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Telephones and  
Telephonic Apparatus

---

THE NATIONAL TELEPHONE  
LTD



SALE CATALOGUE



HEAD OFFICE  
"TELEPHONE HOUSE"  
Victoria Embankment  
LONDON E.C.

1903.

# Telephones, AND Telephonic Apparatus.

The National Telephone Company, Limited.



## SALE CATALOGUE.

*For Information, and Estimates apply to the  
Company's Office at A. CANTRAINÉ.*

*Or to any of the Company's other Offices.*

A List giving the addresses of the Company in the principal towns in Great Britain, and Ireland will be found on pages 3 and 4.

**Telegrams: "NATIONAL TELEPHONE" with the name of the town.**

Wm. E. L. GAINÉ,  
General Manager.

Head Office: Telephone House,  
Victoria Embankment, London, E.C.

May, 1903.

# THE NATIONAL TELEPHONE COMPANY LTD.

Some of the Premises owned by the Company.



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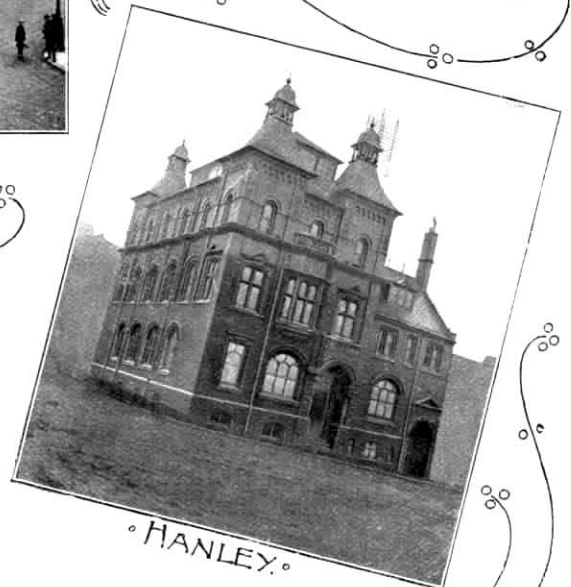
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" " " existing Bell Wires ... ..	B94-99 & 103-108	66, 71 & 73-76	Water Level Recorders, and Indicators ... ..		156
" " " " Dining Room Sets ... ..	B95-101, 104, 107-110	68-71, 73, 75, 76	Window Terminal Blocks, Double ... ..	B129	105
" " " existing Bell Wires, Dining Room Sets, for ringing both ways ... ..	B97, 99, 108, 109, 110	69, 70, 76	" " " 4-way ... ..	B130	105
" " " existing Bell Wires, Kitchen Sets, with Bell ... ..	B105	74	Wires ... ..		143
" " " existing Bell Wires, Kitchen Sets, without Bell ... ..	B94, 103, 106	68, 73, 74	" Binding, Copper ... ..		143
" " " existing Bell Wires, Portable Dining Room Set ... ..	B96, 104, 107	68, 73, 75	" " Galvanized Iron ... ..		143
Wall Sets, Intercommunication, Battery ringing	B63-77	44-54	" Bronze Line ... ..		143
Wall Sets, Intercommunication, Battery Ringing, Automatic ... ..	B72-76	50-53	" Copper Line ... ..		143
			" Galvanized Iron ... ..		143
			" Office ... ..		143
			" Steel Suspending ... ..		143
			" Switchboard ... ..		143
			" " Asbestos Covered ... ..		143
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			" Vulcanized India Rubber ... ..		143
			Wood Casings for Wires, and Cables ... ..		152
			" Poles, Creosoted ... ..		146
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			Zincs (see Batteries) ... ..		—

## PREFACE.

**I**N consequence of the large increase in the number of telephones, and telephone installations in use, the Company is now issuing, for the greater convenience of its customers, this Catalogue which includes a more varied collection of telephone instruments than has ever before been brought together in a price list issued by a British firm; and whilst it is hoped that the requirements of the public will be found to be fully catered for, the Company will spare no efforts to supply any information which may be of use to any intending customer to enable him to obtain the greatest use from any purchases he may contemplate. In compiling this illustrated list the Company has, as far as possible, avoided the use of purely technical terms, and thus endeavoured to make the catalogue of use to private individuals.

Intending purchasers will, in consequence of the Company having a representative in practically every town in the United Kingdom, be able to obtain with the least possible delay such information as they desire, and further, have the assurance that their wants will be immediately attended to.

For the convenience of those using this catalogue a list of the Company's offices in the principal towns in Great Britain, and Ireland, will be found on pages 3 and 4.

As constant improvements are being made in the designs of instruments, &c., the Company will always supply the most up-to-date pattern (unless otherwise instructed) instead of the one of older type which may have been ordered as per list.

Special attention is called to the fact that the instruments, etc., illustrated, are of the best class, and manufacture possible, consistent with the price charged.

As the Company is by far the largest user of telephone material in the country it is enabled to supply goods at prices which compare very favorably with those of other manufacturers, or suppliers.

All the instruments, etc., mentioned being of standard pattern, interchangeable parts can be quickly, and easily supplied.

It is, of course, impossible within the confines of an illustrated catalogue to include every article which the Company can, and is prepared to supply, **and enquiries are, therefore, invited for all classes of electrical apparatus.**

Each illustration is fully described, and in the case of some of the types, such as Inter-communication Telephones, the section dealing with them has its own preface.

The Company is frequently in a position to supply instruments, &c. which, while they have been previously in use, have been done up, and put into thorough order, and are, therefore, as far as efficiency is concerned in every way equal to new. **This class of goods the Company is prepared to supply at reduced prices.**

These remarks apply not only to the instruments in connection with which this information is specially noted in the text, but to many of the patterns throughout this catalogue.

TELEPHONE HOUSE,  
VICTORIA EMBANKMENT,  
LONDON, E.C.,  
MAY, 1903.

## Terms.

All prices quoted are subject to alteration.

The Company is prepared to give special quotations for large quantities.

All goods are sent "carriage forward" from Works, etc., and the Company can take no responsibility whatever as to breakages should such occur.

If goods are required to be packed, a charge will be made to cover the actual cost of such packing, and of the case, etc.

Empties are not returnable, and cannot be allowed for.

*List of the Company's Offices**to which enquiries may be addressed.*

<b>A</b> BERDEEN ... ..	28, Market Street.	<b>D</b> ARLINGTON ... ..	30, Priestgate.
<b>A</b> LDERSHOT ... ..	33, Station Road.	<b>D</b> ERBY ... ..	1, Becket Well Lane.
<b>A</b> SHTON-UNDER-LYNE	Booth Street Chambers, 30, Booth Street.	<b>D</b> EWSBURY ... ..	10, Nelson Street.
<b>B</b> ANGOR (N. Wales.)	243, High Street.	<b>D</b> OUGLAS (I. of M.)	11, Athol Street.
<b>B</b> ARNSTAPLE ... ..	96, High Street.	<b>D</b> OVER ... ..	Market Street, Market Square.
<b>B</b> ARROW-IN-FURNESS	25, Hindpool Road.	<b>D</b> UBLIN ... ..	Telephone Buildings, Crown Alley, and Temple Bar.
<b>B</b> ATH ... ..	11, Northgate Street.	<b>D</b> UDLEY... ..	64, Tower Street.
<b>B</b> EDFORD ... ..	St. Loyes Chambers, 20, St. Loyes Street.	<b>D</b> UMBARTON ... ..	25, Church Street.
<b>B</b> ELFAST ... ..	Telephone Buildings, Upper Queen Street.	<b>D</b> UMFRIES ... ..	135, High Street.
<b>B</b> ERWICK ... ..	7, Hide Hill.	<b>D</b> UNDEE... ..	13, Panmure Street.
<b>B</b> IRKENHEAD... ..	Telephone Buildings, 19, Price Street.	<b>D</b> URHAM ... ..	18, Elvet Bridge.
<b>B</b> IRMINGHAM ... ..	Telephone Buildings, 19, Newhall Street.	<b>E</b> ASTBOURNE... ..	36, Grove Road.
<b>B</b> LACKBURN ... ..	8, Astley Gate.	<b>E</b> DINBURGH ... ..	Telephone House, 149 to 157, Rose Street.
<b>B</b> LACKPOOL ... ..	Market Chambers, 30, Lytham Street.	<b>E</b> XETER... ..	Castle Chambers, 7, Castle St.
<b>B</b> OLTON ... ..	8, Exchange Street.	<b>F</b> ALKIRK ... ..	7, Vicar Street.
<b>B</b> OOTLE ... ..	2, Princes Street.	<b>F</b> OLKESTONE... ..	13, Grace Hill.
<b>B</b> OURNEMOUTH ... ..	7, Yelverton Road.	<b>G</b> ALASHIELS ... ..	72, High Street.
<b>B</b> RADFORD ... ..	Telephone Buildings, Nelson Street.	<b>G</b> LASGOW ... ..	Royal Exchange Buildings.
<b>B</b> RIGHOUSE ... ..	1, Martin Street.	<b>G</b> LOUCESTER... ..	9, Berkeley Street.
<b>B</b> RIGHTON ... ..	93, Queen's Road.	<b>G</b> RAVESEND ... ..	36, Queen Street.
" ... ..	36, Ship Street.	<b>G</b> REENOCK ... ..	Wallace Place.
<b>B</b> RISTOL... ..	Telephone Buildings, Tele- phone Avenue, Baldwin Street.	<b>G</b> RIMSBY ... ..	135, Victoria Street.
<b>B</b> ROMLEY (Kent) ... ..	33, East Street.	<b>G</b> UILDFORD ... ..	12a, Market Street.
<b>B</b> URNLEY ... ..	4, Calder Street.	<b>H</b> ALIFAX ... ..	10, Crossley Street.
<b>B</b> URY ... ..	Castle Buildings, 7, Old Market Place.	<b>H</b> AMILTON ... ..	Brandon Chambers, Brandon Street.
<b>C</b> AMBRIDGE ... ..	12, Market Place.	<b>H</b> ANLEY ... ..	Telephone Buildings, Etruria Road.
<b>C</b> ANTERBURY... ..	39, St. George's Street.	<b>H</b> ARROGATE ... ..	1, Cambridge Terrace, Parliament Street.
<b>C</b> ARDIFF... ..	Victoria Buildings, Bute Street, Docks.	<b>H</b> ASTINGS ... ..	52, Cambridge Road.
<b>C</b> ARLISLE ... ..	2, Devonshire Street.	<b>H</b> UDDERSFIELD ... ..	7, John William Street.
<b>C</b> HATHAM ... ..	See Rochester.	<b>H</b> ULL ... ..	Telephone Buildings, Mytongate.
<b>C</b> HELTENHAM... ..	19, Regent Street.	<b>I</b> NVERNESS ... ..	22, Union Street.
<b>C</b> CHESTER ... ..	Godstall Chambers, Godstall Lane.	<b>I</b> PSWICH ... ..	7, Museum Street.
<b>C</b> CHESTERFIELD) ... ..	New Square.	<b>J</b> ERSEY ... ..	2, New Street, St. Helier.
<b>C</b> HICHESTER ... ..	10, North Pallant.	<b>K</b> EIGHLEY ... ..	37, Queen Street.
<b>C</b> OLCHESTER ... ..	14, St. John's Street.	<b>K</b> EITH ... ..	27, Braco Street, Fife Keith.
<b>C</b> ORK ... ..	91, South Mall.	<b>K</b> ENDAL ... ..	21, Stramongate.
<b>C</b> OVENTRY ... ..	Bank Chambers, Little Park Street.	<b>K</b> ILMARNOCK ... ..	National Bank Buildings, 2, Market Lane.
<b>C</b> REWE ... ..	Temple Chambers, Exchange Street.	<b>K</b> ING'S LYNN ... ..	19, Broad Street.
<b>C</b> ROYDON ... ..	71 and 73, Church Street.	<b>K</b> IRKCALDY ... ..	211, High Street.

*List of Company's Offices—continued.*

<b>L</b> ANCASTER ... ..	11, Cable Street.	<b>P</b> RESTON... ..	Telephone Buildings, Glover Street.
<b>L</b> EEDS ... ..	Commercial Buildings, Park Row.	<b>R</b> AMSGATE ... ..	70, High Street.
<b>L</b> EICESTER ... ..	Telephone Buildings, 33, Rutland Street.	<b>R</b> EADING... ..	Telephone Buildings, 41, Minster Street.
<b>L</b> IMERICK ... ..	6, Cecil Street.	<b>R</b> EDHILL... ..	21, Chapel Road.
<b>L</b> INCOLN ... ..	Stamford Bank Chambers, 316, High Street.	<b>R</b> OCHDALE ... ..	Oldham Bank Buildings.
<b>L</b> IVERPOOL ... ..	F24, Exchange Buildings.	<b>R</b> OCHESTER ... ..	382, High Street.
<b>L</b> ONDON ... ..	113, Bride St., Barnsbury, N.	<b>R</b> OTHERHAM ... ..	18, Main Street.
" ... ..	5, Cambridge Road, Barking, E.	<b>R</b> YDE (I. of W.) ... ..	38, Union Street.
" ... ..	109, Goldhurst Terrace, Hampstead, N.W.	<b>S</b> T. HELENS ... ..	8, Hardshaw Street.
" ... ..	69, High St., Harlesden, N.W.	<b>S</b> ALISBURY ... ..	1, Queen Street.
" ... ..	248, Lavender Hill, S.W.	<b>S</b> CARBOROUGH ... ..	Vernon Chambers, Vernon Place.
" ... ..	Salisbury House, London Wall, E.C.	<b>S</b> HEFFIELD ... ..	Telephone Buildings, Commercial Street.
" ... ..	77, Market St., Paddington, W.	<b>S</b> KIPTON ... ..	18, New Market Street.
" ... ..	6, 8, & 9, Marshalsea Rd., S.E.	<b>S</b> LAITHWAITE ... ..	Ramsden House, Varley Road.
" ... ..	491, New Cross Road, S.E.	<b>S</b> OUTHAMPTON ... ..	Telephone Buildings, Ogle Road.
" ... ..	4, New Road, Woolwich, S.E.	<b>S</b> OUTHEND ... ..	1, Avondale Terrace, Clarence Road.
" ... ..	Colvestone House, Ridley Road, Dalston, N.E.	<b>S</b> OUTHPORT ... ..	18 & 20, Market Street.
" ... ..	52a, Sussex Place, South Kensington, S.W.	<b>S</b> OUTH SHIELDS ... ..	Albany Chambers, King St.
" ... ..	146-150, Wardour Street, W.	<b>S</b> TIRLING... ..	33, Friars Street.
" ... ..	17-19, West India Dock Road, E.	<b>S</b> TOCKPORT ... ..	19, Heaton Lane.
<b>L</b> ONDONDERRY ... ..	Northern Bank Buildings, Custom House Street.	<b>S</b> TOCKTON ... ..	Telephone Buildings, 10 & 11, Albert Road.
<b>L</b> OWESTOFT .. ..	134, Bevan Street.	<b>S</b> TROUD ... ..	42, London Road.
<b>L</b> UTON ... ..	2 & 3, Cheapside Chambers.	<b>S</b> UNDERLAND ... ..	The Arcade.
<b>M</b> AIDENHEAD... ..	Cresset Tower, 71a, High St.	<b>S</b> WANSEA... ..	66, Wind Street.
<b>M</b> AIDSTONE ... ..	40, Earl Street.	<b>T</b> ORQUAY ... ..	15, Abbey Road.
<b>M</b> ANCHESTER ... ..	102, Portland Street.	<b>T</b> ROWBRIDGE ... ..	5 & 6, Home Mill Buildings.
<b>M</b> MARGATE ... ..	15, Cecil Square.	<b>T</b> RURO ... ..	23, Victoria Place.
<b>M</b> MIDDLESBROUGH ... ..	Post Office Buildings, Marton Road.	<b>T</b> UNBRIDGE WELLS... ..	15, Dudley Road.
<b>N</b> EWCASTLE ... ..	160, Pilgrim Street.	<b>W</b> AKEFIELD ... ..	1, Southgate.
<b>N</b> EWPORT (Mon.) ... ..	Telephone House, Dock St.	<b>W</b> ALSALL... ..	County Buildings, Bridge Street.
<b>N</b> ORTHAMPTON ... ..	8, Abington Street.	<b>W</b> ARRINGTON ... ..	8, Scotland Road.
<b>N</b> ORWICH ... ..	16, Haymarket.	<b>W</b> ATERFORD ... ..	6, High Street.
<b>N</b> OTTINGHAM ... ..	Telephone Buildings, 28, George Street.	<b>W</b> ATFORD ... ..	5, Derby Road.
<b>O</b> LDHAM ... ..	7, Ascroft Street.	<b>W</b> EST HARTLEPOOL ... ..	24 & 26, Charles Street, Whitby Street.
<b>O</b> TLEY ... ..	The Grange.	<b>W</b> ESTON-SUPER-MARE ... ..	18, Wadham Street.
<b>O</b> XFORD ... ..	5, Magdalen Street.	<b>W</b> EYBRIDGE ... ..	4, Avenue Villas, High Street.
<b>P</b> AISLEY ... ..	Terrace Buildings.	<b>W</b> EYMOUTH ... ..	55, St. Thomas Street.
<b>P</b> ERTH ... ..	20, Scott Street.	<b>W</b> HITEHAVEN... ..	29, Middle Church Street.
<b>P</b> PETERHEAD ... ..	1a, Queen Street.	<b>W</b> IGAN ... ..	22, Victoria Buildings, King St.
<b>P</b> PLYMOUTH ... ..	Central Exchange, 28, Whimple Street.	<b>W</b> INDSOR ... ..	Datchet Road.
<b>P</b> PONTYPOOL ... ..	9, George Street.	<b>W</b> OLVERHAMPTON ... ..	Telephone House, North Street.
<b>P</b> PONTYPRIDD ... ..	Mill Street Chambers.	<b>W</b> ORCESTER ... ..	Temple Chambers, St. Nicholas Street.
<b>P</b> ORTSMOUTH ... ..	Pearl Assurance Buildings, Commercial Road.	<b>Y</b> ARMOUTH (Norfolk) ... ..	9, Regent Street.
		<b>Y</b> ORK ... ..	32, Parliament Street.

The Company is prepared to erect Private Lines, Internal Installations, etc., and to sell them outright; it will also maintain the same for a small annual charge.

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All, and every description of Telephonic apparatus provided at favourable rates.

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All necessary material for installing, and maintaining Telephones, Electric Bells, Fire, and Police Alarms, etc., always in Stock.

## *Transmitters.*

**Pattern No. B1** <sup>(27)</sup>

*SKELETON FORM  
OF  
GRANULAR CARBON*

*TRANSMITTER*

With Mouthpiece.

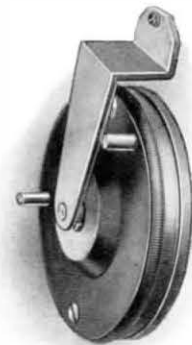


**Price 10/6**

**Pattern No. B2** <sup>(27)</sup>

*CONVERTER FORM  
OF  
GRANULAR CARBON*

*TRANSMITTER*



**Pattern No. B2**—This type is arranged for the purpose of converting existing Blake Transmitters.

**Price 9/6**

**Pattern No. B3** <sup>(21)</sup>

*GRANULAR CARBON*

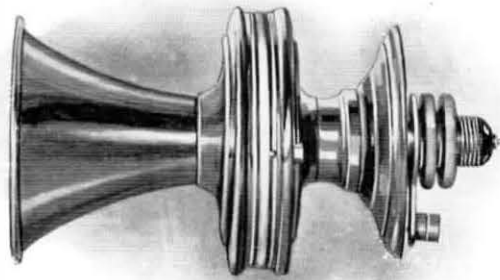
*HAND*

*TRANSMITTER*

With Battery Key  
in Handle



**Price £1 1 0**

Transmitters—continued.**Pattern No. B4** <sup>(12)</sup>*Price 9/-***Pattern No. B5** <sup>(12)</sup>*Price 9/-*

**Patterns Nos. B4 and B5**—These Granular Carbon Transmitters, fitted with outer Waterproof Silk Diaphragms, are also intended to replace Blake Transmitters.

Transmitters—continued.Pattern No. **B6**<sup>(20)</sup>**BREASTPLATE TRANSMITTER**

Comprises Granular Carbon Transmitter, Breastplate, Battery Switch, Elastic Web, Receiver Cord, 5-way Plug, Cord, and 5-way Jack.



Breastplate Transmitter, and Headgear Receiver as used in conjunction with one another.

Price **£2 5 8**

Pattern No. **B6**.—The illustration on the right shows the manner in which this apparatus is made use of in conjunction with a Headgear Receiver, Pattern No. **B14**. (See also Patterns Nos. **B13**, and **B15**.)

This Breastplate Transmitter is largely employed for Switchboard work, and is also particularly useful where letters are dictated through the telephone, as, used by a clerk in conjunction with a Headgear Receiver, it enables the principal while still sitting in his private room to dictate to the former (whose hands are free for writing shorthand notes, typewriting, etc.); the fact of the clerk being in a distant office making no difference. The transmitter is so arranged that when the mouthpiece is turned downwards the speaking battery is disconnected, thereby obviating wastage of battery energy.

The most convenient description of Desk Set to be used for dictating purposes in connection with a Headgear Receiver, and Breastplate Transmitter is Pattern No. **B57**. (See also Pattern No. **B54**, and pages 84—87.)

**Transmitters**—continued.**Pattern No. B7**<sup>(23)</sup>**GRANULAR CARBON TRANSMITTER**

Fitted (with projecting mouthpiece), outside a Case, and an Induction Coil inside.

**Price 18/-**

**Pattern No. B7**—An excellent Transmitter, suitable for use with a Magneto Wall Set.

**Pattern No. B8**<sup>(14)</sup>**GRANULAR CARBON TRANSMITTER**

Fitted inside a Blake Case, with Induction Coil.

**Price 13/6**

**Pattern No. B8**—This form of transmitter is also suitable for use in conjunction with a Magneto Wall Set, and is of a somewhat neater appearance than Pattern No. **B7**, as it has no projecting mouthpiece, or outside terminals.

## *Receivers.*



**Pattern No. B9<sup>(18)</sup>**

*WATCH  
RECEIVER,  
AND CORD*

*Price 6/-*

**Pattern No. B9**—Watch Receiver, and Cord—This is a suitable Receiver for a number of different patterns of instruments, and as it is small, and light it is desirable for use by an invalid.

The Company having in stock a number of these Receivers which have been in use, is prepared to dispose of them at **4/- each**. They have been put into thorough order, and repair, and are as far as efficiency is concerned equal to new.

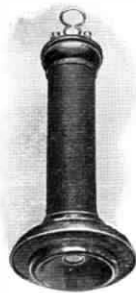
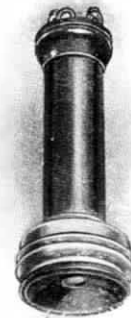
**Pattern No. B10<sup>(15)</sup>**

*STANDARD  
PATTERN  
EXTRA  
RECEIVER*

*Price 10/-*



**Pattern No. B10**—Standard Pattern Extra Receiver—This is the type of extra Receiver to be used with most patterns of instruments. It can also, if necessary, be used in place of Pattern No. **B12**.

Receivers—continued.**Pattern No. B 11****SINGLE POLE****“BELL”****RECEIVER****Price 1-****Pattern No. B 12****DOUBLE POLE****“BELL”****RECEIVER****Price 4 6**

**Patterns No. B11**—Single Pole “Bell” Receiver, and **No. B12**—Double Pole “Bell” Receiver—These are types of long-sleeved Receivers, and while it may be said that each is good, the double pole (**B12**) is the later, and improved pattern. Both occasionally slightly vary in style from the above illustrations.

N.B.—The stock which the Company holds of these Receivers consists of those which have been in use, and they are, therefore, offered at the above reduced prices. All, however, are practically equal to new, each being done up prior to issue.

**Price for New Double Pole Receiver with Cord <sup>(17)</sup> ... 9/-**

Receivers—continued.**Pattern No. B13** <sup>(29)</sup>**HEADGEAR RECEIVER**

(Differentially wound)

With adjustable Elastic Band.

**Price 14/-****Pattern No. B14** <sup>(30)</sup>**HEADGEAR RECEIVER**

(Differentially wound)

With adjustable Metal Bands, and Ear Pad.

**Price 15/6****Pattern No. B13**—Headgear Receiver (differentially wound) with adjustable elastic band.**Pattern No. B14**—Headgear Receiver (differentially wound) with adjustable metal bands, and ear pad.

These two Receivers have been designed for use in instances where communications are constantly being received, as in the case of a person operating a switchboard, typewriter, etc., and where, therefore, the free use of the hands is necessary. The instruments can be easily, and quickly adjusted, and when fitted on the head, rest there without causing any inconvenience to the wearer. Both are for use with Pattern No. B6.

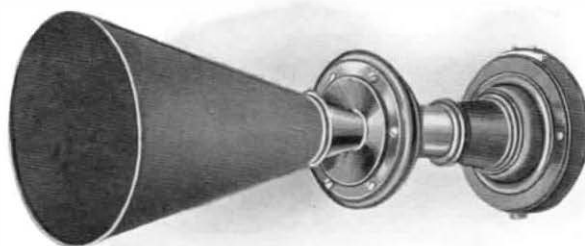
**Adjustable Elastic Bands** <sup>(5)</sup> **1/3 each.**

Receivers—continued.**Pattern No. B15** <sup>(5)</sup>**DOUBLE HEADGEAR RECEIVER**

With adjustable Metal Bands.



**Pattern No. B15**—This being a double receiver, and thus assisting to shut out external sounds from both ears, enhances the hearing powers of the user. In all other respects it is similar to Pattern No. B14.

**Price £1 6 0****Pattern No. B16** <sup>(17)</sup>**LOUD SPEAKING RECEIVER WITH SOUND DIRECTOR**

**Pattern No. B16**—This Receiver is sufficiently loud, and distinct to allow of a number of persons hearing the words transmitted.

**Price £2 5 0**

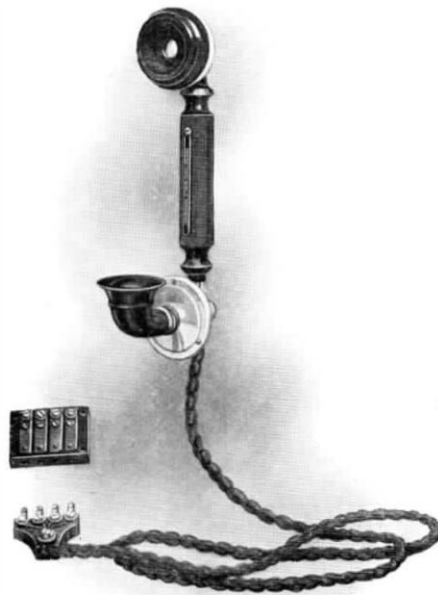
***Hand Combination Transmitters and Receivers  
(Hand Micro-Telephone).***

**Pattern No. B17<sup>(28)</sup>**

***STANDARD PATTERN HAND MICRO-TELEPHONE***

***4-POINT.***

Comprises Granular Carbon Transmitter, Receiver (Double Pole), Cord, Switch Key, 4-way Plug, and 4-way Jack.



***Price £1 10 0***

**Pattern No. B17**—Standard Pattern Hand Micro-Telephone, 4-point; for Instruments, etc.—This is the pattern of Hand Micro-Telephone which has been adopted by the Company as the most suitable for all ordinary purposes, including the correspondence installation described on pages Nos. 84 to 86. In place of being clumsy, and heavy, as is the case with so many Hand Micro-Telephones, it is light, and neat.

<sup>(38)</sup>  
***4 way Cords 2/6 each.***

<sup>(17)</sup>  
***4-way Jacks 2/9 each.***

<sup>(17)</sup>  
***4-way Plugs 2/9 each.***

Hand Micro-Telephones—continued.Pattern No. **B18**<sup>(18)</sup>**STANDARD PATTERN HAND MICRO-TELEPHONE***5-POINT.*

Comprises Granular Carbon Transmitter, Receiver (Double Pole), Cord, Switch Key, 5-way Plug, and 5-way Jack.

Price **£1 15 0**

**Pattern No. B18**—Standard Pattern Hand Micro-Telephone, 5-point.—This is differentially wound, and is for use in connection with special multiple Switchboard working, otherwise, the same remarks apply as in the case of pattern No. **B17**.

<sup>(36)</sup>  
5-way Cords **3/-** each.<sup>(24)</sup>  
5-way Jacks **3/6** each.<sup>(24)</sup>  
5-way Plugs **3/6** each.

# *Long Distance Telephones.*

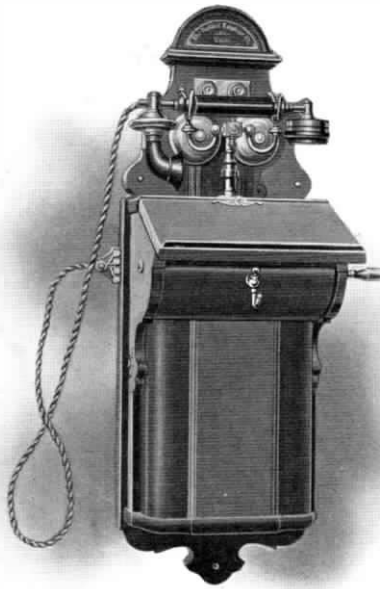
## *Magneto Wall Sets.*

**Pattern No. B19** <sup>(6)</sup>

### **MAGNETO WALL SET**

#### **NATIONAL TELEPHONE COMPANY'S STANDARD PATTERN**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Battery Box, and Writing Desk with Paper Clip.



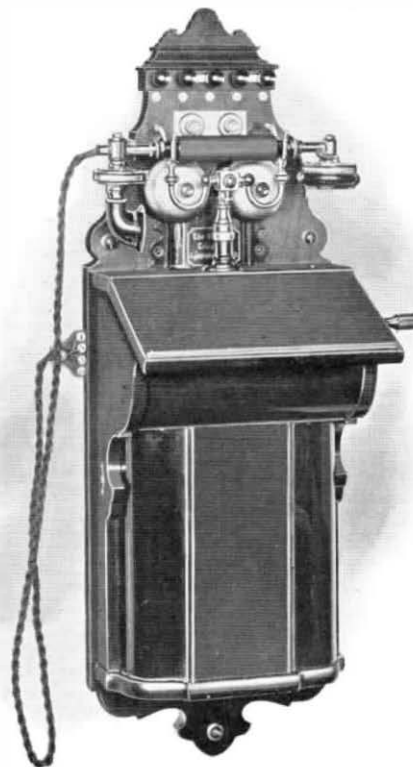
**Pattern No. B19**—This type of instrument, of original design, and best quality, has, after long trial, been adopted by the Company as the most desirable form of Wall Set for use, not only on its ordinary exchange system, but on private lines. It contains the very latest improvements with most substantial construction, and has a neat, and pleasing appearance. It should be specially noted that instruments very similar in form are offered by various makers, but such instruments cannot be compared with those sold by the Company.

**Price £3 15 0**

If extra Receiver, and Cord are required, see Pattern No. B10, and page 142.

Magneto Wall Sets—continued.**Pattern No. B20** <sup>(24)</sup>**MAGNETO WALL SET**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, Lightning Arrester, 4-Magnet Generator, Bell, Battery Box, and Writing Desk with Paper Clip.



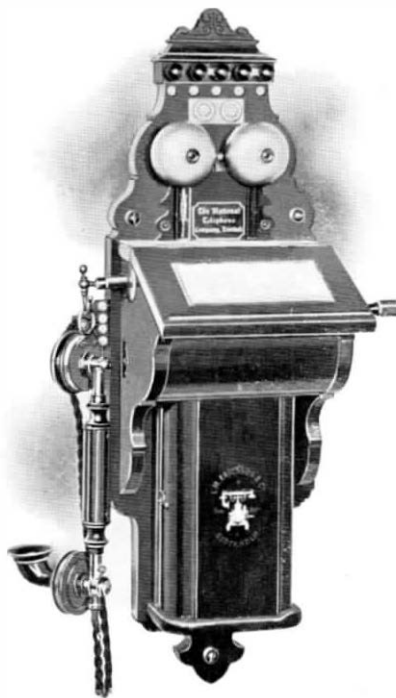
**Pattern No. B20**—This is a large size instrument, and the generator will ring satisfactorily through the 300-ohm bell of the instrument, and a line resistance of 25,000-ohms.

**Price £4 17 0**

*Magneto Wall Sets--continued.*

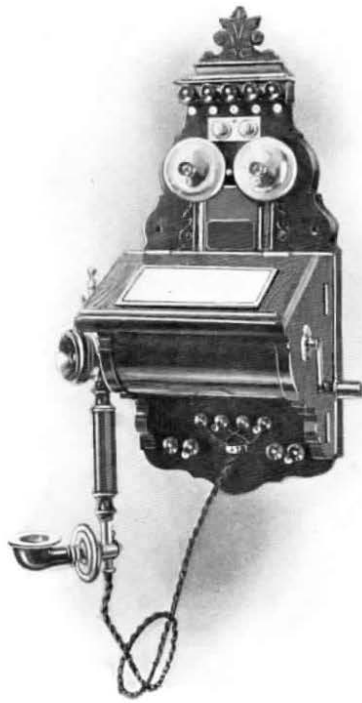
**Pattern No. B21<sup>(18)</sup>**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, 3-Magnet Generator, Bell, Battery Box, Writing Desk, with Paper Clip, or Writing Tablet.



**Pattern No. B21**—This instrument is of ordinary size, and the generator will ring satisfactorily through the 300-ohm bell of the instrument, and a line resistance of 20,000-ohms.

**Price £4 2 0**

Magneto Wall Sets—continued.

Price £3 18 0

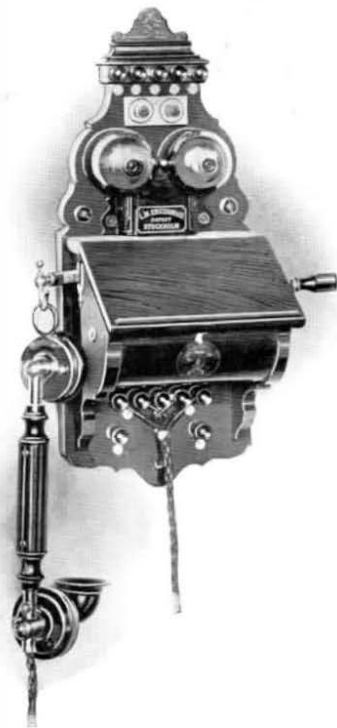
**Pattern No. B22<sup>(16)</sup>**—Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, and Writing Tablet for making notes.

This Set is of attractive appearance, and superior finish. The Batteries are fitted away from the instrument.

**Pattern No. B23<sup>(18)</sup>**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, and Bell.

This is a small Set, and is fitted with a 2-magnet generator which will ring satisfactorily through the 100-ohm bell of the instrument, and a line resistance of 5,000-ohms. The Batteries are fitted away from the instrument.



Price £3 0 0

Magneto Wall Sets—continued.

Price £4 17 0

**Pattern No. B25<sup>(18)</sup>**

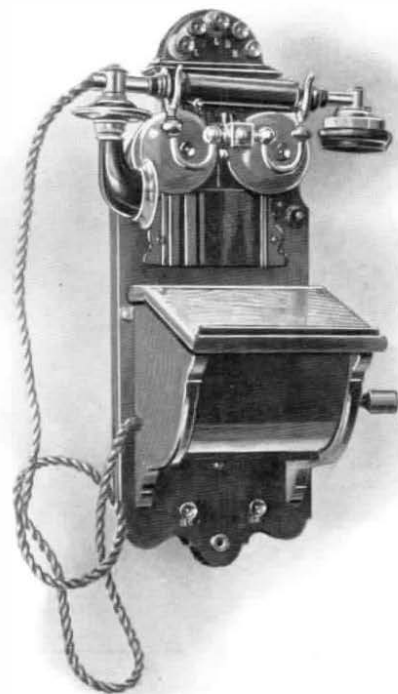
Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Lightning Arrester, 3-Magnet Generator, Bell, and Writing Desk.

This Wall Set is a useful instrument for distances up to 40 miles. The batteries are fitted away from the instrument.

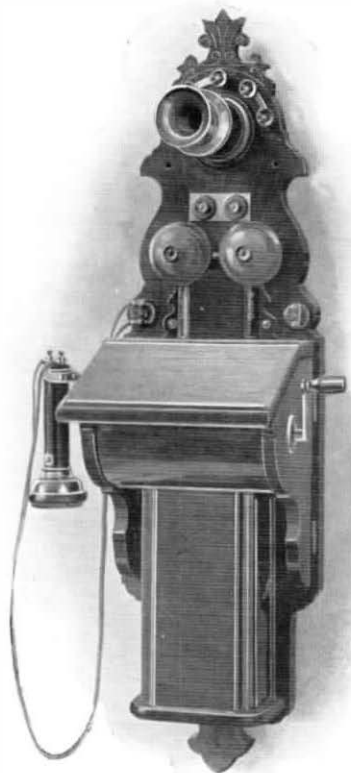
**Pattern No. B24<sup>(18)</sup>**—Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, and Writing Tablet.

The frame-work of this instrument is made of iron, the use of wood being entirely avoided. It is intended principally for use in tropical climates, with the special object of withstanding the ravages of ants, and other destructive insects, and although made of heavy material it has a light, and exceedingly ornate appearance.

The batteries are fitted away from the instrument.



Price £4 0 0

Magneto Wall Sets—continued.**Pattern No. B 26** <sup>(15)</sup>

**Price £3 18 0**

**Pattern No. B 27**—This is a larger make of the same form of instrument as the previous illustration, and the generator also provides extra ringing power; further, there is ample space for large batteries.

The Key placed in the centre of the apparatus, behind the paper clip, may be depressed to improve the hearing (especially on long lines) when receiving a message, but must not be when speaking. It cuts out the bell while ringing, and the secondary of the induction coil when receiving a message. This arrangement prevents sounds near the instrument from being overheard at the other end, and reduces the resistance.

The Set is a very efficient one suitable for exceptional circumstances.

**Pattern No. B 26** — Comprises Granular Carbon Transmitter, Double Pole Receiver, Cord, Automatic Switch-Hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Battery Box, and Writing Desk.

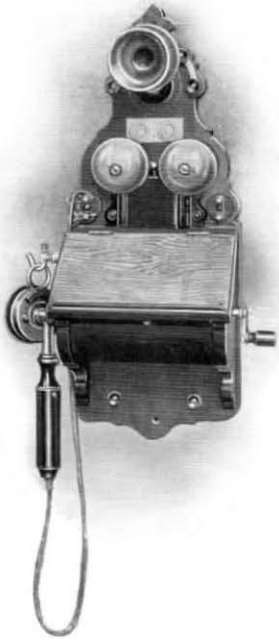
This is a highly ornamental instrument suitable for private lines.



**Pattern No. B 27.** — Comprises Granular Carbon Transmitter, Double Pole Receiver, Cord, Automatic Switch-Hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Special Key, Battery Box, and Writing Desk with Paper Clip.

**Pattern No. B 27** <sup>(19)</sup>

**Price £4 10 0**

Magneto Wall Sets—continued.**Pattern No. B28**<sup>(18)</sup>

**Price £2 16 0**

**Pattern No. B29**—Comprises Granular Carbon Transmitter, Double Pole Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, 3-Magnet Generator, Bell, Backboard, and Battery Box.

This is a very serviceable pattern of Wall Set, and can be specially recommended for warehouses, factories, etc.

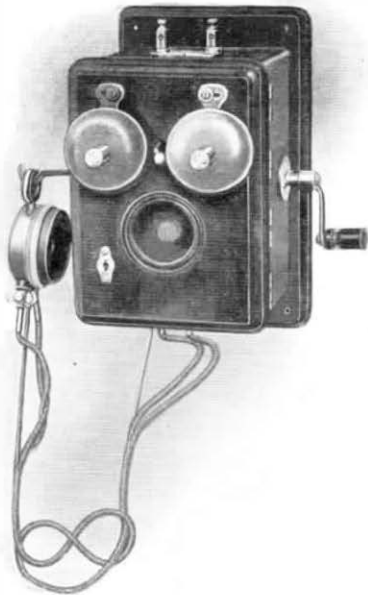
**Price £3 7 6**

The Company having a considerable number of this type which have been used, has put them into a condition equal to new, and is prepared to dispose of them at the specially low rate of **£2 15 0**

**Pattern No. B28**—Comprises Granular Carbon Transmitter, Double Pole Spoon Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, and Writing Desk.

This set is of attractive appearance, and as the batteries are placed away from the instrument a neat, and very compact form is given to it, which renders it suitable for use in restricted spaces.

**Pattern No. B29**<sup>(13)</sup>

Magneto Wall Sets—continued.**Pattern No. B30** <sup>(32)</sup>

Comprises Granular Carbon Transmitter fitted inside the case, Watch Receiver, Silk Cord, Automatic Switch-hook, Induction Coil, Two-Magnet Generator, and Bell.

This small type of instrument will be found useful in positions where the question of space is a consideration. The batteries are fitted away from the instrument, which can be provided with Lightning Arresters at a small extra charge.

**Price £2 5 0**

**Pattern No. B31** <sup>(24)</sup>

Comprises Granular Carbon Transmitter with projecting mouthpiece, Double Pole Receiver, Cord, Automatic Switchhook, Induction Coil, Lightning Arrester, Two-Magnet Generator, and Bell.

This Set is suitable for any distance up to one mile. The batteries are fitted away from the instrument.

**Price £2 10 0**



## *Magneto Table Sets.*

**Pattern No. B 32** <sup>(7)</sup>

### *MAGNETO TABLE SET.*

#### *NATIONAL TELEPHONE COMPANY'S STANDARD PATTERN.*

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, Lightning Arrester, Magneto Generator, Bell, and Ebonised Wall Rosette, and Cord.



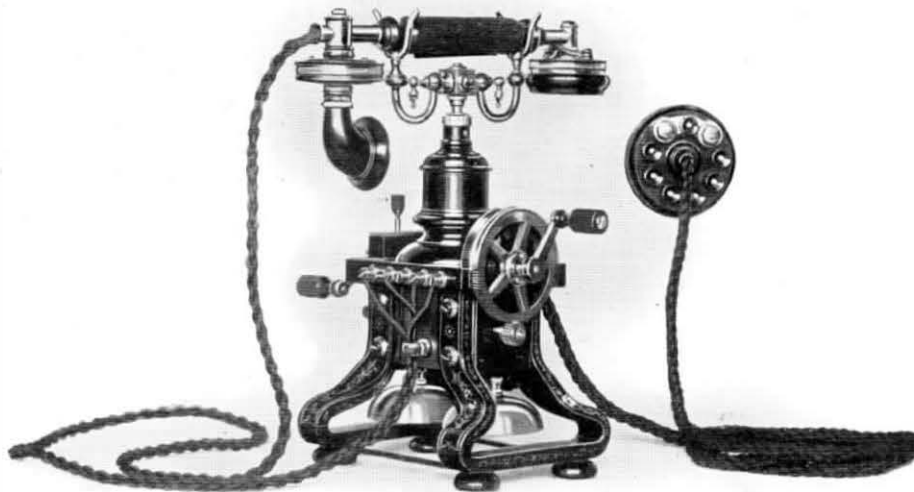
**Pattern No. B32**—This type of instrument, of original design, and best quality, has, after long trial, been adopted by the Company as the form of Table Set for use, not only on its ordinary exchange system, but on private lines. It combines the very latest improvements with most substantial construction, and has a neat, and pleasing appearance. It should be specially noted that instruments very similar in form are offered by various makers, but such instruments cannot be compared with those sold by the Company.

**Price £4 10 0**

Magneto Table Sets—continued.

**Pattern No. B 33** <sup>(7)</sup>

Comprises same parts as Pattern No. B 32, but fitted with two handles for  
Double Driving.



**Pattern No. B 33**—This is the same as Pattern No. B 32, but the generator is provided with two cranks, thereby making the instrument suitable for use where two persons sit opposite each other at the same desk.

**Price £4 15 0**

Magneto Table Sets—continued.**Pattern No. B34** <sup>(15)</sup>

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch (Double Hook), Induction Coil, Lightning Arrester, 3-Magnet Generator, Bell, Wall Rosette, and Cord.

This is a neat, and very useful instrument; being of converted type, and the Company having a large stock, it is able to offer the Sets at the very low price named.

**Price £3 10 0**

**Pattern No. B35** <sup>(15)</sup>**“BEESTON” PATTERN TABLE SET.**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, 3-Magnet Generator, Bell, Wall Rosette with Lightning Arrester, and Cord.

This square type of Table Set is ornamental in appearance, and has the advantage of all the parts being covered.

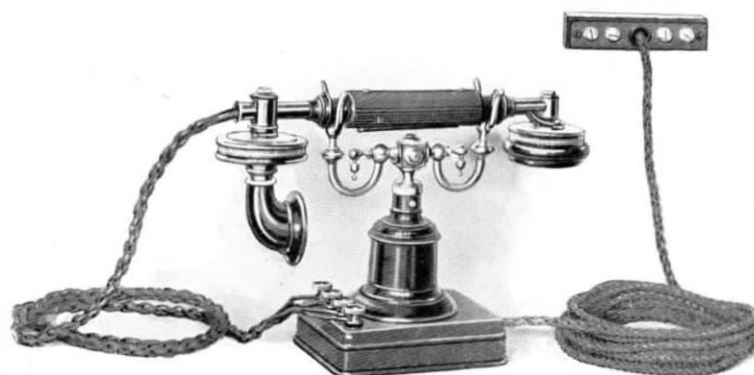
**Price £4 0 0**



## *Extension Telephone without Bell.*

**Pattern No. B36** <sup>(18)</sup>

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, Cord, and Terminal Block.



**Pattern No. B36**—This instrument is intended for use when an extension is wanted in connection with a wall instrument in another room when the bell on the wall instrument can be heard in the other room. By this arrangement it is not necessary to go to the wall instrument in order to answer a call.

**Price £2 5 0**

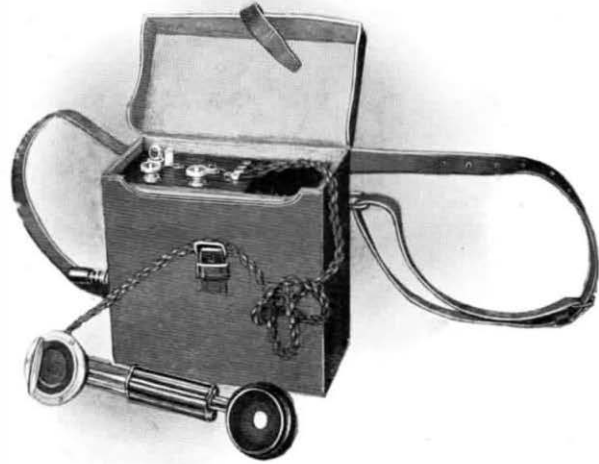
## *Portable Magneto Telephone Sets.*

### **Pattern No. B37** <sup>(24)</sup>

Comprises Telescoping Hand Combination Transmitter, and Receiver, Cord, Induction Coil, Magneto Generator, Bell, and Battery.

Weight complete 8¼ lbs.

**Price £5 10 0**



**Pattern No. B37**—This set has been designed for purposes where a Telephone is required for temporary use only, and has to be constantly moved from place to place, as for instance, when used by a lineman, and for military, railway, and other occasional purposes. A Telescoping form of Hand Micro-Telephone, and a small pattern Magneto Generating Apparatus are employed, thus rendering the set exceedingly compact, and portable. The whole is contained in a wooden box enclosed in a strong outer leather case with shoulder strap, and is particularly neat and light. It has been found from experience that this is in every way the most suitable instrument for shooting ranges.



### **Pattern No. B38** <sup>(19)</sup>

Comprises Hand Combination Transmitter, and Receiver with Waterproof Cord, Induction Coil, Lightning Arrester, Terminals, Magneto Generator, Bell, and Two Dry Cells; enclosed in Polished Oak Case.

**Price £5 10 0**

**Pattern No. B38**—This instrument is specially suitable for use at some particular spot where a permanent Telephone Station is not required.

## *Private Lines to Stables, &c.*



Particular attention is called to the great advantage of being able to communicate immediately at all hours, and without any inconvenience, with outlying buildings, such as Stables, etc.

This is particularly the case in London, and other large cities, where frequently of necessity the stabling is at some considerable distance from the private house, and it is not always possible for a messenger to be despatched with an urgent order for the attendance of a carriage.

A Private Telephone connecting the two points supplies the quickest, easiest, and most satisfactory means of communication.

The Company is at all times ready to estimate for, and erect such installations for sale outright, or if so desired, the exclusive use of same can be secured on payment of a moderate annual rental.

## *Battery Wall Sets.*

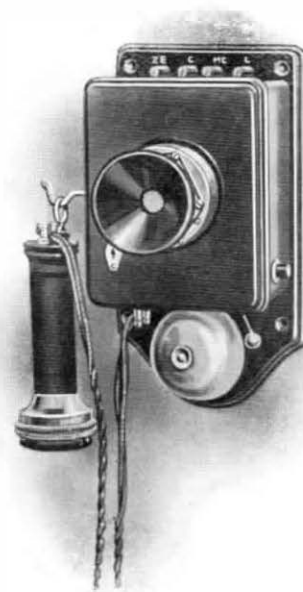
**Pattern No. B39** <sup>(26)</sup>

**Pattern No. B40** <sup>(26)</sup>

Both comprise Granular Carbon Transmitter, Double Poie Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell (fitted on backboard), and Push Button.



**Price £1 6 0**

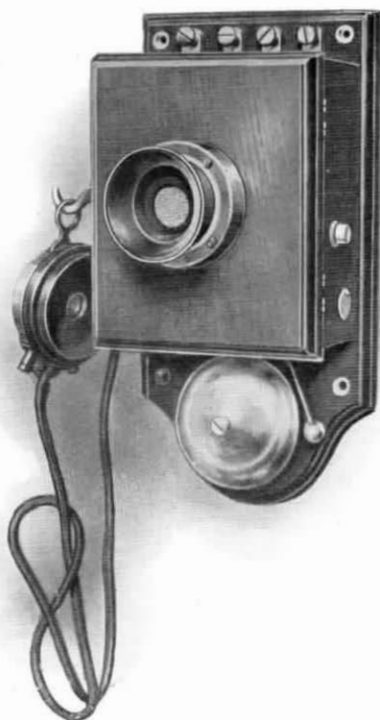


**Price £1 16 0**

**Patterns Nos. B39 and B40.**—These illustrations show complete Telephone Sets made up in a most compact form. Both can be confidently recommended as being cheap, well made, useful, and very suitable for short lines in private residences, hotels, offices, etc. Calling is effected by means of a battery.

**Pattern No. B39** has the transmitter fitted inside the case.

**Pattern No. B40** has the transmitter fitted outside the case, with projecting mouthpiece.

Battery Wall Sets—continued.**Pattern No. B41**<sup>(17)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell (fitted on back-board), and Push Button.

This is a very cheap instrument, and the same general remarks apply as in the case of Pattern No. B40.

**Price £1 2 0**

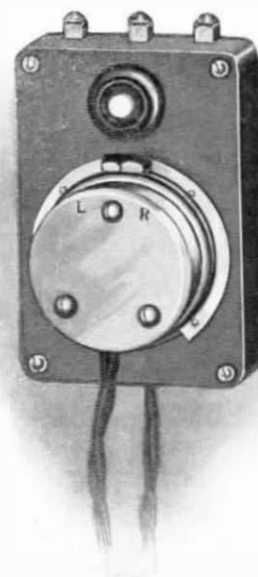
**Pattern No. B42**<sup>(9)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, and Push Button.

This is a cheap Wall Set for positions in connection with which an instrument without Bell, or Induction Coil, is suitable.

**Price 12/-**

The same instrument, but fitted with an Induction Coil can be supplied at 1/3 extra.

**Pattern No. B43**<sup>(21)</sup> (not illustrated)

This is another instrument of practically the same type, and appearance as Pattern No. B41, but differing slightly in detail, further it is fixed to a backboard the latter being mounted on a base, and it thus forms a set very suitable for a Warehouse bench, &c.

**Price £1 7 6**

**Battery Wall Sets**—*continued.*

**Pattern No. B44** <sup>(21)</sup> (*illustrated*) and **Pattern No. B45** <sup>(21)</sup> (*not illustrated*).

Both comprise Granular Carbon Transmitter mounted in Nickel-plated fittings, Automatic Switch-hook, Induction Coil, Bell, and Push Button.

**Pattern No. B44** is fitted with a Double Pole Spoon Receiver, and Cord.

**Pattern No. B45** is fitted with an ordinary Double Pole Receiver, and Cord.

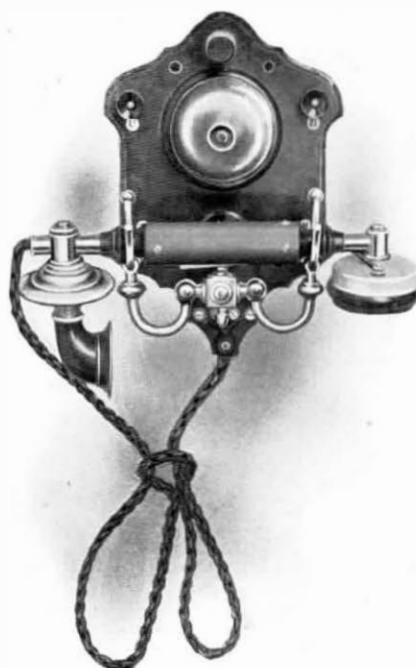
**Pattern No. B44.**

*Price (either Pattern) £2 4 0.*

**Patterns Nos. B44 and B45**—These two very neat complete Telephone Sets, calling in connection with which is done by means of a battery, are similar except that the one is fitted for, and with a Spoon Receiver, and the other for, and with a Double Pole Receiver. The former is a slightly lighter receiver than the latter, but both are equally effective for the purpose for which they are required.

**Battery Wall Sets**—continued.**Pattern No. B46** <sup>(18)</sup>**Pattern No. B47** <sup>(23)</sup>

Both comprise Hand Combination Transmitter, and Receiver, Cord, Induction Coil, Bell, and Push Button, but whereas **No. B46** has an Automatic Switch, **No. B47** has a fixed Cradle with a Double Contact Key in the Handle of the Hand Combination.

**Price £2 10 0****Price £2 16 0**

**Patterns Nos. B46 and B47**—These are types of the same class of instrument, and are largely employed where a fixed form of transmitter would be inconvenient. An invalid for instance can use either of these sets while lying in bed.

While both instruments are decorative, **Pattern No. B47** is perhaps the more ornate, and less likely to harbour dust; further, the Hand Micro-Telephone, when not in use, being on a cradle, the possibility of the former being knocked against the wall is avoided.

Battery Wall Sets—continued.**Pattern No. B48** <sup>(23)</sup>

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Bell, and Push Button.

The same remarks apply to this instrument as in the case of Pattern No. B47 of which it is an alternative type.

**Price £2 5 0**

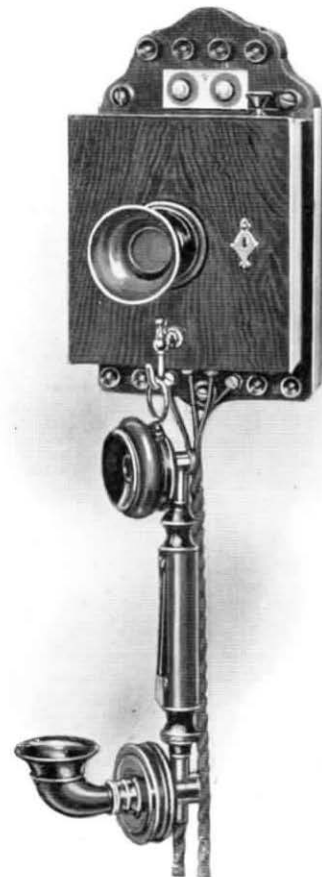
**Pattern No. B49** <sup>(18)</sup>

**TELEPHONE AND TELEGRAPH  
SET COMBINED.**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Second Receiver, Hook for suspending the Hand Micro-Telephone, Line Condenser, Buzzer with Condenser, Induction Coil, Lightning Arrester, and Push Button.

This instrument has been devised for use in situations where both a telephone, and telegraph instrument would be a convenience. The push button is used both for ringing, and signalling.

**Price £3 15 0**



Battery Wall Sets—continued.**Pattern No. B50** <sup>(30)</sup>

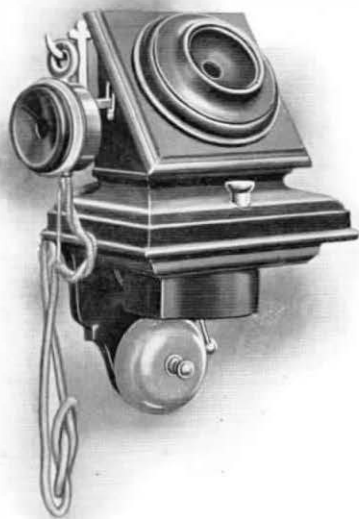
Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Buzzer, and Push Button; mounted in Walnut Case.

This is a very convenient, and neat type of instrument.

Price £2 2 6

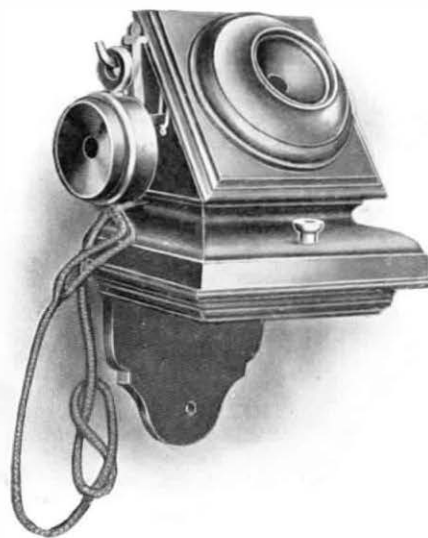
**Pattern No. B51** <sup>(26)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, and Push Button.



**Pattern No. B51**—This is an obliquely mounted Set on a bracket, and is a very suitable instrument for some special situations.

Price £1 10 0

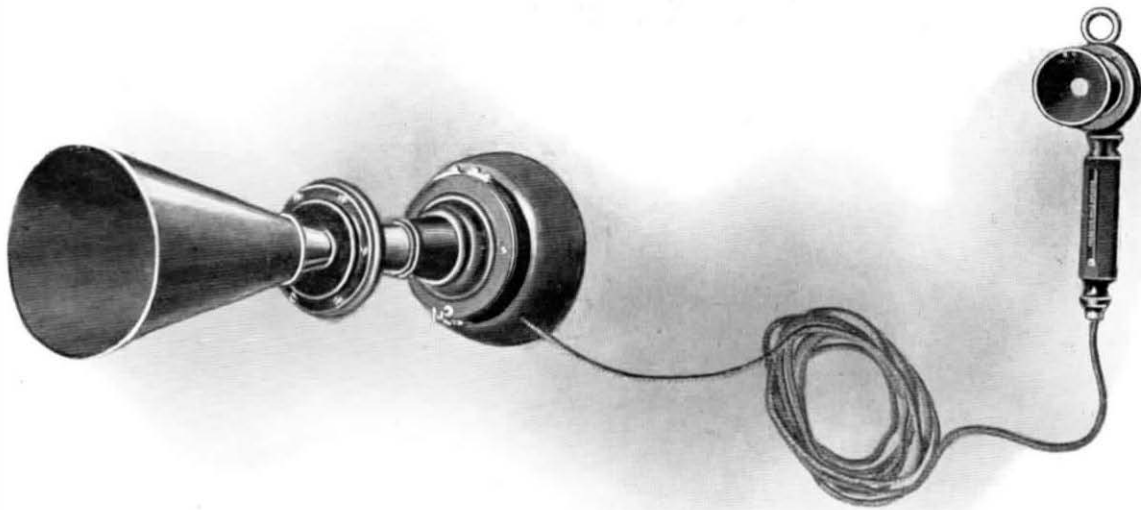
**Pattern No. B52** <sup>(26)</sup>

**Pattern No. B52**—This is similar to Pattern No. B51, but without bell.

Price £1 7 0

Battery Wall Sets—continued.**LOUD SPEAKING TELEPHONES.****Pattern No. B53**<sup>(9)</sup>**LOUD SPEAKING WALL SET**

Comprises Loud Speaking Receiver, Pattern **No. B16**, and Induction Coil, Pattern **No. B131**, the Receiver being mounted on, and the Coil enclosed in, a Walnut block as illustrated below; also a Hand Transmitter, Pattern **No. B3**.

**Price £3 0 0**

**Pattern No. B53**—With this installation no bell is required, as in order to call attention the Transmitter is held to the mouth whilst the Battery Key is kept depressed, the person required being then called by name.

The primary object for which the Set has been devised, is for communicating between a private room, and an outer office. By its use the principal can send any message to his clerks without leaving his chair, and unless the key in the Hand Transmitter is pressed no conversation taking place in the private room can be heard in the outer office. With this Set conversation can only take place one way.

The above price does not include any length of flexible cord, this, or any wiring being extra.

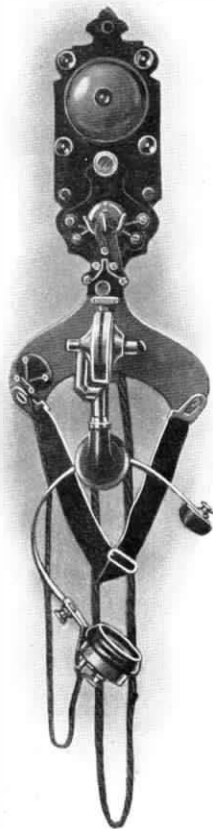
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**Telephones for Electric Traction systems,**

*full particulars, and prices on application.*

**Battery Wall Sets**—*continued.***Pattern No. B54** <sup>(5)</sup>**DICTATION SET.**

Comprises Wall Instrument fitted with Automatic Switch-hook, Induction Coil, Bell, and Push Button; Breastplate Transmitter (Granular Carbon) complete with Cords, Elastic Web, and Battery Switch; also a Metal-band Headgear Receiver, and Cup-hook for suspending same.



**Pattern No. B54.**—This Set is intended for use by persons requiring the free use of their hands for typewriting, shorthand, etc. It is, for the purpose for which it has been devised, by far the most convenient Set upon the market.

**Price £3 11 6**

If fitted with a Double Headgear Receiver (Pattern No. B15), in place of a single one (Pattern No. B14) as above.

**Price £4 6 3**

See also pages Nos. 84 to 87.

## *Combined Table and Wall Battery Set.*

**Pattern No. B 55** <sup>(17)</sup>

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Buzzer, Push Button, Wall Rosette, and Cord (the two latter when in Table Form).

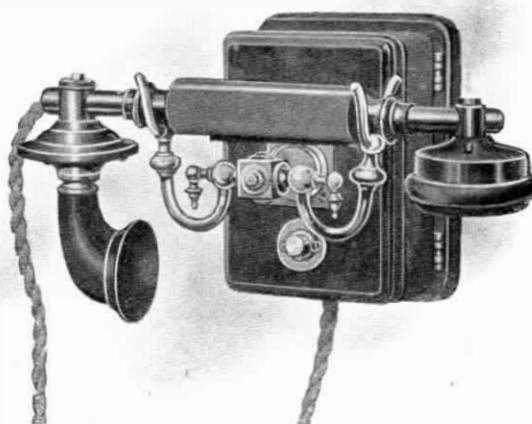
FIG. I.

*AS A TABLE SET.*



FIG. II.

*AS A WALL SET.*



**Pattern No. B55**—The great advantage of this Battery Ringing Set is that it can in a few seconds be made into either a Table, or Wall Set, the only tool required being a small screw-driver, and the alteration consisting of either removing, or adding the Pillar, Wall Rosette, and Cord, as illustrated above. The removable parts lift off with ease.

**Price £2 12 6**

**Pattern No. B 56** <sup>(18)</sup> (*not illustrated*)

This is the Figure II. form of Pattern No. B55, and comprises exactly the same parts, but the cradle being a permanent one the instrument is not convertible, and as such can be supplied at a lower figure.

**Price £2 5 0**

## *Battery Table Sets.*

**Pattern No. B57** <sup>(23)</sup>

### **TABLE SET WITH HAND MICRO-TELEPHONE, AND BELL.**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle-switch, Induction Coil, Bell, Push Button, Wall Rosette, and Cord.



**Price £3 3 0**

**Pattern No. B57**—This is a similar Set to **Pattern No. B47**, but adapted for table, or desk use. It is a useful form of instrument for offices, particularly for dictating letters, etc., from the principal's office in connection with a Dictation Set, **Pattern No. B54**.

See also pages 84 to 87.

**Pattern No. B58** <sup>(32)</sup> (*not illustrated*).

### **TABLE SET WITH HAND MICRO-TELEPHONE, AND BUZZER.**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Buzzer, Push Button, and Wall Rosette, and Cord; mounted in Walnut Case.

This is a neat, and efficient type of instrument, and in appearance very similar to Figure I. of **Pattern No. B55**; the base of **No. B58** is, however, not so high.

**Price £2 12 6**

**Battery Table Sets**—*continued.***Pattern No. B59** <sup>(31)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Push Button, Wall Rosette, and Cord.



**Pattern No. B59**—This is a very neat instrument.

**Price £1 16 0**

**Pattern No. B60** <sup>(18)</sup> (*not illustrated*).

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Buzzer, Push Button, Terminal Block, and Cord.

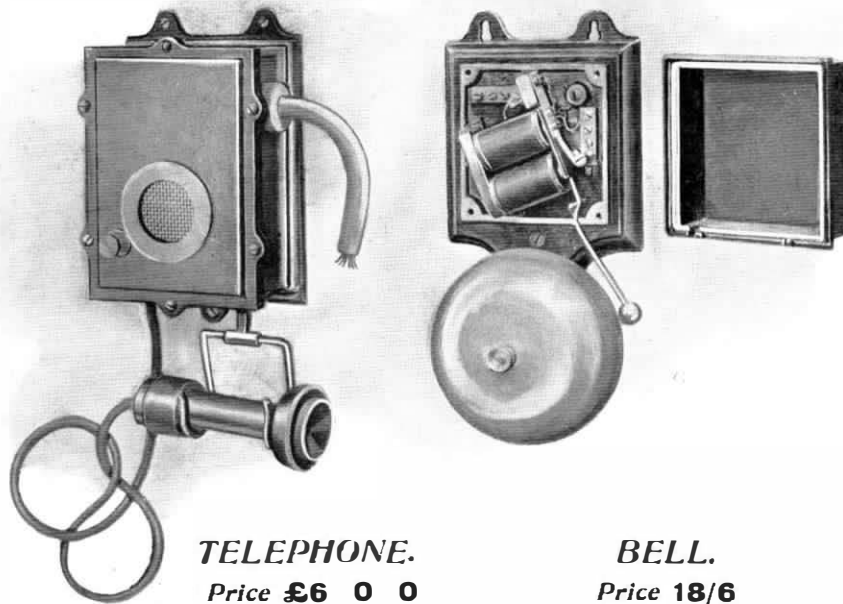
**Pattern No. B60**—This is a useful instrument, and is similar in outward appearance to Pattern No. B110.

**Price £1 5 0**

## *Mining Telephone Sets.*

**Pattern No. B61** <sup>(17)</sup>

Comprises Granular Carbon Transmitter in specially constructed Iron Box, Double Pole Receiver (fitted with strong Gun-metal Case, and Metal Cap to protect the Terminals from Damp, etc.), Cord (encased in flexible tubing), Automatic Switch-hook, Induction Coil, and Push Button, also 4½ inch Bell, provided with Packing to protect fittings from moisture, etc.



**TELEPHONE.**  
Price £6 0 0

**BELL.**  
Price 18/6

**Pattern No. B61**—This Set has been specially designed for use in mines, and damp situations where telephones are subject to hard wear, and its adaptability to such purposes will readily recommend it. The outer case consists of a cast iron box, the front fastened with screws, packing being first placed between the two surfaces. The Transmitter, Automatic Switch, Ringing Key, and connecting Terminals, are fitted inside on a slab, and the wires connected to them are formed into a cable which is drawn through a short length of india-rubber tubing. These, and other means are adopted to prevent as far as possible the access of moisture.

Mining Telephone Sets—continued.

**POCKET TYPE OF MINING TAPPING  
TELEPHONE.**

(For use in connection with Pattern No. B61.)

**Pattern No. B62** <sup>(20)</sup>



This instrument is fitted with Ringing, and Speaking Keys. The line wires are run bare, and the expanding arms of the telephone are intended to hook one to each line, so establishing connection with the engine house. The Receiver is used both as Receiver, and Transmitter, and although not so efficient as a Special Transmitter it still gives good results, and possesses the advantage of portability.

**Price £1 10 0**

## *Intercommunication Sets.*



These are divided into two classes, those for short distances only, which are fitted with arrangements for Battery Ringing, and those for longer lines which are fitted with Magneto Generators for ringing purposes.

There are a considerable number of different types, and classes of Intercommunication Sets, all of which more or less serve the same purpose.

It is of course impossible within the limits of an illustrated list to refer to all, but a number of the most useful, and serviceable, together with a proportion of the more inexpensive kinds have been included in this list.

It will be observed that there is considerable variation in price between some of the sets, and it should be borne in mind that in most instances the price has a direct bearing upon the materials, and finish of the article.

Naturally, therefore, the higher priced sets are less likely to get out of order, and will wear longer, and better, than those instruments the cost of which is comparatively low.

In this connection it should be borne in mind that there are certain disadvantages which exist whenever common return Intercommunication Sets are employed, however well made, and perfect the instruments may be, and that the only really efficient system of connecting a number of stations together is by the aid of metallic circuit lines in conjunction with either metallic circuit intercommunication instruments, or a metallic circuit switch-board, and suitable extension instruments.

## *Intercommunication Sets.*



These are divided into two classes, those for short distances only, which are fitted with arrangements for Battery Ringing, and those for longer lines which are fitted with Magneto

### *The Metaphone*



*Metaphone Intercommunication Sets are the cheapest on the market, and efficiency has not been sacrificed on account of price.*

*Ask for details of these Sets before you think of ordering any others.*

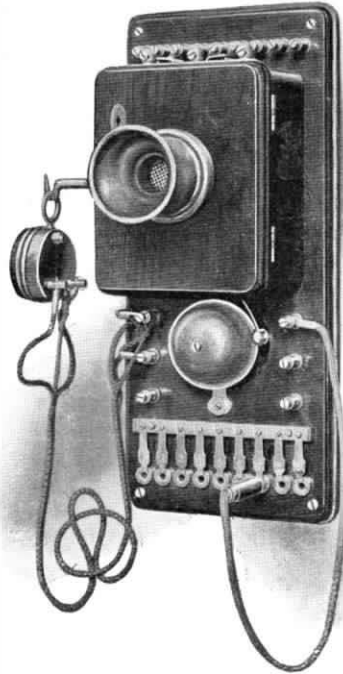
*Full particulars on application.*

In this connection it should be borne in mind that there are certain disadvantages which exist whenever common return Intercommunication Sets are employed, however well made, and perfect the instruments may be, and that the only really efficient system of connecting a number of stations together is by the aid of metallic circuit lines in conjunction with either metallic circuit intercommunication instruments, or a metallic circuit switch-board, and suitable extension instruments.

## *Battery Intercommunication Wall Sets.*

**Pattern No. B63** <sup>(14)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Ringing Keys, and Selector for Ten Lines, with plug, and cord for same.



**Pattern No. B63**—This is a neat, and simple form of apparatus for providing telephone intercommunication between several stations without the employment of a Central Switchboard. To obtain communication the plug has to be placed in the hole corresponding with the number wanted. The person is then "rung up" by pressing the spring directly above the plug, and conversation can at once be carried on.

At the same time, other persons connected with the installation can similarly intercommunicate through their telephones. After the conversation is finished the plug is withdrawn, and the user, and his correspondent are at liberty to make any other connection.

The apparatus shown is arranged for ten stations, but this number may be increased.

**Price £2 0 6**  
(Ten Lines).

The Company has a stock of these sets, which have been in use, and is able to offer them at the specially low price of **32/6** each.

They have been put in thorough order, and are, as far as efficiency is concerned, equal to new.

Battery Intercommunication Wall Sets—continued.**Pattern No. B64** <sup>(28)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Push Button, and Line Selector.

With this instrument communication is obtained by moving the Line Selector, or Switch, to the number required to be communicated with, and then pressing the button.

*Prices—*

5 Lines—£1 15 0    10 Lines—£1 19 0

15 Lines—£2 4 0

**Pattern No. B65** <sup>(17)</sup>

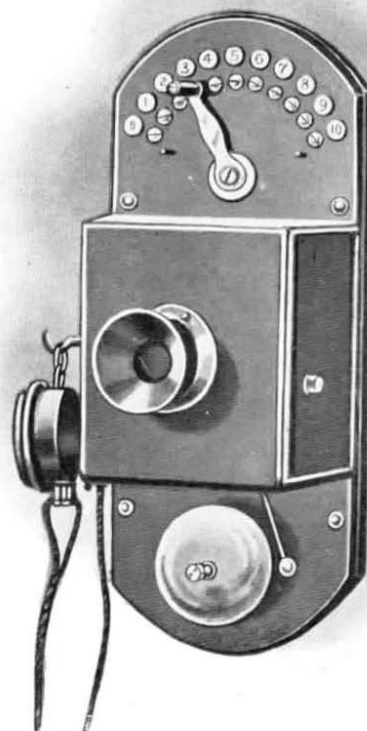
Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Push Button, and Line Selector.

This is a cheap form of Battery Intercommunication Wall Set.

*Prices—*

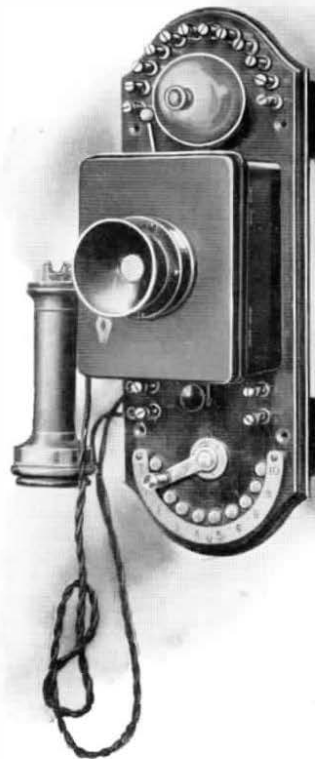
5 Lines—£1 8 9    10 Lines—£1 10 9

15 Lines—£1 12 9



**Battery Intercommunication Wall Sets—continued.****Pattern No. B66** <sup>(21)</sup>

Comprises Granular Carbon Transmitter, Double Pole Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Push Button, and Line Selector.



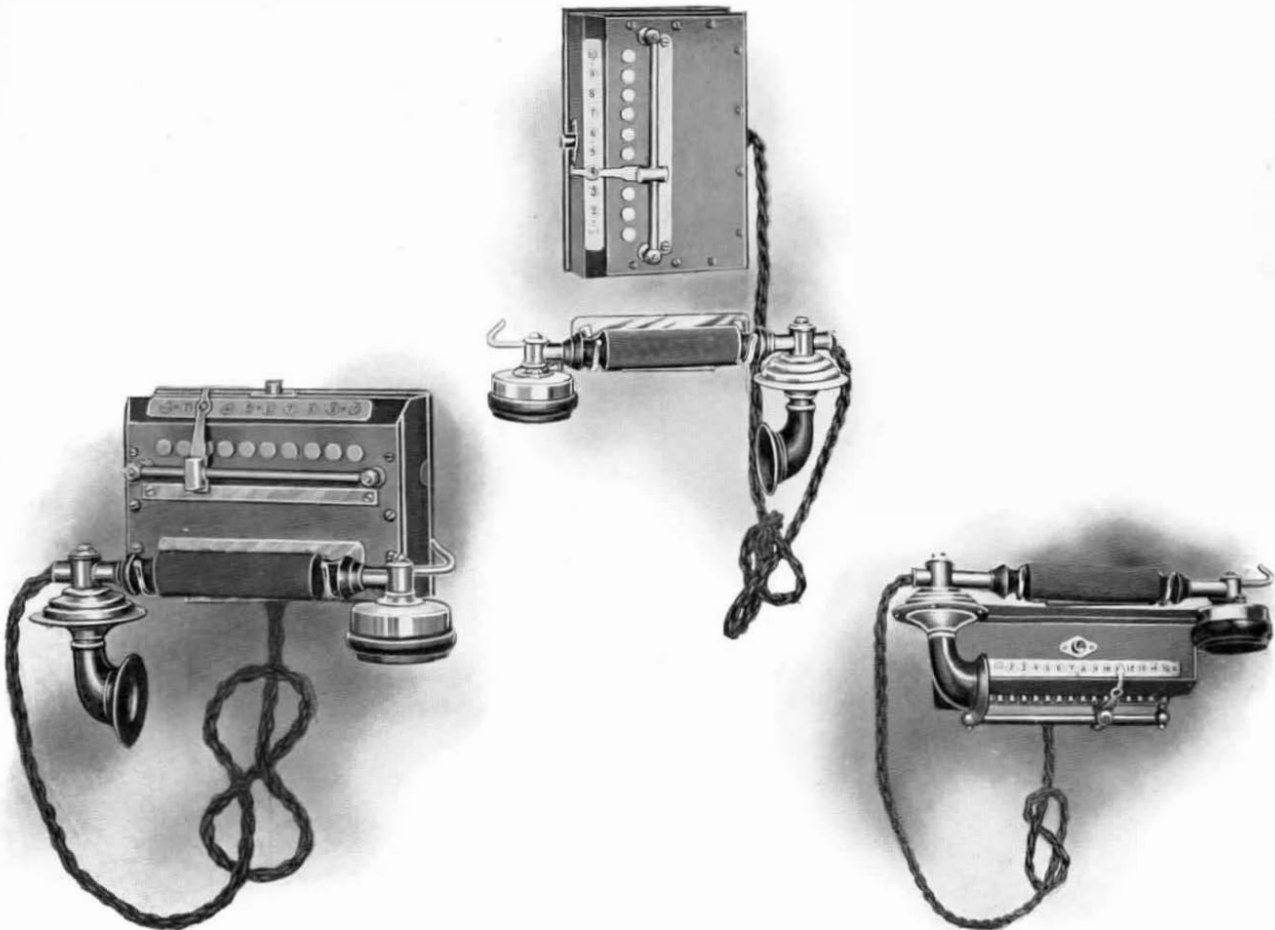
**Pattern No. B66**—Communication is obtained by means of the Line Selector. One of the special advantages in connection with this type of instrument is, that it has provision for connecting an additional switch, so that by the aid of same, and some additional wiring, two, or more particular stations so fitted can speak together privately without the possibility of any third person being able to overhear the conversation.

*Prices—*

<b>5 Lines—£2 15 0</b>	<b>10 Lines—£3 0 0</b>	<b>15 Lines—£3 6 0</b>	<b>20 Lines—£3 12 0</b>
	<b>25 Lines—£3 18 0</b>	<b>30 Lines—£4 4 0</b>	

***Battery Intercommunication Wall Sets—continued.*****Patterns Nos. B67<sup>(22)</sup> B68<sup>(22)</sup> and B69<sup>(22)</sup>*****SLIDING SELECTOR INTERCOMMUNICATION WALL SETS.***

Each comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Buzzer, Push Button, and Sliding Line Selector.

**Pattern No. B67****Pattern No. B68****Pattern No. B69**

**Patterns Nos. B67, B68, and B69**—These convenient Intercommunication Wall Sets are particularly serviceable owing to the number of positions, some of which are illustrated above, in which they can be fitted, and also on account of their compactness, and neatness. The numbers on the labels can be so adjusted as to be readable in any position in which the instruments may be placed.

Attention is attracted by means of a Buzzer, and the necessary connection with the line of the person required is made with the Sliding Pointer (Selector).

In the case of Pattern No. B68 which is suitable for fixing on the side of a partition, or other fixture, it should be stated, when ordering, whether the instrument is to be fixed on the right, or left hand side of the partition.

Pattern No. B69 is adapted for fitting underneath a shelf, or other fixture.

When the Cradle for the Hand Combination cannot be conveniently fitted on the Set itself (as in pattern No. B67), the support in question can be placed in any suitable position near the instrument.

***Prices—***

5 Lines—£3 2 6    10 Lines—£3 7 6    15 Lines—£3 13 6    20 Lines—£3 19 0  
25 Lines—£4 3 6    30 Lines—£4 9 0

**Battery Intercommunication Wall Sets**—continued.**Pattern No. B70** <sup>(13)</sup>

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Hook, Induction Coil, Bell, Two Push Buttons, and Line Selector.

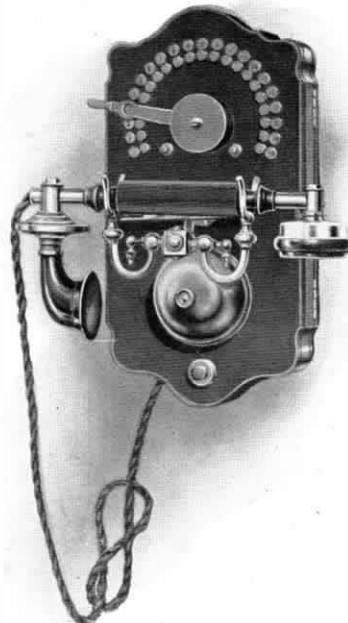


**Pattern No. B70**—Communication is effected by means of a Selector. Further this instrument is fitted with a ringing button, and a second button, by means of which when any two stations each put over their Selector Switches to the other's number, and then each press the second button, the common return is cut out, and the line between the two stations becomes a metallic circuit only, thus minimising any cross talk due to induction, and making the conversation more private.

*Prices—***10 Lines—£3 1 6****15 Lines—£3 4 0****20 Lines—£3 8 0**

**Battery Intercommunication Wall Sets**—continued.**Pattern No. B 71** <sup>(17)</sup>

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Bell, Push Button, and Line Selector.



**Pattern No. B 71**—A special feature with this instrument is, that while all the connections are entirely enclosed, they are easily accessible without removing the instrument from the wall, the terminals being mounted on the backboard upon which the front of the instrument is hinged.

*Prices—*

<i>5 Lines—</i> <b>£3 3 0</b>	<i>15 Lines—</i> <b>£4 0 0</b>	<i>25 Lines—</i> <b>£4 18 0</b>
<i>10 Lines—</i> <b>£3 11 0</b>	<i>20 Lines—</i> <b>£4 9 0</b>	<i>30 Lines—</i> <b>£5 7 0</b>

**Battery Intercommunication Wall Sets—continued.****Pattern No. B72** <sup>(13)</sup>**AUTOMATIC INTERCOMMUNICATION WALL SET (PUSH BUTTON).**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle Switch, Induction Coil, Buzzer, and Special Push Button Line Selector.



**Pattern No. B72**—The Push Button Line Selector is arranged so that the selection of a line is accomplished by simply pushing in the button, the number of which corresponds with the number of the station required. This button, when pushed right home, connects the battery, and sends the calling current to the line. When the pressure is removed from the button it only partly returns towards its original position, leaving the instrument connected to the line which has been selected.

When the conversation is finished, and the Hand Micro-telephone replaced on the Automatic Switch, the button of the line which has been in use regains its normal position. When a call is received all that has to be done is simply to take up the Hand Combination, and reply in the ordinary way. If any of the buttons have been left in, the pressing of a further one immediately restores them to their normal position.

The terminals are quite hidden, and thus free from being able to be tampered with, also the wiring can be done after the instrument has been screwed up. The terminals are concealed by a panel moulding shown in the illustration round the Line Selector push buttons.

The function of the Automatic Switch is twofold:—

Firstly: To disconnect the ringing battery when the Hand Micro-telephone is hung up, so that should mischievous persons press in any of the ringing keys without having first lifted the Hand Micro-telephone, the battery does not get connected to that line, otherwise an unnecessary call would result.

Secondly: By engaging in the mechanism of the Line Selector to cause the push button which has been operated to regain its normal position.

The whole of the instrument is solid Walnut, well polished, and high'y finished.

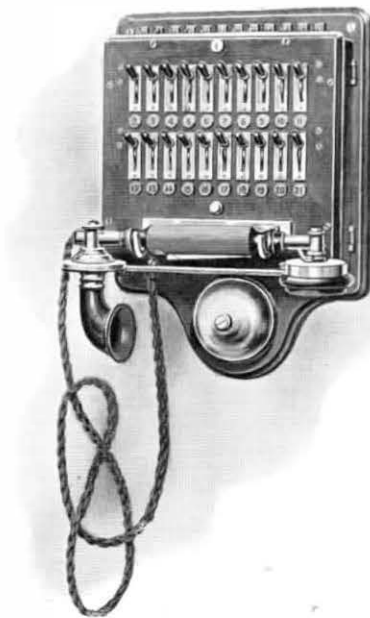
If desired, conversation can be carried on with one, two, three, or more stations at the same time by pressing in the respective buttons together.

**Prices—**

**10 Lines—£3 15 0    15 Lines—£4 0 0    20 Lines—£4 10 0    25 Lines—£5 0 0**  
**30 Lines—£5 10 0**

Battery Intercommunication Wall Sets—continued.**Pattern No. B73** <sup>(17)</sup>**AUTOMATIC INTERCOMMUNICATION WALL SET (LEVER).**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Replacement Cradle, Induction Coil, Bell, Push Button, and Automatic Replacement Levers.



**Pattern No. B73**—With this Set it is only necessary when rung up to take the Hand Combination off the cradle, and speak, but if desired a reply ring can be given before speaking. It is impossible to make contact with two points by mistake.

If it is so wished, conversation can be carried on with one, two, three, or more stations at the same time by pulling down the respective levers together.

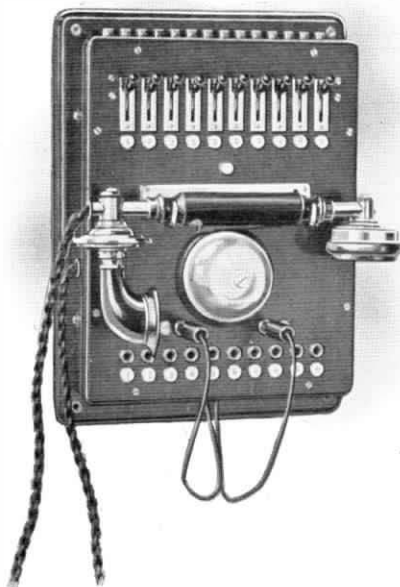
After the conversation is finished the act of replacing the Hand Combination automatically disconnects the line which has been in use.

*Prices—*

<b>5 Lines—£3 8 0</b> (6-way)	<b>10 Lines—£4 2 0</b> (11-way)	<b>15 Lines—£4 16 0</b> (16-way)
<b>20 Lines—£5 10 0</b> (21-way)	<b>24 Lines—£6 2 0</b> (25-way)	<b>30 Lines—£7 0 0</b> (31-way)

***Battery Intercommunication Wall Sets—continued.*****Pattern No. B74<sup>(18)</sup>****“REPLY-AND-CALL” CENTRAL STATION AUTOMATIC WALL SET.**

Comprises Hand Combination Transmitter, and Receiver, with Double Contact Key. Cord, Automatic Replacement Cradle, Induction Coil, Bell, Push Button, Automatic Replacement Levers, and Pair of Through Connection Plugs.



**Pattern No. B74**—This instrument has been specially designed to meet the requirements of what is now commonly known as the “Reply-and-Call” System, which, under certain circumstances, has advantages over the ordinary Intercommunication, or Central Station (*i.e.* a switchboard on which all the lines concentrate) Systems.

With the ordinary Intercommunication System any department can speak to the other at will direct, without requiring a central station. It is, however, sometimes deemed advisable that only the principal should be able to communicate from his office with the various departments, and *vice versa*; or at any rate that the departments should not be able to communicate with each other without the knowledge of the principal, while the latter may still not desire to have an ordinary switchboard in his private room. It is under these conditions that the “Reply-and-Call” System will be found very useful. The central station instrument, as illustrated above, is fitted with automatic replacement levers, by the aid of which the principal, if he desires to speak to any department, has only to take the Hand Combination off the cradle, pull down the lever of the number required, ring, and then speak. After the conversation is finished the act of replacing the Hand Combination automatically restores the lever.

If called up it is only necessary to lift the Hand Combination, and speak. This instrument is also provided with a pair of through connection plugs enabling the principal to place any two departments in direct communication with each other, and at the same time join in the conversation if he so desires.

A further advantage is that the principal can, if he so wishes, call up, and speak to several departments at one time by simultaneously pressing down the levers of the numbers required.

**Prices—**

**5 Lines—£4 4 0      10 Lines—£5 2 6      15 Lines—£6 0 0      20 Lines—£6 17 6**  
**24 Lines—£7 15 0      30 Lines—£8 17 6**

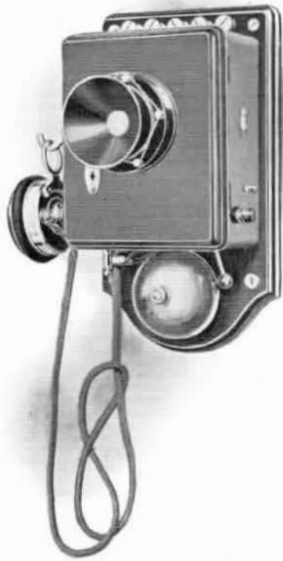
*For Sub. Station Sets see Patterns Nos. B75 and B76. For Central Station Table Set see Pattern No. B88.*

Battery Intercommunication Wall Sets—continued.**“REPLY-AND-CALL” SUB-STATION AUTOMATIC WALL SETS.****Pattern No. B75 <sup>(18)</sup>**

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook (with automatic device for changing over the call line), Induction Coil, Bell, and Push Button.

The act of pressing the call button rings the bell at the Central Station (see Patterns Nos. B74 and B88), and automatically changes over the call line, no matter whether the receiver is on, or off the hook. Directly the receiver is replaced the connection is automatically restored to the reply line. The great advantage claimed with this instrument is that auxiliary 2-way Switches at the side stations are dispensed with, thus doing away with the old trouble of replacing the switch to the calling line after speaking, and the confusion caused by leaving the switch in the wrong position.

**Price £2 0 0**

**Pattern No. B76 <sup>(17)</sup>**

Comprises Hand Combination Transmitter, and Receiver, with Double Contact Key, Cord, Automatic Replacement Cradle, Induction Coil, Bell, and Push Button.

This instrument serves the same purpose as Pattern No. B75, a Hand Micro-Telephone, however, taking the place of the transmitter, and separate receiver.

**Price £3 0 0**

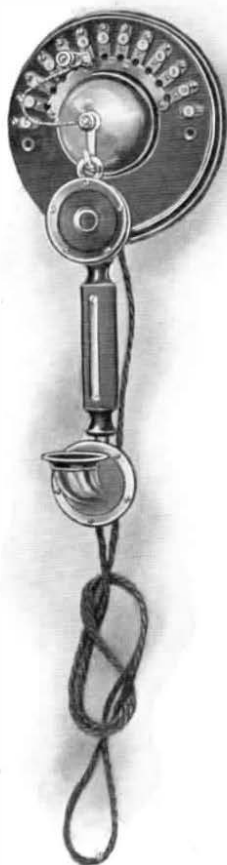


## Common Battery Intercommunication Sets.

Pattern No. **B 77** <sup>(17)</sup>

### WALL SET.

Comprises Hand Combination Transmitter, and Receiver, Cord, Bell, and Selector-Ringing Plug.



Pattern No. **B 78** <sup>(17)</sup>

### TABLE SET.

Comprises same parts as Pattern No. **B 77** with the addition of a Fixed Cradle for the Hand Combination, and a Wall Rosette, and Cord.



#### Prices for Pattern No. B77—

5 Lines—£1 13 0    10 Lines—£1 15 6    15 Lines—£1 17 6  
20 Lines—£2 1 0

#### Prices for Pattern No. B78—

5 Lines—£2 2 0    10 Lines—£2 5 0    15 Lines—£2 10 0  
20 Lines—£2 15 0

**Patterns Nos. B77 and B78**—An advantage in connection with these sets is, that a common battery of three, or four cells provides the current required for both ringing, and speaking. The line required is selected, and the call effected at the same time by pressing home the Selector-Ringing Plug after it has been inserted in the proper socket; further, the plug may be left in connection with the line last used without interfering with the calling arrangements.

The Sets do not provide for more than one independent conversation at a time. The terminals are so arranged that the connections may be made on either back, or front.

## *Battery Intercommunication Table Sets.*

**Pattern No. B79** <sup>(13)</sup>

### *AUTOMATIC INTERCOMMUNICATION TABLE SET (PUSH BUTTON).*

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle Switch, Induction Coil, Buzzer, Special Push Button Line Selector, and Wall Rosette, and Cord.



**Pattern No. B79**—This is the table form of **Pattern No. B72** of which a full description is given on page 50.

*Prices—*

*10 Lines—***£4 10 0**

*15 Lines—***£4 17 0**

*20—Lines* **£5 2 6**

*25 Lines—***£5 10 0**

*30 Lines—***£6 6 0**

**Battery Intercommunication Table Sets—continued.****Pattern No. B80<sup>(9)</sup>****INTERCOMMUNICATION SET, SECRET SYSTEM.**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle Switch, Induction Coil, Bell, Instrument Plug, and Cord, and Wall Rosette, and Cord.



**Pattern No. B80**—This instrument is arranged for double line Intercommunication Systems, and by special means absolute secrecy is ensured. It is impossible to tap the lines, and it is also impossible to overhear by induction if properly twisted metallics are used.

Some of the chief advantages, therefore, are as follows:—

The simple insertion of the plug selects the line, and calls at the same time.

A distinct method of ascertaining whether the person wanted is engaged, or available.

If the person wanted is engaged, a means is provided whereby the person calling receives a distinct signal directly the person required is disengaged.

After having carried on a conversation if the caller omits to withdraw his plug he receives a signal which reminds him of the omission.

The impossibility of any person not required tapping the line on which a conversation is taking place.

The above illustration shows the instrument arranged as a Table Set with the bell on the back. If required as a Wall Set, the bell can be removed from the back, and fixed on the bottom. The fixing screws establish the connection with the rest of the apparatus.

**Prices—**

<b>WALL SETS.</b>		<b>TABLE SETS.</b>	
10 Lines—£6 12 0	20 Lines—£7 12 0	10 Lines—£7 5 0	20 Lines—£8 17 6
15 „ —£7 2 0	25 „ —£8 2 0	15 „ —£7 18 0	25 „ —£9 17 6
30 Lines—£8 12 0		30 Lines—£11 2 6	

**Battery Intercommunication Table Sets—continued.****Pattern No. B81** <sup>(18)</sup>***AUTOMATIC INTERCOMMUNICATION TABLE SET (LEVER).***

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Replacement Cradle, Induction Coil, Buzzer, Push Button, Automatic Replacement Levers, and Wall Rosette, and Cord.



**Pattern No. B81**—With this Set it is only necessary when rung up to take the Hand Combination off the cradle, and speak, but, if desired, a reply ring can be given before speaking. It is impossible to make contact with two points by mistake.

If it is so wished, conversation can be carried on with one, two, three, or more stations at the same time by pulling down the respective levers together.

After the conversation is finished, the act of replacing the Hand Combination automatically disconnects the line which has been in use.

***Prices—*****5 Lines—£4 6 0**  
*(6-way)***15 Lines—£5 16 6**  
*(16-way)***24 Lines—£7 7 0**  
*(25-way)***10 Lines—£5 1 0**  
*(11-way)***20 Lines—£6 14 0**  
*(21-way)***30 Lines—£8 6 0**  
*(31-way)*

**Battery Intercommunication Table Sets—continued.**

**Pattern No. B82 <sup>(11)</sup>**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Bell, Two Push Buttons, Line Selector, and Wall Rosette, and Cord.



**Pattern No. B82**—This instrument is fitted with a ringing button, and a second button, by means of which when any two stations each put over their selector switches to the other's number, and then each press the second button, the common return is cut out, and the line between the two stations becomes a metallic circuit only, thus minimising any cross talk due to induction, and making the conversation more private.

*Prices—*

**10 Lines—£3 8 0**

**15 Lines—£3 12 0**

**20 Lines—£3 18 6**

**Battery Intercommunication Table Sets**—*continued.***Pattern No. B83** <sup>(23)</sup>

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Bell, Push Button, Line Selector, and Wall Rosette, and Cord.



**Pattern No. B83**—This is a neat, and useful type of Intercommunication Table Set.

*Prices—*

5 Lines—£3 15 0	15 Lines—£4 6 0	25 Lines—£5 2 6
10 Lines—£4 0 0	20 Lines—£4 12 6	30 Lines—£5 12 6

**Pattern No. B84** <sup>(17)</sup> (*not illustrated*).

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle Switch, Induction Coil, Bell, Push Button, Line Selector, and Wall Rosette, and Cord.

This instrument has a base, with line selector, somewhat similar to Pattern No. B83, the bell, and automatic cradle switch being supported as in the case of Pattern No. B57.

*Prices—*

5 Lines—£4 0 0	15 Lines—£4 13 0	25 Lines—£5 9 0
10 Lines—£4 6 6	20 Lines—£5 1 0	30 Lines—£5 17 0

**Battery Intercommunication Table Sets**—*continued.***Pattern No. B85** <sup>(20)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Bell, Push Button, Line Selector, and Wall Rosette, and Cord.



**Pattern No. B85**—This is a neat, and handy form of Intercommunication Table Set.

*Prices—*

<i>5 Lines—</i> <b>£2 10 0</b>	<i>15 Lines—</i> <b>£3 0 0</b>	<i>25 Lines—</i> <b>£3 12 0</b>
<i>10 Lines—</i> <b>£2 14 0</b>	<i>20 Lines—</i> <b>£3 6 0</b>	<i>30 Lines—</i> <b>£3 18 0</b>

**Pattern No. B86** <sup>(18)</sup> (*not illustrated*).

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Buzzer, Push Button, Line Selector, and Wall Rosette, and Cord.

This set, which is fitted with a buzzer instead of a bell, is a somewhat similar instrument to Pattern No. B85 as far as the base is concerned, although it has stud stops, and Nos. in place of a half-hoop number strip. The top portion of the instrument is obliquely mounted, and in appearance like Pattern No. B110.

*Prices—*

<i>5 Lines—</i> <b>£1 12 6</b>	<i>10 Lines—</i> <b>£1 17 6</b>	<i>15 Lines—</i> <b>£2 5 0</b>
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Battery Intercommunication Table Sets—continued.Pattern No. **B87** <sup>(5)</sup>**SLIDING SELECTOR INTERCOMMUNICATION TABLE SET.**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Buzzer, Push Button, Sliding Line Selector, and Wall Rosette, and Cord.



**Pattern No. B87**—This is the same class of instrument as Patterns Nos. **B67**, **B68**, and **B69**, but made up as an attractive type of Table Set.

*Prices—**5 Lines—£3 0 0**15 Lines—£3 10 0**25 Lines—£4 2 0**10 Lines—£3 7 0**20 Lines—£3 17 0**30 Lines—£4 9 0*

Battery Intercommunication Table Sets—continued.Pattern No. **B88**<sup>(17)</sup>**“REPLY-AND-CALL” CENTRAL STATION AUTOMATIC  
TABLE SET.**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Automatic Replacement Cradle, Induction Coil, Buzzer, Push Button, Automatic Replacement Levers, Pair of Through Connection Plugs, and Wall Rosette, and Cord.



**Pattern No. B88**—This is a table form of pattern No. **B74** of which a full description is given.

*Prices—*

<i>5 Lines—</i> <b>£5 2 0</b>	<i>15 Lines—</i> <b>£7 0 0</b>	<i>24 Lines—</i> <b>£9 0 0</b>
<i>10 Lines—</i> <b>£6 0 0</b>	<i>20 Lines—</i> <b>£8 2 0</b>	<i>30 Lines—</i> <b>£10 2 0</b>

*For Sub-Station Sets see Patterns Nos. B75, and B76.*

## Magneto Intercommunication Wall Sets.

### Pattern No. B89<sup>(17)</sup>

Comprises Granular Carbon Transmitter, Double Pole Receiver, Cord, Automatic Switch-hook, Induction Coil, Two-Magnet Generator, Bell, and Line Selector.

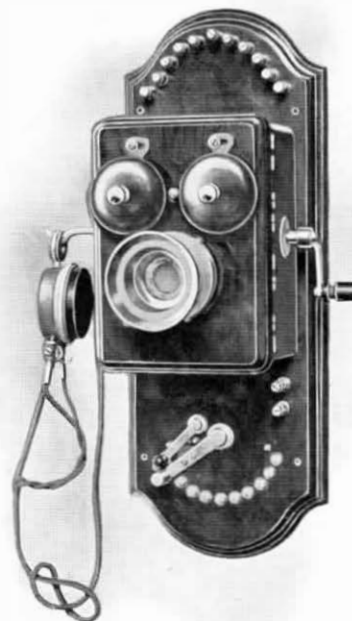


#### Prices—

5 Lines—£3 10 0    20 Lines—£4 7 6  
 10 Lines—£3 15 0    25 Lines—£4 13 6  
 15 Lines—£4 1 0    30 Lines—£5 0 0

### Pattern No. B90<sup>(24)</sup>

Comprises Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch-hook, Induction Coil, Two-Magnet Generator, Bell, Line Selector, and Second Lever to cut the other lines off the circuit.



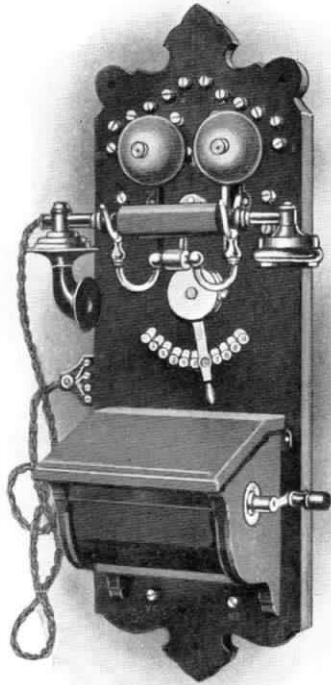
#### Prices—

5 Lines—£2 10 6    20 Lines—£3 10 0  
 10 Lines—£2 17 0    25 Lines—£3 17 6  
 15 Lines—£3 4 6    30 Lines—£4 3 0

**Patterns Nos. B89, and B90**—These instruments are intended for use where the stations between which intercommunication takes place are too far apart for Battery Ringing Sets; further, they are cheaper to maintain than the latter. Pattern No. B89 is fitted with a mechanical click, which reduces the risk of making contact with two stations at once. Pattern No. B90 having a means of cutting the other lines off the circuit allows of more privacy during conversation.

Magneto Intercommunication Wall, and Table Sets.**Pattern No. B91** <sup>(18)</sup>**MAGNETO  
INTERCOMMUNICATION SET,  
WALL PATTERN.**

Comprises Hand Combination Transmitter, and Receiver with Double Contact Key, Cord, Fixed Cradle, Induction Coil, Two Magnet Generator, Bell, Writing Desk, and Line Selector.



Prices—

5 Lines—£4 15 0    20 Lines—£5 10 0  
 10 Lines—£5 0 0    25 Lines—£5 15 0  
 15 Lines—£5 5 0    30 Lines—£6 0 0

**Pattern No. B92** <sup>(17)</sup>**MAGNETO  
INTERCOMMUNICATION SET,  
TABLE PATTERN.**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Cradle Switch, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Line Selector, and Wall Rosette, and Cord.



Prices—

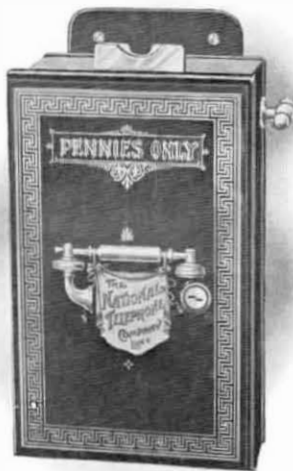
5 Lines—£6 11 6    20 Lines—£7 4 6  
 10 Lines—£6 15 0    25 Lines—£7 11 0  
 15 Lines—£6 19 0    30 Lines—£7 15 6

**Patterns Nos. B91, and B92**—The same general remarks apply as in the case of Patterns Nos. B89, and B90, and, further, the Line Selectors of both patterns (Nos. B91 and B92) are fitted with a mechanical click which reduces the risk of making contact with two stations at once.

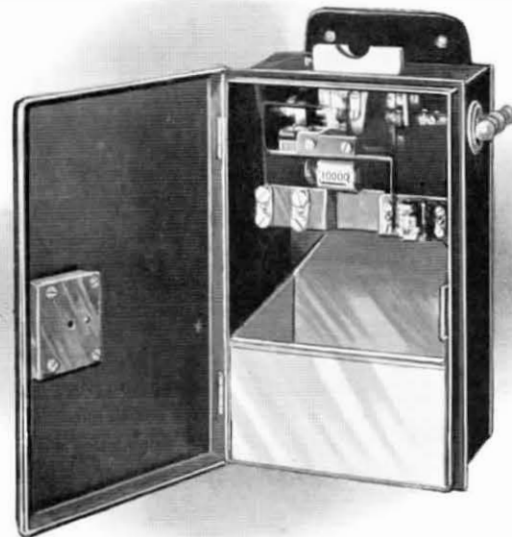
## *Automatic Call Box.*

**Pattern No. B93** <sup>(39)</sup>

*CLOSED.*



*OPEN.*



**Pattern No. B93**—This Automatic Box is intended for use with an ordinary instrument on an exchange line.

The exchange is called by the subscriber, and the operator effects the connection in the usual manner, and then requests the subscriber to pay. A Coin of the proper value having been inserted through the slot, the crank is turned about half a revolution. This done, a buzzer in the call box is put in motion by the operation, and a distinct signal is given thereby to the operator that payment has been made. The Automatic Box is fitted with a recorder for checking the receipts, and also contains a cash box. The greatest care, and all possible precautions have been taken in connection with the manufacture, and design with a view to prevent fraud.

**Price £1 13 0**

## *Telephones for existing Electric Bell Wires.*

---

These have already been dealt with at length in a Special Catalogue, so that only a very few remarks are necessary in connection with the following types, and classes of instruments which are also intended for use on existing Electric Bell Circuits.

**Pattern No. B94** consists of a Transmitter, and Receiver (for use with an existing bell) for the kitchen, or other offices; and **Pattern No. B95**, a Transmitter, and Receiver, **Pattern No. B96**, a Hand Micro-telephone, or another suitable one of the Sets illustrated can be used in the dining room, or elsewhere.

**Pattern No. B95**, can be fastened near, and connected to, any ordinary wall Push.

**Pattern No. B96**, which is a Portable Set, consists, as shewn in the illustration, of a Hand Micro-Telephone, and cord, to the one end of which is fitted a two-pin plug (with hook attached, upon which the Hand Micro-Telephone can hang); this plug is introduced into the two hole contact socket provided in a special bell Push (which has either been specially fitted to the bell wires, or has replaced an existing Push), when communication is at once established, and the kitchen can thus be called up from any point fitted with one of the special Pushes, by either ringing the bell in the ordinary way, or pressing the special ringing key in the handle of the Hand Micro-Telephone. The special Pushes are made either of flat, or pear type.

Telephones for existing Electric Bell Wires—continued.

It may here be noted that Pattern No. **B98**, being provided with a Push button, would entirely displace the existing bell Push. Pattern No. **B100** is a "fixed" and Pattern No. **B101** a "portable" Desk Set.

The Metaphone

*Metaphones for existing Electric Bell Wires.*

*The cheapest, and best instruments upon the market—only*

*7/6 each.*

*You can fit them yourself.*

*Don't ring for your servants—speak to them over the Electric Bell Wires. The Metaphone will enable you to do so.*

*Full particulars on application.*

... three alternative types of these "Existing Electric Bell Wire" Sets are referred to in this Catalogue, viz., Patterns Nos. **B94 to B101**, Patterns Nos. **B103 and B104**, and Patterns Nos. **B105 to B110**, and it should be noted that, unless otherwise specially stated, these are not intended to work together on the same lines.

It may be well to recollect that there are slight differences between some of the instruments, such as, for instance, the composition of the sleeves of the Hand Micro-Telephones, which differences cannot be reproduced in the illustrations.

*Telephones for existing Electric Bell Wires—continued.*

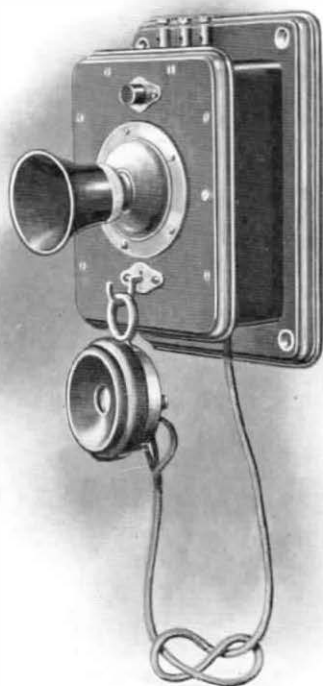
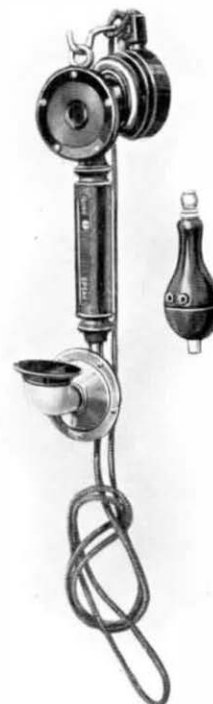
It may here be noted that Pattern No. **B98**, being provided with a Push button, would entirely displace the existing bell Push. Pattern No. **B100** is a "fixed" and Pattern No. **B101** a "portable" Desk Set.

The advantage of the Portable Sets over the fixed ones is that whereas the latter can only be used at the point where they have been fitted, the portable ones can be used wherever a special Push is situated.

If, owing to it having previously been possible to ring both ways (*i.e.*, where at least three connecting line wires already exist) it is desired to have communication on the line both ways, for instance, the dining room to be able to call the kitchen, and the kitchen also to be able to originate a call, Pattern No. **B94** (fitted in connection with an Existing Bell), and Pattern No. **B97** or **B99**, which are both provided with bells, must be used. To be able to ring both ways in connection with an existing 2-Wire bell Circuit, Pattern No. **B105** or No. **B106** (the latter in conjunction with an Existing Bell), and Patterns Nos. **B108**, **B109**, or **B110** must be employed, in which case a battery is required at each station.

Attention is directed to the fact that three alternative types of these "Existing Electric Bell Wire" Sets are referred to in this Catalogue, *viz.*, Patterns Nos. **B94** to **B101**, Patterns Nos. **B103** and **B104**, and Patterns Nos. **B105** to **B110**, and it should be noted that, unless otherwise specially stated, these are not intended to work together on the same lines.

It may be well to recollect that there are slight differences between some of the instruments, such as, for instance, the composition of the sleeves of the Hand Micro-Telephones, which differences cannot be reproduced in the illustrations.

Telephones for existing Electric Bell Wires--continued.Pattern No. **B94** <sup>(22)</sup>**KITCHEN SET.****Price 16/6**Pattern No. **B96** <sup>(16)</sup>**DINING ROOM  
PORTABLE SET.****Price 19/6**

(including Special Push.)

Pattern No. **B95** <sup>(18)</sup>**DINING ROOM  
SET.****Price 10/6**

In the case of Pattern No. **B94**, Kitchen Set, this is intended for use with an existing electric bell in the kitchen, or elsewhere, and is also one of the sets which can be used for ringing both ways (see page 67). Pattern No. **B95**—Dining Room Set, is suitable for fastening near, and connecting to, an ordinary wall push. Pattern No. **B96**—This Hand Combination is fitted with a second key in the handle, which enables a call to be made without having to use the push.

<sup>(23)</sup>  
**Special Wall Pushes for Portable Sets. Price 1/6 each.**

<sup>(10)</sup>  
**Special Pear Pushes for Portable Sets. Price 1/6 each.**

Telephones for existing Electric Bell Wires—continued.

Pattern No. **B97** <sup>(21)</sup>

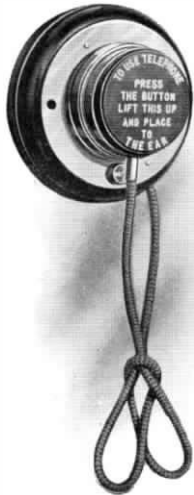
**“DOUBLE CALL” WALL SET—WITH HAND MICRO-TELEPHONE.**



By using Pattern No. **B97** calls can be made each way, for instance, dining room to kitchen, and kitchen to dining room, **when it has previously been possible to ring both ways** (*i.e.*, where at least three connecting line-wires already exist), whereas in the case of Patterns Nos. **B95** and **B96**, calls can only be made one way, *i.e.*, say dining room to kitchen.

The Hand Micro-Telephone is fitted with a special ringing key in the handle.

Price **£1 5 6**

Telephones for existing Electric Bell Wires—continued.

Pattern No. **B98**<sup>(26)</sup>

**DINING ROOM SET.**

This is similar to Pattern No. **B95** (Dining Room Set), but of much better finish in every way. It is also fitted with a push button for ringing, and thus would entirely displace the existing bell push.

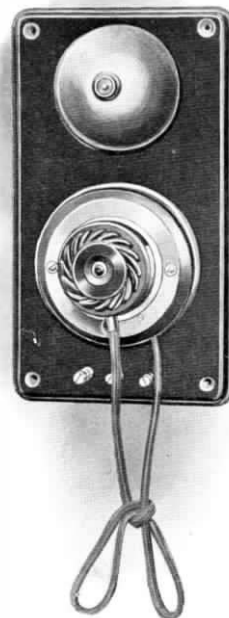
Price **£1 2 6**

Pattern No. **B99**<sup>(20)</sup>

**“DOUBLE CALL” WALL SET.**

This set is another instrument arranged like Pattern No. **B97** for ringing both ways.

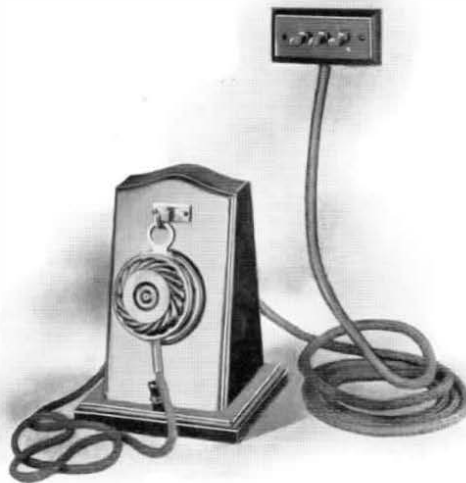
Price **£1 4 0**



Telephones for existing Electric Bell Wires—continued.

**Pattern No. B100** <sup>(23)</sup>

**“STUDY” TABLE SET.**



**Pattern No. B100**—This is a very handy form of “fixed” Table Set.

*Price 18/-*

**Pattern No. B101** <sup>(23)</sup>

**“STUDY” PORTABLE TABLE SET** (*not illustrated*).

This instrument is very similar in appearance to Pattern **No. B100**, but is fitted with a 2-pin plug (for special wall, or pear push) at the end of the connecting cord, instead of a 3-way terminal block.

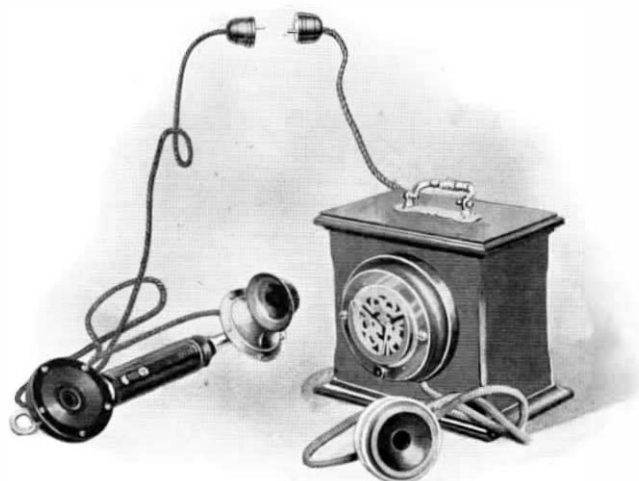
*Price 18/-*

(including Special Wall Push).

Telephones for existing Electric Bell Wires—continued on page 73.

Pattern No. **B102** <sup>(30)</sup>

**COMPLETE SICK ROOM SET.**



Price **£3 6 0**

**Pattern No. B102** consists of—for the patient—a Hand Combination Transmitter, and Receiver with Ringing, and Speaking Keys in the Handle, and a "House" Set—to be placed in the apartment with which it is desired to communicate—comprising a Granular Carbon Transmitter, Watch Receiver, Cord, Automatic Switch, Buzzer, two No. 4 Dry Cells, and 12 yards of flexible Cord, with a 2-pin Connector, for the purpose of readily connecting the two instruments together.

This Set is complete in itself, and is intended for establishing immediate communication between two rooms, etc.

If it is so desired, the Hand Combination can be replaced by another "House" Set, thus enabling a call to be effected either way, by means of the buzzer, and a ringing key which is provided.

Extra length of connecting Cord can be supplied (see page 142).

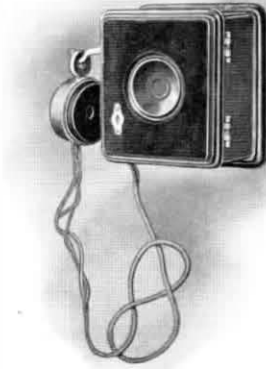
**Telephones for existing Electric Bell Wires**—continued from page 71.

The undermentioned are alternative types of this same class of instrument :—

**Pattern No. B103** <sup>(38)</sup>

**KITCHEN SET.**

To be fitted in conjunction with an existing Bell.



**Pattern No. B103**—This is for use with Patterns Nos. B95, B96, B98, B104, or B107.

*Price 18-*

**Pattern No. B104** <sup>(36)</sup>

**DINING ROOM PORTABLE SET** (*Not Illustrated*).

This is a Hand Combination Transmitter, and Receiver, portable type, somewhat similar in design to Pattern No. B96. It, however, has but a single key in the handle, is only intended for use with Pattern No. B103, and, further, requires a cuphook to be fitted near the special push (with which it is used), on which to suspend it.

*Price (including special ebonized Wall Push) £1 10 0*

<sup>(40)</sup>  
*Special Wall Pushes, Ebonized, Price 1/3 each.*

”	”	”	Walnut	”	16	”
”	<sup>(38)</sup> Pear	”	Ebonized	”	23	”
”	”	”	Walnut	”	26	”

(All for use with No. B104.)

Telephones for existing Electric Bell Wires—continued from page 71.

The undermentioned are alternative types of this same class of instrument:—

**Pattern No. B103** <sup>(39)</sup>

**KITCHEN SET.**

Telephone for use in the kitchen.

## The Metaphone . . .



*The Metaphone Portable Isolation Set is the cheapest, and best complete Sickroom Set on the market. It has several advantages over all other types.*

*Full particulars, and prices on application.*

This is a Hand Combination Transmitter, and Receiver, portable type, somewhat similar in design to Pattern No. B96. It, however, has but a single key in the handle, is only intended for use with Pattern No. B103, and, further, requires a cuphook to be fitted near the special push (with which it is used), on which to suspend it.

**Price (including special ebonized Wall Push) £1 10 0**

<sup>(40)</sup>  
**Special Wall Pushes, Ebonized, Price 1 3 each.**

“	“	“	Walnut	“	1 6	“
“	<sup>(38)</sup> Pear	“	Ebonized	“	2 3	“
“	“	“	Walnut	“	2 6	“

(All for use with No. B104.)

Telephones for existing Electric Bell Wires—continued.

The following are yet other alternative types of this same class of instrument, but these again, unless specially stated to the contrary, are not intended for use with the sets already illustrated.

**Pattern No. B105** <sup>(17)</sup>

**KITCHEN SET**

With Bell.



**Price 19/-**

**Pattern No. B105**—For use in conjunction with Patterns Nos. B107, B108, B109, and B110.

**Pattern No. B106** <sup>(17)</sup>

**KITCHEN SET**

For use in conjunction with existing Bell.



**Price 15/-**

**Pattern No. B106**—Suitable for use with Patterns Nos. B107, B108, B109, and B110.

**Patterns Nos. B105 and B106**—These are two of the Sets which can be used for ringing both ways—see page 67. They are also suitable for distances up to 200 yards.

Telephones for existing Electric Bell Wires—continued.

Pattern No. **B107** <sup>(17)</sup>

**DINING ROOM PORTABLE SET**

With Ringing, and Speaking Keys in the Handle.



Price 19/-

**Pattern No. B107**—For use in conjunction with Pattern No. **B105** or **B106**.  
The price is complete with special round, or pear shaped push.

This Set is suitable for distances up to 200 yards.

<sup>(17)</sup>  
*Special Round, or Pear Shaped Pushes, Price 1/8 each.*

Telephones for existing Electric Bell Wires—continued.**Pattern No. B108** <sup>(17)</sup>**“DOUBLE CALL” WALL SET**

With Hand Micro-Telephone (fitted with Ringing, and Speaking Keys in the handle), and complete with Bell, and Automatic Switch.

With this instrument ringing can take place both ways—see page 67. It is suitable for use with Patterns Nos. B105, B106, B109, and B110, for distances up to 200 yards.

**Price £1 5 6**

**Pattern No. B109** <sup>(18)</sup> (*not illustrated*) and **Pattern No. B110** <sup>(18)</sup> (*illustrated*).

**DINING ROOM, ETC., SETS**

With Ringing Keys, Buzzers, etc.

**Patterns Nos. B109 and B110**—With these Sets ringing can take place both ways—see page 67—and they are suitable for use with Patterns Nos. B105, B106, and B108, for distances up to 200 yards.

**Pattern No. B109** in appearance is very similar to FIG. 1. of Pattern No. B55.

**Pattern No. B110**

**Pattern No. B109, Price £2 2 0**

**Pattern No. B110, Price £1 1 0**

# SWITCHBOARDS.

## *Switchboards.*

*NATIONAL TELEPHONE COMPANY'S STANDARD PATTERN,  
METALLIC CIRCUIT, DOUBLE CORD, WALL PATTERN  
SWITCHBOARDS.*

**Pattern No. B111** <sup>(10)</sup>

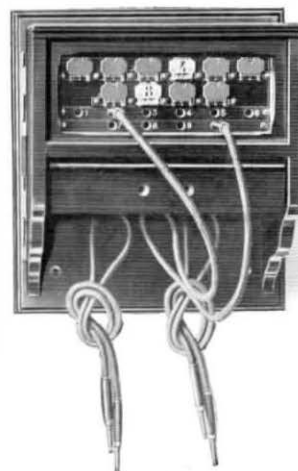
Fig. I.—Two Lines.



Fig. II.—Six Lines.



Fig. III.—Ten Lines.



Switchboards—continued.**Pattern No. B111**—(continued).

Fig. IV.—Twenty Lines.

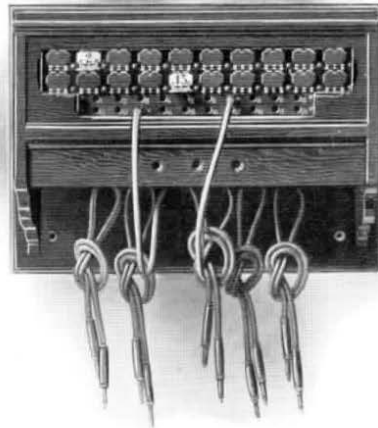
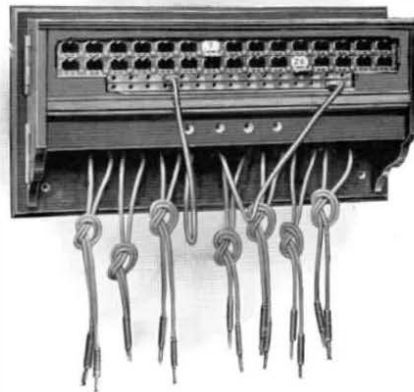


Fig. V.—Thirty Lines.



**Pattern No. B111**—These Standard Switchboards are made in the following sizes:—

2 Lines—	£2 10 9	6 Lines—	£4 14 6	16 Lines—	£10 13 0
3 „	£3 0 0	8 „	£6 0 0	20 „	£14 5 0
4 „	£3 11 0	10 „	£7 4 0	24 „	£16 4 6
5 „	£4 2 9	12 „	£8 12 6	30 „	£19 7 6

and it will be found that both as regards efficiency, and appearance, they are pre-eminent. Further, they are simple in construction, but contain all the latest improvements, and are easily operated. Special attention is called to the fact that being “double” cord boards, any two plugs attached to the same cord are available for connecting any two lines. By this means much time, and trouble is saved.

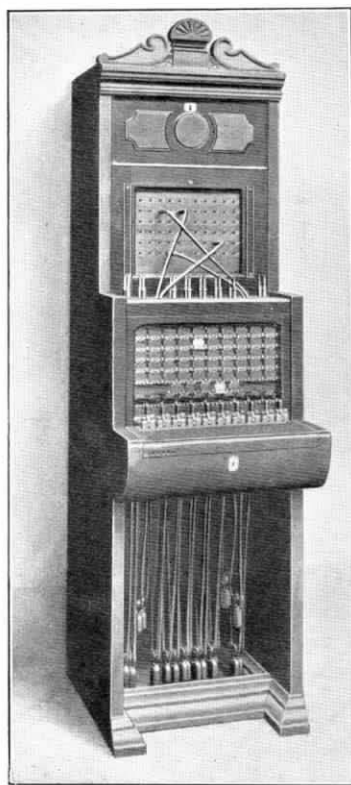
**Switchboards**—*continued.*

**NATIONAL TELEPHONE COMPANY'S STANDARD PATTERN,  
METALLIC CIRCUIT,  
DOUBLE CORD, CABINET PATTERN SWITCHBOARDS.**

**Pattern No. B112** <sup>(26)</sup>

**50-LINE STANDARD PATTERN,  
METALLIC CIRCUIT, DOUBLE CORD, SWITCHBOARD**

with 10 Junctions.



**Pattern No. B112**—This, of its size, and class, is the most efficient board possible, and it is of the type used in the Company's own exchanges when the number of subscribers is limited. Further, it contains all the latest improvements, and is of extremely ornamental appearance. The board is easily operated, and being fitted with "double" cords, any two plugs attached to the same cord are available for connecting any two lines.

**Price £45 0 0**

The Company is also prepared to supply this type of board fitted with the necessary lamp jacks for automatic clearing. **Price £51 4 0.**

If the lamps, relays, etc. are also required the price would be **£56 0 0** (Fitting extra.)

Prices for larger sizes of boards will be supplied on application.

NOTE—In the above illustration the panel covering the cords, and weights has been removed so as to show how the latter hang down.

Switchboards—continued.

**VIEW OF A 50-LINE SWITCHBOARD (PATTERN No. B112)**

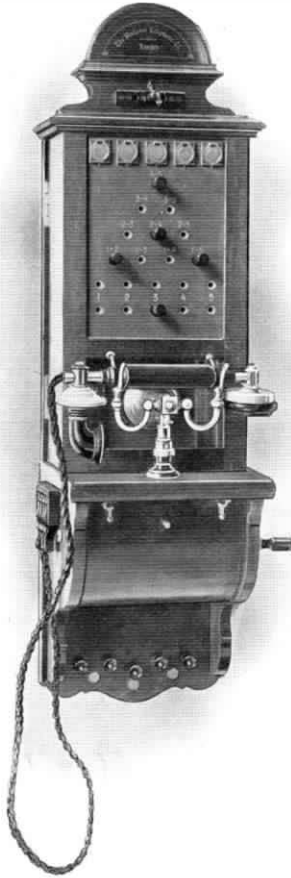
**IN ACTUAL WORKING.**



Showing also Breastplate Transmitter (Pattern No. B6),  
and Head-Gear Receiver (Pattern No. B14).

Switchboards—continued.

**NATIONAL TELEPHONE COMPANY'S STANDARD PATTERN,  
METALLIC CIRCUIT, CORDLESS SWITCHBOARD.**



**Pattern No. B113<sup>(5)</sup>**

Comprises Switchboard, Hand Combination Transmitter, and Receiver with Cord, and 4-way Plug fitting into a 4-way Jack on the side of the board, Automatic Cradle-switch, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Plugs, etc.

**Pattern No. B113**—Standard Pattern, Metallic Circuit, Cordless Switchboard—As the name implies, this is the Company's own pattern of Cordless Board. It is a most desirable type of switchboard for office use, and one in which connection between any two stations on the system is obtained by simply inserting a plug in a jack provided for the purpose, thus obviating the use of flexible cords. The apparatus is of ornamental appearance, and is easily, and quickly operated.

Another advantage it possesses is, that being fitted with a Hand Micro-telephone, and generator, etc., *it is a switchboard, and instrument complete.*

*Prices—*

**3 Lines—£7 16 6      4 Lines—£8 10 6      5 Lines—£9 7 6**

*Larger sizes, prices on application.*

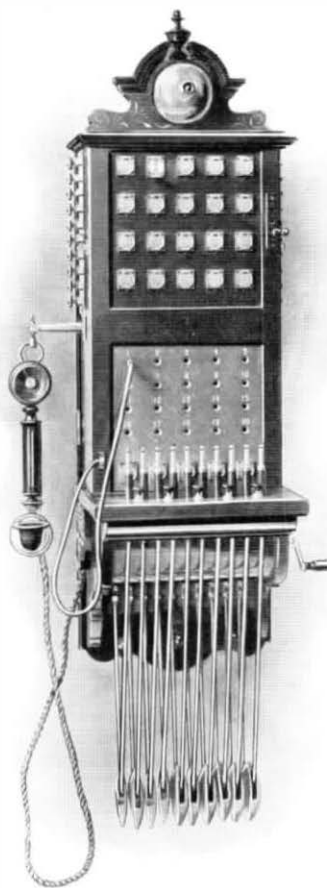
A cheaper class of Cordless Switchboard can also be supplied. This type, however, differs slightly in form, and construction from the one illustrated.<sup>(12)</sup>

*Prices—*

**3 Lines—£4 10 0      4 Lines—£6 0 0      5 Lines—£8 0 0**

Switchboards—continued.**Pattern No. B114**<sup>(16)</sup>**SWITCHBOARD FOR - EARTH CIRCUIT LINES**

Comprises Switchboard, Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, Bell, Plugs, Cords, etc.



**Pattern No. B114**—This Board is for use only on lines having an earth return. It is of ornamental appearance, and is in every way suitable for small installations. Being fitted with a Hand Combination Transmitter, and Receiver, it is an instrument, and switchboard complete.

*Prices—*

6 Lines—£10 5 0	9 Lines—£11 10 0	12 Lines—£13 5 0
16 Lines—£15 10 0	20 Lines—£17 0 0	25 Lines—£19 10 0

## *Correspondence Installations.*

---

### **DICTION BY TELEPHONE, MULTIPLE SETS.**

As used, and supplied by the

### **NATIONAL TELEPHONE COMPANY.**

This System has been designed to meet the requirements of Public Offices, Railways, Hotels, etc., and large Firms with several departments, and consists briefly, of an arrangement whereby the typists are connected by means of a Switchboard, and Telephone Lines, with those members of various departments who are in the habit of dealing with the correspondence.

*The following are some of the advantages of this system :*

#### **PERFECT QUIET.**

The dictator does not hear the noise of the typewriting machines, as the typists can be at any distance from him.

#### **DISTRIBUTION OF WORK.**

The resources of the typewriting department can be equally, and economically distributed over the various offices, as any typists, who are disengaged, are at the disposal of any given department desiring to dictate letters.

#### **GREAT SAVING OF TIME.**

The typist is also enabled to go on with her work, without disturbing the dictator, during any pause, or interruption, in the dictation of a letter, and during long pauses,

**Correspondence Installations**—*continued.*

which sometimes occur in the composition of an important letter, the saving of time is very considerable.

**THE ISOLATION OF THE TYPIST**

in a separate room is also an advantageous feature of the system, and removes the objection felt by some firms to the presence of female clerks in the office.

The following is an example of the cost for sale outright of an Installation consisting of 6 Dictating Sets, and 2 Typists' Sets with a Six-Line Switchboard, etc., **including the cost of erection.**

	£	s.	d.
6 Dictating Sets, similar to Pattern No. B57 - - - -	19	14	0
2 Typists' Sets, similar to Patterns Nos. B6 and B15, which two patterns form one complete Typist's Set - -	6	14	0
1 6-Line Switchboard, similar to Pattern No. B111 (Fig. II.) -	5	0	0
1 Instrument for the Switchboard, similar to Pattern No. B17 -	2	1	0
	<b>£33</b>	<b>9</b>	<b>0</b>

The Company is prepared to maintain the installation in working order at a small annual charge.

Special quotations given for large installations, or for installations at an Annual Rental.

Further information may be obtained on application.

The Photograph on the next page shows the typewriting department (which can be viewed at any time) in the Head Offices of the National Telephone Company, Ltd., Victoria Embankment, London, E.C.

The Shorthand Typists are provided with double head-gear receivers (Pattern No. B15), and breast-plate transmitters (Pattern No. B6), which leave their hands quite free. These instruments are connected with the switchboard, which in turn is joined up to the dictating telephones in the various departments in the building, and the arrangement, therefore, is eminently suited for all large firms having many departments. An obvious advantage is that in a rush of work in any department the whole resources of the typewriting room are available for that department.

For a Correspondence Installation suitable for use in an office where only one shorthand writer, or typist is required, see page 87.



***Correspondence Installations—continued.*****DICTATION BY TELEPHONE, SINGLE SETS.**

By the use of the following instruments, which are connected together by an ordinary telephone line (the cost of which is not included in the following prices), the necessity for calling an assistant—possibly from a distance—when it is desired to dictate correspondence, etc., may be avoided; nor is this the only advantage in connection with Dictation Sets, as will be seen by a perusal of pages Nos. 84 to 86.

**Pattern No. B 57<sup>(23)</sup>** As used  
by the Principal.

**Price £3 3 0**



**Pattern No. B 54<sup>(5)</sup>** As used  
by the Assistant.

**Price £3 11 6**



The above arrangement is suitable where one shorthand writer, or typist only, is required; in cases where several are employed the installation already described on pages Nos. 84 to 86, will be found in every way desirable.

*Fittings, and Parts of Instruments,  
Switchboards, &c.*

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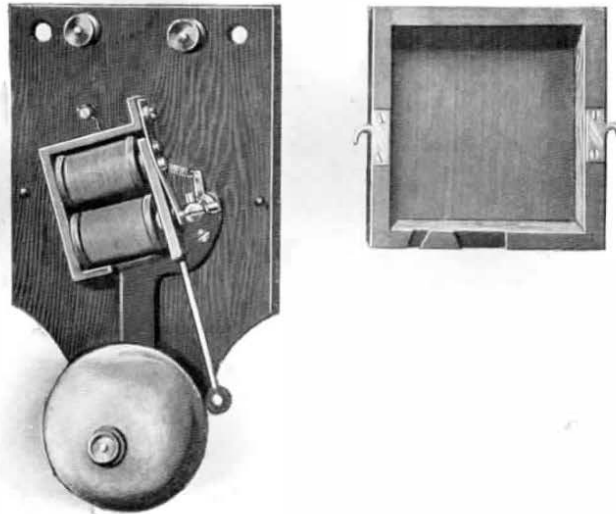
The Company keeps large stocks of fittings, parts, etc., and can supply these promptly, thus frequently saving the expense, inconvenience, and trouble of sending in the instrument, etc., itself for repairs.

## Bells.

Pattern No. B115<sup>(10)</sup>

### TREMBLING BELL.

Fitted on wooden base with wooden lid to cover the coils.



*Prices—*

$2\frac{3}{4}$ inch dome	—3/9
3 " "	—5/-
$3\frac{1}{2}$ " "	—6/6
4 " "	—8/-
$4\frac{1}{2}$ " "	—9/-

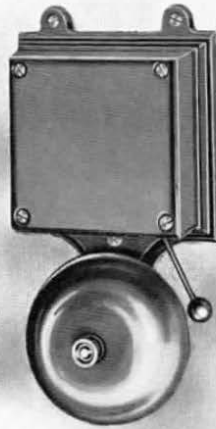
*Special quotations for larger sizes.*

A cheaper class of bell can also be supplied viz:—

$2\frac{1}{2}$ inch dome	—2/-
3 " "	—2/6

Bells—continued.Pattern No. **B116** <sup>(5)</sup>**TREMBLING BELL, IRON CASE.**

Fitted on iron base with iron lid to cover the coils.



**Pattern No. B116**—Trembling Bell, Iron Case.—This bell is specially constructed for outdoor use.

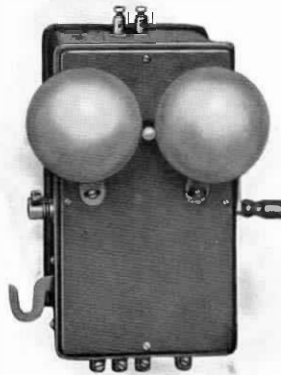
*Prices—*

3 inch dome—	£0	15	0
4 " "	£0	17	6
5 " "	£1	1	0
6 " "	£1	2	6

*Special quotations for larger sizes.*

Bells—continued.**Pattern No. B117** <sup>(14)</sup>**MAGNETO BELL.**

Fitted with Triple Magnets, and Automatic Switch-hook.

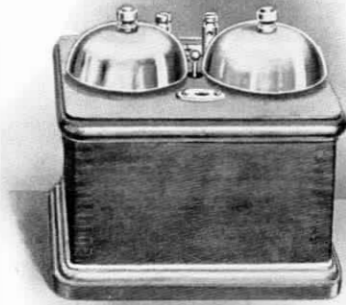
**Price 45/-**

**Pattern No. B117**—This is similar to the Magneto Bell in use on Pattern No. B29.

The Company has a considerable stock of these Magnetos which have been in use, and is prepared to dispose of them at the very low rate of **30/-** each. They have been put in thorough order, and are, as far as efficiency is concerned, equal to new.

Bells—continued.**MAGNETO EXTENSION BELLS.****Pattern No. B118**<sup>(5)</sup>**MAGNETO  
EXTENSION BELL**

With round gongs.



Price 12/-

Resistance—1,000 ohms.

**Pattern No. B119**<sup>(13)</sup>**MAGNETO  
EXTENSION BELL**

With sheep gongs.

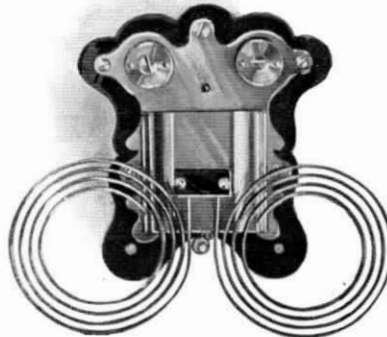


Price 13/3

Resistance—1,000 ohms.

**Pattern No. B120**<sup>(24)</sup>**MAGNETO  
EXTENSION BELL**

With wire gongs.



Price £1 1 0

Resistance—1,000 ohms.

**Patterns Nos. B118, B119, and B120**—These bells are for use in connection with a line having an extension, and while those illustrated are of 1000 ohms resistance the Company can supply bells of any resistance required, the price varying according to the winding.

Bells—continued.*Magneto Extension Bells*—continued.**Pattern No. B121** <sup>(36)</sup>**MAGNETO EXTENSION BELL, IRON FRAME SKELETON.**

Resistance 1,000 ohms.

**Price £1 2 6**

**Pattern No. B121**—This bell is for use in positions where a loud extension bell is required.

**Pattern No. B122** <sup>(11)</sup>**MAGNETO EXTENSION BELL, ENCLOSED PATTERN.**

Resistance 1,000 ohms.

**Price 10 6**

**Pattern No. B122**—This is a small type of bell, it is neat, and unostentatious. It will work well in any position.

*All, and any kind of bells quoted for. See also remarks at foot of previous page.*

## *Fire, and Police Alarms.*

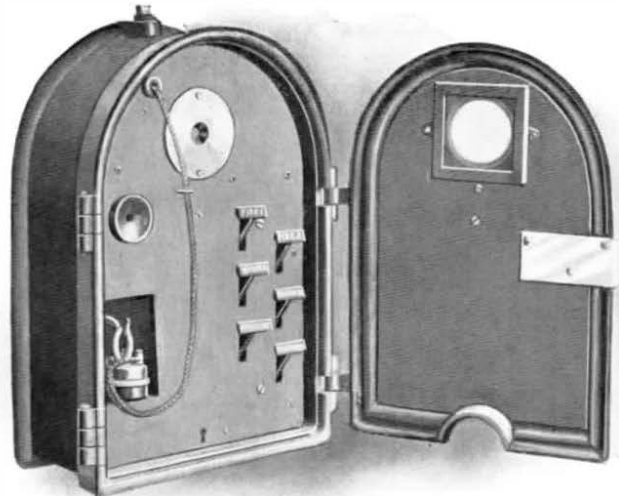
**Pattern No. B123**

*LIVERPOOL PATTERN FIRE, AND POLICE ALARM SYSTEM.*

Fig. I.



Fig. II.



The Alarm Box comprises:—Cast Iron Box, fitted with mechanism, and six “Transmitting” levers (which can be labelled to suit requirements), and a Telephone Set.

Fire, and Police Alarms—continued.**LIVERPOOL PATTERN FIRE, AND POLICE ALARM SYSTEM.****Pattern No. B123**—continued.

The Receiving Station comprises:—Morse Telegraph Inker (with Time Stamp), and a Clock.

The Inker acts as a Receiver, the dashes sent by the Transmitter being recorded on a tape.

Fig. III.

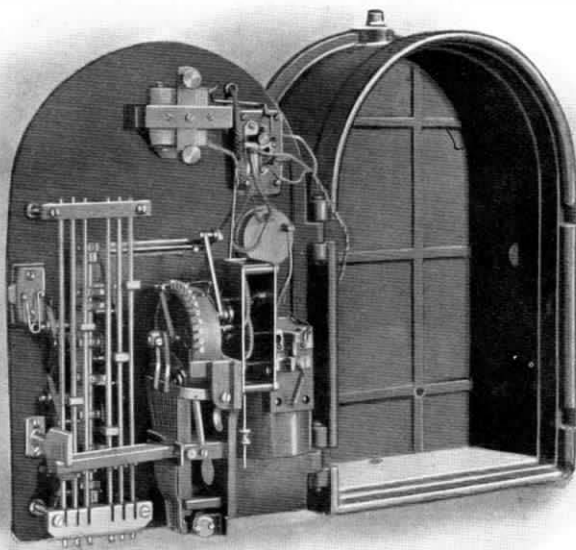


Fig. IV.

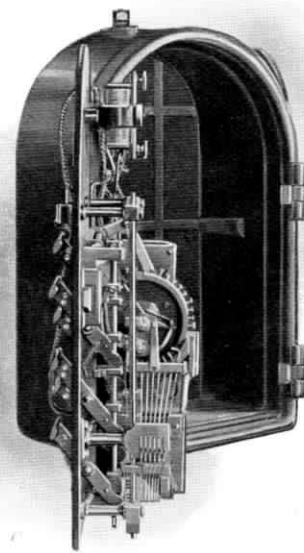


Fig. V.

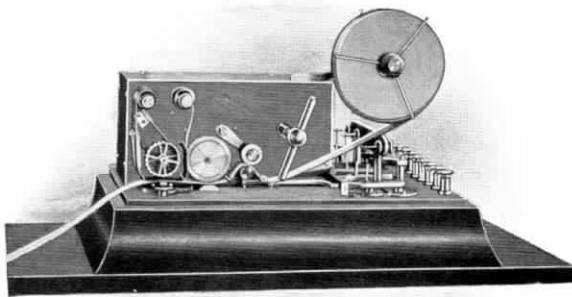
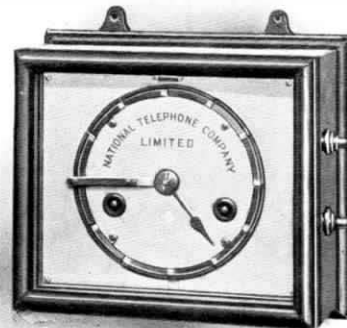


Fig. VI.



Figures I. to IV.—Fire Alarm Box.  
Figure V.—Receiving Station Indicator.  
Figure VI.—Clock.

*Prices on application.*

Fire, and Police Alarms—continued.**LIVERPOOL PATTERN FIRE, AND POLICE ALARM SYSTEM.****Pattern No. B123**—continued.

This Fire, and Police Alarm System, which has already been established at Liverpool, has been designed to meet the requirements of both the Fire, and Police authorities. Street Alarm Boxes are fixed (to sides of buildings, or other suitable places) in all the important parts of the city, and connected with the nearest District Police Office. From each of these boxes six automatic alarm signals (having any meaning which may be desired) can be sent; for instance, "Patrol Waggon," "Horse Ambulance," "Fire," "Serious Fire," "Patrol Waggon B" (for cases where a number of constables are required), and "Telephone," together with the number of the box from which the call, or alarm is sent. These signals are recorded at the District Police Office by means of dashes, and spaces printed upon the tape of a recording instrument similar in design to an ordinary Morse Telegraph Inker. In each box there is a visual indicator to notify the person sending the alarm that the call has been received. This indicator is also used (by reversing the colour from red to white) to attract the attention of the constable on the particular beat in which the box is situated. He can then communicate with his District Office through the telephone fitted in the box.

There is also an arrangement by which the constables can report themselves to the District Police Office from the different boxes they pass upon their beats. This is accomplished by means of a special report key, which, when placed in the key-hole at the bottom of the box, and turned once round, causes the number of the key used, together with the number of the box to be printed on the tape of the recording instrument, also the time at which the signal is given.

Before an alarm can be sent the door of the box must be opened; this is done with a key of ordinary pattern, but which, when turned in the lock, cannot be withdrawn until released by a master key. The object of this is so that the person giving the alarm can be traced if necessary, the key being stamped with a number, and a record kept to whom it was issued. Inside the box are the six handles, or levers, each clearly marked. To send an alarm the handle marked with the signal required must be pulled down. This sets the mechanism of the box in motion, and causes the required signal, and box number to be printed on the tape of the recording instrument at the District Police Office, also the time at which the signal is given.

Fire, and Police Alarms—continued.

**LIVERPOOL PATTERN FIRE, AND POLICE ALARM SYSTEM.**

**Pattern No. B123**—continued.

The Code for the different Alarm Signals is as follows :

Fire,	one dash printed thus	—
Patrol Waggon,	two dashes printed thus	---
Horse Ambulance,	three " "	-----
Serious Fire,	four " "	-----
Patrol Waggon B,	five " "	-----
Telephone,	six " "	-----

The dashes representing the alarm are followed by other dashes to represent the box number, but a long space (about three inches) is left between the two sets, so as to distinguish between them.

No. 1 box is represented by one dash thus —; No. 2 box by two dashes thus — —, and so on up to 11. After No. 11 the Nos. are represented by dashes, and short spaces. For instance

No. 35 would be printed thus	-----	-----
No. 42 thus	-----	---
No. 28 thus	---	-----

and all other Nos. in a similar way.

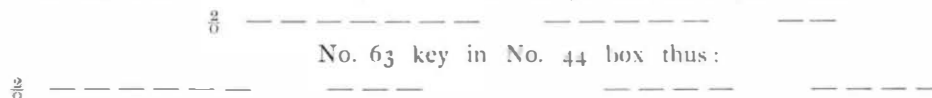
To further illustrate, let it be assumed that an alarm is sent from one of the boxes, and recorded on the tape as follows :



From this the operator at the District Police Office would at once see that the Horse Ambulance is required at No. 26 box, the figures  $\frac{2}{40}$  at the commencement of the message showing the time the alarm was sent. This record is effected by an ordinary time stamp, against which the tape is automatically pressed at the commencement of each call.

The constable's call is recorded much in the same way as the other calls; i.e., the action of the reporting key being put into the special keyhole, and turned once round sets the mechanism of the box in motion, and certain dashes in accordance with the numbers of the key, and box are printed on the tape of the recording instrument.

The reporting keys are simply an extension of the alarm signals, and the lowest key, must not be less than No. 7. No. 7 key turned in No. 52 box at 2 p.m. would be recorded thus :

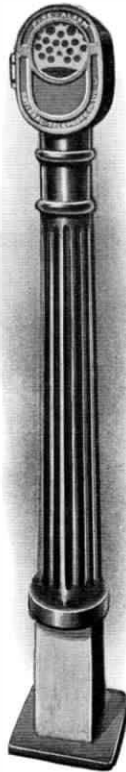


Other keys, and box numbers are shown in a similar manner.

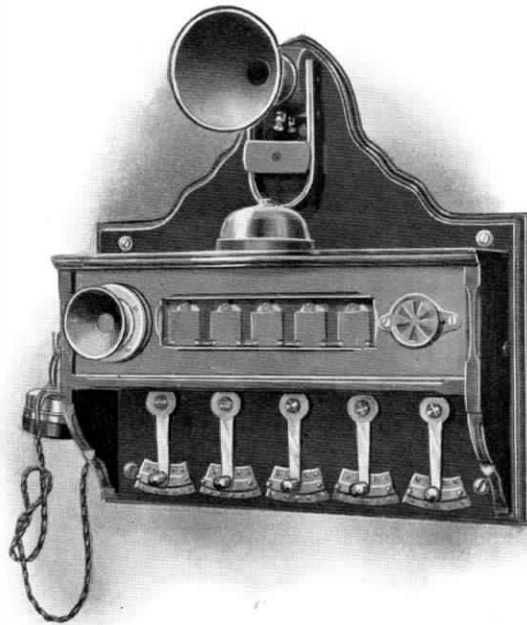
The boxes are arranged in circuits up to ten boxes connected in series, both ends of the line terminating at the nearest District Police Office, at which place the circuit is completed through the recording instrument, and a battery (forming a closed circuit).

**Fire, and Police Alarms**—continued.**FIRE ALARM.****Pattern No. B124**

Comprises Street Post, or Wall Box, fitted with the following apparatus: Buzzer, Induction Coil, Resistance Coil, Two Receivers (One Loud-speaking), Granular Carbon Transmitter, Contact Maker; and at the Station, Indicator Board, Bell, Transmitter, One Receiver, One Hooter, Two Induction Coils, Switches, Drop Indicators, and One Testing Indicator.



Street Post.



Station Indicator.

**Pattern No. B124**—Fire Alarm—This Fire Alarm System is a distinct departure from any other. It has been extensively adopted, and has given great satisfaction, the chief point being the ease with which communication can instantly be made with the Fire, or Police Station by the Public, Firemen, or Policemen, as in addition to the ordinary alarm, the posts, etc. are fitted with loud speaking telephones so that verbal communication can also be obtained. There is no local battery at the Fire Alarm Post, and the signal given on the line upon the glass being broken is of such a distinctive character that it cannot be produced by a simple contact on the line wire, or other cause. An additional advantage is that at the same time as an alarm is conveyed to the station a loud buzzing is set up at the post, so that persons giving a false alarm do so at great risk of being discovered. By means of the loud-speaking telephone with which the post is fitted, telephonic communication may be carried on between the station, and the person giving the alarm, so that the exact locality of a fire may be ascertained before the fire engine is turned out. A key is provided by means of which the door of the post may be opened, and in this case the indicator is dropped at the station, but the Fire Alarm Signal is not given. This arrangement is useful to enable the posts to be tested from time to time, or to allow firemen to communicate with headquarters therefrom. The post can be fitted with a "pull" if required.

**Prices on application.**

Fire, and Police Alarms—continued.**POLICE SIGNAL SYSTEM.****Pattern No. B125**

FIG. I.



FIG. II.



A cheap, speedy, and reliable method of communicating between Police Stations in large Centres, and the constables on their beats, has long been desired by many Police Authorities. At present the system of personal messengers is slow, expensive, unreliable, and is open to many objections in other ways.

THE NATIONAL TELEPHONE COMPANY submit the system explained hereafter, as one which is efficient, reliable, and simple. Avoiding technicalities as much as possible, the following short description will show in a general way the method of operation, and how the system can be used by any intelligent citizen, without previous experience of it, also a few of the many advantages which follow its adoption.

The Signal Box is a neat ornamental cast iron structure, placed at a central point where several beats converge, and connected by a special wire with the nearest Police Office. The constables' patrol of their beats is so timed that each officer sights the box in rotation. Thus there is an arrangement by which one of the constables in the locality has always the Signal Box in view.

**Fire, and Police Alarms**—*continued.***POLICE SIGNAL SYSTEM.****Pattern No. B125**—*continued.*

If the officer in charge of the Police Office wishes to communicate with the constables on their beats, he has simply to ring his telephone bell. This operates the mechanism in the signal box, and raises a red glass globe round the gas jet in the lamp on the roof of the box. The lamp is lighted simultaneously by a small pilot light, which is always burning. After the red globe has been raised the light is very conspicuous, and even in the daytime can be seen at a considerable distance.

The duty of the first constable who sees the signal is to open the door with his key, and speak to the Police Office by means of the telephone in the box. Until the door of the box has been opened the line wire remains disconnected, the connection having been cut off by the raising of the signal. The cut off also intimates to those in the Police Office that the signal has been properly raised.

Any constable who is provided with a key can enter the box at any time, and communicate to the Police Office any information which may be necessary, also to all the other signal boxes over the area. Special assistance can be instantaneously requested, however distant the signal box may be from the Police Office, a Fire can be reported, the Ambulance Waggon summoned, or any other contingency can be instantly dealt with.

In Glasgow, some of the Police Offices provided with this system have patrol waggons, which are sent, when required, to bring violent, or intoxicated prisoners to the Police Offices, and these waggons are called out by the signal system.

An important feature of the system is the arrangement in the lock of the door, which can be opened by two different keys. The constable's key operates the lock in the usual way, but the "citizen's" key cannot be withdrawn from the lock, once the bolt is shot back, until released by the constable's key. Keys can therefore be issued to respectable citizens, and such keys being numbered, and the numbers registered in the books, it is absolutely impossible for anyone to make an improper use of the signal system without being detected, as the "citizen" key would be left in the door of the box.

By opening the door with a "citizen's" key the line wire is automatically connected to both the telephone, and the signal apparatus, so that the citizen has immediate connection with the Police Station, whose reply ring will raise the red globe, and ignite the gas, and so call the attention of the nearest constable, who can release the "citizen's" key.

A number of these boxes have been installed in some of the suburban districts of Glasgow, and have been most favourably reported on by His Majesty's Inspector of Constabulary for Scotland.

**Prices, and full particulars** as to the charges made for erecting, and maintaining the system in any locality in the United Kingdom can be obtained on application.

Fire. and Police Alarms—continued.

FIG. I.

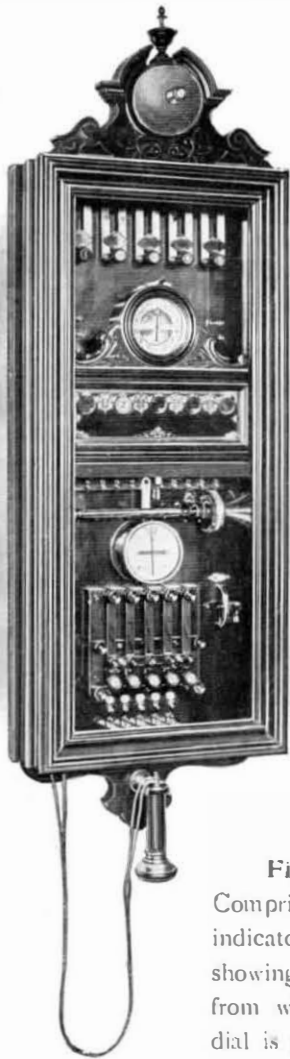
**FIRE ALARM.****Pattern No. B 126<sup>(5)</sup>**

FIG. II.

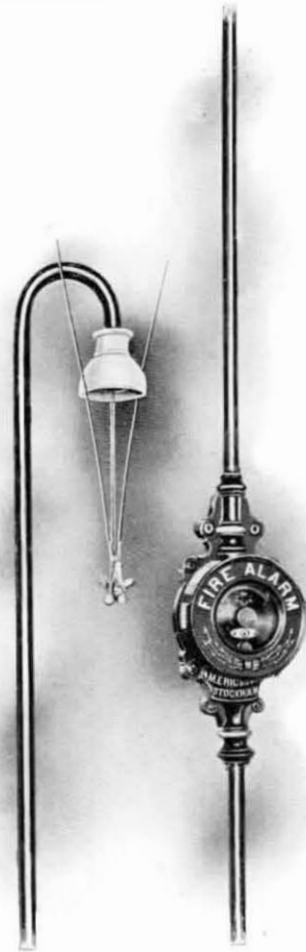


FIG. III.



**Fig. I.**—Receiving Apparatus—Comprising a row of numbered indicators, (5 in the illustration), for showing the number of the district from which the alarm is given. A dial is provided over which a hand moves, and indicates the number of the individual box. Extension bell, galvanometer, keys, and a telephone for testing, complete the equipment.

**Fig. II.**—Fire Alarm Box—With protecting cover of iron, provided with a tube extension 5 feet 10 inches long, for protecting the earth connection, and the line wire. Height, from bottom of box to insulator, 6 feet 8 inches; diameter of case, 6·8 inches.

**Fig. III.**—Recording Apparatus—For use in connection with FIG. I., comprising a Morse inker combined with an arrangement of relays for recording all alarms given.

With this addition it is possible to receive calls (which follow each other very quickly) without their becoming mixed.

Fire, and Police Alarms—continued.**FIRE ALARM.****Pattern No. B126**—continued.

This fire alarm is intended chiefly for use in small communities, and is constructed with a view to simple manipulation, so that police constables, and firemen can be quickly educated to its use.

The town is divided into a number of districts, and one single circuit telegraph line goes from the station apparatus to each district, and back to the station. In the district branch connections are made to a number of fire alarm-boxes situated at convenient points. An earth connection is provided at each box, and an earthed battery at the station.

When an alarm is to be given, the glass disc of the nearest fire alarm box must be broken, and the button in the centre marked "Press" pushed in. The result of this manipulation is to set in motion the mechanism which is contained in the box. This makes consecutively a number of electrical contacts between the line, and the earth, and as each contact is made, a clock hand at the station advances one step over a number dial. As no two boxes in the same district make an equal number of contacts, the particular box from which the alarm was given is easily identified; an indicator dropping shows the number of the district in question, and closes the circuit of the alarm bell.

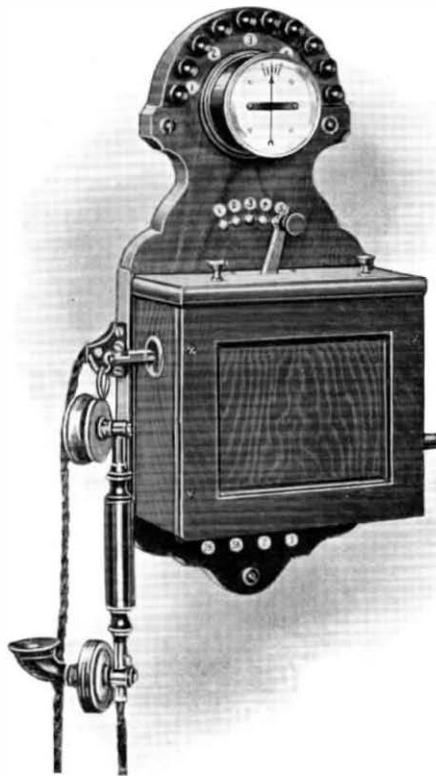
For the purpose of periodically ascertaining whether the battery, and the lines are in good working order, suitable testing devices are included in the station apparatus. These comprise amongst other things a telephone transmitter, and receiver, and each fire alarm box being provided with contact rings to receive the conducting wires of a pocket telephone set, police constables, and firemen, (who should be provided with pocket telephones), can speak direct to the station.

**Prices—**

Fig. I.						Fig. II.	
<b>Receiving Apparatus<sup>(5)</sup></b>						<b>Fire Alarm Box<sup>(5)</sup></b>	
No. of Districts ...	...	...	4	5	<b>£4 2 0</b>		
Height ...	...	...	45'3 inches.	45'3 inches.			
Width ...	...	...	13 "	15 "			
Weight ...	...	...	44 Lbs.	55 Lbs.			Fig. III.
			<b>£28 0 0</b>	<b>£31 0 0</b>	<b>Controlling Apparatus<sup>(6)</sup></b>		
					<b>£30 0 0</b>		

Fire, and Police Alarms—continued.**FIRE ALARM GENERATOR.****Pattern No. B127<sup>(10)</sup>**

Comprises Hand Combination Transmitter, and Receiver, Cord, Automatic Switch-hook, Induction Coil, Lightning Arrester, Magneto Generator, Switch, and Galvanometer for testing the Lines.



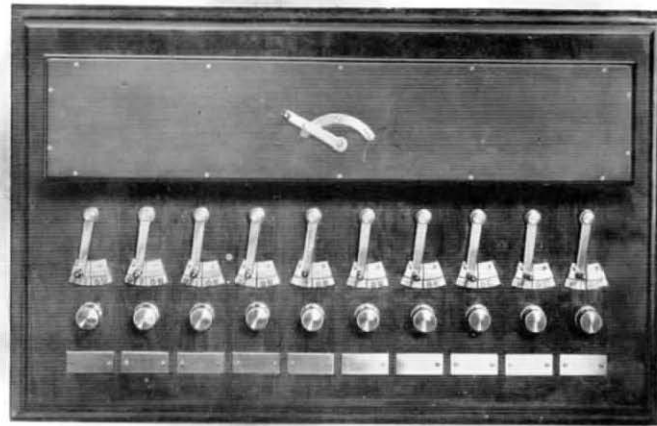
**Pattern No. B127**—The object of this apparatus is to transmit a fire signal received at the station, to the fire brigade men, and officers, in whose houses, and offices, bells are fitted.

These bells are connected in groups on the lines, and both ends of the circuit through each group are connected with the terminals of the generator used for that purpose.

When signalling the handle is turned rapidly, and the switch in the middle of the apparatus is brought from one contact to another, whereby the current is led out to the different groups of bells.

The apparatus is provided with a galvanometer, and keys for ascertaining whether the lines are in proper working order; it is, moreover, fitted with a Hand Combination Transmitter, and Receiver for speaking to those officers who are provided with telephones.

**Price £12 0 0**

**FIREMEN'S WATCHROOM CALL SWITCHBOARD.****Pattern No. B128** <sup>(17)</sup>

**Pattern No. B128**—This Switchboard is for the purpose of fixing in Fire Station Watchrooms, and is provided with a time switch, and an "On, and Off" Switch, a push button, and a name plate for each fireman. Any number of firemen can be called at one time by turning their respective switches to the "On" position, and then actuating the time switch. The push buttons are to enable any man to be called individually.

*Prices—*

<i>6 Points</i>	...	...	...	...	...	<b>£9</b>	<b>0</b>	<b>0</b>
<i>10 Points</i>	...	...	...	...	...	<b>£13</b>	<b>0</b>	<b>0</b>
<i>15 Points</i>	...	...	...	...	...	<b>£18</b>	<b>0</b>	<b>0</b>
<i>20 Points</i>	...	...	...	...	...	<b>£21</b>	<b>10</b>	<b>0</b>
<i>25 Points</i>	...	...	...	...	...	<b>£25</b>	<b>0</b>	<b>0</b>

## *Window Terminal Blocks.*

**Pattern No. B129** <sup>(5)</sup>

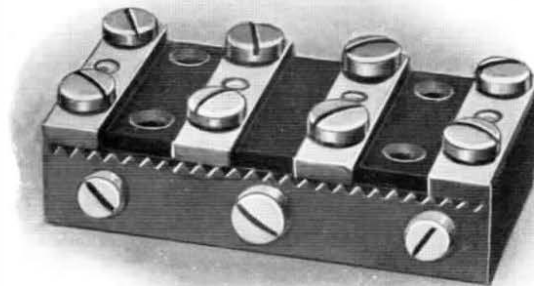
*WINDOW TERMINAL BLOCK—DOUBLE.*



*Price 7d.*

**Pattern No. B130** <sup>(10)</sup>

*WINDOW TERMINAL BLOCK—4-WAY.*



*Price 1-*

**Patterns Nos. B129, and B130**—Window Terminal Blocks, double, and 4-way—These are most neat, and handy forms of terminal blocks, and are generally used as a means of connection between inside, and outside wires, although they are very useful for various other purposes. Both patterns are fitted with lightning arresters.

**Pattern No. B131<sup>(30)</sup>**

*INDUCTION COIL.*



**Pattern No. B131**—This is for use with instruments not already fitted with an induction coil.

*Price 2/6*

If fitted on wooden base with terminals.

*Price 6/-*

*Switches.*

**Pattern No. B132<sup>(30)</sup>**

*2-WAY SWITCH.*



**Pattern No. B132**—This is a neat switch which is useful where two electrical appliances are required for use alternately, and for many other purposes, such as cutting out of circuit an electric bell, or battery, or changing the circuit over from one bell to another, when one is used for the day, and the other for the night. When the lever is in a central position all three points are disconnected.

*Price 2/6*

Switches—continued.**Pattern No. B133** <sup>(17)</sup>**METALLIC CIRCUIT INTERMEDIATE THROUGH SWITCH.****Price 15/-**

**Pattern No. B133**—This is for use on a line provided with an extension instrument. By means of this switch, the extension instrument can be used for speaking throughout the line, or between itself, and the intermediate instrument only, or in other words, this switch is used where two telephone lines meet at an intermediate point.

In one position, one of the lines is connected to the intermediate telephone instrument, the other being connected to an auxiliary bell. In another position this arrangement is reversed, and in the third (central) position the two lines are joined together through the auxiliary bell, on which a disconnecting signal is given when the outer stations have finished their conversation.

The Company has in stock a number of these switches which have been in use, and is prepared to offer them at the low price of **11/-** each. They have been put in thorough working order, and are, as far as efficiency is concerned, equal to new.

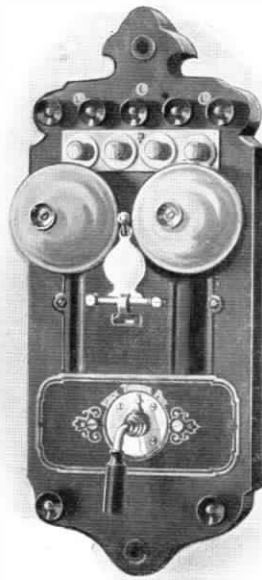
Switches—continued.**Pattern No. B134** <sup>(9)</sup>***METALLIC CIRCUIT INTERMEDIATE PRIVATE SWITCH.*****Price 13 6**

**Pattern No. B134**—This is for use at an intermediate instrument provided with both an exchange, and a private line. By means of this switch the intermediate, and private instruments can be connected together, but the private instrument is precluded from speaking throughout the line, or again, in other words, this switch is similar to **Pattern No. B133** except that the two lines cannot be connected together, this being an essential condition under some circumstances.

The Company has in stock a number of these switches which have been in use, and is prepared to offer them at the low figure of **10/-** each. They have been put in thorough working order, and are, as far as efficiency is concerned, equal to new.

Switches—continued.**Pattern No. B135** <sup>(27)</sup>**INTERMEDIATE THROUGH COMBINATION SWITCH**

With automatically restored Indicator.



**Pattern No. B135**—This switch is intended for use in connection with exchange systems having automatic ringing, and clearing, and it also acts in the same way as Switch Pattern **No. B133**. The auxiliary bell, however, is combined with the switch, and an indicator is provided, which by falling when the bell rings, serves to indicate which line is calling, and also, if the room in which the instrument is fixed is left vacant, shows on the return of the occupant if a call has been made on the line connected with the bell.

The indicator (which is mechanical) can also be fitted to an ordinary magneto bell, Pattern **No. B117**.

**Price 33/-**

Switches—continued.

**Pattern No. B136**<sup>(35)</sup>

*(Not Illustrated).*

**INTERMEDIATE PRIVATE COMBINATION SWITCH**

With automatically restored Indicator.

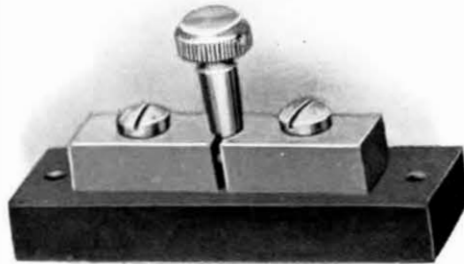
**Pattern No. B136**—This switch also, is intended for use in connection with exchange systems having automatic ringing, and clearing, and, further, acts in the same way as Switch Pattern No. B134. The auxiliary bell, however, is combined with the switch, and an indicator is provided which by falling when the bell rings, serves to indicate which line is calling, and also if the room in which the instrument is fixed is left vacant, shows on the return of the occupant if a call has been made on the line connected with the bell. In appearance this switch is practically similar to Pattern No. B135.

**Price 33/-**

Switches—continued.

Pattern No. B137 <sup>(11)</sup>

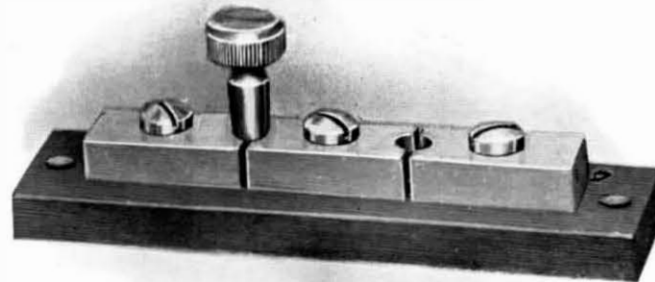
*SINGLE PLUG SWITCH.*



Price 16

Pattern No. B138 <sup>(11)</sup>

*DOUBLE PLUG SWITCH.*



Price 2/2

Patterns Nos. B137, and B138—Single, and Double Plug Switches.—These are a very convenient form of switch, especially for experimental work.

## *Electric Bell Indicator Boards.*



There are many different types, and patterns of these, and, therefore, only the more usual forms are illustrated. The Company, however, can supply any particular class of board which may be required.

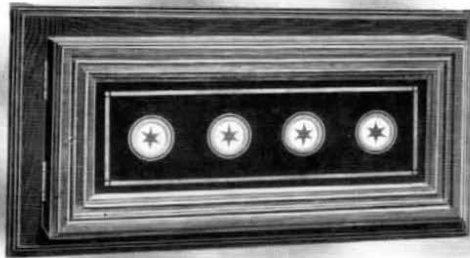
## *Electric Bell Indicator Boards.*

Pattern No. B139 <sup>(11)</sup>

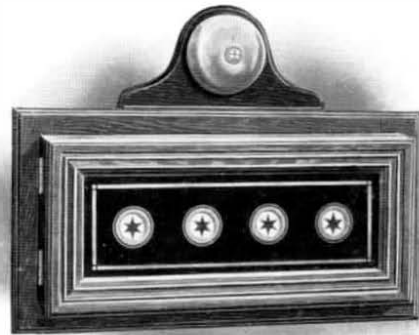
Pattern No. B140 <sup>(11)</sup>

*ORDINARY QUALITY INDICATOR BOARDS, WITH PENDULUM INDICATORS.*

Polished imitation teak cases, with real teak moulding.

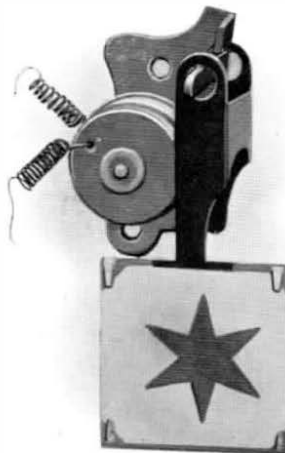


Without Bell.



With Bell, 6/- extra on following prices (p. 114).

*Type of Movement.*



Electric Bell Indicator Boards—continued.●Ordinary Quality Indicator Boards, with Pendulum Indicators—continued.

Nos.	Arrangement	Dimensions of Backboard		Price per No.
		Right to Left Inches	Top to Bottom Inches	
2	One row	11½	8½	3/-
3	„	14½	8½	2/6
4	„	16½	8½	2/6
5	„	19½	8½	2/4
6	2×3	14½	12	1/11
7	1×4 and 1×3	16½	12	
8	2×4	16½	12	
9	1×5 and 1×4	19½	12	
10	2×5	19½	12	
11	1×6 and 1×5	21½	12	
12	2×6	21½	12	
13	1×5 and 1×3 and 1×5	19½	15½	
14	1×5 and 1×4 and 1×5	19½	15½	
15	3×5	19½	15½	
16	1×6 and 1×4 and 1×6	21½	15½	
17	1×6 and 1×5 and 1×6	21½	15½	
18	3×6	21	15½	
19	3×5 and 1×4	24	19	
20	4×5	24	19	

Writing Names of Rooms on the Glass in Gold, **6d.** per No.Writing Name, and Address only **1/6.**

Name, and Address on fully written Screens—free.

**Larger sizes not made in this quality.**

While a good Indicator at the price, the Company recommends the better qualities.

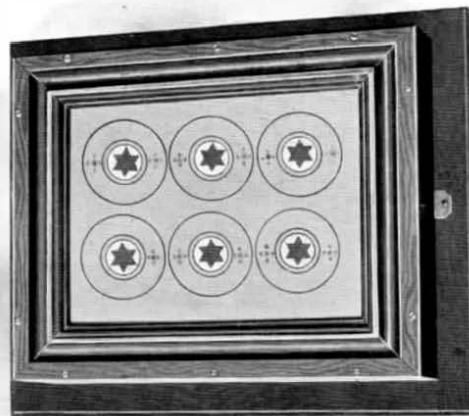
Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

Electric Bell Indicator Boards—continued.

Pattern No. B141<sup>(10)</sup>

*MEDIUM QUALITY INDICATOR BOARDS WITH PENDULUM INDICATORS.*

Highly polished teak, or walnut, dust-proof cases. The fronts lift off, making the fitting easy. Printed metal screens, blue, and gold, and plain glass.



If fitted with Bell, same style as Pattern No. B140, 6/- extra on the following prices (p. 116).

For illustration of type of movement, see Patterns Nos. B139, and B140.

Electric Bell Indicator Boards—continued.Medium Quality Indicator Boards with Pendulum Indicators—continued.

Nos.	Arrangement	Dimensions of Backboard		Price per No.
		Right to Left Inches	Top to Bottom Inches	
2	One row	11 $\frac{1}{4}$	8 $\frac{3}{4}$	4/6
3	"	13 $\frac{3}{4}$	8 $\frac{3}{4}$	4/-
4	"	16 $\frac{1}{4}$	8 $\frac{3}{4}$	3/6
5	"	18 $\frac{3}{4}$	8 $\frac{3}{4}$	3/-
6	2 x 3	13 $\frac{3}{4}$	11 $\frac{1}{2}$	
7	1 x 4 and 1 x 3	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
8	2 x 4	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
9	1 x 5 and 1 x 4	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
10	2 x 5	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
11	1 x 6 and 1 x 5	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
12	2 x 6	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
13	1 x 5 and 2 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
14	2 x 5 and 1 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
15	3 x 5	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
16	1 x 6 and 2 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
17	2 x 6 and 1 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
18	3 x 6	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
19	1 x 7 and 2 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
20	2 x 7 and 1 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
21	3 x 7	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
22	2 x 5 and 3 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
23	3 x 5 and 2 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	2/9
24	4 x 5 and 1 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
25	5 x 5	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
26	1 x 6 and 4 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
27	2 x 6 and 3 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
28	3 x 6 and 2 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
29	4 x 6 and 1 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
30	5 x 6	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
31	1 x 6 and 5 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
32	2 x 6 and 4 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
33	3 x 6 and 3 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
34	4 x 6 and 2 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
35	5 x 6 and 1 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
36	6 x 6	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
37	2 x 8 and 3 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
38	3 x 8 and 2 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
39	4 x 8 and 1 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
40	5 x 8	32 $\frac{1}{4}$	23 $\frac{1}{4}$	

Alter No. 24, made with Glass Fronts.

Long Swing at 1/6 per No. extra.

Writing Names of Rooms on Screen in Black, 6d. per No.

Writing Name, and Address only 1/6

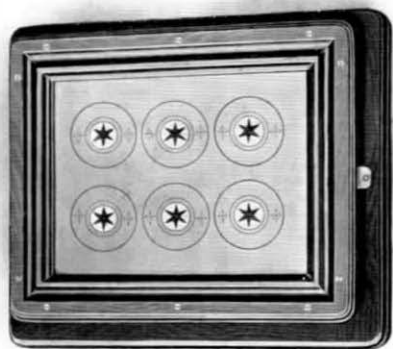
Name and Address on fully written Screens—free.

**Special quotations for larger sizes on application.**

Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

Electric Bell Indicator Boards—continued.Pattern No. B142<sup>(13)</sup>Pattern No. B143<sup>(13)</sup>**BEST QUALITY INDICATOR BOARDS WITH  
PENDULUM INDICATORS.**

Highly polished teak cases, dove tailed, hard wood panel, clamped back, special moulding, and enamelled zinc screens.



Without Bell.



With Bell, 6/- extra on the following prices (p. 118).

For illustration of type of movement, see Patterns Nos. B139, and B140.

Electric Bell Indicator Boards—continued.Best Quality Indicator Boards with Pendulum Indicators—continued.

Nos.	Arrangement	Dimensions of Backboard		Price per No
		Right to Left Inches	Top to Bottom Inches	
2	One row	11 $\frac{1}{4}$	8 $\frac{3}{4}$	6/9
3	"	13 $\frac{3}{4}$	8 $\frac{3}{4}$	6 -
4	"	16 $\frac{1}{4}$	8 $\frac{3}{4}$	5/3
5	"	18 $\frac{3}{4}$	8 $\frac{3}{4}$	4/9
6	2 x 3	13 $\frac{3}{4}$	11 $\frac{1}{2}$	
7	1 x 4 and 1 x 3	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
8	2 x 4	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
9	1 x 5 and 1 x 4	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
10	2 x 5	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
11	1 x 6 and 1 x 5	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
12	2 x 6	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
13	1 x 5 and 2 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
14	2 x 5 and 1 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
15	3 x 5	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
16	1 x 6 and 2 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
17	2 x 6 and 1 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
18	3 x 6	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
19	1 x 7 and 2 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
20	2 x 7 and 1 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
21	3 x 7	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
22	2 x 5 and 3 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
23	3 x 5 and 2 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	4/6
24	4 x 5 and 1 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
25	5 x 5	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
26	1 x 6 and 4 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
27	2 x 6 and 3 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
28	3 x 6 and 2 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
29	4 x 6 and 1 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
30	5 x 6	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
31	1 x 6 and 5 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
32	2 x 6 and 4 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
33	3 x 6 and 3 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
34	4 x 6 and 2 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
35	5 x 6 and 1 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
36	6 x 6	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
37	2 x 8 and 3 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
38	3 x 8 and 2 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
39	4 x 8 and 1 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
40	5 x 8	32 $\frac{1}{4}$	23 $\frac{1}{4}$	

Long Swing at 1/6 per No. extra.

Writing Names of Rooms on Screen in Black at 6d. per No.

Writing Name, and Address only 1/6

Name, and Address on fully written Screens—free.

**Special Quotations for larger sizes on application.**

Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

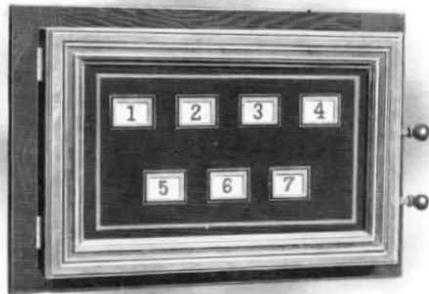
Electric Bell Indicator Boards—continued.

Pattern No. B144 <sup>(12)</sup>

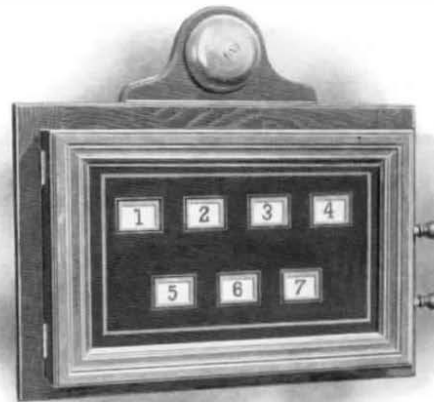
Pattern No. B145 <sup>(12)</sup>

ORDINARY QUALITY INDICATOR BOARDS, WITH MECHANICAL REPLACEMENT INDICATORS.

Polished Walnut Moulding, fitted with Drop Movements, and Glass Fronts.



Without Bell.



With Bell, 6/- extra on following prices (p. 120).

*Type of Movement.*



If with Pull-down Replacement, 6/- extra on following prices (p. 120).

**Electric Bell Indicator Boards—continued.****Ordinary Quality Indicator Boards, with Mechanical Replacement Indicators—continued.**

Nos.	Arrangement.	Dimensions of Backboard		Price per No.
		Right to Left Inches	Top to Bottom Inches	
2	One row	10½	7¼	3 6
3	"	13½	7¼	3/3
4	"	15½	7¼	3/-
5	"	17¼	7¼	2/10
6	2 × 3	13¼	11½	
7	1 × 4 and 1 × 3	17	11½	
8	2 × 4	17	11½	
9	1 × 5 and 1 × 4	20	11¾	
10	2 × 5	20	11¾	
11	1 × 6 and 1 × 5	22¾	12¼	
12	2 × 6	22¾	12¼	
13	1 × 5 and 2 × 4	20½	15¾	
14	2 × 7	25¾	11¼	
15	3 × 5	20½	15½	
16	4 × 4	18½	18½	
17	2 × 6 and 1 × 5	23¼	15¾	
18	3 × 6	23¼	15¾	
19	3 × 5 and 1 × 4	20¾	18¾	
20	4 × 5	20¾	18¾	
21	3 × 7	26¼	16¾	
22	2 × 6 and 2 × 5	23¾	18¾	
23	3 × 6 and 1 × 5	23¼	18¾	
24	4 × 6	23¾	18¾	
25	5 × 5	21¾	21¾	
26	3 × 7 and 1 × 5	26½	19¼	
27	3 × 7 and 1 × 6	26½	19¼	
28	4 × 7	26½	19¼	
29	4 × 6 and 1 × 5	24½	22½	
30	5 × 6	24½	22½	
31	3 × 8 and 1 × 7	28½	18¾	
32	4 × 8	28½	18¾	
33	4 × 7 and 1 × 5	26¾	22½	
34	4 × 7 and 1 × 6	26¾	22½	
35	5 × 7	26¾	22½	
36	6 × 6	25¼	25¼	
37	4 × 8 and 1 × 5	31½	24½	
38	4 × 8 and 1 × 6	31½	24½	
39	4 × 8 and 1 × 7	31½	24½	
40	5 × 8	31½	24½	

Writing Names of Rooms on the Glass in Gold, 6d. per No.

Writing Name, and Address only 1/6.

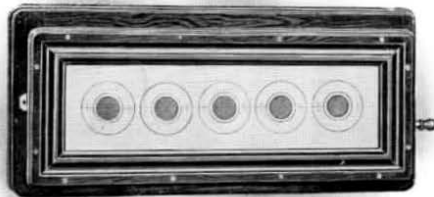
Name, and Address on fully written Screens—free.

**Special Quotations for larger sizes on application.**

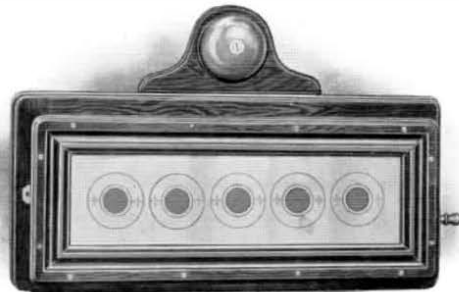
Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of dials, woodwork, etc., from that shown will be charged extra according to requirements.

Electric Bell Indicator Boards—continued.Pattern No. **B146**<sup>(13)</sup>Pattern No. **B147**<sup>(13)</sup>**BEST QUALITY INDICATOR BOARDS, WITH MECHANICAL  
REPLACEMENT INDICATORS.**

Highly Polished Solid Teak Cases, dovetailed, and screwed together, special Moulding; fitted with Drop Movements, and with Enamelled Zinc Screens.



Without Bell.

With Bell, **6/-** extra on following  
prices (p. 122).

If with Pull-down Replacement, **7/6** extra on following prices (p. 122).

For illustration of type of movement see **Patterns Nos. B144, and B145.**

**Electric Bell Indicator Boards—continued.****Best quality Indicator Boards, with Mechanical Replacement Indicators—continued.**

Nos.	Arrangement	Dimensions of Backboard		Price per No.
		Right to Left Inches	Top to Bottom Inches	
2	One row	11 $\frac{1}{4}$	8 $\frac{3}{4}$	6/9
3	"	13 $\frac{3}{4}$	8 $\frac{3}{4}$	6/-
4	"	16 $\frac{1}{4}$	8 $\frac{3}{4}$	6/-
5	"	18 $\frac{3}{4}$	8 $\frac{3}{4}$	5/9
6	2 x 3	13 $\frac{3}{4}$	11 $\frac{1}{2}$	5/6
7	1 x 4 and 1 x 3	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
8	2 x 4	16 $\frac{1}{4}$	11 $\frac{1}{2}$	
9	1 x 5 and 1 x 4	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
10	2 x 5	18 $\frac{3}{4}$	11 $\frac{1}{2}$	
11	1 x 6 and 1 x 5	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
12	2 x 6	21 $\frac{1}{4}$	11 $\frac{1}{2}$	
13	1 x 5 and 2 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
14	2 x 5 and 1 x 4	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
15	3 x 5	18 $\frac{3}{4}$	14 $\frac{1}{4}$	
16	1 x 6 and 2 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
17	2 x 6 and 1 x 5	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
18	3 x 6	21 $\frac{1}{4}$	14 $\frac{1}{4}$	
19	1 x 7 and 2 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
20	2 x 7 and 1 x 6	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
21	3 x 7	23 $\frac{3}{4}$	14 $\frac{1}{4}$	
22	2 x 5 and 3 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
23	3 x 5 and 2 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
24	4 x 5 and 1 x 4	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
25	5 x 5	21 $\frac{3}{4}$	21 $\frac{3}{4}$	
26	1 x 6 and 4 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
27	2 x 6 and 3 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
28	3 x 6 and 2 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
29	4 x 6 and 1 x 5	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
30	5 x 6	24 $\frac{3}{4}$	21 $\frac{3}{4}$	
31	1 x 6 and 5 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
32	2 x 6 and 4 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
33	3 x 6 and 3 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
34	4 x 6 and 2 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
35	5 x 6 and 1 x 5	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
36	6 x 6	25 $\frac{3}{4}$	25 $\frac{3}{4}$	
37	2 x 8 and 3 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
38	3 x 8 and 2 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
39	4 x 8 and 1 x 7	32 $\frac{1}{4}$	23 $\frac{1}{4}$	
40	5 x 8	32 $\frac{1}{4}$	23 $\frac{1}{4}$	

Writing Names of Rooms on Screen in Black, 6d. per No.

Writing Name, and Address only 1/6.

Name, and Address on fully written Screens—free.

**Special Quotations for larger sizes on application.**

Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

***Electric Bell Indicator Boards—continued.***

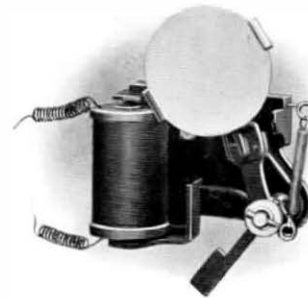
**Pattern No. B148<sup>(13)</sup>**

**ORDINARY QUALITY LIFT INDICATOR BOARDS.**

Polished walnut moulding, and glass fronts; fitted with perfect locking movements, *and without bell.*



**Type of Movement.**



Size.	Arrangement.	Dimensions of Backboard.		Price per No.
		Right to Left.	Top to Bottom.	
		Inches.	Inches.	
3 Nos.	One Row	13½	7¼	<b>6 6</b>
4 "	"	15½	7¼	
5 "	"	17¼	7¼	
6 "	2 × 3	13¾	11½	<b>6/-</b>
7 "	1 × 4 and 1 × 3	17	11½	
8 "	2 × 4	17	11½	
9 "	1 × 5 and 1 × 4	20	11¾	
10 "	2 × 5	20	11¾	

***If fitted with Bell, as illustrated, 6/- extra.***

Writing Names of floors on the Glass in Gold **6d.** per No.

Writing Name, and Address only **1/6.**

Name, and Address on fully written Screens—free.

**Special Quotations for larger sizes on application.**

Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

Electric Bell Indicator Boards—continued.Pattern No. **B149** <sup>(13)</sup>**BEST QUALITY LIFT INDICATOR BOARDS.**

Dark Spanish mahogany cases, panel backs, well polished; fitted with perfect locking movements, and glass fronts, *and without bell.*



For illustration of movement, see Pattern No. **B148.**

Size.	Arrangement.	Dimensions of Backboard.		Price per No.
		Right to Left.	Top to Bottom.	
		Inches.	Inches.	
3 Nos.	One row	13 $\frac{3}{4}$	12 $\frac{1}{2}$	<b>7 6</b>
4 "	"	16 $\frac{1}{4}$	12 $\frac{1}{2}$	<b>7 6</b>
5 "	"	18 $\frac{3}{4}$	12 $\frac{1}{2}$	} <b>7-</b>
6 "	2 x 3	13 $\frac{3}{4}$	16	
7 "	1 x 4 and 1 x 3	16 $\frac{1}{4}$	16	
8 "	2 x 4	16 $\frac{1}{4}$	16	
9 "	1 x 5 and 1 x 4	18 $\frac{3}{4}$	16	
10 "	2 x 5	18 $\frac{3}{4}$	16	

*If fitted with Bell, as illustrated, 6/- extra.*

Writing Names of floors on the Glass in Gold **6d.** per No.      Writing Name, and Address only **1/6.**  
Name, and Address on fully written Screens—free.

**Special quotations for larger sizes on application.**

Any deviation in regard to dimensions of case, arrangement of movements, or rows of movements, size of discs, woodwork, etc., from that shown will be charged extra according to requirements.

Electric Bell Indicator Boards—continued.Pattern No. B150<sup>(13)</sup>**OFFICE INDICATOR BOARDS.**

Fitted with electrical replacement movements, in polished teak, or walnut cases with glass fronts. To indicate "In" or "Out," "Engaged" or "Disengaged."



Sizes—	Price per No.
1 No. ....	15/-
2 Nos. ....	10/-
3 „ ....	8/-
4 „ ....	8/-
5 Nos., and upwards ...	7/-

Writing names on the glass in gold 6d. per No. extra.

## *Electric Bell Pushes.*

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The patterns, types, and classes of pushes are so varied that it is impracticable to do more than illustrate the most usual forms of this article, but the Company is prepared to supply from stock, or to manufacture any push which may be required.

*WOOD PUSHES.*

**Pattern No. B151** <sup>(13)</sup>



Size  $2\frac{1}{2}$  inches. White enamelled with bone plunger.

*Price 6d. each.*

**5 9 per doz.**

**Pattern No. B152** <sup>(13)</sup>



Size 2 inches. Highly polished, ebonized, or in imitation oak, walnut, cherry, rose, or maple.

*Price 3d. each.*

**2 9 per doz.**

**Pattern No. B153** <sup>(13)</sup>



***SMALL SIZE.***

Assorted Woods.

*Price 7d. each.*

**6 6 per doz.**

Wood Pushes—continued.

Pattern No. B154 <sup>(12)</sup>



Pattern No. B155 <sup>(12)</sup>



Pattern No. B156 <sup>(12)</sup>



Pattern No. B157 <sup>(12)</sup>



Pattern No. B158 <sup>(12)</sup>



Pattern No. B159 <sup>(12)</sup>



Prices—

Size.	IN ORDINARY QUALITY.	Each.		Size.	IN BEST QUALITY.	Each.		Per Doz.	
		s.	d.			s.	d.	s.	d.
Inches.				Inches.					
2½	Real cherry, walnut, oak, maple, or ebonized wood, well finished, and polished, with German silver contact springs, brass screws, and bone plungers	0	5	2½	Real cherry, walnut, oak, or satin wood ... ..	0	8	6	6
				2½	Real ebony, or cocus ...	0	9	8	3
				2½	Real rosewood, or teak...	0	11	10	0
3	Do. do. ...	0	6	3	Real cherry, walnut, oak, or satin wood ... ..	0	9	7	6
				3	Real ebony, or cocus ...	1	0	10	6
2½	Do. do. ...	4	6	3	Real rosewood, or teak...	1	4	14	6
NOTE—Pattern No. B154 is not made in this quality.				All with German silver springs, silver contacts, brass screws, and best white bone plungers.					

Wood Pushes—continued.

Pattern No. **B160** <sup>(13)</sup>

**PEAR PUSHES.**

Ordinary Quality—Walnut, Cherry, Oak, Satin, or White Enamelled Wood; German Silver Springs, Bone Mounts.

Price **7d. each; 6/- per dozen.**

Best Quality—Ebony, Cocus, Walnut, Cherry, Oak, or Satin Wood; German Silver Springs, Silver Contacts, Imitation Ivory Mounts, plain pattern, large size.

Price **1/- each; 10/6 per dozen.**

Best Quality—Olive, Ziricotti, or Rosewood.

Price **1/6 each; 15/- per dozen.**

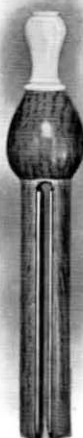
Small Size, made in Walnut only.

Price **8d. each; 7/6 per dozen.**



Pattern No. **B161** <sup>(14)</sup>

**PRESSEL.**



In Ebony, Cocus, Walnut, or Oak.

Desirable for Invalids.

Price **1/6 each; 15/- per dozen.**

Pattern No. **B162** <sup>(15)</sup>

**BRASS "WATCHMAN'S" PUSH.**



Price **3/9 each.**

Size,  $3\frac{1}{2}$  inches. Lacquered Brass with Ebonite back, and Key.

Key only : <sup>(5)</sup> Price **7d. each.**

Pattern No. B163<sup>(6)</sup>

*NATIONAL TELEPHONE COMPANY'S  
STANDARD PATTERN TELEPHONE CABINET.*



The Company is in a position to offer specially constructed Telephone Cabinets, as per illustration, which will supply a want that has long been felt.

It is often found in practice, that in large offices, or noisy works, it is impossible to fix the telephone in a quiet room, and consequently great difficulty is experienced in carrying on a conversation; further even in an office where there is not much outside noise, there is frequently the necessity to send private communications over the wires, and thus a Telephone Cabinet becomes an absolute necessity. These Cabinets are also found to be of great service to subscribers to the Company's Exchange System who are constantly using the Trunk Lines, because, as the fee for the use of these is based on a time limit, it becomes of the utmost importance that not a second should be wasted, and if the telephone is fixed in a Telephone Cabinet there is much less chance of an interruption in the conversation than when the instrument is simply fixed in an office.

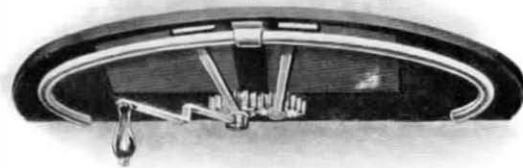
The Cabinets are made in two qualities, *Prices* **£15 0 0** and **£12 17 6**.

While the Company particularly, and confidently recommends these Standard Cabinets owing to their specially good qualities, it is prepared to quote for, and supply at moderate prices any form of Telephone Cabinet desired by intending purchasers. Any further information can be obtained on application.

Pattern No. B164<sup>(14)</sup>

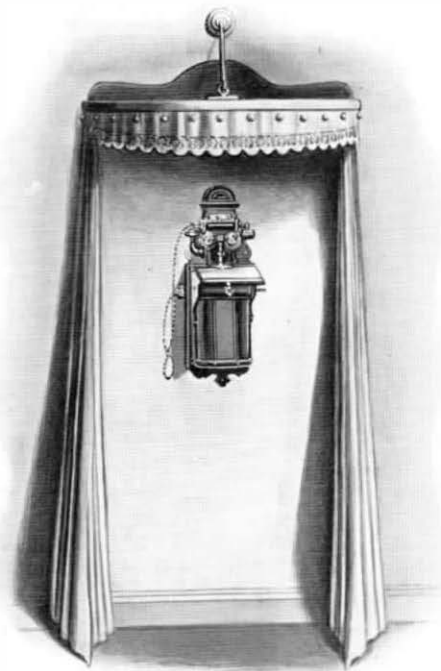
*SEMI-CIRCULAR COLLAPSIBLE TELEPHONE SCREEN.*

Fig. I.



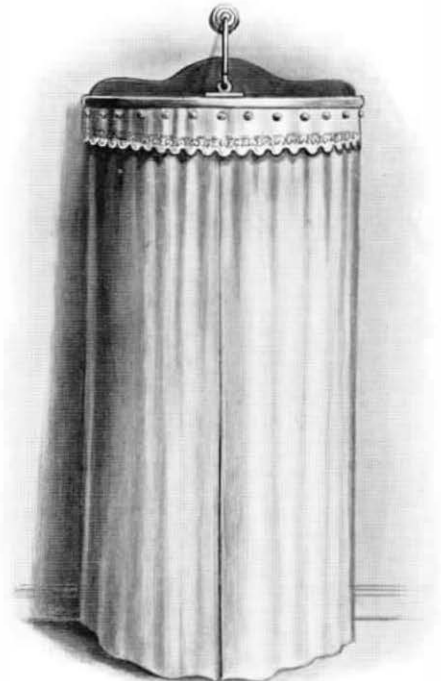
CANOPY SHOWING HANDLE.

Fig. II.



SCREEN OPEN.

Fig. III.



SCREEN CLOSED.

Price £7 10 0

*For particulars see next page.*

*Semi-circular Collapsible Telephone Screen*—continued.

**Pattern No. B164**

**SEMI-CIRCULAR COLLAPSIBLE TELEPHONE SCREEN**

*(as illustrated on previous page).*

In instances where in consequence of want of space, etc., it is impossible to fix a Telephone Cabinet, the Company can supply a Collapsible Telephone Screen. This arrangement consists of a stained, and polished wood canopy, fitted with a glass light, and with a semi-circular rail underneath upon which two curtains are hung, one at each side. These are made of heavy green cloth lined with mackintosh cloth.

The user of the telephone steps up to the instrument, which is fitted under the canopy, and turns a handle overhead to the right, this bringing the curtains entirely round him, and shutting him off from outside interference.

This arrangement effectually conceals the person using the telephone, and deadens the sound of the voice, although, of course, the Screen is by no means sound-proof.

# Batteries.

## DRY CELLS.

While there are large numbers of different forms, and classes of these, the Company finds it can, after long experience, and experiment, best recommend the following types as most suitable for telephone, and bell work, etc.

**Pattern No. B165** <sup>(33)</sup>

*E.C.C.*  
*DRY BATTERY.*



*Prices—*

- Size No. 1 (round) ... 3 5*
- Size No. 2 „ ... 2 9*
- Size No. 3 „ ... 2 2*
- Size No. 4 (square) 1 9*

**Pattern No. B166** <sup>(39)</sup>

*OBACH*  
*DRY BATTERY.*



*Price 2 9*  
*(P. Size).*

**Pattern No. B167** <sup>(46)</sup>

*FULLER*  
*DRY BATTERY.*



*Price 2 9*  
*(Size No. 2).*

Batteries—continued**WET CELLS.**

Where this class of cell is desired either of the undermentioned types can be recommended.



Pattern No. B168<sup>(17)</sup>

**LECLANCHÉ BATTERY**

(POROUS POT FORM).

Prices—

Size No. 1	- - -	1/8
Size No. 2	- - -	1/-

(These prices do not include any Muriate of Ammonia.)

Pattern No. B169<sup>(31)</sup>

**LECLANCHÉ BATTERY**

(AGGLOMERATE FORM).

Prices—

Size No. 1	- - -	2/8
Size No. 2	- - -	1/10

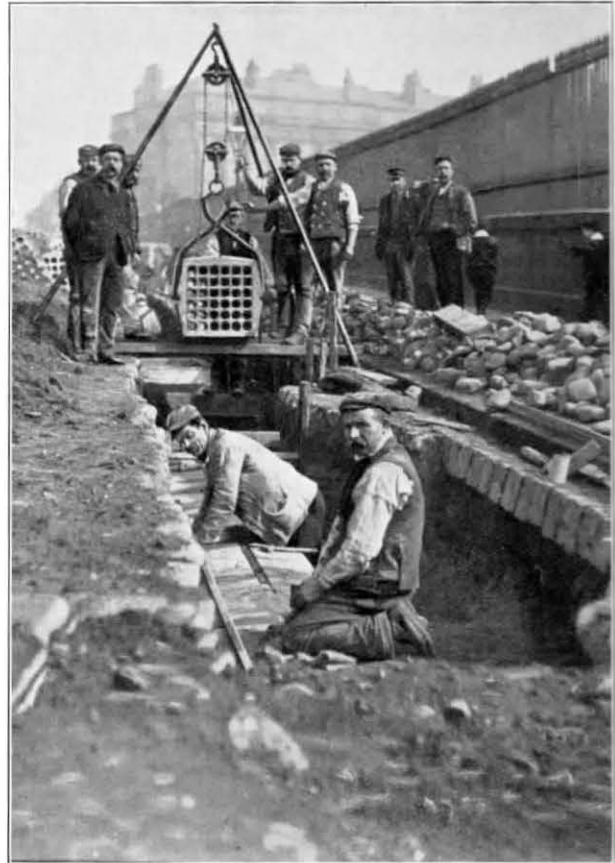
(These prices do not include any Muriate of Ammonia.)

**PARTS.**

No. 1 Zincs <sup>(40)</sup>	-	4½d. each.	No. 1 Agg. Blocks <sup>(50)</sup>	-	1/3 per pair.
„ 2 „	-	3½d. „	„ 2 „	-	1/- „
No. 1 Porous Pots <sup>(15)</sup>	-	1½d. „	„ 1 India Rubber Bands <sup>(36)</sup>	-	8d. „
„ 2 „	-	7½d. „	„ 2 „ „	-	5d. „
„ 1 Carbons <sup>(43)</sup>	-	6d. „	„ 1 Glass Jars <sup>(30)</sup>	-	6d. each.
„ 2 „	-	4½d. „	„ 2 „ „	-	4d. „
Muriate of Ammonia <sup>(43)</sup>	-	- - -	-	-	9d. per lb.

Special Quotations for large quantities.

## *Cement Conduits.*



The vast extension which has taken place in recent years in the number of telephone, electric light, and other electrical circuits, and the consequent increase in the number of overhead wires, have led engineers to turn their attention to the development of various systems of underground wiring.

In connection with this work several kinds of conduit have been tested, chief amongst them being: (1) iron pipes, (2) multitubular earthenware ducts, and (3) multitubular cement blocks. In practice the latter have been found to offer so many advantages, that the National Telephone Company has adopted them in this country, and has installed special plant for manufacturing them in large quantities; further, it has itself laid some hundreds of miles of this form of conduit for its own purposes.

The Company is now in a position to produce these cement blocks, and to supply them to other consumers at prices which will recommend them.

The blocks have been carefully designed for the purpose they have to fulfil, so

**Cement Conduits**—*continued.*

that the ducts are absolutely uniform in bore, and the interior surfaces smooth, and straight, thus abrasion of the cables in the process of drawing-in is avoided.

For the same number of ducts, each block is the counterpart of every other, and they are, therefore, interchangeable.

The attention of Engineers, Surveyors, and others interested in the laying of underground electrical circuits is specially drawn to the advantages to be obtained by the use of these conduit blocks.

Amongst such advantages may be mentioned the following :—

- (1) Permanence,
- (2) Inertness,
- (3) Compactness,
- (4) Accessibility,
- (5) Convenience,
- (6) Cheapness,

The hardness, and strength of the cement blocks, when properly matured, and laid, are such that the Conduits are not liable to cause settlement of the roadway under which they are placed.

Prices, together with an illustrated pamphlet containing all particulars, and full instructions for laying, may be had on application.

#### Stock Sizes of Cement Blocks.

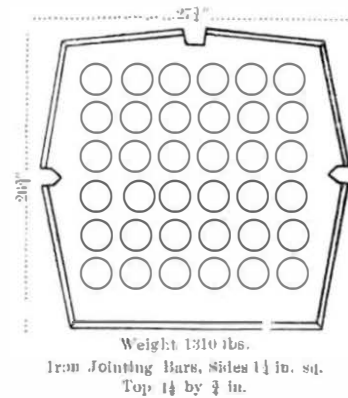
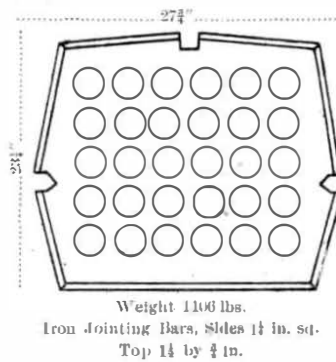
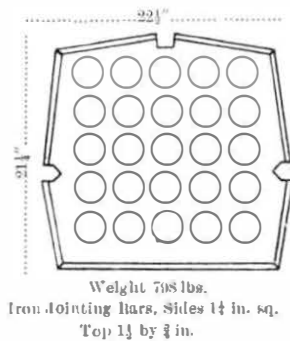
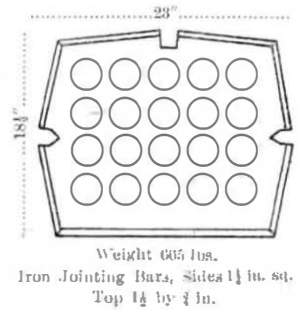
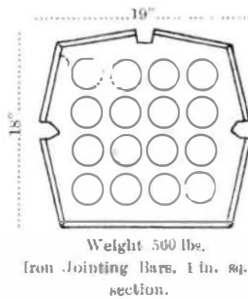
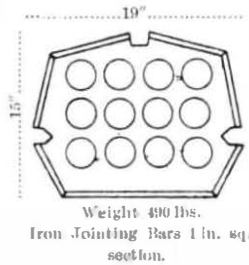
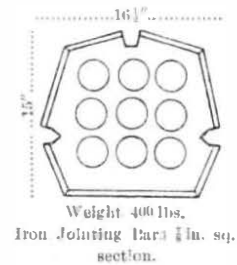
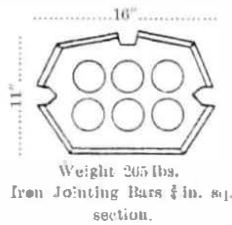
3 ducts (no bearers required with this size).	12 ducts	25 ducts
6 "	16 "	30 "
9 "	20 "	36 "

Cement Conduits—continued.

**SECTIONS OF CEMENT CONDUIT BLOCKS**

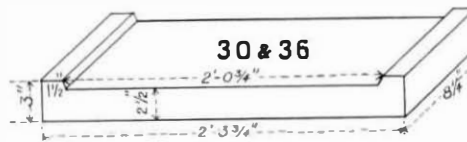
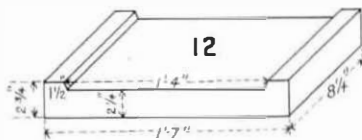
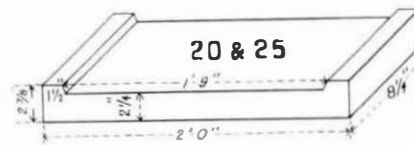
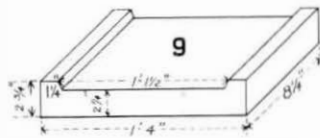
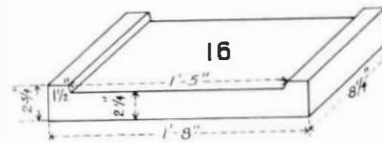
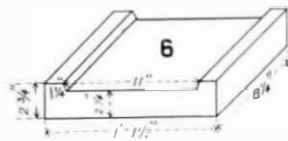
GIVING APPROXIMATE WEIGHTS.

LENGTH OF BLOCKS, 39 $\frac{3}{4}$  INCHES.



Cement Conduits—continued.

**BEARERS FOR CEMENT CONDUIT BLOCKS.**



## *Portable Accumulator Hand Lamps.*

These electric lamps are made to meet the growing demand for a really safe, and convenient form of Electric Hand Lamp. To cover many requirements, a large number of sizes, and shapes are made, but Patterns Nos. **B170**, **B171**, **B172**, and **B173** will be found most suitable for general purposes.

**Pattern No. B170** shows a 4-cell battery as used in coal mines, gas works, gunpowder mills, etc. Complete, it weighs 7½lbs., and with one charge it will give a light of 4 candle power for a period of from 10 to 12 hours.

**Pattern No. B171** is a 4-cell battery of the same weight, size, and capacity as **Pattern No. B170**, but is rather more elaborately finished, and has a detachable lantern, which is connected to the battery by means of a long flexible cord. This type is most convenient for use in, and behind switchboards, and other places where the space is restricted, and is the lamp which the Company uses for its own work. The lantern being detachable it can be fastened by a hook (which is provided for the purpose) to a buttonhole, and the hands of the user thus left free.

NOTE.—The Company has in stock a number of these lamps, which, while they have been in use, have been put in thorough repair. It is prepared to dispose of this stock at the very low price of **30/-** each, complete.

**Pattern No. B172** represents a Pocket Electric Lamp. It consists of a 2-cell battery enclosed in a polished oak, or walnut wood case. The intensity of the light given is a little over one candle power.

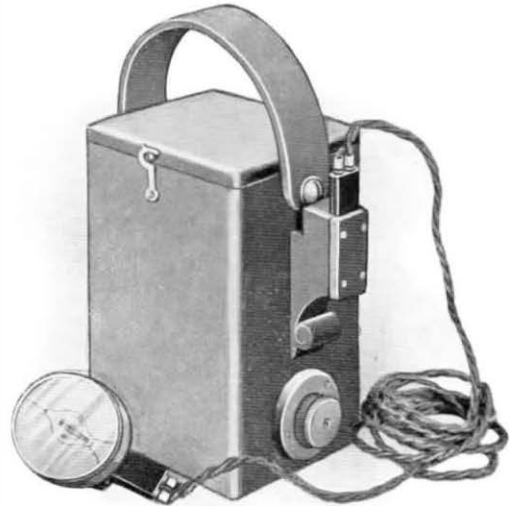
This lamp complete weighs 1lb. 13 ozs.

**Pattern No. B173** shows a small battery used for medical, and dental purposes. It is of the same weight, and dimensions as the one shewn in **Pattern No. B172**, but instead of a lantern it is provided with suitable terminals to take the ends of the flexible cord (provided with a circular switch in the centre as shewn), which joins the battery, and laryngoscope.

The 2-cell batteries will last, when fully charged, for a period of between 6, and 7 hours.

Portable Accumulator Hand Lamps—continued.Pattern No. B170 <sup>(10)</sup>

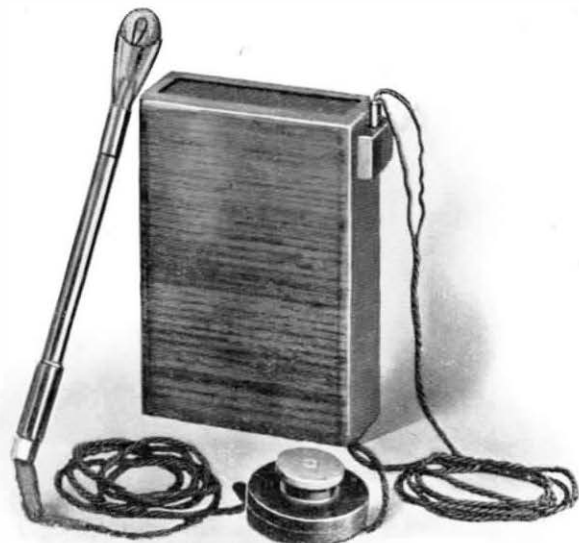
Price £2 13 6

Pattern No. B171 <sup>(15)</sup>

Price \* £2 16 0

Pattern No. B172 <sup>(10)</sup>

Price £2 2 0

Pattern No. B173 <sup>(10)</sup>

Price £2 18 6

\*—For special price see note on previous page.

**Pattern No. B174<sup>(7)</sup>**

***GALVANOMETER.***



**Pattern No. B174**—Wound with two coils, and provided with three terminals.

**Strong and reliable.**

**Price £1 7 6**

### *Switchboard Plugs, and Cords.*

**Plugs<sup>(25)</sup>** for Switchboards 2 to 50 lines **2/-** each.

**Cords<sup>(22)</sup>** (2 ft. 6 in.) for Switchboards 2 to 30 lines **1/3** „

**Cords<sup>(24)</sup>** (6 ft.) for Switchboards 50 lines **2/6** „

Other sizes, and classes of Switchboard Plugs, and Cords—Prices, and particulars on application.

**Cords<sup>(23)</sup> Telephone** 2-Conductor made up for receivers **9d.** each.

„ <sup>(5)</sup> „ Twin 2-Conductor made up for two receivers on the same instrument **1/1** „

**Cord<sup>(6)</sup> Flexible** (in length) for bell pushes, etc. **1/8** per doz. yds., **12/6** per gross yds.

„ <sup>(5)</sup> „ 4-Conductor red, and black stranded **4/3** „ „

„ <sup>(5)</sup> „ 6 „ „ „ **7/3** „ „

**Cord<sup>(5)</sup> Tinsel** 2-Conductor green with red stripe **4/6** per dozen yards.

„ <sup>(5)</sup> „ 4 „ „ „ **9/-** „ „

„ <sup>(5)</sup> „ 6 „ „ „ **13/6** „ „

**Receiver Cord Tags<sup>(5)</sup>** ... .. **2/-** per dozen.

### *Driving Band.*

**Driving Band<sup>(5)</sup>**—Flat, for Motors, Generators, etc. **9d.** per yard.

„ <sup>(5)</sup> Round, „ „ **4d.** „

### *Wires, Cables, etc.*

The Company is prepared to supply all classes of indoor, and outdoor Wires, and Cables suitable for Telephone work, but in view of the constant fluctuations in the metal market it is impossible to quote fixed prices.

**Cable,** Aerial Dry Core, (paper insulated), vulcanized india rubber covered, braided, and compounded (for overhead work) in various sizes.

**Cable,** Dry Core, (paper insulated) lead covered, (for underground work) in various sizes.

Wires, Cables, etc.—continued.

**Cable**, Multiple, for Intercommunication Sets, in various sizes.

**Cable**, Switchboard, cotton covered, and paraffin waxed, in various sizes.

“ “ silk, and worsted covered, flame proof, “ “

**Cable**, Vulcanized india rubber, (for overhead work) in various sizes.

**Wire**, Binding (copper, or galvanized iron).

**Wire**, Bronze Line, 40 lb. to mile.

“ “ 70 lb. to mile.

**Wire**, Copper Line, 100 lb. to mile.

**Wire**, Galvanized Iron, single, and stranded.

**Wire, Office** as under, cotton covered, and paraffin waxed, in various colours. The Braided is also india rubber covered.

Single Wire, Braided

“ “ Lapped

Twin Wire Braided

“ “ Lapped

Triple Wire, Braided

“ “ Lapped

} All in 110 yd. coils.

**Wire**, Steel Suspending (No. 10).

**Wire**, Switchboard, single, double, and triple, india rubber, and cotton covered (lapped), paraffin waxed, in various colours (110 yd. coils).

(Some of the Double, and Triple Wires can be supplied with FLAME-PROOF Covering.)

**Wire**, Vulcanized india rubber covered.

*Prices, and Particulars on application.*

## *Staples*<sup>(37)</sup>

For stapling indoor wire.

½-inch Tinned Iron	-	-	-	-	-	<b>8d.</b> per lb.
⅝-inch Tinned Iron	-	-	-	-	-	<b>8d.</b> per lb.

## *Solder—Resin Cored*<sup>(28)</sup>

**Thin**, for light work.    **Thick**, for heavy work.

This solder is particularly suitable for soldering all classes of electric wires. The resin core is the flux, and, therefore, much trouble, and time is saved when making joints, etc. Further, the use of this special solder obviates any risk of corrosion.

*Prices—*

*Thin* **3/9** per lb.

*Thick* **2/3** per lb.

## *Gutta Percha Tissue*<sup>(9)</sup>

**10/8** per lb.

## *Insulators.*

*(Double Shed).*



**Pattern No. B175<sup>(5)</sup>**

*S. I. CUP.*

For ordinary line work.

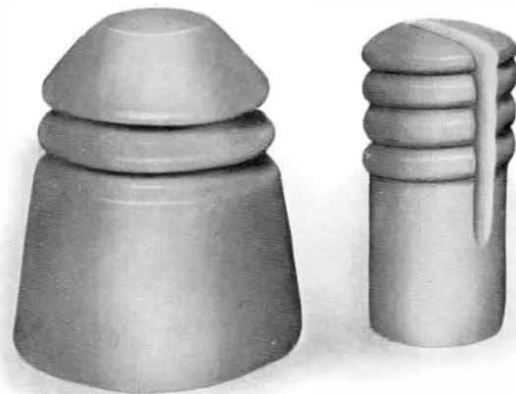
*Price 4/1 per doz.*

**Pattern No. B176<sup>(5)</sup>**

*S. A. CUP*

This Insulator is recommended in all cases where covered wires are to be joined to open wires. As shewn in the illustration it consists of two parts, which screw together, and are so arranged that a portion of the covered wire can be placed between the inner, and the outer sheds. This ensures the covered wire being kept clean, and dry, and prevents any surface leakage.

*Price 8/3 per doz.*

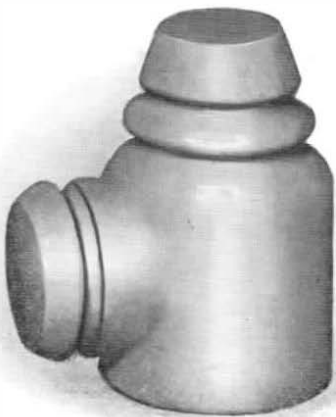


**Pattern No. B177<sup>(5)</sup>**

*SPUR CUP.*

For leading in.

*Price 5/6 per doz.*



**Insulators**—*continued.*

The Company has in stock a quantity of **Terminal** (large, medium, and small), **and other Insulators** together with **shackle bells**, which, having been in use, it is prepared to offer at very low prices. Particulars on application.

---

All Classes of

**Brackets,**

**Insulator Bolts,**

**Iron Arms,**

**Iron Poles,**

**Oak Arms,**

**Stay Rods,**

**Swivels,**

and

**Wood Poles** (creosoted to Company's own  
specification),

Always in Stock.

---

**EVERY CLASS OF LINE STORES SUPPLIED.**

---

*Prices, and particulars on application.*

## *Tools.*

In connection with the erection, and maintenance of Telephone, and Telegraph Lines, and the fitting up, and maintenance of instruments, and switchboards, a large number of tools, and appliances are necessary beyond those articles usually contained in a workman's kit, besides which a considerable number of *special* tools are indispensable.

The Company has devised from time to time such implements as meet all possible requirements, and owing to the fact that it purchases its tools in large quantities, under contract, it is able to offer the very best, and highest class of tools at extremely moderate prices. It should also be noted that every individual article is tested by the Company's own experts so that only perfect, and well-made tools are under any circumstances stocked.

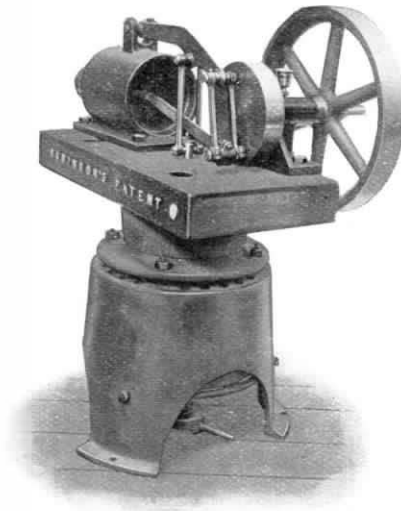
A few of the most important articles are listed below, but the Company invites enquiries for all, and any class of tools required for Telephone, or Telegraph work.

<b>Cable Clips</b>	<b>Gloves,</b> India Rubber	<b>Saws</b> (various)
<b>Climbing Irons</b>	<b>Hammers</b> (various)	<b>Screw Drivers,</b> small
,, <b>Iron Straps</b>	<b>Pliers</b> (various)	<b>Soldering Irons</b> (various)
<b>Draw Tongs</b>	<b>Ratchets</b>	<b>Spanners,</b> small (various)
,, <b>Vice</b>	,, , Dynamometer	

## Hot Air Engines.

Pattern No. B178<sup>(5)</sup>

HOT AIR ENGINE, No. 4.



**Pattern No. B178**—For small motive power, such as for running generators for exchange ringing, etc., these engines are very suitable, being reliable, and needing no skilled attention. The power is obtained by expansion, and contraction, due to the alternate heating, and cooling of the air confined in the air chamber.

There is no internal combustion, or ignition in the cylinder, so that the parts are not subjected to a severe shock, but a steady outward, and inward impulse is given to the piston at each revolution of the engine. Regular working is thus obtained at a minimum of friction.

The engines are worked with great economy. When started they require no attention for long periods, and then only for oiling, or, if coke is used, for replenishing the supply of fuel.

The speed of the engines is regulated by an automatic governor.

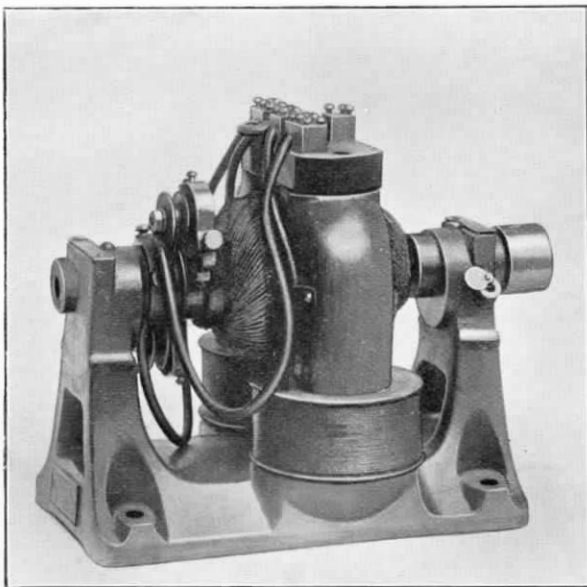
The price quoted includes grooved driving pulley, and bunsen burner.

Diameter of Cylinder.	Height.	Length.	Width.	Approximate Weight. Cwts.	Power. ft.-lbs. per minute.	Revolutions per minute.	Fuel.
5½ ins.	2ft. 8in.	2ft. 3in.	1ft. 9in.	2½	3000 ( $\frac{1}{11}$ brake HP.)	150 to 210.	Gas, or Coke.

**Price £16 10 0**

*Other sizes of engines, particulars, and prices on application.*

## *Electric Motors.*



**Pattern No. B179**

***DIRECT CURRENT MOTOR.***

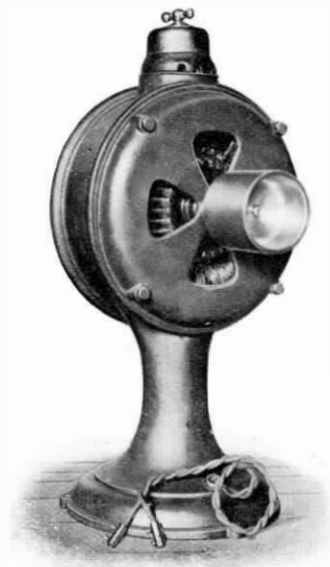
*Prices, and particulars on application.*

**Pattern No. B180**

***ALTERNATING CURRENT MOTOR.***

*Prices, and particulars on application.*

**Patterns Nos. B179, and B180**—Where electric current is available these motors can be employed in place of the Hot Air Engine, Pattern No. B178.

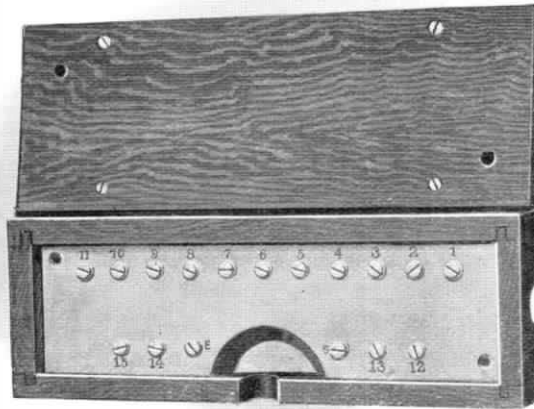


Pattern No. **B181** <sup>(8)</sup>

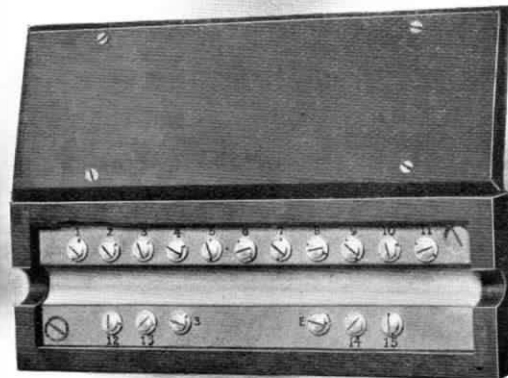
**JUNCTION BOXES**

For use with Intercommunication Systems.

FRONT VIEW.



BACK VIEW.



**JUNCTION BOXES** for Single Lines :

Prices—

10 Lines—**7/-**

15 Lines—**8/-**

20 Lines—**10/-**

**JUNCTION BOXES** for Metallic Circuits :

Prices—

10 Lines—**10/-**

15 Lines—**12/-**

20 Lines—**14/6**

Pattern No. B182<sup>(22)</sup>

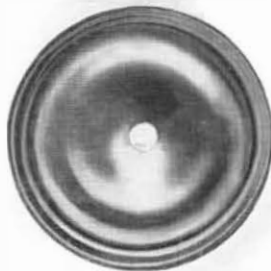
**MULTIPLE ROSETTES.**

For Intercommunication Table Sets, and Junction purposes.

OPEN.



CLOSED.



*Prices—*

4 Way—1/6	10 Way—4/-	15 Way—5/6	25 Way—7/6
8 „ 3/9	12 „ 4/6	20 „ 6/3	30 „ 9/6
	35 Way—12/-		

## *Casings and Covers*

*(Best Quality).*

*OF AMERICAN WHITEWOOD,*

*For Wires, and Cables; in exact 100 ft. Bundles.*

The above can be supplied from stock with either one, two, or three grooves.

Larger size casings, also fancy moulded covers, to order.

Some of the sizes of casings are arranged so that the covers may be screwed to the casing either at the sides, or in the middle.

Casings, and covers made in yellow deal, oak, walnut, mahogany, and in any pattern to match fittings.

### Single Groove.<sup>(6)</sup>

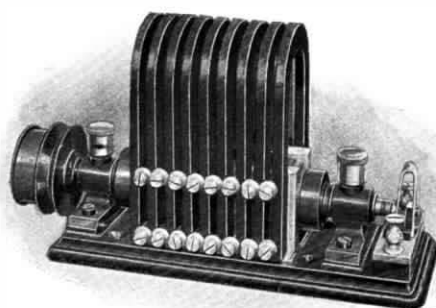
Suitable for Numbers of Conductors in Multiple Cable.	Total Width.	Size of Groove.	Casings, and Covers.					
			Price per 100 feet.			Price per 1000 feet.		
	Inches.	Inches.	£	s.	d.	£	s.	d.
5, 7, 9, and 12	1	$\frac{1}{4}$	0	5	5	2	0	0
17-22	$1\frac{1}{8}$	$\frac{1}{2}$	0	6	8	2	10	0
27-32	$1\frac{1}{2}$	$\frac{5}{8}$	0	8	9	3	12	6

*Prices, and particulars of all other sizes on application.*

## *Generators.*

**Pattern No. B183** <sup>(16)</sup>

**LARGE POWER GENERATOR.**



**Pattern No. B183**—This Generator is intended for use in exchanges of medium size. If facilities for driving cannot be obtained on the premises, the generator may be placed at a distance, and connected with the exchange by an ordinary metallic line.

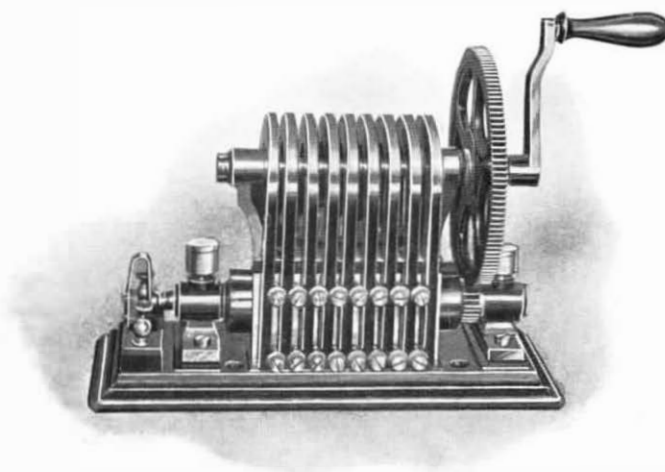
The normal speed is 800 revolutions per minute, and the generator is then capable of giving 0·6 ampère, at a pressure of from 60 to 70 volts, when run at this speed.

**Price £6 10 0**

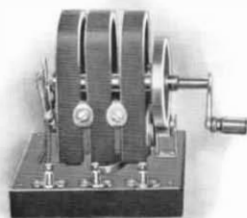
**Pattern No. B184** <sup>(16)</sup> (*not illustrated*).

This generator is somewhat similar to the previous one, but only capable of giving 0·3 ampère, at a pressure of from 80 to 90 volts, at 800 revolutions per minute.

**Price £6 10 0**

Generators—continued.**Pattern No. B185** <sup>(13)</sup>**LARGE HAND GENERATOR.**

**Pattern No. B185**—This Generator is intended for Fire Stations, or other places where it is necessary to give a signal to a large number of bells at the same time. It will ring about thirty bells shunted on the line.

**Price £8 5 0****Pattern No. B186** <sup>(23)</sup>**SMALL HAND GENERATOR.**

**Pattern No. B186**—In this Generator, a longitudinal movement of the spindle actuates an automatic cut-out.

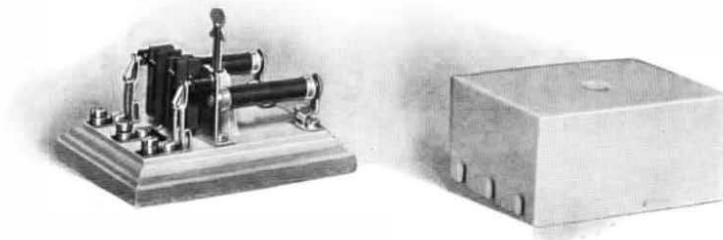
**Price £1 10 0**

*Lightning Arresters*  
*AND*  
*Protectors against Extraneous Currents*

FOR TELEPHONE, AND TELEGRAPH INSTRUMENTS.

**Pattern No. B187** <sup>(45)</sup>

**INSTRUMENT PROTECTOR—DOUBLE.**



**Pattern No. B187**—These Lightning Arresters, and Fuses are designed to protect instruments against high, or low tension currents, and are arranged for one metallic circuit, or two single lines. They are fitted on a porcelain base.

Each line is provided with two carbon blocks, one heat coil, and one tubular fuse.

**Price 13/6**

*Water Level Recorders, and Indicators  
for Waterworks, etc.*



Full Particulars, and Prices will be quoted  
on application.

## *Watchman's Tell-Tale.*

Pattern No. B188<sup>(5)</sup>

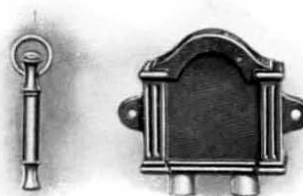
Fig. I.



CLOCK, and RECORDER.

**Price £9 15 0**

Fig. II.



CONTACT BOX, excluding Key.

**Price 7/6**

**Contact Box Keys 1/6 each.**

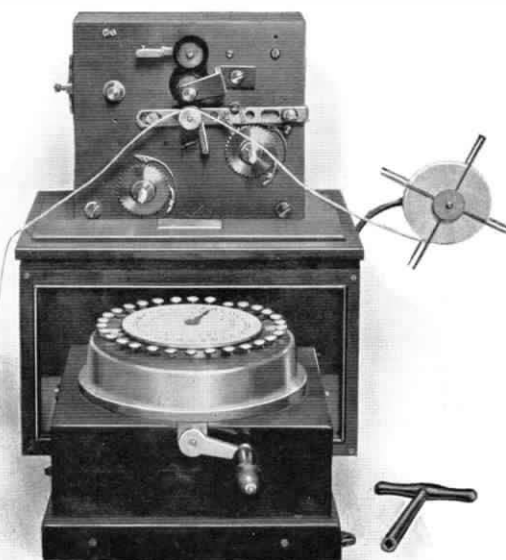
**Pattern No. B188**—The advantage of this type of Tell-Tale is that the clock, and checking mechanism are fitted in some room, office, or house to which the watchman has no access.

The terminals shewn (in Fig. I.) are for connecting a number of contact box circuits. As the watchman passes the various contact boxes, he has to insert the key each time, and the checking mechanism, which moves synchronically with the clock, then automatically records the exact time at which he passed each contact box. The chart is divided into twelve sections each representing one hour, and each of the concentric circles shewn on the chart represents one contact box. As soon as the key is inserted in any Contact box a hole is pierced in the Chart in the corresponding circle, and at the corresponding time.

**Pattern No. B189****TYPEWRITING TELEGRAPH SET.**

(Steljes' Patent).

Comprises Complete Transmitter, and Receiver; the mechanism being actuated by clockwork, and the magneto sending the current being driven by hand.



**Pattern No. B189**—This is an apparatus by which any person is enabled to telegraph messages, on either a telegraph, or telephone line, which messages appear on the instruments at each end of the line, similarly printed in Roman type on a paper ribbon.

Anyone can learn in a few minutes to use the apparatus.

No one need be at hand to receive the message as it is printed automatically at the receiving end, so that if the addressee is absent, or engaged the message remains awaiting his return. Privacy can be secured by keeping the apparatus under lock, and key.

**ACCURACY**—No operator being necessary at the receiving end, only one person handles the message, thus decreasing the chance of errors. Moreover, as the message appears word for word on the tape in front of the sender as he transmits it, he is able to discover, and rectify any error he may make.

If required the transmitter can be fitted with an electric motor, or a treadle (in place of a handle as above illustrated) for driving the magneto, the mechanism in any case being actuated by either springs, or weights.

A portable type for field telegraph, &c., purposes, can be supplied.

The instruments can be purchased outright, or the Company will supply them on hire, and maintain them for an annual charge.

*Particulars, and prices on application.*