

CATALOGUE No. 14

Great Cash Order House.

GALV. WIRE

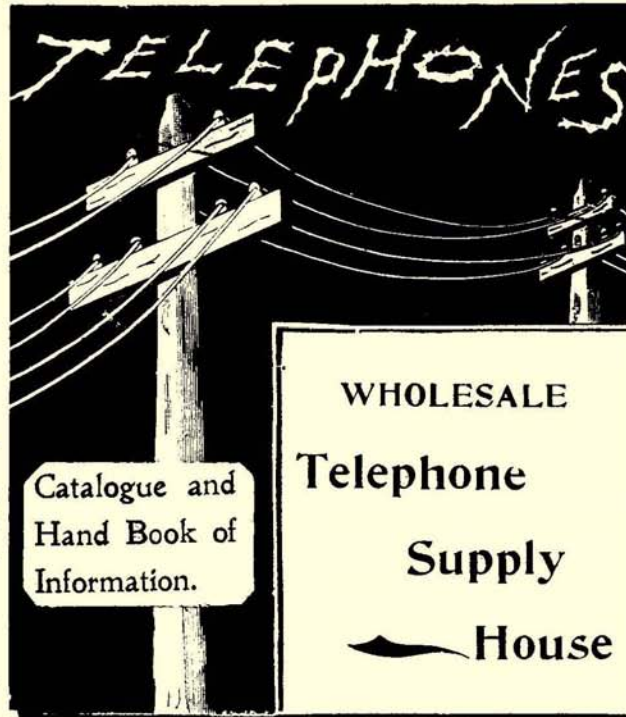
OAK BRACKETS

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.

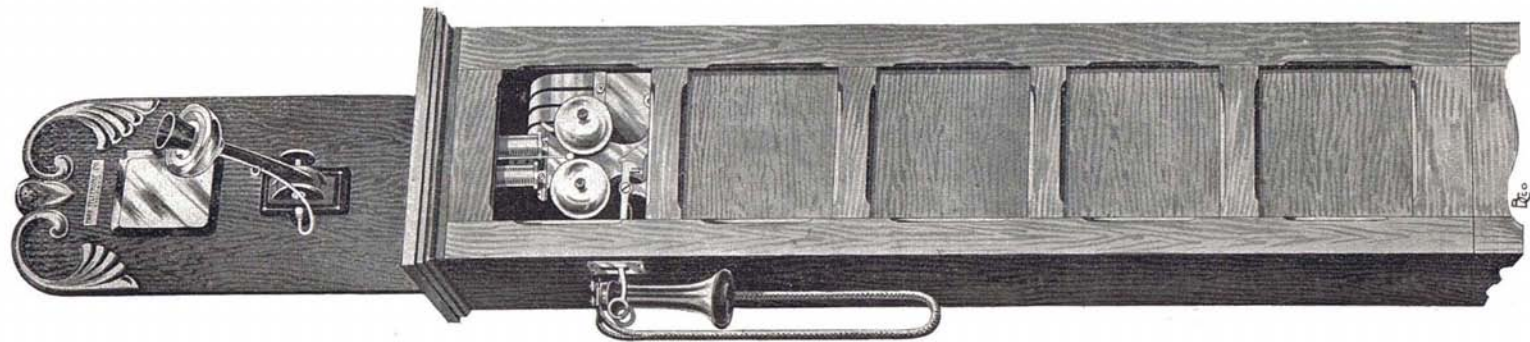
DESCRIPTION OF OUR TELEPHONES



- 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.

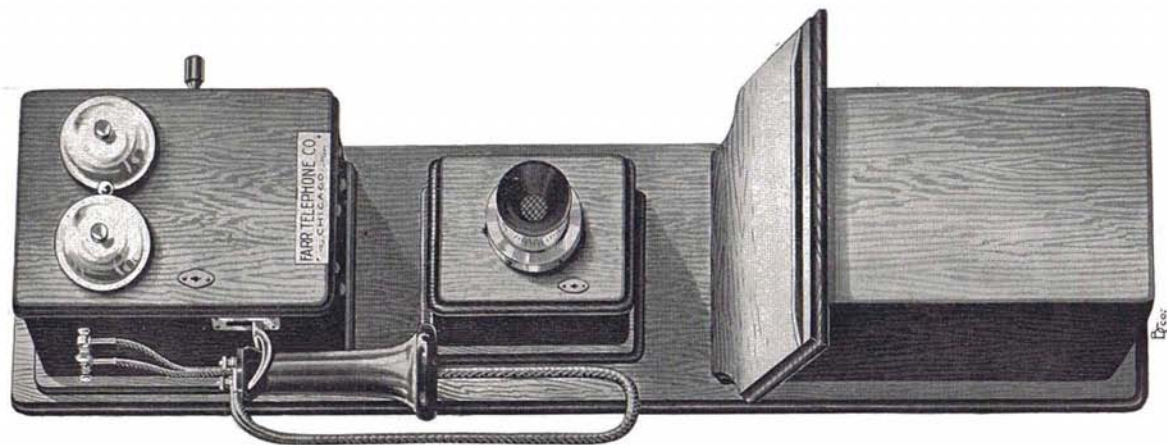


Our Telephones are High Grade piano finish; wood, Oak or Walnut. Complete with batteries at prices quoted.



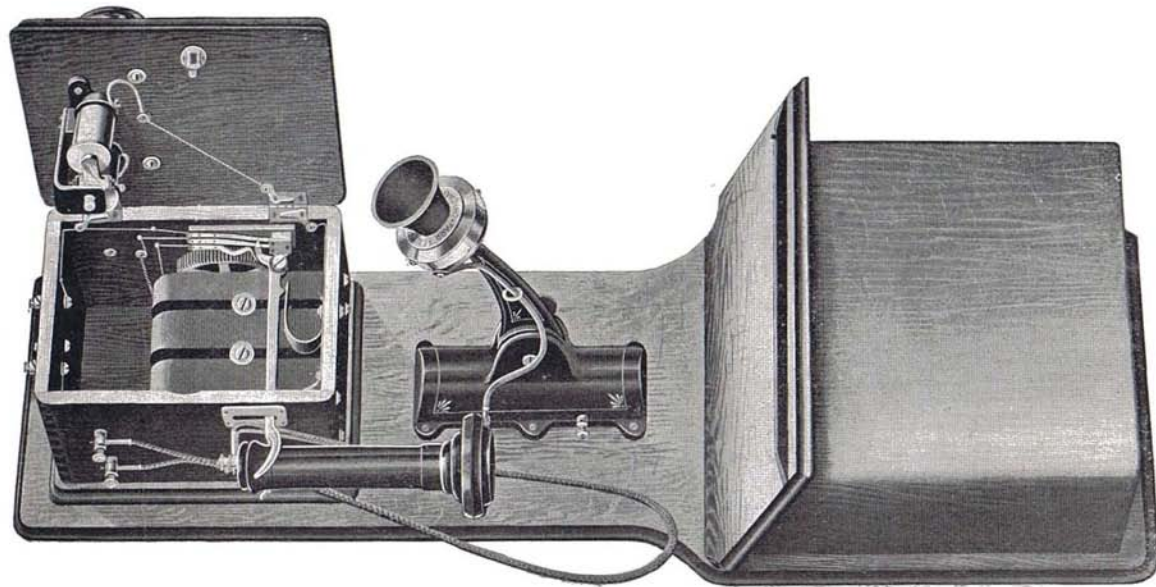
No. 12 TELEPHONE

See Description on Page 2



No. 1 TELEPHONE

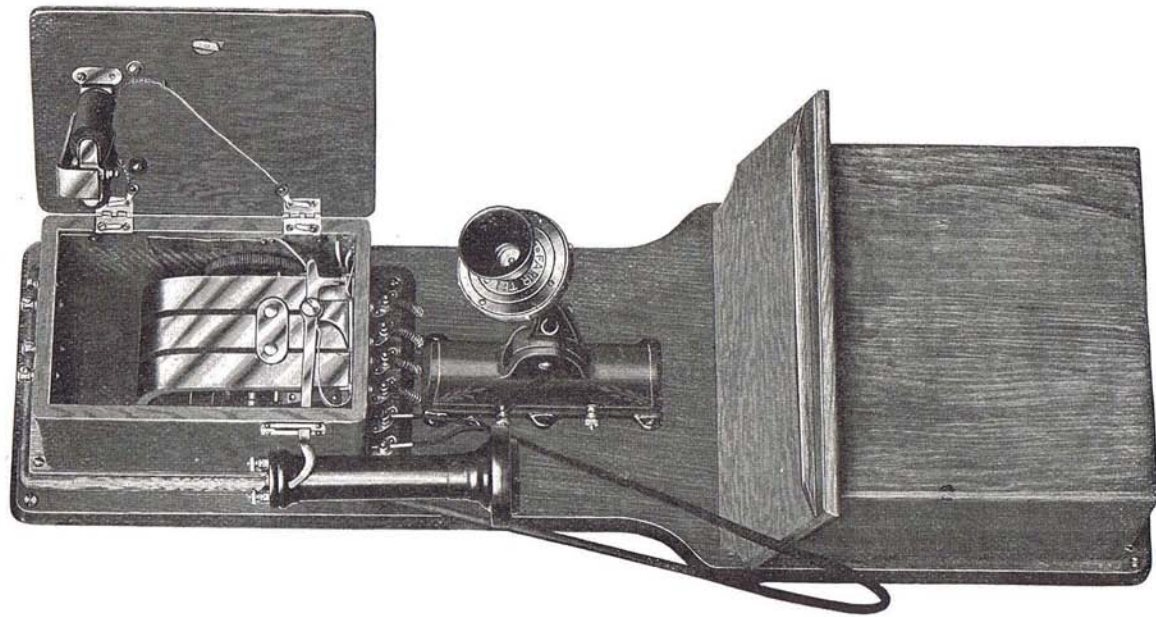
For Description see Page 2



No. 6 AND 7 TELEPHONE

ARE REPRESENTED IN ABOVE CUT

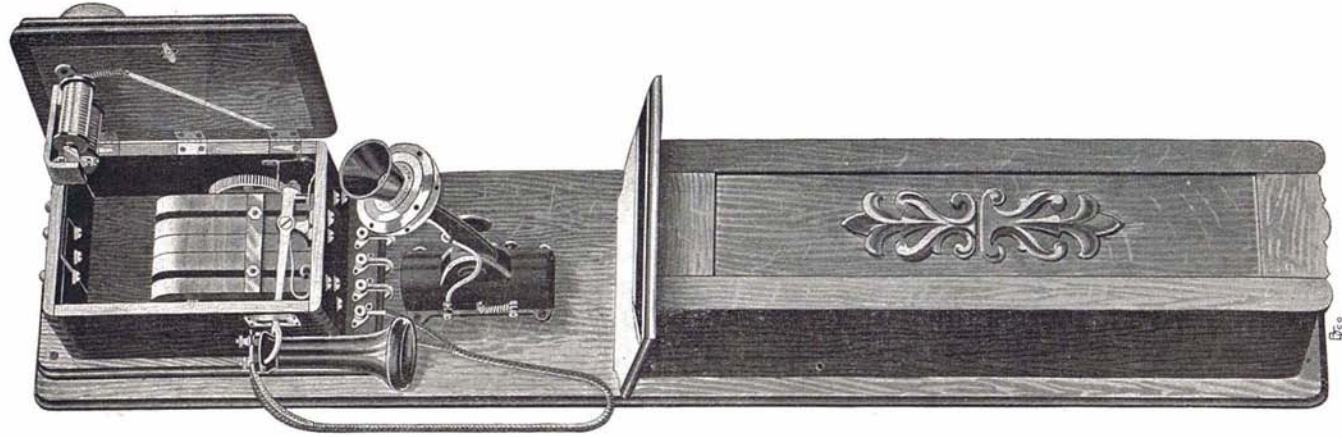
See Description Page 2



No. 6A AND No. 7A TELEPHONE

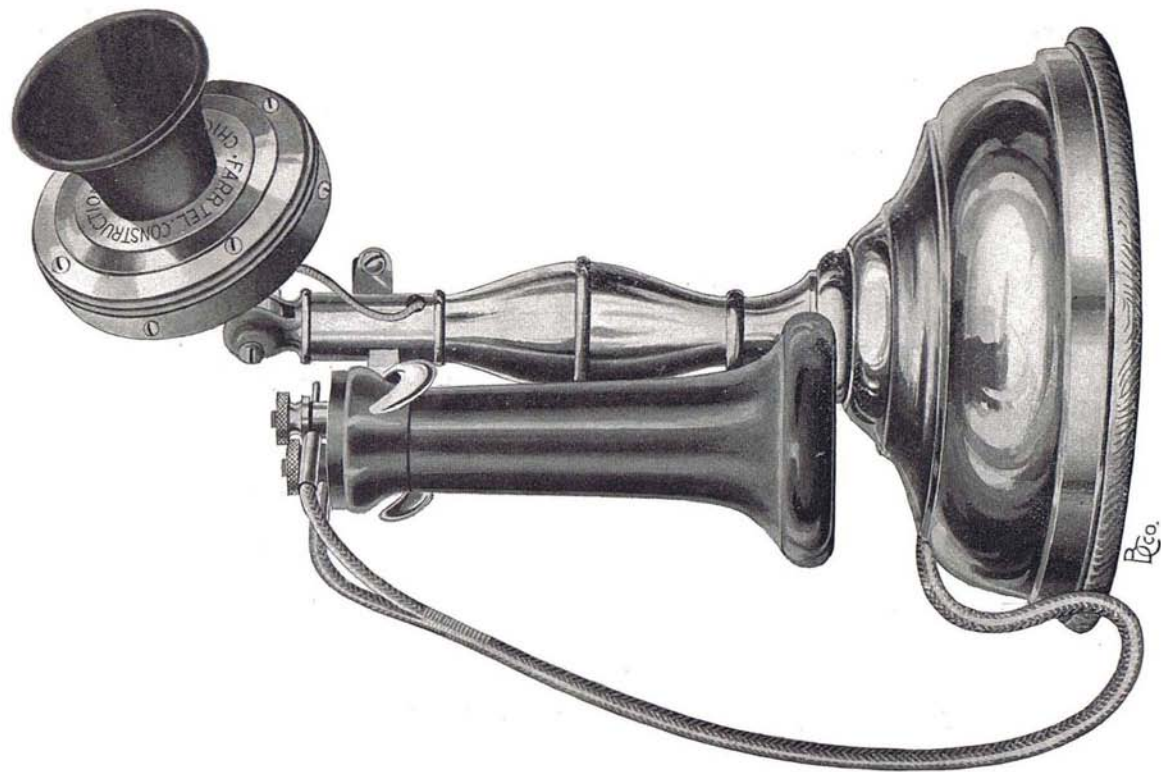
ARE REPRESENTED IN ABOVE CUT

See Description Page 2

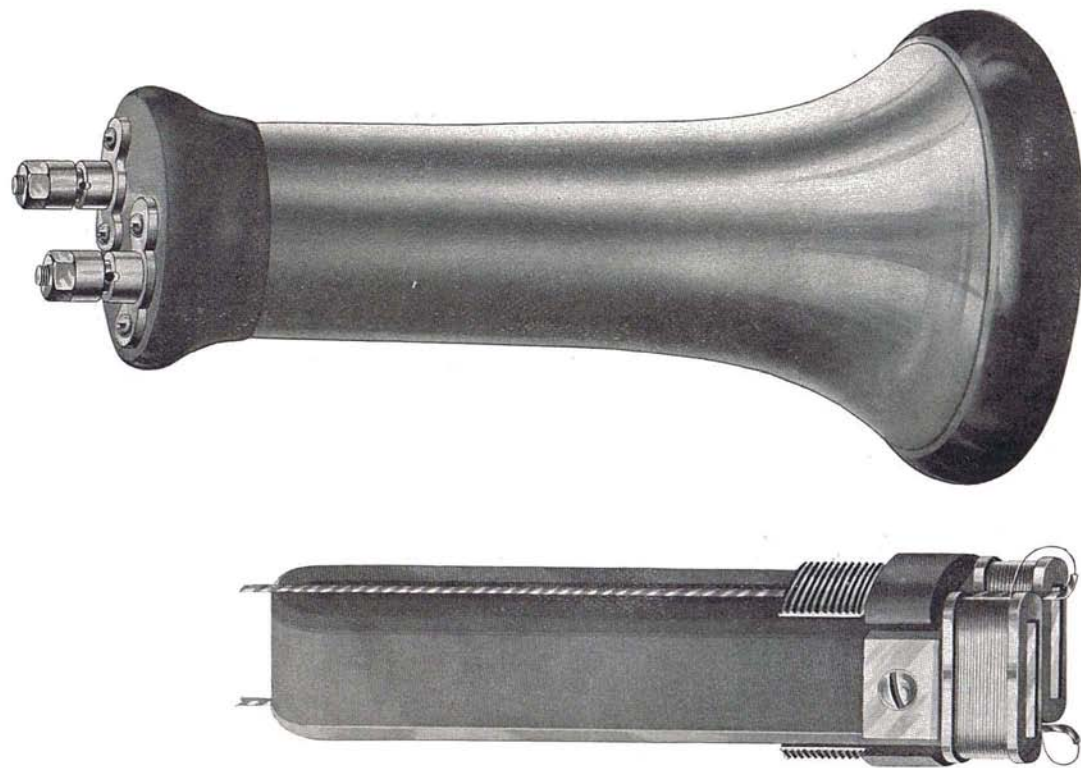


No. 9 TELEPHONE

See Description Page 2

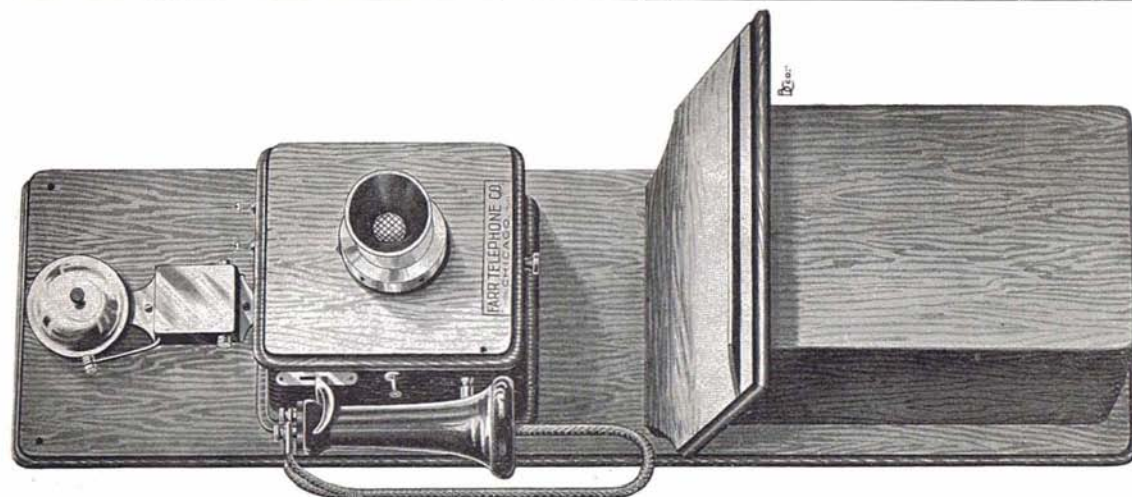
**No. 10 TELEPHONE**

See Description Page 2

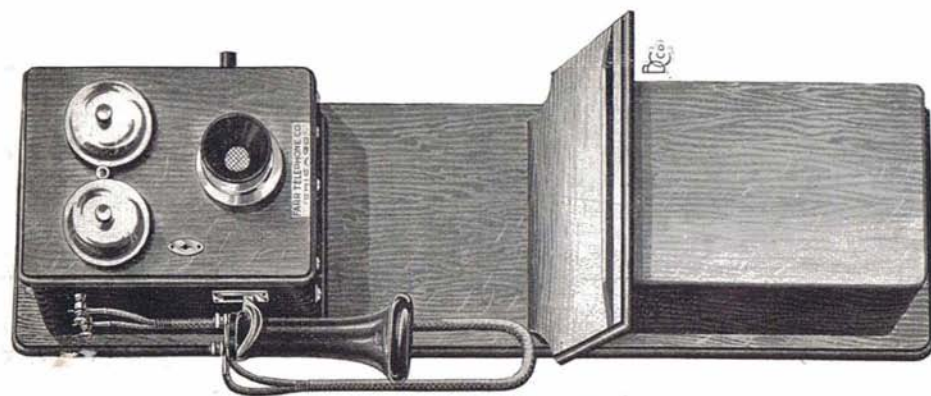


No. 4 BI POLAR RECEIVER

VERY STRONG MAGNETS.

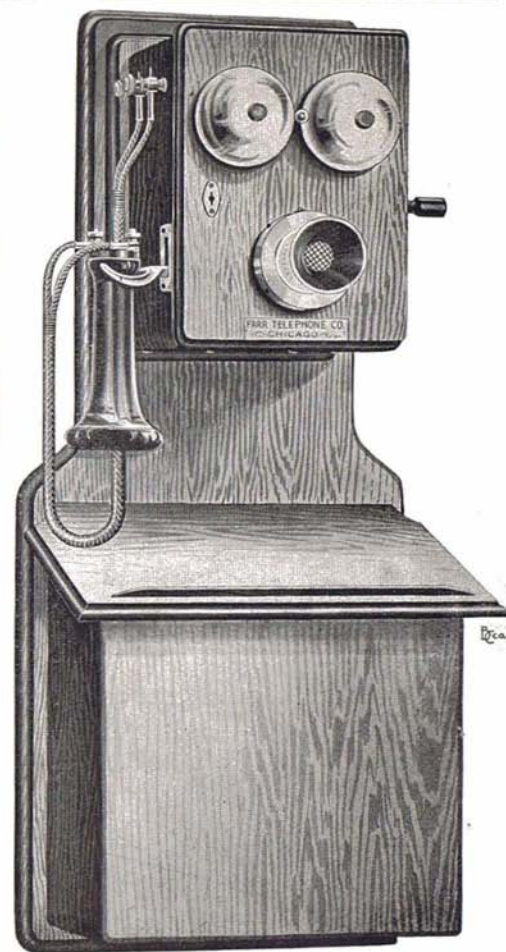


No. 5 TELEPHONE

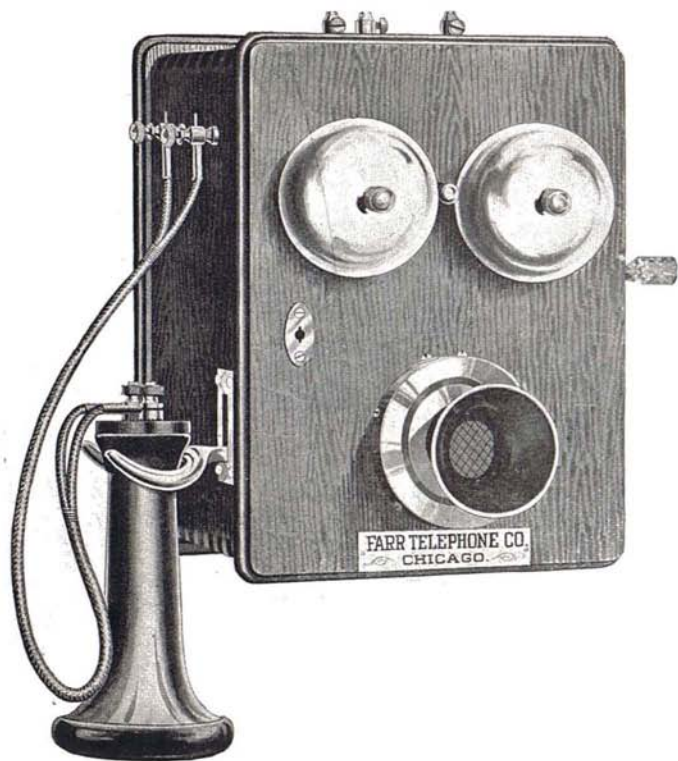


No. 2 TELEPHONE

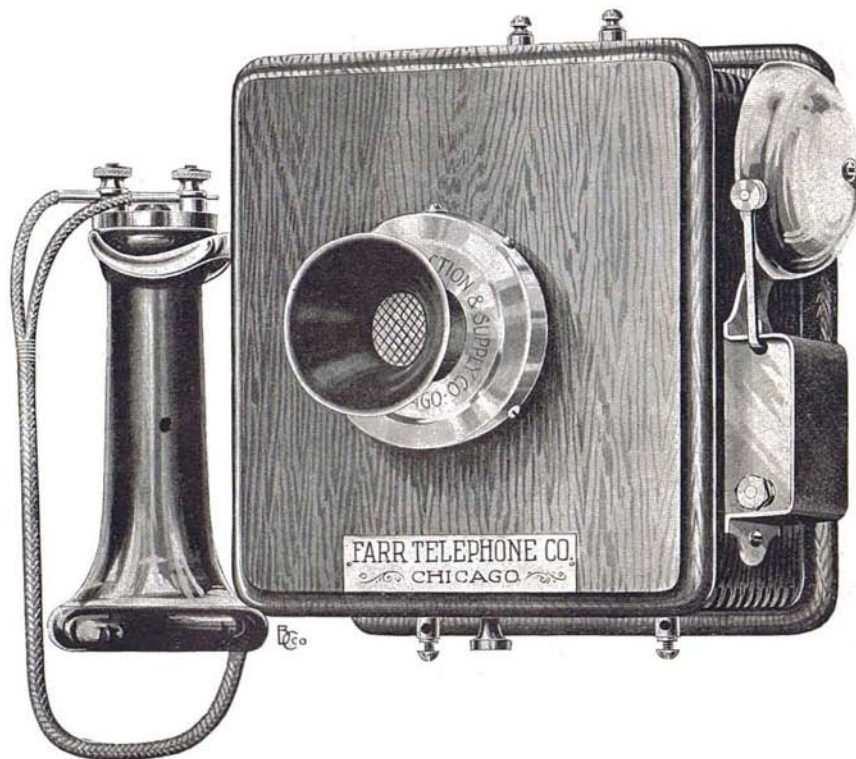
See Description Page 2



No. 8 TELEPHONE



No. 3 TELEPHONE



No. 4 ECHO TELEPHONE

See Description Page 2



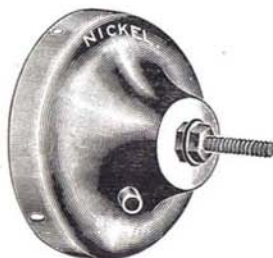
**No. 3 SOLID BACK
TRANSMITTER**



**No. 2 BRASS FRONT
TRANSMITTER**

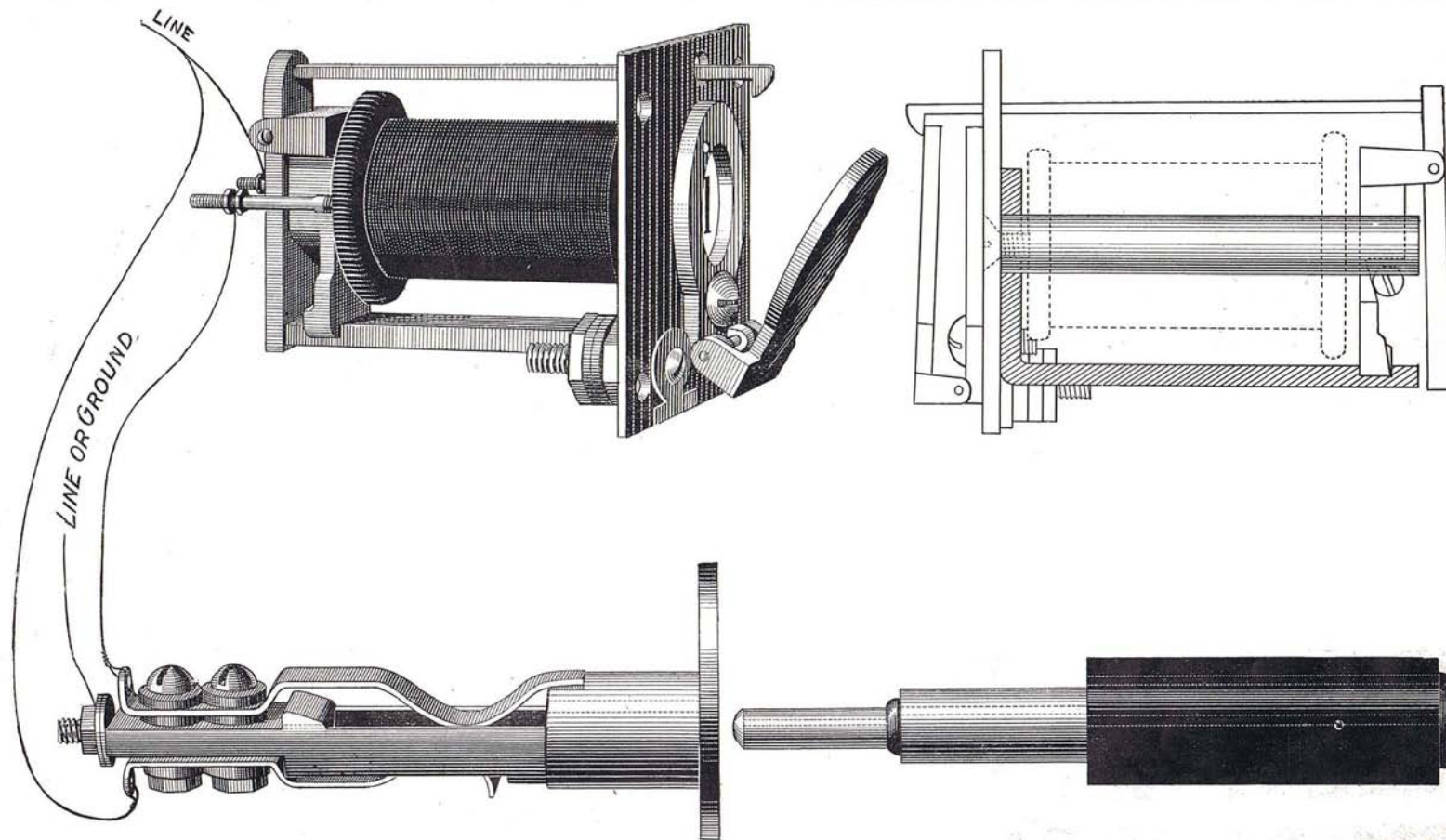


**No. 1 ALUMINUM CASE
TRANSMITTER**



PARTS OF SOLID BACK TRANSMITTER No. 3

The only Aluminum Diaphragm Transmitter made. Beats them all.

**No. 4 METALLIC JACK**

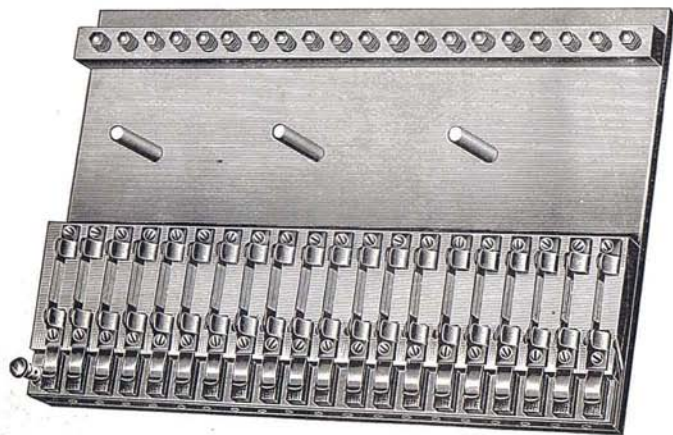
The above Drop can be wound for Series or Bridging Lines.
The No. 4 Jack can be used for Metallic or Grounded Lines.

No. 3 DROP

Very sensitive.

No. 2 METALLIC PLUG

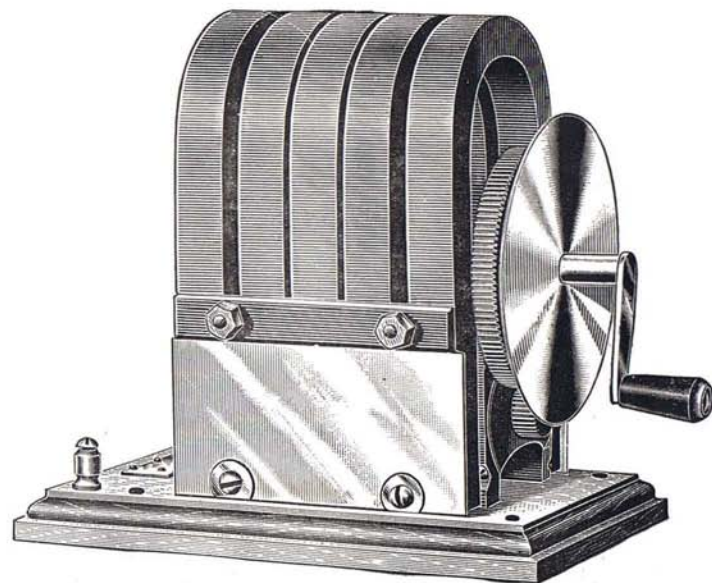
The lower Magnet is connected with Core.



No. 4 DISTRIBUTING

Board and Lightning Arrestor.

Every Exchange should have one.

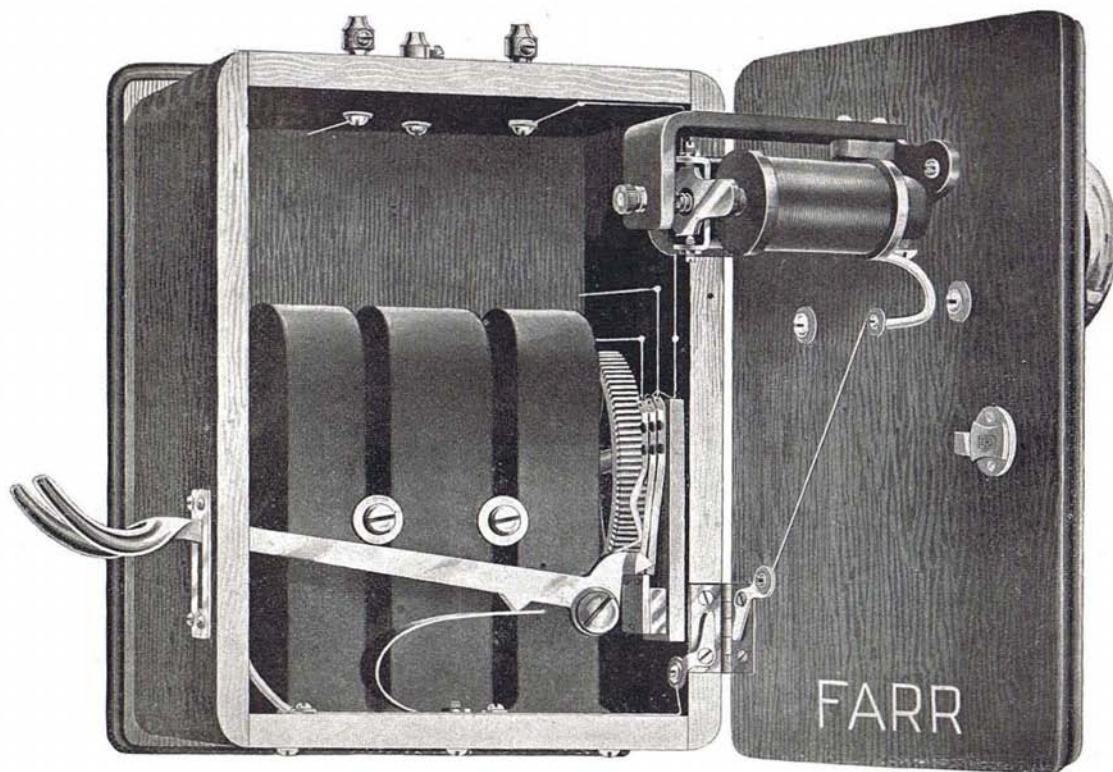


No. 4 GENERATOR

For Switch Boards.

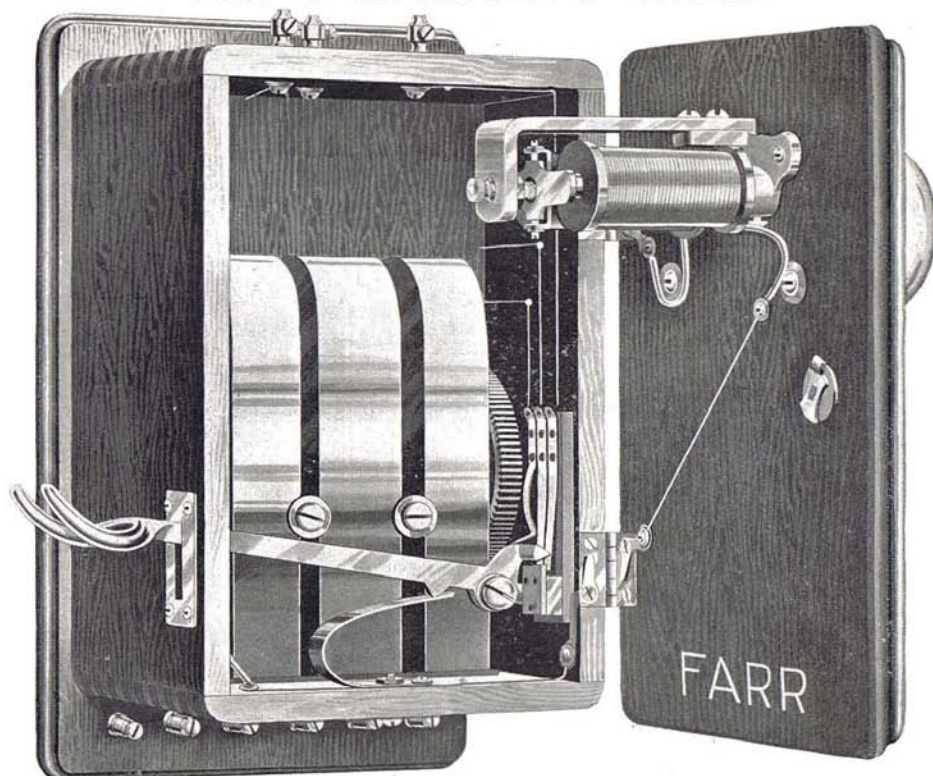
50,000 ohm.

No. 3 MAGNETO BELL



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

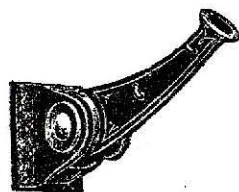
PRICE, \$7.00

No. 1 MAGNETO BELL

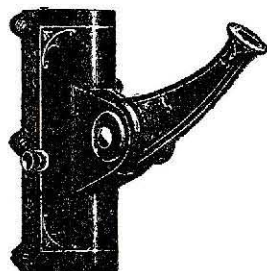
High Grade, Wide Gear Magnets, 6 inches high, Nickel Plated

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.**



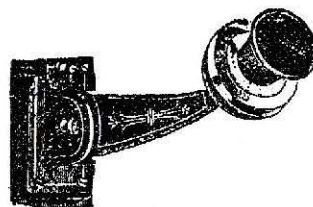
No. 1 PONY ARM, - - Price, \$1.35



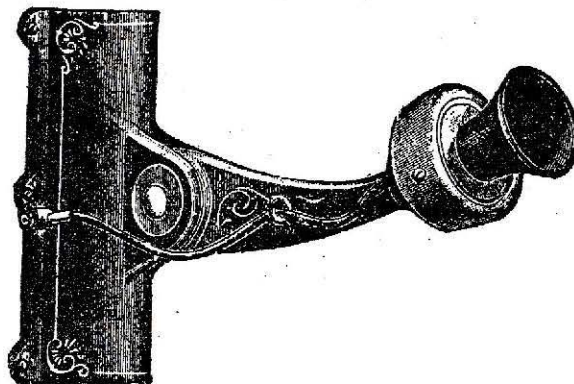
No. 2 LONG DISTANCE ARM, Price, \$1.50



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

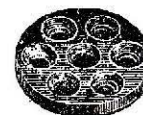


No. 1 Pony Arm and Aluminum
Transmitter
Price \$2.50. Price with Coil \$3.00.



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.



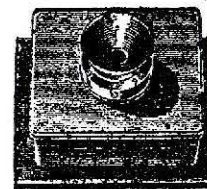
No. 2,



No. 3.

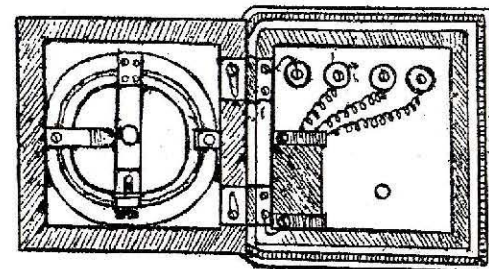
No. 1.
Carbon Disc for Transmitters.
Price 10c each.

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

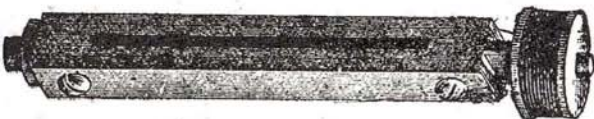
RECEIVERS

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, 5 in. - 1.40

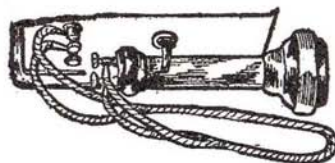
**Receiver Binding Post.**

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.

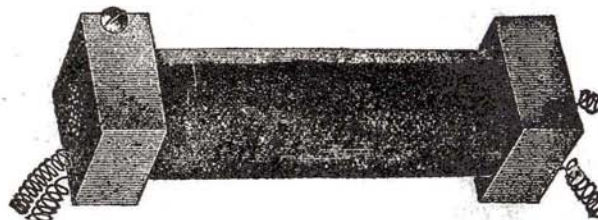


Induction
 Coil.
 2 1/2 in. long.

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

Magnet Coils and Ringer Coils.

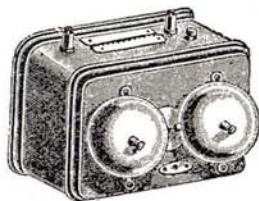
Price, Pair - - - \$1.00

**Long Induction Coils**

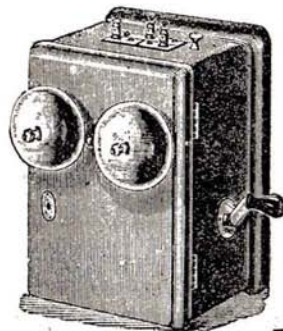
4-inch long, 250 Ohm, Cotton	.....	\$ .80
5-inch long, 500 Ohm, Cotton	.....	1.50
3-inch long, 250 Ohm, Silk	.....	1.00
4-inch long, 500 Ohm, Silk	.....	2.00

Extension Bells

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

**Bells—Wood Box.**

Price 2½ inch - - - \$1.00
 " 3 " - - - 1.20

**Magneto and Extension Bell**

Boxes with Lock and Hinges.

Bell Boxes, Price \$1.00

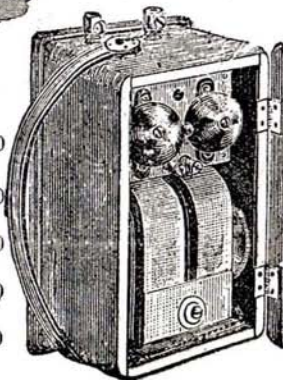
Extension Bell Boxes, Price, 80c

Bells—Iron Box.

Price 2½ inch - - - 60c
 " 3 " - - - 70c

**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

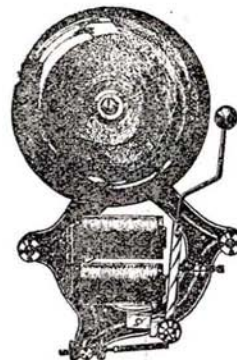
**Lunzen Bells.**

1½-in. Gong, Nickel Plate, each - - - 75c
 2-in. Gong, Nickel Plate, each - - - 80c
 2½-in. Gong, Nickel Plate, each - - - 70c

SKELETON BELLS.

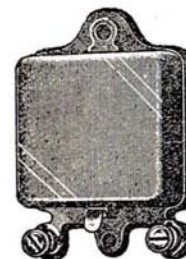
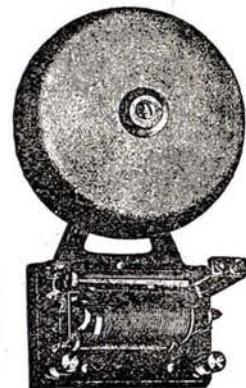
List Price

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

**Vigilant, Single Stroke.**

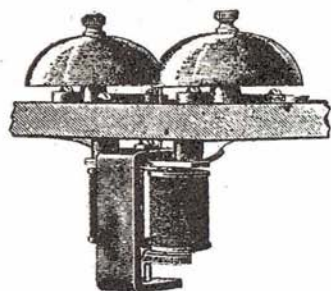
List Price Each.

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

**BUZZER.**

Price.. 80 cts.





RING COILS
and
CONGS,

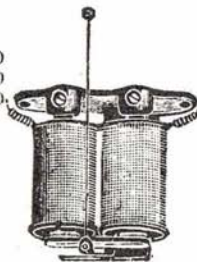
Price,
\$2.50.

RINGER COILS FOR
MAGNETO BELLS.

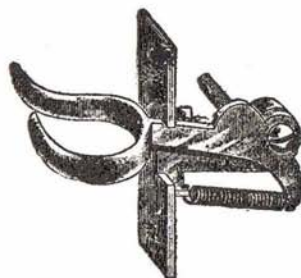
Price, 100 ohm. - - - \$2.00
" 500 " - - - 3.00
" 1000 " - - - 4.00.



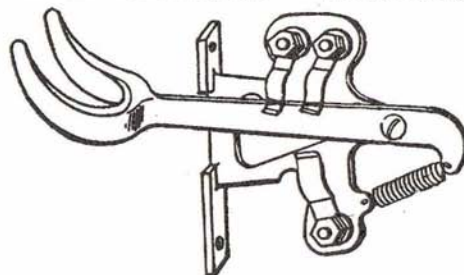
Plates for Magneto Box
Price 20 cts.



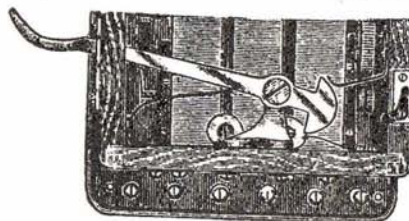
MONITOR BELL, - - - Price, \$1.00



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.



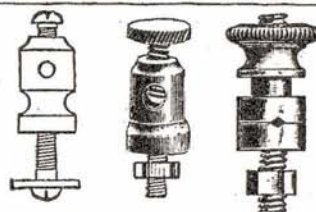
Stationary Hook.

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.

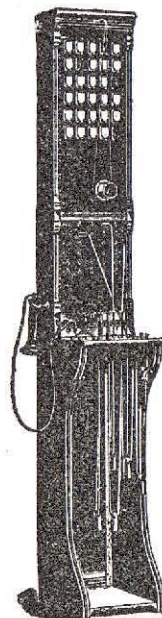
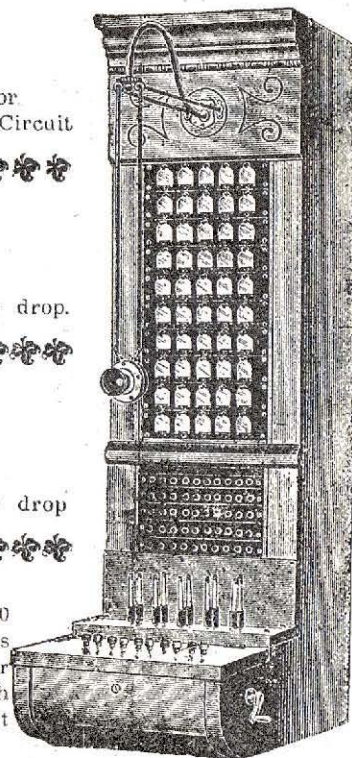


Metalic Circuit

Price
\$6.00 per drop



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



SWITCH BOARD.....

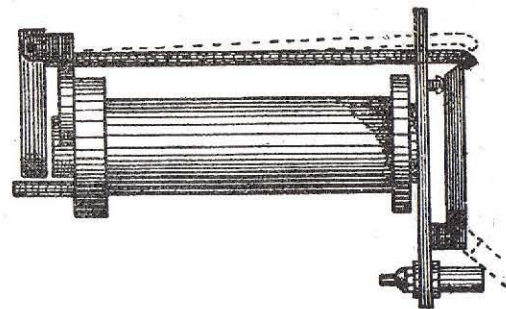
to stand on floor or
fasten on wall, or set
on table made to
suit customer in re-
gards to shape.

We guarantee our
Boards to give satis-
faction.



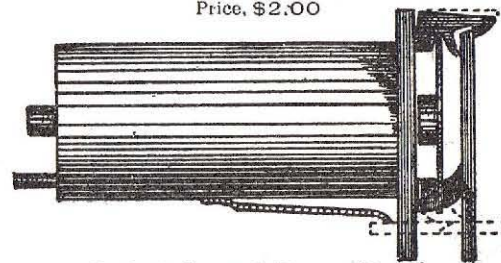
SWITCH CORD

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.



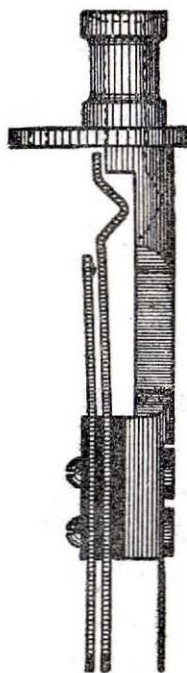
SWITCH BOARD WEIGHTS.
Price each 30c.



Metallic Circuit Plug.

Price \$1.00

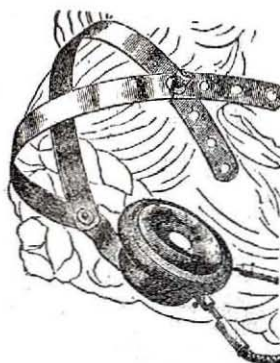
Price



Metallic Circuit Jack. Price \$1.00

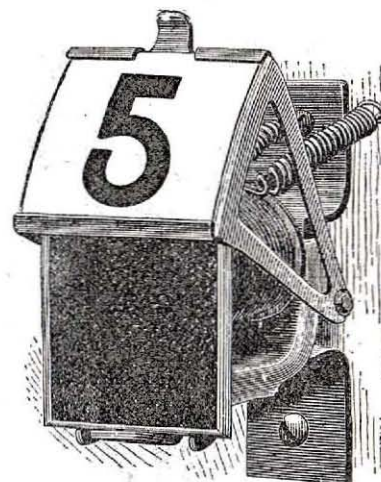


Ground Circuit Plug. Price 50c



Head Band

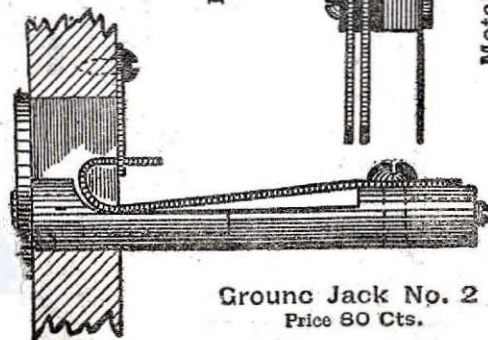
Price - - - \$4 00
Price with Receiver 6.00



Lock Gravity Drop

Cannot be jarred down

Price, \$1.50

Ground Jack No. 2
Price 80 Cts.

Mouth Piece for Transmitters

Male or Female Thread.

Price 16 Cts.

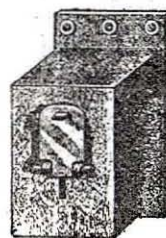


Mouthpiece.

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



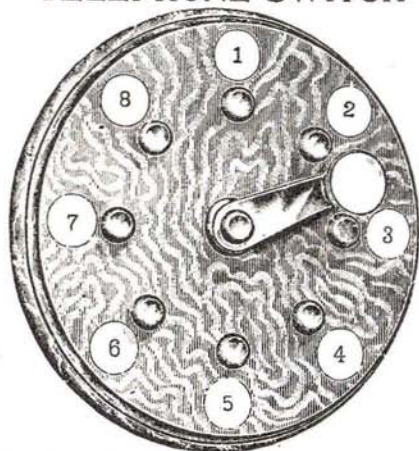
Battery Drops

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

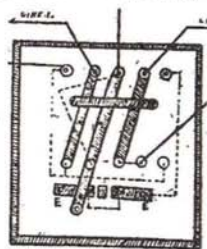
Price, \$2.00



TELEPHONE SWITCH

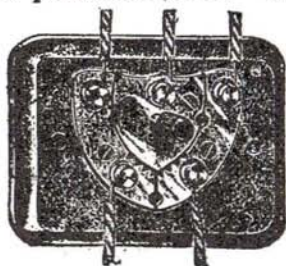


Price, 4 point switch.....\$1.50
 Additional points, per point......10



Pole chang-
 ing switch 3
 figures.

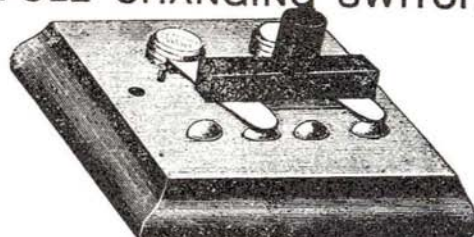
Price. 4.00



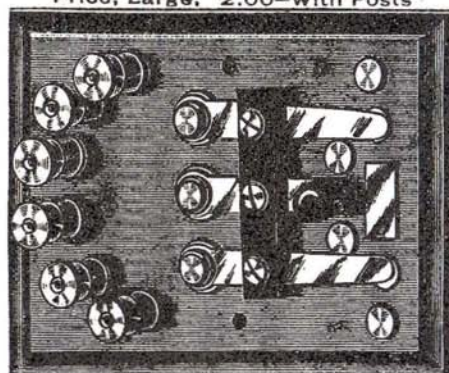
Western Union
 Lightning Arrester

Price\$1.50

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 "60c

LACLEDE BATTERY
 A Carbon Battery for Tele-
 phone 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

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 Leland Battery**

Capacity, 30 Amphere

Price\$3.00

**Fuller Battery**

Price\$1.50

**Battery Syringe**

Price.....\$3.00

**Battery Hydrometer**

Price\$1.50

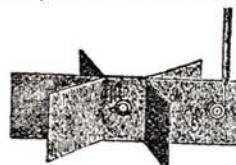
**Crowfoot Zincs**

For 5x7 Jar.....40c

For 6x8 Jar.....50c

**Leclanche Zinc
Leclde Zinc**

Price, each.....6c

**Copper
for Crowfoot**

Price16c

**Battery Call
Outfit**

Battery, Bell and Push

Price\$2.00

**Warner's
Battery Tester**

Price.....\$13.00

Standard Battery Gage

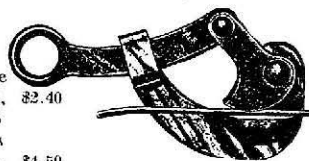
Price.....\$7.00



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 1/4 inch guy
cable.....each, \$4.50

Compound Eccentrics.

CLAMP.

For hard drawn
copper wire, No.
6 B. & S. and
finer.....\$3.50



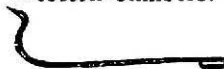
No.		Price.
371	Light, for No. 4 B. & S. and finer.....	\$5.00
372	Extra Heavy, for No. 4 to 000 B. & S.....	7.50

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 " " " " 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.	" " " " 0 " "	4.00

COMBINATION SPLICING



No.		
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

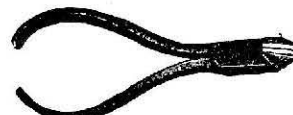
Side Cutting Pliers.



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

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

Diagonal Cutting.



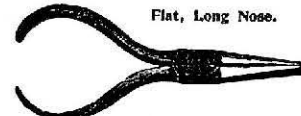
Size,	5 inch, plain	each,	Price.
" 5 "	nickel plated		\$1.00
			1.25
Size, 6 inch, plain	each,	1.25	
" 6 "	nickel plated		1.50

FRY SPLICING PLIERS.



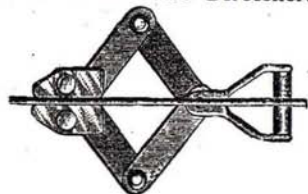
Size,	8 inches, plain	each,	Price.
" 8 "	nickel plated		\$2.50
			2.75

Flat, Long Nose.



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

The Parallel Wire Stretcher.



No. 0 Telephone size.....each, \$4.50
 No. 1. For No. 0 wires and
 finer.....each, 5.00

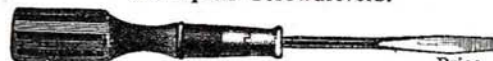
VISES.

5½ in., extra quality..each, \$1.90

5½ " " " "

copper face.....each, 2.70

Champion Screwdrivers.



Length, 2½ inches.....per dozen, \$3.00
 " 3 " " " " 3.50
 " 4 " " " " 4.25
 " 6 " " " " 6.00

"Vulcan" Insulated Screwdrivers.

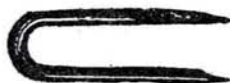


Length, 2½ inches.....each, \$0.90
 " 3½ " " " " 1.00
 Length, 4 inch.....each, 1.20
 " 6 " " " " 2.00



The Anti-Hum

Humming of telegraph wires easily and cheap
 ly remedied. Price 50c.

BELL WIRE
STAPLES.

Size, ½ in. long.
 1 lb. p'kage, \$0.30

LONG TWIST DRILLS.

For Bell Hangers, Telephone and Tele-
 graph Work.



Size.		18 inch long.	24 inch long.
3/16	each	\$0.42	\$0.55
1/8	"	.42	.55
5/16	"	.45	.60
3/8	"	.50	.65
1/2	"	.65	.75
5/8	"	.75	.85
NET		PRICES	

SPLICING TAPE.

NET PRICES

Competition, ¼ inch wide, per roll \$0.24
 Grimshaw, " " " "40
 Pure rubber, " " " "50



Automatic Boring Tools.



Price.
 Complete with eight drills of different size, each, \$3.50

Tree Trimmers.



Price.
 Trimmer, only each, \$3.00

ELECTRIC HOT BLAST BLOW
TORCH

Weight 2 lbs. Capacity 1 pint. Thoroughly tested.

Each Price.
 \$5.00

LINEMAN'S TORCH.

For alcohol.

Price
 Tin.....each, \$0.80
 Brass....." 1.50

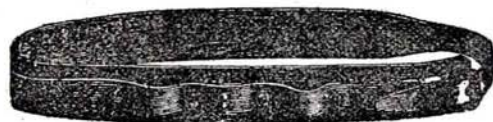




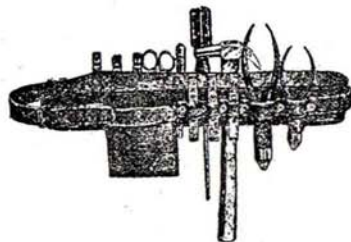
LAG BOLTS.



CROSS ARM BRACES.



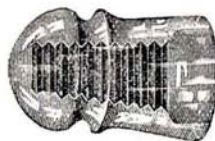
LINEMAN'S BELT.



LINEMAN'S BELT.



LINEMAN'S SAFETY STRAP

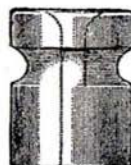


Glass
Insulators
Pony,
Price each, 4 cts.
or
\$28.00 a thousand

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 quan-
tity price.

Painted Cross Arms.



Above Arms of best Michigan white pine. Special
prices.

Pins.



No. 2052.

No. 3154.



No. 2671

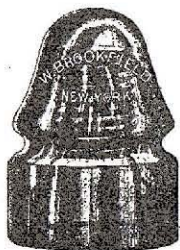
No. 3394.

2052	Standard, 1½ inch, Painted Oak Pin, per 1,000.	18.00
	In crates of 500.	
2053	Standard, 1½ inch, Painted Oak Pin, per 1,000.	18.00
	In crates of 500.	
2054	1½ inch Locust Pin, not painted, per 1,000.	30.00
	In crates of 500.	
2055	1½ inch Locust Pin, not painted, per 1,000.	30.00
	In crates of 500.	
2671	Brown Duplex Pin, 1½ inch, Oak, per 1,000.	25.00
2672	" " 1½ " Locust, " " " "	35.00
3154	Corner Pin, 1½ inch, Oak, each.	.07
3155	" " 1½ " Locust " " " "	.10
3394	1½ inch Solid Iron Pin, each.	.20

WESTERN UNION STANDARD
STEEL CROSS ARM PIN.

Price.
½ in. shank, complete with hardwood thimble,
nut and washer, per 1000.....each, \$0.08
Per 100 "10

Insulators—Glass—



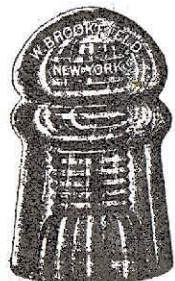
REGULAR NO. 3
INSULATOR.

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



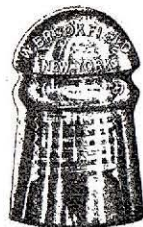
DEEP GROOVE
PATTERN.

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



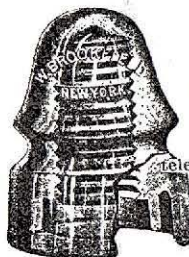
W. U. DOUBLE
PETTICOAT

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, 25.00

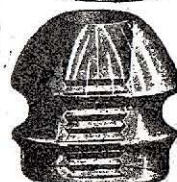
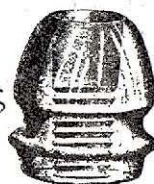


DEEP GROOVE,
DOUBLE PETTI-
COAT. PONY.
telephone and light electric light wiring.

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

BROWN'S DUPLEX
GLASS INSULATORS

Price.
Chicago stock, deep groove each \$0.09
" " " pony " " each 05



No. 233.

Insulators—Glass—

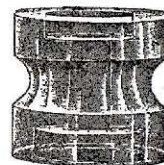
No. 1, Glass

Insulating or Break Knob.

1 1/4 inches long, 1 1/4 inches wide, 3/8 inch hole.

233: Per 1,000, 20.00

No. 2, Glass Insulating or Break Knob.

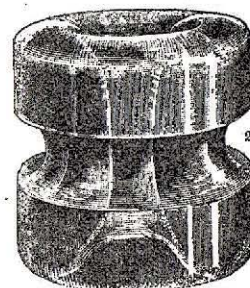


No. 233.

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

233: Per 1,000, 30.00

No. 3, Glass Insulating or Break Knob.



No. 233.

2 1/4 inches long, 2 inches wide, 3/8 inch hole.

233: Per 1,000, 40.00

insulators—Porcelain

No. 0.



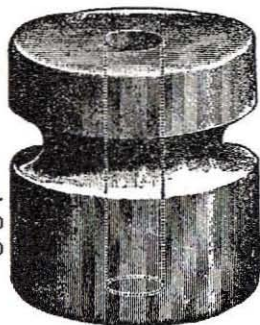
Price.
Per 1000 \$130.00
" 100 15.00

No. 1.



Price.
Per 1000 \$90.00
" 100 10.00

No. 2.



Price.
Per 1000 \$36 00
" 100 4.50



No. 3540.

3540 4x4 Standard Carriage Bolt, per 100,

Soldering Coppers. Pointed.



Weight per pair, 1 1/2 lbs.	Price.
" " " 2 " "	per pair, \$0.80
" " " 3 " "	" " " .80
" " " 4 " "	" " " 1.20
" " " 4 " "	" " " 1.60

Solder.



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

Yager's Soldering Salts.

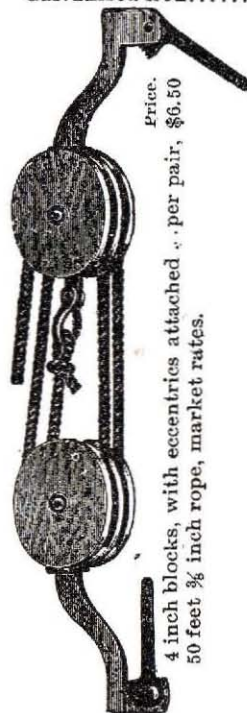
Per 1/2 lb. bottle	Price.
" 1 "	\$0.60
" 5 "	.75
" 5 "	3.60



PULLEY BLOCKS.



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



Price.
4 inch blocks, with eccentrics attached, per pair, \$6.50
50 feet 3/4 inch rope, market rates.



Price
4 inch blocks only, with eye for attaching separate clamp... \$3.30
50 feet 3/4 inch rope, market rates.
5 inch blocks only, extra heavy 5.30
100 feet of 3/4 inch rope, market rates



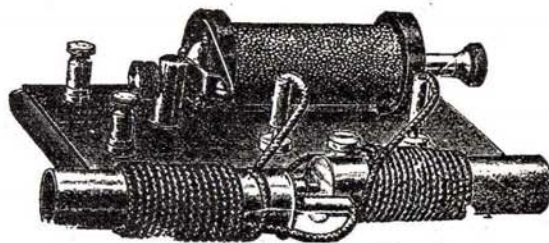
NO. 1

Table Clamp Push

Price.....\$1.00

No. 6 Push Button

Price 70c



Medical Battery No. 1

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

NO. 2

Push Button

Light Bronze

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

No. 7 Push Button

Light Bronze

Price..... 70c



NO. 3

Compound
Push Button2 push, price.....\$ 70
3 push, price 1.00

No. 8 Push Button

Oak, Walnut or Ash

Price 20c



NO. 4

Bell and button
Combination

Wood or Metal

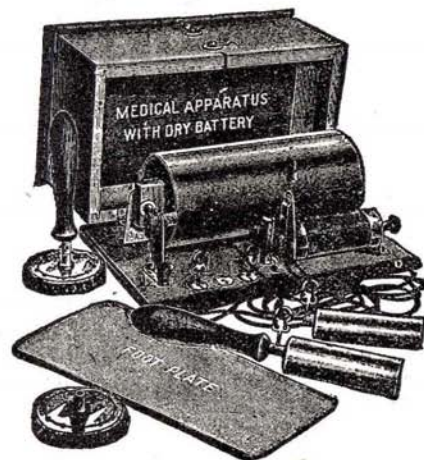
Price\$3.00



No. 9 Desk Push

Rubber Center, Nickel Plated

Price 40c



Medical Battery No. 2

Price.....\$10.00.

NO. 5

Push Button
Light Bronze

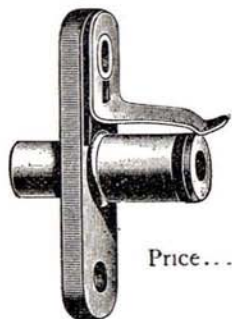
Price 75c

Movable Floor Push
Nickel

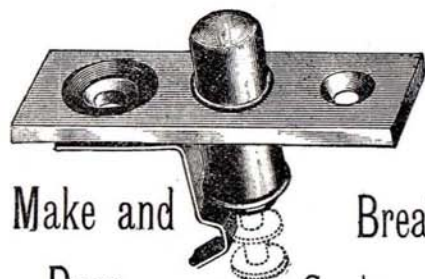
Price, complete with Cord.....\$2.00

Burglar Alarm Attachments.

Door Spring



Price..... 35 cents.

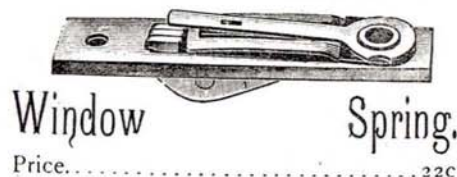
Make and Break
Door Spring.

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.

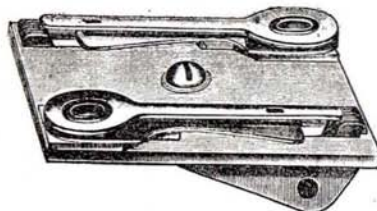
Price..... 24 cents.

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.

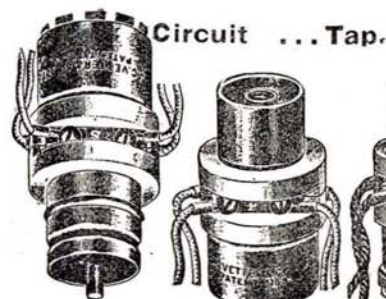
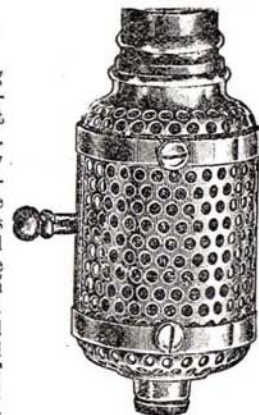
Price per square foot..... 80c

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.

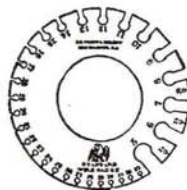


Magnet Wire

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	825 lb.
No. 32—S.	" "	845 lb.
No. 33—S.	" "	390 lb.
No. 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	} Prices on application
No. 12, " "	.....
No. 14, " "	.....

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 pound10

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.



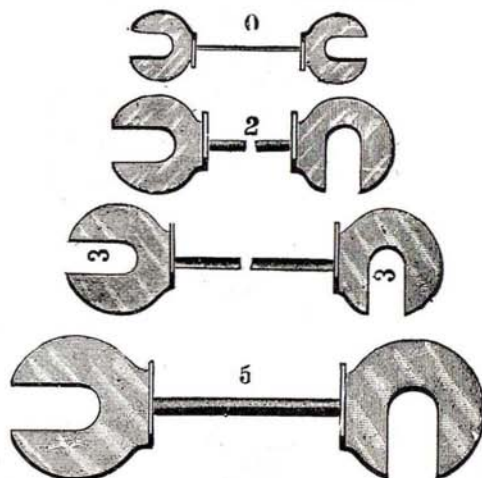
Electric Light Elevator Cable.



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 1/2 "	"	2.00
100	"	3 1/2 "	"	3.00

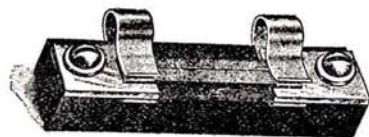
Above are Edison style

				Price.
15	Ampere, No 2	2 1/2 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.



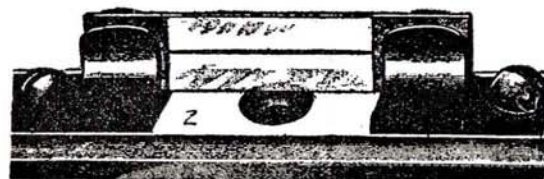


Fuse Block, Fiber Base

Price, each.....24c



Mica Fuse

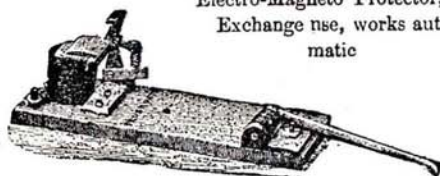
 $\frac{1}{4}$ and $\frac{1}{2}$ Ampere, price.....4c

Fuse Block, Porcelain

Price, each 30c.

Fuse Mica, $\frac{1}{4}$ and $\frac{1}{2}$ Ampere, price 4c

Lightning Arrester

Electro-Magneto Protector, for
Exchange use, works auto-
matic

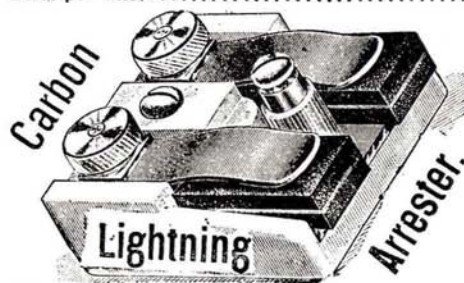
Price.....\$1.00



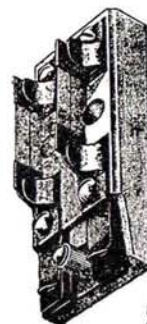
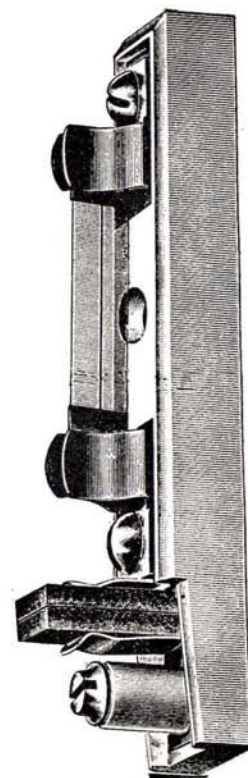
Lightning Arresters

For Switch Boards

Price per line.....40c



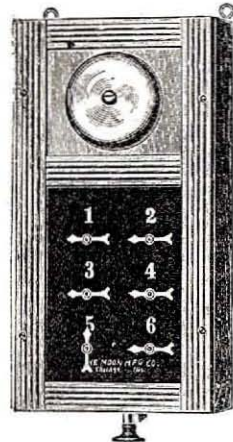
Price, each.....50c

COMBINED
TELEPHONE
FUSE BLOCKThis 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.

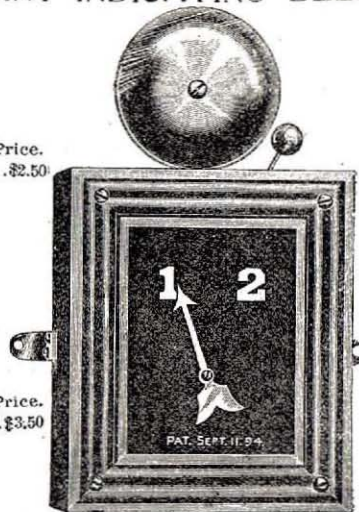
	Price.
4 indicators each,	\$4.45
6 " " "	6.00
8 " " "	7.60
10 " " "	9.10
12 " " "	10.70

The Eclipse. Style A

House Annunciators.

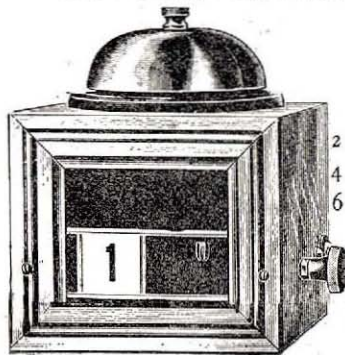
TWO-POINT INDICATING BELL

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

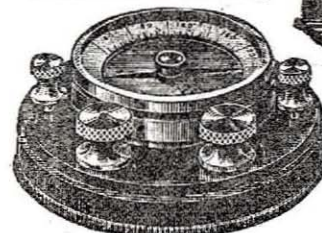
STYLE C.

Price.

Style C, complete \$40.00

" B, " 60.00

Pocket Galvanometer.

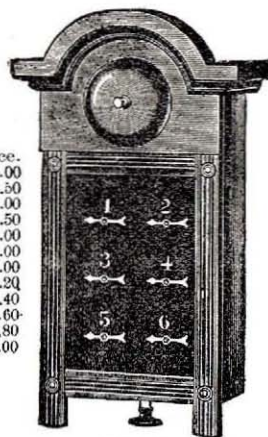


A handsomely finished and valuable little
galvanometer, mounted in highly polished
hard rubber case, with hard rubber cover.

Price.

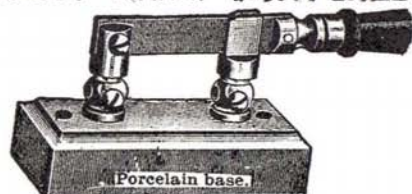
Pocket galvanometer\$6.00

	Price.
2 indicators.....	\$4.00
3 " " ".....	4.50
4 " " ".....	5.00
5 " " ".....	6.50
6 " " ".....	7.00
8 " " ".....	9.00
10 " " ".....	11.00
12 " " ".....	13.25
14 " " ".....	15.40
16 " " ".....	17.60
18 " " ".....	19.80
20 " " ".....	22.00

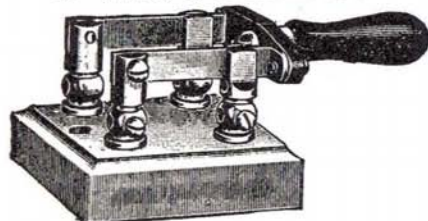


Style A.

BABY KNIFE SWITCHES.

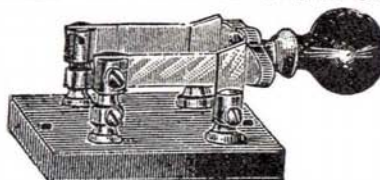


Ampere Capacity.		Price Each.
15	S. P. S. T.....	\$0.38
15	" D. T.....	.60
15	D. P. S. T.....	.50
15	" D. T.....	.95
15	3 wire, S. T.....	1.00
25	S. P. ".....	.45
25	" D. P.....	.85
25	D. P. S. T.....	.60
25	" D. T.....	1.20
25	3 wire, S. T.....	1.25



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

POLISHED KNIFE SWITCH



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.	With Fuse.
25		\$0.95	13. \$1.30
50		1.45	25. 1.90
75		1.80	37. 2.50

Single Pole, Double Throw.

Ampere Capacity		Without Fuse.	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.

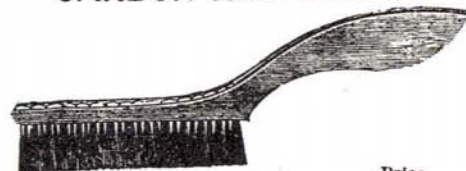
..... each, \$0.80

EMERY CLOTH.

For cleaning carbon rods in outside arc lamps

No.		Price.
0	..... per quire,	\$1.20
$\frac{1}{2}$	..... "	1.20
1	..... "	1.20
$1\frac{1}{2}$	..... "	1.20
2	..... "	1.50
$2\frac{1}{2}$	..... "	1.80

CARBON ROD BRUSH.

Price.
each, \$0.75

Okonite Tubing.

Approx. No. of feet per lb.	Per pound.	List Price.
$\frac{1}{2}$ inch. 35		\$2.00
$\frac{3}{4}$ " 17		2.00
$\frac{7}{8}$ " 14		2.00
1 " 11 $\frac{1}{2}$		2.00
$\frac{1}{2}$ " 10		2.00
$\frac{3}{4}$ " 8		2.00
$\frac{7}{8}$ " 4 $\frac{1}{2}$		2.00
1 " 4		2.00
1 " 3		2.00

Soft Rubber Tubing.



Inside Diam.	Covers Wire.	Approx. No. of Feet per lb.
$\frac{1}{2}$ inch. No. 20, B. & S. G., Ins.		100, per lb.
$\frac{3}{4}$ " 14	" "	50, " "
$\frac{7}{8}$ " 10	" "	20, " "
1 " 6	" "	15, " "
$\frac{1}{2}$ " 4	" "	12, " "
$\frac{3}{4}$ " 0	" "	9, " "

Hard Rubber Tubing.



IN LENGTHS OF 24 INCHES.

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

GALVANIZED GUY RODS.

Galvanized steel, $\frac{3}{8}$ in. round, 6 feet long

"	$\frac{1}{2}$ "	8 "
"	$\frac{3}{4}$ "	9 "

Pulley Blocks.



GALVANIZED IRON, WITH LOOSE HOOKS

Single Iron Sheaves.

Diameter of rope $\frac{1}{4}$ inch, per dozen	7.20
" $\frac{3}{8}$ " "	10.80
" $\frac{1}{2}$ " "	15.00

Double Iron Sheaves.

Diameter of rope, $\frac{1}{4}$ inch, per dozen	12.00
" $\frac{3}{8}$ " "	18.00
" $\frac{1}{2}$ " "	24.00

POLE PROTECTION STRIPS.

Galvanized.



Made of galvanized iron 2 inches wide by 4 feet long,

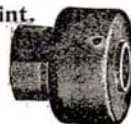
concave throughout so as to conform approximately to the rounding shape of the pole.

Per 100.....\$12.00

Macallen Solid Mica Bracket Joint.

Combination.

# x $\frac{1}{2}$ each.	IN MALLEABLE IRON.	List Price.
$\frac{1}{2}$ x $\frac{1}{2}$ "		\$0.36
$\frac{3}{4}$ x $\frac{1}{2}$ "		.36
$\frac{1}{2}$ x $\frac{3}{4}$ "		.36
$\frac{3}{4}$ x $\frac{3}{4}$ "		.50
$\frac{1}{2}$ x 1 "		.50
$\frac{3}{4}$ x 1 "		.50



Clamp Terminals.

For Incandescent Cord.



Per box of 250......75

Canopies.

400 $\frac{1}{2}$ inch, Ring and Set Screw, each	.14
292 $\frac{3}{4}$ " " " " "	.14
294 $\frac{1}{2}$ " " " " "	.15
402 1 " " " " "	.15



388 $\frac{1}{2}$ inch, Ring and Set Screw, each	.24
293 $\frac{3}{4}$ " " " " "	.24
389 $\frac{1}{2}$ " " " " "	.26
391 1 " " " " "	.26



386 $\frac{1}{2}$ inch, Ring and Set Screw, each	.24
107 $\frac{3}{4}$ " " " " "	.24
328 $\frac{1}{2}$ " " " " "	.26
387 1 " " " " "	.26



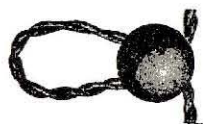
Polished and Lacquered, 50% extra.

Wire Guards.

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



Cord Adjusters.

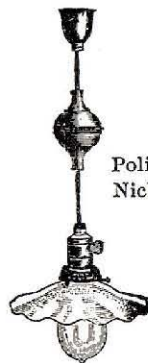


Wood, black enameled,

in 100 lots \$12.00

DOW CORD
ADJUSTER.

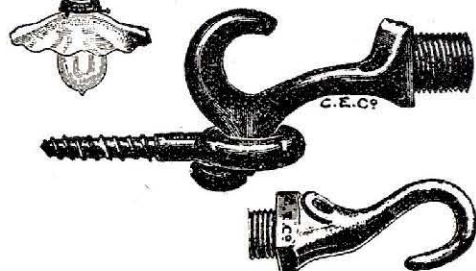
1. Hard rubber,
in 100 lots....\$9.00
1. Wood enameled,
in 100 lots.... 7.50



Polished brass.....per doz. \$18.00

Nickel..... " 20.00

SOCKET HOOKS.

Threaded to fit $\frac{1}{8}$ inch socket....each, \$0.13

Socket Bushings.



No. 3630.

Genuine Hard Rubber, $\frac{1}{4}$ inch, per 1,000.....\$20.00Composition, $\frac{1}{4}$ inch, per 1,000..... 8.00

No. 3632.

Genuine Hard Rubber, $\frac{1}{4}$ inch, per 1,000.....22.50Composition, $\frac{1}{4}$ inch, per 1,000..... 9.00

No. 3634.

Genuine Hard Rubber, $\frac{1}{4}$ inch, per 1,000.....30.00Composition, $\frac{1}{4}$ inch, per 1,000.....12.00

No. 3636.

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



No. 3637.

Genuine Hard Rubber, $\frac{1}{4}$ inch, per 1,000.....30.00

No. 2927.

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

The Duggan Cleat.



TWO WIRE.

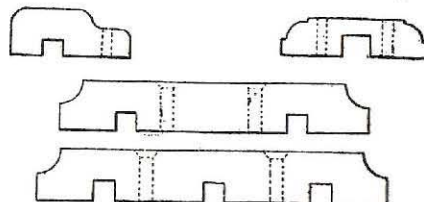
Price,
Per 1000 Pair.

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	"	$\frac{1}{4}$	"	"	3.00
1	"	$\frac{3}{8}$	"	"	2.75
2	"	$\frac{1}{4}$	"	"	3.00
2	"	$\frac{3}{8}$	"	"	2.75
2	"	$\frac{1}{2}$	"	"	2.75
3	"	$\frac{1}{4}$	"	"	9.50

Electric Air Heater

FOR VOLTAGE UP TO 250.



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, $3\frac{1}{2}$ lbs.
Consumes 240 watts.

For any voltage up to 125.

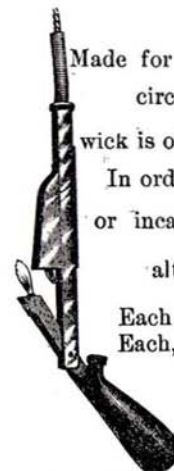
PRICE \$6.00



ELECTRIC SOLDERING IRONS.

- No. 10.** Weight, 16 oz. length of iron, 11 ins., tip, $\frac{3}{8}$ 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, $13\frac{1}{2}$ 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, $1\frac{1}{2}$ 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 $13\frac{1}{2}$ ins. tip, 1 in. in diameter. Either pointed or chisel shape. Consumes 280 watts.
- No. 40.** Weight 4 lbs 4 oz. length, 15 inches, tip, $1\frac{1}{2}$ ins. Either pointed, or chisel shape. Consumes 425 watts.

GLOBE ELECTRIC CIGAR LIGHTER.



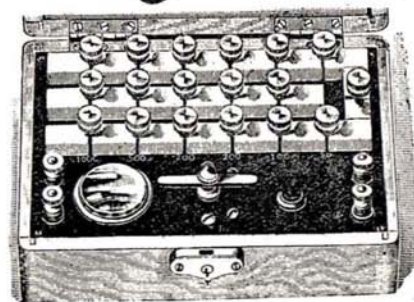
Made for use on incandescent lighting circuits as well as from battery.

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

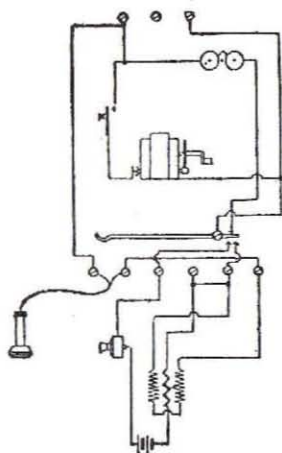


Diagram of Bridged Telephone.

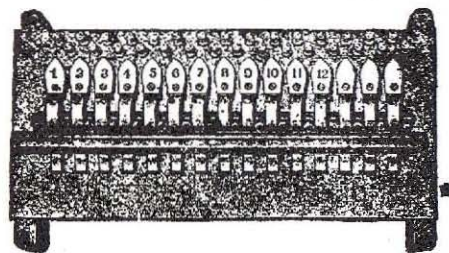
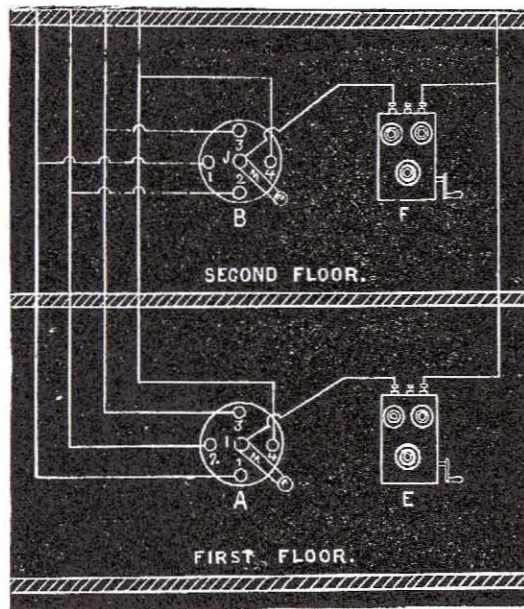
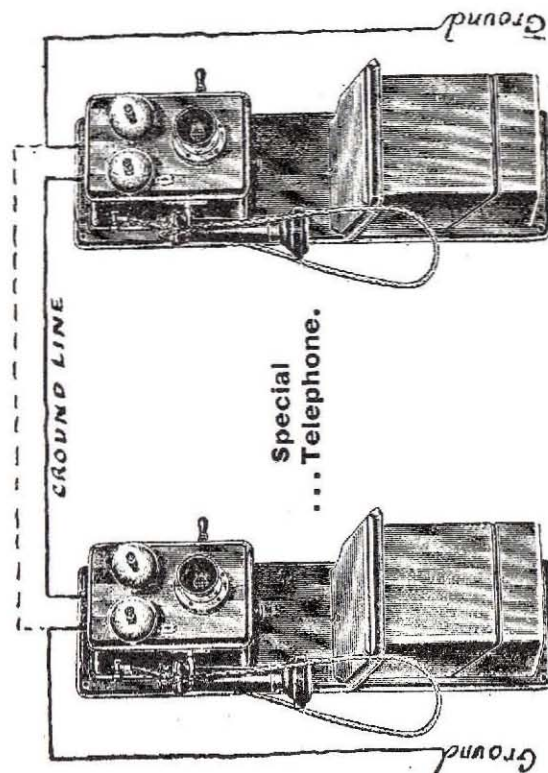


Diagram of W. U. Spring Jack.



DIAGRAM

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



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.
2 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.

NO. OF POLES. PER LINEAL MILE.	DISTANCE BETWEEN POLES (FEET).
20	284.00
21	251.40
22	240.10
23	226.56
24	220.00
25	211.20
26	203.07
27	195.50
28	188.50
29	182.00
30	176.00

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 Colls.—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 switch-hook, 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.

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	708.87	7.45	7.	1900.
6	.0977	515.85	10.23	9.5	1500.
8	.0696	367.48	14.36	13.	1100.
10	.0580	306.24	17.24	15.	900.
12	.0483	255.02	20.70	18.	700.
14	.0388	211.60	25.07	23.	550.
16	.0292	154.17	34.24	32.	450.
18	.0224	118.27	44.64	38.5	350.
20	.0169	89.23	59.07	50.	250.
22	.0137	72.33	72.99	63.7	200.
24	.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° 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	24.88	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	10.385	498.83
14	12.41	65.525	80.59	2.5008	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
Prescott. —Bell's Electric Speaking Telephone. Its Invention. Construction. Application, Modification and History. 795 pages. 516 illustrations	6 00
Thompson. —Philip Reis, Inventor of the Telephone. A Biographical Sketch, with Documentary Testimony. 182 pages, 3 plates and 48 engravings.....	3 00
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.....	34.
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 Feet Per Pound	Gauge No.	Approximate Feet Per Pound.
14	70	18	165
16	105	20	225

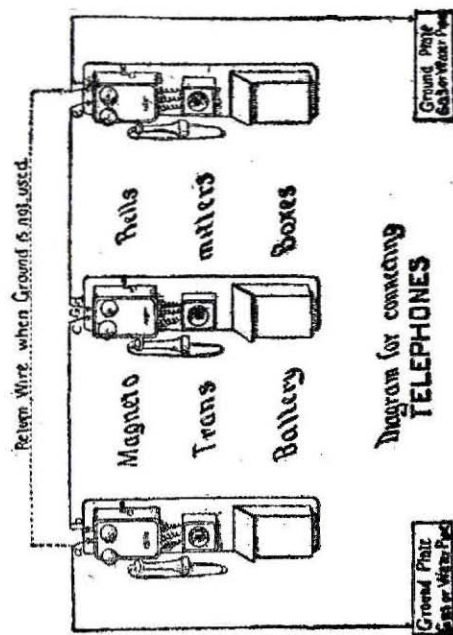
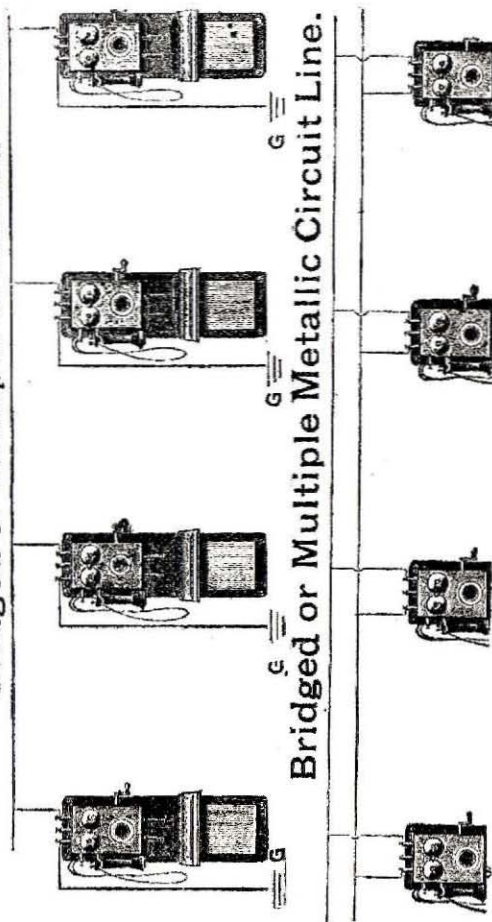
DIRECTIONS.**For Connecting Telephones in Series.**

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.

**Bridged or Multiple Grounded Line.**

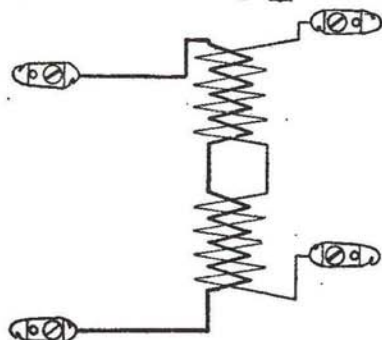
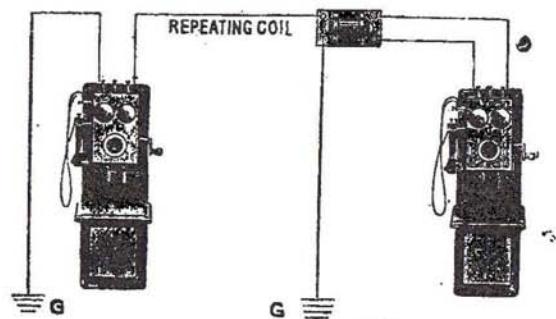


DIAGRAM OF CONNECTIONS OF REPEATING COIL.

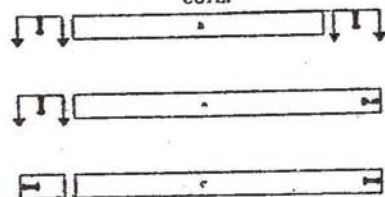


FIG. 120. DIFFERENT METHODS OF CONNECTING LINES THROUGH REPEATING COILS.

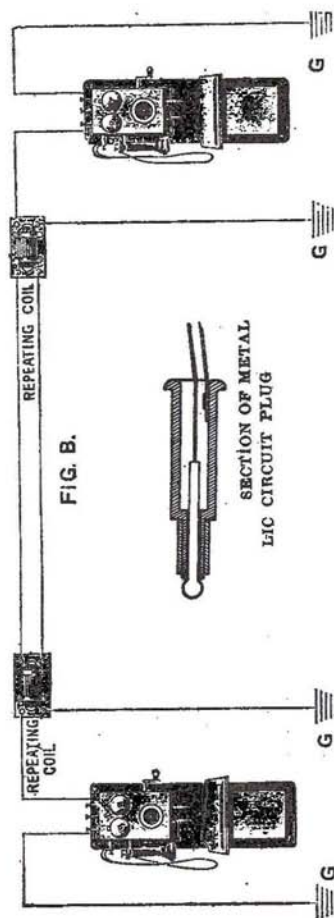


FIG. B.

SECTION OF METAL
LINE CIRCUIT PLUG

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



PLUG SWITCH.

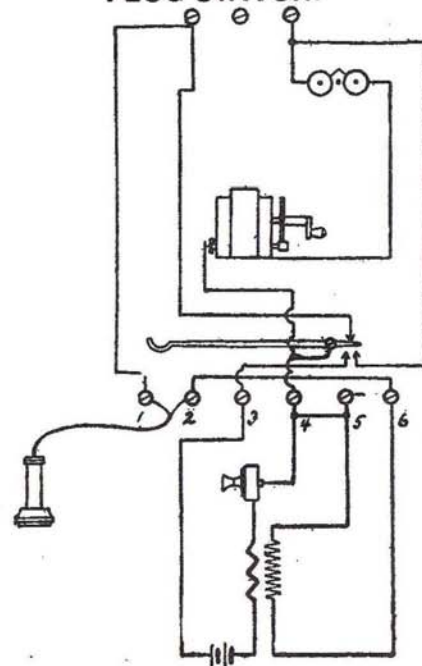


Diagram of Series Telephone

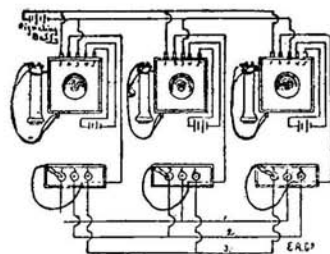


Diagram showing Intercommunicating System for Battery Call.

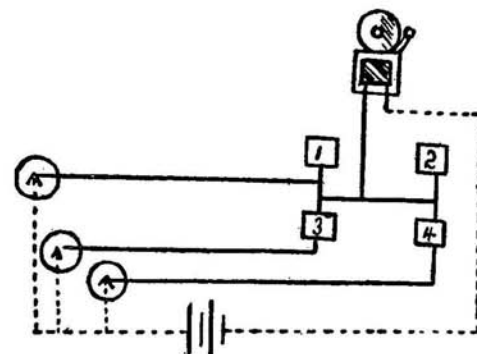
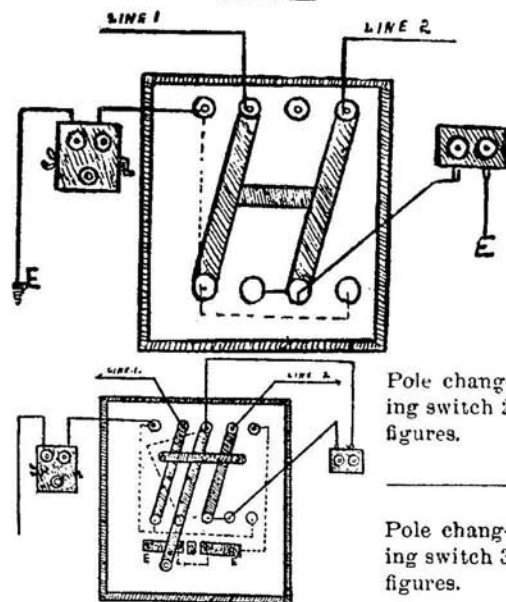
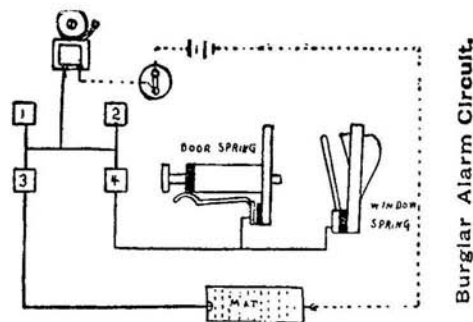


Diagram of Annunciator Call, 3 push buttons connected.

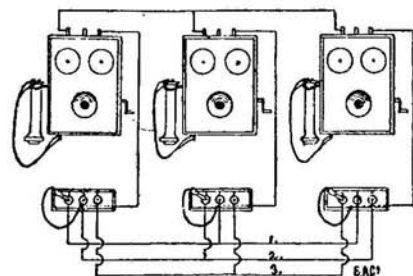


Diagram showing Intercommunicating System or Magneto Call.

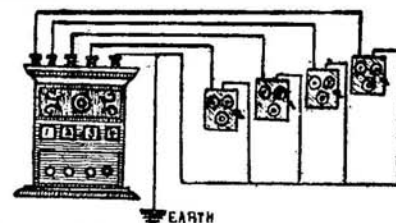


Diagram of Return, Call or common return for Exchange System

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.....	

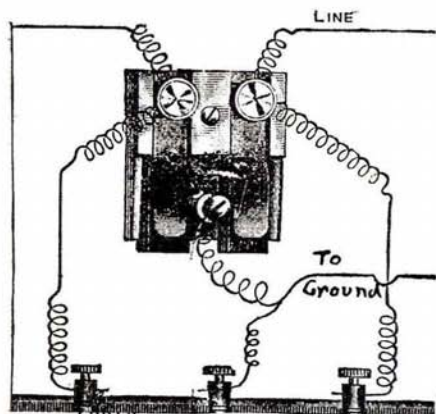


Diagram of Carbon Fuse Block connected to Telephone.

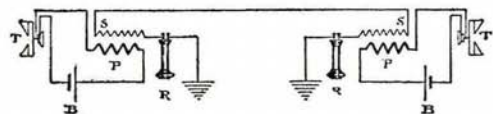
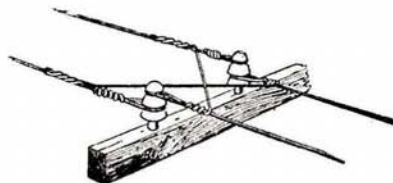


DIAGRAM OF COMPLETE TELEPHONE CIRCUIT.
T TRANSMITTER, B BATTERY, P PRIMARY,
S SECONDARY, R RECEIVER.



METALLIC CIRCUIT MULTIPLE JACK WITH
PLUG INSERTED.



TRANSPPOSITION OF METALLIC CIRCUIT.

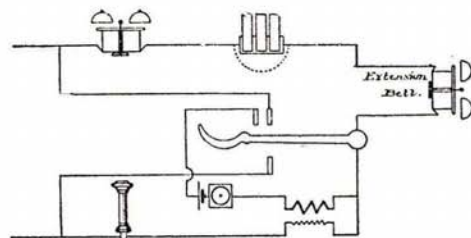
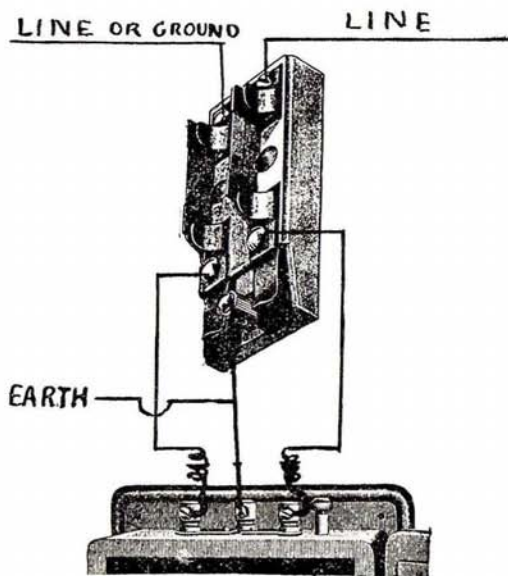


DIAGRAM SHOWING PROPER CONNECTIONS OF
EXTENSION BELL.

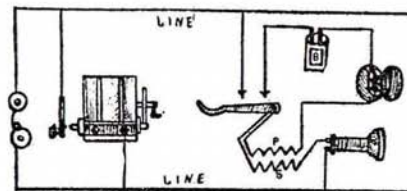


Diagram showing Carty Patent on Bridging
System.

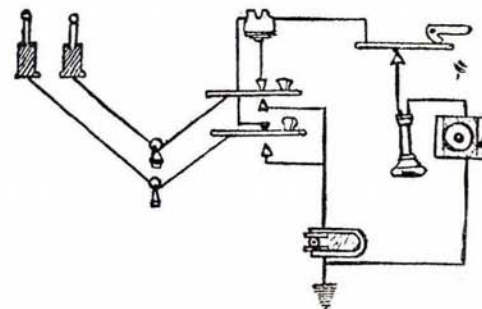


Diagram showing Operator's Set for switch
board, with ring and listening cams,

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TELEPHONES

....AND....

SUPPLIES

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