
Inter - Communication Telephones.

GENTS'

SECRET SYSTEM.
NO CROSS TALK.
REAL BUSINESS
INSTRUMENTS.

London Office and Showrooms
24 UPPER THAMES STREET, E.C.4.

November, 1903.

THE
PARSONS-SLOPER
PATENT
DIRECT CALL SECRET SYSTEM
OF
**INTERCOMMUNICATION
TELEPHONES.**

NO CROSS-TALK
NO OVER-HEARING
NO EAVES-DROPPING

NO LEAKAGE

NO DELAY

THEREFORE

NO ANNOYANCE
NO INTERRUPTION
EVERY CONVERSATION
IS PRIVATE
SPEAKING IS LOUD AND
CLEAR
TIME & TEMPER SAVED

"You can do business on these Telephones
as easily and privately as if both parties
were in one office with the door locked."

NONE CAN OVER-HEAR YOU,
NONE CAN INTERRUPT.

WILL WORK ON ORDINARY INTERCOMMUNICATION WIRING.

FULLY PROTECTED BY BRITISH AND FOREIGN PATENTS.

Proprietors and Sole Makers:

GENT & Co., LIM.,
FARADAY WORKS,
LEICESTER.

Telegrams: "Lodestone" Leicester
Telephone: National 151, Leicester

LONDON SHOW ROOMS:
3A UPPER THAMES ST.

THE PARSONS-SLOPER PATENT

DIRECT CALL SECRET

INTERCOMMUNICATION TELEPHONES

WE GUARANTEE SECRECY

AND

THE OTHER ADVANTAGES CLAIMED.

There have been so many fruitless attempts to produce Secrecy in Inter-communication Telephones that many Electricians have pronounced a Secret System impossible.

It is, therefore, necessary for us to emphasise that the claims we make for our Instruments are not merely advertising puffs. **We guarantee Secrecy and the many other advantages we claim** for our system detailed on the next page, and it is understood all Instruments are supplied and sold under this guarantee.

To those who have no private messages to send on the Telephone, and who say, therefore, secrecy is no benefit in their particular case, we would point out that just as much as secrecy is absolutely essential in some installations, **the other advantages our system offers are equally essential for every installation where real business has to be done.** No one wishes to have a third person chiming in the conversation, neither do they wish to hear, when attempting to talk themselves, what another couple are speaking about. No one wishes to be called up accidentally by a cross-ring when they are not wanted.

Read carefully therefore and weigh well the advantages guaranteed for our system on the following page.

DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

ADVANTAGES OF SYSTEM.

LIKE all other good Intercommunication Telephones:—

- (1) No Exchange is needed.
- (2) To call a Station you switch on and ring up direct.
- (3) The Switch-arm can be left in any position after use.
- (4) The Instrument cannot be left out of call.
- (5) Only ordinary Wiring is employed—one line for each Instrument, with battery and return wires.

UNLIKE all other Intercommunication Telephones, however:—

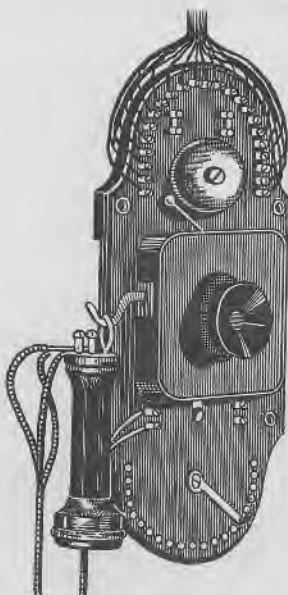
- (1) There is no cross-talk when two or more pairs are talking.
- (2) In say a 20-station set 10 pairs can talk and each couple's conversation is restricted to themselves.
- (3) When a pair is speaking, a third party cannot accidentally or designedly over-hear or eaves-drop.
- (4) A third party cannot interrupt a conversation by ringing up an engaged instrument, nor can he in any way affect the speakers.
- (5) Two stations cannot be accidentally rung up at one time by careless placing of the switch, and cross-ringing is impossible.
- (6) A number of stations can all converse together at the wish of *all* concerned (not otherwise), thus A, B, C and D (4 stations) can all talk together as if they were in one room, and their conversation cannot be overheard by others.
- (7) By means of a tattle fixed on each instrument, the calling station hears an echo of the distant bell and so is immediately informed—
 - (a) If the distant station is already engaged;
 - (b) If the person at the distant station is absent, or—
 - (c) When he is at his instrument.
- (8) Owing to absence of any leakage, and each pair having a complete metallic circuit, conversation is much louder and clearer than with ordinary instruments.
- (9) As no confusion results by using the telephone, business can be carried on more smartly and quickly than by any other system.
- (10) The design and construction of the instruments give special facilities for easy wiring. There are no loose wires to harbour dust or become detached by dusting or vibration, &c. Note carefully pages 4 and 10.

The advantages of the Parsons-Sloper System make them
essentially Business Instruments.

THE PARSONS-SLOPER PATENT

DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

**NEAT, SAFE, and SPEEDY WIRING WITH
COVERED TERMINALS.**

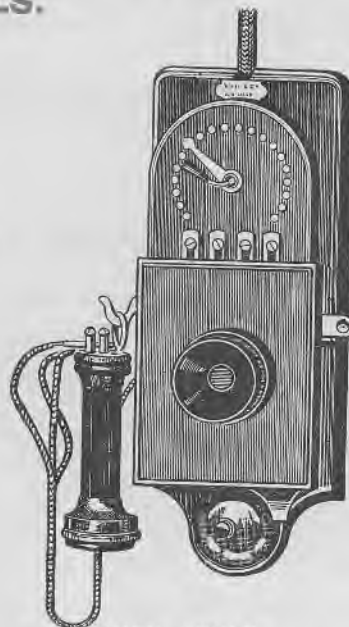


OLD STYLE.
INTER-COMMUNICATION
TELEPHONE, LINES AND
TERMINALS EXPOSED.

**LOOK ON
THIS WIRING**



**AND
ON THIS.**



NEW STYLE.
PARSONS-SLOPER SYSTEM.
ALL LINES AND TERMINALS
ENCLOSED.

A CONTRAST.

The Illustrations above show the appearance of the old type of wiring with exposed terminals and loose wires which look untidy; are untidy; hold dust and become detached and broken in use, and by dusting, etc. Also the new type with hidden terminals on detachable base, and the consequent compact, neat, safe and speedy connections.

Besides neatness and security, the arrangement illustrated above has other advantages. It allows for the switchboard being entirely removed from Instrument proper when fixing and connecting, a convenience of inestimable value to the Fixer.

Also all Switches have their bases of the same size, and they are made to template and interchangeable; so if it be desired to enlarge a system, new switches with the desired number of points can be fitted to the Instruments proper in place of the existing switches, no matter whether wall or table type, literally in a couple of minutes.

Again, if an Instrument be damaged, it can be removed by anyone who can use a screw driver, and, after repair, replaced without disconnecting a single line wire.—(See Fixing Instructions page 10.)

Parsons-Sloper Secret Intercommunication Telephones work on ordinary
Interchangeable Wiring.

THE PARSONS-SLOPER PATENT

DIRECT CALL SECRET

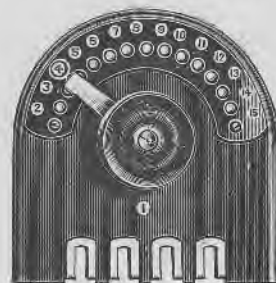
INTERCOMMUNICATION TELEPHONES

SPECIFICATION FOR ALL TYPES OF INSTRUMENTS, WALL AND TABLE.

STANDARD SWITCHBOARDS. All types of Instruments, both wall and table, are made with standard switchboards arranged for sets of 5, 10, 15, 20 and 25 Instruments. For installations of intermediate sizes choose the Instrument with the next largest number of ways. Spare stations and conductors in cable are always an advantage.

WOODWORK. The cases are substantially made of Walnut or Teak, well seasoned and sound, and French polished.

SWITCHES. The Switches of all Instruments, whether wall or table, are of the type illustrated. They are detachable and interchangeable. The Switch arm, which is controlled by a substantial knob, works with a springing action from stud to stud, thus insuring ease in selecting the required number. The arm is so arranged that it cannot make two contacts at once, nor can it be accidentally left between contacts.



TERMINALS. All Terminals are enclosed; are clearly numbered and arranged for easy wiring. In Table Instruments, the Wall or Ceiling Rose is also fitted with enclosed easy wiring terminals.

SWITCH-HOOKS. The Switch-hooks and contact springs are supported on a metal base, and so are independent of all variation in wood-work due to atmospheric changes.

RINGING-KEYS. The Ringing Key is also self contained on metal base.

BELLS. The Bells are strongly made on a new principle, and the hammers enclosed to avoid derangement when dusting and cleaning.

TATTLERS. All Instruments are fitted with Patent Tattlers for showing when the distant bell is ringing.

INDUCTION COILS. Efficient Induction Coils are fitted, consisting of Primary and Secondary of Silk Covered Wire, wound on strong boxwood bobbins, to the most suitable resistances.

CONTACTS. All Contacts are arranged with platinum and friction connections to insure against faint talking and intermittent faults.

GENERALLY. The Instruments are made of best material by efficient workmen in accordance with the latest modern practice and finished in nickel plating and well lacquered brass.

THE PARSONS-SLOPER PATENT DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

FIXING INSTRUCTIONS.

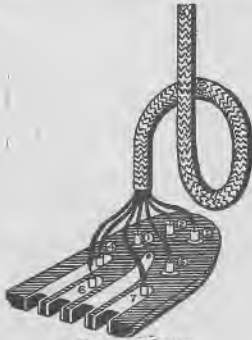
Ease and simplicity in fixing and connecting are by no means the least of the many merits of the Parsons-Sloper Telephone.

For example—in connecting a 5-way system—at each station you have:—



A Cable of seven wires, the number of each being identified by its colour.

A detached switch-board, with seven terminals, plainly marked 1 to 7.

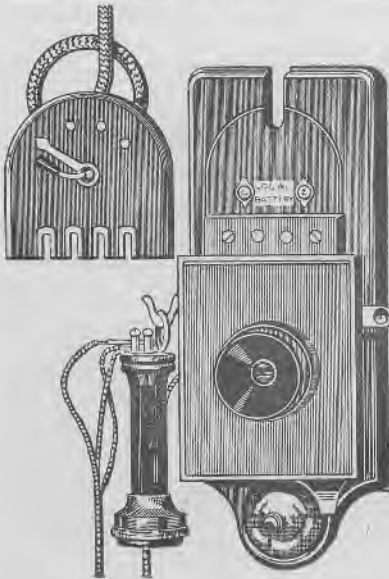


Back view.

Clip the seven wires in the seven terminals.



Front view.



Fix Telephone to wall and connect two terminals to local battery.

Slide switch-board on to telephone, tighten four screws and all is complete.



NO COMPLICATIONS
and
NOTE THE NEATNESS.

FOR DIAGRAMS AND DETAILED INSTRUCTIONS FOR RUNNING CABLES SEE FOLLOWING PAGE.

THE PARSONS-SLOPER PATENT DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

FIXING DIAGRAMS, &c.

The diagram below shows the cable run to, and terminating at, each station in 7 wires, the local batteries at each station, the general ringing battery, and the junction boxes at each joint where the cable "tees" off.

It will be noticed the wiring is ordinary intercommunication wiring, the cable having one line for each telephone, a battery line and a general return.

The simple instructions given below and the diagram showing battery connections *must* be accurately followed otherwise cross-ringing and other troubles will occur.

Cable with 22 gauge conductors will act well for small installations. Use 20 gauge conductors in large installations and wherever possible.

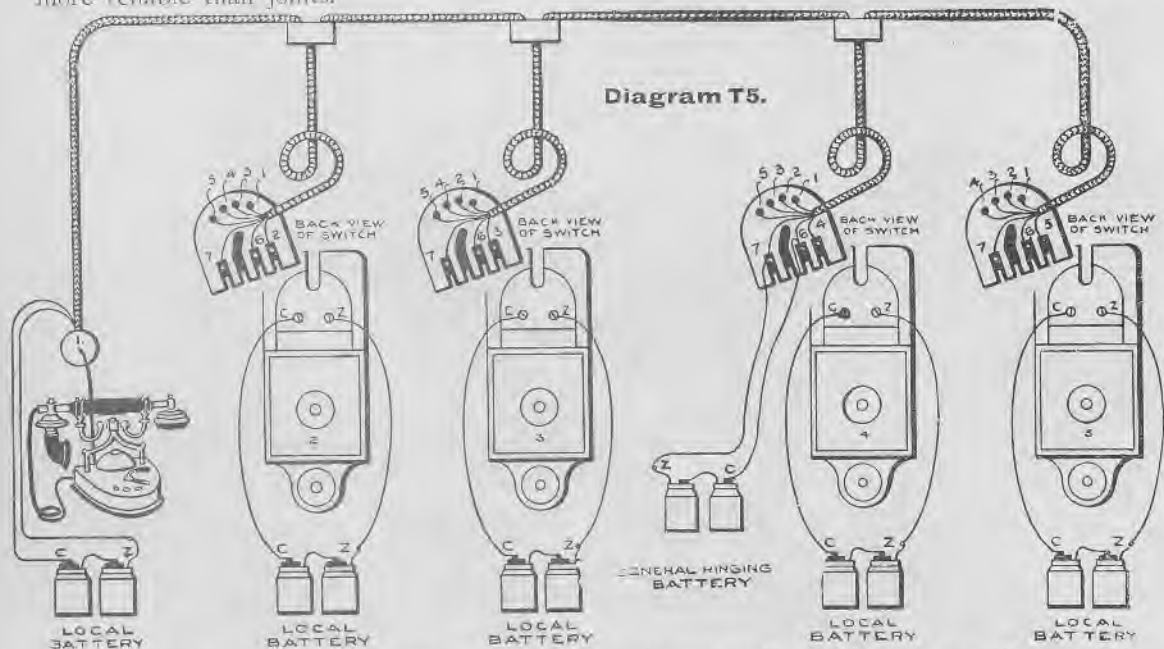
Use two cells for each local battery, or three for each where a very long line of cable is being employed.

But whether 2 cells or 3 cells is decided upon, *all batteries must be of the same size throughout*, i.e. consist of the same number of cells.

Ringing Batteries *must have always exactly the same number of cells as the local batteries.*

In connecting local batteries, the fixer *must* take the zinc of the batteries to the terminal marked Z on telephone and the carbon to that marked C. Whilst the Z terminal of Ringing battery *must* be connected to the highest number on the switch-board, and the carbon terminal to the highest but one, in this instance No. 7 and No. 6 respectively. Use two different coloured wires for this purpose, one colour always to Zinc, the other to Carbon.

Use junction boxes to "T" off. They save more than their cost and are neater and more reliable than joints.



If in, say, a 20 station set, one or two stations do not need to speak to every other, or if it is advisable that some stations shall not be able to ring up certain others, it is still best to run a 22 conductor cable through the job and leave unconnected at each station those lines that are not needed at that station. This method prevents any confusion and leaves everything so straightforward that the cost of any spare conductors in cable, is more than covered by saving in workman's time.

THE PARSONS-SLOPER PATENT DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

DELTA SYSTEM WIRING.

A very useful application of the above Instruments is known as the Delta System. This is an arrangement by which a principal station can ring up and be rung up by any number of sub-stations, where the sub-stations do not wish to speak to each other. This can be done in several ways, but using Parsons-Sloper Instruments for the purpose gives the following advantages, which no other system can offer :—

All conversations are absolutely secret.

No Indicator or Annunciator is required at the principal station.

Sub-stations have no switching whatever.

Diagram below gives connections for a 5-way Instrument with its 4 sub-stations.

Note : Sub-stations have no local batteries. There is 1 general ringing battery and 1 speaking battery.

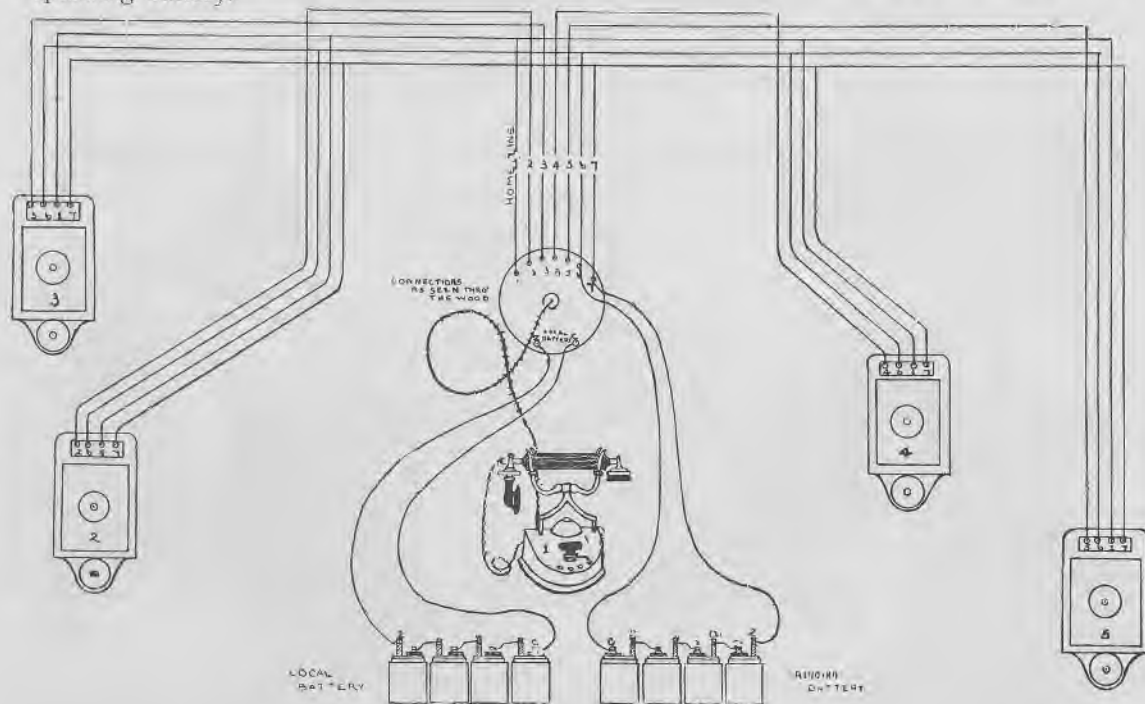


Diagram T7.

At the central or principal station, an ordinary standard Instrument is fitted, having a switch of the desired number of ways. A Table Instrument is generally chosen, as the Operator need not then rise to use the Telephone. The sub-stations are standard Instruments without switches, and are listed as "Delta" Instruments. When the central wants any sub-stations, he merely switches on and rings up. When a sub-station wants central, the operator simply presses the ringing key.

Delta Instruments are fitted with Tattlers so can tell when central is already engaged. All conversations are absolutely secret and no other sub-station can over-hear or interrupt.

THE PARSONS-SLOPER PATENT

DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

DELTA SYSTEM WIRING—Continued.

It will be obvious that the inter-communication system can be combined with the Delta system in many instances with advantages. Thus — referring to Diagrams T5 and T6, pages 11 and 15, station No. 1 instrument might be fitted with a 10-way switch instead of its present 5-way, and so be in the same position as it is now with regard to the 4 stations shown, and at the same time be able to speak to a number of sub-stations which have no need to ring up and speak to each other or to stations 2, 3 and 4 of the system.

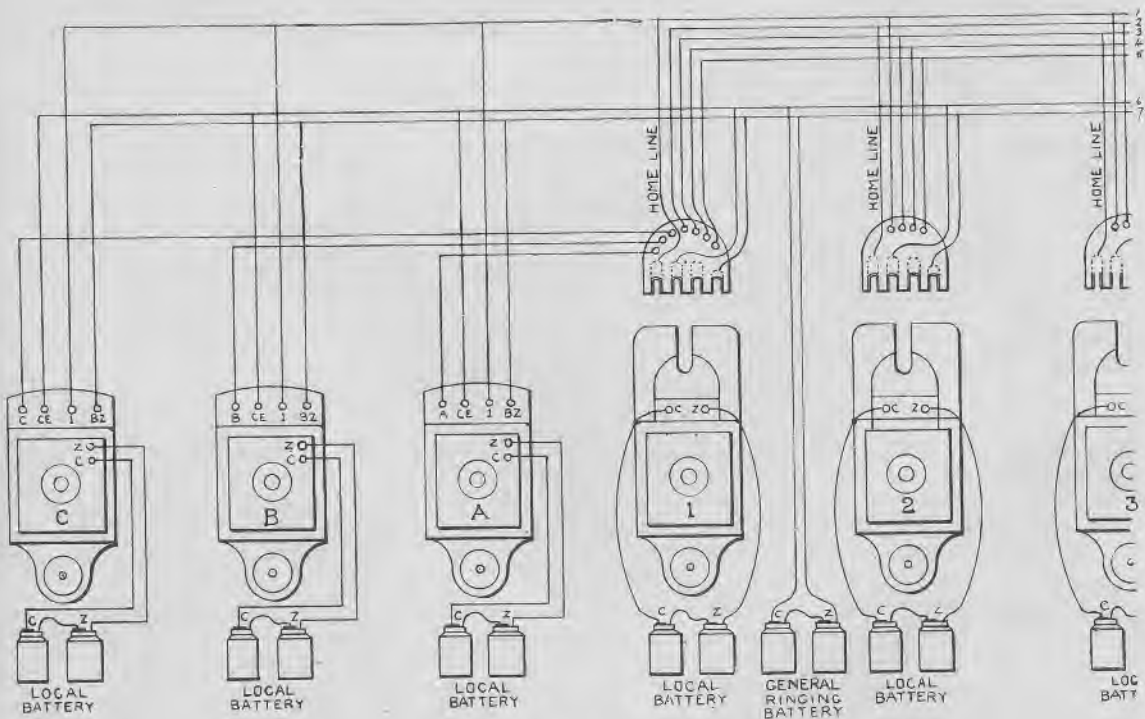


Diagram T8.

Many other combinations of the two systems will suggest themselves to the purchaser.

We shall be pleased to make suggestions and give advice and diagrams free, where details are laid before us.

THE PARSONS-SLOPER PATENT DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

DETAILED FIXING INSTRUCTIONS.

Some of the following detailed Instructions are perhaps unnecessary for those who are used to Electrical work, but if read carefully by any intelligent workman, they will enable him to fix Secret Intercommunication Telephones with every possible success.

For the sake of clearness, we describe in detail the fixing of a set of five Instruments. The only difference between this and a larger Installation, is the number of conductors in the cable and the number of terminals to be dealt with.

NUMBER EACH LINE. Before commencing the wiring of an installation, take the end of the cable and write down a list of the colours of each conductor and give each a number, say as follows:—Red 1, White 2, Blue 3, Green 4, Yellow 5, Brown 6, Black 7.

RUNNING CABLE. Run the Cable between the two stations farthest apart, branching it off by means of Junction Boxes where required for the remaining telephones. Fix the cable to walls, etc. by means of wooden cleats, leather slings or staples. If the latter are used, see that some insulating material, felt, cloth, or leather is inserted between the actual metal and the cable, to prevent abrasion or damage by rust affecting the insulation.

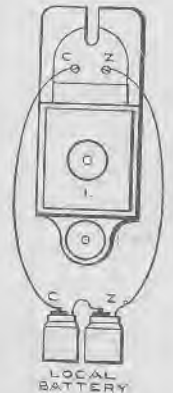
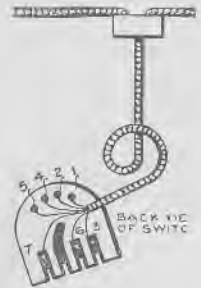
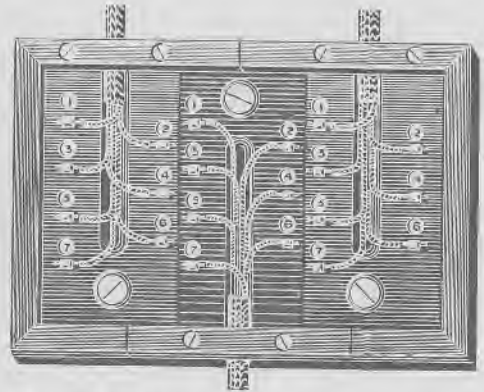
JUNCTION BOXES. Make all branches with Junction Boxes. They will save more than their cost in time and insure a reliable job. Each terminal of Junction Box is numbered, and should have the wire of corresponding number, known by its colour, clamped under it.

CONNECT SWITCHES. All branches having been made, there is now a cable throughout the job, terminating at each station with 7 conductors or lines. Neatly bare the end of each of the lines for about $\frac{1}{4}$ -in. (not more) and clamp them, number for number, into the 7 terminals, which will be found on each switchboard plainly marked from 1 to 7.

TEST EACH LINE. When all the five Switchboards have been so connected, it is well to test each line to see that no line is connected or short circuited to the others. This is easily done from any one station by means of a couple of cells and a galvanometer. If no galvanometer is handy, any fault can be found by laying the wires on the tongue and tasting.

LOCAL BATTERIES. The Telephones may now be fixed in position, together with their local batteries. These are connected together with ordinary Electric Bell Wire, great care being taken that the terminal marked "Z" on the Telephone is taken to the Zinc of the Local Battery, and that marked "C" to Carbon. If this rule is not strictly followed, cross-ringing will occur.

The local batteries should consist of two cells in ordinary installations, and three cells where the cable employed is unusually long, say where it exceeds 250 yards.



THE PARSONS-SLOPER PATENT DIRECT CALL SECRET INTERCOMMUNICATION TELEPHONES

DETAILED FIXING INSTRUCTIONS—Continued.

Plenty of slack should be allowed in the cable at each switchboard. This should be given a curl before sliding the Switchboard on to the Telephone proper, where by tightening the 4 screws, the switch and Telephone become permanently connected together and to the System.

At that station most adapted by being near the centre of the installation, and having a shelf or cupboard suitable, should be fixed the general ringing battery consisting of exactly the same number of cells (no more, no less), as the local batteries.

RINGING BATTERIES. Two ordinary Electric Bell Wires should be led from this battery to the switchboard of the Instrument and securely clamped to terminals marked with the highest numbers (in this instance 6 and 7). These terminals are already occupied by wires No. 6 and 7 but each, it will be found, will easily accommodate an extra wire. Note carefully the highest number (7) goes to Zinc and the lower (No. 6) to Carbon.

Two Ringing Batteries may be employed with advantage in large Installations, each Battery being connected exactly as described above, and situated at or near each end of the Installation. In very large Installations three Ringing Batteries have been used with advantage, two at each end of the Installation and one in the middle.

We shall be pleased to give special advice regarding this matter for extraordinarily large Installations and lengths of Cable.

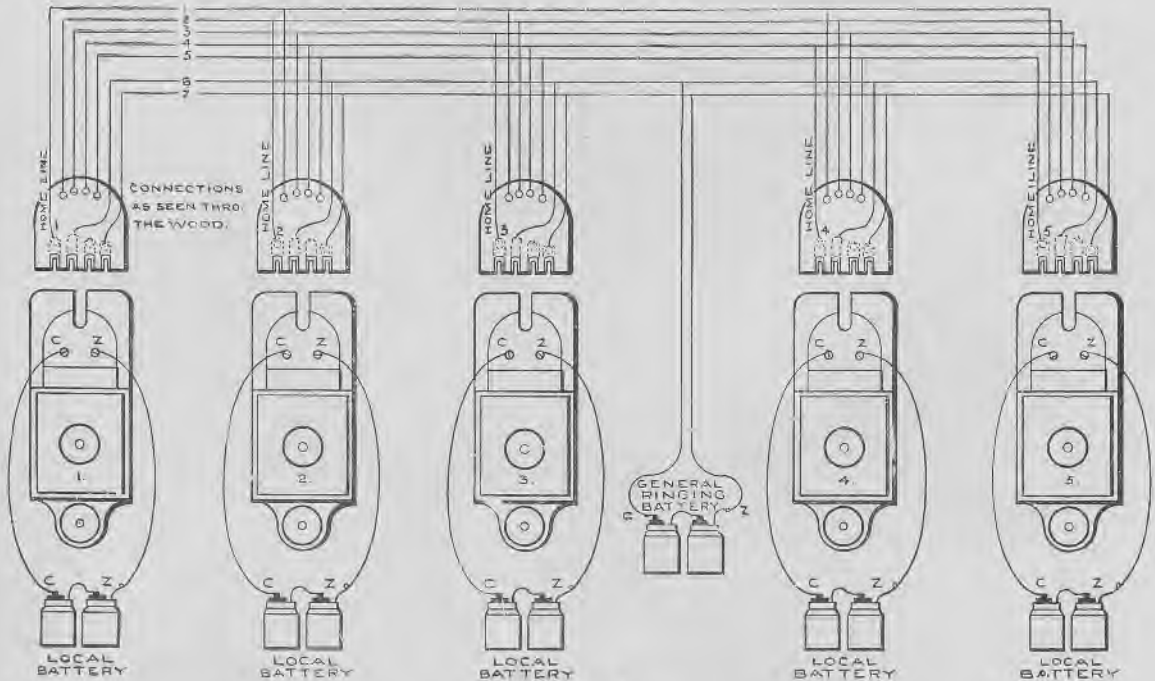
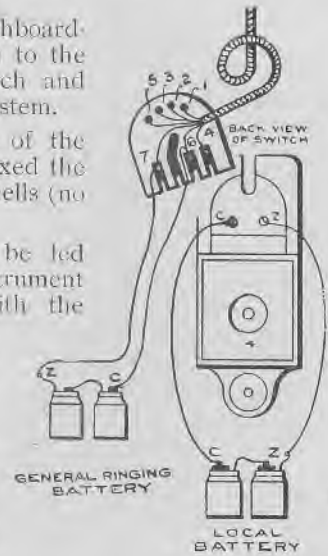


Diagram T6.

Diagram above shows the 5 instruments connected. It is really the same as Diagram T5, page 11, but here each line is shown instead of a cable.