

CATALOGUE No. 14

Great Cash Order House.

GALV. WIRE

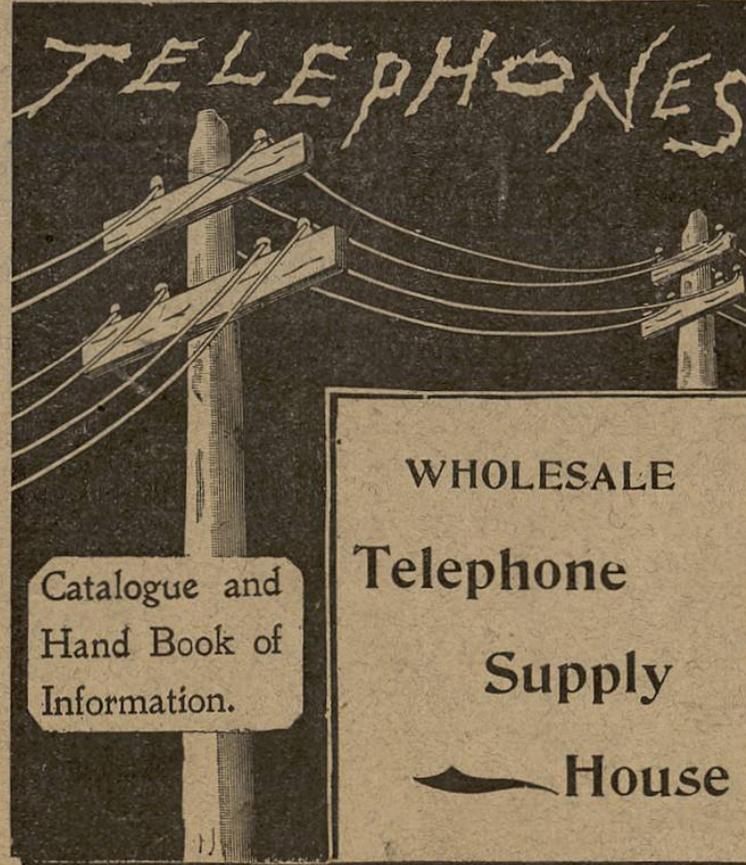
OAK BRACKETS

OAK PINS

CROSS ARMS

GLASS INSOLATORS

CEDAR POLES



TELEPHONES

RECEIVERS

TRANSMITTERS

MAGNETO BELLS

BACK BOARDS

BATTERIES

Farr Telephone and Construction Supply Co.  
CHICAGO.

# Farr Telephone and Construction Supply Co.

(INCORPORATED)

C. W. FARR, PRESIDENT.

N. B. FARR, VICE-PRESIDENT.

R. J. CRAM, SECRETARY AND TREASURER,  
DETROIT, MICH.

E. W. HURST, GENERAL MANAGER

## TERMS AND INSTRUCTIONS.

### Our Prices are Low.

And based upon CASH SALES. No accounts opened unless first-class reference is furnished.

All accounts must be paid in thirty days.

Goods sent C. O. D. only when Express Charges are guaranteed.

The charges for return money on C. O. D. consignments are always added.

Goods sent C. O. D. by freight consigning same to ourselves. Collecting the bill through Bank with bill of lading and order for delivery attached to draft.

### Actual Cost of Boxing.

Will be charged on goods, unless cash accompanies the order.

### Guarantee....

Every set of Telephones furnished by us is guaranteed to be just what we claim for them and to work satisfactorily or money refunded.

We receive no returned goods unless we are notified and action same.

In ordering, please state how goods are to be shipped, if by freight or express, give name of route.

In remitting cash for goods to be sent by mail, send enough to pay postage.

No goods will be shipped C. O. D. to persons unknown to us, unless sufficient amount accompanies order to pay transportation charges.

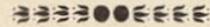
We pack all goods with the utmost care, and receipts are obtained for all goods forwarded "in good condition," and our liability ceases when goods are delivered to carrier.

Persons having no account with us must send cash with order, or satisfactory reference to justify us in opening an account.



SALES ROOM OF  
FARR TELEPHONE & CONSTRUCTION SUPPLY CO.  
CHICAGO, ILL.

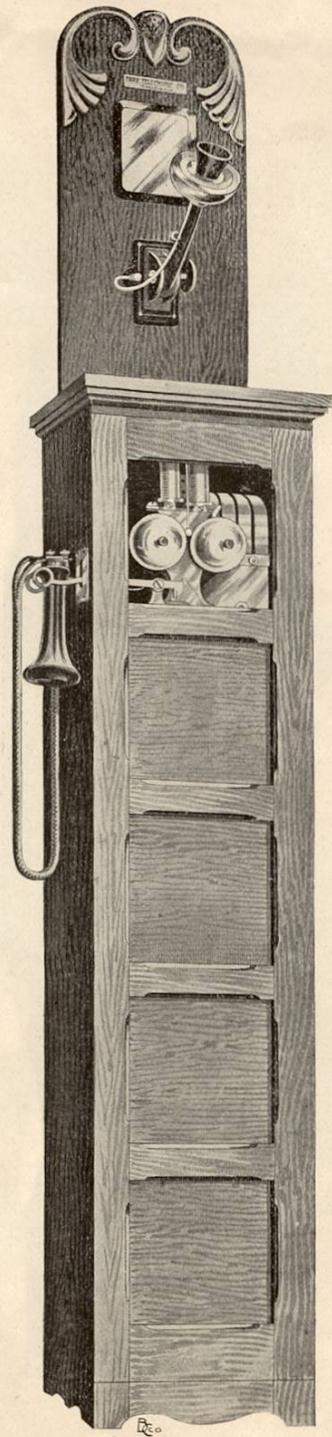
## DESCRIPTION OF OUR TELEPHONES



- No. 1 Telephone**—Are good Exchange instruments. Series. No. 3 Magneto Bell. 15,000 ohm.
- No. 2 Telephone**—For Exchanges and Private lines, etc. No. 3 Magneto Bell. 15,000 ohm.
- No. 3 Telephone**—Are used for Factories, Mines and Private lines. No. 3 Magneto Bell.
- No. 4 Telephone**—Are Battery Call, for Interior use. Lines of 300 to 500 feet.
- No. 5 Telephone**—This Telephone is same as No. 4 only. Has a Battery Box attached.
- No. 6 Telephone**—For Exchange use. Series. No. 3 Magneto Bell. 15,000 ohm.
- No. 6a Telephone**—For Exchange use. Series. No. 1 Magneto Bell. 25,000 ohm. Solid Back Transmitter. New Improved Double Pole Receiver. High grade. Guaranteed.
- No. 7 Telephone Bridging**—10,000 ohm coils. No. 3 Magneto Bell. 15,000 ohm.
- No. 7a Telephone Bridging**—1600 ohm coils. No. 1 Magneto Bell. 25,000 and 40,000 ohm. Solid Back Transmitters. Improved Double Pole Receiver. High grade. Guaranteed.
- No. 8 Telephone**—Good Exchange instrument. Series. No. 3 Magneto Bell. 15,000 ohm.
- No. 9a Telephone Bridging**—1600 ohm coils. 50,000 ohm. Special Generator.
- No. 10 Desk Phone**—For Exchange use. For Bridging Lines or Battery Call.
- No. 12 Telephone Bridging**—For Long Toll Lines. 70,000 ohm. Special Generator. Solid Back Transmitters. Double Pole Receiver. With three Fuller batteries.



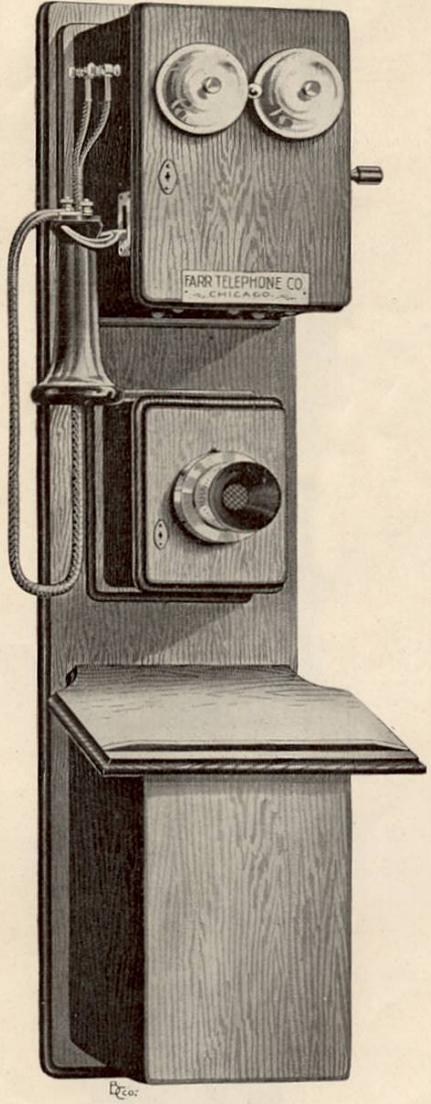
**Our Telephones are High Grade piano finish; wood, Oak or Walnut. Complete with batteries at prices quoted.**



**No. 12 TELEPHONE**

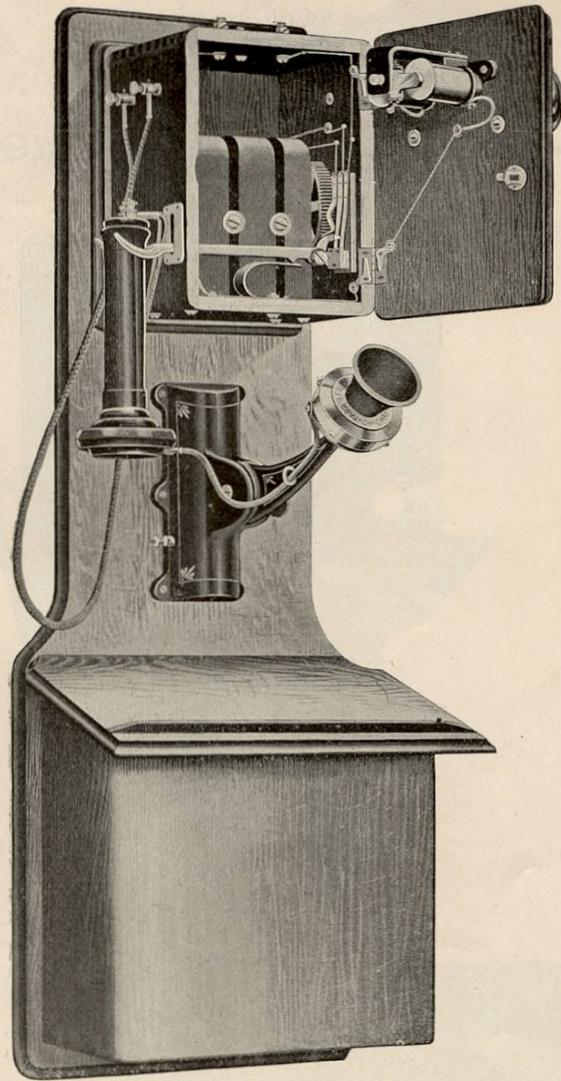
See Description on Page 2

FARR TELEPHONE AND CONSTRUCTION SUPPLY CO.



**No. 1 TELEPHONE**

For Description see Page 2

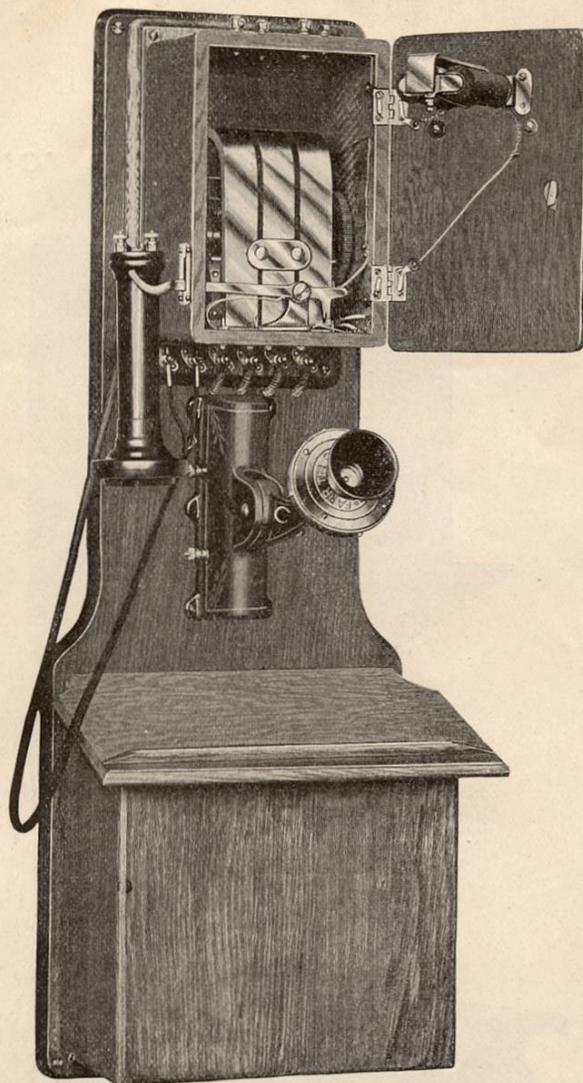


**No. 6 AND 7 TELEPHONE**

ARE REPRESENTED IN ABOVE CUT

See Description Page 2

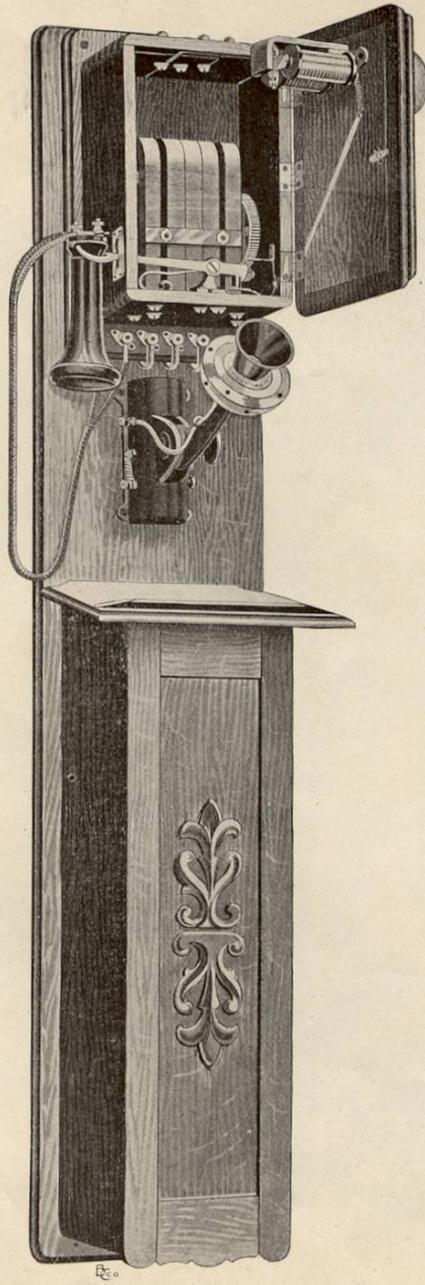
FARR TELEPHONE AND CONSTRUCTION SUPPLY CO.



**No. 6A AND No. 7A TELEPHONE**

ARE REPRESENTED IN ABOVE CUT

See Description Page 2



**No. 9 TELEPHONE**

See Description Page 2

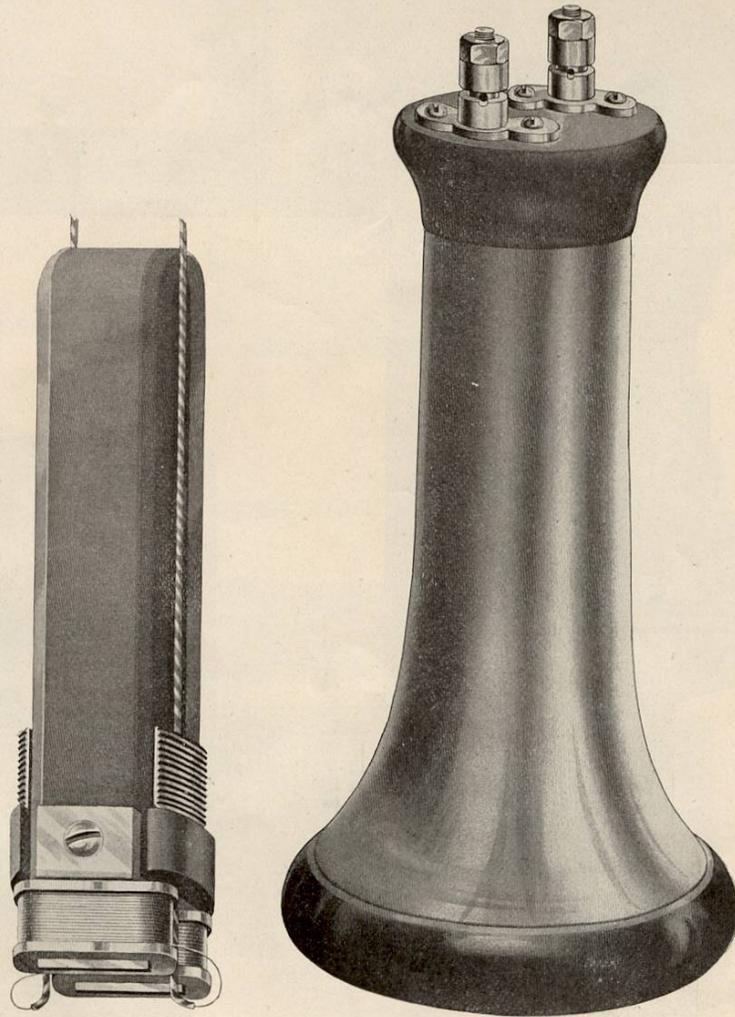
FARR TELEPHONE AND CONSTRUCTION SUPPLY CO.



**No. 10 TELEPHONE**

See Description Page 2

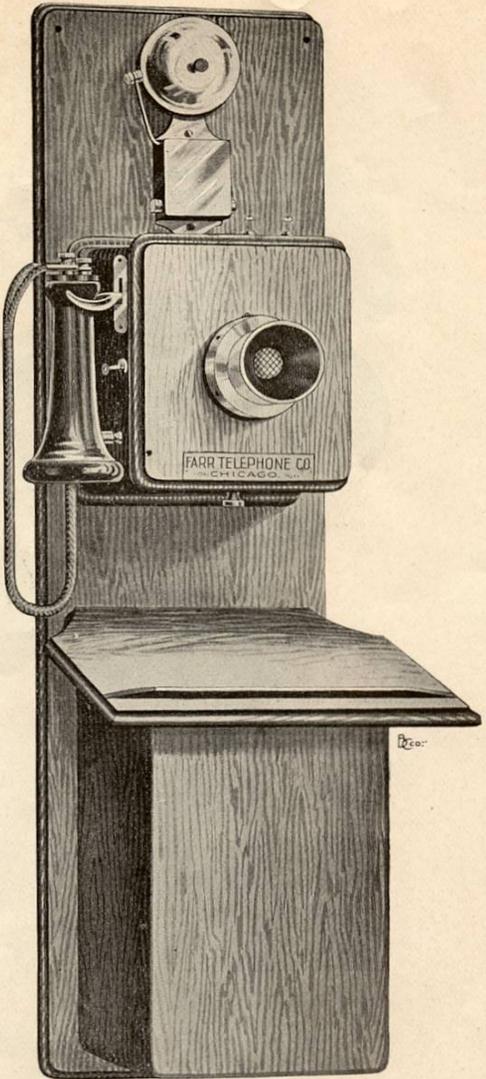
FARR TELEPHONE AND CONSTRUCTION SUPPLY CO.



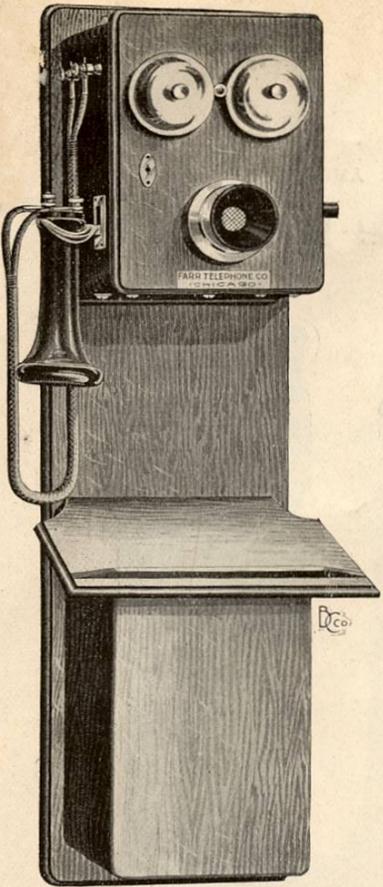
**No. 4 BI POLAR RECEIVER**

VERY STRONG MAGNETS.

FARR TELEPHONE AND CONSTRUCTION SUPPLY CO.

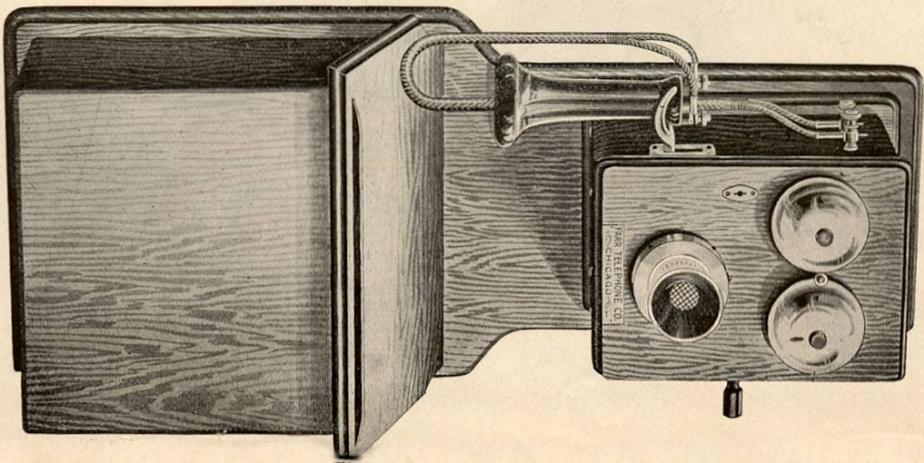


NO. 5 TELEPHONE

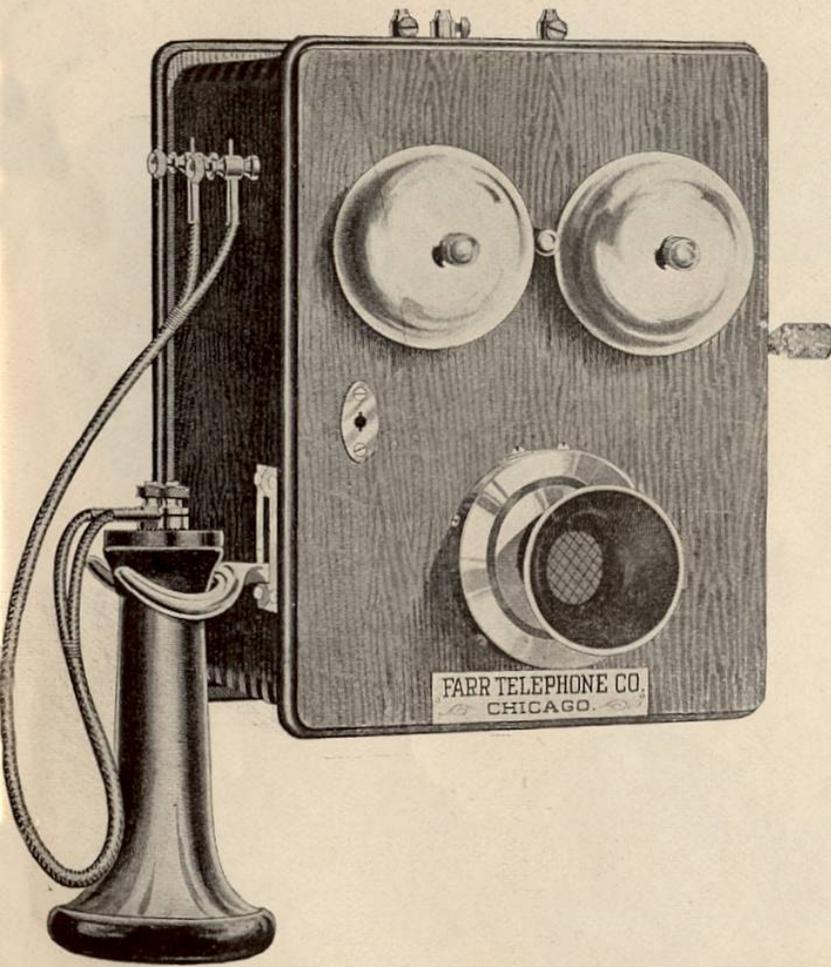


NO. 2 TELEPHONE

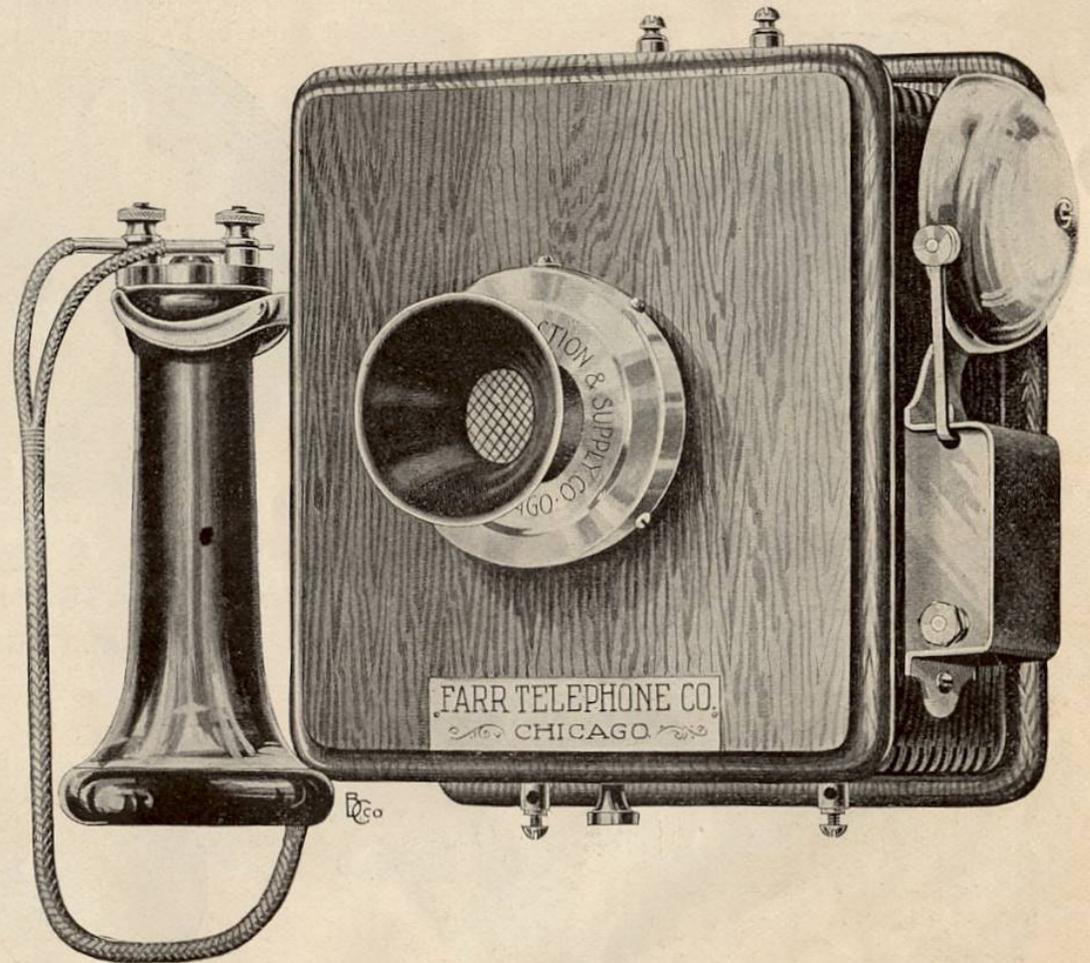
See Description Page 2



NO. 8 TELEPHONE

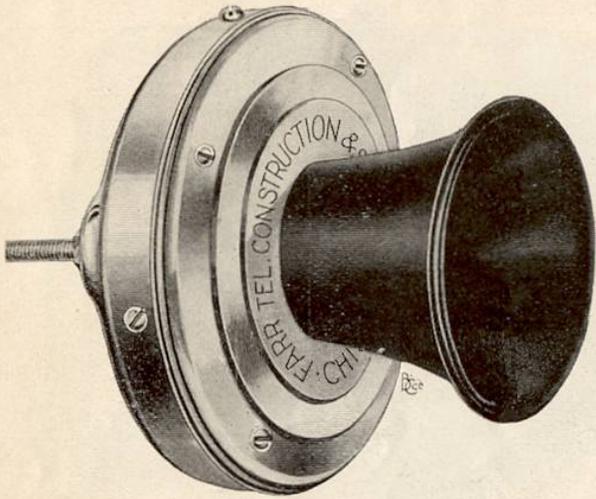


No. 3 TELEPHONE

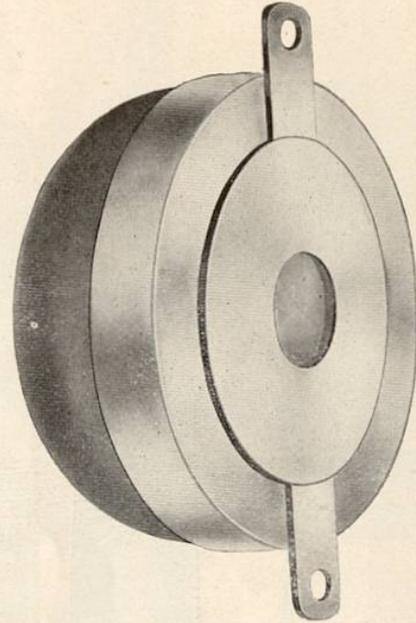


No. 4 ECHO TELEPHONE

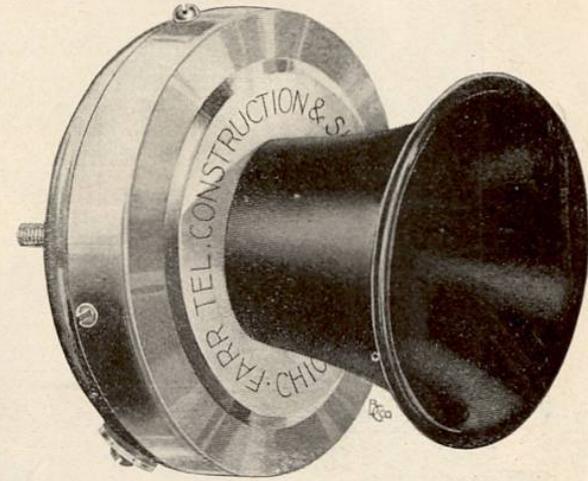
See Description Page 2



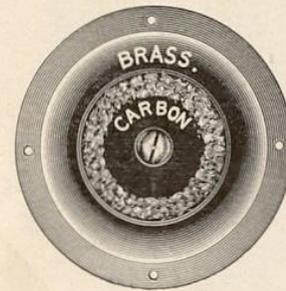
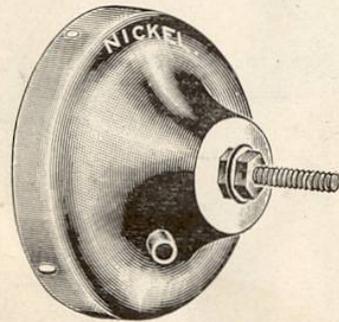
No. 3 SOLID BACK  
TRANSMITTER



No. 2 BRASS FRONT  
TRANSMITTER

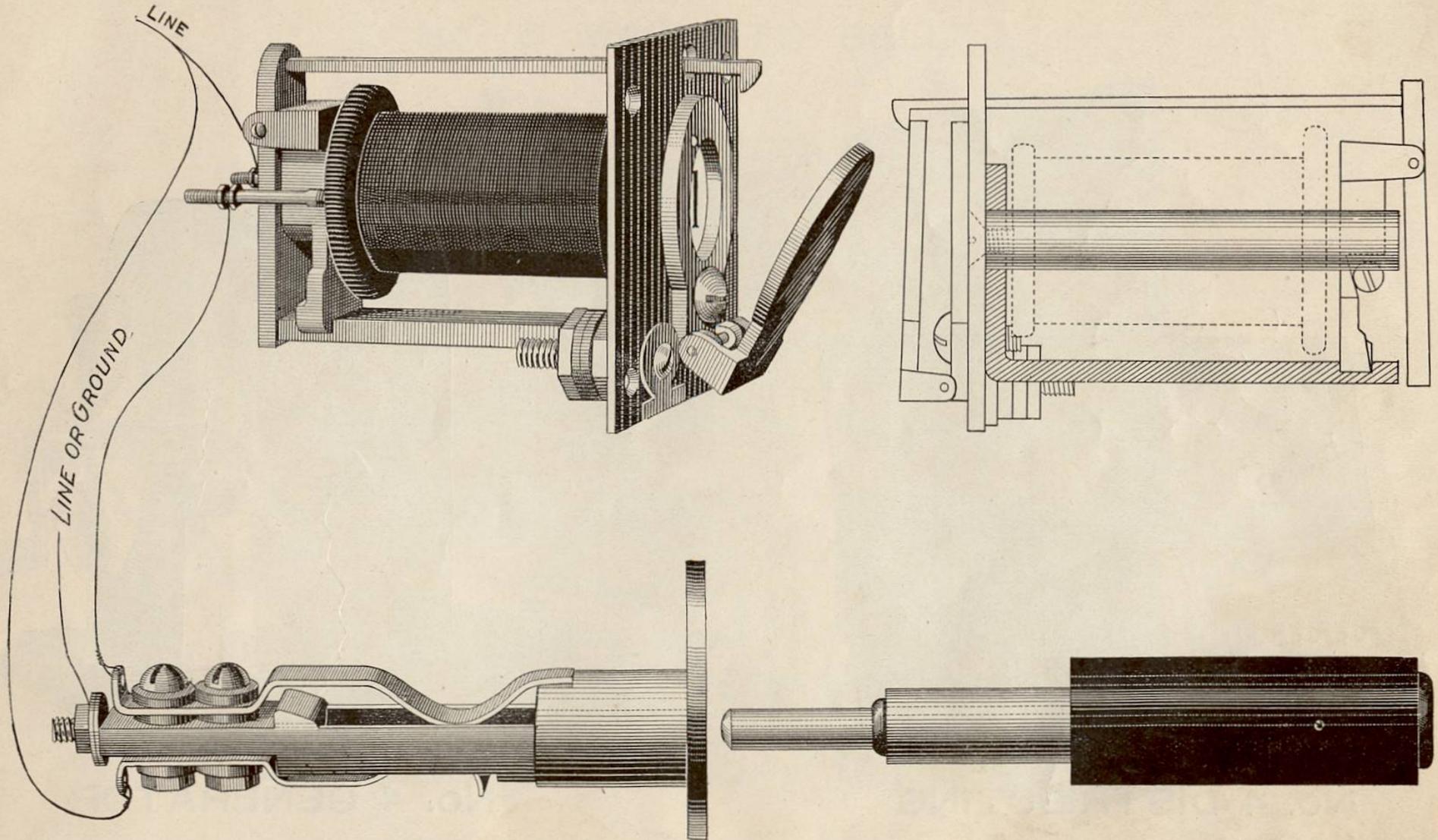


No. 1 ALUMINUM CASE  
TRANSMITTER



PARTS OF SOLID BACK TRANSMITTER No. 3

The only Aluminum Diaphragm Transmitter made. Beats them all.



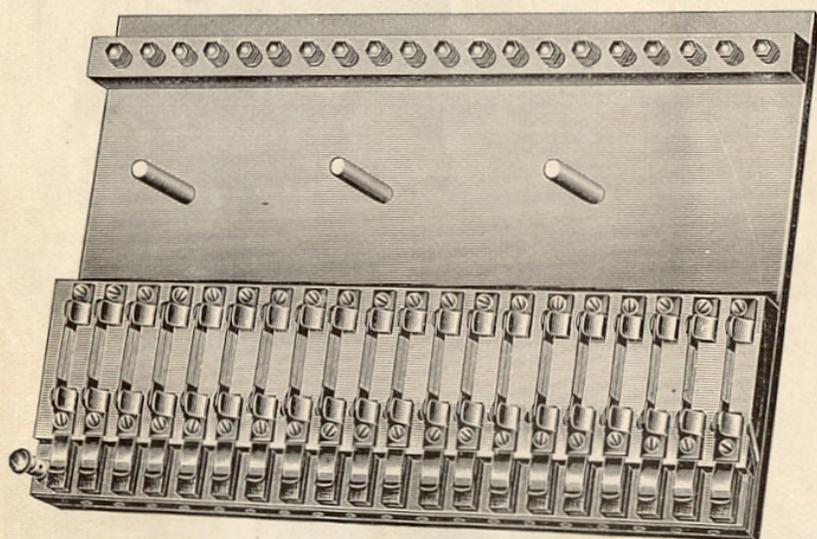
**No. 4 METALLIC JACK**

The above Drop can be wound for Series or Bridging Lines. Very sensitive. The No. 4 Jack can be used for Metallic or Grounded Lines.

**No. 3 DROP**

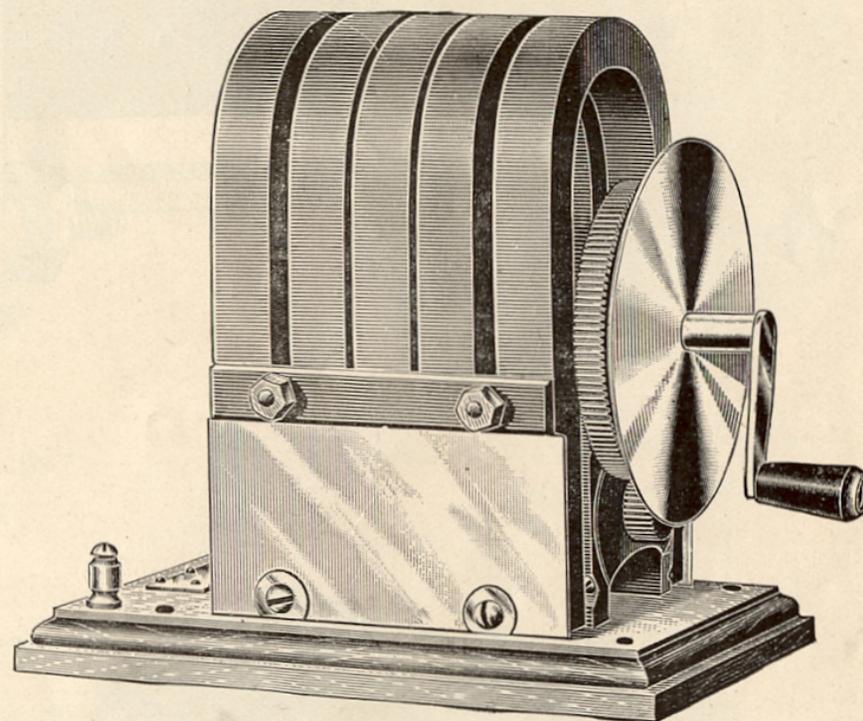
**No. 2 METALLIC PLUG**

The lower Magnet is connected with Core.



## No. 4 DISTRIBUTING

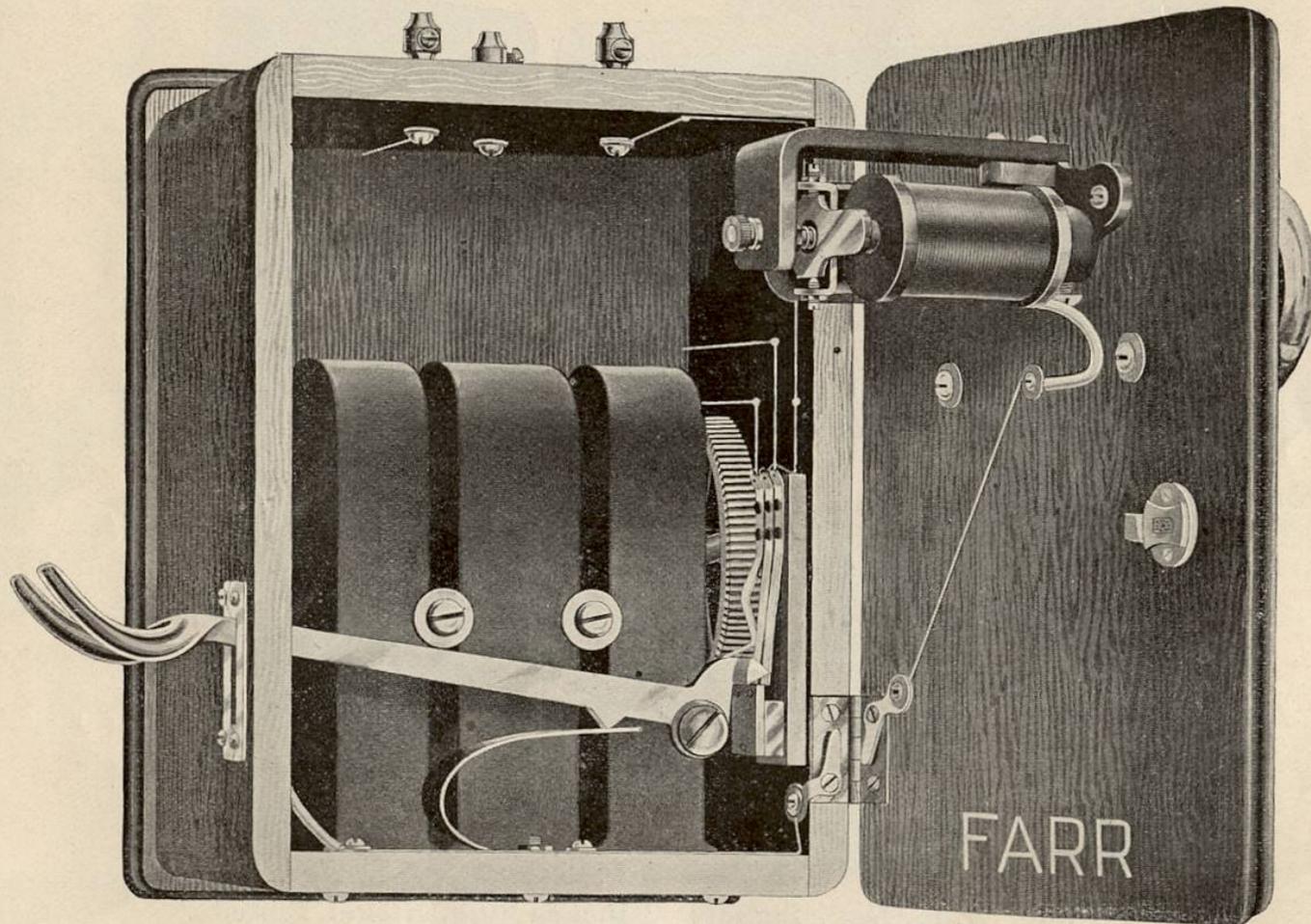
Board and Lightning Arrestor.  
Every Exchange should have one.



## No. 4 GENERATOR

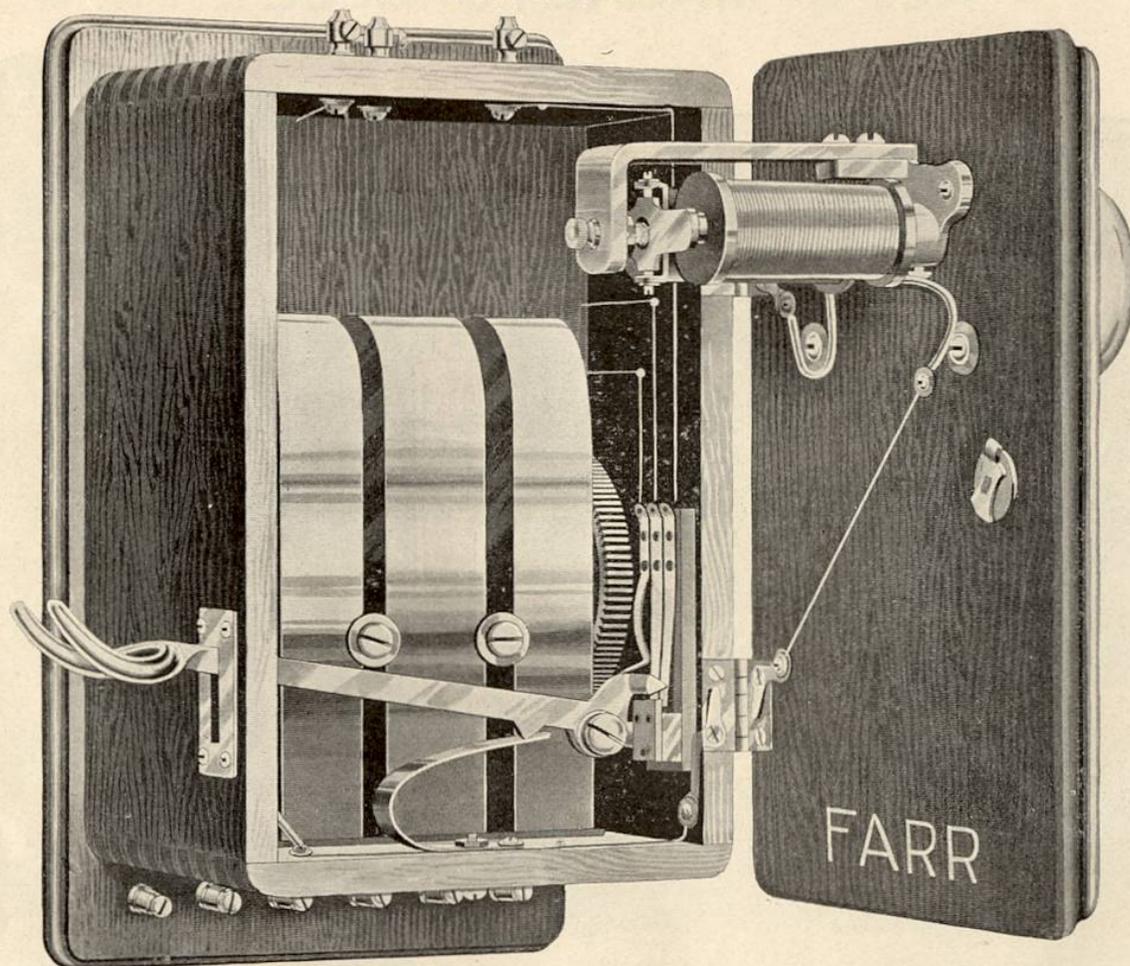
For Switch Boards.  
50,000 ohm.

## No. 3 MAGNETO BELL



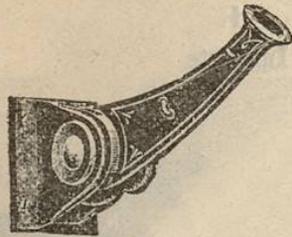
Wide, Clear, Strong Magnets. 15,000 Ohm.

**PRICE, \$7.00**

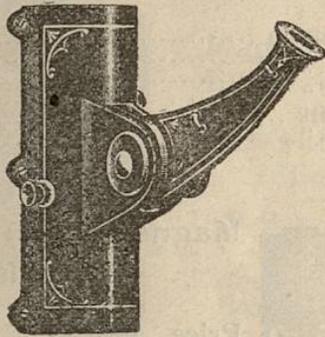
**No. 1 MAGNETO BELL**

High Grade, Wide Gear Magnets, 6 inches high, Nickel Plated  
This Bell is made for Series or Bridging

**PRICE: SERIES WOUND 25,000 OHM, \$11.00. BRIDGING 1,600 OHM COILS.  
25,000 OHM, \$14.00.**



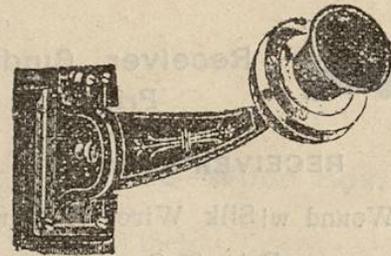
No. 1 PONY ARM, - - - Price, \$1.35



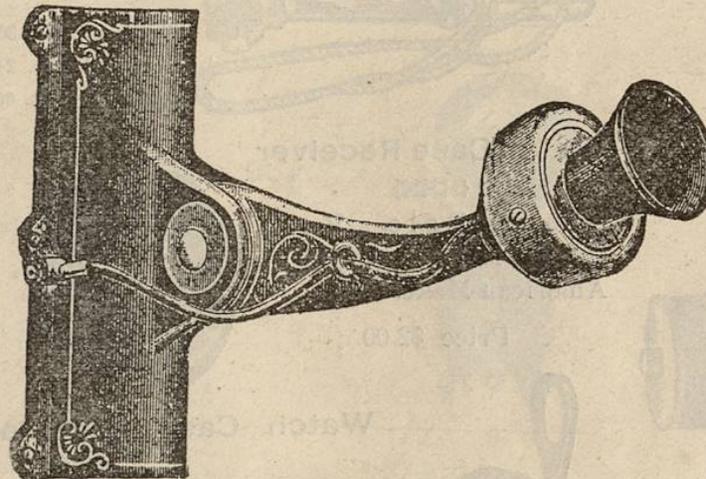
No. 2 LONG DISTANCE ARM, Price, \$1.50



No. 3, LONG DISTANCE ARM  
with Solid Back Transmitter, ...  
..... Price, \$3.50  
With Coil 500 Ohm, Price, 4.50

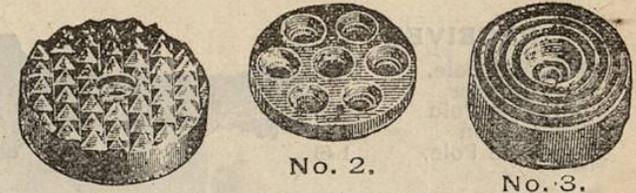


No. 1 Pony Arm and Aluminum  
Transmitter  
Price \$2.50. Price with Coil \$3.00.

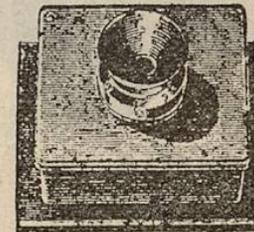


No 2 Long Distance Arm with Alumi-  
num Transmitter  
Price \$3.00. Price with Coil 250 Ohms \$3.50

We guarantee our Transmitters to be the  
best on the market.

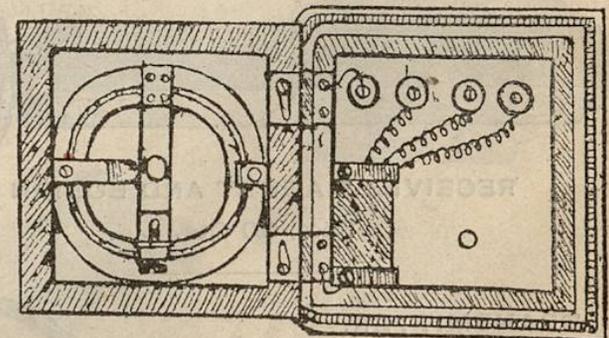
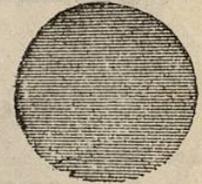


No. 1.  
Carbon Disc for Transmitters.  
Price 10c each.  
Granular Carbon, price per oz. - - - 30c



Trans. Box.  
Price 80c.

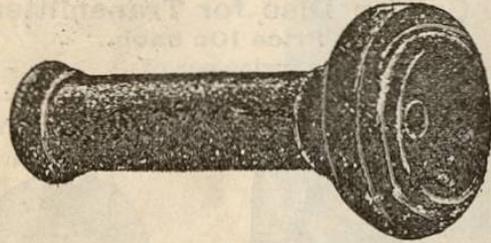
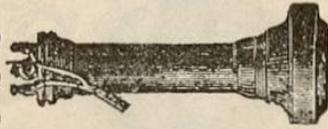
Carbon Diaphragm  
Price 10c each.



Blake Transmitter,  
Complete in box with coil, price each - \$3.50  
Blake Transmitter Box in walnut or oak .70

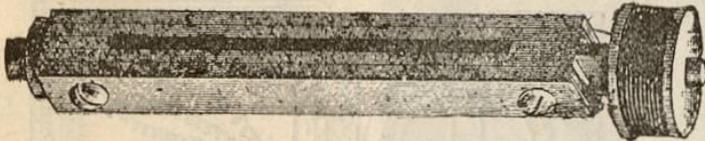
**RECEIVERS**

Hard R D Pole, \$2.00  
 Hard Rubber Single Pole, 1.50  
 Composition Single Pole, 1.40



**RECEIVER SHELLS.**

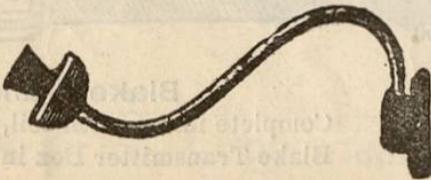
Hard Rubber, Price, 80 Cts.  
 Composition, Price, 60 Cts.



**RECEIVES MAGNET AND BOBBIN**  
 Price, 60 Cts.

**TRANSMITTER.**

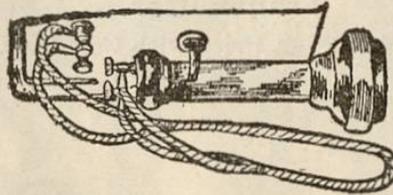
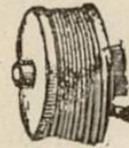
Goose Neck,  
 Price, 10 in. - \$1.50  
 Price, 3 in. - 1.40



**Receiver Binding Post.**  
 Price, each 6 Cts.

**RECEIVER BOBBIN.**

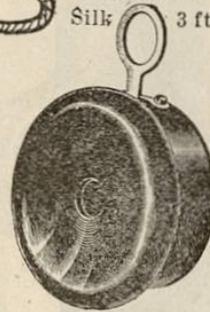
Wound with Silk Wire, 75 Ohms  
 Price 20 Cts



**Receiver Cords**  
 Worsted, 3 ft 30c  
 Worsted, 2 ft. 24c  
 Silk 3 ft. 60c

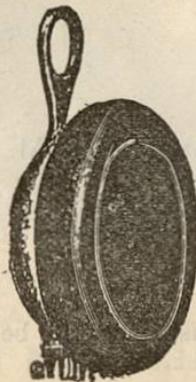
**Watch Case Receiver**

\*\*\*\*\*  
 Double Pole. Very strong Magnets. Best American Make.  
 Price \$2.00.



**Watch Case Receiver**

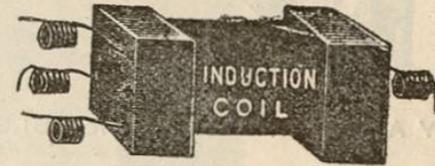
\*\*\*\*\*  
 Single Pole.  
 \*\*\*\*\*



Price - - - \$1:10

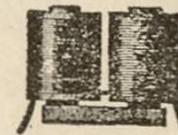
**Repeating Coil**

Price, Imported \$16.00; our make \$7.00.

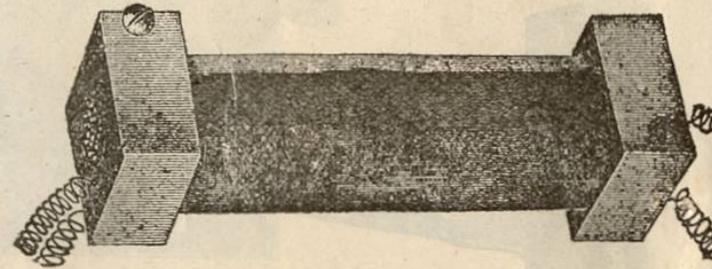


**Induction Coil.**  
 2 1/2 in. long.

175 Ohm Cotton	.....	\$ .50
250 " "	.....	.60
450 " "	.....	.90
750 " "	.....	1.50
250 Ohm Silk	.....	.70
500 " "	.....	1.30



**Magnet Coils and Ringer Coils.**  
 Price, Pair - - - \$1.00

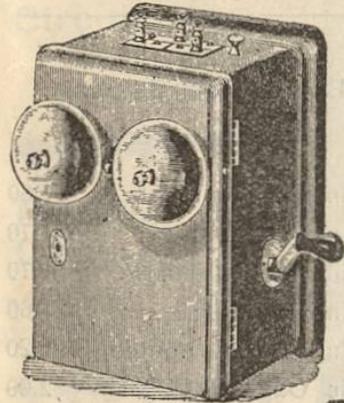
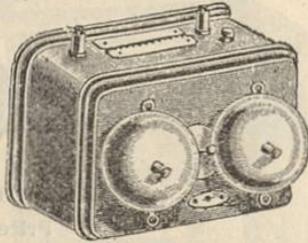


**Long Induction Coils**

4-inch long, 250 Ohm, Cotton	.....	\$.80
5-inch long, 500 Ohm, Cotton	.....	1.50
3-inch long, 250 Ohm, Silk	.....	1.00
4-inch long, 500 Ohm, Silk	.....	2.00

**Extension Bells**

Price 100 Ohm - - - \$3.50  
 Price 500 Ohm - - - 5.00  
 Price 1,000 Ohm - - - 6.00



**Magneto and Extension Bell**

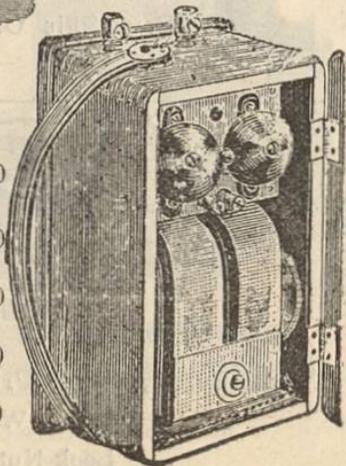
Boxes with Lock and Hinges.

Bell Boxes, Price \$1.00

Extension Bell Boxes, Price, 80c

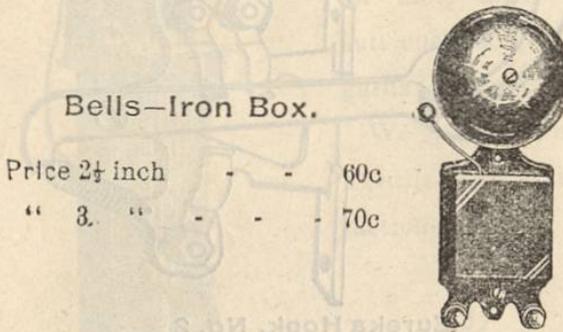
**Testing Bells For Linemen**

Price 10,000 Ohm - - - \$ 8.00  
 Price 15,000 Ohm - - - 8.50  
 Price 20,000 Ohm - - - 9.00  
 Price 25,000 Ohm - - - 10.00  
 Price 50,000 Ohm - - - 16 00



**Bells—Wood Box.**

Price 2 1/2 inch - - - \$1.00  
 " 3 " - - - 1.20



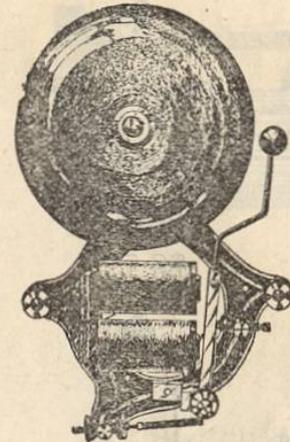
**Bells—Iron Box.**

Price 2 1/2 inch - - - 60c  
 " 3. " - - - 70c



**Lungen Bells.**

1 1/2-in. Gong, Nickel Plate, each - - - 75c  
 2-in. Gong, Nickel Plate, each - - - 80c  
 2 1/2-in. Gong, Nickel Plate, each - - - 70c

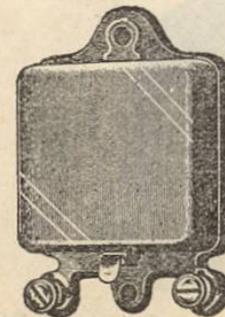
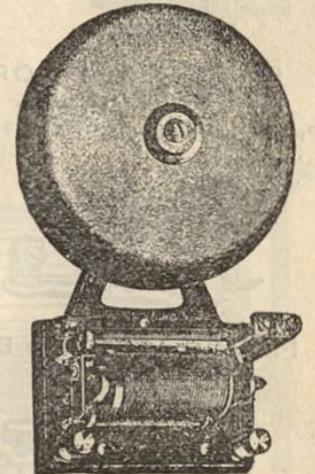


**Vigilant, Single Stroke.**

List Price Each.  
 3-inch Gong..... \$ 6.00  
 4 " " ..... 7.00  
 5 " " ..... 8.00  
 8 " " ..... 11.50  
 10 " " ..... 17.50  
 12 " " ..... 18.50  
 14 " " ..... 30.00

**SKELETON BELLS.**

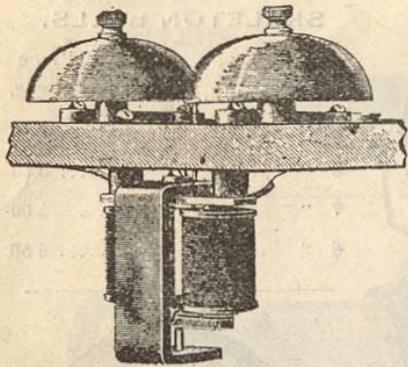
List Price  
 4-inch Gong, each.....\$2.25  
 5 " " ..... 3.00  
 6 " " ..... 3.50  
 7 " " ..... 5.00  
 8 " " ..... 6.50



**BUZZER.**

Price.. .... 80 cts.





RING COILS  
and  
GONGS,

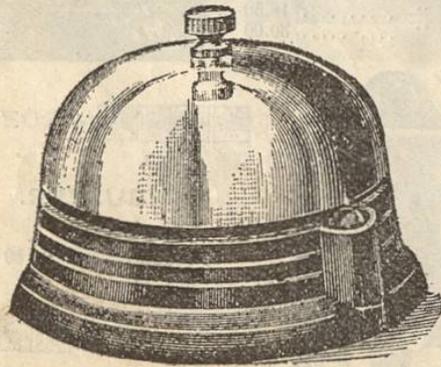
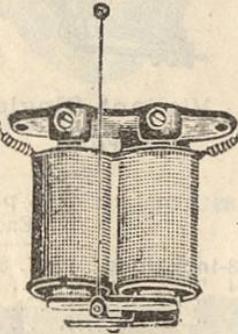
Price,  
\$2.50.

RINGER COILS FOR  
MAGNETO BELLS.

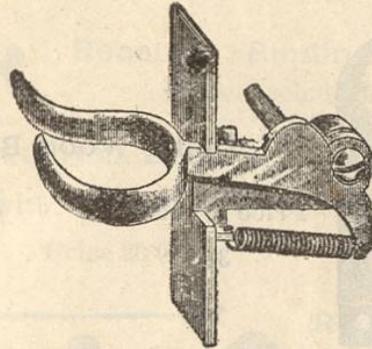
Price, 100 ohm. - - - \$2.00  
" 500 " - - - 3.00  
" 1000 " - - - 4.00.



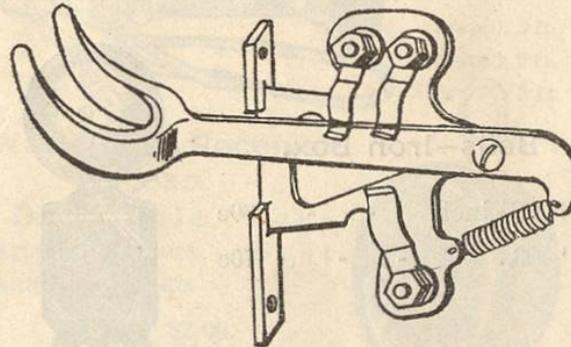
Plates for Magneto Box  
Price 20 cts.



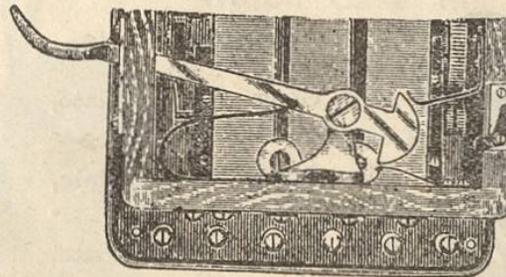
MONITOR BELL, - - - Price, \$1.00



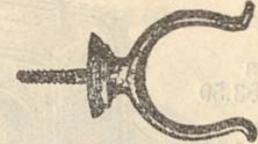
Hook No. 1 With Springs, Price, 50 cts



Eureka Hook, No. 2  
Easy to put on; reliable. - - - Price, 80 cts.



Long Lever Hook, No. 3 Price, 80 cts.

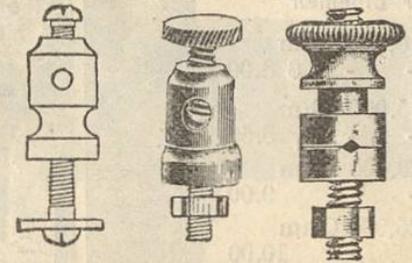


Stationary Hook.  
Price 50c



Back Boards,  
Walnut or Oak.

Price 30-in. Walnut single - \$1.80  
Price 30-in. Oak, single - 1.70  
Price 24-in. Walnut, single - 1.70  
Price 24-in. Oak, single - 1.60  
Price 30-in. Walnut, double - 2.20  
Price 30-in. Oak, double - 2.00



Thumb Screw, Nickel, Price 10c.  
Brass, Wood Screw, Price 12c.  
Lock Nut, Price 15c.

**Switch Board**

Ground or  
Metalic Circuit



**Ground Circuit**

Price  
\$5.00 per drop.

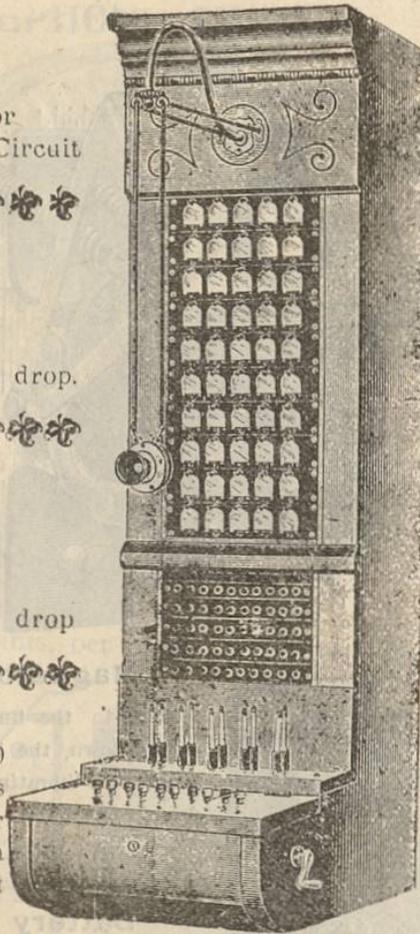


**Metalic Circuit**

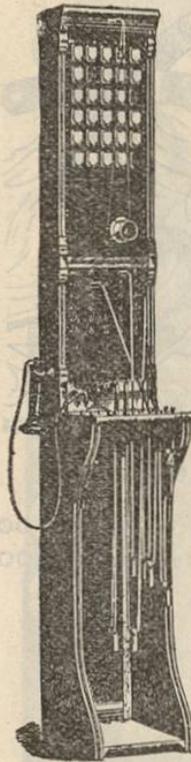
Price  
\$6.00 per drop



Boards 10 drops or less add 50 cts. per drop. With operators set \$4.00 extra.



**SWITCH BOARD WEIGHTS.**  
Price each 30c.



**SWITCH BOARD.....**

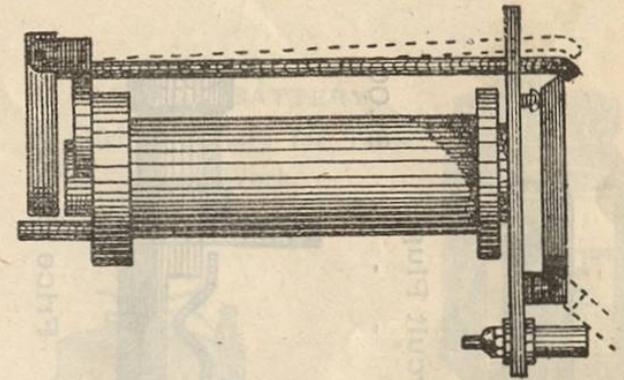
to stand on floor or fasten on wall, or set on table made to suit customer in regards to shape.

We guarantee our Boards to give satisfaction-

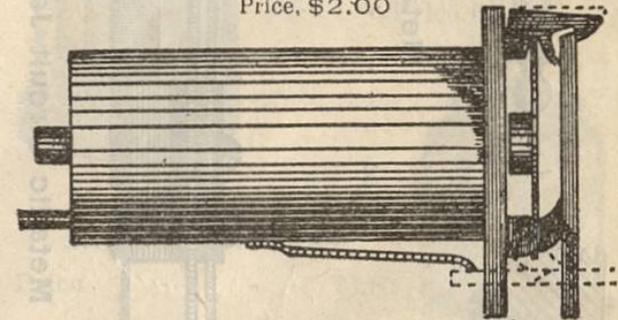


**SWITCH CORD**

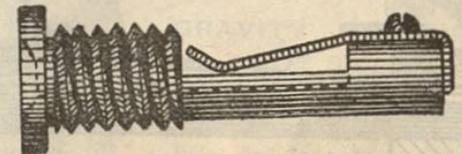
Linen, Single Price.	-	-	-	20c	yard
Silk, " " "	-	-	-	20c	"
Silk, double " "	-	-	-	30c	"
Worsted, Single Price,	-	-	-	16c	"



**Switch Board Drop, No 1**  
Price, \$2.00



**Switch Board Drop, No. 2**  
Price, \$2.00



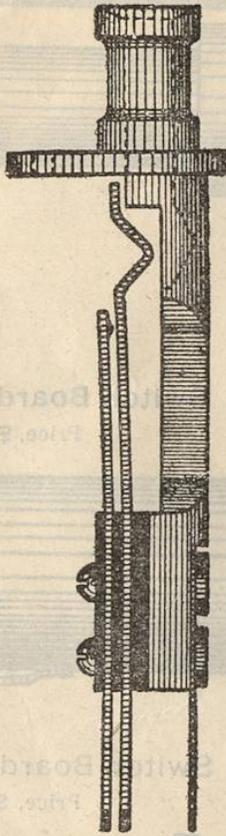
**Ground Jacks, No. 1**  
Price, 40 Cts.



Metallic Circuit Plug.

Price \$1.00

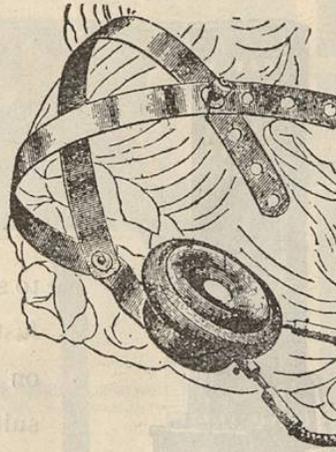
Price



Metallic Circuit Jack. Price \$1.00

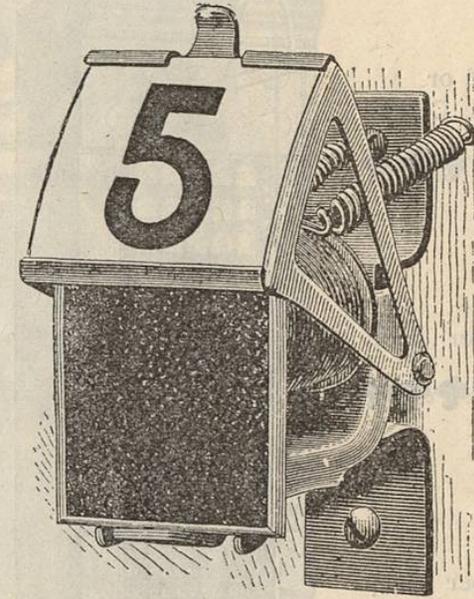


Ground Circuit Plug. Price 50c



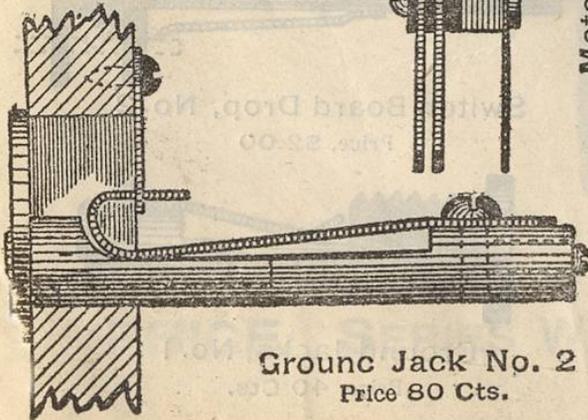
Head Band

Price - - - \$4 00  
Price with Receiver 6.00



Lock  
Gravity  
Drop  
Cannot be  
jarred  
down

Price, \$1.60



Ground Jack No. 2  
Price 80 Cts.

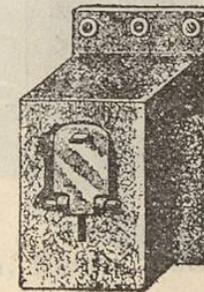
Mouth Piece for Transmitters

Male or Female Thread.

Price 16 Cts.



Mouthpiece.



Magneto Drops

Loop in the line when drop is wrung down, the Battery Circuit is closed and Vibrating Bell rings until drop is put up.

Price, \$2.00

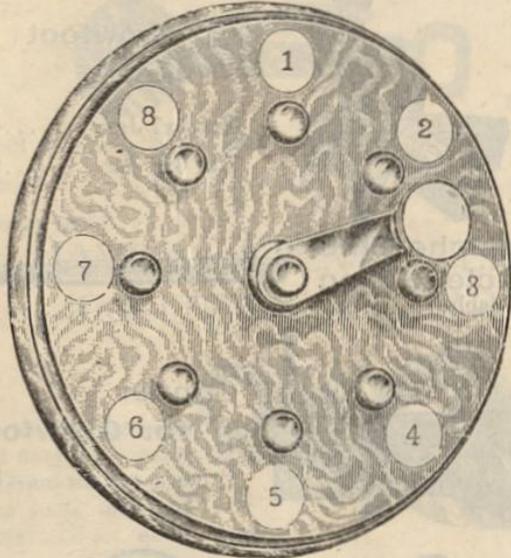
Battery Drops

Loop in on line when push is pressed Lever falls and closes Battery Circuit, and rings Vibrating bell until Lever is put up.

Price, \$2.00

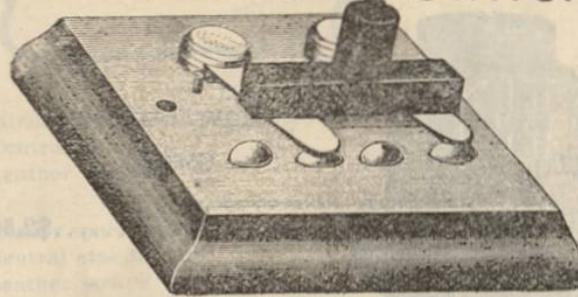


TELEPHONE SWITCH

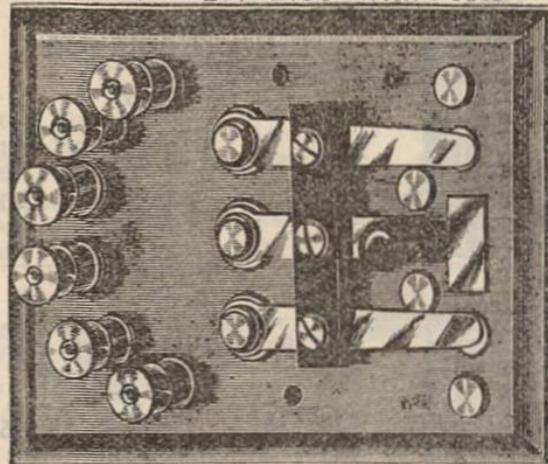


Price, 4 point switch.....\$1.50  
 Additional points, per point..... 10

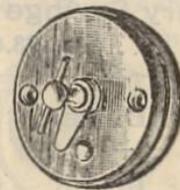
POLE CHANGING SWITCH.



Price, Small, \$1.50—No Posts  
 Price, Large, 2.00—With Posts



Three Fingers Price .....\$5.00



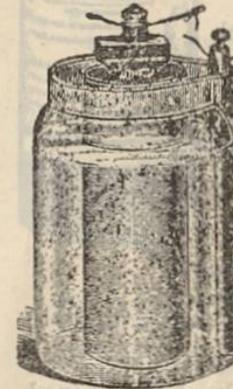
Switches  
 Wood Base

Price; 1 point.....18c  
 " 2 " .....20c  
 " 3 " .....30c  
 " 4 " .....40c  
 " 5 " .....50c

LACLEDE BATTERY

A Carbon Battery for Telephone Work.

Price, - - - 60c



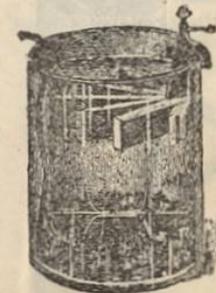
LECLANCHE BATTERY

Price 60c.



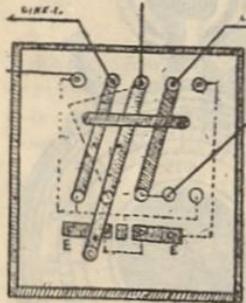
SAMSON BATTERY

Price - - - \$1.80



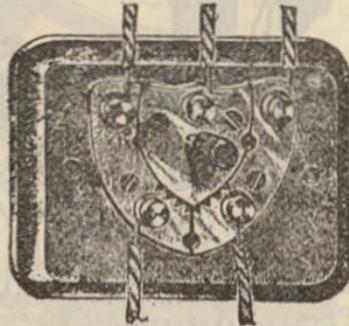
GRAVITY OR GROW FOOT BATTERY \*

Price, 5x7 Complete - \$1.10  
 Price, 6x8 Complete - 1.50  
 Price, 5x7 Jar only - .30  
 Price, 6x8 Jar only - .35



Pole changing switch 3 figures.

Price. 4.00



Western Union  
 Lightning Arrester

Price.....\$1.50

FARR DRY BATTERY.

Good, Reliable Battery.

Price - - - 46c each

Price, dozen lots, 42c each



EUREKA DRY BATTERY

Warranted to be Long Lived

Price, - - - 50c each

Price, dozen lots, - 46c each

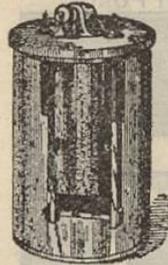
MESCO DRY BATTERY

Price, 46c each.



Law Battery Complete

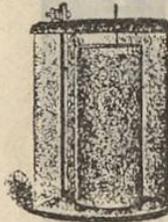
Price .....\$2.50



Edison Lelande Battery

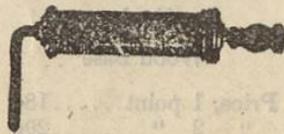
Capacity, 30 Amphere

Price .....\$3.00



Fuller Battery

Price .....\$1.50



Battery Syringe

Price.....\$3.00



Battery Hydrometer

Price .....\$1.50



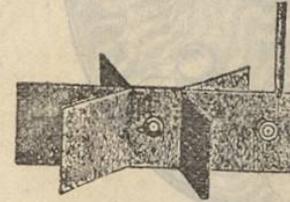
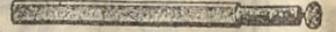
Crowfoot Zincs

For 5x7 Jar.....40c

For 6x8 Jar.....50c

Leclanche Zinc  
Leclede Zinc

Price, each.....6c



Copper for Crowfoot

Price .....16c



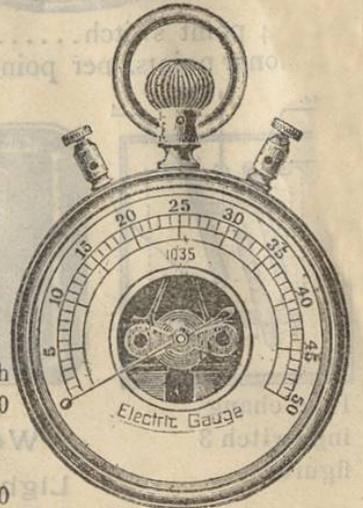
Battery Call Outfit

Battery, Bell and Push  
Price .....\$2.00

Warner's  
Battery Tester  
Price..... \$13.00

Standard Battery Gage

Price.....\$7.00



COMMON ECCENTRIC CLAMP.



Price.  
Steel for No. 8, B. & S. wire and finer \$1.30  
Brass " " 8, " " " " " 1.80  
Straps only ..... 1.00

HAVEN PATENT STEEL ECCENTRIC CLAMP.



For No 8 B. & S. wire and finer.....each, \$2.40  
For from No. 6 B. & S wire to 1/2 inch guy cable..... each, \$4 50

Compound Eccentrics.

CLAMP.



For hard drawn copper wire, No. 6 B. & S. and finer. ....\$3 50

No. Price.  
371 Light, for No. 4 B. & S. and finer..... \$5.00  
372 Extra Heavy, for No. 4 to 000 B. & S..... 7.50

The Buffalo Grip.



Small size for No. 6 wire and smaller.....each \$5.00  
Large size for trolley wire.. " 7.50

Western Climbers.



Eastern Climbers.



	Eastern Pattern.	Price.
Klein's special climbers, only.....	per pair,	\$3.50
Central standard " " .....	" "	1.70
Leather straps " " .....	per set,	1.20
	Western Pattern	Price.
Klein's special climbers, only.....	per pair,	\$2.70
Central standard " " .....	" "	1.60
Leather straps " " .....	per set,	1.30

Splicing Clamps or Connectors.



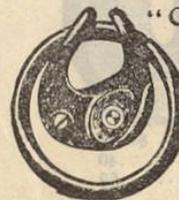
No.		Price.
100.	3 oblong and 1 round hole No. 0, and finer	\$2.60
101.	2 " holes. " 0, " "	2.60
102.	2 " " " 3, " "	2.60
103.	4 round holes. " 8, " "	2.60
104.	2 oblong and 2 round holes " 0, " "	2.60
105.	2 " " " " " 0 " "	4.00

COMBINATION SPLICING



CLAMP.

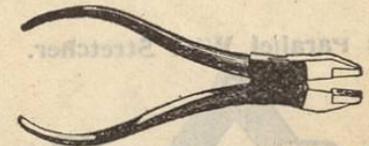
No. Price.  
309. Fitted for McIntyre sleeves on 10, 12, 14 B. & S. and finer iron wires on the other side. \$3.00  
310. Same as above only fitted for American sleeve 3,00



"Come-Along" Eccentric.

Regular size for No. 9 finer \$0.75  
Large " " " 3 " 1.65  
Extra large size for No. 0000 1.90  
Straps only ..... 1 00

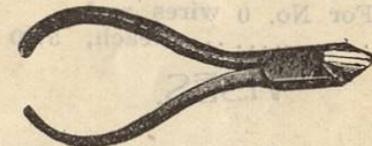
Side Cutting Pliers.



		Price.
Size, 4 inches, plain	\$0.85	Size, 4 inches, nickel \$1.10
" 5 " " "	.85	" 5 " " 1.10
" 6 " " "	1.10	" 6 " " 1.35
" 7 " " "	1.40	" 7 " " 1.65
" 8 " " "	1.75	" 8 " " 2.10

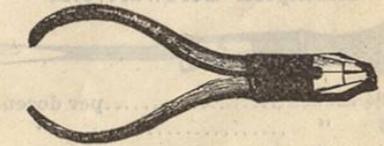
The above will be furnished with insulated handles at an extra charge of 25 cents each, net.

Diagonal Cutting.



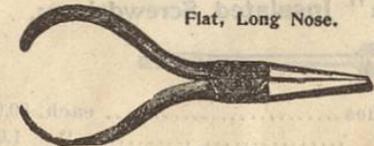
		Price.
Size, 5 inch, plain	.....each,	\$1 00
" 5 " nickel plated	.....	1.25
Size, 6 inch, plain	.....each,	1.25
" 6 " nickel plated	.....	1.50

FRY SPLICING PLYERS.



		Price.
Size, 8 inches, plain	.....each,	\$2.50
" 8 " nickel plated	.....	2.75

Flat, Long Nose.



		Price.
Size, 4 inches, plain	.....each,	\$0.50
" 5 " " "	.....	.60

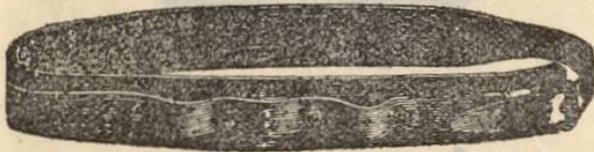




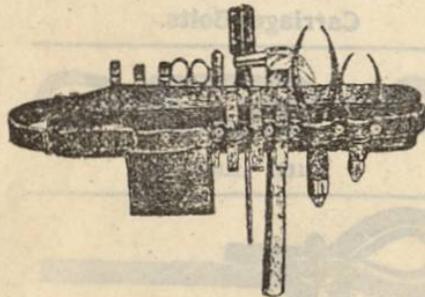
LAG BOLTS.



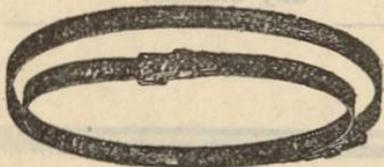
CROSS ARM BRACES.



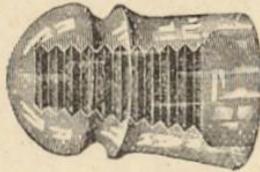
LINEMAN'S BELT.



LINEMAN'S BELT.

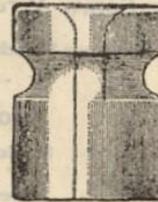


LINEMAN'S SAFETY STRAP



Glass  
Insulators  
Pony,  
Price each, 4 cts.  
or  
\$28.00 a thousand

Porcelain Knobs  
For use on Building or  
Cross Arms.  
Price, No. 4, each 2c, or  
\$16.00 per thousand.



BRACKETS, OAK.  
Price, each 4c, or \$26.00 per thousand.



Pins Oak  
Price, each 2c, or \$14.00 per thousand.



Cross Arms  
Price: Each, 4 pins, 40c; 6 pins, 60c; 8 pins,  
80c; 10 pins, \$1.20. Write for quantity  
price.

Painted Cross Arms.



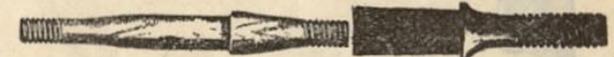
Above Arms of best Michigan white pine. Special prices "

Pins.



No. 2052.

No. 3154.



No. 2671

No. 3394-

2052	Standard, 1 1/4 inch, Painted Oak Pin, per 1,000.	18.00
	In crates of 500.	
2053	Standard, 1 1/4 inch, Painted Oak Pin, per 1,000.	18.00
	In crates of 500.	
2054	1 1/4 inch Locust Pin, not painted, per 1,000.	30.00
	In crates of 500.	
2055	1 1/4 inch Locust Pin, not painted, per 1,000.	30.00
	In crates of 500.	
2671	Brown Duplex Pin, 1 1/4 inch, Oak, per 1,000	25.00
2672	" " " 1 1/4 " Locust, " "	35.00
3154	Corner Pin, 1 1/4 inch, Oak, each	.07
3155	" " " 1 1/4 " Locust " "	.10
3394	1 1/4 inch Solid Iron Pin, each	.20

WESTERN UNION STANDARD  
STEEL CROSS ARM PIN.



Price.  
1/2 in. shank, complete with hardwood thimble,  
nut and washer, per 1000..... each, \$0.08  
Per 100 ..... .10



Insulators—Glass—



REGULAR NO. 3  
INSULATOR.

From Chicago stock Price.  
in 1000 lots, \$50.00



DEEP GROOVE  
PATTERN.

From Chicago stock Price.  
in 1000-lots, \$55.00



W. U. DOUBLE  
PETTICOAT

Price.  
Chicago stock in 1000 lots, \$70.00  
factory in 1000 lots, 65.00



Insulators—  
DOUBLE GROOVE  
PONY INSULATOR.

Price.  
From Chicago stock in 1,000 lots, \$30.00

'PONY'  
GLASS INSULATOR.

Price.  
From Chicago stock, 1,000 lots, \$26.00  
" " " bbl. lots, 28.00



DEEP GROOVE,  
DOUBLE PETTI-  
COAT, PONY.

telephone and light electric light wiring.

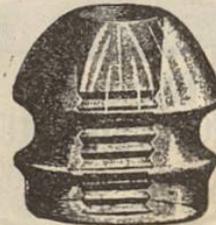
Price.  
From Chicago stock 1,000 lots, \$45.00

BROWN'S DUPLEX  
GLASS INSULATORS



Price.

Chicago stock, deep groove each \$0.09  
" " pony ..... each 68



Insulators—Glass—

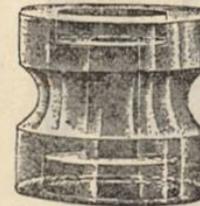
No. 1, Glass  
Insulating or Break Knob.

1 1/4 inches long, 1 1/4 inches wide, 1/2 inch hole.

No. 233.

233 Per 1,000..... 20.00

No. 2, Glass Insulating or Break Knob.

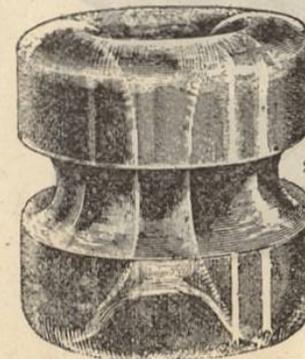


1 1/4 inches long, 2 inches wide, 1/2 inch hole.

233 Per 1,000..... 30.00

No. 233.

No. 3, Glass Insulating or Break Knob.



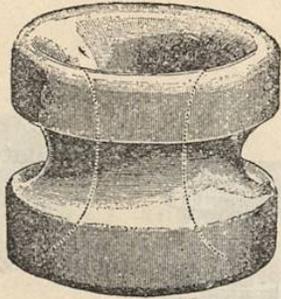
2 1/4 inches long, 2 inches wide, 1/2 inch hole.

233 Per 1,000..... 40.00

No. 233.

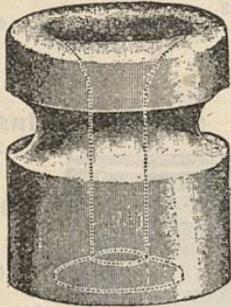
insulators—Porcelain

No. 0.



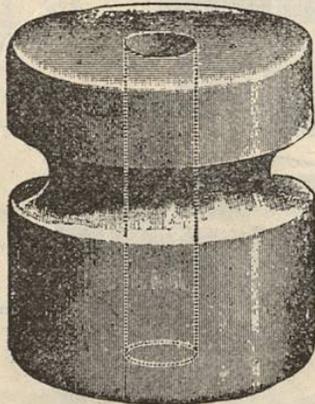
Price.  
Per 1000 .....\$130.00  
" 100..... 15.00

No. 1.



Price.  
Per 1000.....\$90.00  
" 100..... 10.00

No. 2.



Price.  
Per 1000 .....\$36 00  
" 100..... 4.50



No. 3540. 3540 4x½ Standard Carriage Bolt, per 100.

Soldering Coppers. Pointed.



Weight per pair, 1½ lbs. ....	per pair, \$0.60
" " " 2 " .....	.80
" " " 3 " .....	1.20
" " " 4 " .....	1.60

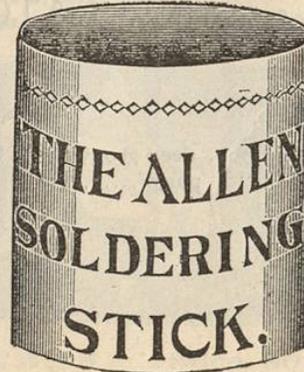
Solder.



solder .....	per lb.. \$0.30
" .....	" .30
" .....	" .30

Yager's Soldering Salts.

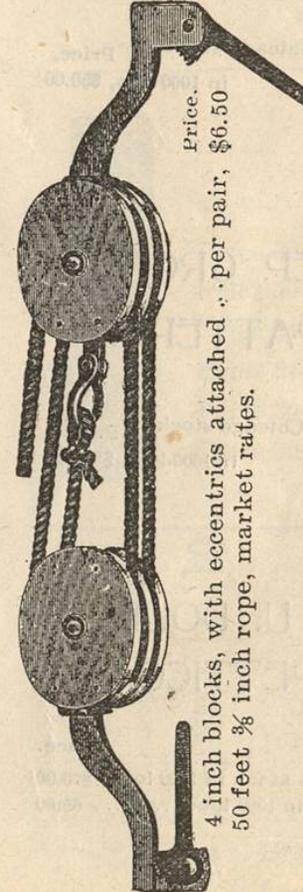
Per ½ lb. bottle .....	Price. \$0.60
" 1 " .....	.75
" 5 " .....	3.60



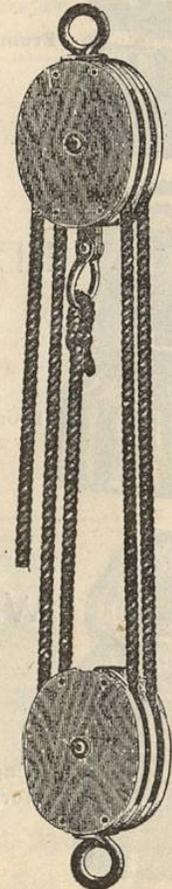
PULLEY BLOCKS.



Galvanized iron..... per pair, \$3.75

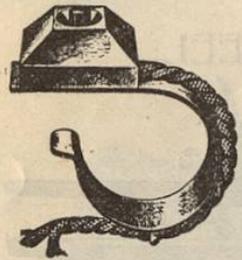


Price.  
4 inch blocks, with eccentrics attached .. per pair, \$6.50  
50 feet ¾ inch rope, market rates.



Price  
4 inch blocks only, with eye for attaching separate clamp... \$3.30  
50 feet ¾ inch rope, market rates.  
5 inch blocks only, extra heavy ..... 5.30  
100 feet of ¾ inch rope, market rates





NO. 1  
Table Clamp Push

Price.....\$1.00

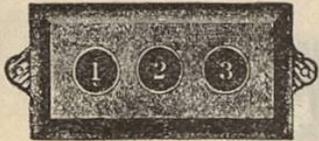
NO. 2  
Push Button  
Light Bronze

Price ..... 50c  
Price, plain.....30c



NO. 3  
Compound  
Push Button

2 push, price.....\$ 70  
3 push, price .... 1.00



NO. 4  
Bell and button  
Combination

Wood or Metal

Price .....\$3.00



NO. 5  
Push Button  
Light Bronze

Price ..... 75c

No. 6 Push Button

Price ..... 70c



No. 7 Push Button

Light Bronze

Price ..... 70c



No. 8 Push Button

Oak, Walnut or Ash

Price ..... 20c



No. 9 Desk Push

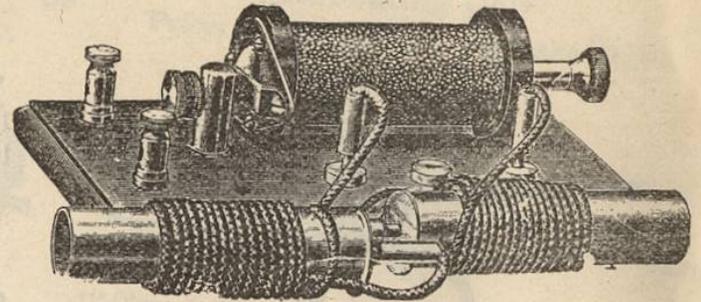
Rubber Center, Nickel Plated

Price ..... 40c



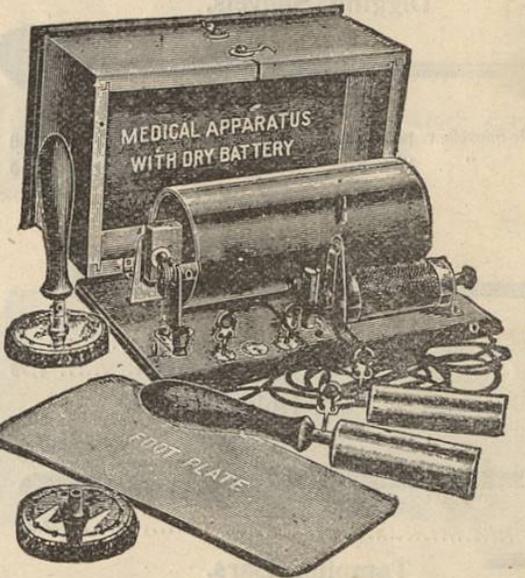
Movable Floor Push  
Nickel

Price, complete with Cord.....\$2.00



Medical Battery No. 1

For Nervous Diseases. Price..... \$3.00

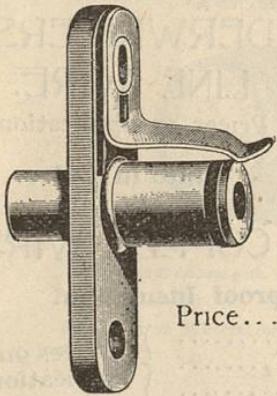


Medical Battery No. 2

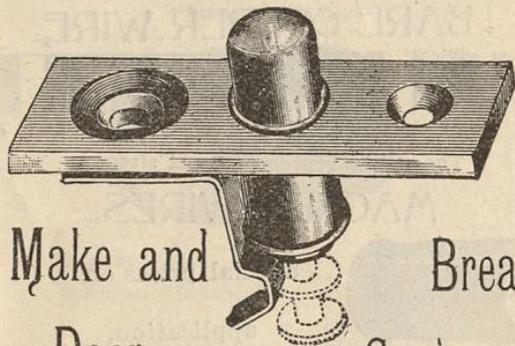
Price.....\$10.00

Burglar Alarm Attachments.

Door Spring



Price..... 35 cents.



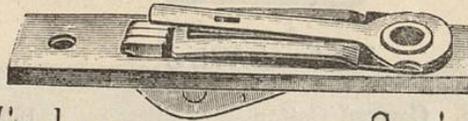
Make and Break Door Spring.

For use on store doors, etc.

Contact is made as the door opens and as it shuts, but not while it is open or shut.

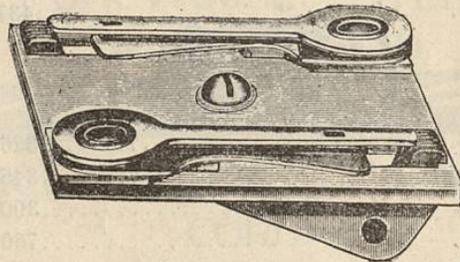
Price..... 24 cents.

BURGLAR ALARMS.



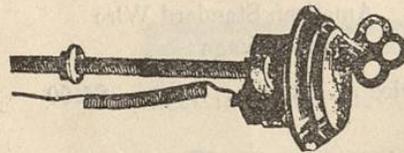
Window Spring.

Price..... 22c



Double Window Spring.

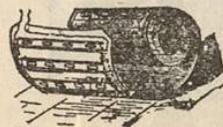
Price..... 40c.



Yale Lock. Burglar Alarm Switch.

These switches are placed on the doors of stores, residences and other buildings connected with burglar alarm systems, so that persons having the proper keys can go in or out of the building without ringing the alarm.

Price..... \$4.50



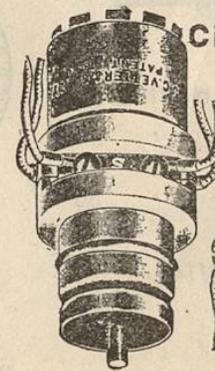
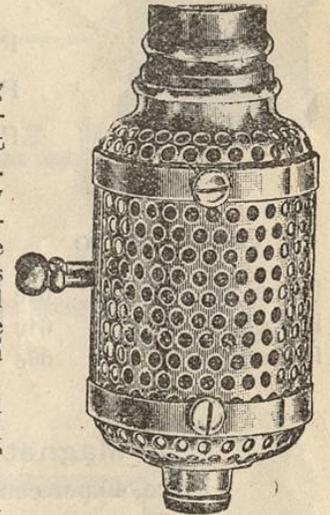
Electric Floor Matting.

Price per square foot..... 80c

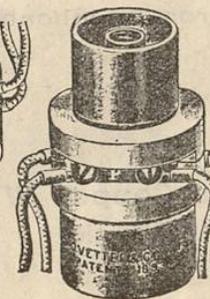
Regulating Socket.

A Money Saver.

A complete regulating socket for both alternating and direct current at 110 volts with 16 c. p. lamps. Has been fully tested by the most practical electricians in the United States. It has no rival in the electrical field to day, as it can be turned up and down from 2 c. p. to 16 c. p. the same as one would operate a gas jet, and will save 40 per cent of current when turned down. Finished in lacquered brass or antique copper. Price \$4.00



Circuit ... Tap.



Price. \$3.00

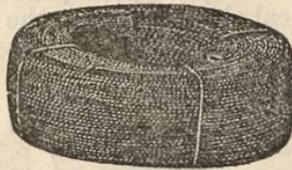


**Annunciator Wire**

Price, No. 16, 60c  
 Price, No. 18, 64c  
 Price, No. 20, 68c

**Office Wire**

Price, No. 16, 62c  
 Price, No. 18, 64c  
 Price, No. 20, 66c



**Magnet Wire**

Price, 40 per cent. off the list.



**Galvanized B B Iron Telephone Wire**

Price, No. 9 per lb. 8c  
 Price, No. 14 per lb. 10c  
 Price, No. 12 per lb. 8c

**Hand Drawn Copper Wire**

Price on Application.

**Galvanized Fence Wire**

Price, No. 12 and 14, 7c lb.



**Magnet Wire**

No. 31-S. Covered Cotton.....180 lb.  
 No. 32-S. " " .....195 lb.  
 No. 33-S. " " .....240 lb.  
 No. 34-S. " " .....285 lb.  
 No. 36-S. " " .....437 lb.



No. 31-S. Covered Silk.....325 lb.  
 No. 32-S. " " .....345 lb.  
 No. 33-S. " " .....390 lb.  
 Na. 36-S. " " .....700 lb.



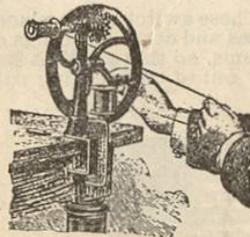
**Wire Gauge**

American Standard Wire Gauge

Price ..... \$5.00

**Wire and Electro Magnet Winder**

Price ..... \$8.00



**BANNER WEATHER-PROOF WIRE.**

Prices on application.



**UNDERWRITERS' LINE WIRE.**

Prices on application.

White in Color.

**HARD-DRAWN COPPER WIRE**

With Weather-proof Insulation.

No. 10, B & S Gauge..... }  
 No. 12, " " ..... } Prices on  
 No. 14, " " ..... } application

**BARE COPPER WIRE.**



These cuts represent exact sizes.

**MAGNET WIRES.**



Special prices on

application.

**GAS FIXTURE WIRE,**

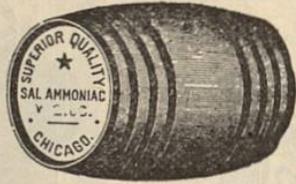
For lighting gas by electricity.

**GALVANIZED STEEL GUY**

**WIRE.**

**Battery Supplies.**

**Sal-Ammoniac.**



IMPORTED.  
Over 99 per cent pure. List Price.  
Per pound ..... \$ .20  
Special price in barrel lots.

**Blue Vitriol.**



Per pound ..... .10  
Special price in barrel lots.

**CHEMICALS, METALS, Etc.**

- Bichromate Potash, per lb.....25
- Chloride of Ammonia (Sal-ammoniac), per lb....15
- “ “ in casks, lowest market price
- Blue Vitriol, per lb .....10
- “ per bbl., lowest market price.
- Quicksilver (mercury), per lb.....90
- Oxide of Zinc, per lb.....25
- Sulphate of Zinc, per lb.....20
- Paraffine, per lb.....20
- Wax, for sealing batteries, per lb.....15

**IRON ARC LAMP CORDAGE.**



Very flexible, for use with pulleys.  
Annealed and galvanized, with hemp center.

**GALVANIZED STEEL WIRE. STRAND.**



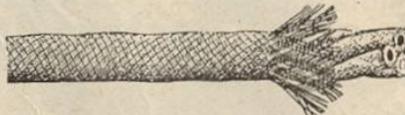
**MOULDED RUBBER LAMP CORD.**



Samson Cordage.



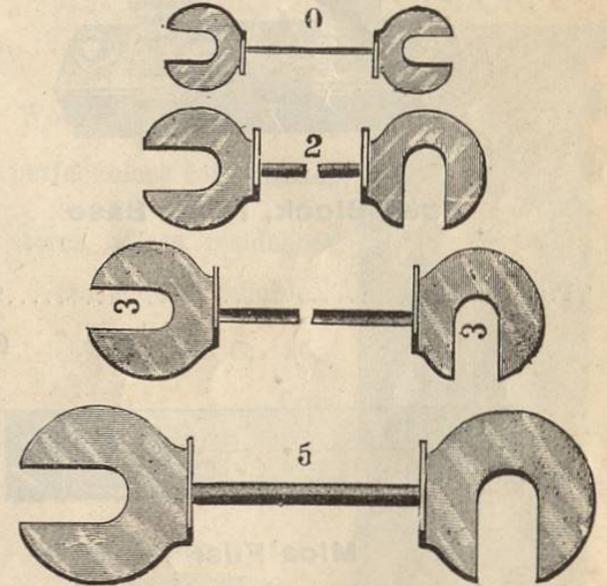
Electric Light Elevator Cable.



Rubber Covered Moulding Wire.



**Copper Fuse Wire Terminals.**



Terminals are shown full size.

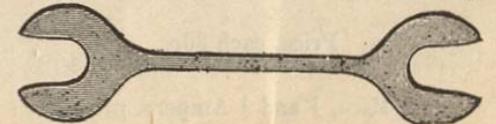
		Price.
15 Ampere, No. 0	1 inch per hundred,	\$2.00
15 " " 2	1 1/2 " " "	2.00
100 " " 3	1 1/2 " " "	3.00

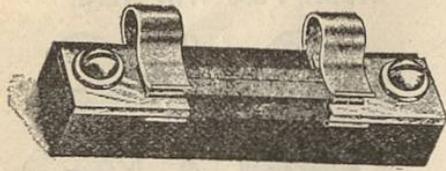
Above are Edison style

15 Ampere, No 2	2 1/4 inch per hundred,	\$4.00
25 " " 3	2 1/2 " " "	4.00
100 " " 5	2 1/2 " " "	5.00

Above are S-M. style

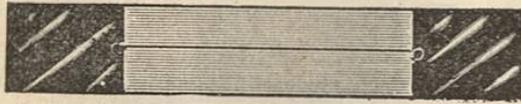
**STAMPED FUSE LINKS.**





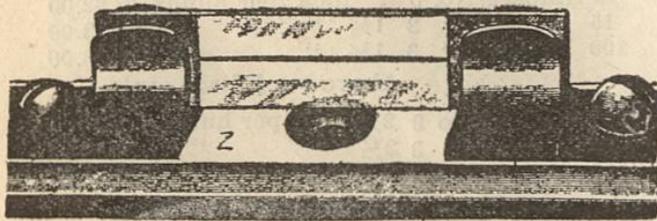
Fuse Block, Fiber Base

Price, each.....24c



Mica Fuse

1/2 and 1/4 Ampere, price.....4c



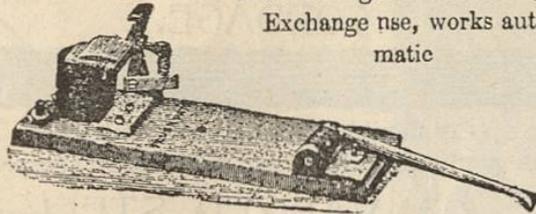
Fuse Block, Porcelain

Price, each 30c.

Fuse Mica, 1/2 and 1/4 Ampere, price 4c

Lightning Arrester

Electro-Magneto Protector, for Exchange use, works automatic



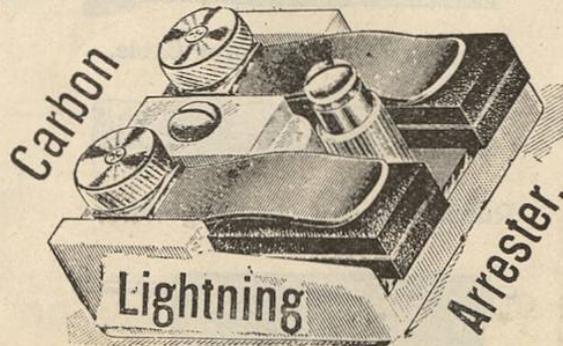
Price.....\$1.00



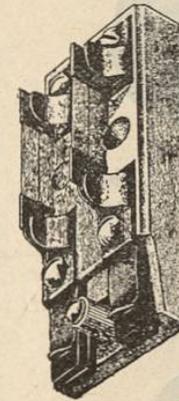
Lightning Arresters

For Switch Boards

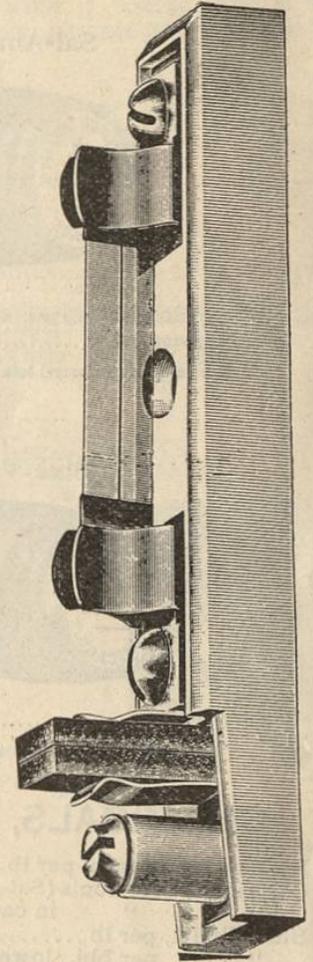
Price per line.....40c



Price, each.....50c



COMBINED TELEPHONE FUSE BLOCK

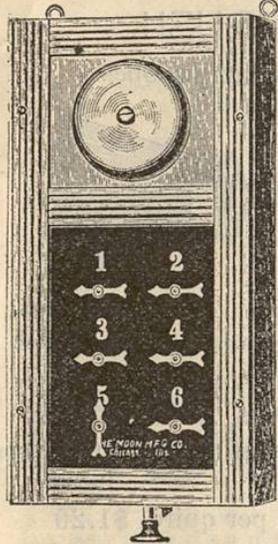


This Fuse Block is considered to be about the safest protection against lightning of anything known.

Price.....50c.

**THE ECLIPSE ANNUNCIATOR**

Two Rows.

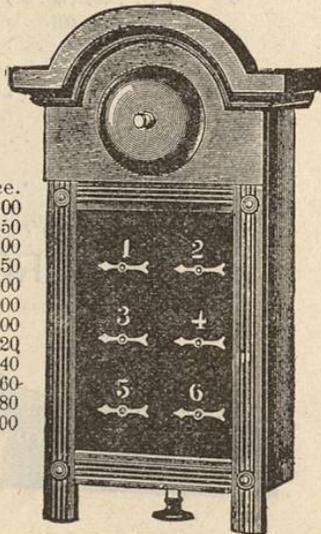


A high grade competition house annunciator. Fully guaranteed. Furnished in oak cases only.

	Price.
4 indicators each,	\$4.45
6 " " "	6.00
8 " " "	7.60
10 " " "	9.10
12 " " "	10.70

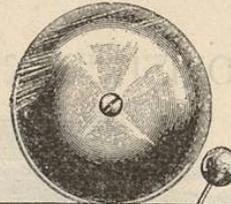
The Eclipse. Style A House Annunciators.

Indicators	Price.
2 indicators	\$4.00
3 " "	4.50
4 " "	5.00
5 " "	6.50
6 " "	7.00
8 " "	9.00
10 " "	11.00
12 " "	13.20
14 " "	15.40
16 " "	17.60
18 " "	19.80
20 " "	22.00

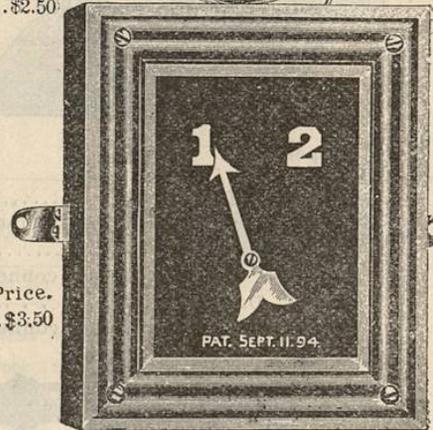


Style A.

**TWO-POINT INDICATING BELL**

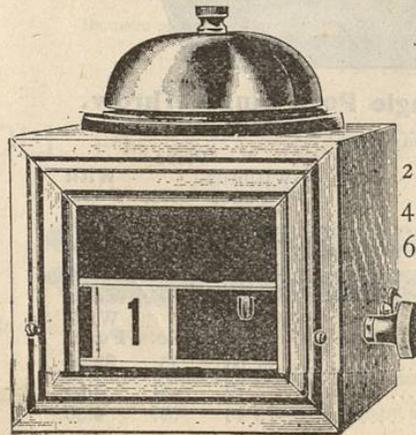


Price. Two-point.....\$2.50



Price. Three-point.....\$3.50

**Small Gravity Drop Annunciator.**



2 Drop, \$3.00  
4 " 4.50  
6 " 6.00

**SELF-WINDING CLOCKS.**

Length 40 inches; width 16 inches,

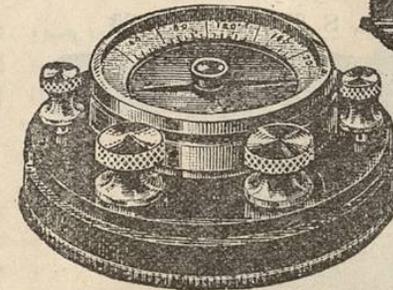
Wound by electricity.

perfect clock for railroads, stores, offices, residences, perfect and reliable

STYLE C.

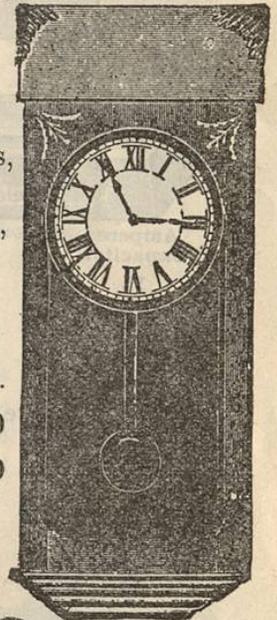
Price. Style C, complete \$40.00  
" B, " 60.00

Pocket Galvanometer.

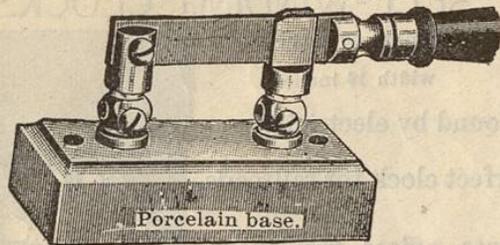


A handsomely finished and valuable little galvanometer, mounted in highly polished hard rubber case, with hard rubber cover.

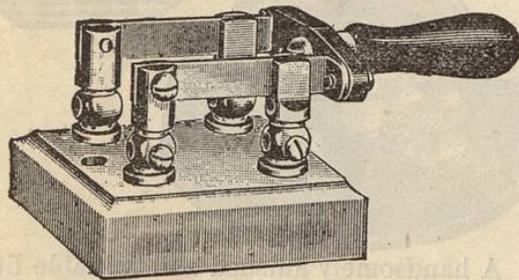
Price. Pocket galvanometer .....\$6.00



BABY KNIFE SWITCHES.

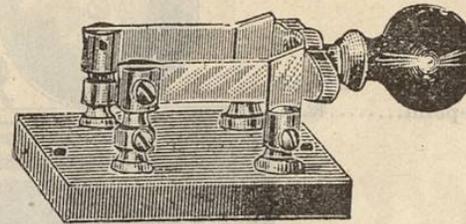


Ampere Capacity.			Price Each.
15	S. P.	S. T.....	\$0.38
15	"	D. T.....	.60
15	D. P.	S. T.....	.50
15	"	D. T.....	.95
15	3 wire,	S. T.....	1.00
25	S. P.	"	.45
25	"	D. P.....	.85
25	D. P	S. T.....	.60
25	"	D. T.....	1.20
25	3 wire,	S. T.....	1.25

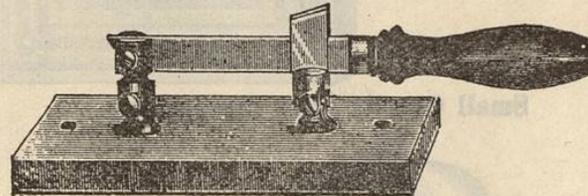


Ampere Capacity.			Price Each.
15	S. P.	S. T.....	\$0.35
15	D. P.	S. T.....	.40
25	"	"	.50

POLISHED KNIFE SWITCHES



Ampere Capacity.			Price Each.
15	S. P. S. T	.....	\$0.80
15	"	" with fuse connection.	1.05
15	S. P. D. T	.....	1.50
15	"	" with fuse connection.	1.65
15	D. P. S. T.	.....	1.00
15	"	" with fuse connection.	1.65



Single Pole, Single Throw.

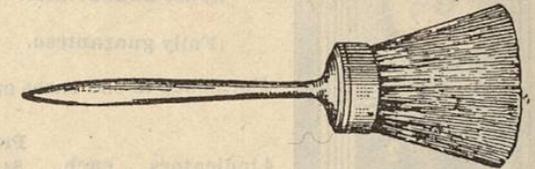
Slate bases.		Price	
Ampere Capacity	Without Fuse.	No.	With Fuse.
25	\$0.95	13.	\$1.30
50	1.45	25.	1.90
75	1.80	37.	2.50

Single Pole, Double Throw.		Price	
Ampere Capacity	Without Fuse.	No.	With Fuse.
25	\$1.60	15.	\$2.20
50	2.70	27.	3.55
75	3.40	39.	4.50

GLOBE BRUSH.

For cleaning arc lamp globes.



Price. each, \$0.80

EMERY CLOTH.

For cleaning carbon rods in outside arc lamps

No.		Price.
0	per quire,	\$1.20
1/2	"	1.20
1	"	1.20
1 1/2	"	1.20
2	"	1.50
2 1/2	"	1.80

CARBON ROD BRUSH.



Price. each, \$0.75

**Okonite Tubing.**

Approx. No. of feet per lb.	Per pound	List Price.
1/4 inch.	35	\$2.00
1/2 "	17	2.00
3/8 "	14	2.00
1/2 "	11 1/2	2.00
3/4 "	10	2.00
1 "	8	2.00
1 1/4 "	4 1/2	2.00
1 1/2 "	4	2.00
1 3/4 "	3	2.00

**Soft Rubber Tubing.**



Inside Diam.	Covers Wire.	Approx. No. of Feet per lb.
1/8 inch.	No. 20, B. & S. G., Ins.	100, per lb.
1/4 "	" "	50, " "
3/8 "	" "	20, " "
1/2 "	" "	15, " "
3/4 "	" "	12, " "
1 "	" "	9, " "

**Hard Rubber Tubing.**



IN LENGTHS OF 24 INCHES.

Outside Diam.	Inside Diam.	Approx. No. of Feet per lb.
3/8 inch.	1/4 inch.	20, per pound
1/2 "	3/8 "	11, "
3/4 "	1/2 "	16, "
1 "	3/4 "	10, "
1 1/4 "	1 "	8, "
1 1/2 "	1 1/4 "	8, "
1 3/4 "	1 1/2 "	6, "
2 "	1 3/4 "	6, "

**GALVANIZED GUY RODS.**



Galvanized steel, 5/8 in. round, 6 feet long  
 .. " 3/4 " " 8 "  
 .. " 1 " " 9 "

**Pulley Blocks.**



GALVANIZED IRON, WITH LOOSE HOOKS

**Single Iron Sheaves.**

Diameter of rope 1/4 inch.	per dozen	7.20
" 3/8 "	" "	10.80
" 1/2 "	" "	15.00

**Double Iron Sheaves.**

Diameter of rope 1/4 inch.	per dozen	12.00
" 3/8 "	" "	18.00
" 1/2 "	" "	24.00

**POLE PROTECTION STRIPS.**

Galvanized.

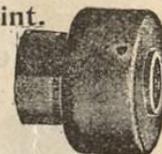


Made of galvanized iron 2 inches wide by 4 feet long,  
 concave throughout so as to conform  
 approximately to the rounding shape of the pole.  
 Per 100.....\$12.00

**Macallen Solid Mica Bracket Joint.**

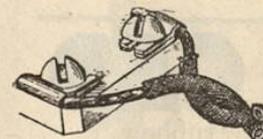
Combination.

IN MALLEABLE IRON	List Price.
3/8 x 1/2, each	\$0.36
1/2 x 3/4, "	.36
3/4 x 1, "	.50
1 x 1 1/4, "	.50



**Clamp Terminals.**

For Incandescent Cord.



Per box of 250..... .75

**Canopies.**

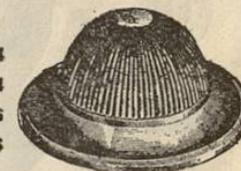
400 1/4 inch, Ring and Set Screw, each	.14
292 3/8 " " " "	.14
294 1/2 " " " "	.15
402 1 " " " "	.15



388 3/8 inch, Ring and Set Screw, each	.24
293 1/2 " " " "	.24
389 1 " " " "	.26
391 1 1/4 " " " "	.26



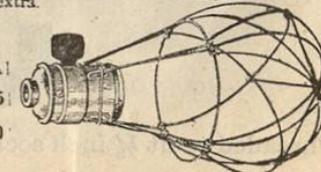
386 1/2 inch, Ring and Set Screw, each	.24
107 3/4 " " " "	.24
328 1 " " " "	.26
387 1 1/4 " " " "	.26



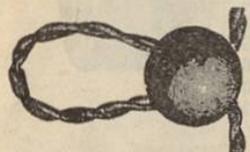
Polished and Lacquered, 50% extra.

**Wire Guards.**

List Price.
Polished Brass, per dozen...\$1.75
Tinned, per dozen..... 1.50



**Cord Adjusters.**



Wood, black enameled,  
in 100 lots \$12.00

**DOW CORD  
ADJUSTER.**

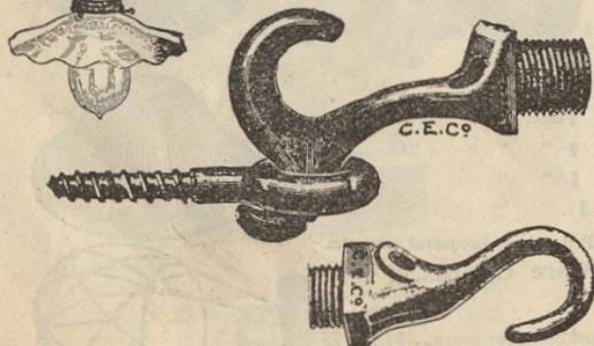


- 1. Hard rubber,  
in 100 lots.... \$9.00
- 1. Wood enameled,  
in 100 lots.... 7.50



Polished brass..... per doz. \$18.00  
Nickel..... " 20.00

**SOCKET HOOKS.**



Threaded to fit 1/8 inch socket.... each, \$0.13

**Socket Bushings.**



No. 3630.

Genuine Hard Rubber, 1/4 inch, per 1,000..... \$20.00  
Composition, 1/4 inch, per 1,000..... 8.00



No. 3632.

Genuine Hard Rubber, 1/4 inch, per 1,000..... 22.50  
Composition, 1/4 inch, per 1,000..... 9.00



No. 3634.

Genuine Hard Rubber, 1/4 inch, per 1,000..... 30.00  
Composition, 1/4 inch, per 1,000..... 12.00



No. 3636.

Soft Rubber, per 1,000..... 7.00



No. 3637.

Genuine Hard Rubber, 1/4 inch, per 1,000..... 30.00



No. 2927.

Polished Brass and Hard Rubber Fixture Bush-  
ing, each..... .25

**The Duggan Cleat.**



**TWO WIRE.**

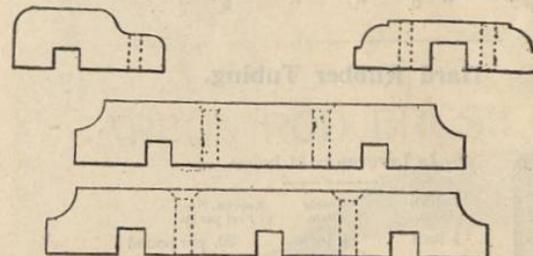
Price.  
Per 1000 Pair.

No. 1 and 3 holds wire No. 16 to No. 8,  
in 1000 pair lots..... \$32.00  
No. 2 holds wire No. 10 to No. 6, in  
1000 pair lots..... 47.00

**THREE WIRE.**

Holds wire No. 16 to No. 8, in 1000  
pair lots..... 35.00

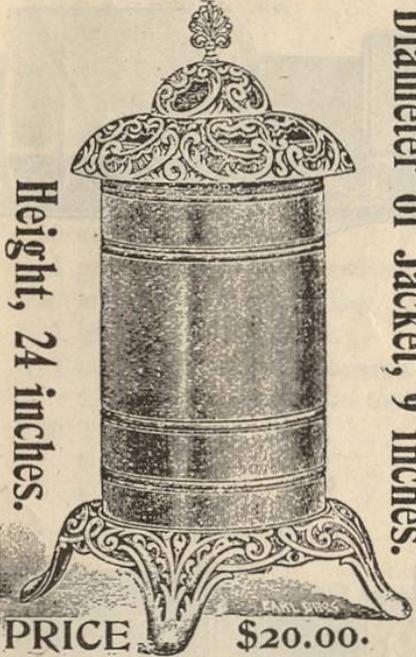
**Cleats, Wood.**



1	"	1/4	"	"	.....	3.00
1	"	1/4	"	"	.....	2.75
2	"	1/4	"	"	.....	3.00
2	"	1/4	"	"	.....	2.75
2	"	1/4	"	"	.....	2.75
3	"	1/4	"	"	.....	9.50

# Electric Air Heater

FOR VOLTAGE UP TO 250.



Height, 24 inches.

Diameter of Jacket, 9 inches.

one watt to every cubic foot of air to be heated, is sufficient to raise the temperature to 70 degrees.

PRICE \$20.00.

No. 180.

WITH FOUR HEATS.

## LAUNDRY IRONS.

Oval shape. Weight, 3½ lbs.  
Consumes 240 watts.  
For any voltage up to 125.

PRICE \$6.00



## ELECTRIC SOLDERING IRONS.



No. 10. Weight, 16 oz. length of iron, 11 ins., tip, ¼ in. in diameter, pointed. Consumes 100 watts.



No. 11 Weight, 15 oz., length of iron, 12 ins., tip, 7-16 in. in diameter Consumes 90 watts.



No. 20. Weight, 1 lb 10 oz. length of iron, 13½ ins.; tip, 1 in. in diameter. Either pointed or chisel shape Consumes 155 watts.



No. 21 Weight 1 lb 6 oz., length of iron, 13 ins.; tip, 9-16 in. in diameter Consumes 135 watts.



No. 30. Weight 2 lbs. 8 oz. length of iron, 14 ins., tip, 1¼ in. in diameter Either pointed or chisel shape Consumes 300 watts.



No. 31. Weight 1 lb. 14 ozs., length of iron, 14 ins. tip, 11-16 in. in diameter. Consumes 240 watts.

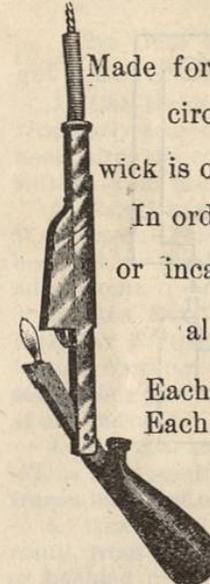


No. 32. Weight 1 lb 12 oz., length of iron 13½ ins. tip in in diameter Either pointed or chisel shape Consumes 280 watts



No. 40. Weight 4 lbs 4 oz length, 15 inches, tip 1¼ ins. Either pointed, or chisel shape Consumes 425 watts.

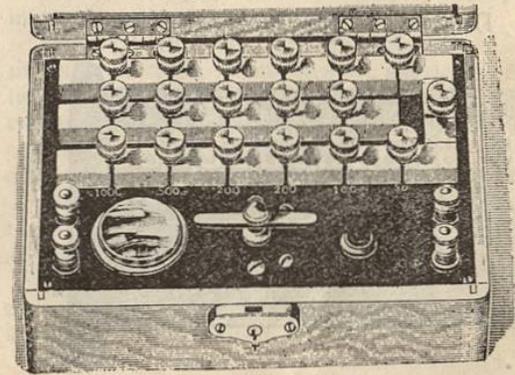
## GLOBE ELECTRIC CIGAR LIGHTER.



Made for use on incandescent lighting circuits as well as from battery. Wick is of asbestos and never burns out. In ordering state whether for battery or incandescent light current, whether alternating or direct and voltage.

Price.  
Each.....\$15.00  
Each, in dozen lots..... 12.00

## WHITNEY TESTING SET.



Price.  
2405. Range .1 to 211000 ohms without battery.....\$25.00

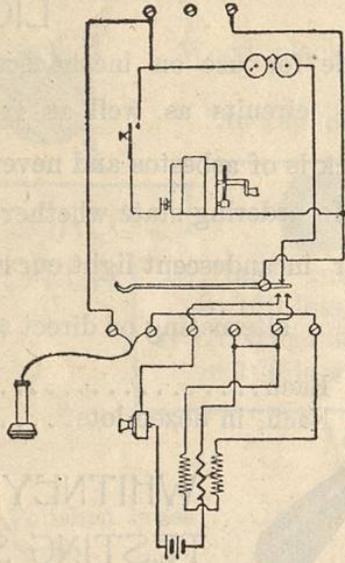


Diagram of Bridged Telephone.

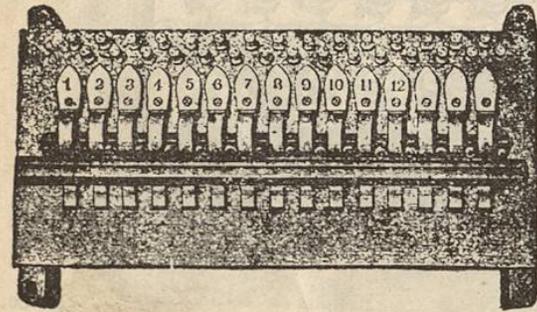
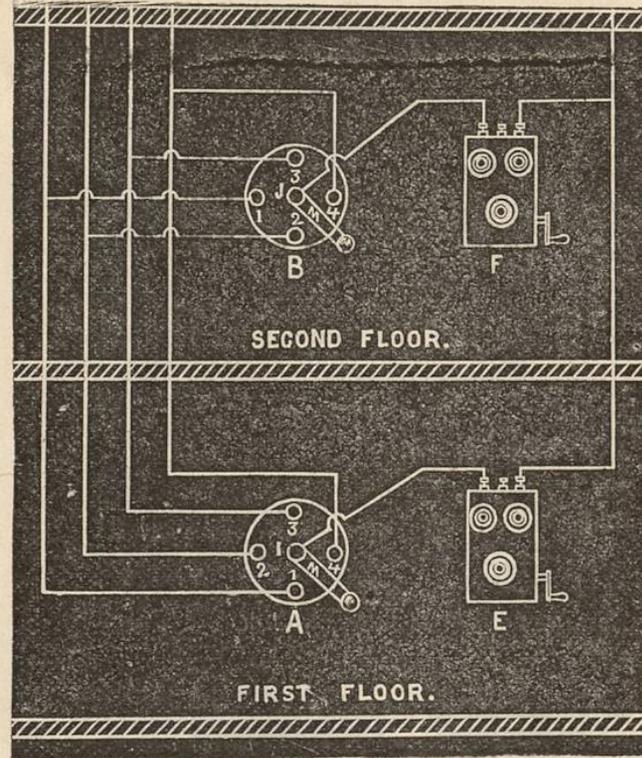
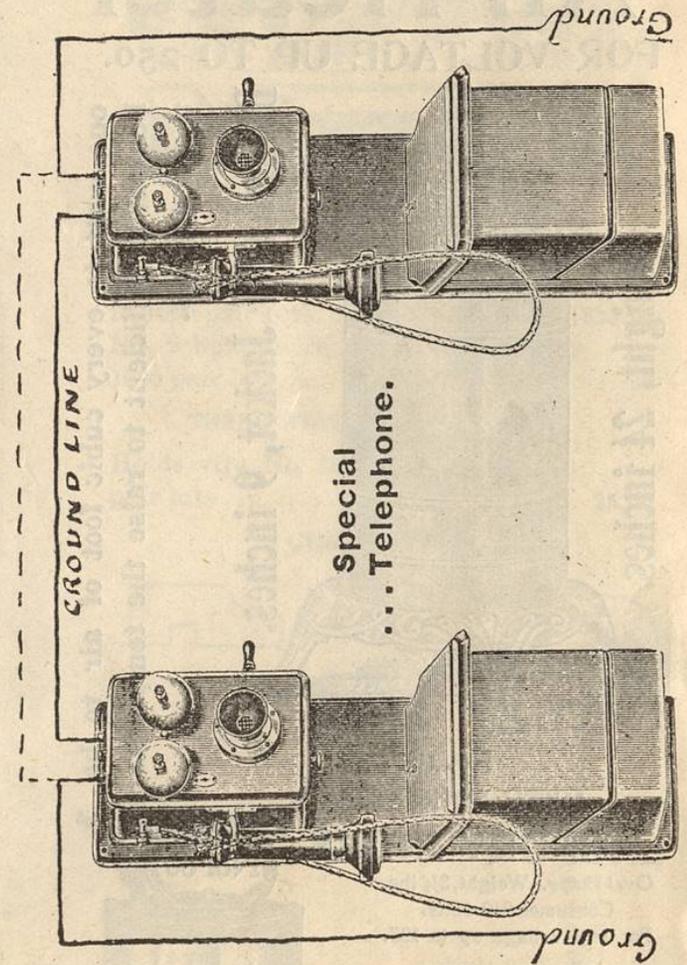


Diagram of W. U. Spring Jack



DIAGRAM

Showing how to connect up two or more Telephones for Intercommunicating System, in Factories and Warehouses.



Special  
... Telephone.

**Estimate Material for Exchange of Fifty Telephones.**

- 2 poles, 40x5.
- 8 poles, 30x5.
- 25 poles, 25x5.
- 100 10 pin cross arms.
- 50 6 pin cross arms.
- 1500 wood pins.
- 250 wood brackets.
- 8 bbls. poney insulators.
- 500 porcelain knobs.
- 200 lag screws and washers.
- 50 lbs. No. 18 annunciator wire.
- 50 carbon batteries.
- 1 gravity battery for switchboard.
- 50 miles No. 14 gal. Wire.
- 1 50 drop switchboard.
- 1 cable box terminal boards.
- Line and construction tools
- 50 Telephones.
- Freight.
- Labor.

**A Few Points Worth Knowing.**

**Electric Current—Magnetism, motion heat, chemical changes, etc., are said to be due to electric current.**

**Strength of Current—**This is measured by the magnitude of the effects produced in a certain time.

**Resistance.—**All bodies offer some resistance, which is found to be in proportion to length of any material of uniform section and quality. Resistance varies with the temperature of the material. Metallic bodies increase with a rise of temperature.

**Conductivity.—**Substances such as the metals which offer the least resistance are called good conductors.

**Insulators.—**Glass and Guta Percha offer an immense resistance to the passage of electric current.

**Volt.—**Difference of Potential or Electric M. F. The Leclanche cell has E. M. 1.46 volts.

**The Ohm.—**Is the unit in which all measurements are expressed.

**Ampere.—**The unit strength of current is called the ampere; equal to a current sent through resistance of one ohm by E. N. I. F. of one volt.

**Circuit.—**The path through which a generator of electricity sends a current. It always forms a closed loop.

**Earth —**For economy the earth is often used to complete a circuit for a telephone connection in order to save a second wire.

**Metallic Circuit.—**Is meant a circuit which the earth does not form a part, being made wholly of metal.

**Induction Coils.—**Are made by winding over an electro-magnet coil, another coil of fine wire, with a large number of turns.

**Wheatstone Bridge.—**Is one of the most generally useful testing instruments. Its cost is from \$75 to \$100

**FAULTS.**



The Best Telephones ever made sometimes get out of order.

1. CAN HEAR BUT CANNOT BE HEARD.—This fault is frequently caused by leaving the receiver off the switchhook, after the conversation is ended, the neglect resulting in the premature exhaustion of the battery.

2. CAN HEAR AT BOTH ENDS, BUT CAN RING ONE WAY ONLY.—This may result from a weak battery at one end, or the bell at the faulty end may be out of adjustment.

3. CAN RING IN BOTH DIRECTIONS, BUT CANNOT HEAR AT EITHER STATION.—This may result from a broken receiver cord, or from a disconnected wire in some other part of the secondary (or speaking) circuit at one end only.

4. RINGING AND SPEAKING ALIKE UNSATISFACTORY.—This may result from weak batteries at both ends, or from a bad joint or bad earth connections.

5. HEARING BAD, WITH RASPING NOISES.—This may result from either of several causes—a loose joint, rust or buckled diaphragm, or excessive battery power in microphone circuit.

**NOISES IN ONE RECEIVER ONLY.—**This will probably result from one or more particles of iron having been attached to the poles of the magnet, the diaphragm's vibrations being interfered with in consequence. To remedy this, unscrew receiver cap and wipe off magnet cap.

Badly soldered joints, loose terminals, dirty contacts broken battery jars, and terminals short circuited, are also frequently causes of local faults.

Line faults may be caused by two or more lines in contact, by the line making partial or dead earth, or by a broken wire or insulator.

**LINES IN CONTACT** will result in cross talk, and bells ringing when not required.

**LINE MAKING PARTIAL EARTH** will cause ringing and speaking to be alike unsatisfactory.

NO. OF POLES. PER LINEAL MILE.	DISTANCE BETWEEN POLES (FEET).
20	264.00
21	251.40
22	240.10
23	226.55
24	220.00
25	211.20
26	203.07
27	195.50
28	188.50
29	182.00
30	176.00

**Weight and Resistance of Extra-Best Galvanized Iron Line Wire.**

The standard braiding strain of superior galvanized wire is two and one-half its weight per mile.

No.	Pounds Per Foot.	Pounds Per Mile.	Feet Per Pound.	Ohms Per Mile.	Tensile St'gth in Pounds.
4	.1342	708.57	7.45	7.	1900.
6	.0977	515.85	10.23	9.5	1500.
8	.0696	367.48	14.36	13.	1100.
9	.0580	306.24	17.24	15.	900.
10	.0488	255.02	20.70	18.	700.
11	.0388	201.60	26.07	23.	550.
12	.0292	154.17	34.24	32.	450.
13	.0224	118.27	44.64	38.5	350.
14	.0169	89.23	59.07	55.	250.
15	.0137	72.33	72.99	63.7	200.
16	.0105	55.44	95.23	80.	150.

**Table of Weight and Resistance of Bare Copper Wire American B. & S. Gauge the Standard.**

Am. Gauge Brown & Sharp's No.	WEIGHT AND LENGTH, sp. gr. 8.9.			RESISTANCE AT 75° C. F.		
	Lbs. Per 1,000 ft.	Lbs. Per Mile.	Feet Per Pound.	R. Ohms per 1000 feet.	Ohms Per Mile.	Feet Per Ohm
6	79.32	418.81	12.61	.39546	2.0881	2528.7
7	62.90	332.11	15.90	.49871	2.6331	2005.2
8	49.88	263.37	20.05	.62881	3.3201	1590.3
9	39.56	208.88	25.28	.79281	4.1860	1261.3
10	31.37	165.93	31.38	1.	5.2800	1000.0
11	54.88	137.37	40.20	1.2607	6.6528	793.18
12	19.73	104.18	50.69	1.5898	8.3940	629.02
13	15.65	82.632	63.91	2.0047	10.585	498.83
14	12.41	65.525	80.59	2.5908	13.680	385.97
15	9.84	51.956	101.63	3.1150	16.477	321.02
16	7.81	41.237	128.14	4.0191	21.221	248.81
17	6.19	32.683	161.49	5.0683	26.761	197.30

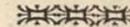
**TELEPHONE BOOKS.  
NET PRICES.**

- Bennett.**—Telephoning or Great Cities. Paper.....\$0 35
- Cary.**—How to Make and Use the Telephone. 117 pages, 26 illustrations..... 1 00
- Haskins.**—Telephone Troubles; How to Find Them 25
- Hopkins.**—Telephone Lines and Their Properties. 272 pages, Illustrated..... 1 50
- Hughes.**—Magneto Hand Telephone; its Construction, Fitting Up and Adaptability to Every-day Use. 80 pages. 23 illustrations..... 1 00
- Keenan & Riley.**—Transmitted Word. 113 pages, 7 illustrations: paper; 50 cents: cloth. .... 75
- Lockwood.**—Practical Information for Telephonists. New edition. Revised. 192 pages..... 1 00
- Poole.**—Practical Telephone Hand-book. A Guide to the Telephone Exchange and Manual of Telephonic Working. With descriptions of latest appliances and instruments faults and their localization and Wire Gauge Tables. 288 pages, 227 illustrations..... 1 50
- Preece & Stubbs.**—Manual of Telephony. The best treatise on the subject. 506 pages. 333 illustrations..... 4 50
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- Webb.**—Telephone Hand-book. 146 pages. Illustrated..... 1 00

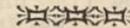
**Induction.**

The relative value of the inductance of the different forms of apparatus and wires used in telephony:

1 mile of copper wire.....	1.
“ “ iron wire.....	6.
Ordinary Telephone receiver..	9.
7 to Secondary wire of telephone induction coil of resistance, 250.....	
ohms.....	34.
Switch board annunciators, with annunciators, resistance 142.....	155.
Electric bell coils (in series)....	86.



The above shows that iron line wire the same size of copper has six times as much induction as that of copper, and therefore retards the rapid alternate currents from the secondary of an induction coil are six times greater. The nearer all these resistances can be kept to the unit of copper the better for all talking circuits.



**Annunciator Wire.**

Double Cotton Wrapped, Paraffined and wound on spools. Made in assorted colors and of soft pure copper.

Gauge No.	Approximate No. Feet Per Pound	Gauge No.	Approximate No. Feet Per Pound.
14	70	18	165
16	105	20	225

**DIRECTIONS.**

**For Connecting Telephones in Series.**

If only two instruments are to be connected, one wire should run from binding post marked *b* to binding post marked *c*, but if more than two are to be connected, they should be wired as per diagram; *b* to *c*, *d* to *e*, etc. If the terminal instruments are not far apart, the return wire may be run *a* and *f* (as per the dotted line), otherwise ground connection must be made from *a* and *f*. If they are to be grounded on gas or water pipe, wrap about two feet of bare wire tightly around the entrance pipe, and solder it well to insure a good connection. If this is not practicable, solder the ends of the terminal wires to copper plates, each having a surface of three square feet, and place them three or four feet into damp earth.

For protection against lightning in all instruments, except terminal ones using a ground wire, run a wire from the center binding post "G" to ground, and insert plug in hole between the metal plates during a storm, taking care to remove same afterwards. In terminal instruments, where a wire already runs to the ground, inserting the plug is all that is necessary.

**Method of Coupling Together Two or More Telephones in Series.**

Dotted lines show wire metallic circuit. It is preferable to one wire and grounding.

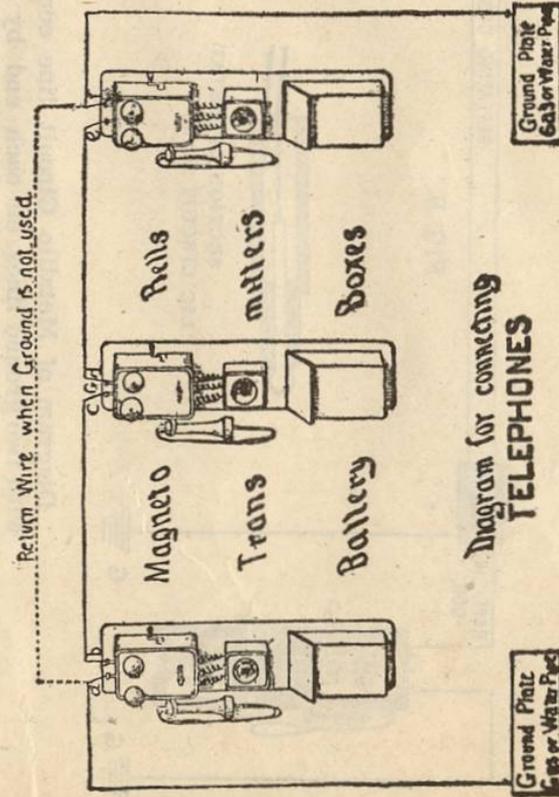
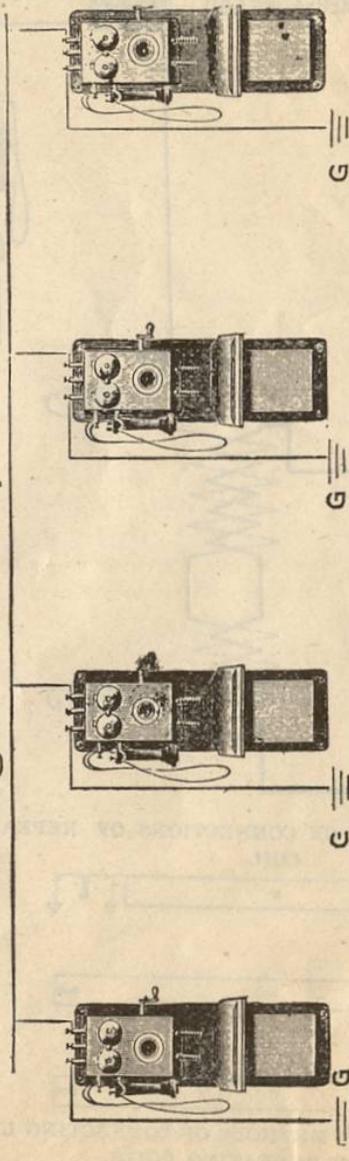


Diagram for connecting TELEPHONES

**Bridged or Multiple Grounded Line.**



**Bridged or Multiple Metallic Circuit Line.**



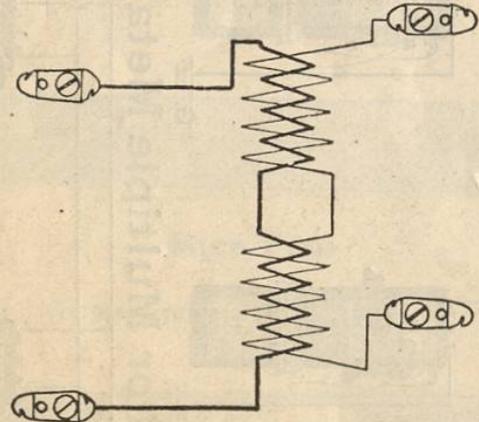
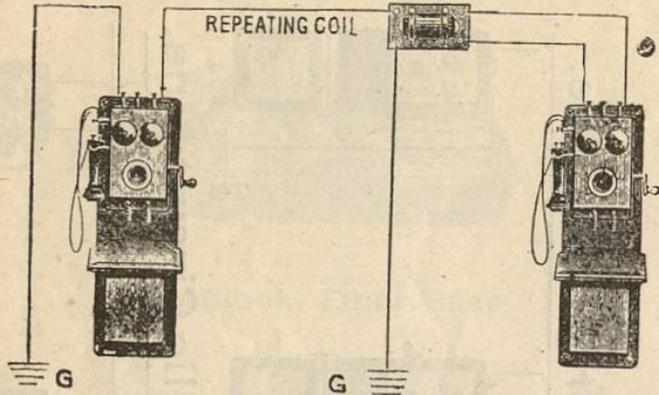


DIAGRAM OF CONNECTIONS OF REPEATING COIL.

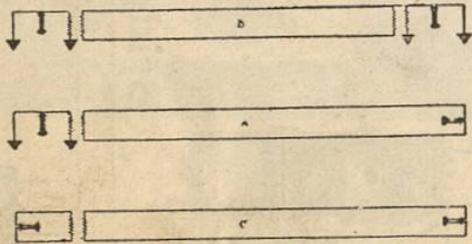


FIG. 120. DIFFERENT METHODS OF CONNECTING LINES THROUGH REPEATING COILS.

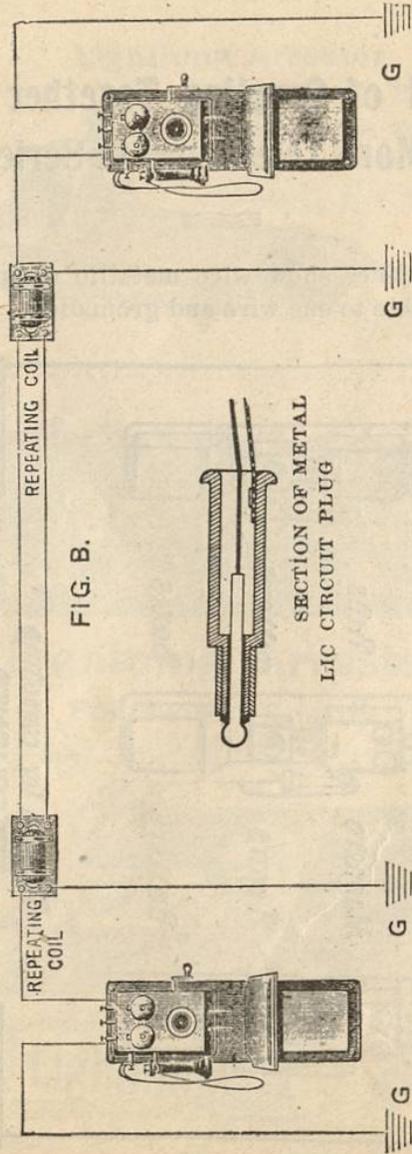
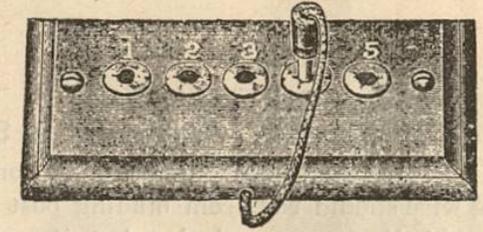


FIG. B.

Diagram of Metallic Circuit line connected with two ground lines on each end by repeating coils.



PLUG SWITCH.

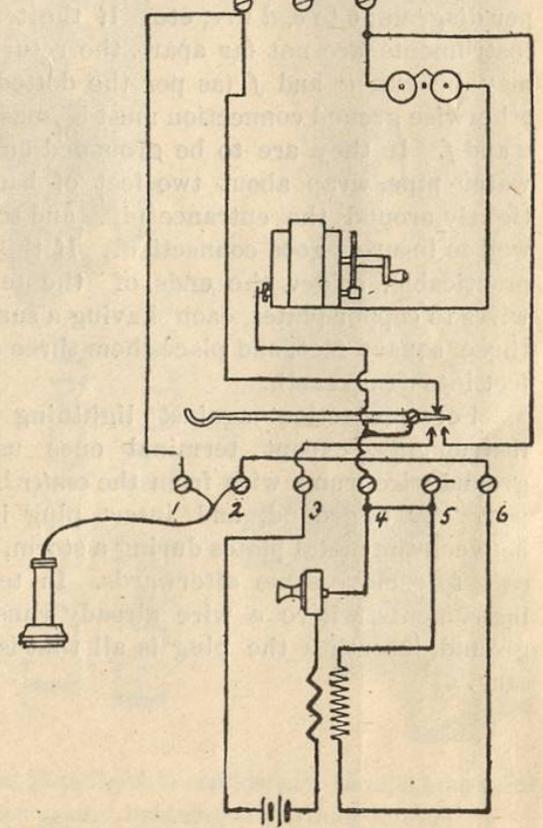


Diagram of Series Telephone

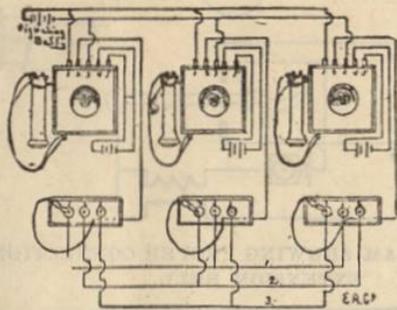


Diagram showing Intercommunication System for Battery Call.

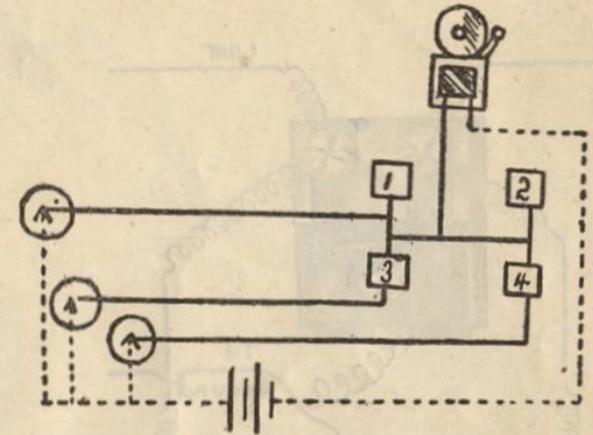
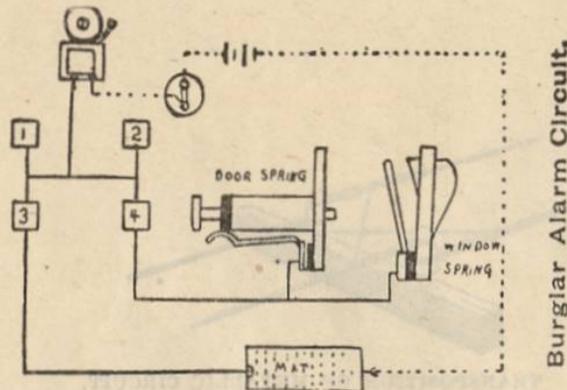


Diagram of Annunciator Call, 3 push buttons connected.

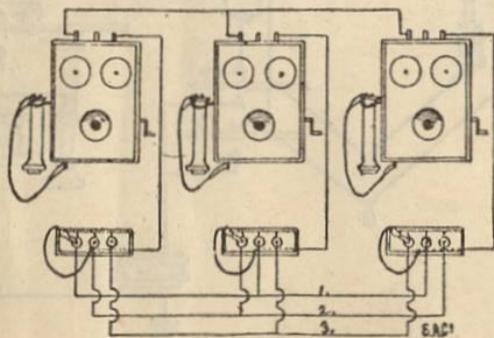


Diagram showing Intercommunicating System or Magneto Call.

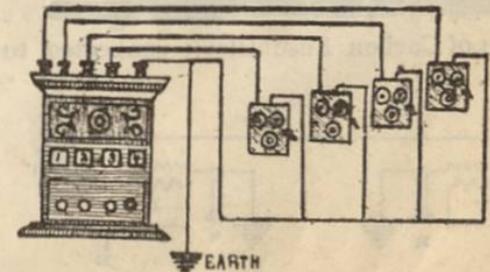
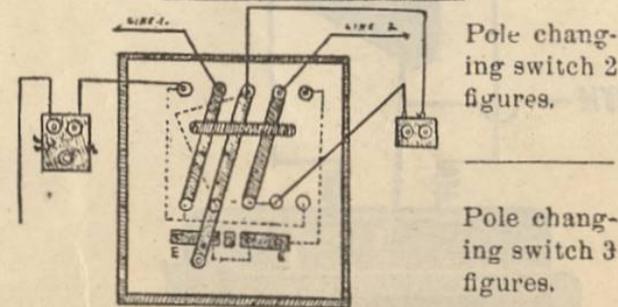
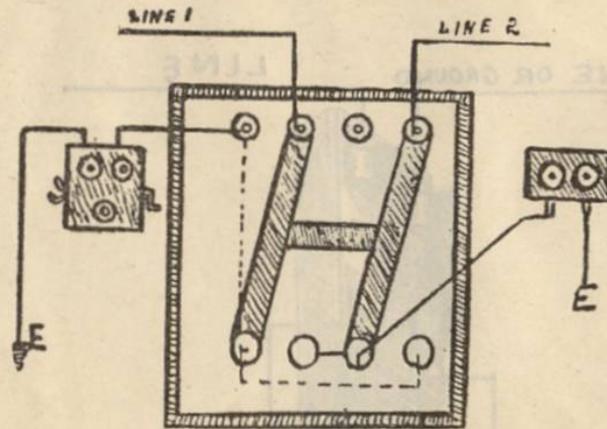


Diagram of Return, Call or common return for Exchange System

Cable Office.....	Fire Alarm Apparatus.....
Call Boxes.....	Fibre Rod.....
Candelabra Lamps.....	Sheet.....
Carbon Battery.....	Tube.....
Carbon Plates.....	Floats, Tell Tale.....
Cash Drawers.....	Floor Groovers.....
Centers for Pushes.....	Frosting Varnish.....
Chemicals Battery & N. P.....	Fuller Battery.....
Chisels.....	Fuse Protectors.....
Clamps.....	Galvanometers.....
Cleats, Porcelain.....	
Cleats, Wood.....	

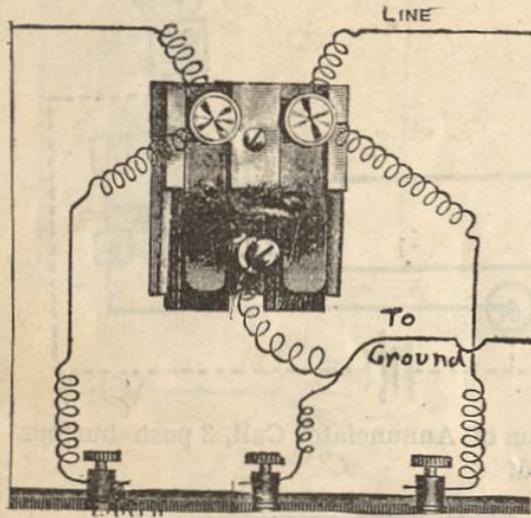
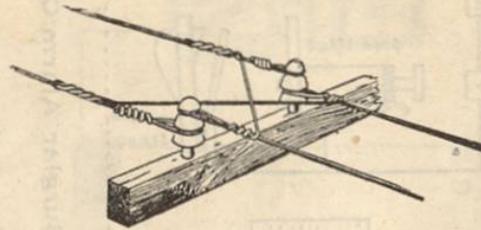


Diagram of Carbon Fuse Block connected to Telephone.



TRANSPPOSITION OF METALLIC CIRCUIT.

LINE OR GROUND      LINE

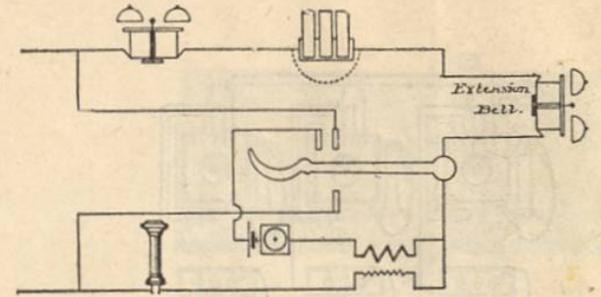
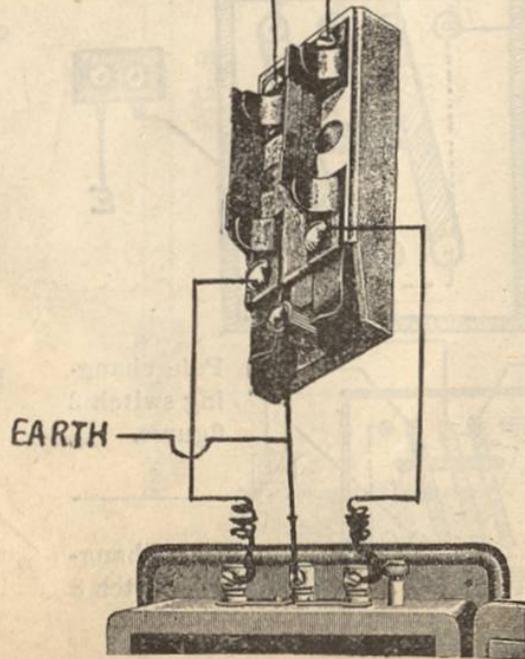


DIAGRAM SHOWING PROPER CONNECTIONS OF EXTENSION BELL.

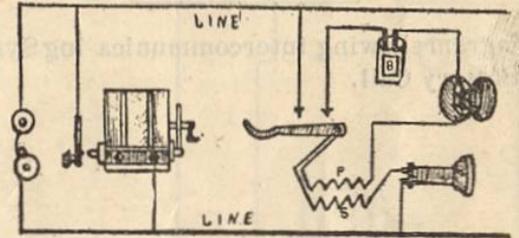


Diagram showing Carty Patent on Bridging System.

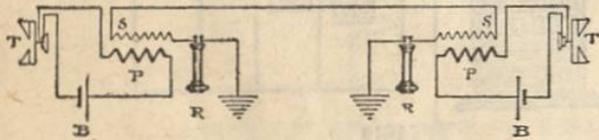
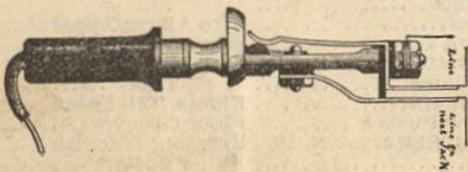


DIAGRAM OF COMPLETE TELEPHONE CIRCUIT.  
T TRANSMITTER, B BATTERY, P PRIMARY,  
S SECONDARY, R RECEIVER.



METALLIC CIRCUIT MULTIPLE JACK WITH PLUG INSERTED.

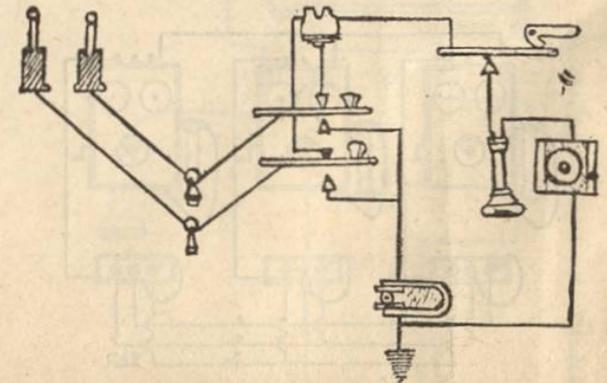


Diagram showing Operator's Set for switch board, with ring and listening cams.

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Cord Adjuster.....	40	Head Bands.....	22	Switch Boards.....	21
Clamp Terminals.....	39	Hook, Carrying.....	31	" " Weights.....	21
Canopies.....	39			" " Drops.....	21
Carrying Hook.....	31	Induction Coils.....	18	" Cord.....	21
Cart, "Lineman's".....	31	Insulators, Glass.....	27	" Telephone.....	23
Climbers.....	25	Iron Turnbuckles.....	28	" Pole Changing.....	23
Clamps, Splicing.....	25				
Cordage, Iron.....	35	Jacks, Switch Board.....	13, 21, 22	Switch Baby Knife.....	38
Cordage, Samson.....	35	Joint Macallen.....	39	Socket Bushing.....	40
Cord, Rubber Lamp.....	35			Socket Regulating.....	33
" Lamp Moulded.....	35			Socket Hooks.....	40
Cable Elevator.....	35			Shovels, Digging.....	31
				Splicing Clamps.....	25
				Screw Drivers.....	26
				Soldering Coppers.....	30
				" Irons.....	41
				Solder Salts.....	30
				Solder.....	30
				Sal Ammoniac.....	35
				Telephones.....	2 to 11
				Transmitters.....	12, 17
				Transmitter Arms.....	17
				Transmitter Boxes.....	17
				Transmitter Goose Neck.....	18
				Testing Bells.....	19
				Tape Splicing.....	26
				Tree Trimmer.....	26
				Tamping Bars.....	31
				Torch, Linemen.....	26
				Testing Set, Whitney.....	41
				Turn Buckle.....	28
				Tubing, Okonite.....	39
				Tubing, Rubber.....	39
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				Vices.....	26
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				Wire Gauge.....	34
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				" Guards.....	39
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				" Office.....	34
				" Magnet.....	34
				" Iron, Galv.....	34
				" Copper, H. D.....	34
				" Weather-Proof.....	34
				Warner's Battery Tester.....	24
				Washers, Iron.....	28
				Wrench, Lag Screw.....	28
				Zincs, Battery.....	21, 24

**TELEPHONES**

.....AND.....

**SUPPLIES**

**Farr Telephone and Construction Supply Co.  
CHICAGO.**