

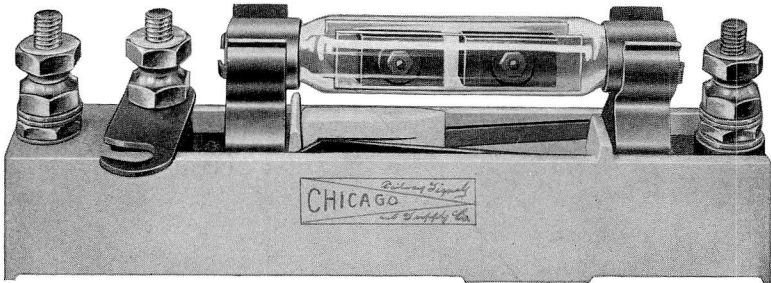
1914

CATALOGUE AND PRICE LIST

SECTION I

Lightning Arresters
Resistance Units
Terminals
Connectors
Ground Tubes and Rods
Tags
Wires
Socket Wrench
Locks
Steel Stencils
Solder

CHICAGO LIGHTNING ARRESTERS



Chicago "Vacuum" Lightning Arrester, Style "A"

Size, $6\frac{5}{8}$ " Long, 1" Wide, $2\frac{1}{2}$ " High

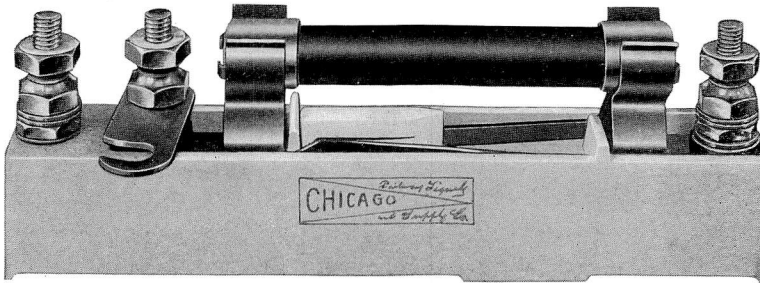
Style "A" and Style "B" Lightning Arresters are substantially constructed, and mounted on a heavy Porcelain Base. They are equipped with a "Static" Discharge Tube which will discharge "Static" continuously without danger of "Grounding" at a Voltage of approximately 450 Volts. The Horn Type Springs take care of any heavier Lightning Discharges and crosses with Power Circuits.

Standard R. S. A. Binding Posts are used, the upper and lower being the "Line" Posts and the middle one the "Ground" Post. A standard Connecting Clip is furnished to provide a common ground, where Arresters are banked side by side on one-inch centers, all parts of these Arresters are easily accessible and can be instantly removed for inspection.

A pair of Horn Type Springs, separated by a fireproof porous septum block so shaped that the air gap varies from $\frac{1}{8}$ " at the bottom to nearly 1" at the top, prevents any arc which may have been caused by lightning, from being sustained by the ordinary working currents. The Septum Block prevents any possibility of fusing the springs.

The Glass Vacuum Tube for Style "A" Arrester is heavy and of ample proportions to insure long life. It is provided with ferrule ends so it may be easily and quickly inserted or removed from the spring clips. The gap between the "Carborundum" Electrodes in Low Voltage Tube, although spaced far enough apart so that an arc cannot be sustained, is equivalent to a gap of .001" in open air. The gap in the High Voltage Tube is equivalent to a gap of .005" in open air. The Low Voltage type should not be used on Voltages above 110 Volts or on circuits having a current flow of more than one-half ampere, otherwise there is danger of sustaining an arc by the working current. The High Voltage type may be used on 110 and 220 Volt Power Circuits and on 500 Volt D. C. Street Railway Signal Circuits.

CHICAGO LIGHTNING ARRESTERS



Chicago "Non-Air" Gap Lightning Arrester, Style "B"

Size, 6 $\frac{5}{8}$ " Long, 1" Wide, 2 $\frac{1}{2}$ " High

The "Non-Air-Gap" Static Discharge Tube for Style "B" Arresters is made of fireproof fibre with ferrule ends. The Tube is filled with fine granular carborundum into which a number of prongs, which are part of the ferrule ends, protrude. The "Carborundum" granules in the air-tight tube offer practically no resistance to Lightning or Static Discharges, but to the ordinary working currents they offer a resistance of approximately 150,000 Ohms.

These Arresters are equally well adapted for use on D. C. or A. C. lines, and will discharge Lightning and Static continuously without interrupting the regular service, and are highly recommended where reliable high efficiency Arresters are required. They take the place of Terminals when used in Relay Boxes, Signal Cases, etc.

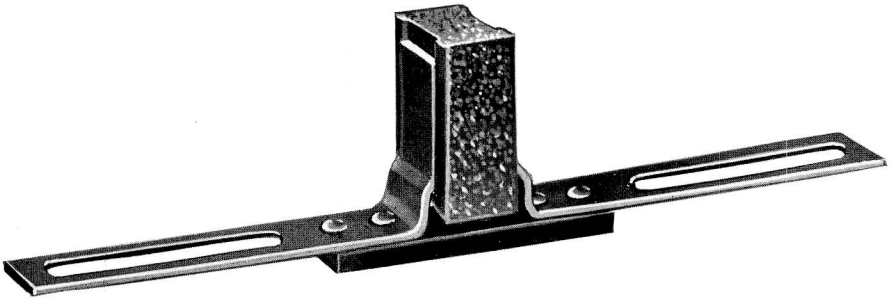
Trade No.	DESCRIPTION	List Price
225	Style A Lightning Arrester complete with Low Voltage Glass Vacuum Discharge Tube for use on lines of 110 Volts or less	\$4.00
225-16	Same as above except with High Voltage Glass Vacuum Discharge Tube for use on lines of 110 Volts or higher.	4.00
226	Style B Lightning Arrester complete with Fireproof "Non-Air-Gap" Discharge Tube.	2.50
225-1	Low Voltage Vacuum Discharge Tube.	2.00
225-17	High " " " "	2.00
226-1	Fireproof Non-Air-Gap " " " "	.70
225-9	Septum Separator for Horn Springs.	.20
225-10	Porcelain Base.	.75

SPARK GAP LIGHTNING ARRESTERS



No. 227

Style "A" Spark Gap (Full Size)



No. 228

Style "B" Spark Gap (Full Size)

These Spark Gaps are used between Binding Posts of Magnet Terminals on track or line Relays and will positively prevent "Burn-outs" of Magnet Coils by Lightning or Static Discharges. They will fit Relays of any manufacture.

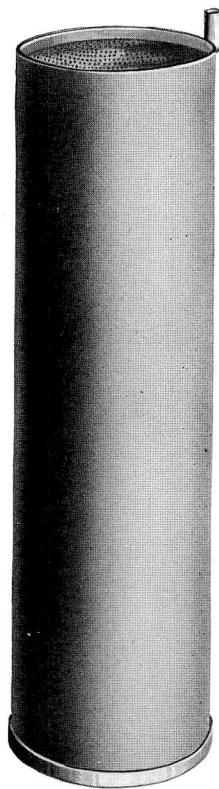
Style "A" is a plain metal to metal gap having an opening of $\frac{1}{8}$ " between points and Style "B" is equipped with a pair of clips between which a high resistance block of carborundum is held securely in place. This block does not allow current used on Relays to pass but offers practically no resistance to static lightning discharges.

Trade No.	DESCRIPTION	List Price
227	Style A Plain Spark Gap as shown, each	\$0.25
228	" B Carborundum Spark Gap as shown, each60
228-4	Carborundum Block for Style B Spark Gap, each25

CHICAGO GROUND TUBES AND RODS

“Chicago” Ground Tubes are made of perforated pure sheet copper 5" in diameter, one, two and three feet long. Tubes are provided on their upper end with a heavy copper wire lug for a No. 4 or lighter copper wire. They are filled with fine charcoal which absorbs moisture and keeps earth around the tube always in a moist condition, thus insuring a perfect and permanent ground. These Tubes are inserted into ground by using an ordinary post hole auger, making same the cheapest to install. No. 280-1 presents 227 square inches of surface, No. 280-2—415 square inches and No. 280-3—604 square inches from which it is self-evident that they provide an exceedingly good “Ground” at a low first cost.

GROUND RODS are furnished plain or galvanized, and are made of first class material, insuring sufficient stiffness to allow proper driving.



“Chicago”
Copper Ground
Tube



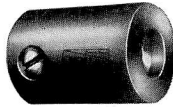
“Chicago”
Ground
Rod

Trade No.	DESCRIPTION	List Price
280-1	Copper Ground Tube, one foot long complete with Charcoal	\$2.70
280-2	“ “ “ two feet “ “ “ “	4.50
280-3	“ “ “ three “ “ “ “	6.30
281-1	Ground Rod “Plain” $\frac{3}{8}$ " x 6'.....	.36
281-2	“ “ “ $\frac{1}{2}$ " x 6'.....	.50
281-3	“ “ “ $\frac{1}{2}$ " x 7'.....	.60
281-4	“ “ “ $\frac{5}{8}$ " x 8'.....	.85
281-11	“ “ “Galvanized” $\frac{3}{8}$ " x 6'.....	.50
281-22	“ “ “ $\frac{1}{2}$ " x 6'.....	.60
281-33	“ “ “ $\frac{1}{2}$ " x 7'.....	.75
281-44	“ “ “ $\frac{5}{8}$ " x 8'.....

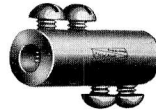
CONNECTORS



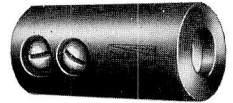
No. 230
1" Long



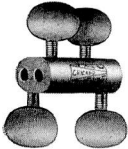
No. 231
1¼" Long



No. 232
1½" Long



No. 233
1¾" Long



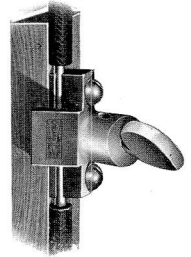
No. 234
1¾" Long



No. 235
2¼" Long



No. 236
½" Long



No. 237
For Battery Elevators

The Connectors shown above are used in Battery Chutes, Wells, and Battery Boxes, etc., where frequent connections have to be made. Connector No. 235 for Line Wire Taps.

Connector No. 237 is fastened to Vertical Strips of Battery Elevators. This Connector makes a permanent and neat job of Elevator wiring at least expense and at same time makes perfect connections and cannot "ground" battery wire.

Trade No.	DESCRIPTION	List Price
230	Double Brass Connector with Heavy Cast Brass Thumb Screws, each.....	\$0.13
231	Insulated Brass Connector for use in Iron Battery Chutes and other places where plain connector may "ground" complete with Two (2) Machine Screws, each.....	.30
232	Double Brass Connector with Four (4) Machine Screws, each.....	.18
233	Same as above but Insulated, each.....	.40
234	Double Brass Connector with Four (4) Thumb Screws, each...	.25
235	Line Wire Connector, used to tap Line Wires for Lightning Arresters and Multiple Connections, complete as shown (in ordering specify size of line wire and size of tap wire), each.....	.40
236	Single Brass Connector with heavy Thumb Screws, each....	.10
237	Brass Battery Elevator Connector for use on Battery Elevators, complete with Wood Screws, each.....	.38



RUBBER COVERED INSULATED WIRES



N. I. R. Solid Conductor Rubber Covered Wire, Finished with One Braid



N. I. R. Solid Conductor Rubber Covered Wire, Finished with Tape and Braid



N. I. R. Stranded Conductor Wire, Finished with One Braid



N. I. R. Stranded Conductor Wire, Finished with Tape and Braid



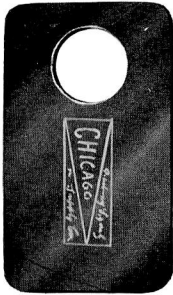
N. I. R. Flexible Conductor Wire, Finished with Tape and Braid

Trade No.	DESCRIPTION	List Price
1-1	No. 6 B. & S. Single Braid Rubber Covered Wire, R. S. A. Specifications..	Prices Upon Application
1-2	Same as above with Tape and Braid.....	
1-3	No. 6 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard	
1-4	8 " " " " Single Braid Rubber Covered Wire, R. S. A. Specifications	
1-5	Same as above with Tape and Braid.....	
1-6	No. 8 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard	
1-7	9 " " " " Single Braid Rubber Covered Wire, R. S. A. Specifications	
1-8	Same as above with Tape and Braid.....	
1-9	No. 9 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard	
1-10	10 " " " " Single Braid Rubber Covered Wire, R. S. A. Specifications	
1-11	Same as above with Tape and Braid.....	
1-12	No. 10 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard..	
1-13	No. 12 B. & S. Gauge Single Braid Rubber Covered Wire, R. S. A. Specifications..	
1-14	Same as above with Tape and Braid.....	
1-15	No. 12 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard..	
1-16	No. 14 B. & S. Single Braid Rubber Covered Wire, R. S. A. Specifications	
1-17	Same as above with Tape and Braid.....	
1-18	No. 14 B. & S. Gauge Rubber Covered Wire, National Electric Code Standard..	
1-19	No. 6 B. & S. Single Braid Stranded Rubber Covered Wire, R. S. A. Specifications	
1-20	Same as above with Tape and Braid.....	
1-21	No. 6 B. & S. Gauge Stranded Rubber Covered Wire, National Electric Code Standard..	
1-22	No. 8 B. & S. Single Braid Stranded Rubber Covered Wire, R. S. A. Specifications	
1-23	Same as above with Tape and Braid.....	
1-24	No. 8 B. & S. Stranded Rubber Covered Wire, National Electric Code Standard..	
1-25	No. 9 B. & S. Single Braid Stranded Rubber Covered Wire, R. S. A. Specifications	
1-26	Same as above with Tape and Braid.....	
1-27	No. 9 B. & S. Stranded Rubber Covered Wire, National Electric Code Standard..	
1-28	No. 10 B. & S. Single Braid Stranded Rubber Covered Wire, R. S. A. Specifications	
1-29	Same as above with Tape and Braid.....	
1-30	No. 10 B. & S. Stranded Rubber Covered Wire, National Electric Code Standard..	
1-31	No. 8 Flexible Conductor Rubber Covered, Taped and Braided Signal Wire	
1-32	" 9 " " " " " " " " " " " "	
1-33	" 10 " " " " " " " " " " " "	
1-34	" 12 " " " " " " " " " " " "	
1-35	" 14 " " " " " " " " " " " "	



Above Wires furnished in accordance with **Railway Signal Association** Specifications.

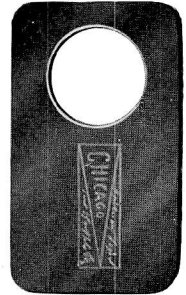
TAGS



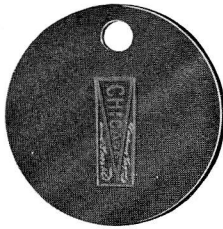
No. 40



No. 44



No. 41



No. 42

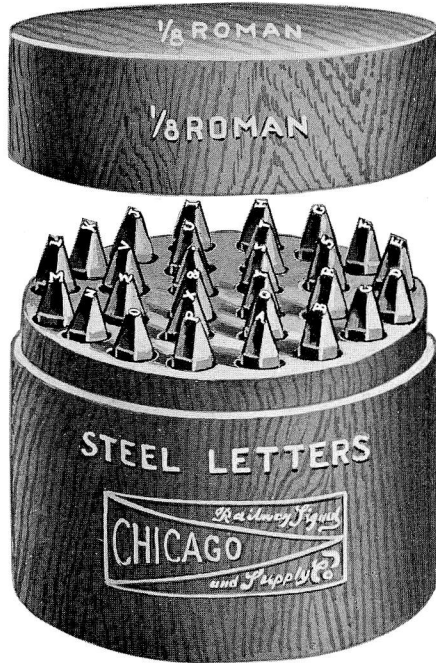


No. 43

The Tags shown above are used to tag Wires, Relays, Binding Posts, etc., also for storeroom purposes and line wires of pole lines. They are made from materials that can be stamped easily and quickly with stencils for this purpose shown elsewhere in this catalogue. They can also be furnished stamped with any lettering, symbols or numbers upon receipt of specifications.

Trade No.	DESCRIPTION	List Price Per M.
40	Standard Fibre Tag, $\frac{7}{8}$ " x $1\frac{1}{2}$ " with $\frac{3}{8}$ " Hole.....	\$4.20
40-1	“ Brass “, $\frac{7}{8}$ " x $1\frac{1}{2}$ " “ $\frac{3}{8}$ " “.....	7.80
40-2	“ Aluminum Tag, $\frac{7}{8}$ " x $1\frac{1}{2}$ " with $\frac{3}{8}$ " Hole.....	8.00
41	Standard Fibre Tag, $\frac{7}{8}$ " x $1\frac{1}{2}$ " with $\frac{1}{2}$ " Hole.....	4.20
41-1	“ Brass “, $\frac{7}{8}$ " x $1\frac{1}{2}$ " “ $\frac{1}{2}$ " “.....	7.80
41-2	“ Aluminum Tag, $\frac{7}{8}$ " x $1\frac{1}{2}$ " with $\frac{1}{2}$ " Hole.....	8.00
42	Round Fibre Tag, Diameter $1\frac{1}{8}$ ", Hole $\frac{5}{32}$ ".....	3.50
42-1	“ Brass “, Diameter $1\frac{1}{8}$ ", Hole $\frac{5}{32}$ ".....	5.50
42-2	“ Aluminum Tag, Diameter $1\frac{1}{8}$ ", Hole $\frac{5}{32}$ ".....	5.60
43	Standard Fibre Tag, Diameter $1\frac{1}{2}$ ", Hole $\frac{1}{2}$ ".....	6.00
43-1	“ Brass “, Diameter $1\frac{1}{2}$ ", Hole $\frac{1}{2}$ ".....	9.50
43-2	“ Aluminum Tag, Diameter $1\frac{1}{2}$ ", Hole $\frac{1}{2}$ ".....	10.00
44	Special New York Central Fibre Tag, $1\frac{1}{2}$ " x $\frac{5}{8}$ ", Hole $\frac{1}{8}$ "...	3.50
44-1	“ “ “ “ Brass “ $1\frac{1}{2}$ " x $\frac{5}{8}$ " “ $\frac{1}{8}$ "...	5.10
44-2	“ “ “ “ Aluminum Tag, $1\frac{1}{2}$ " x $\frac{5}{8}$ ", Hole $\frac{1}{8}$ "	5.50

STEEL LETTERS AND FIGURES



The Steel Letters and Figures listed are furnished Hand Cut in Gothic Style or Machine Made in Roman Style. Used for stamping Tags, Tools, Binding Posts, etc. Put up in compact dust proof wooden boxes.

Size	Letters—Set of 28		Figures—Set of 9		Single Letters or Figures	
	Hand Cut	Machine Made	Hand Cut	Machine Made	Hand Cut	Machine Made
$\frac{1}{32}$ "	\$15.00	\$4.50	\$5.00	\$1.50	\$0.70	\$0.25
$\frac{1}{16}$ "	9.00	3.35	3.00	1.10	.40	.20
$\frac{3}{32}$ "	9.00	3.35	3.00	1.10	.40	.20
$\frac{1}{8}$ "	9.00	3.35	3.00	1.10	.40	.20
$\frac{5}{32}$ "	10.50	4.25	3.50	1.40	.50	.20
$\frac{3}{16}$ "	12.00	4.70	4.00	1.55	.60	.30
$\frac{1}{4}$ "	14.00	5.60	4.70	1.85	.70	.35
$\frac{3}{8}$ "	20.00	9.55	7.35	3.10	.90	.50
$\frac{1}{2}$ "	28.00	16.85	9.45	5.60	1.30	.75

Sizes not listed above, take next larger size—price.



CHICAGO PORTABLE VOLT-AMMETER, DIRECT CURRENT



Leather Carrying Case
One Third Actual Size



Chicago Volt-Ammeter
One Third Actual Size

This instrument meets the demand for an accurate, durable, compact and inexpensive direct current testing outfit. The case of the instrument is 6" long, 3¼" wide, 2" high and of pure cast aluminum and all other materials used are highest grades obtainable. Tungsten steel, ⅜" x 1", is used for the magnets in the d'Arsonval movements, to obtain permanency and accuracy of readings. The workmanship is expert and experienced, and instrument is strictly high class.

There are two individual dead-beat movements, each with a separate scale, embodied within the one case, one for Volt readings, and the other for Ampere, Milliampere, Volt and Millivolt readings, making it possible to make simultaneous tests of current and e. m. f. This double movement simultaneous reading feature is found only in the Chicago Portable Volt-Ammeter, and eliminates the inconvenient feature found in Volt-Ammeters, having but one movement for both current and e. m. f. Instrument can be left in circuit any length of time without injury to the movements. Instruments are hand calibrated, directly and individually compared with recognized standards. The scales are hand drawn with divisions well spaced and the edgewise indicator permits accuracy in observations. Readings are warranted accurate within one-half of one per cent.

We list only a few of the combinations of readings possible to obtain in this instrument. All Voltmeter movements have a resistance of approximately 70 Ohms to the Volt. Special resistances furnished where specified. As there are two individual movements contained within the instrument, each having its own scale, practically any desired combination can be furnished upon application.

Our hand-sewed solid leather carrying cases with the shoulder strap are convenient and help protect instruments where they are used for rough outdoor work.

Trade No.	DESCRIPTION	List Price
TWO READING		
18-1	0 to 1.5 Volts and 0 to 150 Milliampere.....	\$33.00
18-2	0 to 3 Volts and 0 to 300 Milliampere.....	33.00
18-3	0 to 3 Volts and 0 to 5 Amperes.....	33.00
18-4	0 to 15 Volts and 0 to 20 Amperes.....	33.00
18-5	0 to 150 Volts and 0 to 75 Amperes.....	33.00
THREE READING		
18-6	0 to 1.5 and 0 to 15 Volts and 0 to 150 Milliampere.....	35.00
18-7	0 to 3 and 0 to 30 Volts and 0 to 300 Milliampere.....	35.00
18-8	0 to 15 and 0 to 150 Volts and 0 to 15 Amperes.....	35.00
18-9	0 to 30 and 0 to 150 Volts and 0 to 25 Amperes.....	35.00
FOUR READING		
18-11	0 to 1.5 and 0 to 15 Volts and 0 to 150 M. A. and 0 to 1.5 Amperes.....	39.00
18-12	0 to 15 and 0 to 150 Volts and 0 to 300 M. A. and 0 to 3 Amperes.....	39.00
18-13	0 to 15 and 0 to 150 Volts and 0 to 15 A. and 0 to 75 Amperes.....	39.00
18-20	Leather Carrying Case.....	6.00



SOLDERING SALTS, SOLDER, SOLDERING COMPOUND, TAPE, ETC.

Trade No.	DESCRIPTION	List Price
285-1	Non-corrosive Soldering Salts, ½ lb. bottle.....	\$0.70
285-2	Non-corrosive Soldering Salts, 1 lb. bottle.....	1.00
285-3	Non-corrosive Soldering Salts, 5 lb. bottle.....	3.50
	Special discount for quantities.	
SOLDERING PASTE		
286-1	Non-corrosive Soldering Paste, 2½ oz. box.....	.40
286-2	Non-corrosive Soldering Paste, ½ lb. box.....	.60
286-3	Non-corrosive Soldering Paste, 1 lb. box.....	1.00
	Special discount for quantities.	
SOLDERANDFLUX		
This is a combined solder and non-corrosive fluid made into paste form and put up in collapsible tubes. No solder or flux is required as Solderandflux combines both and is warranted to make a non-corrosive union.		
287-1	Solderandflux, small size tube, each	.60
287-2	“ medium “ “ “	1.20
287-3	“ large “ “ “	2.50
SOLDER		
288	Bar Solder, strictly half and half, per lb.	Lowest Market Prices
288-1	Plain Wire Solder, per lb.....	
288-2	Resin Core Wire Solder, ½ lb. box, per lb.....	
288-3	Resin Core Wire Solder, 1 lb. spool, per lb.....	
288-4	Resin Core Wire Solder, 2 lb. spool, per lb.....	
288-5	Resin Core Wire Solder, 5 lb. spool, per lb.....	
TAPE		
289	Chicago Friction Tape, ¾", per lb...	1.30
289-1	“ Rubber “ ¾" “ “ ...	1.75
Our Tapes are guaranteed high class and are packed one-half lb. per tin box.		



No. 285



No. 286



No. 287



No. 288



No. 288-1



No. 289