

STROMBERG-CARLSON TELEPHONE MFG. CO.

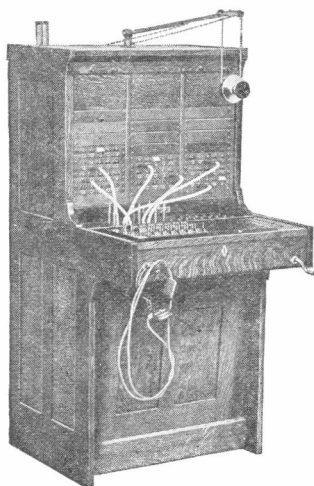
ROCHESTER, N.Y. CHICAGO, ILL.
KANSAS CITY, MO. TORONTO, ONT.

BULLETIN NO. 1009

MAGNETO LINE BULLETIN

MAY 1921

No. 105 High Efficiency Magneto Switchboard



The No. 105 High Efficiency Switchboard shown in the accompanying illustrations is our latest development in Magneto equipment. The cabinet is made of seasoned quarter-sawed oak, with the exception of the cord rack and the terminal board where hard maple proves more suitable. All exposed woodwork is given our No. 20 dull golden oak finish. The design is simple, pleasing to the eye and easily kept free from dust. The panels beneath the keyshelf and in the rear of the switchboard are made to be removable, so that inspections may be easily and quickly made. The sides are constructed so that two or more cabinets may be lined up to form a multi-position switchboard.

The keyshelf is sufficiently low so that a chair of ordinary height may be used. The keyshelf, plugboard and space between the line drops and keyshelf are covered with a durable black insulating material resembling hard rubber. This material has a smooth finish, wears well without discoloring and will not warp or chip off. The keyshelf is hinged with a strong piano hinge extending the full width of the cabinet. This keyshelf is provided with a lock which prevents tampering with the apparatus.

The No. 169 Key used on this board combines the listening and ringing key, the ring-back key and the two clearing-out signals for each cord circuit into a single apparatus unit. The clearing-out signals are always plainly visible as they cannot be obscured by an interlacing of cords as is often the case during the busy hours on equipment in which the clearing-out signals are located in the face of the board. When the key lever is thrown to the listening position,

the shutters on the clearing-out signals are automatically cleared, doing away with the inconvenience of reaching through densely laced cords as is often necessary with switchboards equipped with hand-restored clearing-out signals.

On the left hand side of the keyboard two switching keys are wired into the first two pairs of cords. These keys switch the repeating coil connection in the first two circuits and when operated produce a circuit wherein transmission loss is so small that it is termed a "Zero-Loss" circuit. This is particularly desirable on long or through toll connections that test quiet, in order to assure the highest possible grade of transmission.

Our standard No. 11 Type Plug Restoring drop is used on this board. The drops and jacks are mechanically interlocked in such a manner that insertion of a plug automatically restores a fallen shutter to its normal position when answering a call.

Every buyer of No. 105 Switchboards is furnished with an instruction book which tells how to install, operate and maintain this type of central office equipment.

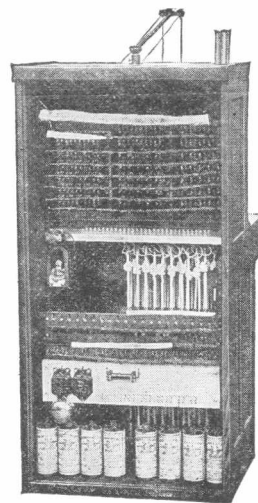
Standard Equipments

No. 105 Switchboards are carried in stock as follows. In ordering, only the code number need be mentioned.

Code	Wired for		Equipped for		Approx. Shipping Weight
	Lines	Cords	Lines	Cords	
105-A	50	15	30	5	360 lbs.
105-B	100	15	50	7	400 "
105-C	150	15	100	10	450 "

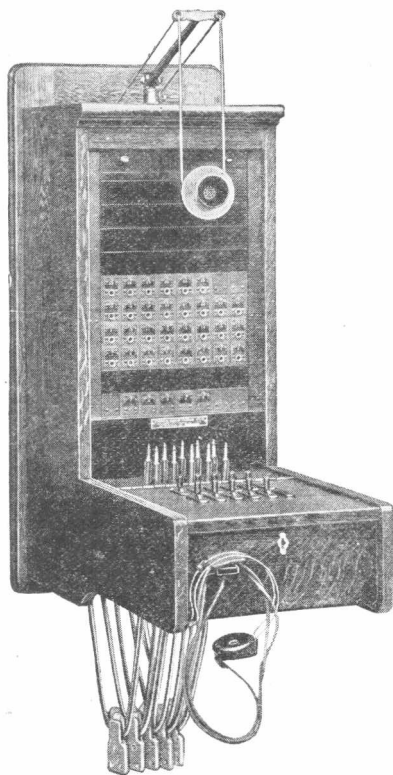
Cable rack, protectors and protector frames described on page 10.

Write for the new Bulletin No. 1023 which gives detailed descriptions and numerous illustrations of the No. 105 Type Magneto Switchboard.



Magneto Line Bulletin

No. 107 40-Line Wall Switchboard



This type of wall switchboard is well suited to the requirements of small systems where the traffic to be handled by the central exchange is not great enough to warrant the undivided services of an operator.

The cabinet is arranged for mounting upon a wall and is made of seasoned quarter-sawn oak with a dull golden oak finish. It consists of a strong backboard and a hinged front section which contains all the apparatus. When the front section is swung out all the interior parts are accessible for inspection. Further accessibility is gained by the use of a hinged keyboard by means of which all of the ringing and listening key terminals and wiring can be exposed to view.

Each line is equipped with a No. 11 Plug-Restoring Drop and the cord pairs with the usual complement of plugs, cords, ringing and listening keys and ring back keys. The operator's telephone equipment includes a transmitter suspended from an adjustable arm and a head-band receiver. Current for ringing purposes is furnished by a five bar switchboard hand generator. Incoming calls are indicated by a code alarm bell with controlling switch.

The wiring of the equipment is terminated in twelve (12) feet of switchboard cable extending from the base of the switchboard. All necessary dry cells are provided for the operator's telephone set and the night bell equipment.

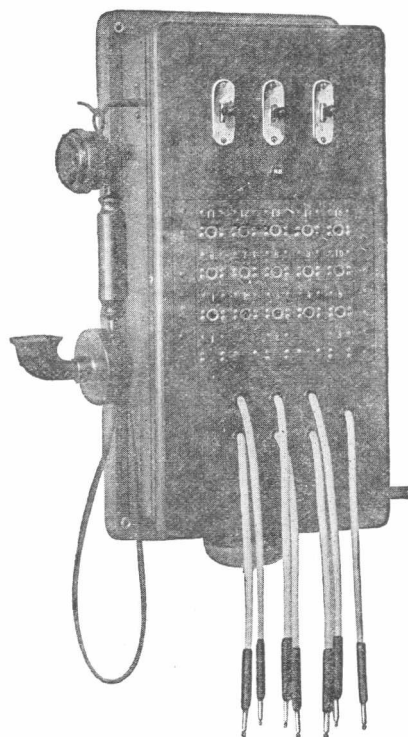
Wall mounting space $15\frac{7}{8}$ x 36 inches.

Standard Equipments

Wired for 40 lines and 5 cord pairs.

Code	Lines Eqpt.	No. of Cord Prs.	No. of Rep. Coil Cord Prs.	Total No. of Cord Prs.	Approx. Weight Packed
107-A	10	2	1	3	100 lbs.
107-B	15	3	1	4	105 "
107-C	20	3	1	4	110 "
107-D	25	4	1	5	115 "
107-E	30	4	1	5	125 "
107-F	40	4	1	5	130 "

No. A-11741 15-Line Wall Switchboard



A most compact 15 line switchboard equipped with our No. 11 Plug Restoring Drops and associated apparatus of the same kind that is used in our larger type of switchboard. The cabinet occupies the same wall space as our No. 896 telephone and is slightly deeper. It is regularly furnished with 15 line equipments, 3 connecting cord pair equipments, operator's combination telephone set, night alarm bell with controlling switch and one answering cord. The regular connecting cord pair equipments are provided with ringing and listening keys and the extra cord is connected to the operator's telephone so that calls can be answered when the connecting cord equipments are in use.

This switchboard is furnished with twelve feet of fifteen pair switchboard cable with all connections made to the switchboard ready for installation in the purchaser's exchange.

The weight of this switchboard when packed for shipment is approximately 60 pounds. Wall mounting space $9\frac{3}{8}$ x $17\frac{3}{8}$ inches.

Standard Equipments

Furnished with either of the following equipment.

Equipment "A"

1. No. A-11741 Cabinet including operator's combination telephone set, hand generator, night bell equipment (including dry cells) and 12 feet of 15 pair switchboard cable.

10 No. 11-A Drop line equipment (500 ohms).

2 Cord pair equipments (single clearing-out drops and ringing and listening keys).

1 Answering cord.

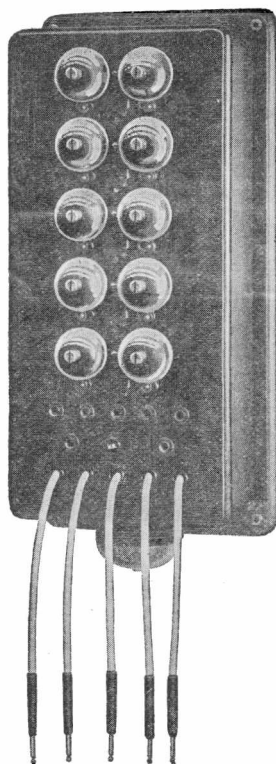
Equipment "B"

15 No. 11-A Drops instead of 10 as in Equipment "A".

3 Cord pair equipments instead of 2 as in Equipment "A".

1 Answering cord.

No. A-11740 5-Line Switchboard



This type of switchboard is arranged for use in connection with one of our No. 896 Type Wall telephones to form a complete exchange equipment for small systems which do not consist of more than five lines. It is a very serviceable and economical equipment for overloaded party lines which require division into separate lines, because the telephone at the switching station can be used as the operator's instrument.

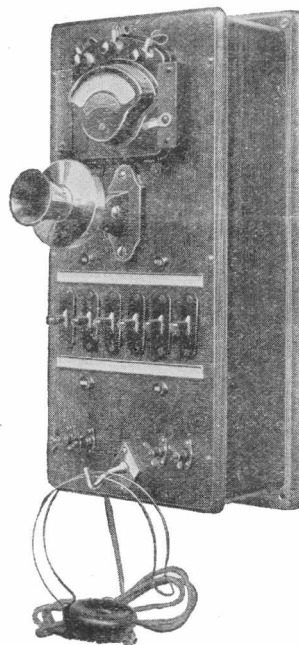
The cabinet is made of oak and is furnished with a dull golden oak finish. All of the apparatus is mounted upon the door of the cabinet convenient for inspection purposes. Each line equipment consists of a No. 102 Type Ringer Signal and a line jack. The various lines are terminated in 12 feet of switchboard cable which is furnished with each switchboard. Two pairs of connecting cords are provided for making connections between the various lines. An extra cord and plug is connected to the operator's telephone for answering and calling any line. Each connecting cord circuit is equipped with a listening jack for supervisory purposes.

Standard Equipment

- 5 No. 102 Ringer Signal Line Equipments. (1600 ohms)
- 2 Connecting Cord Equipments.
- 1 Operator's Telephone Cord.
- 1 Night Alarm Bell Equipment.

The approximate weight of this switchboard (fully equipped) when packed for shipment is 35 pounds.

No. 2-A Wire Chief's Testing Equipment



This Testing Set is designed for testing and locating trouble on magneto lines and apparatus. It makes the work of your wire chief and maintenance man doubly effective by indicating the kind of trouble in a line on test and the approximate location of the fault. Full equipment is provided in this set for making the following kinds of tests:

1. Continuity Tests. ("Opens" and bad splices)
2. Test for short circuits.
3. Tests for Grounds.
4. Tests for crosses with other lines carrying current.
5. Test for crosses with other telephone lines.
6. Location of crosses or grounds (with Wheatstone Bridge).
7. Measuring voltage of batteries.
8. Measurement of resistance.

Take the guesswork out of trouble hunting. Cut-and-try and rule of thumb methods of clearing trouble are wasteful and costly. Invest in a No. 2 Wire Chief's Testing Set now for your reconstruction work and save the cost of the equipment in a month or two.

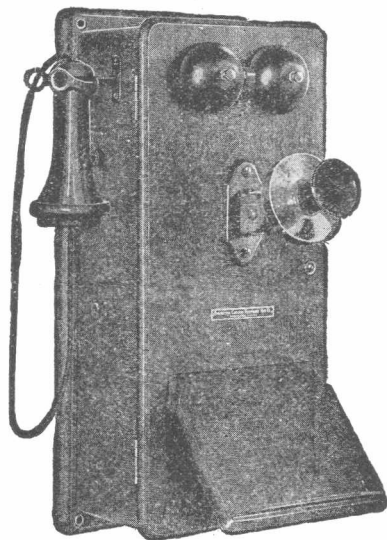
A pamphlet, giving full directions for the use of this instrument in making the above tests, is furnished with each Test Set.

Approximate Shipping Weight 25 lbs.

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY

Magneto Line Bulletin

No. 896 Wall Telephone



In this redesigned compact type wall telephone you get all of the excellent features of its predecessor with many new improvements added. The new telephone is superior to all previous types in transmission efficiency, mechanical construction and maintenance economy.

TRANSMITTER: Unequalled transmission efficiency is assured by the use of our standard transmitter that has carried away the honors in all competitive transmission tests in which it has been tried. It is properly designed and made of a few simple parts to insure continuous good service and economy. This transmitter contains no absorbent materials and is fitted with a moisture-proof carbon chamber, bakelite mouthpiece—Can be used in any climate.

RECEIVER: Instruments of this type are equipped with our standard bi-polar receiver, which is equalled by few and excelled by none. The permanent magnet of this receiver contains neither joints, breaks nor welds and is made of special steel to insure lasting field strength and high efficiency. The diaphragm is held in a true plane and with proper air gap adjustment by a broad bearing surface and our improved type of ear cap which clamps without distorting the diaphragm. Both the ear cap and the shell are made of bakelite. Breakage of the shell will not affect the operation of this receiver.

HAND GENERATOR: The standard hand generators are equipped with either three, or five bar magnets. Careful selection of the steel and improved hardening processes insure greater out-put and high efficiency through its useful life. The accurately cut gears intermesh properly and run smoothly and quietly. A pressed steel back brace prevents loosening of generator due to rough handling in transit.

RINGER: The long, high-impedance coils of the No. 46 Type Ringer used in telephones of this type reduce the transmission losses due to bridged instruments to a minimum. The armature is adjusted by means of a single screw and may be regulated while the ringer is in operation. The combination of long stroke and 2½ inch gongs produces a clear, loud signal with minimum operating current.

INDUCTION COIL: The induction coil is wound with silk insulated pure copper magnet wire impregnated after winding with a moisture-proofing compound. It is designed to operate at highest efficiency with our transmitter.

HOOK SWITCH: The removable lever hookswitch is positive in its operation. The contacts are securely riveted to the springs which are sufficiently long and heavy to retain their adjustment indefinitely. High grade insulators, separators and bushings eliminate the common hook switch troubles due to poor insulation and battery leakage.

LIGHTNING PROTECTOR: Each telephone is equipped with an efficient carbon block and air-gap lightning protector to guard the telephone against line discharges. This is located on the right side of the telephone or bell box cabinet where it is not liable to be short circuited by metallic articles placed on the telephone.

We provide the protector with a metal cover which is attached to a dielectric disc in the air-gap, so that when it is turned the dielectric disc turns with it and cleans the protector of any dislodged particles of carbon caused by discharges, which might make the line noisy. This restores the service on the line to its normal condition without the necessity of taking the protector apart to clean it, as is the case with other type of magneto telephones. It makes no difference which way the metal cap is turned as the cleaning device is operated in both directions.

CABINET: The woodwork is made of selected southern white oak in our own Cabinet Making Department. The door hinges to the left to allow for convenient operation of the hand generator when the door is open. The hand-rubbed dull golden oak finish does not show slight mars or scratches. The back-board screw holes are lined with metal bushings to prevent the use of over-size screws and the consequent splitting of the wood work. The screw door lock and catch are self-aligning.

Compact wall telephones weigh approximately 25 pounds, each when packed fully assembled in strong individual packing cases. Write for Bulletin 1024 which gives detailed description of magneto telephones.

Standard Equipments

The following table shows the various combinations of ringer and generator equipments in which No. 896 Telephones are furnished:

Code	For	Type	Generator	Ringer
896-R	Town lines	Bridging	3 bar	1000 ohm
896-I	Rural lines	Bridging	5 bar	1600 ohm
896-L	Rural lines	Bridging	5 bar	2500 ohm

Harmonic

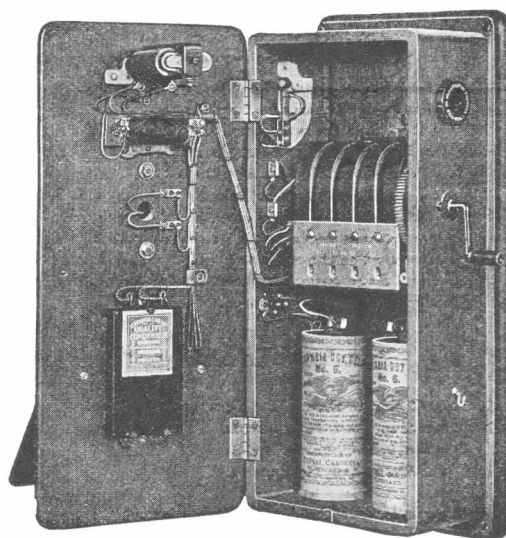
Code	For	Generator	Ringer
896-QE	Harmonic Party Lines	3 bar	16 cycle 2500 ohm
896-QF	Harmonic Party Lines	3 bar	33 cycle 500 ohm
896-QG	Harmonic Party Lines	3 bar	50 cycle 500 ohm
896-QH	Harmonic Party Lines	3 bar	66 cycle 500 ohm

For use on local lines in cities and towns we recommend the use of our No. 896-R Telephone. The No. 896-I Telephone is recommended for use on long and heavily loaded country lines.

Additions

For Sure-Ring Condenser (on 5 bar telephones only) order by adding the letter "K" to code number.

For Non-Interfering Push Button add letter "P" to code numbers (on 5 bar telephones only).



No. 1000 Desk Telephone

This desk telephone outfit comprises a desk stand of our standard pattern (Code No. 992) and a desk set box (Code No. 327) with which it is connected by means of a three conductor flexible cord six feet in length.

The desk stand is of all metal construction, so securely fastened together as to be practically unbreakable. The heavily nickel-plated trimmings and dull black enamel of the tube and base present a pleasing contrast. The enamel used will neither chip, discolor nor peel off and has the peculiar characteristic of taking on an ebony-like lustre as it is handled so that its appearance improves with age.

The desk stand includes transmission apparatus consisting of our standard No. 7-L Transmitter, No. 27-A Receiver, Induction Coil and Hookswitch. A slight turn of a single screw will remove the base plate exposing the induction coil hookswitch contacts and cord terminals for inspection.

The No. 327 desk set box, made of quarter-sawn oak with a dull golden oak finish, contains the signalling and terminal equipment of the telephone which consists of the hand generator, ringer, lightning protector and line and cord terminals.

The arrester equipment of the No. 1000 Desk telephone is the same as used on our No. 896 Telephone described on opposite page.

For use of short town lines we recommend the No. 1000-R Desk Telephone with 3 bar hand generator and the 1000 ohm ringer, while for long rural party lines we recommend the more powerful No. 1000-I Desk Telephone whose equipment includes a 5 bar hand generator and 1600 ohm ringer.

Write for Bulletin 1024 on Magneto Telephones, which gives a detailed description of No. 1000 Desk Telephone.

Standard No. 1000 Desk Telephones

Code	For	Type	Generator	Ringer
1000-R	Town lines	Bridging	3 Bar	1000 Ohm
1000-I	Rural lines	Bridging	5 Bar	1600 Ohm
1000-L	Rural lines	Bridging	5 Bar	2500 Ohm

Harmonic

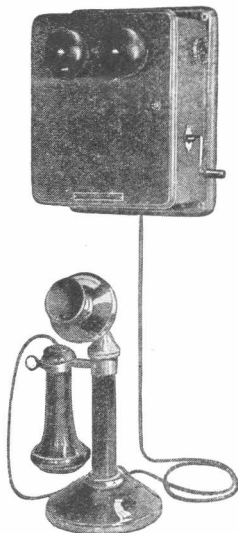
Code	For	Generator	Ringer
1000-QE	Harmonic Party Lines	3 Bar 16 Cycle, 2500 Ohm	
1000-QF	Harmonic Party Lines	3 Bar 33 Cycle, 500 Ohm	
1000-QG	Harmonic Party Lines	3 Bar 50 Cycle, 500 Ohm	
1000-QH	Harmonic Party Lines	3 Bar 66 Cycle, 500 Ohm	

Additions

For Sure-Ring Condenser (on 5 bar telephones only) order as a separate item, "one No. 26-T Condenser".

For Non-Interfering Push Button add letter "P" to code number. (On 5-bar telephones only).

Shipping weight approximately 31 lbs.

**No. 1138 Combination Telephone**

This type of telephone possesses the same efficiency strength and durability of our wall and desk type telephones and is preferred by a great many of our customers because of its greater convenience. Although the transmitter and receiver equipment is equal in efficiency to that used in our other types of telephones, the telephone user generally gives himself better service because he speaks directly into the transmitter mouthpiece and operates the transmitter at its full power and efficiency.

The complete No. 1138 Combination Telephone outfit consists of our No. 10-L Combination Telephone and an associated No. 327 Type Desk Set Box. The apparatus is suited for either residence or office service as a desk or wall installation.

The equipment of No. 10-L Combination Telephone includes a transmitter of our standard size and type, permanent magnet receiver, induction coil and hookswitch. Maintenance charges on this style of instrument are exceptionally low as the instrument is mounted where it is seldom in the way or exposed to injury.

The No. 327 Desk Set Box is the same as used on our No. 1000 Desk Telephone described in the accompanying column.

For use on short city or town lines, we strongly recommend our No. 1138-R Combination Telephone Outfit, which is equipped with a 3 bar generator and 1000 ohm ringer. For use on long rural lines, where greater ringing power is required our No. 1138-I Combination Telephone Outfit, equipped with a 5-bar generator and 1600 ohm ringer will give excellent service.

Send for Bulletin 1024 on Magneto Telephone which gives detailed description of No. 1138 Combination Telephone.

Standard No. 1138 Combination Telephones

Code	For	Type	Generator	Ringer
1138-R	Town lines	Bridging	3 Bar	1000 Ohm
1138-I	Rural lines	Bridging	5 Bar	1600 Ohm
1138-L	Rural lines	Bridging	5 Bar	2500 Ohm

Harmonic

Code	For	Generator	Ringer
1138-QE	Harmonic Party Lines	3 Bar 16 Cycle, 2500 Ohm	
1138-QF	Harmonic Party Lines	3 Bar 33 Cycle, 500 Ohm	
1138-QG	Harmonic Party Lines	3 Bar 50 Cycle, 500 Ohm	
1138-QH	Harmonic Party Lines	3 Bar 66 Cycle, 500 Ohm	

For Sure-Ring Condenser (on 5-bar telephones only), order as a separate item, "one No. 26-T Condenser".

For Non-Interfering Push Button add letter "P" to code number. (On 5-bar telephones only).

Shipping weight approximately 24 lbs.

Magneto Line Bulletin

Extension Bells

Many important telephone calls are not received because the subscriber is in some other part of the premises where the regular telephone bell cannot be heard. The use of an extension bell greatly reduces the number of lost calls as it can be placed in any part of the home or office and connected to the main telephone by a single pair of wires. In choosing an extension bell the purchaser should be careful to select the one equipped with ringers of the same resistance as those in the main telephone with which it is to be used so that both bells will ring properly.

No. 300 Extension Bells

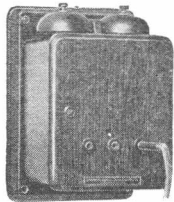
This equipment consists of a standard telephone ringer mounted on a metal box with terminals for connecting wires leading to the main telephone. The equipment is not weatherproof; it should be used only for indoor use. It gives a clear loud ring the same as our regular telephones.



Code No.	Resistance of Ringers
300-D	1000 ohms
300-E	1600 ohms
300-G	2500 ohms

Weight packed for shipment approximately 7 pounds each.

Two-Line Switching Device

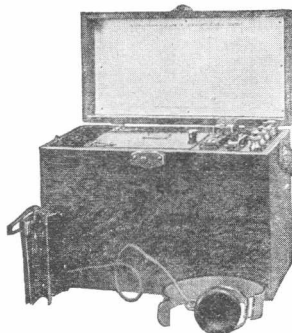


When a heavily loaded party line is to be divided into two sections, use the Stromberg-Carlson Switching Device so that parties on each end of the line can communicate satisfactorily. The illustration shows the No. 2 Two-Line Switching Device which is equipped with 1600 ohm ringers, 3 jacks, cord and plug. The No. 8 Two-Line Switching Device is equipped with 1600 ohm ringers, two-way connecting key and listening key.

Shipping weight approximately five pounds.

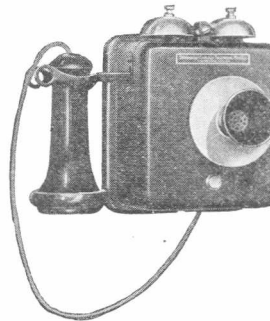
The Stewart Cable Tester

This cable tester is used by telephone companies everywhere for locating trouble in telephone cables. It locates "grounds" "crosses" and short circuits to an inch so that the cable may be opened at that point and the fault corrected at minimum expense. It is exceptionally valuable for locating spots of low insulation in cables which have become damp through injury to the cable sheath. This instrument will save its cost the first year and is very simple to operate. We will send a Stewart cable tester on ten day's trial. Satisfaction guaranteed.



Shipping weight fourteen pounds.

No. 965 Telephone



A battery call telephone for lines not over 1500 feet long. Just the thing for short house to barn communication.

Equipped throughout with our standard high quality apparatus. Requires a three wire circuit and operates from 4 dry batteries. Simple to install and as reliable as an ordinary door bell.

Shipping weight approximately 7 pounds.

Stromberg-Carlson Test Sets

Get your linemen this compact, light weight magneto Test Set. Durable and accessible. Equipped with hand or shoulder strap. Rigidly assembled and built to withstand hard use outdoors. Weighs only thirteen pounds with batteries, packed for shipment approximately nineteen pounds. Test Set uses No. 790 (2 cell unit) Ever-ready Tungsten battery.

Code	Type	Generator	Ringer Resistance
843	Series	5 Par	100 ohms
844-E	Bridging	3 Bar	1600 ohms

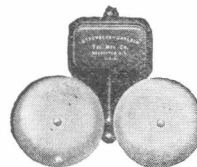


The "Stewart" Test Set



It tells which way and how far trouble is from tester, without opening the line which means you can drive direct to the point of trouble. If you are interested in cutting down expense of clearing trouble, order one of these sets on trial and be convinced. It will solve the problem of testing. Shipping weight fourteen pounds.

No. 962 Loud Ringing Extension Bell

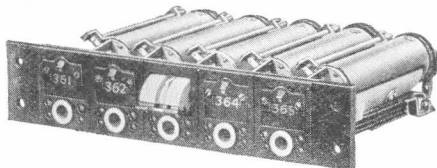


The magneto subscriber will find this loud ringing extension bell very convenient and serviceable. When mounted on the side of a barn or other farm building and connected to the house telephone it gives a clear loud ring whenever the telephone rings.

The No. 962 Extension Bell is of all metal construction, absolutely waterproof and practically indestructible. The gongs are each six inches in diameter and are triple zinc plated to prevent rusting. Carried in stock with coils wound to either 1000 or 1600 ohms resistance.

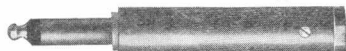
Code	Resistance
962-A	1000 ohms
962-C	1600 ohms

Shipping weight 17 pounds.

Plug-Restoring Drops

Our No. 11 Plug-Restoring Drop is the most efficient, most sensitive and most compact Magneto switchboard line equipment. The drop and jack are mechanically inter-linked in such a manner that the insertion of a plug automatically restores a fallen shutter to its normal position. Separate sets of contacts are provided on each drop for the operation of a continuous ringing night alarm and for a code ringing night alarm. These drops are furnished in strips of five on a steel mounting plate ready for installation in the switchboard.

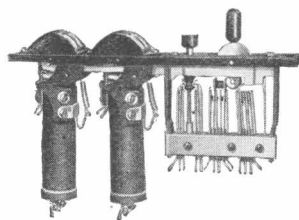
Shipping weight of five No. 11 Plug-restoring Drops mounted, approximately five pounds.

Switchboard Plugs

Our switchboard plugs are made on jeweler's lathes and gauged to a ten-thousandth of an inch. Mechanically strong and heavily insulated to withstand hard service.

Code No. 42 Switchboard plug fits our standard No. 11 Type Drops used in our magneto switchboards.

Shipping weight 2 ounces.

**Ringing and Listening Keys
No. 169 Type**

For use on No. 105 magneto switchboards. In this key the two clearing-out signals, the ringing and listening key and the ring back key are combined as a single apparatus unit. When this key is used, clearing-out signals are removed from face of board permitting a greater number of line drops to be placed within easy reach. With the clearing-out signals in the key-

shelf they are at all times plainly visible. During the busy hours when clearing-out signals are most needed, they cannot be hidden nor obscured by a screen of interlaced cords as is the case in switchboards having the common form of clearing-out drops. With the throwing of the key lever to the listening position, restoration of signals is automatic, thus doing away with the inconvenience of reaching thru densely laced cords as is often necessary with hand restored clearing-out signals. Use of this key will raise supervision on your board to the same plane of efficiency as in lamp signal Central Energy Switchboards in large cities.

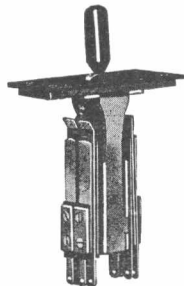
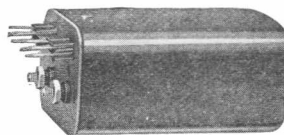
Shipping weight approximately 24 ounces.

No. 173 Type

The accompanying illustration shows our standard No. 173 Ringing and Listening Key which is used on nearly all old style Stromberg-Carlson magneto switchboards. It is equipped with long, heavy german silver springs which hold their tension and adjustment. Each spring is fitted with a riveted platinum contact point which insures positive operation.

When ordering keys of this type be sure to specify how they are to be mounted so that key mounting plates of proper design and length will be furnished.

Shipping weight approximately 6 ounces each.

**No. 13-A Repeating Coil**

This is the talk-thru and Non-Ring-thru repeating coil furnished with the high efficiency cord circuits of our No. 105 Type Magneto Switchboard.

This coil will transform the high frequency talking currents at the maximum possible efficiency and at the same time offer an effectual bar to the transformation of low frequency ringing currents.

Shipping weight approximately 20 ounces.

No. 19 Condenser

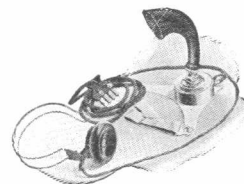
This condenser is designed for use in connection with the No. 13-A Repeating Coil on our No. 105 Type Switchboard. It is of the rolled type in which each plate consists of a continuous long strip of tin-foil and the interleaved dielectrics of paraffin impregnated paper. The condenser is provided with a black japanned sheet metal case which is filled with a solid compound to make the condenser assembly moisture-proof. Capacity 2 M.F. Dimensions of case $4\frac{3}{4} \times 1\frac{1}{2} \times 31/32$ inches. Arranged to mount on a metal mounting strip. Shipping weight approximately 10 ounces.

Switchboard Operator's Set

Our No. 2-L Operator's Breast Plate type telephone set is light, comfortable for the operator to wear and highly efficient. There are no fragile parts to break or wear out. The complete set consists of breast plate transmitter, head receiver with sanitary headband and connected by a four-conductor flexible cord to a No. 23 four-point plug. Suitable for use with switchboards of any make.

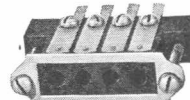
No. 93 four-point jack is not included in the price of set and should be ordered extra.

Shipping weight of No. 2-L Operator's Set approximately 2 pounds. No. 93 jack, 3 ounces.

**No. 23 Plug and No. 93 Jack**

The No. 23 Plug (4-conductor type) is used with No. 20-A Operator's receiver for switchboard use. Shipping weight 3 ounces.

No. 93 Jack (4-conductor type) for use with No. 23 Plug. Shipping weight 4 ounces.

**No. 20-A Operator's Receiver**

No. 20-A operator's receiver with sanitary wire headband which will not catch the hair, furnished with six foot cord attached. Order plug as a separate item. Can be used on all makes of switchboard.



Magneto Line Bulletin

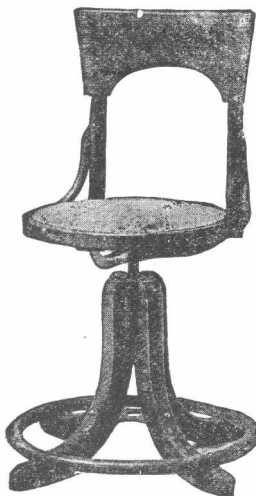
Duratex Cords



"Duratex" moisture proof cords are manufactured in our own plant, where we can give them careful attention at each stage in their construction. In our constant study of cord problems we have developed much special machinery which enables us to assure a uniformly high standard on every cord that leaves our shop. The following type of cords are regularly used by most Magneto telephone systems. Let us make your cords—if in doubt as to what to specify send in a sample. We can furnish cords for any make of telephone or plug.

Code	Length	Conductor	Use
No. R-2-G	36 in.	2	Silk Telephone Receiver Cord.
No. D-3-C	6 Ft.	3	Silk cord for 992 Desk Stand.
No. T-1-E	11 ft.	1	Cotton Transmitter cord for No. 896 type telephone.
No. C-4-B	4 Ft.		For No. 10-L Combination phone.
No. D-2-B	6 Ft.	2	Operator's Receiver (No. 105 Switchboard with suspended operator's set).
No. O-1-A	5 Ft.	1	Operator's transmitter cord.
No. O-4-C	5 Ft.	4	Operator's set. (Breast plate type).
No. O-2-F	6 Ft.	2	Operator's receiver and (No. 40 Plug).
No. S-23-G	5 Ft.	2	Answering or calling cord on No. 105 type Magneto switchboard.
No. S-23-G	Ft.	2	Answering or calling cord on A-11741 and A-11740 Magneto switchboards.
No. S-23-G	3 Ft.	2	Answering or calling cords on No. 107 type (40 line) Magneto switchboard.

Operator's Chair



The operator can do better work with a comfortable chair, particularly with one that has been especially designed and built for switchboard use. Standard finish on No. G-1020 x-2 shown in accompanying illustration is light golden oak, rubbed dull; imitation mahogany finish will be furnished at additional price. This chair can be had in any of the following sizes and adjustments.

No. G-1020 x-2

Ht.	Adj.	Ht. of Foot Rest	Shipping Weight
18"	4"	2¾"	50 Pounds
20"	4"	2¾"	56 Pounds
24"	7"	10½"	68 Pounds
28"	7"	14½"	80 Pounds

Direct Ringing Converters

These machines are indispensable aids to good service. They do away with the laborious turning of the switchboard hand generator by the operator and facilitate fast and efficient operating. Designed for attachment to commercial lighting or power circuits. Cost less to operate than any other form of power ringing equipment.

No. 7-A Furnishes 20 cycle ringing current for straight line ringing. Operates from 110 Volt 60 cycle alternating current lighting circuit.

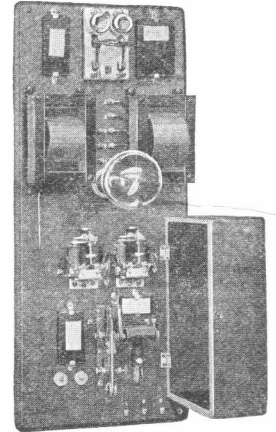
No. 8-A Same as No. 7-A but furnishes positive and negative pulsating current for selective party line ringing.

No. 9-A Furnishes 20 cycle ringing current for straight line ringing. Operates from 110 Volt direct current lighting circuit.

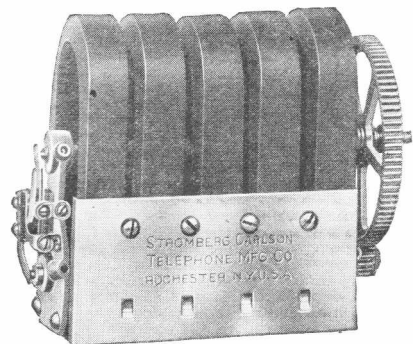
No. 10-A Same as No. 9-A but furnishes positive and negative pulsating current for selective party line ringing.

No. 9-B Furnishes 20 cycle ringing current for straight line ringing. Operates from 220 Volt direct current lighting circuit.

No. 10-B Same as No. 9-B but furnishes positive and negative pulsating current for selective party line ringing.



Hand Generators

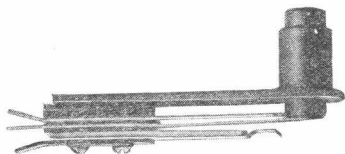


Stromberg-Carlson generators are as carefully constructed as a big power house dynamo and will give continuous good service indefinitely. The magnets are made of a special high quality magnet steel which retains its strong magnetic qualities. The armature is built up of thin sheet iron laminations and is wound with our high quality silk insulated magnet wire. The gear wheels are made with machine cut gear teeth which fit perfectly and run quietly and easily.

If you are looking for extra powerful generators our equipment will thoroughly satisfy you.

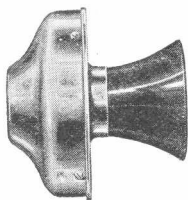
Code	No. of Bars	Type	Used on
38	5	Bridging	All Standard
53	3	Bridging	Stromberg-Carlson
55	3	Pulsating-Harmonic	Magneto Telephones

Shipping weight approximately—8—10 pounds.

No. 303 Type Key

This key is furnished only in the non-locking plunger type and is used principally for generator switching in magneto telephones. By use of this key central may be called without ringing other phones on the line.

Shipping weight 4 ounces.

No. 7-L Transmitter

This is the transmitter with which we regularly equip all of our magneto telephones. It does not get out of order and is guaranteed to equal or exceed all other types in speech transmitting power and efficiency. It is constructed of a few simple parts all made in our own factory including the carbon which is ground and refined by a method invented solely for the production of carbon for telephone purposes. As no absorbent materials are used in any part it is not affected by moisture and will give satisfactory service in every climate. Equipped with bakelite mouthpiece.

No. 7-L Transmitter for magneto telephones.

No. 8-L Transmitter for magneto switchboards (same as No. 7-L but arranged for transmitter cord connections)

Shipping weight approximately one pound.

Mouthpiece

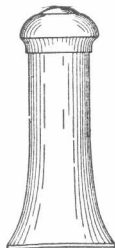
Pc. No. 13774 Bakelite Mouthpiece fits all standard Stromberg-Carlson transmitters also American Electric, International and Leitch transmitters. Shipping weight 2 ounces

**No. 27-A Receiver**

Our No. 27-A Receiver is a scientifically designed and constructed instrument which will faithfully reproduce the distant speaker's voice in its natural tones. It is provided with a one piece permanent magnet made of high quality magnet steel to insure lasting high efficiency equal or in excess of all other kinds. The flexible cord connections are made inside of the shell where they cannot work loose. Breakage of the receiver shell will not interfere with its operation. Furnished with bakelite shells, bakelite ear-caps and with No. R-2-G-36 inch silk covered cord attached. Shipping weight approximately 21 ounces.

Receiver Shell

Our Pc. No. 13370 Receiver Shell which is used on our Nos. 6, 14, 21, 27 and 28 Receivers is made of bakelite. Shipping weight approximately 6 ounces.

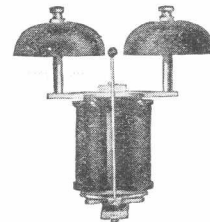
**Ear Caps**

Pc. No. 13371 Bakelite Ear Cap is used on our Nos. 6, 14, 21, 27 and 28 Receivers. It is designed to fit the average ear comfortably and to exclude outside sounds. Shipping weight approximately 4 ounces.

Pc. No. 12892 Bakelite Ear Cap fits our Nos. 5, 17 and 20 Operator's Receivers. Shipping weight approximately 4 ounces.

**No. 46 Type Ringer**

The No. 46 Type straight alternating current ringer is for use on all standard telephones of any resistance. The complete adjustment is secured by a hexagon head screw located at the bottom of the ringer. The clapper rod adjustment is independent of the ringer mounting plate, preventing any change in adjustment of the armature, due to variations or shrinkage in the woodwork. This ringer always works.



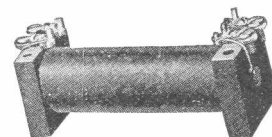
Code No.	Ringer Resistance
No. 46-A Ringer	1000 ohm
No. 46-C Ringer	1600 ohm
No. 46-E Ringer	2000 ohm
No. 46-F Ringer	2500 ohm

Shipping weight approximately 1 lb.

Cap screws and gongs with off-center drilling for adjustment are not included in price of ringer.

Induction Coils

Our induction coils are scientifically designed and wound to give maximum efficiency when used with our standard types of transmitters and receivers. If your telephones are not "talking" clearly and distinctly equip them with our transmission apparatus. The coils consist of a core made up of soft iron wires wound with finest quality silk insulated magnet wire fitted with terminals adapted for either screw or soldered connections.



No. 20-A for Magneto Wall Telephones and Magneto Switchboards.

No. 39-A for mounting in base of No. 992 Desk Telephones.

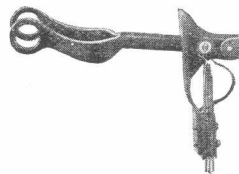
Shipping weight approximately 5 ounces.

No. 26-T "Sure-Ring" Condenser

When one subscriber on a rural party line leaves the receiver off the hook while the telephone is not in use the other subscribers have difficulty in signalling each other and central. Our "Sure-Ring" condenser will stop this trouble. All Stromberg-Carlson rural line telephones are wired for this equipment and its installation can be made in a few moments. This condenser can be used in any other make of telephone.

No. 26-T-1/2 micro-farad "Sure-Ring" Condenser with Fahenstock terminals for new type compact wall telephones.

Shipping weight 10 ounces.

**No. 41 Hookswitch**

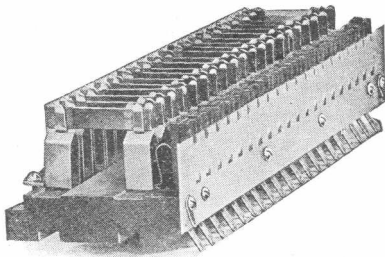
The reliable hookswitch of detachable type, which is used in our Code No. 896 Compact Type Wall Telephone. This hookswitch is provided with nickel silver springs having hand riveted contacts and hard rubber insulation. All spring terminals point downward so that they are readily accessible. No tools are required to remove the switchhook from the cabinet.

No. 41-B Hookswitch for all new type No. 896 Telephones.

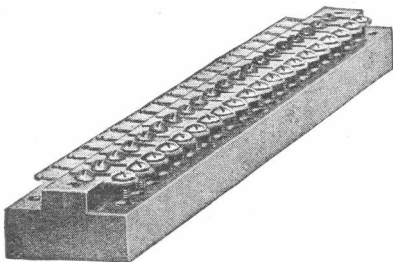
No. 41-G Hookswitch for old No. 896 Bridging and Series Telephones. Shipping weight approximately 8 oz.

Magneto Line Bulletin

No. 69-A Protector



Pc. No. 12606 Protector Strip

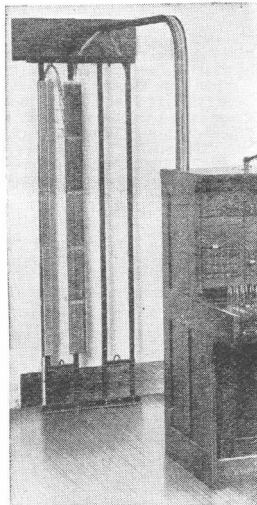


Pc. No. 12607 Jumper Strip

This protector is used with our No. 105 Magneto Switchboard. Consists of one Pc. No. 12606 ten pair carbon block and mica fuse-protector strip and one Pc. No. 12607 ten pair jumper strip. These protectors mount 50 pairs high on our No. 1 protector frame.

No. 1 Protector Frame

A sectional, wall type, flexible capacity, protector frame, used with our No. 105 Magneto Switchboard. Each unit mounts 50 pairs No. 69-A protectors. For a 50 line installation, order "1 No. 1 Protector Frame"; for a 100 line installation, order "2 No. 1 Protector Frames"; etc. to any desired capacity—adjacent units fasten together presenting the appearance of a continuous frame-work. This protector frame makes a remarkably neat and practical installation at a very low cost.

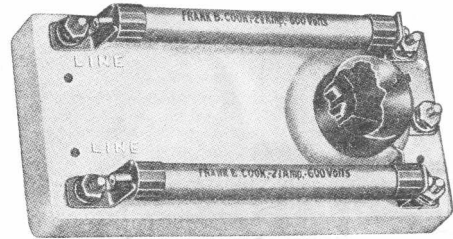


Two No. 1 Protector Frames and No. 1 Cable Rack installed with No. 105 Switchboard

No. 1 Cable Rack

A cable rack for No. 105 Switchboard installation. This cable rack is essential for neatness in carrying the line cables between the top of the switchboard and the No. 1 Protector Frame. Constructed of channel iron; rust-proofed—with black paint; equipped with both wall and switchboard mounting brackets.

Telephone Protectors



Type B-7 Protector

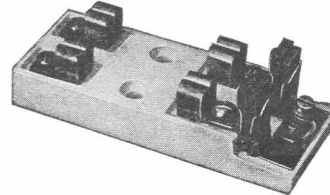
This protector is the type universally used in modern telephone practice. It is well designed both for mechanical strength and electrical qualities, therefore, being particularly adapted for use with rural line telephones.

The carbon arresters are of an improved design, having been treated by a patented process which renders them practically carbon-dust and carbon-ground proof under ordinary discharges. These carbon arresters are rigidly mounted and fit into the porcelain; also protected by a metal cap thoroughly insulated from all parts of the arrester.

Standard 3-ampere A-9 composition fuses of the enclosed tubular type are used. Two are furnished with each complete outfit.

Protectors

Used to protect telephone instruments and wiring from line surges caused by lightning. Approved by the Fire Underwriters.

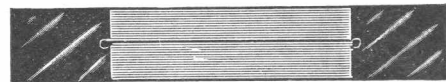


List No. 560 single pole Western Union Type fuse and carbon lightning arrester. Weight 8 ounces.

List No. 564 double pole Western Union Type fuse and carbon lightning arrester. Weight 10 ozs.

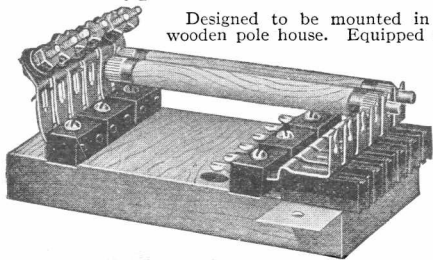
Use List No. 566 fuses in these protectors.

Western Union Type Fuse



Used with Protectors Nos. 560 and 564. A standard fuse which has been used satisfactorily for many years. Efficient and dependable in operation.

Copper Terminals, Enclosed Type
List No. 566 $2\frac{1}{4}'' \times \frac{3}{8}''$, either $\frac{1}{4}$ or $\frac{1}{2}$ ampere.
List No. 568 $2'' \times 2''$, either $\frac{1}{4}$ or $\frac{1}{2}$ ampere.

Type H-19 Protector Strip

Weight 12 pounds per strip.

plete with fuses.

Designed to be mounted in the ordinary wooden pole house. Equipped with standard 5 ampere A-7 line fuses and specially treated carbon block lightning arresters. H-19 Protectors are furnished, 20 pairs per strip complete with fuses.

Baby Knife Switches

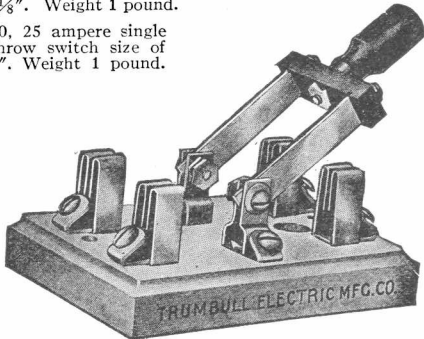
A simple switch of this type is needed in every low voltage circuit. They are well made and reliable.

List No. 538, 25 ampere single pole, single throw switch, size of base $1\frac{3}{8} \times 3\frac{1}{8}$ ". Weight 1 pound.

List No. 540, 25 ampere single pole double throw switch size of base $1\frac{3}{8} \times 3\frac{1}{8}$ ". Weight 1 pound.

List No. 542, 25 ampere, double pole, single throw switch, size of base $2 \times 2\frac{5}{8}$ ". Weight 1 lb.

List No. 544, 25 ampere, double pole, double throw switch, size of base $2\frac{5}{8} \times 3\frac{3}{8}$ ". Weight 1 pound.

**Rubber and Leaded Cables**

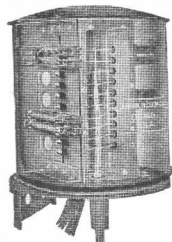
Used to connect terminal pole with exchange terminal rack or for line crossings under railway tracks, etc. Requires no pot-heads as when paper insulated cable is used.

The cables are composed of No. 19 B. & S. gauge conductors, each insulated with high grade rubber to 3-32 inch twisted into pairs, tape over the core and covered with a lead sheath.

List No.	No. Pairs	Thickness Lead Sheath, Inches	Approximate Outside Diameter
109	5	1-16	19-32
110	10	1-16	25-32
111	15	1-16	30-32
112	25	5-64	36-32
113	40	5-64	46-32
114	50	5-64	49-32
115	75	3-32	60-32
116	100	7-64	65-32

Cook's S-16-D Pole Cable Terminal

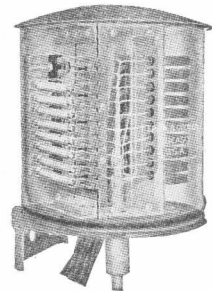
Unit protector mounts, to be installed as needed are the features which make this steel terminal differ from the S-6. It is an excellent terminal made for low cost, where all the cable conductors are to be permanently connected, but only part of them put into service at time of installation. It is strong, light, rigid, well insulated and durable. Like S-6 furnished with cable stub attached and filled with compound, when so ordered.



Capacity	Description	Hght. In.	Dia. In.	Net Wt.
10 pair	S-16-D Without Mounts	14	9	15
16 pair	"	17½	9	20
26 pair	"	26½	9	25
51 pair	"	39½	9	48

Cook's S-6 Pole Cable Terminal

Strength, light weight, rigidity, and perfect insulation are combined in this terminal. Being made of steel the terminal is very compact and yet has ample room for connecting both cable and jumper wires. The hood is firmly held in position by a patented cover spring both when raised and lowered. Fuses and carbons can be easily removed or replaced. On the zinc face plate of the cable box is stamped a number for each pair of protectors. Jumper connections can be readily made. Any circuit can be tested by removing a fuse and testing through the fuse holders. This terminal will be furnished with cable stub attached and filled with compound, when so ordered.



Capacity	Description	Height Inches	Diameter Inches	Net Weight
10 pair	S-6 Complete	14	9	20 lbs.
16 pair	"	17½	9	25 lbs.
26 pair	"	26½	9	30 lbs.
51 pair	"	39½	9	53 lbs.

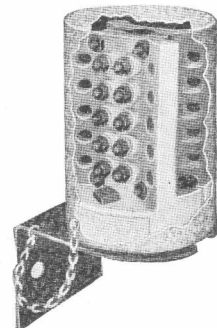
Cook's M-4 Unprotected Porcelain Terminal

This is made of two pieces of porcelain, each with two wings for fanning out the jumper wires. The cable is brought through a small supporting nozzle until the cable sheath is well inside the base of the porcelain. The wires pass through hollow brass studs and are soldered on the outside. The studs are arranged for splitting pairs, with jumpers to the right and left.

Two hexagon, brass split nuts and a brass washer are furnished for each jumper connection. These parts are set against a raised boss in the face of the porcelain which is designed to give extra strength and insulation. The hollow brass binding posts have hexagon heads set into the porcelain so that they will not turn. A soft gasket provides for tight joints between the porcelain when bolted together. The terminal should be filled with compound, care being taken to get it down into the cable.

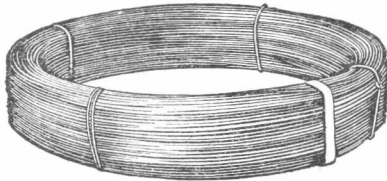
Cable stub furnished, if ordered:—

Capacity	Height Inches	Diameter Inches	Weight, Lbs.
5 pair	6	4½	7
10 "	6	4½	7
16 "	7¼	4½	9
21 "	5¾	6¼	18
26 "	6½	6¼	19
36 "	7½	6¼	19
52 "	10	6¼	21



Magneto Line Bulletin

Double Galvanized Telephone Wire



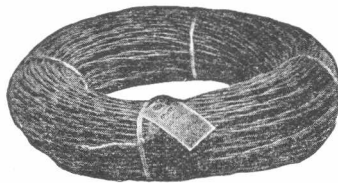
Not ordinary fence wire, but wire drawn especially for telephone purposes. It has a high conductivity and excellent tensile strength. Galvanizing is evenly applied and wire will not break easily when making splices.

Furnished in three grades, extra BB, BB and Steel.

	Weight per mile
No. 6 Galvanized Guy Wire	573 lbs.
No. 9 Galvanized Guy Wire	314 lbs.
No. 12 Galvanized Telephone Wire	165 lbs.
No. 14 Galvanized Telephone Wire	100 lbs.

Iron Drop Wire

Possesses very high tensile strength. It will not sag or break in the heaviest sleet storms, nor the hottest summer sun. The conductor is made of special alloy. It is tinned to prevent rust, insulated by a special rubber compound and protected by a heavy saturated braid.



It is the ideal drop wire.

List No. 1600 No. 18 B.W.G. Duplex equivalent to Iron Wire No. 16 B. & S. Weight per 1000 ft. 39 lbs.

List No. 1603 No. 18 B.W.G. Single equivalent to Iron Wire No. 16 B. & S. Weight per 1000 ft. 39 lbs.

Use iron wire instead of weather-proof copper wire between houses and terminal poles and save money.

Rubber Covered Telephone Wire

List No. 671 two conductor No. 19 B. & S. Gauge Copper Wire, with olive green braid. For inside wiring.

List No. 1607 three conductor No. 19 B. & S. Gauge Copper Wire, with olive green braid. For inside wiring.

List No. 1610 single conductor No. 14 B. & S. Gauge Copper Wire, with saturated braid. For outside work—lightning protector to ground rod.

List No. 946 two conductor No. 16 B. & S. Gauge Copper Wire, with saturated braid. For outside work—main line to lightning protector.

List No. 1957 two conductor No. 22 B. & S. Gauge Copper Duratex Jumper Wire, colors Red and White. For wiring at switchboard protector rack.

Wire Connectors



This connector is manufactured accurately to size of the best grade of pure copper. Guaranteed both as to quality and workmanship.

List No. 1057 For Iron wire	No. 14 B. W. G. 30 lbs. per 1000
List No. 1056 For Iron wire	No. 12 B. W. G. 35 lbs. per 1000
List No. 1059 For Copper wire	No. 14 B. & S. 22 lbs. per 1000
List No. 1058 For Copper wire	No. 12 B. & S. 25 lbs. per 1000



S-B Friction Tape

This friction tape is made of strong closely-woven cotton fabric which is thoroughly saturated with an adhesive insulating compound that retains its sticking qualities through all seasons. We guarantee to replace any tape that dries out in the package in less than a year. In ordering, specify List No. 1501 S-C Friction Tape, $\frac{3}{4}$ in. black.

Half and Half Solder

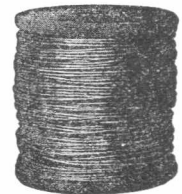


Used principally in cable maintenance work. List No. 1497 Half and Half Solder, in bars weighing about $1\frac{1}{2}$ pounds.

Self-Fluxing Solder

List No. 1500 Self-Fluxing Solder on 10 lb. Spools.

Flux solder is the only solder that should be used in switchboards and telephones, as it contains no corrosive elements.



Highland Soldering Paste



This paste is condensed to such a degree that one pound of it will do as much work as three gallons of ordinary soldering solution.

List No. 455 Highland Soldering Paste, 1 lb. can.

List No. 454 Highland Soldering Paste, 2 oz. can.

List No. 1724 Soldering Copper



List No. 1724 Soldering Copper, length $9\frac{1}{2}$ in. Shipping weight $1\frac{3}{4}$ pounds.

Milonite Perfection Nails



List No. 1697 size No. 18 Milonite Perfection Nails used for installing twisted pair wire. The head is of insulating material and the shank is covered with insulating paint obtained in dark green and dark brown. Furnished in three lengths, $\frac{1}{2}$ in., $\frac{5}{8}$ in., and $\frac{7}{8}$ in. shank.

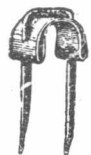
Staples

Insulated saddle staples are indispensable for inside wiring. In using ordinary staples there is danger of driving the staple through the insulation, thereby causing a short circuit. With insulated saddle staples the wiring can be done quicker and without fear of doing damage. Used and endorsed by telephone men everywhere.

List No.

1085	No. 1	$\frac{1}{2}$ in. long
1086	No. 3	$\frac{3}{4}$ in. long
1087	No. 5	$\frac{5}{8}$ in. long
1088	No. 7	$\frac{7}{8}$ in. long

Nos. 1086 and 1088 are recommended for general use



Telephone Cross Arms



These cross arms are standard grade yellow pine, free from loose or unsound knots or other defects which will injure the arm. Painted red. Finished size $2\frac{3}{4}$ " x $3\frac{3}{4}$ "; bored for $1\frac{1}{4}$ " pins, two $\frac{3}{8}$ " brace bolts and $\frac{5}{8}$ " center bolt.

List No.	No. Prs.	Length Inches	End Inches	Center Inches	Side Inches	Approx. Weight Ea. Pounds
3	4	42	4	16	10	10
4	6	62	4	16	10	16
5	8	82	4	16	10	21
6	10	102	4	16	10	25

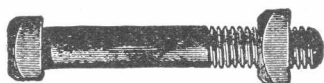
Prices on Fir, 75% Heart, all Heart cross arms, etc., in quantities from other shipping points quoted on application.

Carriage Bolts



For fastening cross arm braces to cross arm. Length $3\frac{1}{2}$ ", diameter $\frac{3}{8}$ ". Well galvanized and furnished with accurately cut threads and nuts.

Machine Bolts



For fastening cross arm to pole. Length 10" diameter $\frac{5}{8}$ ", galvanized. Eleven pounds per 100.

Lag Screws



For fastening braces to poles. Length 4", diameter $\frac{1}{2}$ ", galvanized. 25 pounds per 100.

Cross Arm Braces



Absolutely necessary in good cross arm construction. Made of stiff, galvanized Bessemer steel, full weight and size. Punched to take one $\frac{1}{2}$ " lag screw and one $\frac{3}{8}$ " bolt.

List No.

140 Cross Arm Brace, 20" 107 lbs. 100

144 Cross Arm Brace, 24" 223 lbs. 100

851 Cross Arm Brace, 28" 260 lbs. 100

Other size braces furnished on request.

Washers (Galvanized)



List No.	Style	Used For	Dimensions	Weight Per 100
155	Round	Lag Screw	$9/16$ " for $\frac{1}{2}$ " Bolt	17 lbs.
859	Square	Machine Bolts	$2\frac{1}{4}$ " x $2\frac{1}{4}$ " x $3/16$ " for $\frac{5}{8}$ " bolt	17 lbs.

Wood Pins

Used with cross arms and No. 15 Insulators to carry wires on pole lines equipped with cross arms.

List No.

7 Oak Pins, painted, $1\frac{1}{4}$ " x 8"

8 Locust pins unpainted, $1\frac{1}{4}$ " x 8"

32 pounds per 100



Wood Brackets

Used with No. 15 Insulator to support wires on poles—when more than four wires are to be carried, use a cross arm. Made from selected live oak.

Weight 70 pounds per 100.

List No. 13 brackets, $1\frac{1}{2}$ " x 2" x 12".

List No. 1563 brackets, $1\frac{1}{2}$ " x 2" x 10".

Pony Glass Insulators



The List No. 15 is the insulator most used, weight per 1,000 packed, 675 pounds—standard package contains 400 insulators.

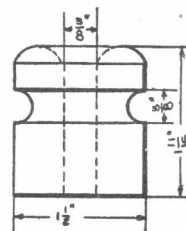
List 15 Single Groove. These insulators are properly annealed in the making and will not crack while in service due to temperature changes.

List 16, same as No. 15 but with double wire grooves.

Porcelain Knobs

For fastening insulated wires to houses, etc.

List No. 20 porcelain knobs, standard package contains 2,000 knobs, weight per 1,000 two hundred pounds. No. 15, 3-inch Flat Head Screws for above knobs.



Porcelain Tubes



Used in carrying wires through sidings, partitions, etc. Outside diameter 9-16 inch, inside diameter 5-16 inch. Furnished in

lengths from 3 to 24 inches. List No. 1222, 8-inch standard Weight per 100 9 lbs.

Aerial Rings or Cable Hangers



Practically all of the larger telephone companies have adopted this form of cable hanger, as their standard for aerial cable construction. List No. 1907 $1\frac{1}{4}$ " inside diameter will take all sizes of cables up to and including 120 pair No. 22 Gauge and 60 pair No. 19 Gauge.

List No. 1907 Rings weigh 13 lbs. per thousand. List No. 1914 Pliers are required for attaching rings to the messenger wire.

Magneto Line Bulletin

Pole Seats

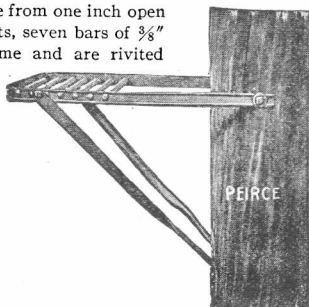
Frames and braces made from one inch open hearth steel channel. Seats, seven bars of $\frac{3}{8}$ " steel project through frame and are riveted within channel. The bars are placed corners up to prevent slipping.

List No. 1901 No. 3
Painted, 16 lbs.

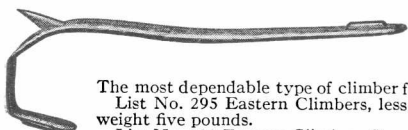
List No. 1902 No. 3
Galvanized, 16 lbs.

List No. 1903 No. 4
Painted, 16 lbs.

List No. 1904 No. 4
Galvanized, 16 lbs.



List No. 295 Eastern Climbers

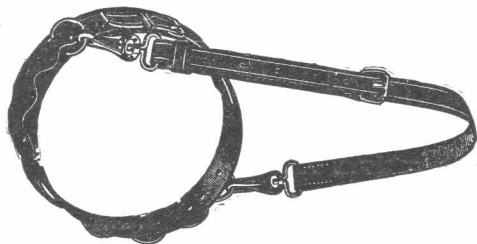


The most dependable type of climber for linemen's use.
List No. 295 Eastern Climbers, less straps, shipping weight five pounds.

List No. 300 Eastern Climbers Straps.

These are warranted to be high grade reliable goods.
Specify length when ordering.

List No. 304 Belt and Safety Strap



Linemen can work with both hands free when this safety strap belt is used.

This strap is $1\frac{3}{4}$ " wide, 6 feet long and provided with a strong snap at each end. Strap may be shortened or lengthened by adjusting buckle. When ordering specify whether belt is to be for 38, 40 or 44 inch waist. Weight $3\frac{1}{2}$ pounds.

List No. 304 Belt and Safety Strap.

Matthews Scruilix Anchors



The guaranteed anchor. They screw down, no digging, no filling, no tamping.

6" anchor. Weight 10 lbs.

7" anchor. Weight 15 lbs.

A No. 567 wrench must be used with above anchors.

This is the cheapest method of anchoring guy wires.

Ground Rods

Every telephone lightning arrester should have a good ground connection. Where water or gas pipes are not available for grounding purposes our List No. 258 Galvanized Ground Rod should be driven into the earth outside the house in which the telephone is installed and connected to the telephone by No. 1613 Rubber Covered Telephone Wire.

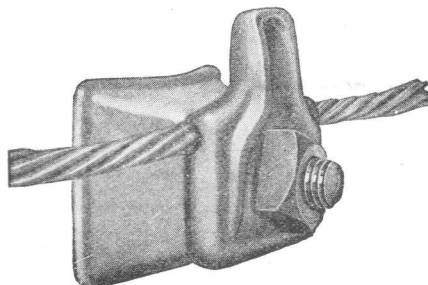
List No. 258 Galvanized Ground Rod is a 6 ft. by $\frac{1}{2}$ in. steel rod sharpened at one end and with hole drilled through the other end. Can also be furnished with a 12 in. annealed copper wire attached. Shipping weight 4 pounds.

Anchor Guy Rod



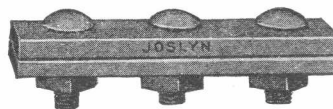
List No. 903 Anchor Guy Rod Galvanized.
Furnished with square nut, size $\frac{3}{8}$ "x6 ft. galvanized. Weight 7 pounds.

Messenger Support



A galvanized non-breakable hanger that will hold strand securely and is safe for both men and cable. Made for 5-16 inch, $\frac{3}{8}$ inch and larger strands. Specify size of strand to be used when ordering. Use $\frac{3}{8}$ " machine bolts. Bolts not shipped unless specified. Weight 150 pounds per hundred.

Galvanized Steel Guy Clamps



A durable rolled steel clamp for fastener or dead-ending guy strands and cables.

	Size	Weight per hundred
List No. 205	2 bolt 3 inch	110 lbs.
List No. 204	3 bolt 4 inch	150 lbs.

Steel Wire Rope Thimbles



List No.	Diameter of Rope	Circumference
177	3/16	$\frac{5}{8}$
178	$\frac{1}{4}$	$\frac{3}{4}$
179	5/16	$\frac{7}{8}$
180	$\frac{3}{8}$	1
874	7/16	$1\frac{1}{4}$
875	$\frac{1}{2}$	$1\frac{1}{2}$

Shipping weight 8-12 lbs. per 100.

Enameled Bridle or Distributing Rings

These rings are very convenient and are approved and being used by the largest and most progressive telephone companies. Made of best quality of iron heavily coated with tough glass enamel (also furnished with Hot Galvanized finish) which prevents rusting. Wires are readily inserted or removed through opening.

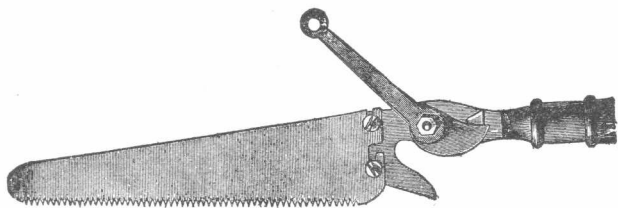
List No.

1213 Style A Size $1\frac{1}{8}$ " Eye, $1\frac{1}{4}$ " Shank
1214 Style C Size $1\frac{1}{4}$ " Eye, $1\frac{1}{4}$ " Shank
1215 Style E Size $\frac{3}{8}$ " Eye, $\frac{7}{8}$ " Shank

Weight 4 to 10 pounds per 100

Other sizes and designs with machine screw threads for iron switchboard frames, etc., to order.



List No. 426 Combined Tree Trimmer and Saw

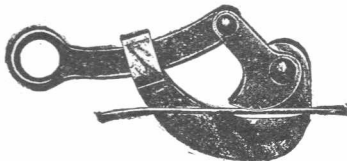
This is an indispensable tool for trimming trees. The saw part removable so that trimmer can be used separately.

Saw—12" Handles—16 ft. and 18 ft.

Parts	Length	Weight
Saw	12"	3 1/4 lbs.
Handles	16 ft.	8 1/2 lbs.
	18 ft.	9 lbs.

List No. 413 Splicing Clamp

Four holes, for 8 to 14 Iron wire, 6 to 12 Copper wire, and 10, 12 and 14 sleeves. Length, 9 inches.

List No. 267 Haven's Clamp

List No. 267 Haven's Clamp holds No. 8 wire and smaller. Weight 2 1/2 pounds.

List No. 216 Crow and Digging Bar

List No. 216 Crow and Digging Bar, made of hexagonal steel, 7 feet long.

Weight 18 pounds.

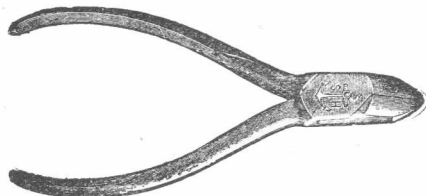
List No. 226 Long Handle Shovel

List No. 226 Long Handle Shovel, 7 feet, 22 inch straps, weight 8 pounds.

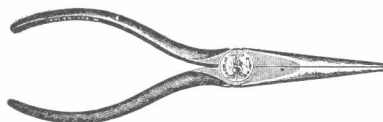
Syracuse Bell Hanger's Drill

Syracuse Bell Hanger's Drill, 12-32 inch by 18 inch. Weight 1 1/2 pounds.

Other sizes carried in stock. Specify size required when ordering.

Genuine Swedish Diagonal Pliers Polished

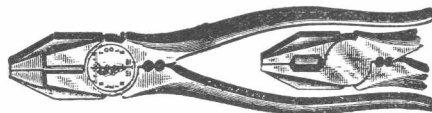
List No. 993 4 1/2", weight 5 oz.
List No. 994 5", weight 5 1/2 oz.
List No. 995 5 1/2", weight 6 oz.

Long Nose Pliers

List No. 1671

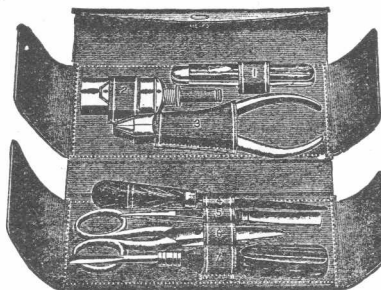
6 inch

weight 6 oz.

Side Cutting Pliers

Made from special steel, forged, machined and fitted by skilled workmen. Furnished with or without sleeve twister.

List No. 977 6 inch weight 8 oz.
List No. 978 7 inch weight 12 oz.
List No. 979 8 inch weight 17 oz.

Tool Kits

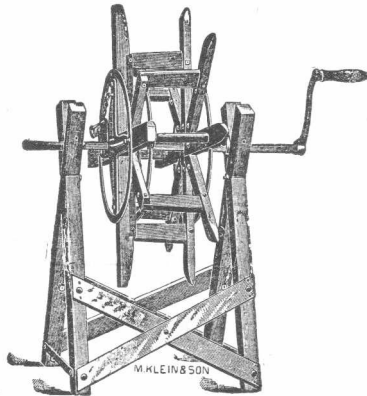
Good tools mean good work. The right tool for every purpose. Complete kit in strong leather carrying case, measuring 3x6 inches; electrician's knife, oil can, nickel plated 5 inch pliers, file, tweezers, screw driver and electrician's shears. Indispensable to the practical electrician.

List No. 424 Lineman's Tool Kit.

Order one today. Weight 2 pounds.

Magneto Line Bulletin

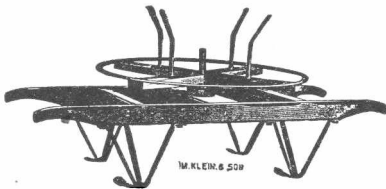
Improved Take-up Reel



Constructed of oak throughout. Solidly built, reinforced with steel plates, arranged with quickly detachable cross guard for removing wire after it is coiled. The bearing portions of the axle are lathe turned.

List No. 260, for 18-inch coil, weight 62 pounds.

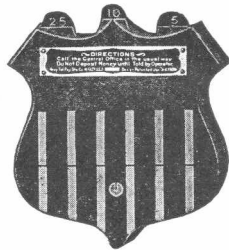
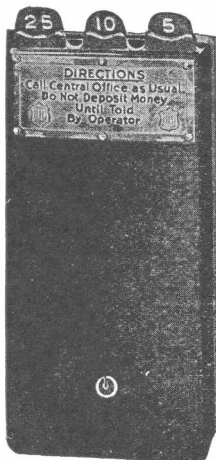
Pay-Out Reel on Barrow



Made of hard wood reinforced with steel plates. Barrow is supported by steel legs braced and bolted through wood. Guard pins are adjustable for 12, 18 or 24 inch coils.

List No. 262, weight 80 pounds.

Gray Automatic Pay Stations



These pay stations are designed to mount on the side of the telephone and are infallible. A number of pay stations will greatly increase your revenue.

List No. 1246 furnished in red, white and blue enamel; complete with mounting plate takes 5, 10 and 25c coins.

List No. 1247 furnished in black enamel, complete with mounting

plate, takes 5, 10 and 25c coins. Weight 15 lbs.

List No. 1248 complete with attachments for use with desk stand takes 5, 10 and 25c coins. Weight 15 lbs.

Advance Pocket Volt Ammeter

A strictly high grade instrument, is jeweled, insuring greater accuracy and wearing qualities. Indicates in either direction of current; you can thus obtain reading instantly regardless of the polarity of the battery terminals. Scale 0 to 8 volts and 0 to 30 amperes.

List No. 1743 Jeweled with fine Morocco leather case, weight 6 oz.

For testing amperage only use the Eclipse battery Ammeter.

List No. 1742 with leather case.



Dry Batteries

Tests made in our electrical laboratory show that the No. 6 Columbia Dry Batteries are most suitable for telephone purposes. We regularly ship this type of battery to our customers unless otherwise specified in their orders. We sell immense quantities of these cells and as a natural consequence we always have a fresh stock and our customers receive cells having a high amperage and long lasting qualities. Sold in any quantity although it is most economical to purchase barrel lots. A barrel contains 125 cells and weighs 300 pounds.

Crowfoot Gravity Battery

This is the standard type of battery for all closed circuit work, such as operator's switchboard transmitter. We use the best glass jars with heavy zincs and coppers.

List No. 1126 cell complete less the blue vitriol, size 6x8 inches.

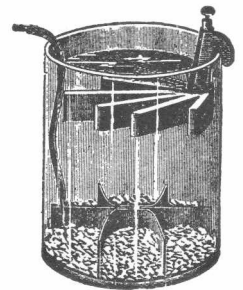
List No. 1127 Zinc.

List No. 1128 Copper.

List No. 1129 glass jar.

List No. 1268 blue vitriol.

Shipping weight approx. 10 lbs.



Blow Torch



List No. 1715 Blow Torch.

This torch is equipped with the latest improved burner with automatic pump and tank. It is made to last and makes fast work possible by giving a very hot flame.

Weight 4 pounds.

Freight and Express Rates

The following tables show the freight and express rates per 100 pounds on goods shipped from Rochester, Chicago, and Kansas City to representative points throughout the United States. By means of these tables you can closely approximate the amount of money to send in addition to price of goods to cover transportation charges. Your local freight or express agents will give you more exact information in case you require it. When you do not specify method of shipment in your order we will ship the cheapest way.

How To Estimate Transportation Charges:—Ascertain the weight of the shipment by adding the shipping weights of each item in your order and find the rate from our nearest office to the nearest city in the following tables. For express shipments include tax which amounts to 1 cent on each 20 cents express charges or fraction thereof. For first class freight add 3 percent tax to the following rates. This rate will be close enough for practical purposes. In case you send too much money we will refund the excess to you promptly.

From ROCHESTER To—	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT	From ROCHESTER To—	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT
Birmingham, Ala.	\$ 4.64	\$2.32	\$2.00	\$1.73	\$1.51	Boston, Mass.	2.28	.84	.74	.57	.43
Little Rock, Ark.	5.19	3.18	2.71	2.07	1.54	Minneapolis, Minn.	4.50	1.96	1.61	1.25	.91
San Francisco, Calif.	14.06	6.46	5.60	4.63	3.93	Kansas City, Mo.	4.36	2.29	1.86	1.44	1.04
Denver, Colo.	7.55	4.37	3.51	2.77	2.13	Albany, N. Y.	1.94	.66	.56	.47	.34
Washington, D. C.	2.42	.94	.80	.64	.50	Raleigh, N. C.	3.53	1.71	1.47	1.20	.98
Tampa, Fla.	6.24	2.36	2.24	1.95	1.80	Columbus, Ohio.	2.56	.87	.75	.58	.41
Atlanta, Ga.	4.64	2.24	2.03	1.67	1.43	Philadelphia, Pa.	2.28	.74	.61	.50	.38
Cairo, Ill.	3.60	1.27	1.12	.84	.59	Knoxville, Tenn.	4.02	2.11	1.82	1.57	1.36
Indianapolis, Ind.	2.84	1.02	.89	.69	.48	Fort Worth, Texas.	7.13	4.27	3.49	2.83	2.42
Des Moines, Iowa.	3.94	1.92	1.61	1.23	.90	Charleston, W. Va.	3.11	.97	.84	.63	.44
Louisville, Ky.	2.97	1.11	.97	.74	.52	Milwaukee, Wisc.	3.11	1.11	.97	.74	.52

From CHICAGO To—	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT	From CHICAGO To—	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT
Bismark, N. D.	\$2.39	\$2.86	\$2.59	\$2.07	\$1.49	Minneapolis, Minn.	2.90	.98	.80	.65	.41
Cairo, Ill.	2.18	.98½	.84	.66	.49½	Grand Rapids, Mich.	1.45	.77	.65	.51	.38
Indianapolis, Ind.	1.45	.79	.67	.53	.39½	Helena, Mont.	9.50	4.83	4.04	3.30	2.67
Des Moines, Iowa.	2.61	1.07	.78	.59	.44	Sioux Falls, S. D.	3.65	1.48	1.21	.83	.61
Duluth, Minn.	3.48	1.16	.98	.78	.49	Milwaukee, Wisc.	1.31	.75	.65	.51	.39
Knoxville, Tenn.	3.48	1.81	1.55	1.21	1.08	Louisville, Ky.	1.81	.86	.73	.59	.44
Fort Worth, Texas.	5.48	3.11	2.52	2.17	1.90	Mobile, Alabama.	4.28	1.78	1.46	1.22	.94

From KANSAS CITY To	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT	From KANSAS CITY To—	EXPRESS	1st CLASS FREIGHT	2nd CLASS FREIGHT	3rd CLASS FREIGHT	4th CLASS FREIGHT
Little Rock, Ark.	\$3.77	\$1.96	\$1.69	\$1.32	\$.99	Lincoln, Nebr.	2.03	1.07	.81	.62	.48
Denver, Colo.	4.64	2.05	1.76	1.37	1.07	Santa Fe, N. M.	5.50	3.04	2.59	2.12	1.82
Topeka, Kan.	1.31	.52	.43	.34	.26	Oklahoma City, Okla.	3.26	1.69	1.47	1.32	1.11
Wichita, Kan.	2.32	1.18	1.04	.90	.72	Fort Worth, Texas.	3.79	2.26	1.98	1.72	1.59
Joplin, Mo.	1.52	.87	.72	.59	.41	San Antonio, Texas.	5.37	2.63	2.24	1.86	1.72

Freight Classification

Telephones, Switchboards and parts	1st Class	Crossarm pins and brackets in boxes	4th Class
Dry Batteries 15% below 2nd Class		Galvanized Wire	4th Class
Telephone Cable	3rd Class	Insulated Wire	3rd Class
Crossarms, wooden	4th Class	Insulators, Glass	3rd Class
Pole Line Hardware including bolts, cable seats, etc.	4th Class	Insulators, Porcelain	3rd Class
Crossarm pins and brackets in bags	3rd Class	Tools	3rd Class

Express Charges Based Upon the above 100-lb. Express Rates

Rate per 100 lbs.	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.50	\$3.00	\$3.50	\$4.00
Package Weighing 1 pound	.37	.37	.37	.37	.37	.37	.38	.38	.38	.39
" " 2 "	.37	.37	.37	.38	.38	.38	.39	.40	.42	.42
" " 5 "	.37	.38	.39	.40	.42	.43	.45	.48	.50	.53
" " 10 "	.39	.42	.43	.45	.48	.52	.55	.60	.67	.71
" " 15 "	.40	.44	.48	.53	.57	.59	.67	.74	.82	.89
" " 20 "	.43	.48	.53	.58	.64	.68	.78	.88	.98	1.08
" " 25 "	.44	.52	.57	.64	.71	.76	.88	1.02	1.13	1.26
" " 30 "	.47	.55	.60	.69	.78	.84	.98	1.15	1.30	1.44
" " 35 "	.48	.58	.67	.76	.86	.93	1.10	1.29	1.45	1.61
" " 40 "	.52	.62	.71	.82	.93	1.01	1.21	1.42	1.63	1.81
" " 45 "	.53	.66	.74	.87	1.00	1.10	1.31	1.56	1.78	1.99
" " 50 "	.55	.69	.79	.93	1.07	1.17	1.41	1.69	1.94	2.18

Magneto Line Bulletin

Parcel Post Rates

		ZONES							
Local Miles from shipping point		1 and 2 1 to 150	3 150 to 300	4 300 to 600	5 600 to 1000	6 1000 to 1400	7 1400 to 1800	8 all over 1800	
Weight		Rates							
1 Lb.	.05	.05	.06	.07	.08	.09	.11	.12	
2 "	.06	.06	.08	.11	.14	.17	.21	.24	
3 "	.06	.07	.10	.15	.20	.25	.31	.36	
4 "	.07	.08	.12	.19	.26	.33	.41	.48	
5 "	.07	.09	.14	.23	.32	.41	.51	.60	
6 "	.08	.10	.16	.27	.38	.49	.61	.72	
7 "	.08	.11	.18	.31	.44	.57	.71	.84	
8 "	.09	.12	.20	.35	.50	.65	.81	.96	
9 "	.09	.13	.22	.39	.56	.73	.91	1.08	
10 "	.10	.14	.24	.43	.62	.81	1.01	1.20	
11 "	.10	.15	.26	.47	.68	.89	1.11	1.32	
12 "	.11	.16	.28	.51	.74	.97	1.21	1.44	
13 "	.11	.17	.30	.55	.80	1.05	1.31	1.56	
14 "	.12	.18	.32	.59	.86	1.13	1.41	1.68	
15 "	.12	.19	.34	.63	.92	1.21	1.51	1.80	
16 "	.13	.20	.36	.67	.98	1.29	1.61	1.92	
17 "	.13	.21	.38	.71	1.04	1.37	1.71	2.04	
18 "	.14	.22	.40	.75	1.10	1.45	1.81	2.16	
19 "	.14	.23	.42	.79	1.16	1.53	1.91	2.28	
20 "	.15	.24	.44	.83	1.22	1.61	2.01	2.40	
21 "	.15	.25	.46	.87	1.28	1.69	2.11	2.52	
22 "	.16	.26	.48	.91	1.34	1.77	2.21	2.64	
23 "	.16	.27	.50	.95	1.40	1.85	2.31	2.76	
24 "	.17	.28	.52	.99	1.46	1.93	2.41	2.88	
25 "	.17	.29	.54	1.03	1.52	2.01	2.51	3.00	
26 "	.18	.30	.56	1.07	1.58	2.09	2.61	3.12	
27 "	.18	.31	.58	1.11	1.64	2.17	2.71	3.24	
28 "	.19	.32	.60	1.15	1.70	2.25	2.81	3.36	
29 "	.19	.33	.62	1.19	1.76	2.33	2.91	3.48	
30 "	.20	.34	.64	1.23	1.82	2.41	3.01	3.60	
31 "	.20	.35	.66	1.27	1.88	2.49	3.11	3.72	
32 "	.21	.36	.68	1.31	1.94	2.57	3.21	3.84	
33 "	.21	.37	.70	1.35	2.00	2.65	3.31	3.96	
34 "	.22	.38	.72	1.39	2.06	2.73	3.41	4.08	
35 "	.22	.39	.74	1.43	2.12	2.81	3.51	4.20	
36 "	.23	.40	.76	1.47	2.18	2.89	3.61	4.32	
37 "	.23	.41	.78	1.51	2.24	2.97	3.71	4.44	
38 "	.24	.42	.80	1.55	2.30	3.05	3.81	4.56	
39 "	.24	.43	.82	1.59	2.36	3.13	3.91	4.68	
40 "	.25	.44	.84	1.63	2.42	3.21	4.01	4.80	
41 "	.25	.45	.86	1.67	2.48	3.29	4.11	4.92	
42 "	.26	.46	.88	1.71	2.54	3.37	4.21	5.04	
43 "	.26	.47	.90	1.75	2.60	3.45	4.31	5.16	
44 "	.27	.48	.92	1.79	2.66	3.53	4.41	5.28	
45 "	.27	.49	.94	1.83	2.72	3.61	4.51	5.40	
46 "	.28	.50	.96	1.87	2.78	3.69	4.61	5.52	
47 "	.28	.51	.98	1.91	2.84	3.77	4.71	5.64	
48 "	.29	.52	1.00	1.95	2.90	3.85	4.81	5.76	
49 "	.29	.53	1.02	1.99	2.96	3.93	4.91	5.88	
50 "	.30	.54	1.04	2.03	3.02	4.01	5.01	6.00	
51 "	.30	.55	1.06						
52 "	.31	.56	1.08						
53 "	.31	.57	1.10						
54 "	.32	.58	1.12						
55 "	.32	.59	1.14						
56 "	.33	.60	1.16						
57 "	.33	.61	1.18						
58 "	.34	.62	1.20						
59 "	.34	.63	1.22						
60 "	.35	.64	1.24						
61 "	.35	.65	1.26						
62 "	.36	.66	1.28						
63 "	.36	.67	1.30						
64 "	.37	.68	1.32						
65 "	.37	.69	1.34						
66 "	.38	.70	1.36						
67 "	.38	.71	1.38						
68 "	.39	.72	1.40						
69 "	.39	.73	1.42						
70 "	.40	.74	1.44						

Parcel post rates are computed according to the weight of the parcel to be shipped and the distance between the shipping point and delivery point. For this purpose the United States is divided into eight (8) zones, each carrying a different postage rate.

The above table shows the amount of postage by parcel post according to the weight of the package and the distance by zones. Parcels weighing four ounces or less are mailable at the rate of 1 cent for each ounce or fraction thereof, regardless of distance. Parcels weighing more than four ounces up to sixteen ounces must be mailed as a full pound. Parcels weighing a fraction over a pound take the next pound rate.

INSURANCE ON PARCELS

Fragile articles will be carefully packed, but as the parcel post does not guarantee their safe delivery we cannot be held responsible for breakage or lost shipments. For your own protection order parcel post goods insured.

Fee for this insurance for each package is as follows:

\$0.03 when valued less than \$10.00

.05 when valued \$10.00 and less than 25.00

.08 when valued \$25.00 and less than \$35.00

.10 when valued 35.00 and less than 50.00

The weight limit on parcels for delivery within the first, second and third zones or within a radius of 150 miles of shipping point is 70 pounds. The weight limit to points over 300 miles or outside of the third zone is 50 pounds.

War Tax Stamps on Parcel Post

War Tax Stamps must be affixed on all parcels on which the postage is twenty-five cents or more.

SCHEDULE

Parcels on which postage amounts to 24 cts., no tax.

Parcels on which postage amounts to 25 cts., .01

Parcels on which postage amounts to 26 to 50 cts., .02

Parcels on which postage amounts to 51 to 75 cts., .03

Parcels on which postage amounts to 76 cts., to 1.00 .04

and so on according to the foregoing scale.

ALWAYS SPECIFY CODE NUMBERS OF APPARATUS WHEN ORDERING

Rural Line Bulletin

Customers' Simplified Order System

The following lists will be found useful in ordering materials and supplies for installing telephones and constructing lines for either grounded (one wire) or metallic (two wire) systems. When ordering specify the number of telephones required, the number of sets of installing materials Groups "A", or "B" and number of miles of line Groups "C", "D", or "E". This will avoid the necessity of writing out each separate item and will insure the receipt of everything you need to build your line.

Group A

Materials for Installing One Telephone on Grounded System (One Wire)

1	List	560	Lightning arrester with fuse to protect telephone
10	Ft. "	671	No. 19 B. & S. Duplex braided wire to connect arrester and telephone.
15	Ft. "	1610	No. 14 B. & S. single conductor R. C. & B. wire to connect arrester and ground rod.
100	Ft. "	1603	Single iron wire for use between line pole, house bracket and arrester.
6	"	20	Porcelain knobs.
6	"	15	3-in. flat head wood screws for attaching the knobs to woodwork.
2	"	1222	8-in. porcelain tubes.
1	"	258	Galvanized ground rod.
1	"	1083	New York ground clamp to attach ground wire to rod.
1	Pkg. "	1086	Blake insulated staples.
1	"	13	Painted oak bracket.
1	"	15	Glass insulator
2	No. 60		Pennyweight nails for mounting brackets.
2	No. 40		Pennyweight nails for mounting brackets.

Group B

Materials for Installing One Telephone on Metallic System. (Two Wire)

1	List	564	Lightning arrester with fuses to protect telephone.
10	Ft. "	1607	No. 19 B. & S. Triplex oak braided wire to connect arrester and telephone.
15	Ft. "	1610	No. 14 B. & S. single conductor R. C. & B. wire to connect arrester and ground rod.
100	Ft. "	1600	Duplex Iron wire for use between line pole, house bracket and arrester.
8	"	20	Porcelain knobs.
8	"	No. 15	3-in. flat head wood screws for attaching the knobs to woodwork.
3	"	1222	Porcelain tubes.

1	Ft. List	258	Galvanized ground rod.
1	"	1083	New York ground clamp to connect ground wire to rod
1	Pkg. "	1086	Blake insulated staples.
2	"	13	Painted oak brackets.
2	"	15	Pony glass insulators.
4	No. 60		Pennyweight nails for mounting brackets.
4	No. 40		Pennyweight nails for mounting brackets.

As a general rule the material outlined in the following will satisfactorily meet the standard requirements for the line construction.

Group C

Materials for One Mile of Grounded System (Bracket Construction)

99	Lbs. List	933	No. 12 BB double galvanized wire.
30	"	13	Painted oak brackets.
30	"	15	Pony glass insulators.
2	Lbs.	No. 40	Pennyweight nails.
3	Lbs.	No. 60	Pennyweight nails.

Group D

Materials for One Mile of Metallic System. (Bracket Construction)

198	Lbs. List	933	No. 12 BB double galvanized wire
60	"	13	Painted oak brackets.
60	"	15	Pony glass insulators.
4	Lbs.	No. 40	Pennyweight nails
6	Lbs.	No. 60	Pennyweight nails

Group E

Materials for One Mile of Cross Arm Construction. (With Four Line Wires)

396	Lbs. List	933	No. 12 BB double galvanized wire.
30	"	6	Painted 10-pin cross arms.
300	"	8	Locust pins
120	"	15	Pony glass insulators.
30	"		$\frac{5}{8}$ in. x 10 in. galvanized machine bolts.
60	"	859	Galvanized square washers.
30	"	851	Galvanized cross arm braces ($1\frac{1}{4}$ x $\frac{1}{4}$ x 28).
60	"		$\frac{3}{8}$ -in. x 4-in. galvanized carriage bolts.
30	"		$\frac{1}{2}$ -in. x 4-in. galvanized lag screws.
60	"	155	Galvanized round washers.

The above lists are based upon average needs for rural construction but are necessarily subject to variation depending upon local conditions. We shall be glad to make special estimates upon individual installations upon receipt of information and sketches showing plans of proposed systems. There is no charge or other obligation for this service.

Catalogues Sent Upon Request

We shall be glad to send complete catalogues on Magneto Telephones, Telephone Parts, Construction Materials and Switchboards upon application. Just tell us what kind of a system you are planning and we will send a complete set of all catalogues which you may require.

Use Order Blank on Other Side

STROMBERG-CARLSON TELEPHONE MFG. CO.

ROCHESTER, N.Y. CHICAGO, ILL.
KANSAS CITY, MO. TORONTO, ONT.

Price List No. 1024

MAGNETO TELEPHONES

Nov. 15, 1921

No. 896 COMPACT WALL TELEPHONES

Code No.	Description	Shipping Points		
		Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
896-R	3 Bar 1000 Ohm Bridging..	\$15.50	\$15.90	\$16.50
896-I	5 Bar 1600 Ohm Bridging..	16.00	16.40	17.00
896-L	5 Bar 2500 Ohm Bridging..	16.25	16.65	17.25

Harmonic Type

896-OE	3 Bar 2500 Ohm 16 Cycles..	\$16.50	\$16.90	\$17.50
896-QF	3 Bar 500 Ohm 33 Cycles..	16.50	16.90	17.50
896-QG	3 Bar 500 Ohm 50 Cycles..	16.50	16.90	17.50
896-QH	3 Bar 500 Ohm 66 Cycles..	16.50	16.90	17.50

No. 1000 DESK TELEPHONE OUTFITS

Code No.	Description	Shipping Points		
		Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
1000-R	3 Bar 1000 Ohm Bridging..	\$16.90	\$17.30	\$17.90
1000-I	5 Bar 1600 Ohm Bridging..	17.40	17.80	18.40
1000-L	5 Bar 2500 Ohm Bridging..	17.65	18.05	18.65

Harmonic Type

1000-OE	3 Bar 2500 Ohm 16 Cycles..	\$17.90	\$18.30	\$18.90
1000-QF	3 Bar 500 Ohm 33 Cycles..	17.90	18.30	18.90
1000-QG	3 Bar 500 Ohm 50 Cycles..	17.90	18.30	18.90
1000-QH	3 Bar 500 Ohm 66 Cycles..	17.90	18.30	18.90

No. 1138 COMBINATION TELEPHONE OUTFITS

Code No.	Description	Shipping Points		
		Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
1138-R	3 Bar 1000 Ohm Bridging..	\$17.75	\$18.15	\$18.75
1138-I	5 Bar 1600 Ohm Bridging..	18.25	18.65	19.25
1138-L	5 Bar 2500 Ohm Bridging..	18.50	18.90	19.50

Harmonic Type

1138-OE	3 Bar 2500 Ohm 16 Cycles..	\$18.75	\$19.15	\$19.75
1138-QF	3 Bar 500 Ohm 33 Cycles..	18.75	19.15	19.75
1138-QG	3 Bar 500 Ohm 50 Cycles..	18.75	19.15	19.75
1138-QH	3 Bar 500 Ohm 66 Cycles..	18.75	19.15	19.75

ADDITIONS

Add to equipments "I" and "L" only

"K" Sure Ring Condenser.....	60	60	60
"P" Non-Interfering Push Button.....	.35	.35	.35

Note—Only No. 896 I-K and No. 896 IKP telephones are carried in stock at Rochester, Chicago and Kansas City. Other codes with these features will be made up on order only subject to approval.

Example—

1 896-I Telephone.....	\$16.00
1 No. 26-T Condenser.....	60
Total	\$16.60

All the above prices are based upon telephones furnished less batteries. Batteries if ordered will be billed separately and at the nearest even figure to the barrel lot price.

No. 300 EXTENSION BELLS

Code No.	Resistance	Shipping Points		
		Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
300-D	1000 Ohms.....	\$ 4.40	\$ 4.50	\$ 4.60
300-E	1600 Ohms.....	4.50	4.60	4.70
300-G	2500 Ohms.....	4.75	4.85	4.95

No. 962 LOUD RINGING EXTENSION BELLS

Specify resistance when ordering

Code	Description	Coils per Pair	Quantity	Shipping Points		
				Roch. Chgo.	Kan. City Atlanta	San F. Seattle
962-A	1000 ohm	\$3.40	{ 1 to 4 5 & over	\$8.75 7.90	\$8.90 8.05	\$9.10 8.25
962-C	1600 ohm	3.80	{ 1 to 4 5 & over	9.00 8.15	9.15 8.30	9.35 8.50

Additions

For No. 22 Condenser (2 M.F.) add..... \$1.15

No. 844 TEST SETS

Code No.	Type	Generator	Ringer	Net Price
*844-E	Bridging	3 Bar	1600 Ohms	16.00
	For shoulder strap add.....			2.60
	Extra dry cells (flashlight type).....			.40

DESK AND COMBINATION TELEPHONE PARTS

Code No.	Description	Shipping Points		
		Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
992	Desk Stand.....	\$ 7.85	\$ 8.00	\$ 8.20
10-L	Combination Telephone.....	8.70	8.85	9.00

MAGNETO BELL BOXES

Code No.	Generator	Ringer	Shipping Points		
			Rochester Chicago	Kansas City Atlanta	San Fran. Seattle
327-R	3 Bar	1000 Ohms....	\$9.05	\$ 9.30	\$ 9.70
327-I	5 Bar	1600 Ohms....	9.55	9.80	10.15
327-L	5 Bar	2500 Ohms....	9.80	10.05	10.45

Harmonic

327-OE	3 Bar 2500 Ohm 16 Cycles..	\$10.05	\$10.30	\$10.70
327-QF	3 Bar 500 Ohm 33 Cycles..	10.05	10.30	10.70
327-QG	3 Bar 500 Ohm 50 Cycles..	10.05	10.30	10.70
327-QH	3 Bar 500 Ohm 66 Cycles..	10.05	10.30	10.70

Additions for attachments same as given for No. 896 Compact Type Wall Telephones.

No. 896 WALL TELEPHONE PARTS

Arrester

Code No. 70 Lightning Arrester.....	each	\$.35
(Pc. No. 12774) Carbon.....		.03
(Pc. No. 12773) Dielectric.....		.03
Pc. No. 13025) Connector.....		.03

Condenser

Code No. 26-T Condenser.....	\$.85
Condenser Clips (Pc. No. 2494).....	.03
Screws (P-5202).....	.005

Generator

Code No. 53 3 Bar Bridging Generator.....	\$ 5.50
Code No. 38 5 Bar Bridging Generator.....	6.00
(Pc. No. 11730) Crank Handle.....	.25
(Pc. No. 4444) Large Gear Wheel.....	.60
(Pc. No. 3498) Pinion—Small Gear Wheel.....	.15
(Pc. No. 4133) Pinion—Spring.....	.02
(Pc. No. 11839) Iron Plate for 5-bar Generator.....	.15
(Pc. No. 11841) Iron Plate for 3-bar Generator.....	.15
(Pc. No. 6013) Generator Shunts, assembled.....	.35
(Pc. No. 3556) Magnet.....	.35
(Pc. No. P-13969) Bracket.....	.15
(Pc. No. 8059) 3 Bar Generator Armature.....	3.00
(Pc. No. 11039) 5 Bar Generator Armature.....	3.50

Hookswitch

No. 41-B Hookswitch with Hook.....	\$.75
(Pc. No. 8741) Hook only.....	.25
(Pc. No. 11894) Hookswitch Tension Spring.....	.10

Induction Coil

Code No. 20-A Induction Coil.....	\$.85
Pc. 5191 Round Head Screws (for mounting).....	.01

Push Button Key

No. 303 Key.....	\$.50
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Receiver

No. 27-A Receiver with R-2-G 36 inch Cord.....	\$ 2.35
(Pc. No. 13370) Shell.....	.60
(Pc. No. 13371) Ear Cap.....	.30
No. R-2-G 36 inch Receiver Cord.....	.40
Pc. No. 9924) Diaphragm.....	.03

Ringer

Code	Resist.	Description	Less Gongs	Price Complete With Gongs
46-A	1000	Polarized-Straight Line	\$ 1.75	\$ 2.00
46-C	1600	" " "	1.85	2.10
46-F	2500	" " "	2.05	2.30

Note—The code number does not include gongs. When ordering the above type ringers complete with gongs and mountings include two each of the following six (6) items for each ringer. Black enameled steel gongs are standard.

Pc. No.	Description	Price Each
12047	Gongs (Black Steel) 2½ Dia. (2 Req'd)	\$.08
7571	Nuts (Cap)	.05
1145	Nuts (Lock)	.01
4241	Screw (Mtg.)	.02
1120	Washer (Screw)	.005
5312	Studs (Elevating) for Wood Mtg.	.03
or		
10716	Studs (Elevating) for Steel Mtg.	.04

Prices on Ringer Parts apply only when sold separately.

Parts For No. 46 Ringers

P-12239 Coil (500 W).....	.75
P-12240 Coil (800 W).....	.80
P-12241 Coil (1250 W).....	.85
(Pc. No. 2423) Armature and Clapper Rod, assembled.....	\$.15
Magnet (Pc. No. 7485).....	.15
(Pc. No. 4717) Armature Plate, assembled.....	.10
(Pc. No. 2580) Armature Screw assembled.....	.02
(Pc. No. 577) Adjusting Screw.....	.02

Transmitter

Code No. 7-L Transmitter.....	\$2.00
(Pc. No. 13774) Mouthpiece.....	.20
Code No. 19 Transmitter Arm.....	.75
(Pc. No. 2548) Arm Attaching Screw.....	.01
(Pc. No. 607) Arm Attaching Nut.....	.01
Pc. No. 2326) Arm Attaching Washer.....	.005

Parts For Desk Stands

Code No. 39-A Induction Coil.....	\$.85
(Pc. No. 10828) Terminal Block assembled.....	1.70
Code No. D-3-C 6 foot Cord.....	.95

Parts For Magneto Bell Boxes

Prices of parts for magneto boxes are the same as those listed under No. 896 Wall Telephone Parts for Arrester, Generator and Ringer.

ALWAYS MENTION CODE OR PIECE NUMBERS WHEN ORDERING