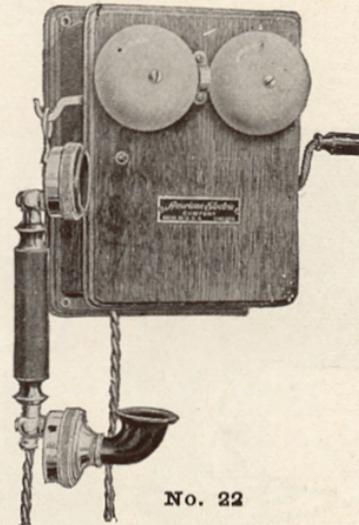
No. 21

No. 22 MAGNETO RINGING TELEPHONE

Same as No. 21 except equipped with No. 17 hand set as shown.

Complete less batteries.

No. 225.	3 bar, 1,000 ohm.. . . .	\$19.50
No. 226.	4 bar, 1,000 ohm.. . . .	19.85
No. 227.	4 bar, 1,600 ohm.. . . .	20.05
No. 228.	5 bar, 1,000 ohm.. . . .	20.20
No. 229.	5 bar, 1,600 ohm.. . . .	20.40
No. 2211.	5 bar, 2,500 ohm.. . . .	20.80



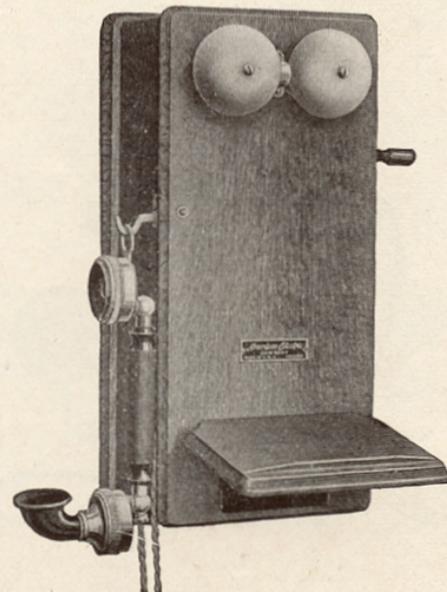
No. 22

No. 370 MAGNETO RINGING TELEPHONE

All parts are the same as used in No. X69 telephone excepting No. 17 hand set is used in place of No. 50 transmitter and No. 60 receiver.

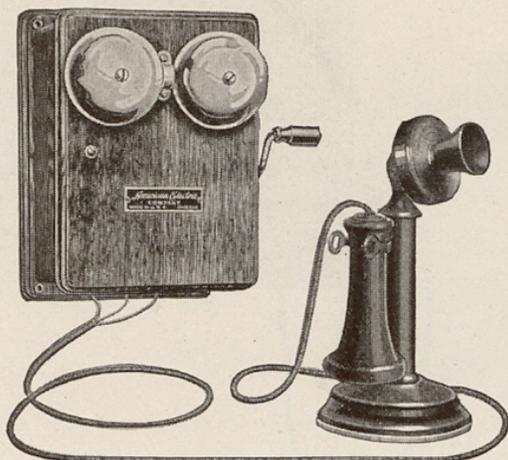
Complete less batteries.

No. 375.	3 bar, 1,000 ohm.. . . .	\$20.25
No. 376.	4 bar, 1,000 ohm.. . . .	20.60
No. 377.	4 bar, 1,600 ohm.. . . .	20.80
No. 378.	5 bar, 1,000 ohm.. . . .	20.95
No. 379.	5 bar, 1,600 ohm.. . . .	21.15
No. 3711.	5 bar, 2,500 ohm.. . . .	21.55



No. 370

No. 113 MAGNETO RINGING DESK TELEPHONE

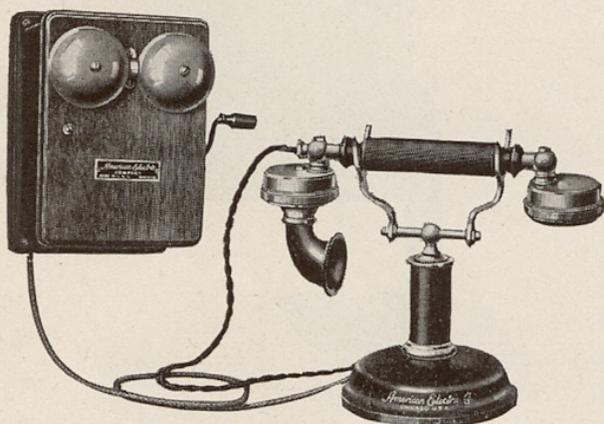


No. 113 L. B.

The No. 113 desk set with No. 79 magneto bell box is standard high grade equipment, making a most popular type of telephone. No. 5C Induction Coil in the magneto box. All parts are easily accessible. Equipped with adjustable transmitter head when so specified.

- No. 1135. 3 bar, 1,000 ohm.....\$17.25
- No. 1136. 4 bar, 1,000 ohm..... 17.60
- No. 1137. 4 bar, 1,600 ohm..... 17.80
- No. 1138. 5 bar, 1,000 ohm..... 17.95
- No. 1139. 5 bar, 1,600 ohm..... 18.15
- No. 11311. 5 bar, 2,500 ohm..... 18.55
- No. 113L. Desk stand only, Magneto type, with connecting cord, without induction coil 6.65

No. 46 MAGNETO RINGING CRADLE SET

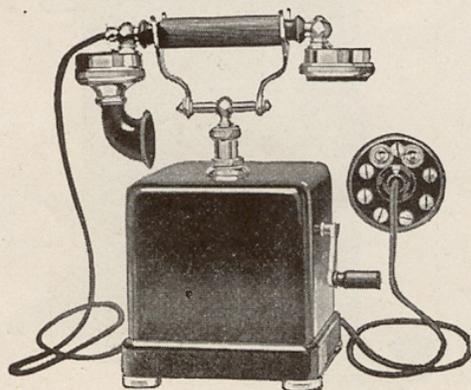


No. 46 L. B.

A convenient cradle telephone using the No. 17 Hand Set. The switch is located in the stem. A No. 5C Induction Coil mounted in the base. Used in connection with No. 79 magneto bell box, this makes an ideal desk set.

- No. 465. 3 bar, 1,000 ohm....\$23.20
- No. 466. 4 bar, 1,000 ohm.... 23.55
- No. 467. 4 bar, 1,600 ohm.... 23.75
- No. 468. 5 bar, 1,000 ohm.... 23.90
- No. 469. 5 bar, 1,600 ohm.... 24.10
- No. 4611. 5 bar, 2,500 ohm.... 24.50
- No. 46L. Cradle Stand only with No. 17 Hand Set and cords, magneto type 13.35

No. 83 MAGNETO RINGING TABLE SET



No. 83

A very compact set, making a complete magneto telephone in one unit. The case is easily removed, exposing the equipment mounted on the base, 3 wide bar Tungsten steel generator, No. 78 Ringer, No. 43 Induction Coil and No. 17 Hand Set. All metal case black enameled. Equipped with cordage and rosette terminal block with protector.

- No. 836. 3 bar, 1,000 ohm.....\$23.55
- No. 837. 3 bar, 1,600 ohm..... 23.75

No. 113 CENTRAL BATTERY TELEPHONE

The No. 113 is a most reliable type of telephone, equipped with standard transmitter and receiver. No. 6A Induction Coil mounted in the Ringer Box. Switchhook in stem. All parts easily accessible for inspection. All black enamel finish is standard, nickel trim when so ordered. Complete with cordage and No. 81 Metal Case extension bell.

Adjustable transmitter head furnished when so desired.

- No. 11304. 1,000 ohm, 2 M. F. Condenser\$13.30
- No. 1130. Desk Stand only..... 6.65
- No. 8104. Bell Box only, with induction coil 6.65



No. 113 C. B.

No. 114 CONVERTIBLE DESK TELEPHONE

These instruments are arranged for use on Common Battery manual system, but are convertible for automatic use by addition of dial. Change can be made in a few minutes' time. The dial is well over the center of the desk stand base, safe from knocks or damage. Supplied with or without dial. Furnished with bell box No. 167, which has enclosed gongs and double door cabinet similar to the No. 166 wall telephone. (See page 7.)

All parts are instantly accessible. Large Booster induction coil. Substantial removable switchhook of simplified construction. All standard parts interchangeable.

- No. 11404. Convertible Desk Telephone with bell box, 1,000 ohm, no dial....\$17.00
- No. 114. Convertible Desk stand only, without dial....\$ 8.50

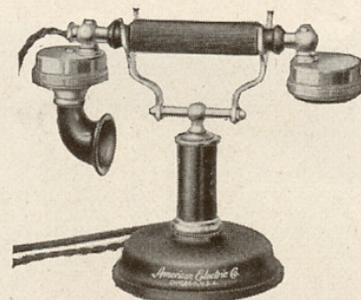


No. 114 Convertible

No. 46 CENTRAL BATTERY CRADLE SET

A convenient telephone equipped with No. 17 Hand Set. The switch is in stem; No. 6D Induction Coil in base. Used in combination with No. 81 Metal Case Extension Bell Box, as shown above with the No. 113 Desk Stand, or No. 19 with Wood Box.

- No. 4604. 1,000 ohm, 2 M. F. Condenser..\$19.25
- No. 460. Stand and Hand Set only..... 13.35



No. 46 C. B.

When ordering C. B. telephones specify voltage.

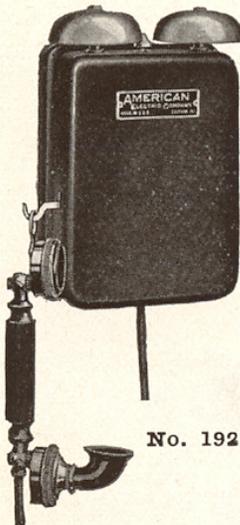


No. 166

No. 166 CONVERTIBLE WALL TELEPHONE
For Common Battery and Automatic Systems

These convertible type telephones are designed for installation by common battery exchanges where a possible future change to automatic system is contemplated. The No. 166 has many clever features of construction. Any make of dial can be connected and mounted in a few seconds. Neat, pleasing design. Double door steel cabinet. Every part accessible. Enclosed ringer gongs, safe from tampering. Slotted openings in the cabinet make the ringing of the gongs clearly audible. High efficiency transmitter and receiver.

No. 166. Convertible Wall Telephone, 1,000 ohm, without dial\$14.00



No. 192

No. 192 CENTRAL BATTERY TELEPHONE

A neat wall or desk telephone equipped with No. 17 Hand Set, No. 76 Ringer and No. 31C Induction Coil. Metal Case. Can be mounted in convenient place without taking up desk room.

No. 1924. 1,000 ohm Ringer, 2 M. F. Condenser.....\$15.85

Magneto Ringing Extension or Answering Set

The No. 192 set can also be used as an extension to a magneto telephone for a ringing or answering station.

No. 192C. 1,000 ohm Ringer, 31B Induction Coil....\$15.40

No. 192D. 1,600 ohm Ringer, 31B Induction Coil.... 15.85

No. 1920. Complete as shown but less ringer..... 11.65

RADIO RECEIVERS

These radio receivers are for those who desire highest degree of sensitivity, light weight, and substantiality. Carefully wound coils, magnets of special steel. Head band of spring steel wire with sanitary or leather covering. Double swivel holders, adjustable as to length, allowing the receivers to fit comfortably to the ear.



No. 23W

No. 88K. Army and Navy type, 2,500 ohms, per pair.....\$ 8.00

No. 88L. Army and Navy type, 3,200 ohms, per pair..... 10.00

No. 23W. Swedish American, 2,200 ohms, per pair..... 6.00

No. 92. Victor type, single coil, per pair..... 5.00

No. 93. Keystone type single coil, per pair..... 5.00

No. 100. Burns Loud Speaker, for phonograph or horn.... 10.00

No. 105. Burns Loud Speaker with horn..... 20.00

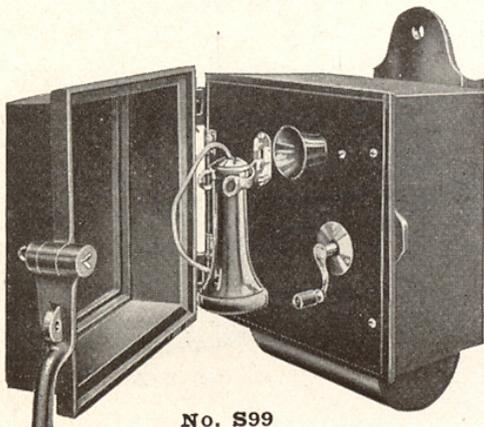
No. S99 IRON CASE TELEPHONE

These magneto ringing telephones are built with heavy iron cases for use in mines or exposed positions. The door is provided with rubber gasket and ever-tight latch. Can be padlocked. All equipment is treated so as to be dust and moisture proof. An inner case protects the mechanism. Loud ringing gongs are provided.

No. S996. 4 bar generator, 1,000 ohm ringer\$37.95

No. S999. 5 bar generator, 1,600 ohm ringer 38.50

No. S9911. 5 bar generator, 2,500 ohm ringer 38.85



No. S99

No. 16 HAND SET

This hand set is used for inspection work by telephone, telegraph and railway companies and also for army and navy telephone service. Black enamel finish. Substantial metal case.

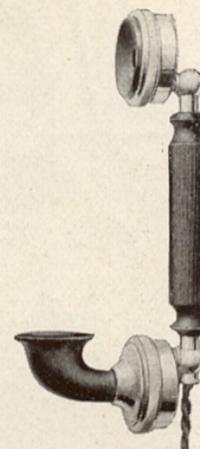


No. 16

- | | | |
|------|--|---------|
| 1601 | Used with local battery telephones having gravity switch..... | \$ 8.35 |
| 1602 | Used with common battery telephones having gravity switch..... | 8.75 |
| 1604 | With switch, receiver in series with transmitter. Used as a lineman's test set..... | 10.00 |
| 1605 | Used with local battery telephone not having gravity switch | 8.95 |
| 1607 | Receiver in series with transmitter, without switch. Used as a common battery lineman's test set..... | 9.35 |
| 1609 | Receiver in series with transmitter, through a condenser, with switch to short the condenser. Used as a common battery lineman's test set..... | 10.60 |

No. 17 HAND MICROPHONE

A neat hand set of light weight and proper proportions, used in combination with the different telephones as shown on previous pages. Metal parts nickel plated.



No. 17

- | | | |
|------|--|---------|
| 1701 | Used with local battery telephone having gravity switch. | \$ 8.35 |
| 1702 | Used with common battery telephones having gravity switch | 8.75 |
| 1703 | With switch, for use in special local battery extension sets | 9.60 |
| 1704 | With switch, for use with common battery telephones, direct current receiver in series with transmitter..... | 9.60 |
| 1705 | Used with local battery telephone not having gravity switch | 9.35 |
| 1707 | Used with common battery telephone having gravity switch. Direct current receiver in series with transmitter | 8.35 |
| | If hand sets are to be arranged with a hook ring, add | .40 |

No. 240 COMBINATION SET

The Switch hook and induction coil are mounted in a small metal case. The No. 17 hand microphone completes the set. This is used as an extension telephone or it can be used in combination with No. 79 bell box, making an ideal desk or bedside telephone.

- | | | |
|-------|--|---------|
| 240A. | Switchhook Box with No. 17 Hand Microphone for local battery use | \$11.25 |
| 240B. | Switchhook Box with No. 17 Hand Microphone for common battery use..... | 11.25 |

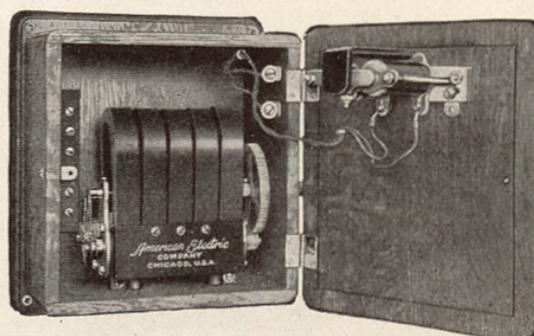


No. 240

No 79 MAGNETO RINGING BELL BOX

No. 76 Ringer and standard generator are mounted in neat oak box. Induction coil is included. Used in combination with No. 46 cradle sets and No. 113 desk sets.

- | | | |
|-----------|--|---------|
| No. 795. | 3 bar, 1,000 ohm..... | \$10.60 |
| No. 796. | 4 bar, 1,000 ohm..... | 10.95 |
| No. 797. | 4 bar, 1,600 ohm..... | 11.15 |
| No. 798. | 5 bar, 1,000 ohm..... | 11.30 |
| No. 799. | 5 bar, 1,600 ohm..... | 11.50 |
| No. 7911. | 5 bar, 2,500 ohm..... | 11.90 |
| | When furnished without induction coil deduct | .75 |



No. 79



No. 115

**"DIALAPHONES"
FOR INTERCOMMUNICATION**

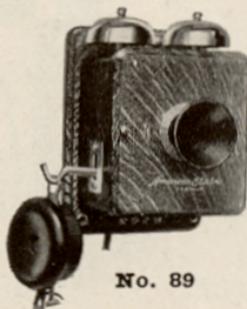
"Dialaphones" are offered as reliable instruments for intercommunication. Each telephone is equipped with a dial for selecting the individual line or station wanted. Easily operated. Turn dial to number wanted and push button. Handles any number of lines from 2 to 50. Especially adapted for use in homes, factories, hotels, hospitals, etc. Also between nearby buildings. No central station required. Both wall and desk types supplied. All parts are substantial with no complicated springs or mechanism.



No. 72

	Desk Type No. 115	Wall Type No. 72
4, 6 and 8 station... No. 115A	\$20.00	No. 72A \$18.50
12 station..... No. 115B	22.20	No. 72B 20.75
16 station..... No. 115C	24.45	No. 72C 22.95
20 station..... No. 115D	26.65	No. 72D 25.15
24 station..... No. 115E	28.90	No. 72E 27.40
30 station..... No. 115F	32.55	No. 72F 30.35
40 station..... No. 115G	38.45	No. 72G 35.55

Terminal blocks mounted in wall phone. Separate terminal block furnished with desk set included in price. Specify bell or buzzer for desk telephone. No cable included in telephone prices.



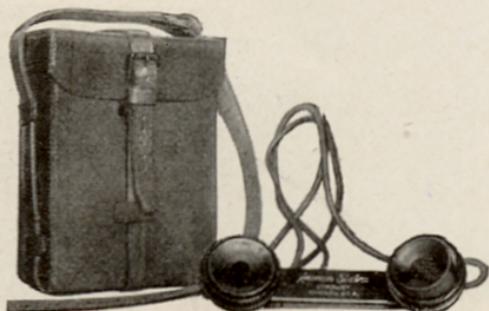
No. 89

No. 89 HOUSE TELEPHONES

A small neat telephone for use on system within a building.

- No. 89A. For use with two stations only with two connecting wires\$ 7.80
- No. 89B. Common-talking, selective calling, four button 10.35
- No. 89C. Used in connection with a switchboard or annunciator 7.40
- No. 89D. One button, for use with No. 89B as the Central Station 7.80

No. 129 PORTABLE TELEPHONE



No. 129

A portable magneto telephone for connecting to metallic or grounded lines. Provided with a durable leather case with shoulder strap. Equipped with No. 16 Aluminum Hand Set, powerful generator, detachable generator crank handle. Apparatus is mounted on an aluminum frame which can be easily removed for inspection or adjustment.

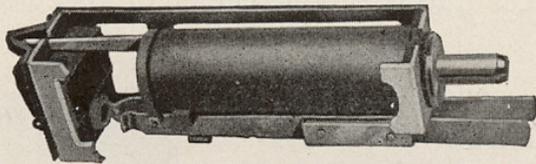
Especially adapted for linesmen, or use as an emergency telephone. Wired for line-man's test set when specified.

No. 129. Portable Telephone.....\$22.20

BURNS EXPRESS SWITCHBOARDS

The equipment in Burns Express Switchboards is simply and compactly built, every part of ample size to assure durability and of most approved and up-to-date type of construction.

The cabinets are of quarter-sawed oak, handsomely finished and of pleasing design. These are made of various capacities and such equipment as is required can be installed.

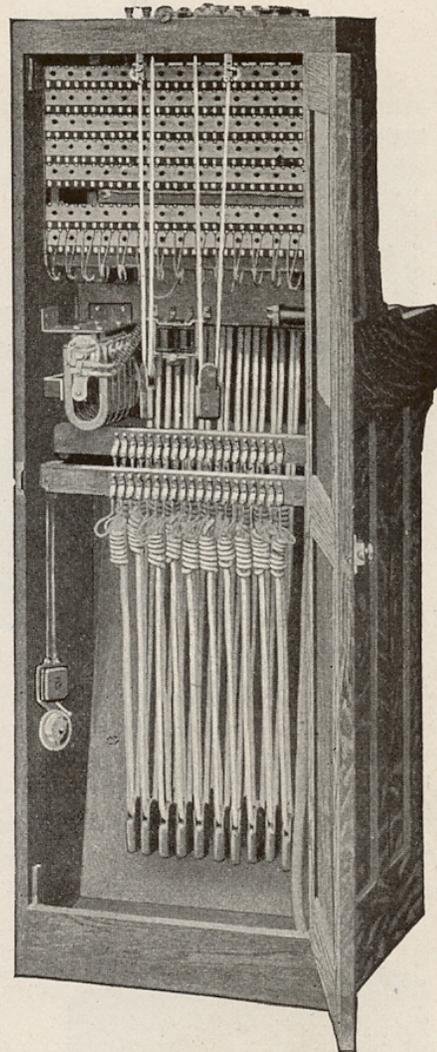


No. 45—Drop and Jack

Each combined drop and jack is a separate unit held in place by a brass rod as shown extending above the cabinet. Can be removed quickly for repairs or inspection without disconnecting any wires. Coil is iron encased. Shutter is automatically restored by the plug.

One position cabinets can be furnished in the low type which brings the key shelf 30 inches from the floor and permits the operator to use a chair of ordinary height.

Low key shelf is standard on Cabinets No. 11 and No. 30 and will be furnished unless otherwise specified.

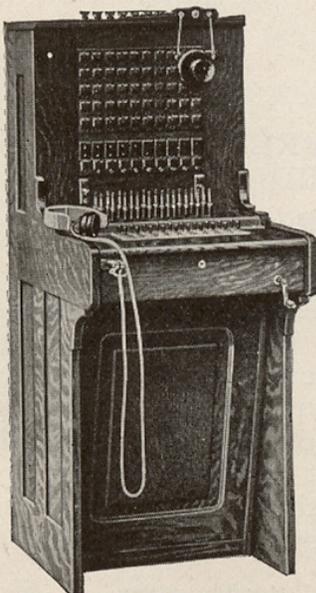


Inside View

No. 11 BURNS EXPRESS SWITCHBOARD

Magneto Ringing

Capacity—50 lines and 8 pairs connecting cords and plugs, ringing and listening keys, operator's equipment and night bell. Standard 500 ohm clearing out drop in each cord circuit. Finish is golden oak.



No. 11A

No. 11A. Cabinet with 8 pairs of cords and plugs, and 50 drops and jacks, complete as shown. . . . \$354.80

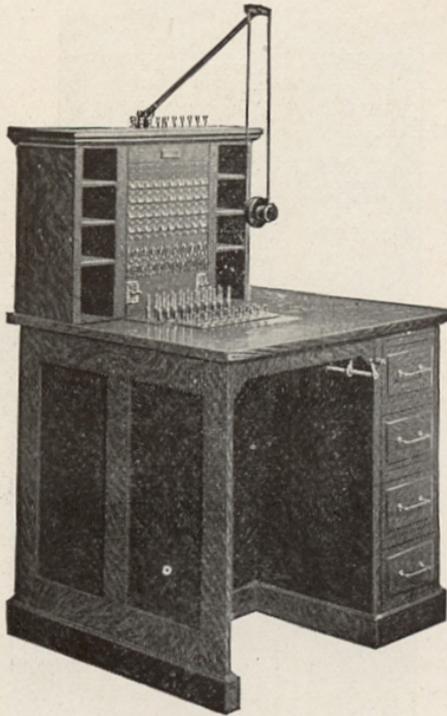
Add for cable attached to drop terminals and extending 10 feet from the cabinet. 15.55

BURNS EXPRESS SWITCHBOARDS
Desk Type, Magneto Ringing

The No. 42 Desk Cabinet has ultimate capacity for 50 lines, cord circuit capacity up to 15 pairs, pigeon holes on both sides, drawers on right hand side. A popular switchboard for private or small exchange, and for chief operator's use.

The No. 43 Desk Cabinet is same as No. 42 except 100 lines capacity and no pigeon holes.

Prices quoted upon receipt of specifications.



No. 42

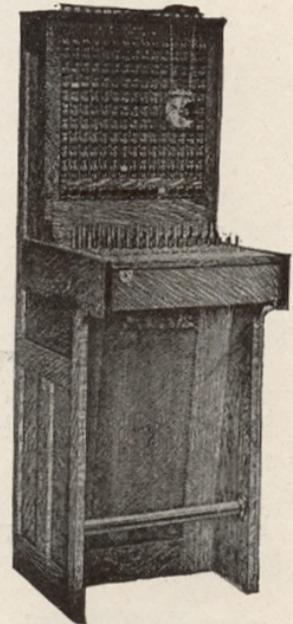
night alarm. Golden oak finish. Can be furnished fully or only partially equipped. Prices will be governed by equipment installed.

No. 30A. Cabinet completely equipped as shown

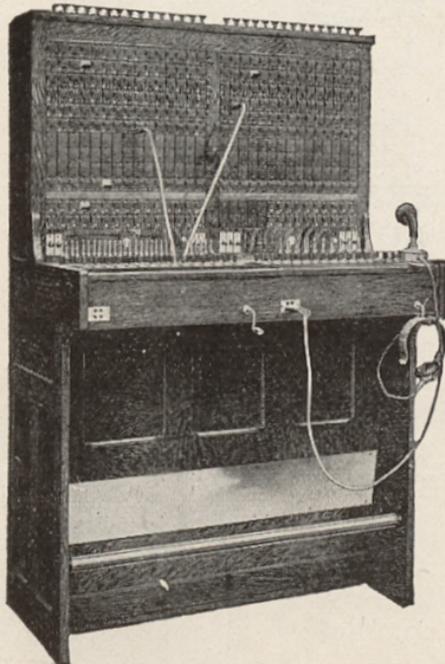
with 15 cord circuits and 150 drops and jacks\$767.05
Add for 150-pair cable soldered to drop terminals and extending 10 ft. from cabinet. . \$46.65

No. 30 BURNS EXPRESS SWITCHBOARD

Capacity 150 lines and 15 pairs connecting cords and plugs, operator's equipment and



No. 30A



No. 25

No. 25 BURNS EXPRESS SWITCHBOARD

Magneto Ringing

300 capacity line signals, 30 cords circuits, substantial cabinet, golden oak finish. Brass foot rail and kick plate. Can be shipped with partial line and cord circuit equipment which can be increased as required by growth of service. Illustration shows cabinet partially equipped. Arrangement of position of line signals is optional with purchaser. Price quoted upon receipt of specifications.

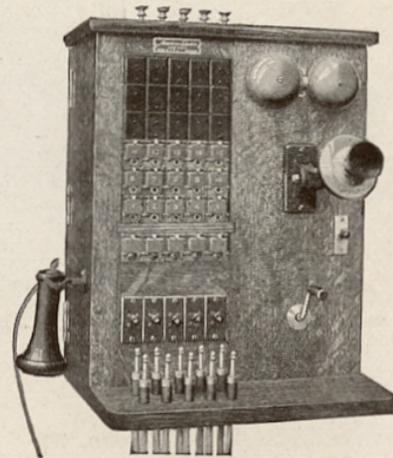
All switchboards are packed for shipment in substantial wooden cases.

No. 77 BURNS EXPRESS SWITCHBOARD
Wall Type

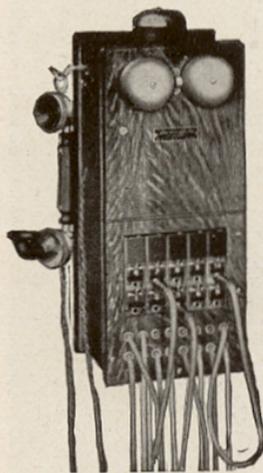
Capacity for 30 combined drops and jacks and 5 pairs of connecting cords and plugs, night-alarm circuit. Illustration shows board complete excepting only 15 drops and jacks are shown installed. Blanks above the drops can be removed and additional drops and jacks installed at any time. Terminals are provided in back for attaching line wires. Back is hinged to cabinet.

No. 77. Switchboard with 5 pairs connecting cords and plugs, complete talking and ringing equipment, with 15 drops and jacks\$163.15

Add for each additional drop and jack 3.30



No. 77



No. 85

No. 85 SWITCHBOARD
Magneto Ringing

Capacity, 15 lines. Equipment, 500 ohm drops and jacks bridged across the line with a cord and plug corresponding to each line circuit, one answering and ringing plug. Connection is made by use of one plug only. The calling line drop is left bridged across the line as a clearing out signal. Complete ringing equipment and No. 17 Hand Set. Furnished fully or partially equipped.

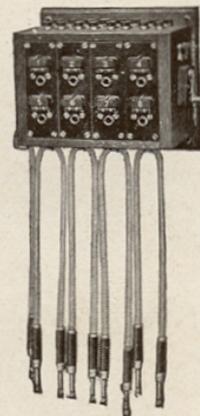
No. 85. Cabinet as shown less drops and jacks....\$44.45

Add for each line signal installed..... 5.20

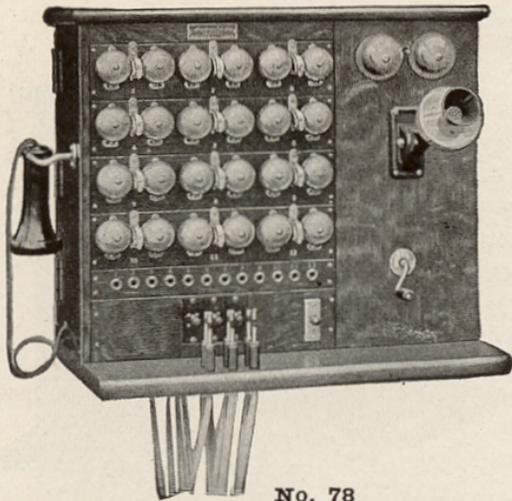
No. 107 PONY TYPE SWITCHBOARD
Magneto Ringing

Used in connection with a wall or desk telephone. Capacities range from 2 to 20 lines in two line units with one pair of cords and plugs to each unit. One plug, cord, and drop for each line circuit. Cord and plug are supplied for the operator's telephone. Equipped with night alarm circuit and switch. Bell and batteries are furnished separately at additional charge.

No. 107C.	6 lines.....	\$ 43.65
No. 107D.	8 lines.....	54.80
No. 107E.	10 lines.....	67.80
No. 107F.	12 lines.....	78.90
No. 107H.	16 lines.....	102.95
No. 107J.	20 lines.....	125.15



No. 107



No. 78

No. 78 RINGER SWITCHBOARD

The mechanism of the No. 78 Ringer Switchboard is very simple. Bells instead of drops are installed giving a ringer type of board with capacity for 12 lines, and 5 cord circuits. This switchboard is designed for use where operator does not spend entire time at switchboard, but can be signaled at any time.

The Operator's set consists of regular telephone transmitter, generator, ringer and receiver. The line ringer gives the clear-out signal.

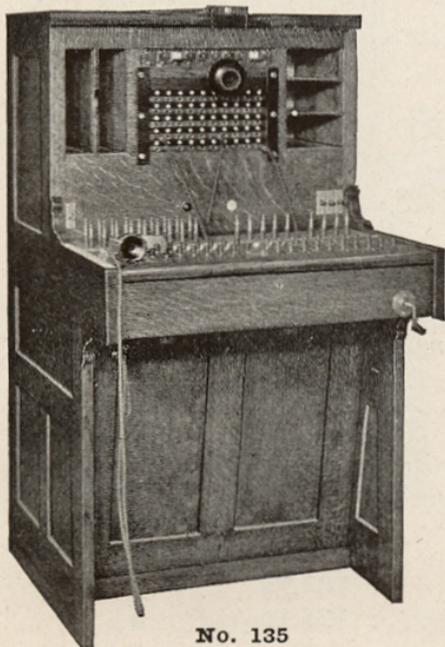
No. 78. Ringer Type Switchboard with 12 Ringers (1,600 ohms) and connecting Jacks, 3 Cord Circuits—single key type, and complete with Operator's equipment as illustrated....\$156.10

PRIVATE BRANCH SWITCHBOARDS

Burns Switchboards are supplied for private telephone systems, either with or without connections to an outside system, and with equipment most adaptable to the requirements of each particular system. Either shutter type of line signals or lamp signals may be employed.

Different styles of cabinets are illustrated—the standard desk No. 42, the sanitary type No. 49, and the No. 135 floor type. Either one or two rows of pigeonholes can be placed in the turret. The No. 47 and No. 89 type of telephone instruments shown herein can be used in connection with these switchboards.

Recommendations and full information supplied for any proposed installation.



No. 135



No. 49

COMMON BATTERY SWITCHBOARDS

We can make up common battery switchboards to meet any operating conditions. Desk cabinets for handling limited number of lines or floor type cabinets of any number of operators' positions for larger installations—the No. 42 desk cabinet, and No. 135 floor cabinet are popular for this work.

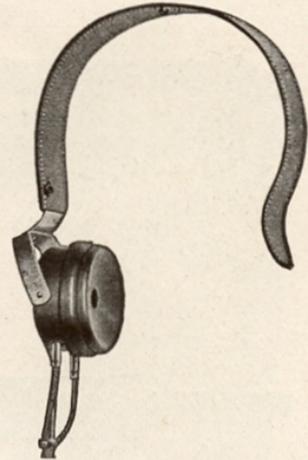
Ringling equipment, power board, charging outfit and the accessories for the complete installations furnished by us.

Prices on receipt of detailed information as to customer's requirements.

OPERATOR'S RECEIVER

A convenient size in a high grade receiver equipped with special steel magnets, aluminum cup, hard rubber cap, and No. 15 leather covered head-band.

- No. 84B. Watch Case Receiver only.....\$2.20
- No. 15. Head Band95
- No. 59. Spun Silk Cord, length five foot..... .65



**No. 84B Receiver
No. 15 Head Band**

OPERATOR'S BREAST-PLATE SET

Aluminum breast-plate in combination with No. 84B receiver and No. 15 head-band. Very light weight.



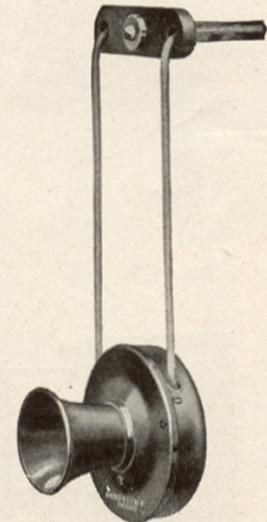
No. 42 Set

- No. 42. Set consisting of transmitter, receiver, head-band, cordage and plug\$11.00
- No. 169. Breast-plate transmitter only, 24 volt 5.50
- No. 170. Breast-plate transmitter only, 40 volt 5.50
- No. 171. Breast-plate transmitter only, local battery 5.50

SUSPENDED TRANSMITTER

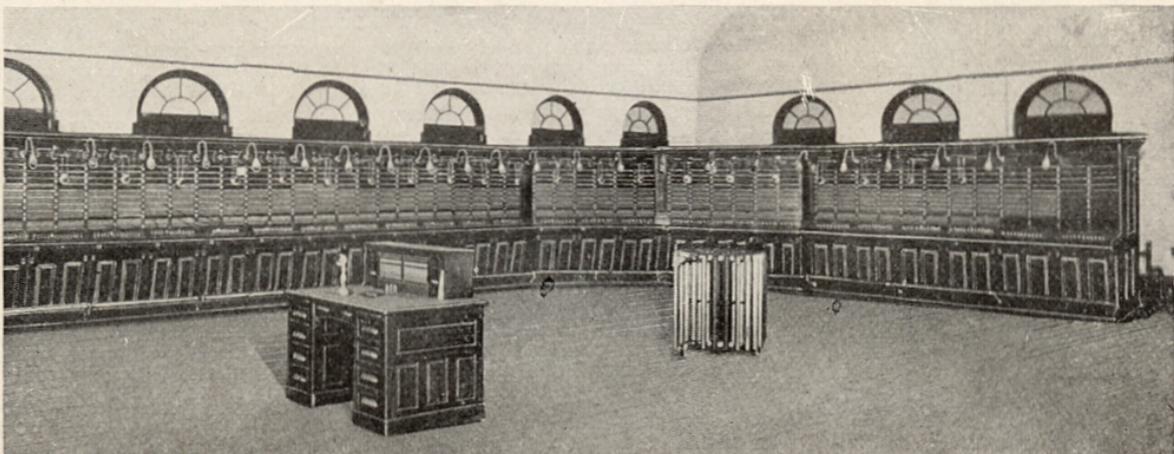
This type of transmitter is used as standard equipment on all Burns Express Switchboards. Black enamel is regular finish, nickel plated if so desired.

- No. 63B. Local Battery\$2.40
- No. 64. Central Battery, 24 volts..... 2.40
- No. 67B. Central Battery, 40 volts..... 2.40
- No. 62. Cord for suspended transmitter, per pair .55



No. 63

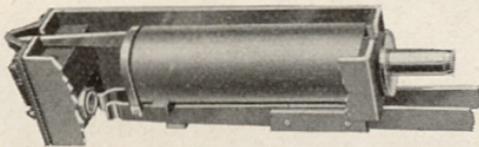
Specify voltage when ordering C. B. Transmitters.



BURNS EXPRESS DROP AND JACK

The Burns combined drop and jack is the simplest ever designed. Few parts, and each substantial—every mechanical movement direct and positive.

The Drop and Jack form one unit. A vertical rod passes through a fiber retaining block in the front of each drop, one rod to each vertical row of drops. Removal of this rod permits lifting out of drop.



No. 45

- No. 45A. Burns Express, 250 ohms.....\$3.25
- No. 45X. Burns Express, 350 ohms..... 3.35
- No. 45B. Burns Express, 500 ohms..... 3.50

SWITCHBOARD PLUGS

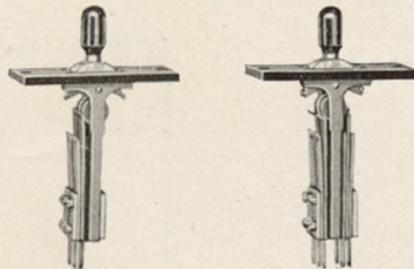
The No. 1188 plug is standard for Burns Express Switchboards. This is a two-conductor plug made up with best grade, selected rubber and phosphor bronze. The substantial fiber shell is easily removed for inspection or replacement of cordage.

Other standard American Electric plugs can be supplied.



No. 1188

- No. 1188. Switchboard Plug, 2 conductor.....\$1.10
- No. 88. Switchboard Plug, same as No. 1188, but without ferrule on sleeve.... .95



No. 473

No. 472

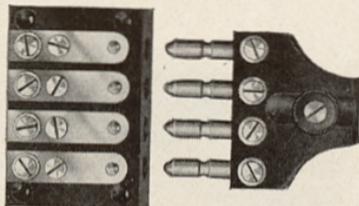
SWITCHBOARD KEYS

The mounting plates of these keys are of micarta, which prevents the possibility of a short circuit between keys. This material takes a high polish, and is highly insulating. Does not warp or crack. The upright springs will not collect dust. These keys are generally used together—the No. 472 combines the listening and ringing features, and the No. 473 is used for the ring-back.

- No. 472. Ringing and Listening Key.....\$2.20
- No. 473. Ring-back Key 1.85

OPERATOR'S JACKS AND PLUGS

The No. 435 jack and the No. 103B plug are the standard types furnished with Burns Express Switchboards. The groove in the plug prevents the accidental pulling out of the plug. A cord stop removes tension from the cord terminals. German silver springs mounted on hard rubber.



No. 435

No. 103B

- No. 435. Operator's Jack\$1.50
- No. 103B. Operator's Plug 1.50

LAMP PRISMS

The prisms shown are used for supervisory signals, the No. 19 on the key shelf and the No. 20 for pilot signals. Furnished in either opal, red or green, for use with individual lamp jacks.

- No. 19. Prism guarded. Diameter, $\frac{1}{2}$ inch.....\$0.40
 - No. 20. Prism, jeweled. Diameter, $\frac{7}{8}$ inch..... .30
- When ordering, specify whether opal, red or green.



No. 20

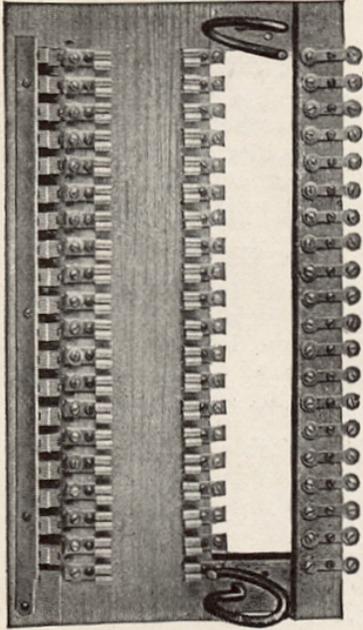


No. 232

LINE AND CUT-OFF RELAY

These line relays are very sensitive and reliable in operation, furnished with solid connecting clip and dust-proof cap. Long German Silver Springs with platinum contacts, insulated with rubber and mica. Magnetic circuit is completed with a minimum current passing over the coil, and the hinge mounting armature moves freely.

- No. 232D. Relay, 100 ohms, springs—one break.....\$2.95
- Price on other spring combinations and resistances are furnished on request.

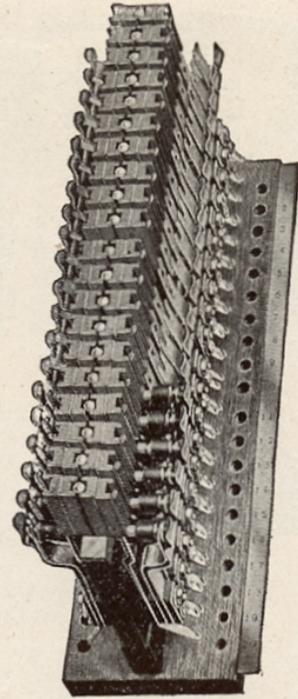


No. 204

No. 204 SWITCHBOARD PROTECTOR

Combined carbon, mica fuse and cross-connecting board, used in connection with switchboards. Made in panels of 25 pairs each. An approved arrester that offers efficient protection against lightning at a moderate price. Can be attached to switchboard cable at the factory if ordered at time of purchase of switchboard.

No. 204. Protector with carbon and fuse, per line. \$0.40

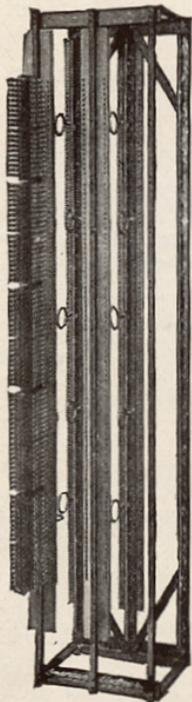


No. 100

HEAT COIL AND CARBON PROTECTOR

An approved arrester for switchboard protection. Inexpensive to maintain. Coils can be rewound when blown, and used over again. Furnished for any capacity and in combination with any style of cross-connecting strips. Can be mouted on No. 1001 Iron Frame.

No. 100. Protector Banks of 20 pairs, per pair. . . . \$1.40



No. 1001

IRON ARRESTER FRAMES

These frames are substantially built of iron strips well braced and bolted. Made up for multiples of 100 pairs of arresters.

No. 1001. Iron Frame only, for No. 186 Protector, 200 pair sections. \$31.10

No. 2040. Iron Frame only, for No. 204 Protector, 200 pair sections. 29.60

CONNECTING STRIPS

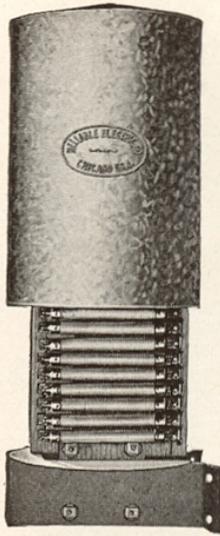
Various kinds of connecting strips can be furnished to mount either horizontally or vertically.

No. 206. Connecting strips, per pair. \$0.15

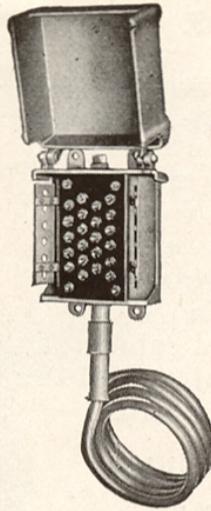


No. 206

POLE CABLE TERMINALS



Type A27



Type GR

Type A27

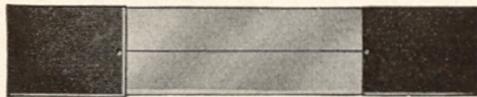
A protected pole cable terminal, no pot-head required. For protection against lightning and crosses with electric circuits. Uses tubular fuses. Can be equipped with saw-tooth discharge blocks without extra charge.

Type GR

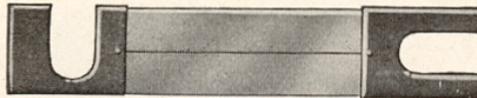
Hot-Galvanized Cast Iron Weatherproof Terminal, with heavy lock-nut binding posts—used for terminating lead cable without pothead. Plenty of hand room. Cable protected from breakage by lead nozzle.

Without Cable Stub

	Type A27	Type GR
11 pair capacity.....	\$14.45	\$ 6.65
16 pair capacity.....	20.00	8.30
26 pair capacity.....	27.75	13.85
50 pair capacity.....	47.75	



Western Union



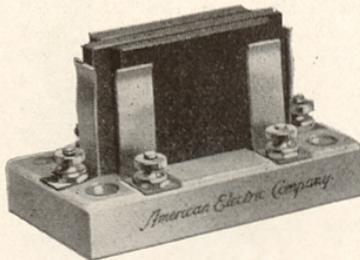
Postal Fuse

MICA FUSES

We supply reliable copper terminal mica fuses made up in two styles—the Western Union with plain terminals, and the Postal with notched terminals for placing under binding screws. A superior grade of mica and heavy copper are used. Enclosed fuses are supplied unless the uncovered type is specified.

When ordering specify the style and size of fuse.

Prices on the various fuses quoted on request.

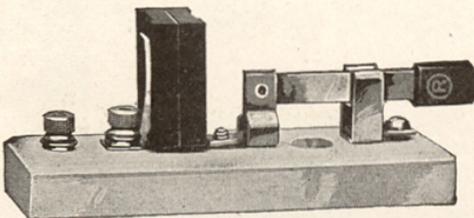


No. 57

CARBON ARRESTER

The complete simplicity of construction, and the large size carbons make it possible for the No. 57 to take care of the heaviest lightning discharges. This arrester has proven most efficient on toll and rural lines.

No. 57. Carbon Arrester.....\$0.45



No. 511

KNIFE SWITCH ARRESTER

No. 511 single pole without fuse, has two carbons and one mica dielectric.

No. 512 double pole without fuse, has four carbons and two mica dielectrics.

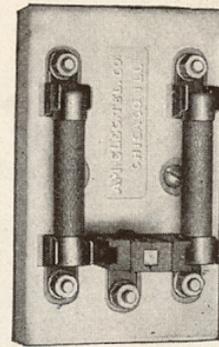
No. 511. Arrester, single pole.....\$0.70

No. 512. Arrester, double pole..... 1.10

No. 187 PROTECTOR

Magneto wall telephones are all equipped with carbon arresters. When additional protection with fuses is desired or for protection of desk telephones, the No. 187 is recommended. This is highly efficient. The arrester is usually placed near the point where the wires enter the building.

- No. 187. With fuses\$0.70
- No. 187. Without fuses40



No. 187

CONDENSERS

Sealed in tin cases of various sizes and shapes. Manufactured under Mansbridge Patents. Will last indefinitely. When this type of a condenser is short circuited, it may be cleared by merely passing A. C. current of about 100 volts across the terminals. Capacities—3/10, 1/4, 1/2, 1 1/2, 2 and 3 M. F.

Prices quoted upon receipt of specifications.

No. 22 REPEATING COIL

These coils reduce transmission loss to a minimum, either for talking and ringing through, also for talking and non ring through. Meets every requirement for a well balanced, high efficiency coil, for switchboard use and for phantom circuits.

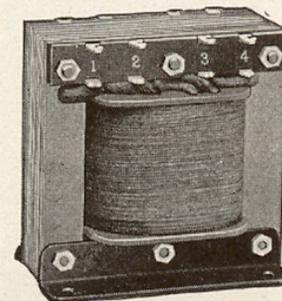
- No. 22. Repeating Coil\$5.95



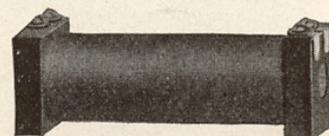
Condenser

INDUCTION COILS

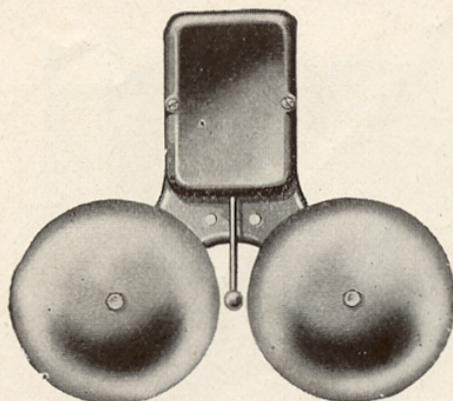
- No. 31D for No. X69 telephone\$0.90
- No. 5C for No. 43 Magneto desk stand.... 1.50
- No. 43 for No. 83 telephone75
- No. 6A for No. 43 C. B. desk stand..... 1.05
- No. 44 for No. 68 table telephone 2.20
- No. 6D for No. 46 Cradle Set 1.50
- No. 31C for No. 47 C. B. wall telephone.... .75
- No. 31B for No. 79 Magneto Box and for repair of other makes of telephones and for switchboard use..... .75
- No. 7A, 24 or 40 volt, condenser secondary for No. 43 desk stand..... 1.50
- No. 44A for No. 81 C. B. Extension Bell.... 1.50



No. 22



No. 31B

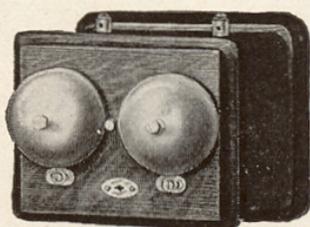


No. 177

LOUD RINGING EXTENSION BELL

These bells are adapted for use as call systems in factories, schools, mines, buildings under construction, etc. The iron cases are heavily enameled, suitable for installation in exposed places. Operated by telephone generator or commercial A. C. current of 110 volts at 60 cycles or less.

- No. 177E. 1,000 ohm, 6" gong, magneto ringing.. \$ 8.10
- No. 177F. 1,600 ohm, 6" gong, magneto ringing.. 8.30
- No. 177H. 2,500 ohm, 6" gong, magneto ringing.. 8.65
- Bell for central battery with condenser, add..... 1.50
- For 8" gongs, add..... 2.95

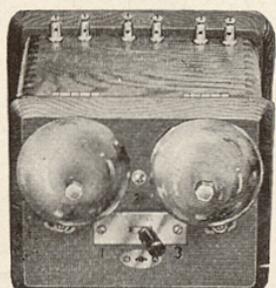


No. 14

EXTENSION BELLS

These Extension Bells are used in conjunction with telephones where a signal is required in an adjacent room or another part of the building. Also used with centralized battery desk and cradle telephones, mounting in any convenient place. Small wood cabinet with No. 76 Ringer and convenient terminals.

- No. 14C. 1,000 ohm, local battery.....\$3.50
- No. 14D. 1,600 ohm, local battery..... 3.70
- No. 14F. 2,500 ohm, local battery..... 4.10
- No. 1904. 1,000 ohm, 2 M. F. Condenser, central battery 5.20
- No. 8104 1,000 ohm 2 M. F. Condenser, central battery with induction coil..... 6.65



No. 27A

TOLL TEST STATION

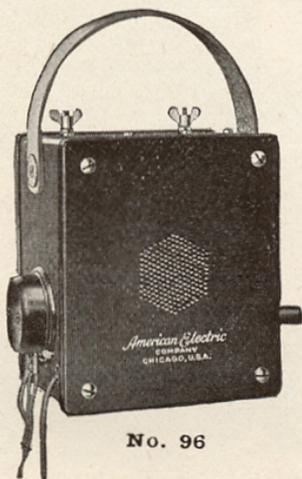
Key thrown one way cuts the line in two with bell on in one direction and the station telephone on in the other direction—reversing position of key reverses the condition. When the key is normal, line is straight through and station telephone is bridged onto the line.

- No. 27E. 1,000 ohm ringer.....\$7.95
- No. 27A. 1,600 ohm ringer..... 8.15

LINEMAN'S TEST TELEPHONES

The No. 96A Test Telephone is a portable instrument designed to withstand hard usage. Complete with generator, ringer, transmitter and watch case receiver.

- No. 96A. 3 bar generator, 1,000 ohm ringer.....\$17.75
- No. 96B. 4 bar generator, 1,600 ohm ringer..... 18.00
- No. 129. Test set (see page 8)..... 22.20



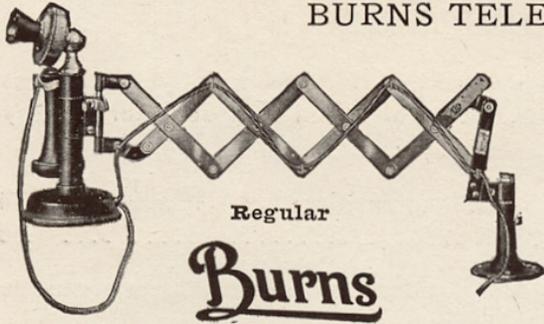
No. 96

MAGNETO TEST BELLS

These portable sets are made without talking equipment for use in testing electric wire circuits, dynamos, motors, etc., 2 inch ringer gongs.

- 41A. To ring through up to 10,000 ohms.....\$11.85
- 41B. To ring through up to 25,000 ohms..... 12.25
- 41C. To ring through up to 50,000 ohms..... 12.60
- 41D. To ring through up to 75,000 ohms..... 12.95
- 41E. To ring through up to 100,000 ohms..... 13.30

BURNS TELEPHONE BRACKETS

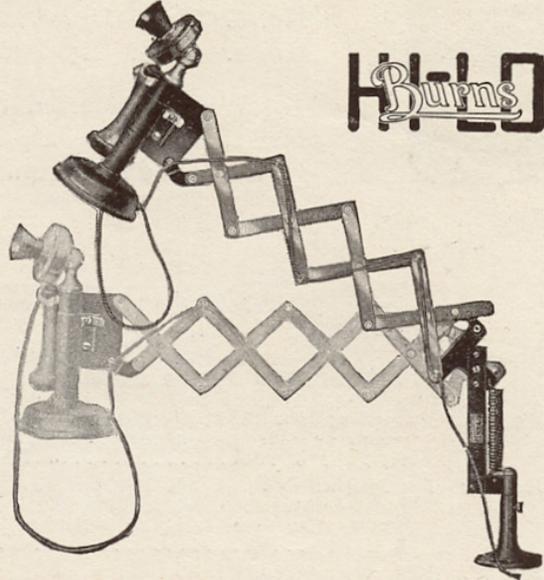


Regular

Burns

Regular Burns Brackets are adjustable in-and-out. The telephone swivels on the front rod, the bracket revolves on the base. Easily mounted on desk, wall or other convenient place.

Burns HI-LO Brackets are adjustable in-and-out, up-and-down, and down-and-up. The arm is self-balancing and permits use of telephone from a standing or sitting position.



HI-LO
Burns

REGULAR BURNS BRACKETS

No. 87.	26 in. length.....	\$4.50
No. 107.	30 in. length.....	5.00
No. 127.	34 in. length.....	5.50
No. 147.	38 in. length.....	6.00
No. 167.	42 in. length.....	6.50

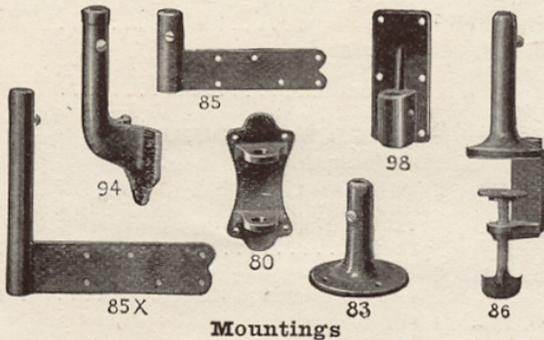
HI-LO BURNS BRACKET

No. H87.	28 in. length.....	\$6.50
No. H127.	32 in. length.....	7.00
No. H147.	38 in. length.....	7.50

Standard finish is black enamel, nickel finish furnished if desired.

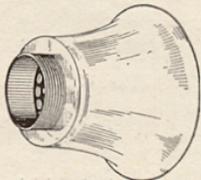
Prices for bracket complete with 80, 83, 84, 85, 85X, 88, 94 or 98 mounting and any style clamp. Add 50c to list price where No. 86 clamp mounting is wanted.

Telephones are not included with the brackets.



Mountings

SANITARY MOUTHPIECES



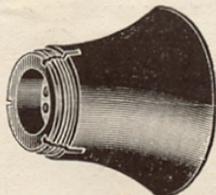
Glass Mouthpiece

Burns Glass Mouthpieces are made of clear crystal glass, with threaded metal section for screwing into transmitter front.

- No. 2—Bell or Western Electric.
- No. 4—Kellogg, Garford and Swedish-American.
- No. 5—Ericsson, Century and Federal.
- No. 6—American Electric, Cracraft-Leich, Monarch and Stromberg-Carlson.

- No. 8—Automatic.
- No. 9—Chicago Telephone Mfg. Co.
- Glass Mouthpieces, complete, each.....\$0.40
- Extra glass only......25

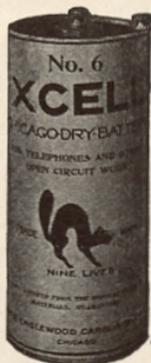
STANDARD MOUTHPIECES



Hard rubber and composition mouthpieces can be furnished for all standard makes of telephones. Durable construction, best grade of materials used, with deep cut threads.

- No. 1333C. Composition for American No. 50 transmitter. \$0.10
- No. 1333R. Hard Rubber for American No. 50 transmitter. .22

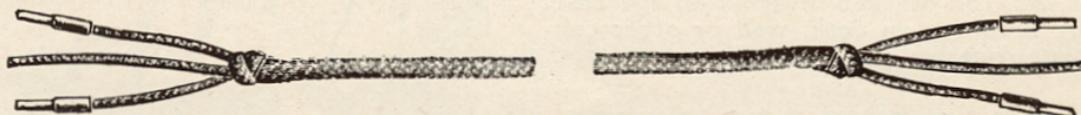
DRY BATTERIES



For use wherever an open circuit battery is employed, such as telephone equipment, door bells, etc. The Xcell is a superior battery at a reasonable price.

- No. 6. Xcell Dry Battery, in small quantities.....\$0.44
- No. 6. Xcell Dry Battery, lot of 125..... .33

Where preferred the No. 6 Columbia or French Battery can be furnished. These are subject to market prices and in barrel lots can be shipped direct from factory.



SWITCHBOARD PLUG CORDS

- No. 64. For plug No. 1188; 2 conductors, Premier B.B. steel cord, length, 6 feet.....\$0.87
- No. 2. For plugs Nos. 1188, 35, 6 and 7; 2 conductors, tinsel for Burns Express boards, length 6 feet73
- No. 57. For plugs Nos. 1188, 35, 6 and 7; 2 conductors, steel cord, length, 6 feet..... .82
- No. 7. For any American multiple board plug; 2 conductors, Premier B.B., length, 6 feet. .87
- No. 4. For any American multiple board plug; 2 conductors, tinsel, length 6 feet 6 inches.... .84
- No. 5. For any American multiple board plug; 2 conductors tinsel, length 7 feet..... .84
- No. 6. For any American multiple board plug; 3 conductors, tinsel, length 6 feet 6 inches... 1.23
- No. 8. For any American multiple board plug; 3 conductors, Premier B.B., length 6 feet 6 inches 1.53

SWITCHBOARD RECEIVER AND TRANSMITTER CORDS

- No. 59. 2 conductor, receiver cord to fit No. 103 plug, length 5 feet...\$0.66
- No. 60. 4 conductor combination cord for breastplate set to fit No. 103 plug, length 6 feet..... 1.15
- No. 62. Single conductor transmitter cord; loop on one end and spade clip on the other. For No. 63B transmitter, length 5 feet; per pair..... .52

TELEPHONE RECEIVER AND TRANSMITTER CORDS

- No. 30. 2 conductor cord for No. 54 arm length 23 inches.....\$0.22
- No. 35. 2 conductor cord for No. 53 arm, length 16 inches..... .18
- No. 13A. Green silk cord for No. 60 receivers. Wall or desk telephones, length 30 inches... .31

- No. 13. Green silk cord for No. 60 receivers. Wall or desk telephones, length 36 inches\$0.32
- No. 13B. Mercerized cotton cord for No. 60 receiver. Wall or desk telephones, length 30 inches23
- No. 13C. Mercerized cotton cord for No. 60 receiver. Wall or desk telephones, length 36 inches24
- No. 110. Weatherproof receiver cord for No. 96 test set, length 4 feet37

HAND SET CORDS

Black Cotton Braid

- No. 79. 2 conductor, spring clips, for linesman's test sets Nos. 1604, 1607, 1609, length 5 feet\$1.00
- No. 115. 3 conductor, for hand set No. 1605, length 5 feet..... .86
- No. 111. 4 conductor, for hand sets Nos. 1601, 1602, 1701, 1702, length 5 feet 1.12
- No. 87. 2 conductor, for hand sets Nos. 1704, 1707, length 5 feet .65
- No. 113. 3 conductor, for hand set No. 1705, length 5 feet..... .86

CRADLE SET CONNECTING CORDS

- No. 84. 3 conductor for No. 46 L.B. cradle sets, length 5 feet..\$0.86
- No. 85. 2 conductor for No. 46 C.B. cradle sets, length 5 feet.... .61

DESK SET CORDS

Green Mer.
Silk Cotton

- No. 20. For No. 43 magneto desk telephones, 4 conductors, length 6 feet...\$0.97 \$0.77
- No. 21. For No. 43 magneto desk telephones, 3 conductors, length 6 feet.... .75 .60
- No. 22. For common battery telephones, 2 conductors, length 6 feet..... .53 .42

Cords listed above are for American Electric apparatus. Cords can be supplied cut to any length and with any trim. To insure exact duplication submit sample.

CONSTRUCTION MATERIAL

Following is a list of construction materials most commonly used. We can supply anything required for construction work with the exception of poles. Prices quoted upon receipt of specifications.

For Cable Installation:

Cable, paper insulated or rubber insulated, lead encased, in 10, 15, 25, 50, 100, 150 and 200 pairs. Standard is 22-gauge, .12 E. C., thickness of lead according to size of cable.

Steel strand, single or double galvanized, or extra strength. Any size. Pole terminals from ten to fifty pairs each, with or without carbon and fuse protector.

Lead sleeves, $\frac{1}{8}$ -inch wall, any length and size.

Wiping solder, half and half.

Paper sleeves for splicing.

Paraffine.

Cotton Webbing for wrapping splices.

Marlin cable hangers for any size cable.

Cameron suspension rings.

Cable hangers for supporting steel strand on poles.

Guy rods, any size for anchoring.

Guy clamps for any size strand.

Wool cable for terminating cable in office.

Bridle wire for terminating lines in pole terminals, No. 19 gauge, saturated braid.

For Line Construction:

Cross arms, 6 and 10 pin, $2\frac{3}{4} \times 3\frac{3}{4}$ inches, or $3\frac{1}{4} \times 4\frac{1}{4}$ inches.

Locust pins, $1\frac{1}{4} \times 8$ inches.

Cross arm braces, $1\frac{7}{32} \times 7\frac{7}{32} \times 24$ inches.

Wood brackets.

Pole steps.

Pole shims to protect the pole.

Machine and carriage bolts.

Lag screws.

Iron wire double galvanized, B. B. or Extra B. B. Grade, No. 12 or No. 14 gauge.

Iron wire, weather-proof, single twisted pairs for house leads.

Hard drawn copper wire, bare or insulated, any size.

Copper clad wire, bare or insulated, any size.

Knobs, No. 4 Porcelain.

No. 9 Pony glass insulators.

Telephone Installation:

Ground rods $\frac{3}{8}$ in. x 5 ft. or $\frac{1}{2}$ in. x 6 ft.

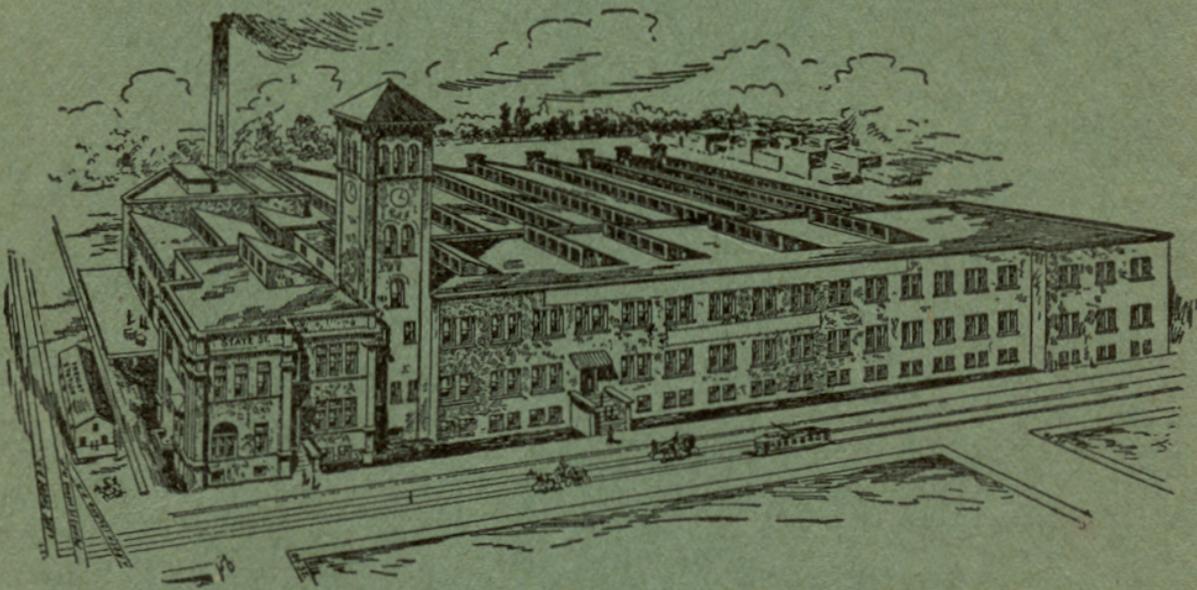
House wire, 19 gauge, rubber-covered, single or twisted pair.

Blake staples, or Perfection nails.

Carbon fuse protectors.

Construction tools of all kinds.

It is recommended that all hardware be galvanized.



Factory of
AMERICAN ELECTRIC COMPANY, CHICAGO, U. S. A