

TELEPHONE SERVICES

TELEPHONE INSTRUMENTS



THE HAND-MICROPHONE. A new and improved type of instrument which combines the ear-piece and the mouth-piece in one light, easily-handled unit. The advantage of the Hand-Microphone is that it can be used with one hand only, in complete comfort, while the other hand is free for writing or any other purpose.

Hand-Microphones are supplied not only in the ordinary black, but also in old gold, oxidised silver, ivory, jade-green, and walnut, to fit into special schemes of decoration. Special colours can be supplied by arrangement. They give a touch of dignity and distinction to the room.



THE PEDESTAL TELEPHONE

Business-like in appearance, light and efficient in use, built for sturdy wear.

Where space is limited, the **WALL INSTRUMENT** may be the most convenient type. It can be supplied either with or without a small desk fitted underneath for writing notes during a conversation.



THE TELEPHONE IN THE HOME

If you run a home, you will have more leisure, and save yourself a great deal of trouble, by using the telephone.

You can shop by telephone.

You can make appointments by telephone.

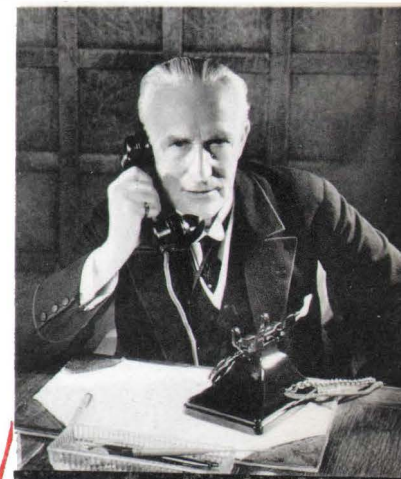
You can get ready information from enquiry offices.

You can call in the telephone to assist you in the whole complicated business of running a home.

And the result for you will be more leisure time, and less unnecessary labour.

One of the greatest services the telephone performs is in bringing friends together and keeping them in touch. Think of the things you can arrange by telephone—a visit, an evening at the cinema or theatre, an outing together, or you can have just a pleasant chat at any time.

The doctor, the police, and the fire station are all within instant call if you are on the telephone. The very knowledge that you have only to reach for the receiver to be in touch with help and protection in any emergency will give you a calm sense of security which you have not felt before.



THE TELEPHONE FOR THE BUSINESS MAN

Wherever your office is located, the telephone brings you into the main stream of business communication.

Put your own cash value on these definite benefits which the telephone gives :—

You can handle enquiries and negotiations with the greatest possible *speed*. The whole point at issue can be dealt with by question and answer, and cleared up in a few minutes.

You can keep in constant *personal touch* with your clients and customers, travellers, and with other offices.

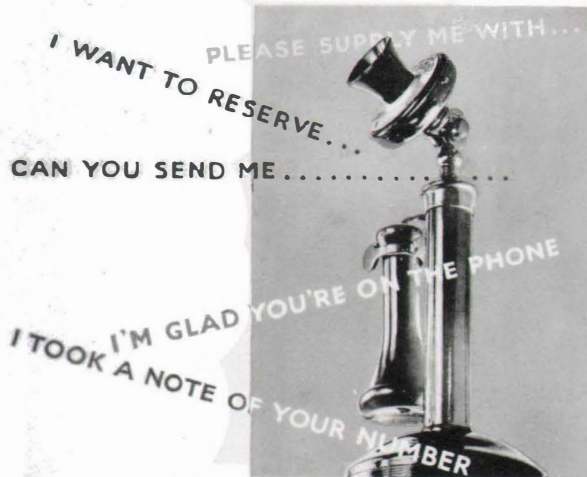
You can *save valuable time by sending and receiving telegrams by telephone*.

With extension telephones you have *efficient and economical communication between rooms and departments*.

The telephone is a *free receiving station*, constantly open to accept business.



WHAT THE TELEPHONE WILL DO FOR THE RETAILER



The telephone provides *an added service*, which on occasion can be offered to *your customers*.

The telephone gives you *prestige and standing in your neighbourhood*. Your number in the telephone book and the Classified Trades Telephone Directory puts your business in a commanding position.

It puts you in *the closest touch with all your customers* who are on the telephone.

Think how this helps you in the work of getting orders !

You can *reduce travelling time and costs*. In many cases you will find that the telephone is as valuable as an extra assistant to you.

The telephone is *a valuable ally in the search for new business*. It gives speed and efficiency. And, what is more, it *impresses* the prospective customer with your efficiency.

When you have the telephone you can keep that watchful eye on fluctuating market prices which is so necessary to-day. Delay in *securing urgent supplies from manufacturers or wholesalers* can be cut down. And because you know that you can talk to your wholesalers immediately, you can keep your stocks low.

Complaints can be handled quickly and delivery errors set right. Your customers will be much more readily satisfied, and complaints turned into compliments when they are dealt with quickly by telephone.



MARKETS



VETERINARY



SHOPS



MILK CONTRACTORS



CUSTOMERS

EFFICIENT MODERN FARMING DEMANDS THE TELEPHONE

Isolation is a thing of the past for the farmer. The modern farmer has only to lift the receiver to bring him into contact with his customers and suppliers just as speedily as any other business man. The telephone saves time and money, and it is the first essential of efficient modern farming.



CARRIERS



STATION



FIRE BRIGADE



DOCTOR

THE SUBSCRIBER GETS FULL VALUE FROM THE PUBLIC TELEPHONE SERVICE

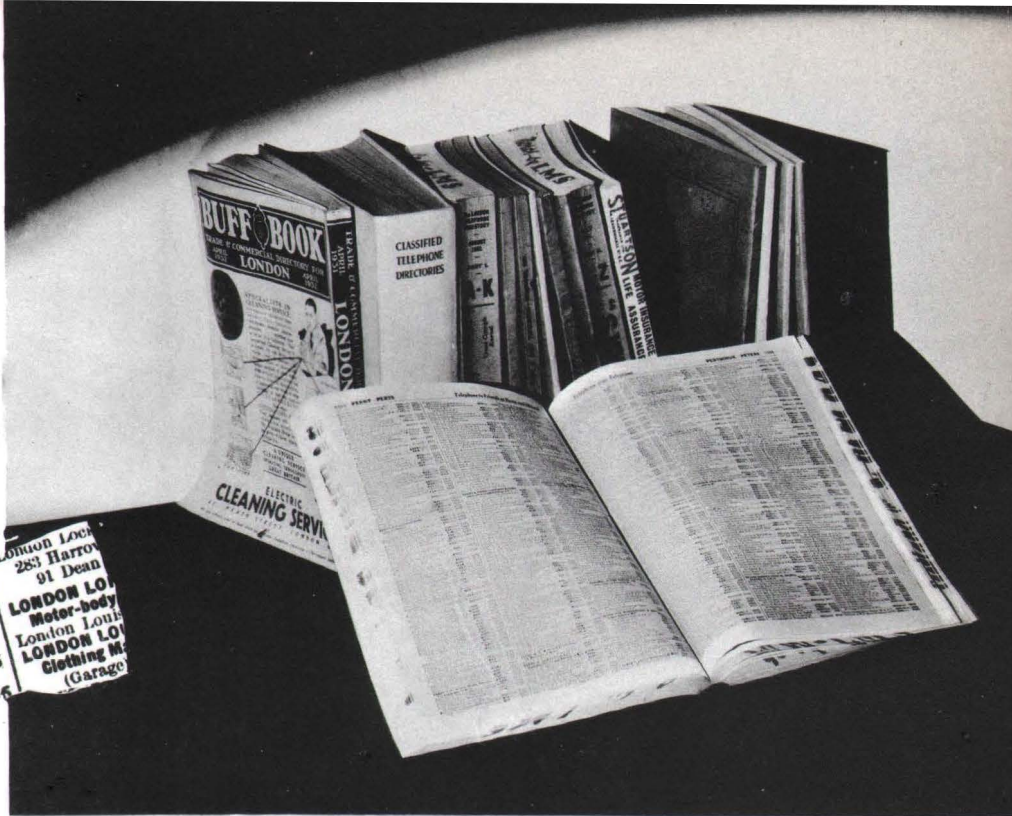


The familiar kiosks, the Telephone signs, and the "You May Telephone From Here" sign, are all steadily increasing in number, showing the growth of the public telephone service.

One of its main objects, of course, is to give the non-subscribing public access to telephone facilities.

But another main object is to *complete the service which you as a subscriber will get from your own telephone.* The public telephone service means that, wherever you are, you can in a minute or so be speaking to your own house or place of business. When you are on the telephone, there is nowhere in the country where you are out of touch with your family or your affairs. To the business man the public telephone service means that his clients, customers, agents, or travellers can telephone orders or have the necessary consultation without delay.

DIRECTORY SERVICE



Museum... 0352 Met
 Museum... 0258 Met
 St Pancras Branch, 14 Oakley sq NW1
METROPOLITAN DISTRICT RAILWAY *Victoria 6800
 (Head Offices), 55 Broadway S.W.1
 (For details see Underground Electric
 Railways Company of London Ltd.)

London Hospital Athletic Ground, WAltmsto 0098
 Hale end E.17. BISHpsgt 8699
 London Hospital Medical College (Dean & Secretary), Turner st E.1. BISHpsgt 3886
 (Students) do. BISHpsgt 4456
 London Hospital Students' Hostel, BISHpsgt
 81 Philnot st E.1.

London Lock 283 Harrow 91 Dean
LONDON LO Motor-body
 London Lock
LONDON LO Clothing M
 (Garage)

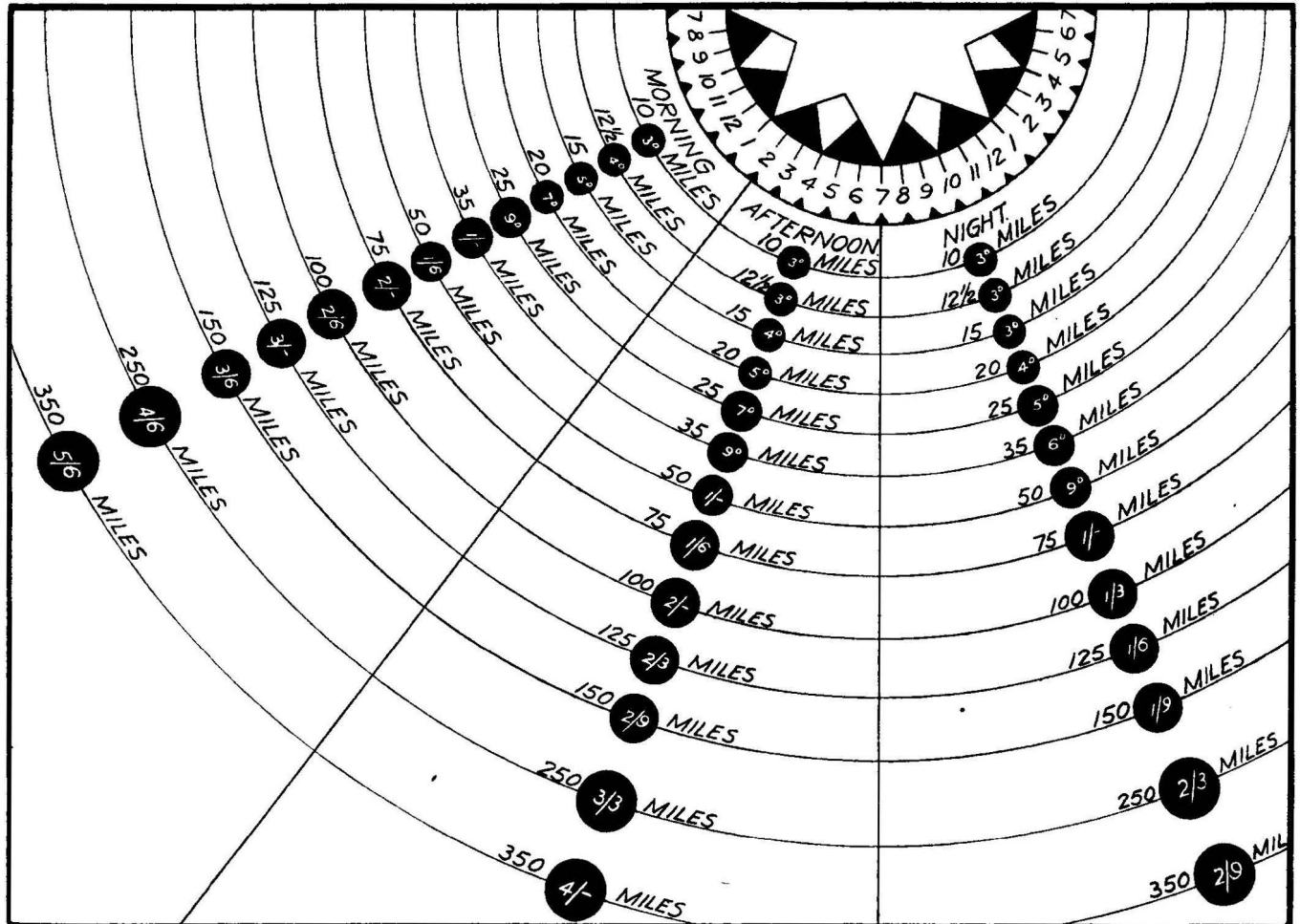
The ordinary entry of your name, address, and telephone number in the Directory is an added advantage of very great value to you as a business man. Your name is entered free of charge in the leading reference directory in the country, accessible to practically everyone, and used daily by hundreds of thousands of people.

Many tradesmen have had direct proof of the value of this directory entry by receiving orders over the telephone which otherwise would not have come at all. One or two such orders may easily be worth the cost of a year's telephone service.

When you are on the telephone, you also have the entry in the Classified Trades Telephone Directory (in London "The Buff Book"). You can have ordinary entries of different degrees of prominence, or displayed advertisements, and you can be sure that not the smallest fraction of the space you take is wasted. For when people look up the Classified Trades Telephone Directory, they do so with the intention of placing business.

TRUNK AND OVERSEAS SERVICES

A "Trunk" call is a long distance call ; by making use of this service the subscriber can save the time, the cost and the inconvenience of travel. Trunk call charges, which are surprisingly low, are based on the distance between the called and calling exchanges. The illustration on this page shows the ordinary tariff for calls of three minutes (with the exception of the charge for " night " calls up to 10 miles, which covers a call of six minutes' duration). Certain extensions of area in London, Birmingham, Glasgow, Liverpool and Manchester, make the charges for calls up to a distance of 25 miles even lower in these cases.



Everyone will find the trunk telephone service a fascinating way of keeping in touch with distant friends and members of the family. Telephoning is the most personal and friendly means of communicating with people living some distance away, and you can hear their words as clearly and distinctly as on a local call, no matter how great the distance.

Business men in particular should carefully consider the trunk telephone service as a definite economy in conducting their business.

As a means of reaching customers, prospects, dealers, manufacturers, travellers, and so on, in other towns, it is quicker than any other way that exists—and you get the answer at the same time and for the same price as the question.

You can save valuable time on every business operation—ordering supplies, making deliveries, starting production, announcing price changes, making appointments.

And Trunk charges are low. You can conduct business with a man many miles away—with all the advantages of a face-to-face conversation—at a surprisingly low cost. Look at the diagram again !

When you are using the Trunk Telephone Service, remember that there are these very useful special facilities open to you :—

1. Personal Calls. You can ask the operator to put you through, not to a number, but to the very person to whom you wish to speak. You may, if you wish, name a substitute for the person you want. Or you can give two alternative telephone numbers in the same locality where the person you want may be found.

A Personal Call is timed for charging purposes only from the moment when you are put in touch with the person you are calling. If the person or persons for whom you have asked are not available, no charge is made for the trunk call ; only the Personal Call fee is charged.

The charges, in addition to the appropriate Trunk Call fee, for Inland Personal Calls are :—

<i>Distance</i>	<i>7 a.m.—2 p.m.</i>	<i>2 p.m.—7 a.m.</i>
Up to 150 miles ..	1/-	6d.
From 150 to 350 miles ..	1/6	6d.
Over 350 miles	2/-	6d.

The Personal Call charge for a call to the Continent is one third of the charge made for an ordinary three-minute call.

2. Fixed Time Calls. You can place an order in advance for a Trunk Call to be put through at or about a specified time.

This service may also be used in conjunction with the Personal Call service, so that you can call a specified person at a particular time.

The charge for a Fixed Time Trunk call is the same as for an ordinary Trunk Call plus 25% of the normal charge for a three-minute call. This charge is irrespective of the duration of the call. If a Personal Fixed Time Call is asked for, the Personal Call Fee is also payable.

3. Trunk Calls by Contract. The use of the Inland Trunk and Toll lines for consecutive daily conversations of 15 minutes or more can be obtained at a reduced charge, provided an aggregate period of not less than seven hours' effective use of the line is contracted for in advance. The service is available during the less busy hours (normally before 9 a.m., between 1 p.m. and 2 p.m., and after 5 p.m.).

Contract Call charges are three-fourths of the ordinary rates if the calls are less than half an hour in duration and one half of the ordinary rates for calls of longer duration.

Personal and Contract Calls can also be made on the *Overseas Telephone Service*, which now covers practically every country in the world, and gives the same advantages to the subscriber as the Trunk Service does at home.



SPECIAL SERVICES AVAILABLE TO TELEPHONE SUBSCRIBERS



There are many special services which your telephone will do for you

TELEGRAMS

You need not trudge to the Post Office with a telegram. You need not worry at night when the Telegraph Offices are closed. You can get through to "Telegrams" and then dictate a telegram over the telephone at any time of the day or night. And this will cost only the ordinary telegram charge plus one penny for the local call.

You can have telegrams addressed to you at your telephone number. They will be delivered to you over the telephone, and confirmed by post.

NIGHT TELEGRAPH LETTERS

You can telephone a Night Telegraph Letter, at any time before midnight, for delivery at an address in London or in the principal provincial towns. Night Telegraph Letters, which should be directed to an ordinary Postal Address, will be delivered with the early morning delivery of ordinary letters on the following day. To send a Night Telegraph Letter, get through to "Telegrams" and make it clear to the Telegraph operator that a Night Telegraph Letter is concerned.

The charge for this service is only 1/- for the first 36 words and a penny for each additional three words or less.

EXPRESS LETTERS

A message may be dictated over the telephone to most Postal Telegraph Offices for delivery by special messenger. This service is available during the hours of telegraphic business and is of particular value for communicating with persons who are not themselves telephone subscribers. The charges, in addition to the fee for the telephone call, are (1) for writing down the message, 3d. for the first 30 words and 1d. for each additional 10 words or less, and (2) the express delivery charge of 6d. a mile or part of a mile.

TELEPHONE LETTERS

Messages can be dictated by telephone for onward transmission by the ordinary letter post. A special advantage secured by this service is that such letters may be able to catch an outgoing mail for which local posting would have been too late. The charges for this service in addition to the telephone call fee are (1) for writing down the message, 3d. for the first 30 words and 1d. for each additional 10 words or less, and (2) the ordinary postage.

EXPRESS MESSENGERS

You can summon an Express Messenger, except on Sundays, by telephoning the nearest Post Office connected with an Exchange (the Local Telephone Directory will give you the telephone number of the nearest Post Office). A charge of 6d. per mile is made for the whole distance travelled by the messenger from the Post Office.

WHAT EXTENSION TELEPHONES IN THE HOME WILL DO

Extension telephones will provide a world of convenience at very little cost.

they will give you **PRIVACY**



A courtesy to your guests and a convenience to yourself

COMFORT

PROTECTION IN EMERGENCY



Not a second wasted

RESTFULNESS



The minimum of disturbance

they will save you **STEPS**



Converse at your ease

CALLS



You need not run up and downstairs



You might have missed that call if you had had to run downstairs

WHERE EXTENSION TELEPHONES ARE HELPFUL IN THE HOME



The *Hall* is the most convenient centre of the house, for members of the family and guests.



In the *Living-room* every member of the household can use the telephone in comfort.



A telephone in the *Study* will be appreciated by the man who spends any considerable time there. It enables him to make and receive calls and transact business, in quiet and privacy.

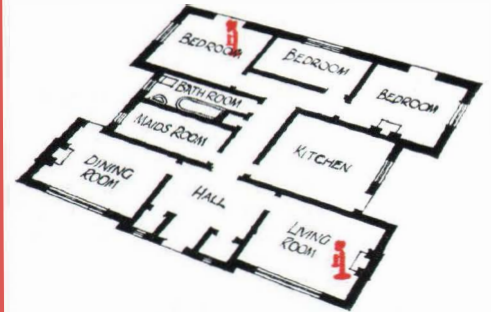


A telephone in the *Bedroom* is not only a convenience, but in case of sickness a necessity. In case of emergencies, such as fire, burglars, or sudden illness, a telephone by the bedside is invaluable.

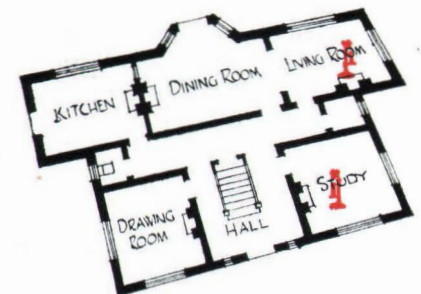
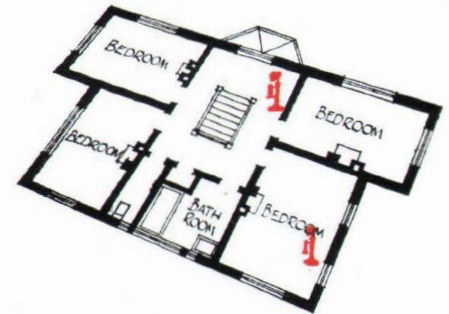


A telephone in the *Guest-room* is a courteous and thoughtful addition to your hospitality.

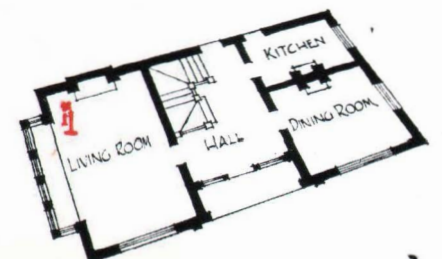
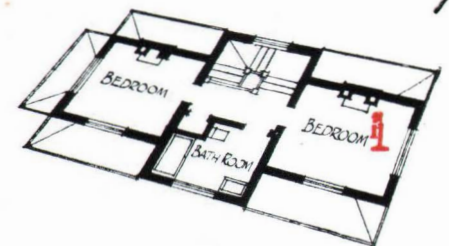
FLOOR PLANS OF SOME REPRESENTATIVE HOMES AND THE TELEPHONE EQUIPMENT WHICH GIVES THEM ADEQUATE SERVICE



APARTMENT OR HOUSE ON ONE FLOOR

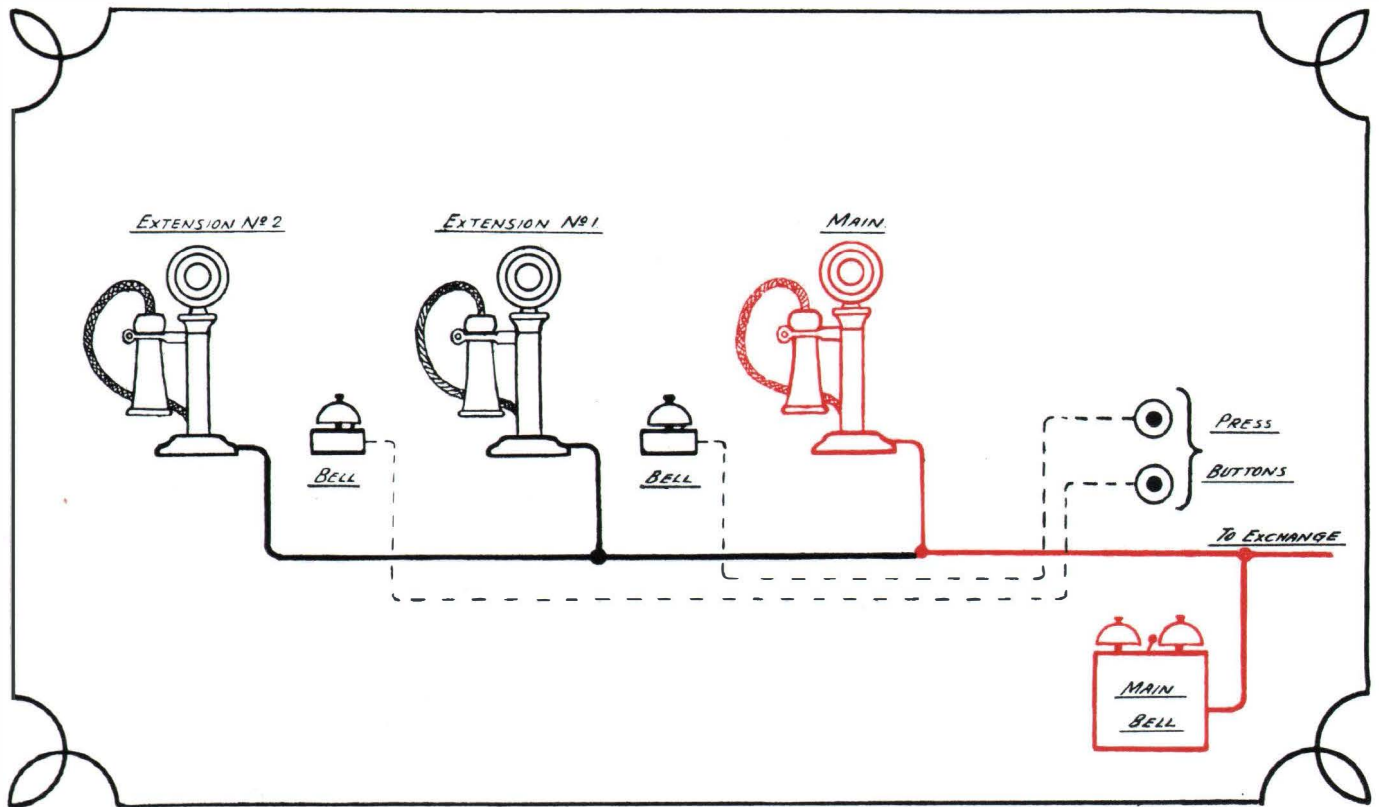


HOUSE ON TWO FLOORS



HOUSE ON TWO FLOORS

EXTENSION PLAN I



1. In this plan from one to six extension telephones can be provided on each exchange line.

2. When a call comes through to you, the bell rings at the main instrument only, not at any of the extensions.

3. Whoever answers the main instrument can then call any extension by pressing a bell-button. As soon as the receiver of the extension is lifted, the main receiver can be hung up and the conversation carried on from the extension. When the conversation is finished, the replacing of the extension receiver automatically returns everything to normal.

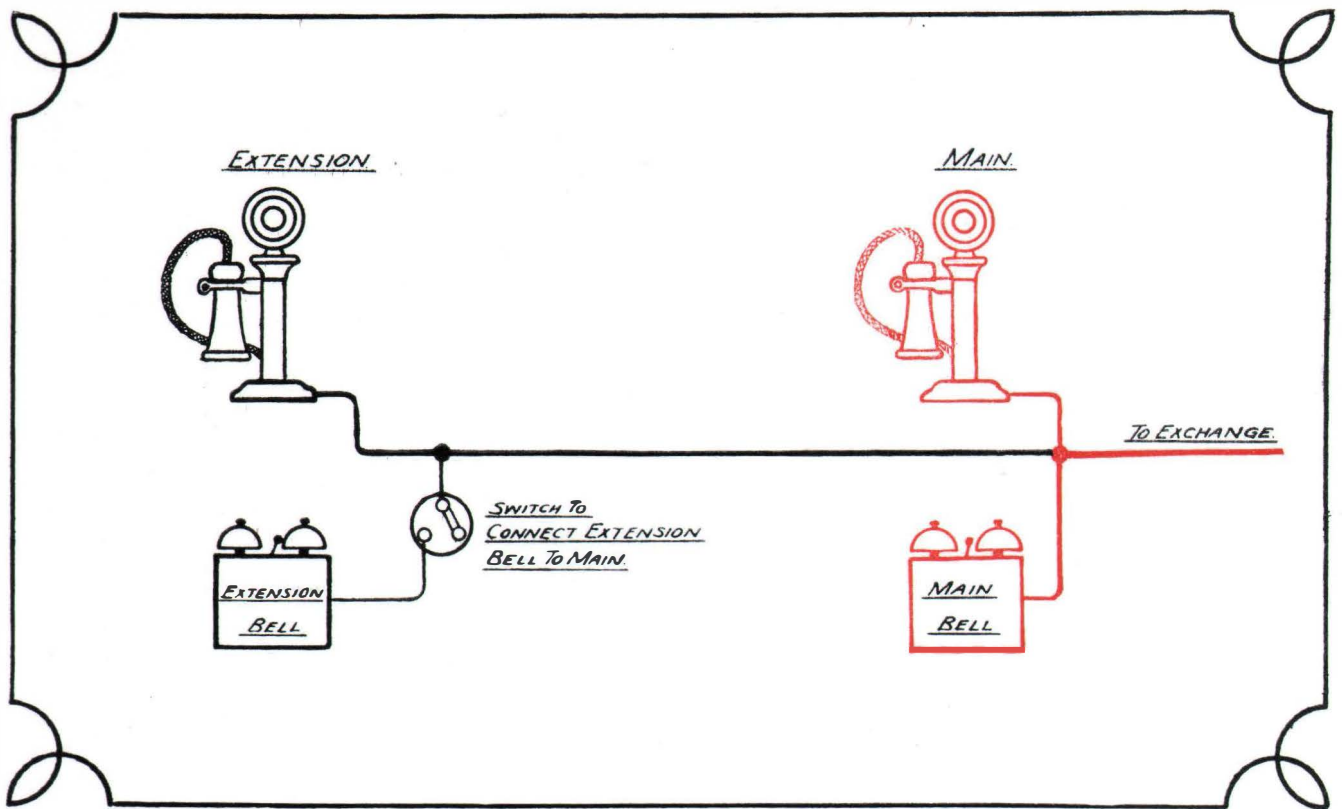
4. Provided none of the other instruments is in use, any instrument can be used to call the exchange by simply lifting the receiver.

On this plan, however, it is not possible to talk from one extension to another, or from an extension to the main instrument. Also, there is no secrecy as between the instruments; a conversation in progress can be overheard on the receiver of any of the other instruments.

5. Extensions on this plan can be placed anywhere within the same building.

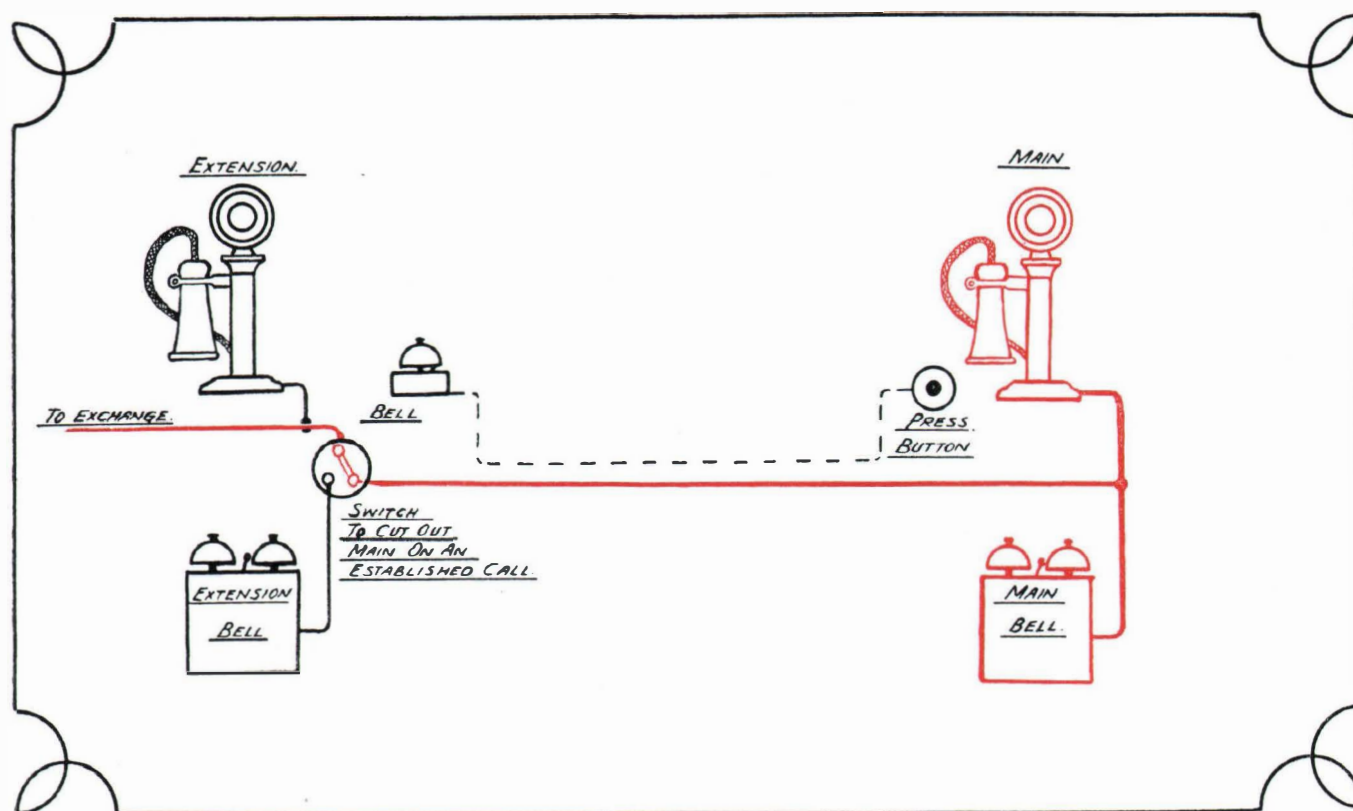
6. If it is desired that incoming calls should be received at any time direct at one extension, a switch and bell can be provided at the extension in lieu of the separate button and bell circuit. (That is, a plan 1A arrangement can be allowed in conjunction with Plan 1 facilities, subject to a limit of six extensions). This facility can be used to provide a "night service" without extra charge.

EXTENSION PLAN 1A



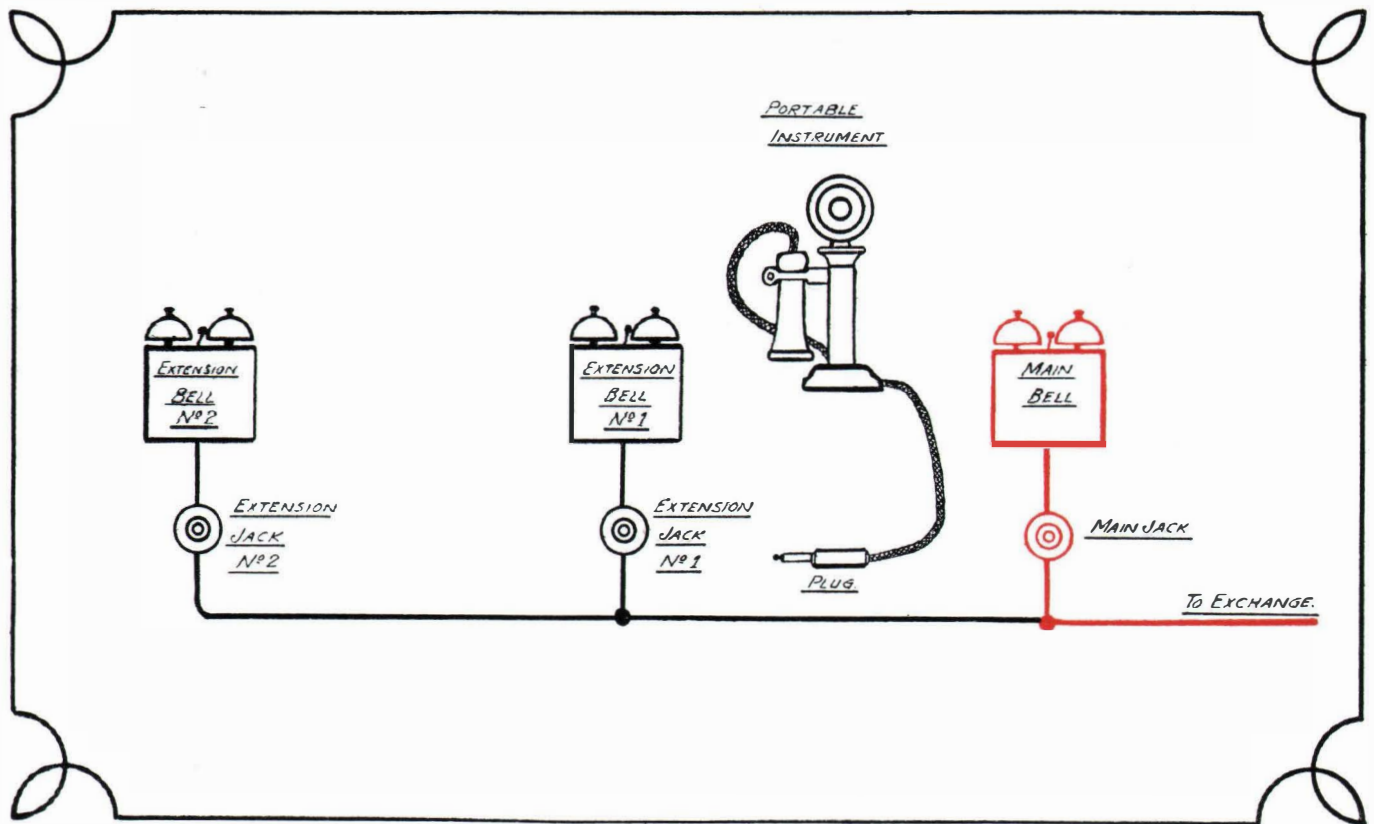
1. This plan provides one main instrument and one extension (or two when table instruments are fitted).
2. Normally, an incoming call is answered at the main instrument.
3. The feature which makes this a most useful plan for residential purposes is that a switch fitted at the extension can be turned, say at night, so that incoming calls will be received at both points.
4. A call can be made at any time direct from either the main instrument or the extension.
5. It is not possible to speak from one instrument to the other, but when one is in use, the conversation can be overheard in the other.

EXTENSION PLAN 3



1. This plan provides one main instrument and one extension.
2. Normally, an incoming call is answered at the main instrument.
3. Whoever answers at the main instrument can call the extension by pressing a bell-button. As soon as someone has answered at the extension, the receiver at the main instrument can be hung up.
4. A switch at the extension can be used, when a call has been established, to cut out the main instrument altogether.
5. If the switch is not returned to the normal position after such a call, subsequent calls will come from the exchange direct to the extension.
6. It is not possible to speak from one instrument to the other.
7. A call can be made at any time direct from either the main instrument or the extension when the switch is at the normal position.

EXTENSION PLAN 4



1. This plan has been specially designed to meet the needs of certain hotels, boarding-houses, and premises with similar requirements.

2. The premises are fitted with a socket, or "jack," in each position where a telephone is required. The telephone, a table instrument which may be either of the Pedestal or the Hand-Microphone type, is provided with a length of flexible cord and a plug which fits any one of the sockets. A bell need not be fitted at every point provided that the bell at the main set is within hearing.

3. A call can be made to the exchange from any position by pushing the plug attached to the instrument into the socket and putting through the call in the ordinary way.

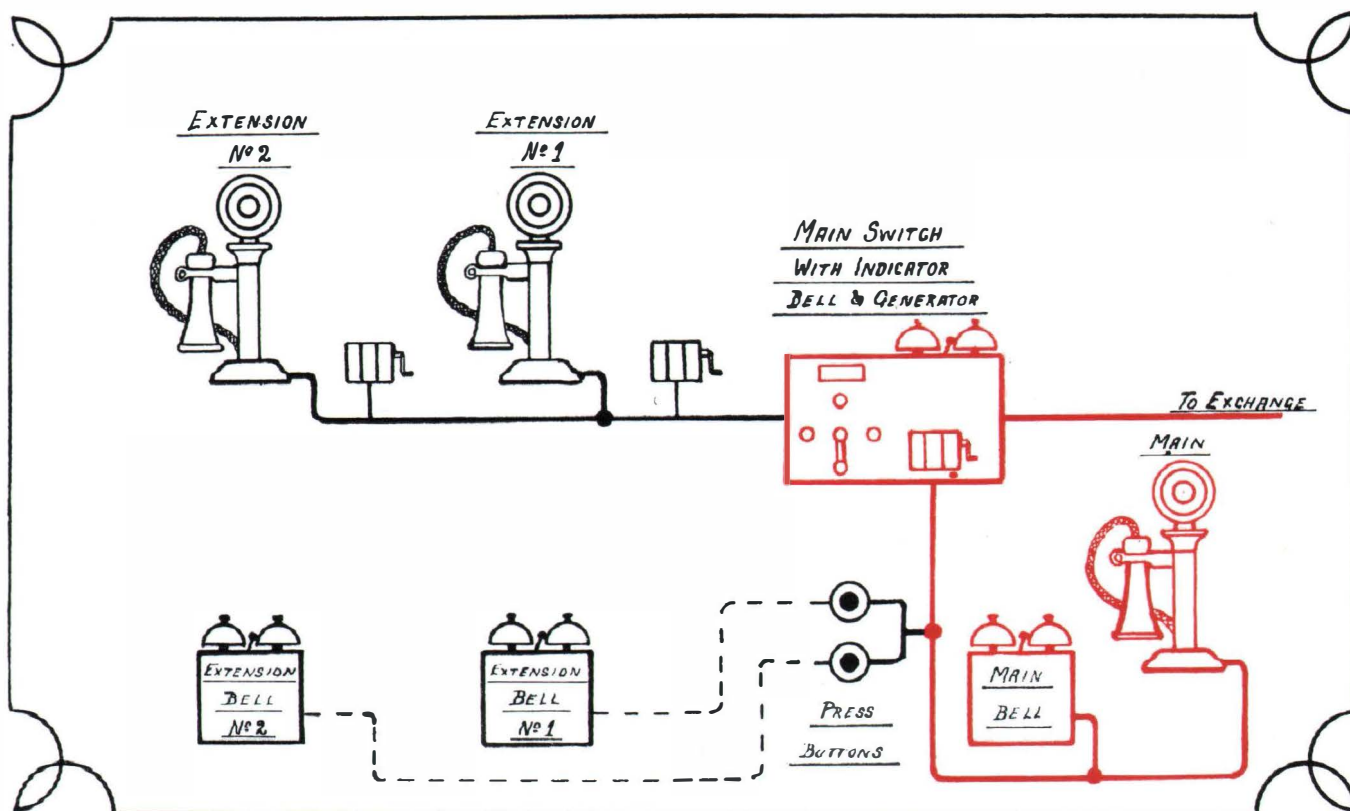
4. Incoming calls from the exchange will ring the bells at the main position and at

whichever other position the instrument happens to be plugged in. (If through inadvertence you leave no instrument at all plugged in, an incoming call will ring the bell at the main position only.)

5. It is desirable to have more than one portable instrument, so that while a conversation is being held on the telephone which originally answered the call, another instrument can be taken and plugged into any other position desired and the conversation can be continued on it. The withdrawal of the telephone on which the call is originally answered, before another instrument is plugged in *and its receiver taken off*, might cause the breakdown of the call.

6. It is not possible to speak from one position to another, and a conversation can be overheard if a second instrument is plugged into another position during a call.

EXTENSION PLANS 5 & 5A



1. This plan allows of one main instrument and two extensions, all in the same building.

2. A call from another subscriber is answered at the main instrument.

3. Beside the main instrument there is a simple switching unit showing a bell, a knob and pointer which can be turned into different marked positions, and in certain cases an indicator and a handle for a generator. There is also a bell-button corresponding to each extension. When a call has been received at the main, and one of the extensions is required, turn the switch-knob into the appropriate extension position, press the appropriate button, and turn the generator handle, and a bell will ring at the extension you want. When the receiver at the extension has been lifted, that at the main instrument can be hung up.

4. The main instrument can speak to either extension while "holding" an incoming call, without the calling subscriber overhearing.

5. When a conversation is being carried on from the main instrument with another subscriber, neither of the extensions can overhear it. But when either of the extensions is being used the main instrument and the other extension can overhear.

6. When an indicator is provided at the main instrument, it shows when an extension is speaking to another subscriber.

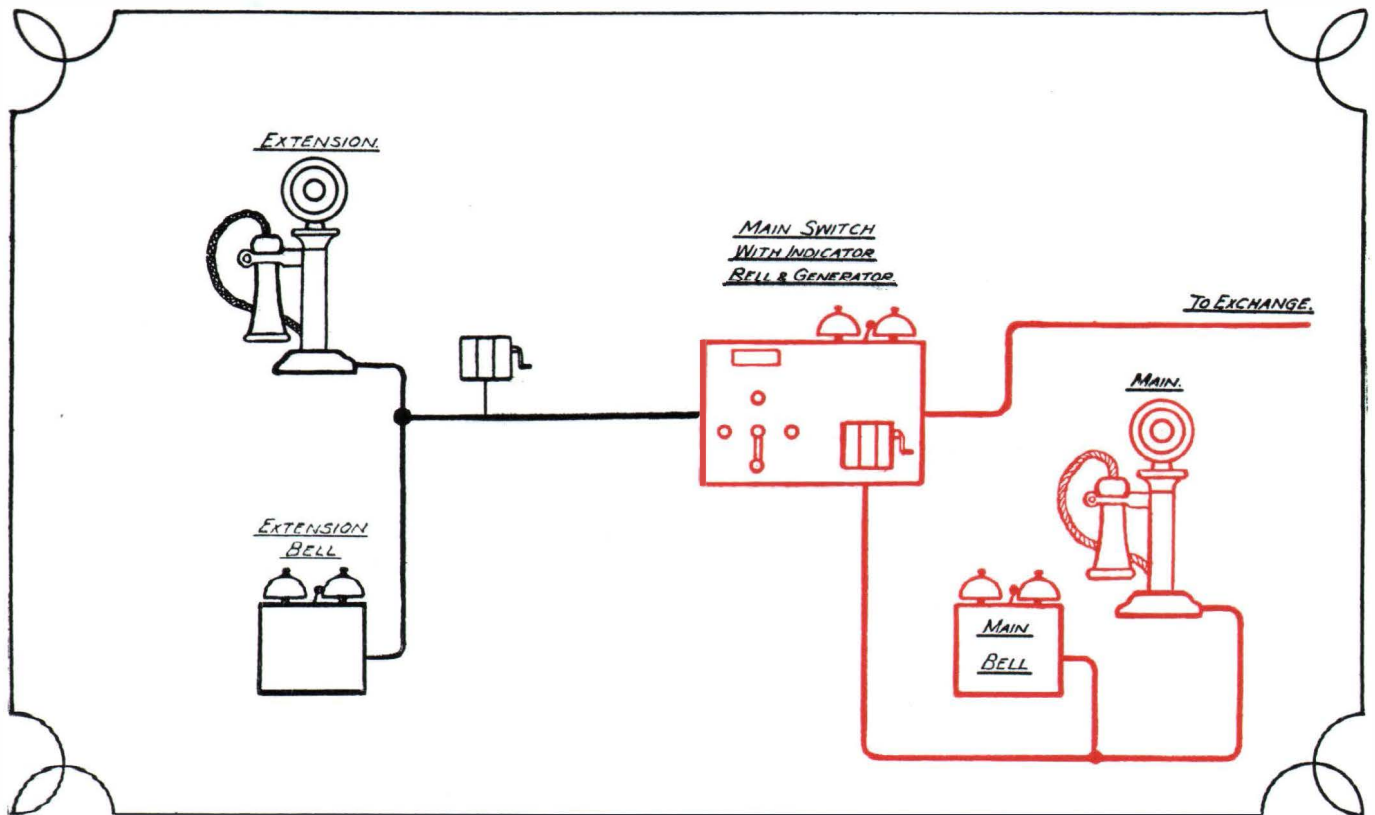
7. At each extension instrument you can call the main by turning the handle of a small generator. If the switch at the main has been left in the appropriate position, the extensions can call the exchange direct.

8. It is possible to communicate between the main instrument and either extension, and vice versa, and from one extension to the other through the main switch.

9. The "Night Service" facility can be provided for either of the extensions, but not for both. If it is required, a small switch is added to the equipment at the extension instrument, to connect the particular extension bell to the exchange. If the main switch is also set in the proper position, incoming calls will cause the bell to ring at the extension instead of the main, and the extension can take the call direct.

Plan 5A is exactly similar to the plan here described, with the additional advantage that the main instrument cannot overhear a conversation taking place on either of the extensions. The extensions however can still overhear each other.

EXTENSION PLAN 7



1. This plan provides for one main instrument and one extension either in the same building or in another.

2. Normally, incoming calls are received at the main instrument. Beside the main instrument, however, there is a switching unit on which are shown a bell, a knob and pointer which can be turned to various positions, and, in certain cases, a generator-handle and an indicator. If the switch-knob is set at the "Extension to Exchange" position the incoming call will also ring the extension bell, and can be answered either at the extension or the main.

3. On an incoming call anyone at the main instrument can talk to anyone at the extension while keeping the calling subscriber connected, but without being overheard by him. Then, if the switch-knob is turned to the "Extension to Exchange" position, the extension can take over the incoming call.

4. Anyone at the main instrument can put a call through at any time by setting the switch-knob at the "Main to Exchange" position. The extension

can put through a call direct in the usual way if the switch-knob is set at the "Extension to Exchange" position. If it is not, the extension can call the main instrument by a few turns of the generator-handle beside the extension instrument.

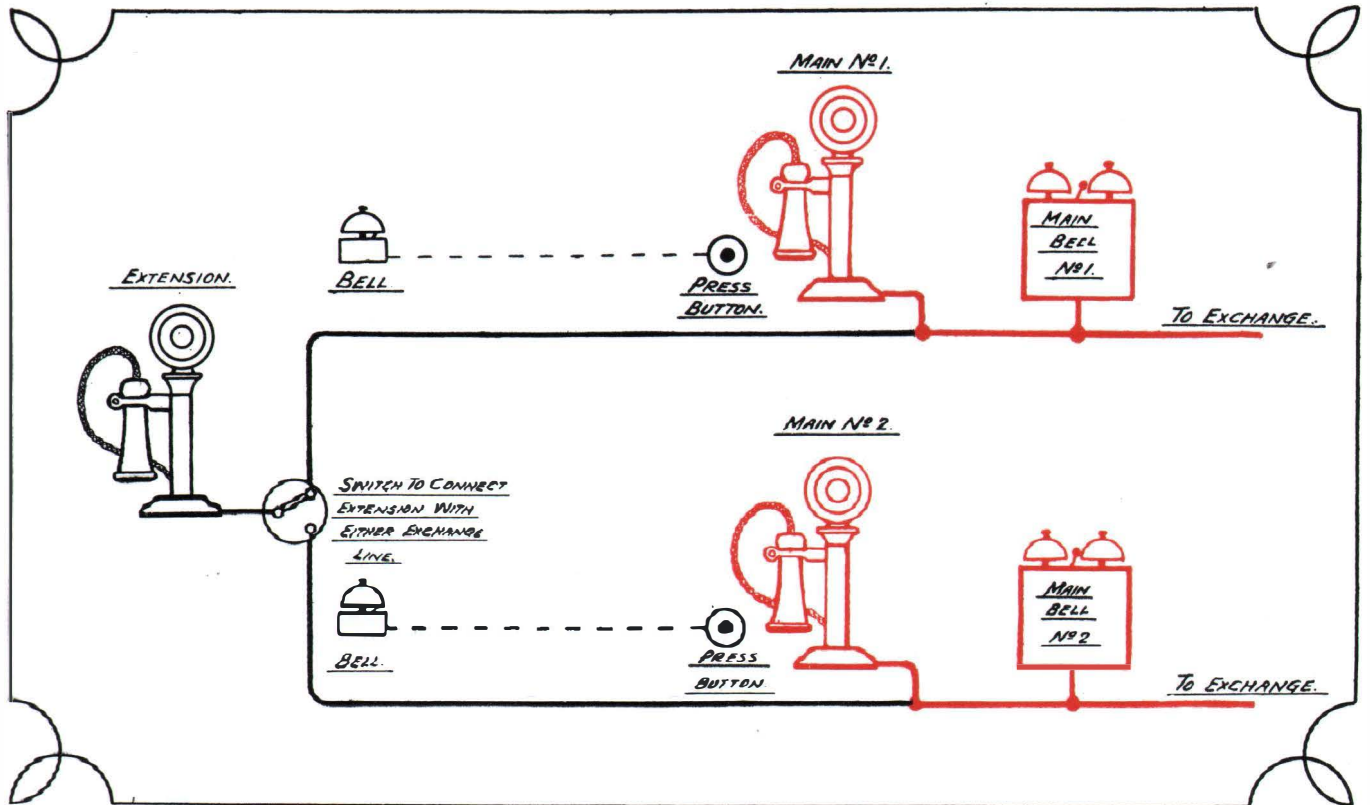
5. The main can call the extension by setting the switch at the "Main to Extension" position and then giving a turn or two of the generator-handle.

6. The main instrument can talk to another subscriber without being overheard by the extension (if the switch is in the "Main to Exchange" position), but the main can overhear any conversation between the extension and another subscriber.

7. When an indicator is provided in the switch-box at the main instrument, it shows when the extension is being used to speak to another subscriber.

Plan 7A is similar to Plan 7 with the addition that a conversation can be carried on between the extension and another subscriber without being overheard from the main instrument.

EXTENSION PLAN 8



1. This plan allows one extension to be connected with either of two exchange lines in the same building. It is designed to avoid the provision of a small switchboard, and is not fitted where there is a private branch exchange.

With this plan it is possible for the extension to use either of the two lines for talking to another subscriber, leaving the other line and its main instrument free for incoming or outgoing calls.

2. Either of the main instruments, on receiving a call, can call the extension by means of a bell-button. The two bells ring with different tones at the extension, where there is a two-

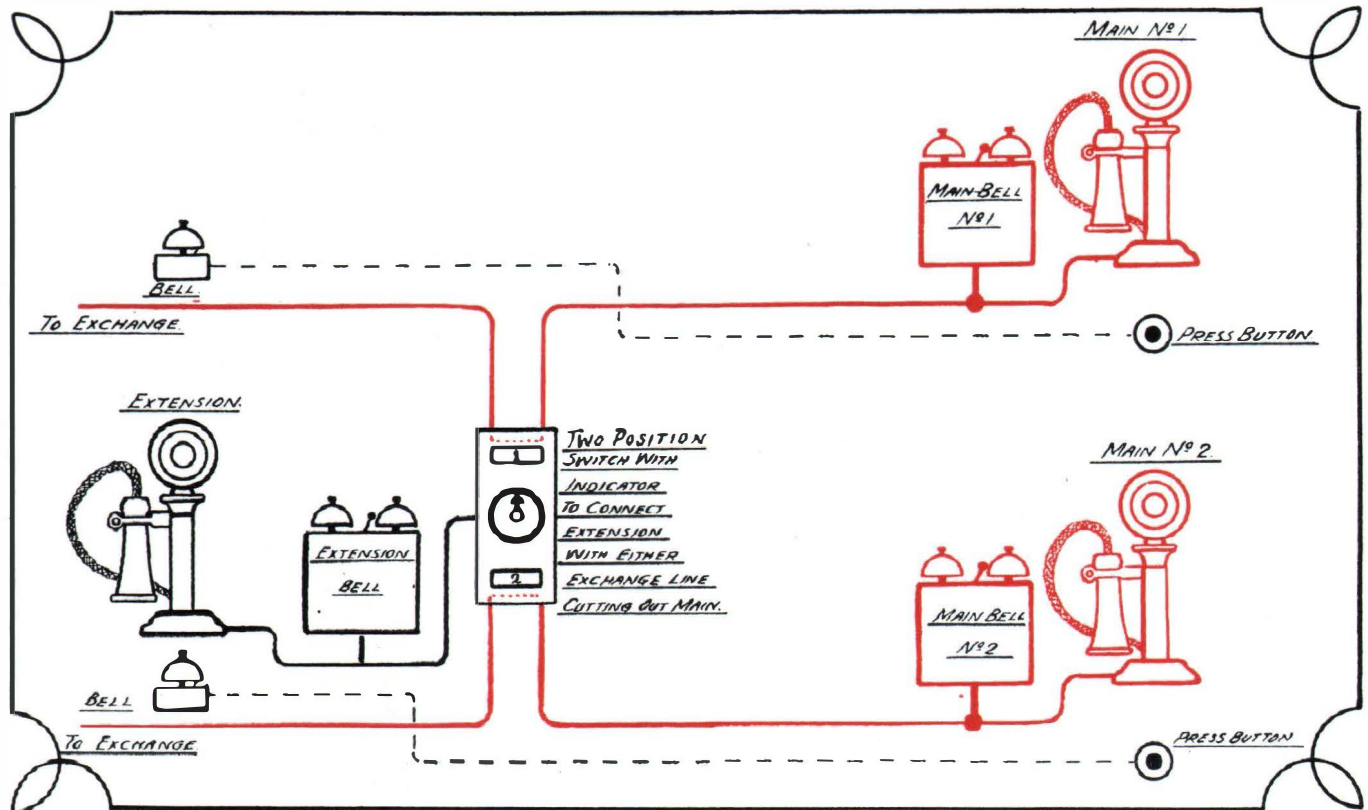
position switch which can be used to connect the extension with either of the two lines.

3. Both of the main instruments and the extension can call the exchange direct.

4. Conversations from either of the main instruments can be overheard by the extension. Each main instrument can overhear a conversation which is being carried on from the extension over the line with which it is connected, but not when the switch is connecting the extension with the other line. A conversation on any one main instrument cannot be overheard on the other.

5. Conversations cannot take place between any two of the instruments.

EXTENSION PLAN 8A



1. This plan, which is only available on Automatic and Central Battery Systems, allows one extension to be connected with either of two exchange lines in the same building. It is designed to avoid the provision of a small switchboard, and is not fitted where there is a private branch exchange.

With this plan it is possible for the extension to use either of the two lines for talking to another subscriber, leaving the other line and its main instrument free for incoming or outgoing calls.

2. Either of the main instruments, on receiving a call, can call the extension by means of a bell-button. The two bells ring with different tones at the extension, where there is a two-

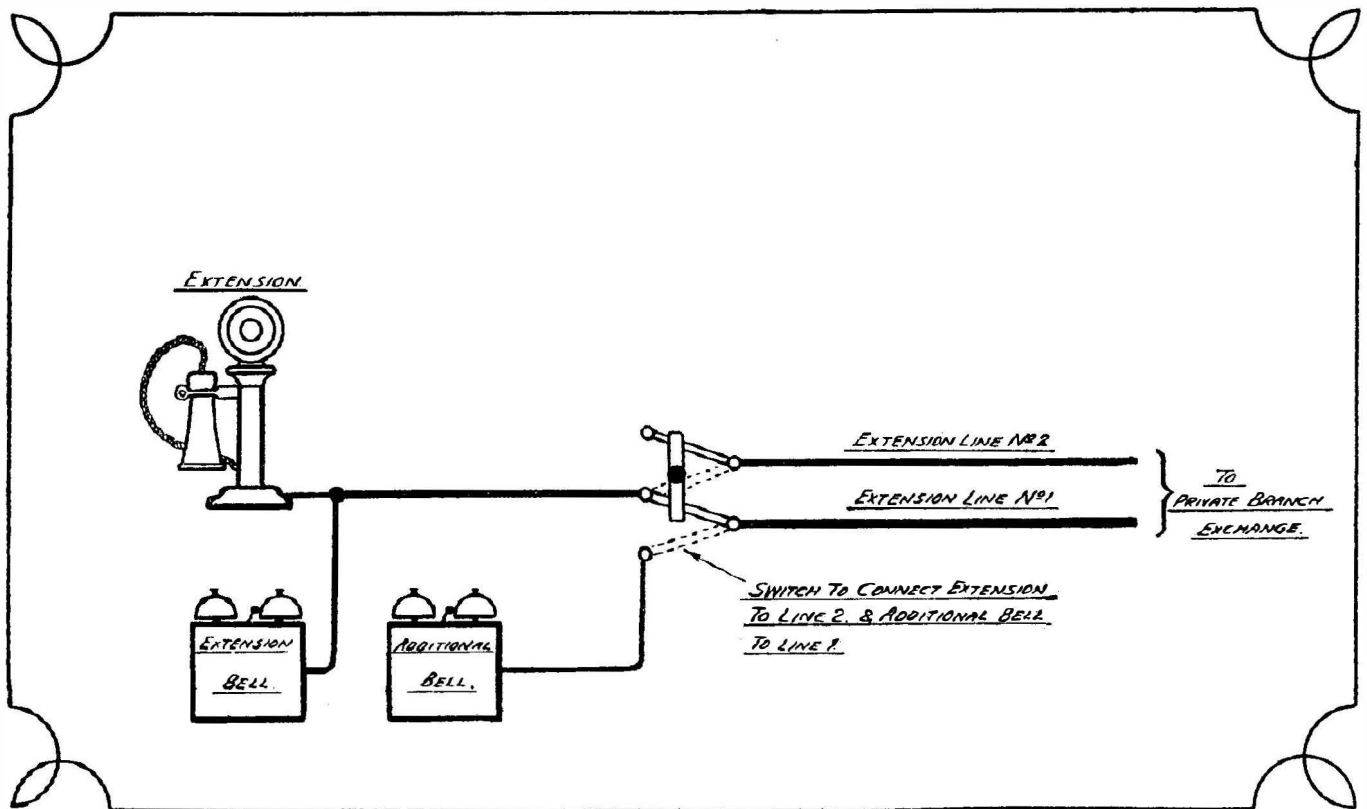
position switch which can be used to connect the extension with either of the two lines.

3. Both of the main instruments and the extension can call the exchange direct.

4. This plan has the added advantage that conversations on any instrument cannot be overheard by the other two instruments. A special two-position switch enables the user at the extension to connect his telephone with either exchange line and at the same time to disconnect the main instrument. Two indicators on the switch show when the exchange lines are being used by the main instruments.

5. Conversations cannot take place between any two of the instruments.

EXTENSION PLAN 9



1. This plan provides two lines to an extension connected with a private branch exchange either in the same building or another. It is designed to meet cases where a subscriber would otherwise require a house telephone for the purpose of consultation with other departments.

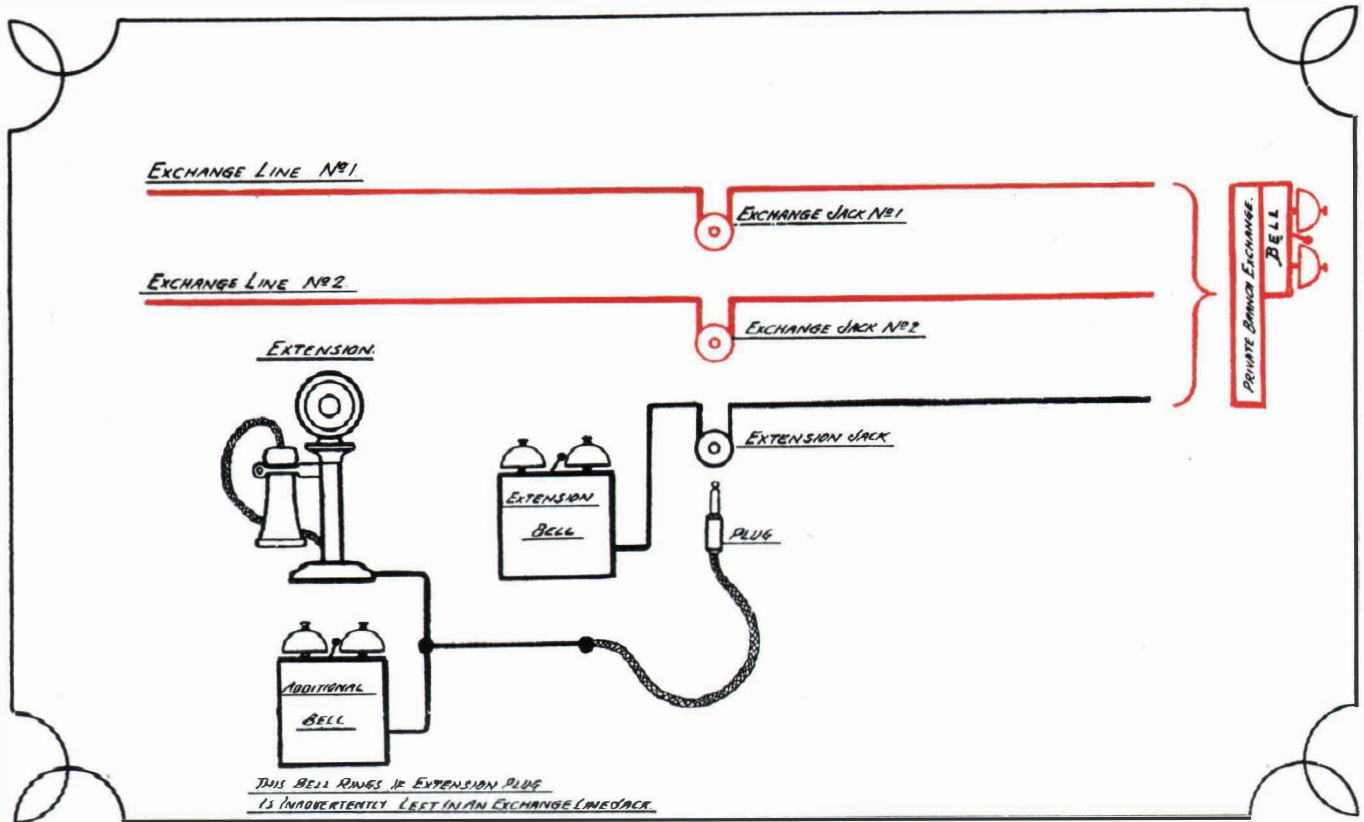
2. Two extension lines from the private branch exchange are terminated on one extension instrument fitted with a two-way switch and two bells.

3. Normally, the switch should be left in the Number 1 position. In that position the extension will both take incoming calls and

originate outgoing calls in the ordinary way, through the private branch exchange.

4. If a conversation is being carried on from this extension and it is necessary to speak to another extension, or to another number, the switch should be moved into the Number 2 position. This "holds" the original caller, but prevents him from overhearing, and at the same time gives the extension a clear line to the private branch exchange, on which a call can be put through either to another extension or another number. When this call is finished, the original caller can be brought in again by moving the switch to the Number 1 position, and the conversation can be continued.

EXTENSION PLAN 10



1. This plan is designed for an extension to a private branch exchange in the same building ; it provides a means of making an established call strictly private, preventing the subscriber's switchboard operator or the user of any other extension from overhearing a conversation.

2. At the extension, sockets are provided which intercept the lines from the Public Exchange to the private branch exchange. The extension line from the private branch exchange also terminates in a socket, and the extension instrument is fitted with a cord and a plug.

3. Normally, the plug should be kept inserted in the extension socket, and all calls come through the switchboard to the extension. Similarly, calls should be originated from the extension, via the switchboard, otherwise there is risk of a conversation being interrupted,

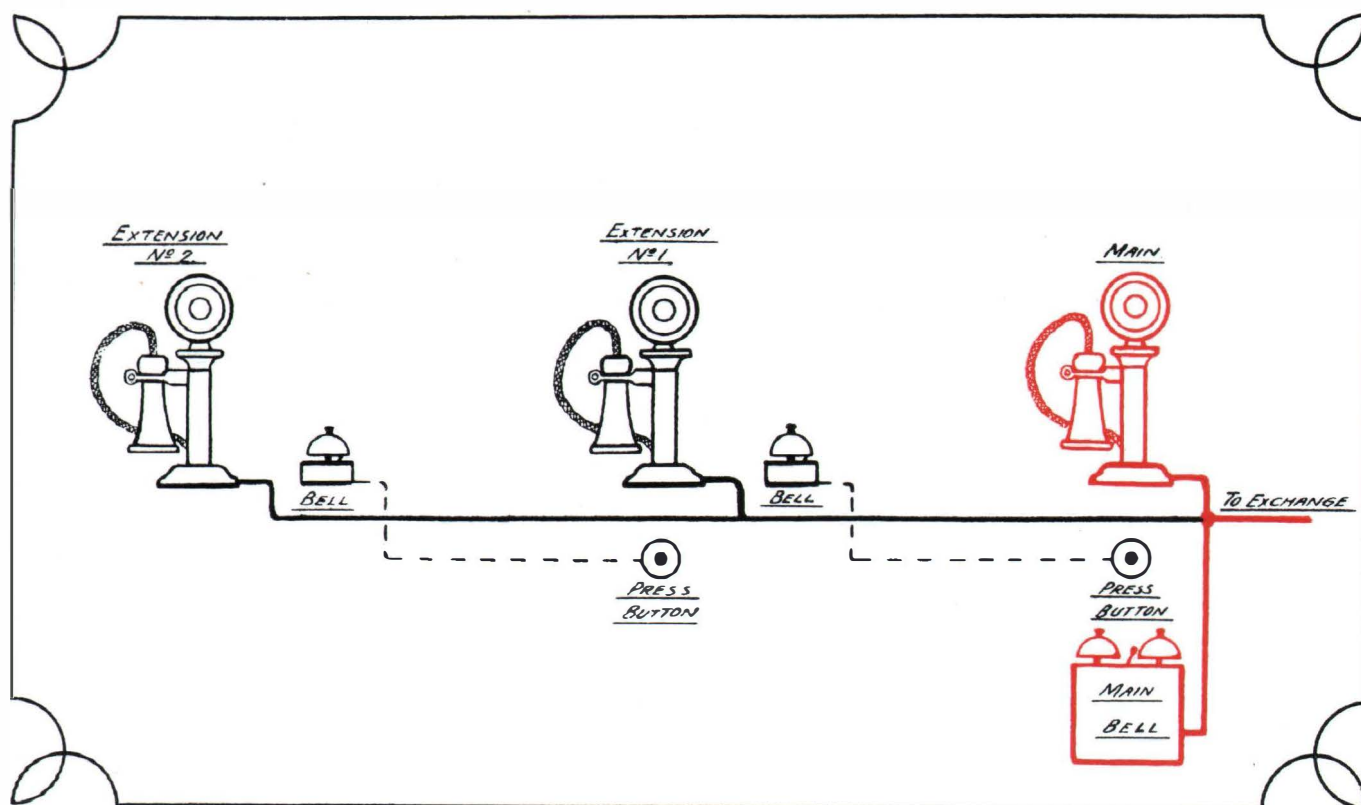
or even an established connection being broken down.

4. If when a call to the extension is established, it is desired to talk without the operator at the switchboard being able to overhear, remove the plug from the extension socket and place it in the particular socket which intercepts the line from the Public Exchange on which the call is coming through. This cuts out the switchboard entirely.

5. When the call is finished, the plug should be replaced in the extension socket. If by accident it is left in one of the main sockets, an incoming call on that line will ring both the extension bell and a special bell at the switchboard, but so long as the plug is left in that socket the call can only be answered from the extension instrument.

6. This facility can only be given at one point on any single installation.

EXTENSION PLAN II



1. This plan provides for one main instrument and two extensions in the same building. It is designed to meet cases where it is desired that incoming calls should be "filtered" through one extension before being passed on to the other, thus preventing the person at the second extension from being troubled unnecessarily. The plan is therefore specially useful for the principals of business houses, and for professional men.

2. Incoming calls are answered at the main instrument.

3. If the caller asks to speak to the principal, the person at the main instrument, by means of a bell-button, calls the first extension and passes the call on to a secretary or some other intermediary. If the secretary decides that the principal need not be troubled, he can deal with the caller himself.

4. If it is necessary for the principal to speak to the caller himself, the secretary can then

call the second extension by pressing a button which rings a bell or a buzzer, and the principal, by lifting the receiver, can take over the call and deal with it.

5. Calls to other numbers can be put through direct from any of the three instruments.

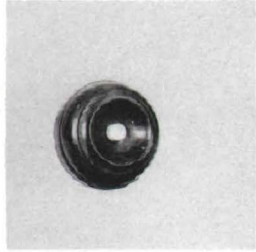
6. A conversation taking place on any of the three instruments can be overheard on the other two.

7. Conversations are not possible between any two of the instruments.

8. Two extension instruments can be fitted on this plan to a private branch exchange if desired. The switchboard then becomes the main instrument and the whole installation works as has been described, with the addition that the extensions can talk to the switchboard and the switchboard to the extensions.

EXTENSION EQUIPMENT

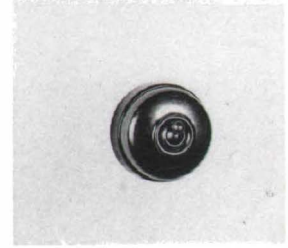
Photographs of the equipment supplied in connection with extensions, and referred to in preceding pages.



Press Button for Trembler Bell.



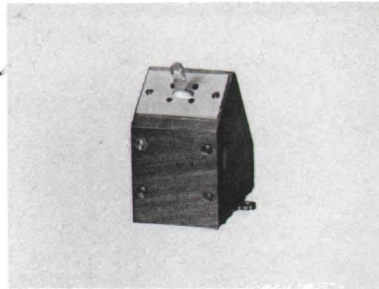
Plug and Jack (Plans 4 and 10).



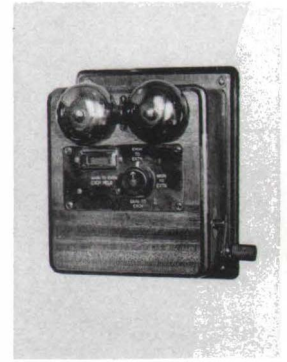
Switch (Plan 1A).



Trembler Bell.



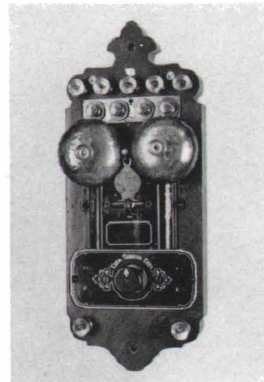
Special Two-Way Switch (Plan 9).



4-Position Switch with Bell, Generator, and Indicator (Plans 5, 5A, 7, and 7A).



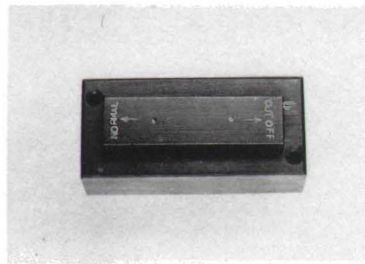
Generator.



3-Position Switch with Bell (Plans 5, 5A, 7, and 7A).



2-Position Switch with Two Indicators (Plan 8A).



Switch (Plan 3).

HOW OFTEN DO PEOPLE FIND YOUR NUMBER ENGAGED?



How many people are annoyed every day because they cannot get through to you?

Your present number of lines may not be enough to carry your business. And it is not just a question of occasional delay. Insufficient telephone facilities will do actual harm to your business. Such a situation slows up your work all round, and any one of the delays involved may mean a very serious loss to you. Even more important, people who fail more than once to reach you by telephone are annoyed, however great their good-will towards you may be, and they are unwilling to call again if they can avoid it.

Can you afford *not* to have a sufficient number of lines and extensions?

A *Private Branch Exchange* may be the most efficient arrangement of telephone equipment for you. It consists of a switchboard at your premises with lines to the Public Exchange, and extension telephones in various departments or rooms where the service is required.

Operating a Private Branch Exchange switchboard is a very simple thing to learn, but in order to secure the highest possible efficiency the Post Office Telephones will train any member of your staff in the work free of charge, if you so wish. Even switchboard attendants who already have some practical experience will benefit from this training.

SWITCHBOARDS



Takes 1 exchange line and up to 3 extensions. Weight approximately 32 lbs. Measures 12" in height, 15" in breadth, and 11½" in depth. Operated by means of keys, and can be placed on any table or desk.



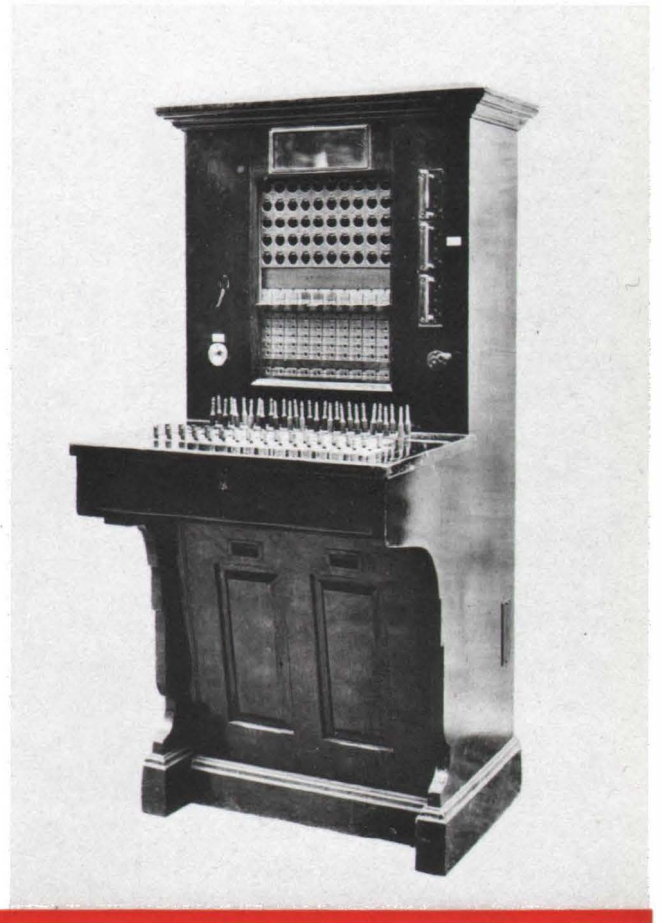
Takes 2 exchange lines and up to 4 extensions. Weight approximately 41 lbs. Height 12", breadth 16", depth 11½". Operated by means of keys, and can be placed on any table or desk.



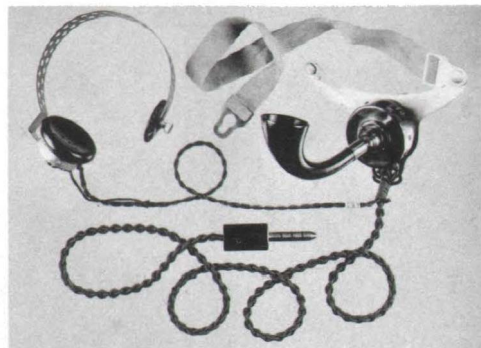
Takes 3 exchange lines and up to 7 extensions. Weight approximately 65 lbs. Height 14½", breadth 18½", depth 15½". Operated by means of keys, and can be placed on any table or desk.



Takes up to 5 exchange lines and 20 extensions. Weight approximately 164 lbs. Height 51", breadth 19½", depth 20". Operated by means of plugs and jacks, and must be fixed against the wall of the room. Space is required to enable the front of the Switchboard to swing open.



This type of switchboard takes from 30 to 50 extensions and 10 to 15 exchange lines. Weight approximately 300 lbs. Height 55½", breadth 25", depth 26". Operated by means of plugs and jacks. Must be set away from the wall in such a way that the shutter in the back can be removed to enable access to be obtained to the equipment.



Headgear receivers and breastplate transmitters are included without extra charge as part of the equipment of the largest switchboard illustrated.

BEDROOM TELEPHONES IN HOTELS



Have you, as a hotel manager, considered bedroom telephones as one of the cheapest methods of increasing *and retaining* your clientele ?

Take the business man, for example, who is accustomed to have the telephone close at hand whether he is at his office or at home. Will he be a satisfied guest, if he finds that at your hotel he is obliged to leave the comfort and privacy of his own room in order to make or receive a telephone call ?

Good telephone facilities are welcomed also by those who stay at hotels for other than business purposes. The telephone has long ceased to be a luxury

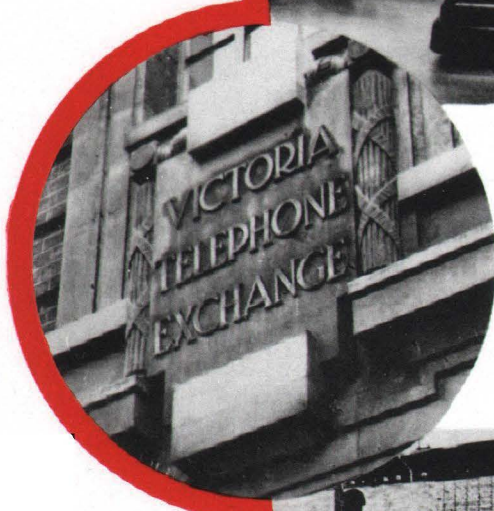
or even a mere convenience in the up-to-date home. It has become an important necessity and if a hotel proprietor wishes for *satisfied guests* he must provide them with the same facilities in their private rooms as they have been accustomed to enjoy in their own homes.

But in addition to this service which you can offer your guests, the hotel will be completely provided with *a system of rapid intercommunication*. The hotel service will be made better, quicker, and cheaper than by the ordinary bell system ; guests can telephone their wants and save time and labour on the part of the hotel staff.

THE TELEPHONE MACHINE AT YOUR COMMAND

Every time you lift the receiver, you call into operation a £120,000,000 machine, manned by 50,000 skilled workers.

To give you telephone service, a special pair of lines is run all the way from your instrument to the exchange.

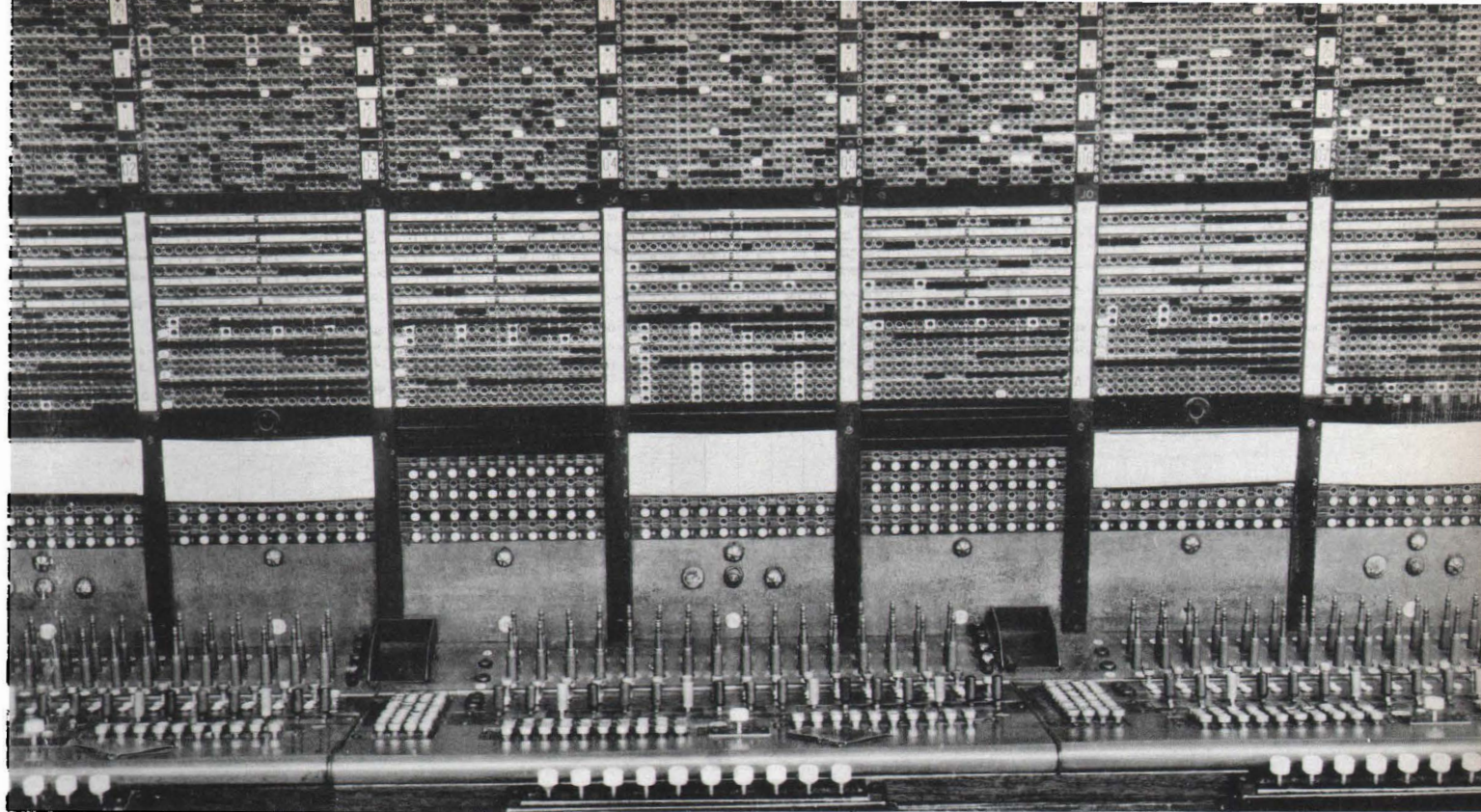


You are cordially invited to call and see over any local exchange at work.

Inside a big manual exchange your line is multiplied many times, so that every operator handling incoming calls can get in touch with you, and you are always able to get in immediate touch with the operator who will pass on the calls you make.

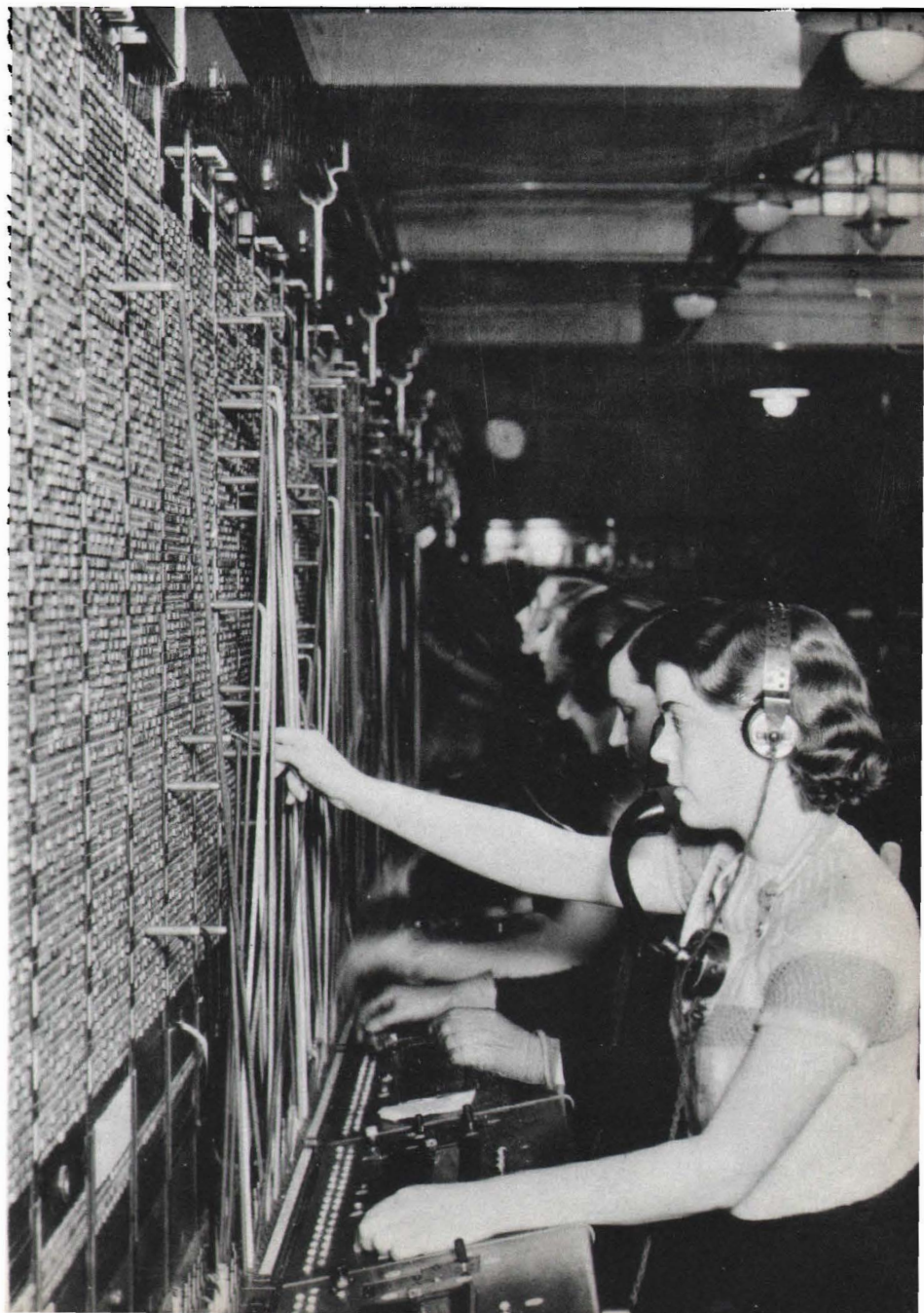
In the exchange there are at your command the operators, the supervisors, the information desk operators.



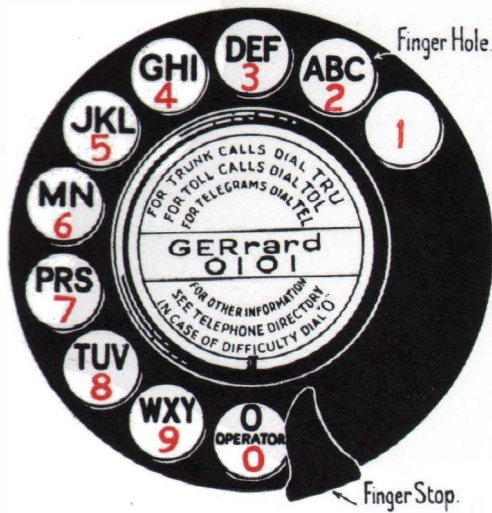


THE SWITCHBOARD

The manual switchboard is the machine which the operator controls, and uses to steer your call through to its destination.



THE AUTOMATIC TELEPHONE



The automatic telephone is the latest step in the steady stride of progress in telephone efficiency.

This marvellous invention enables you yourself, without the intervention of any operator at all, to open up a channel for conversation with any other subscriber in your district.

Automatic service is speedy. Local calls can be put through without the help of an operator, and the lines cleared for other calls immediately each call is finished.

Automatic service never varies in its efficiency day and night.

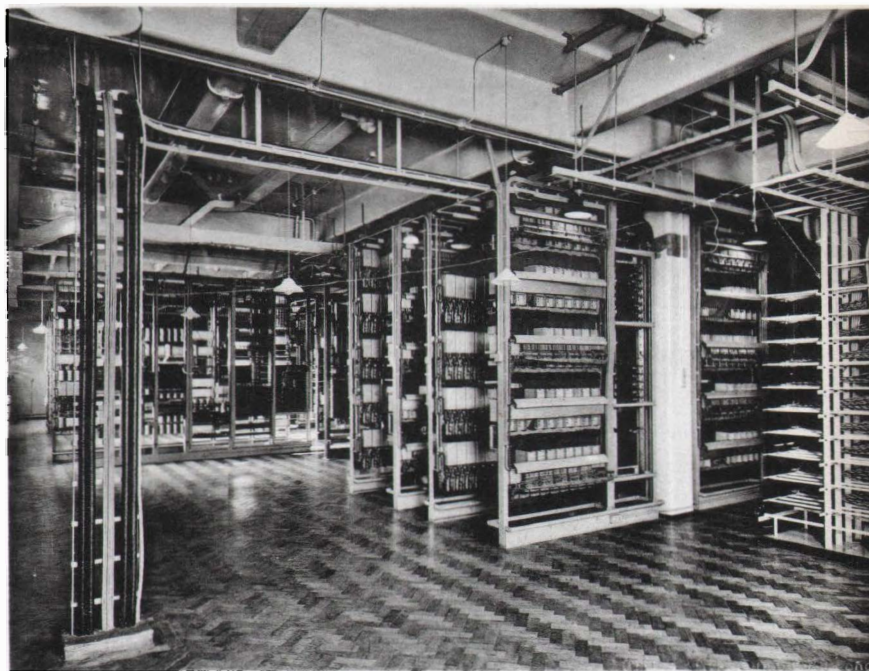
It does away, in the case of local calls, with difficulties in passing on a number due to dialects, voice peculiarities, similarities of sound, and so on.

It gives complete privacy to both parties to a telephone conversation.

The automatic system thus gives a modern service of swift, sure, and efficient communication, which meets the needs of the modern age.

HOW THE AUTOMATIC SYSTEM WORKS

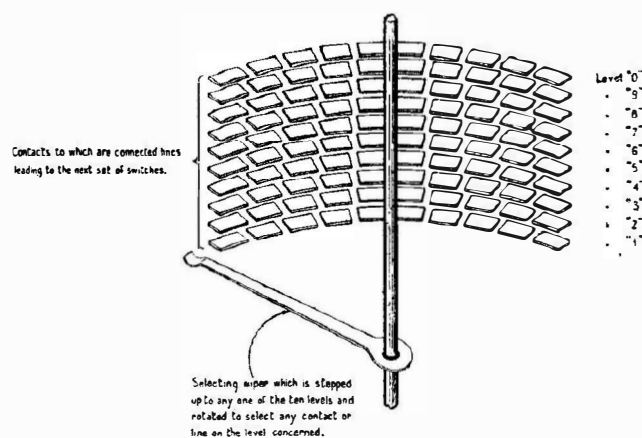
The system described below is that in operation in London, Birmingham and Manchester. In other districts the system is similar except that the operation is carried out by dialling numbers only.



Each journey which the dial makes from the “ stop ” to the normal position sends out a certain number of electrical impulses. Each finger-hole used results in a journey of a different length and therefore a different number of impulses are sent out. It is these impulses which set in motion and control the whole mechanism at the Exchange which automatically finds the connection with the line which you require.

Your line is terminated at the Exchange for the purpose of originating calls, upon a piece of apparatus known as a “ Line Switch.” This switch operates as soon as you lift your receiver, and connects you with the “ Director.” The function of the Director is to receive the electrical impulses resulting from your dialling, and then to steer the call to its destination through switches of another type known as “ Selectors.” As soon as the required connection is established, the Director disconnects itself and becomes available for other calls.

This diagram illustrates the fundamental principle of the working of the Selectors.



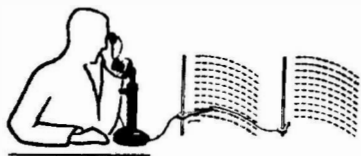
Access to the lines required by the calling subscriber is gained through contacts arranged in the form of an arc. There are ten lines or “ Contacts ” in each arc or “ level.” and ten levels are arranged one above the other. A Selector, therefore, gives access to one hundred lines arranged in ten levels of ten each. The selection of any one of these lines is made by a

switch-arm brush, or "wiper", to which the calling subscriber's line becomes connected.

When the required number, say Avenue 2346, is dialled, the impulses are received in the directing apparatus and the impulses which give in code the name of the called Exchange (in this case AVE) are utilised through Junction Selectors to secure a disengaged junction line to it. When this is done, the calling subscriber's line is connected with the "Wiper" of a "Thousands" Selector at this Exchange. In response to the dialling of the first figure, "2," the wiper is raised vertically until it is opposite the second or "2000" level of contacts.

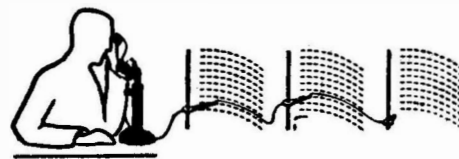


The wiper now sweeps automatically over the "2000" level, all the contacts in which give access to the wipers of the "Hundreds" selectors serving the "2000" group of subscribers' lines. The first disengaged channel encountered is seized and thus the connection is extended to the wiper of the "Hundreds" Selector.



On receiving the impulses corresponding to the second figure, "3," the wiper of the "Hundreds" Selector is raised to the third or "300" level of lines, and searches over this level to find a disengaged channel

leading to the wiper of a Final Selector serving the 23rd group of one hundred subscribers' lines, *i.e.*, the group "2300-2399."



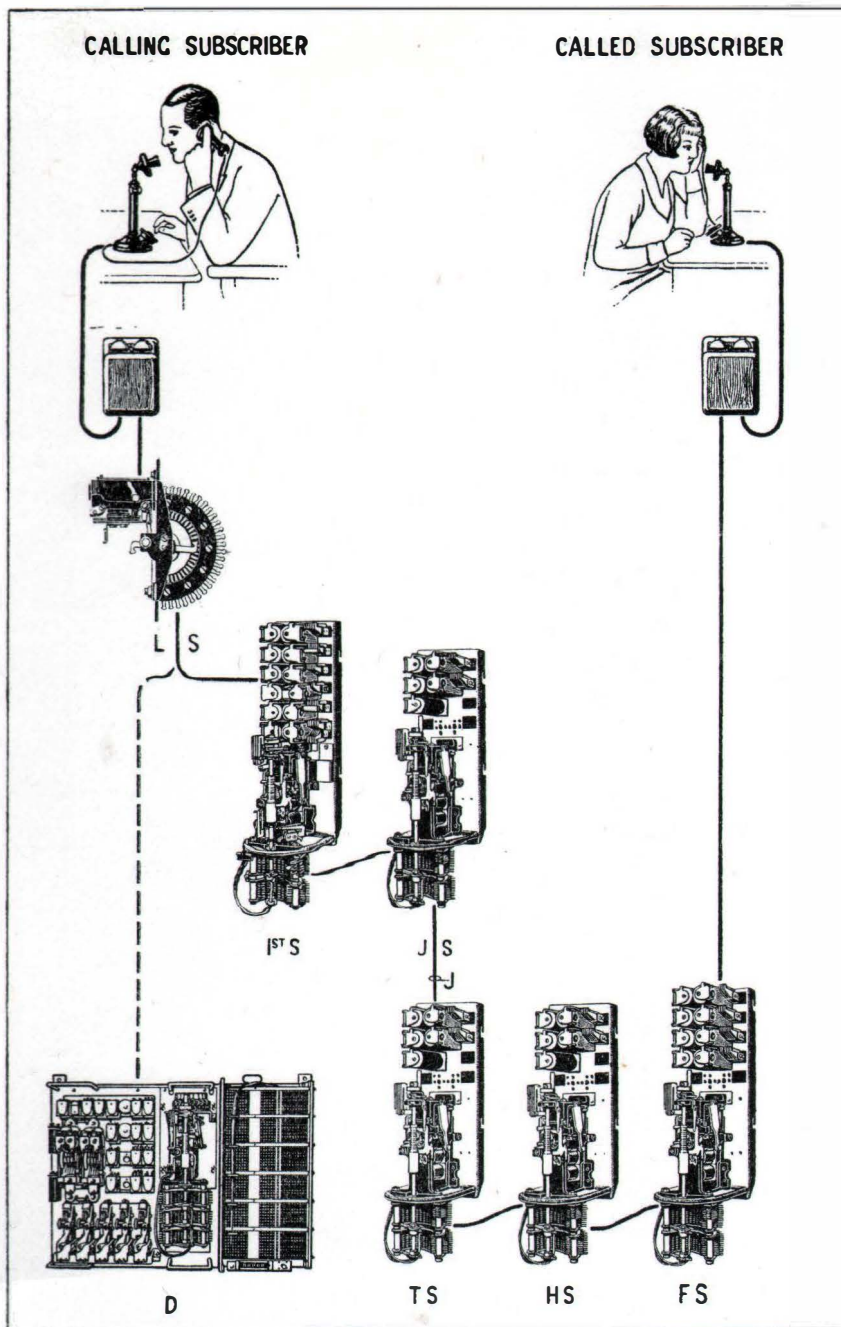
On receiving the impulses corresponding to the third figure, "4," the wiper of the Final Selector rises to the fourth or "40" level of lines, but does not move horizontally until the impulses from the last figure, "6," are received, whereupon the wiper is "stepped" round to the sixth contact of the "40" level upon which terminates the called subscriber's line, namely "2346."



The selecting process is now complete, and the called subscriber's telephone bell will be rung automatically, and the calling subscriber will hear the Ringing Tone. As soon as the subscriber answers, the ringing will cease and the circuit will be ready for conversation. When the subscribers hang up their receivers, all the switching apparatus will return to normal in readiness for the next call.

If, when the Final Selector attempts to complete the connection, "2346" is found to be engaged, the Engaged tone will be sent back and heard by the calling subscriber. Similarly, the Number Unobtainable tone will be sent back if for any other reason the number dialled is not available.

Here is a diagram showing the complete process of an automatic call



KEY

Calling Subscriber :

Lifts his receiver and on hearing "dialling" tone dials the required exchange code and number, the apparatus having in the meantime appropriated—

L.S. (Line Switch) :

which searches for disengaged automatic apparatus, connects it to the calling line, thus giving access to—

D. (Director) :

where the impulses from the subscriber's dial are received and the call steered through to the required exchange via a—

1st S. (1st Selector) :

which secures route to appropriate—

J.S. (Junction Selector) :

which finds a disengaged—

J. (Junction Line) :

which secures connection with the required exchange where the—

T.S. (Thousands Selector) } H.S. (Hundreds Selector) } F.S. (Final Selector) }

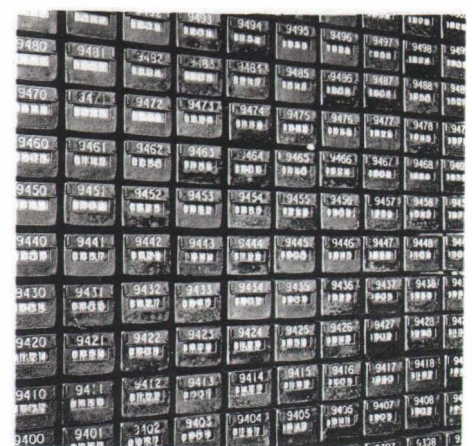
find the individual circuit called and complete the connection with the called subscriber.

The 1st S. and J.S. respond to the *code* impulses and the T.S., H.S. and F.S. to the *numerical* impulses.

THE REGISTERING OF CALLS

On the new system the registering of calls is also done automatically. When someone picks up the receiver at the number you are calling, *and only then*, an electrical impulse operates the meter attached to your line and marks up one call upon it. No impulse can be sent, or charge registered, in respect of calls which are met by the Engaged or Number Unobtainable tones, or where no reply is received.

Charges for Trunk and Toll calls, Telegrams, etc., are recorded in the usual way by the operators who handle them.



RURAL AUTOMATIC EXCHANGES



In districts remote from established exchanges, the Telephone Service is now able to offer through the automatic system facilities much greater than were formerly available on most rural exchanges, and at what is in most cases considerably less cost.

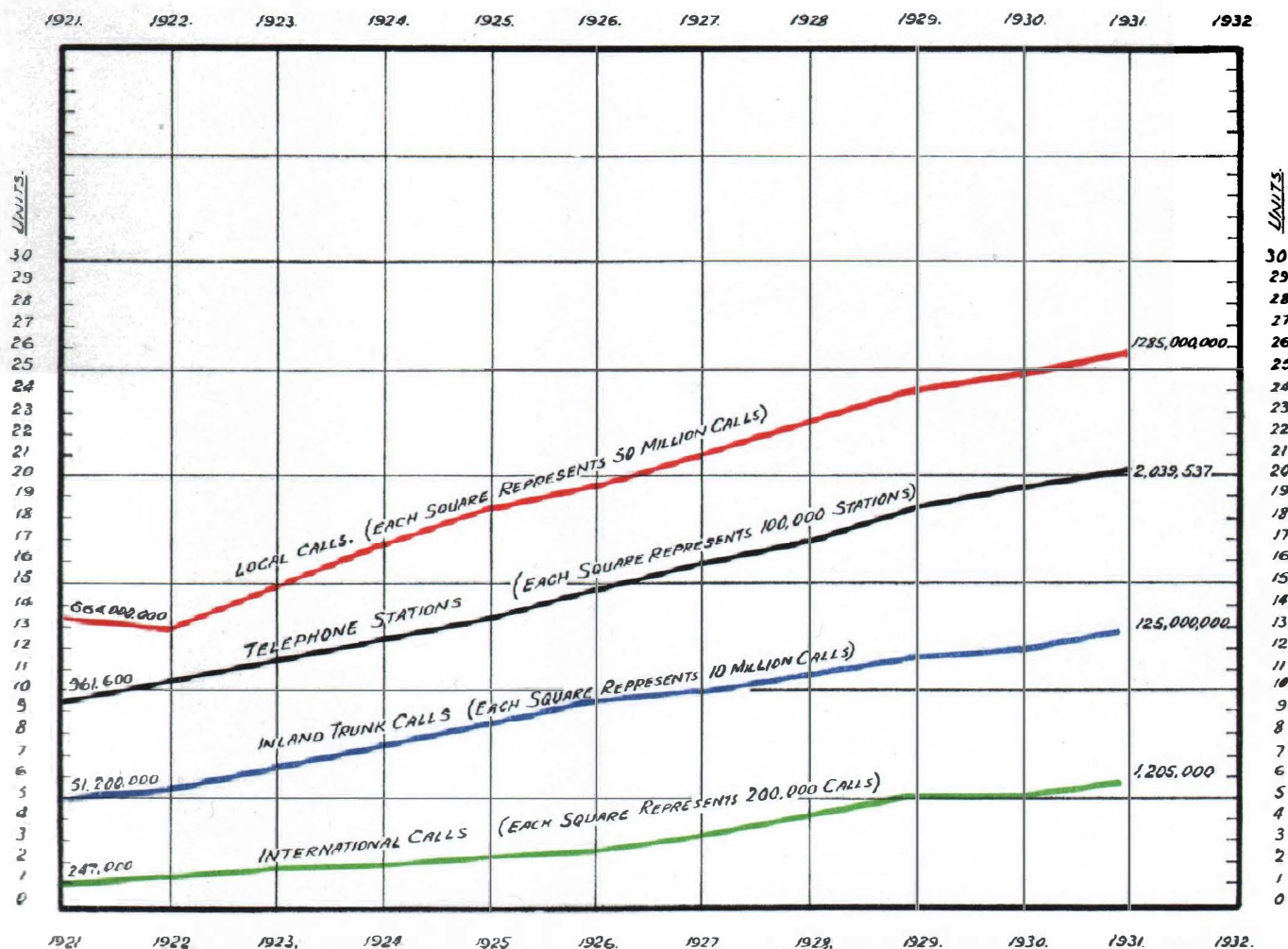
Where eight or more subscribers are willing, in such a district, to sign a 3-year contract, *at the ordinary telephone rate*, a special Rural Automatic Exchange will be set up for them at a convenient centre. It will, unattended, give automatic day-and-night communication between the subscribers, and at the same time it will connect all of them to the nearest attended exchange, and through it to the full facilities of the Telephone Service throughout the country and the world.

The service which the Rural Automatic Exchange will give to the country subscriber is equal in speed, efficiency, sureness, and lowness of cost to the best that the Post Office Telephones can give. It solves the communication problems of the countryside.

HOW THE TELEPHONE SERVICE IS GROWING

Every step forward by the telephone service means more facilities open to you as a subscriber. More of the people to whom you may want to speak come into the telephone book. More people develop the telephone habit and therefore your particular installation does more work for you. Your subscription to the telephone is an investment which is steadily appreciating in value.

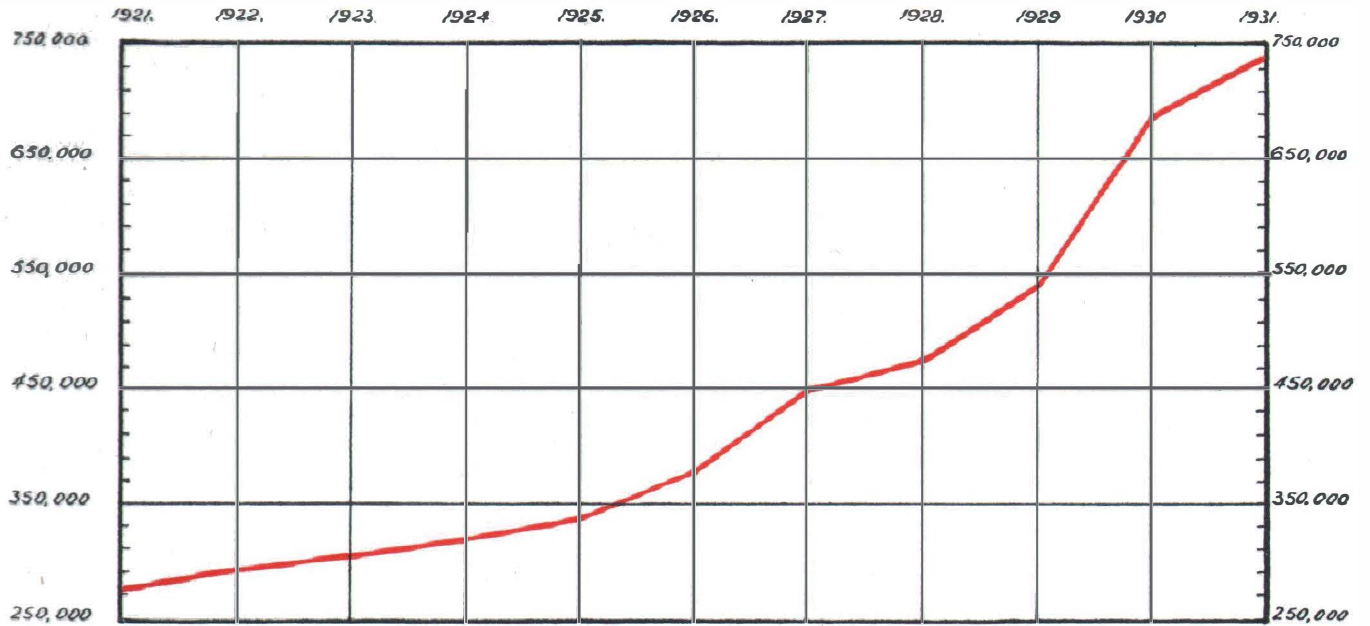
How steadily, you will see from this graph:—



HERE ARE THE FACTS

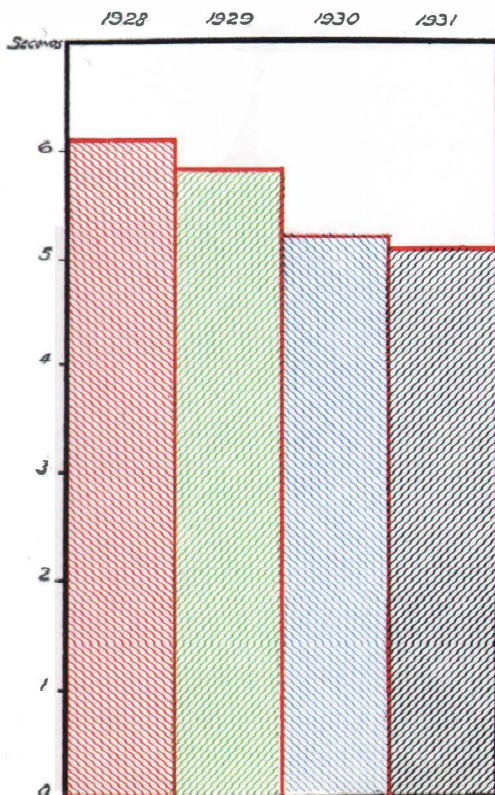
about the operating efficiency of the Telephone Service

This graph shows the continuous increase, throughout the last ten years, in the number of calls observed for service testing purposes. These observed calls are distributed so as to provide a true sample of the quality of the manual service over the whole country.



These extensive observations reveal steady improvement in every phase of the service provided to subscribers. Outstanding evidence of this improvement is to be seen in the figures showing:—

The reduction in the average time (in seconds) from the lifting of the receiver till the operator answers. (Manual exchanges).



The reduction in the average time (in seconds) from the lifting of the receiver till the called subscriber answers. (Manual exchanges).



The reduction, in relation to the number of calls made, in the number of complaints regarding service made by subscribers.

Year	Number of Calls made (in millions)	Number of Complaints per 100,000 calls	Number of Calls to each Complaint
1922	705	7.6	13,160
1923	812	7.8	12,800
1924	916	7.1	14,000
1925	1,000	6.5	15,400
1926	1,069	5.5	18,000
1927	1,151	5.3	18,900
1928	1,239	5.3	18,900
1929	1,317	5.3	18,900
1930	1,361	5	20,000
1931	1,411	4.5	22,200

SOME FACTS ABOUT TELEPHONE COSTS ABROAD

Exact comparisons are difficult to make, partly owing to variations in such factors as cost of living and rate of exchange, and partly owing to wide differences in tariffs and methods of charging, not only in different countries, but, in some cases, in the same country. In the United States, for instance, there are thousands of separate companies operating telephones, and rates vary from town to town.

This table puts into comparative form the charges involved in the main residence tariffs in five large cities. *Prices are converted into sterling at par of exchange.*

	Charge on installation.	Minimum annual charge.	Number of calls included in minimum annual charge.	Charge per local call over the number included in minimum annual charge.
London	Nil.	£6 10 0	None	1d.
New York	£1 0 7	£10 9 7	792	2d. to 2½d.
Paris	£8 5 0	£8 10 0	1,500	¾d.
Berlin	£4 0 0	£4 4 0	480	1¼d.
Stockholm	£1 7 6	£4 8 0	1,200	½d. (1)

(1) Extra calls in Stockholm must be paid for in blocks of at least 1,300 at a time.

NOTE THESE IMPORTANT POINTS ABOUT THE BRITISH TARIFF

1. *The initial installation is done absolutely free.* The practice of making a charge for installation is common outside this country.
2. *No subscriber is asked to pay for any more calls than the exact number which he makes.* In most other countries the subscriber must pay for a certain number of calls whether he uses them or not.
3. *99% of subscribers in this country are given continuous day-and-night service.* In most Continental countries night service is given only in the larger towns. In many small and middle-sized towns not only is no night service given but the day service is also restricted.

This means that the night service in larger towns is less valuable because fewer places outside can be reached.

4. *Practically every rural subscriber in this country is given a service equal in every respect to that given to subscribers in the largest cities.* Rural companies abroad which offer very low rates often operate systems of poor construction, employing single wires with earth returns, and giving an inefficient and unreliable service. In some cases the subscribers themselves have to supply part of the plant or arrange for the operating.