N° 10,341 A.D. 1911

Date of Application, 28th Apr., 1911—Accepted, 13th July, 1911

COMPLETE SPECIFICATION.

Improvements in Subscriber's Instruments for Automatic Telephones.

We, SIEMENS BROTHERS & Co., LIMITED, of Caxton House, Westminster, S.W., in the County of London, Electrical Engineers, do hereby declare the nature of this invention (as communicated to me from abroad by Siemens & Halske Aktiengesellschaft, of Askanischer Platz 3, Berlin, S.W., in the Empire of Germany, Electrical Engineers,) and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to means for operating the subscribers' number dials for automatic telephones from more than one position. In previous constructions of these instruments, it has only been possible to transmit the required current impulses when the operator is opposite the number dial, but it may be often convenient to work the instrument from other positions, for example when sitting at the table on the side away from the dial.

Means are provided in the present invention for this purpose either by mounting the instrument so that it can readily be turned round into any position, or by providing two or more number dials, which can be placed in different positions and connected by suitable means to the fixed impulse transmitter.

In the former plan the instrument revolves on a fixed base and the arrangements allow of a connection by flexible leads, sliding contacts or other known means, between the terminals on the fixed base and the movable set. In the latter plan the number dials may be placed in any relative positions, for instance, there may be two opposite to each other. The dials are so connected to the impulse transmitter that they can always be operated in the same direction, for instance in the clock-wise direction as seen by one facing the dial. Constructions for carrying out the invention are shown in the accompanying drawing in which Fig. 1 is an elevation partly in section of a table instrument with a fixed base on which it can revolve.

Fig. 2 is a plan of the base of the instrument set,

Fig. 3 is a perspective view of an instrument with two number dials opposite to each other,

Fig. 4 is a sectional elevation of the same instrument set.

In Figures 1 and 2 a table instrument T, which may be of any suitable form, is provided with a number dial F. A pin Z fixed to the underside of the base of the instrument turns in a bearing B of the fixed base S and allows the instrument to be turned into any desired position.

To prevent the operation of the number dial from turning the instrument set on its base, a device must be provided for holding it in different positions; in the example shown this is effected by means of a disc *r* with indentations *e* fixed to the pin Z; a roller *k* carried by an arm under the pressure of a fixed spring engages in the indentations *e* with sufficient force to prevent the instrument from revolving under the operation of the number dial, but allows of the change of position of the instrument when additional turning force is applied for this purpose. Springs *f* may also be fitted to the base for an additional braking action on the disc *r*. If desired other means could be employed. For instance, the instrument could be locked to its base in any suitable manner and released when it was required to turn it into another position.

[*Price* 8*d*.]

The leads from the exchange can be brought to terminals on the fixed base, and flexible leads can pass through an opening *b* and a slot in the movable base of the instrument; to prevent injury to these leads by more than one revolution in the same direction of the instrument set, projections on one of the moving parts, the disc *r* as shown, engage with fixed stops *s* and limit the rotation in either direction. Such stops are not needed when the external leads are connected to slip rings fixed to the platform and the instrument leads are connected to brushes sliding on these rings.

Figs. 3 and 4 illustrate the method in which the instrument set is fixed, but in which two or more number dials are provided which can be operated from different positions; in the example shown two number dials *c* and *d* are arranged at opposite sides of the case *b* and are adapted to turn the common impulse transmitter *a*. As shown in Fig. 4, the dial *c* is directly connected to the spindle of the impulse transmitter, while the dial *d* is connected with the same spindle by means of the gear wheels *e*, geared in such a manner that when one dial is rotated, it causes the other dial to turn in the opposite direction, so that when either dial is rotated in the clockwise direction by one facing the dial, the impulse transmitter is rotated the same way.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Number dial instruments for automatic telephone installations in which special means are provided to facilitate operating the instrument from more than one position.
2. The device for the object referred to in Claim 1, by which the instrument is adapted to rotate on a fixed base.
3. In the arrangement referred to in Claim 2, a holding device to prevent rotation of the instrument set during the operation of the number dial.
4. In the arrangement referred to in Claim 2 the method of limiting the rotation of the instrument set in either direction, substantially as described.
5. For the purpose referred to in Claim 1, two or more number dials in different positions adapted to operate an impulse transmitter common to all the dials.
6. The method of connecting the number dials of Claim 5 to the impulse transmitter, so that the latter is rotated in the same direction when any dial is turned in the clockwise direction, substantially as described.

Dated this 27th day of April, 1911.

ABEL & IMRAY,
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Agents for the Applicants.

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SIEMENS, BROS. & CO.'S Complete Specification.

(1 SHEET)

Fig. 1.

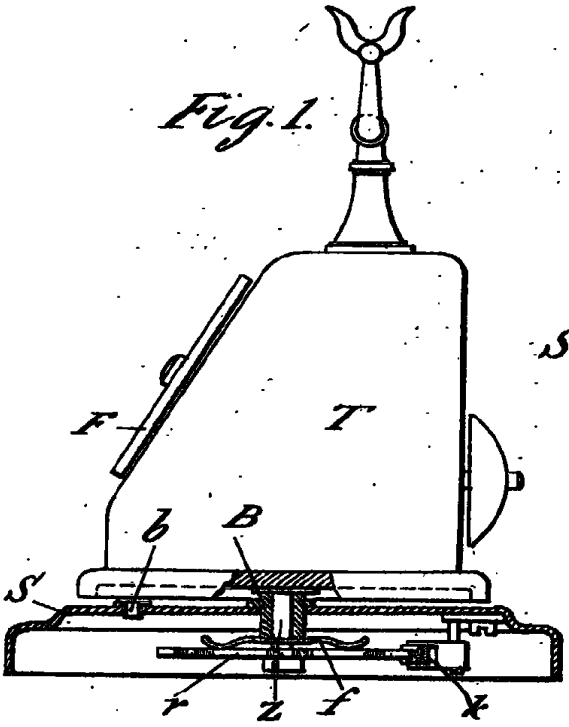


Fig. 2.

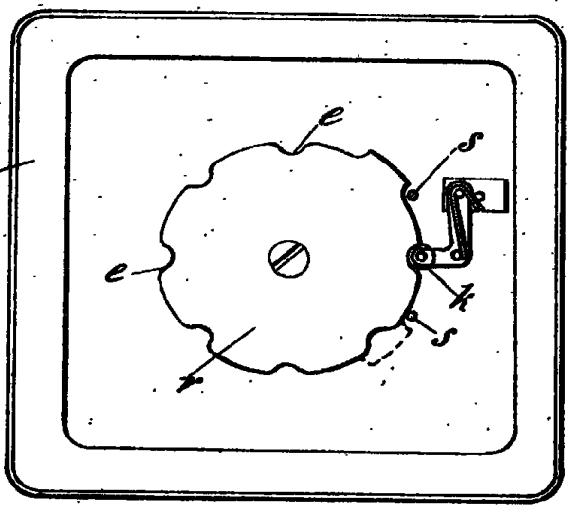


Fig. 3.

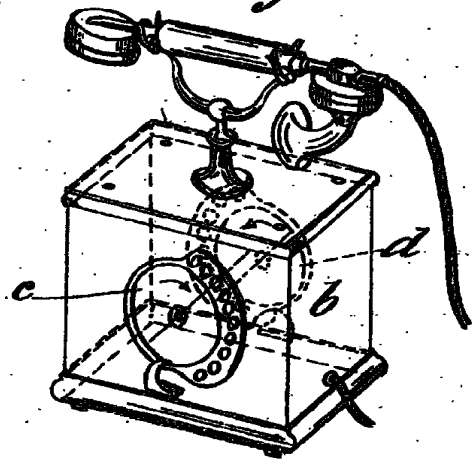
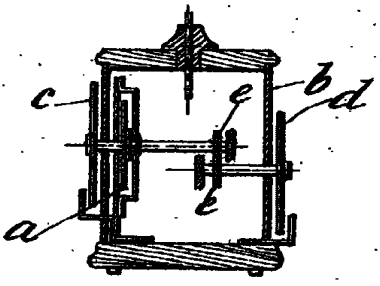


Fig. 4.



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SIEMENS BROS.' DYNAMO WORKS [LTD.] Complete Specification. (1 SHEET)

Fig. 1.

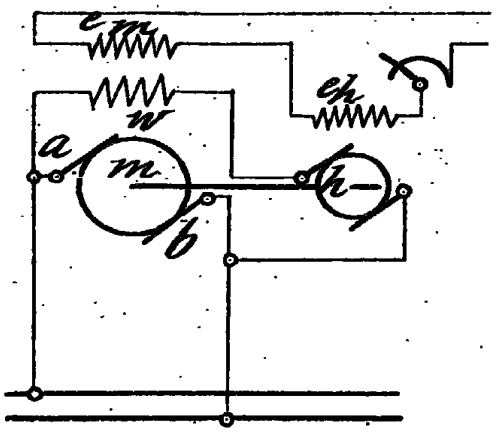

Fig. 2.

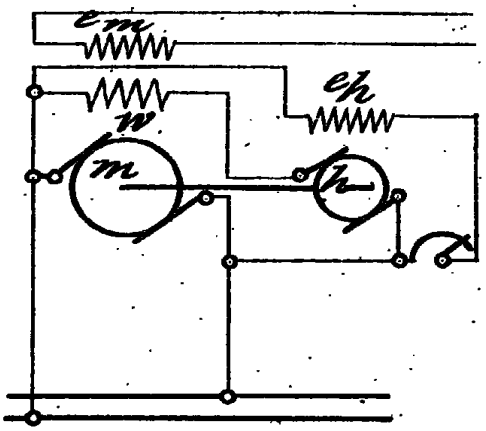

Fig. 3.

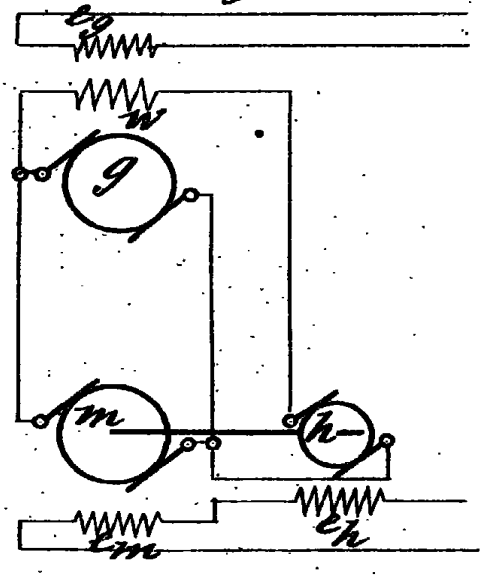

Fig. 4.