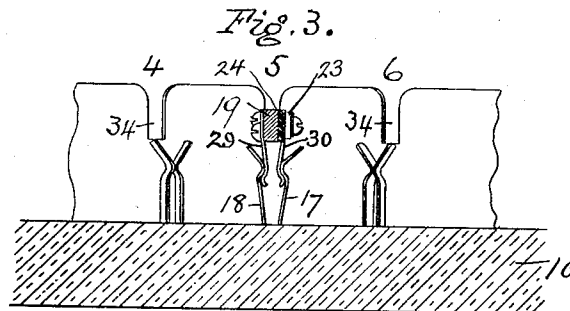
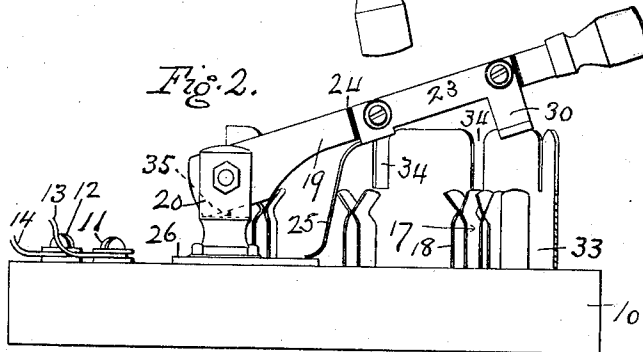
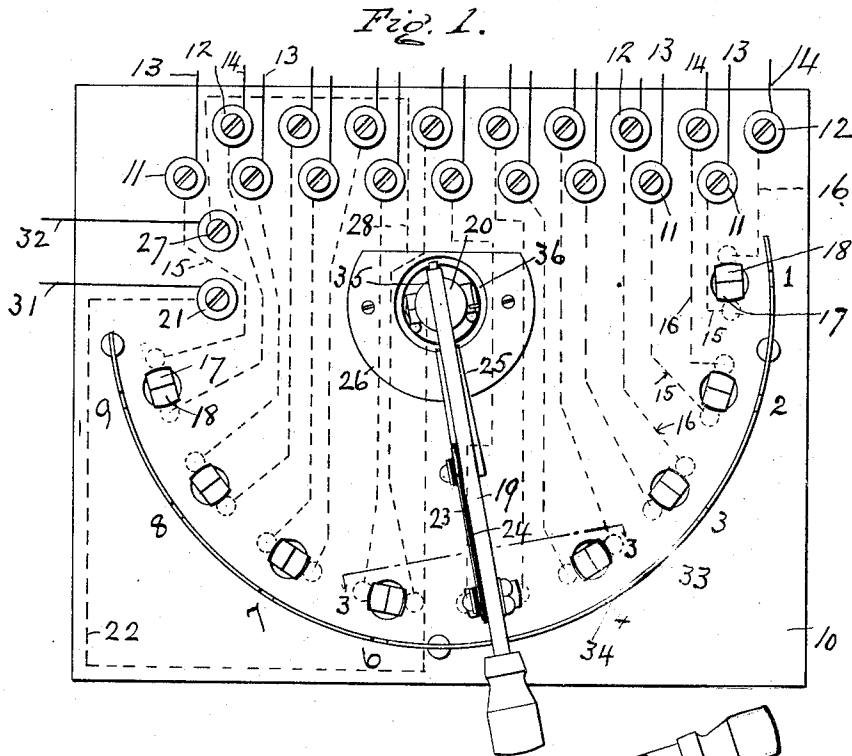


R. L. RAMSAY.
ELECTRIC SWITCH.
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1,046,854.

Patented Dec. 10, 1912.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

1,046,854.

Specification of Letters Patent.

Patented Dec. 10, 1912.

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To all whom it may concern:

Be it known that I, ROBERT L. RAMSAY, a citizen of the United States of America, and residing at Corpus Christi, in the county of Nueces and State of Texas, have invented a certain new and Improved Electric Switch, of which the following is a specification.

My invention relates to switches and particularly to switches for telegraphic or like service, the object of my invention being to provide a compact device for establishing connection between a telegraphic instrument or the like and any one of a number of line circuits.

In the accompanying drawings Figure 1 is a plan of my switch in one form; Fig. 2 is a side elevation partially in section; and Fig. 3 is a cross section on the line 3—3, Fig. 1.

The usual practice in telegraph stations where several lines enter is to provide a main switch board to accommodate all the entering lines, and usually a smaller number of instruments than lines, according to the business done at the office. It has also been the practice in many cases to use what is known as a table or auxiliary switch at the operator's desk, consisting of a series of jacks connected to the lines usually employed in the business of that office, and a cord and wedge connection to a single set of working instruments which may be connected up with any of the jack lines by inserting the wedge in the jack of the particular line called. This arrangement, however, in addition to being clumsy, is the source of much trouble, chiefly due to imperfections developing in the conductor of the cord. Pivoted switches have also been designed to replace this jack and cord connection but those heretofore suggested have been of too complicated structure to be of much practical value and have not gone into general use.

The present device is an extremely simple and readily made switch designed to avoid the objections and difficulties noted as well as presenting certain advantages novel thereto. In the form shown my improved switch comprises a base 10 with a series of pairs of binding screws 11—12 mounted thereon and adapted to receive a series of pairs of line wires 13—14, led, if preferred,

through the usual main entrance switch. Each pair of binding screws is connected on the under side of the base by conductors 15—16 (here shown diagrammatically in dotted lines) to a pair of spring terminals 17—18 preferably arranged in an arc on the base, as shown. The switch blade 19 is pivoted on the swiveling post 20 which is at the center of the arc of terminals 17—18 and is connected to the binding screw 21 in any suitable way, as shown diagrammatically at 22. The blade 19 carries a plate 23 insulated therefrom by non-conducting material 24 and contacting through the spring leg 25 with the ring 26 which surrounds the post 20, but is insulated therefrom by the intervening space 36. Connection between the ring 26 and the binding screw 27 may be established in any suitable way, as diagrammatically illustrated at 28.

Spring engaging fingers 29—30, respectively in contact with the blade 19 and plate 23, are shaped to spread and interlock with the terminals 17 and 18, establishing contact therewith and thus leading the current therefrom to the binding screws 21 and 27. If now a telegraphic instrument, such as a key or sounder, be placed in the branch circuit of the wires 31—32 from the posts 21—27 it is obvious that it may be used on any of the series of lines 13—14 by merely shifting the switch blade 19 from one pair of terminals 17—18 to another of the series mounted on the base.

A stop plate 33 with notches 34 corresponding with the pairs of terminals 17—18 is preferably provided to limit the depth of the insertion of the blade, thus to prevent the leg 25 overrunning the inner edge of ring 26. Furthermore, it will be noted from Fig. 2 that the spring leg 25 supports the blade in the out-of-contact position while maintaining it in convenient position to shift it to the desired pair of line clips and thus establish a line circuit connection. It will be noted also that the inner end of the blade 19 engages with the bottom of the slot 35, in the post 20, before the free end of the blade can be lifted high enough to raise the spring leg 25 from the ring 26. Not only is the spring leg thus kept constantly in contact with the ring, but all danger of deforming the same by contacting with the

edge of the ring instead of its face on the depression of the blade is thus avoided.

When the line circuit is normally closed, and the sounder is operated by temporarily breaking the circuit, as is now usual, it is a feature of noticeable merit in the present device, that the making and breaking of the connection, to the telegraphic instrument, through the switch blade 19 and plate 23 is accomplished without interrupting the line circuit. Obviously also there can be no interference between two lines, inasmuch as the blade contacts 29—30 can only engage with the terminals 17 and 18 of a single line. The switch is easily operated, difficult to put out of order and perfectly adapted to its service.

Other modifications of the structure will readily suggest themselves, that do not depart from my invention, as pointed out in the following claims.

I claim as my invention:—

1. A device of the type described, comprising a series of pairs of normally engaged terminals for a series of line circuits, a branch circuit and a pivoted switch member in said branch circuit having insulated conductors to engage and separate the terminals of any one pair of line terminals whereby the branch circuit is connected with any one of the series of line circuits.

2. A device of the type described, comprising a series of pairs of normally engaged spring contacts for a series of line circuits, a branch circuit and a switch member in the latter, having insulated conductors for engaging and separating the spring contacts in any one of said line circuits whereby the branch circuit is brought into line circuit.

3. A device of the character described, comprising a base, a plurality of pairs of normally engaged spring terminals for a series of line circuits arranged in an arc thereon, a swiveling switch member mounted on said base and having insulated conductors for engaging and separating any one pair of said line terminals, in combination with connections from the conductors of said switch member to terminals for a branch line.

4. In a device of the character described, a swiveling post and a terminal ring insulated therefrom, in combination with a switch arm comprising a switch blade pivoted to said post, a plate insulated from but carried by said blade and means for electrically connecting said plate to said ring, together with means carried by said blade and plate for engaging spring terminals, for the purpose specified.

5. In a device of the character described, a swiveling post and a terminal ring around the same, in combination with a switch arm comprising a switch blade pivoted to said post, a plate insulated from but carried by

said blade and a spring leg extending from said plate to said ring to electrically connect the latter, substantially as described.

6. In a device of the character described, a swiveling post and a terminal ring insulated therefrom, in combination with a switch arm comprising a switch blade pivoted to said post, a plate insulated from but carried by said blade and means for electrically connecting said plate to said ring together with spring fingers connected to said blade and plate for engaging spring terminals.

7. In a device of the character described, a swiveling post and a terminal ring around the same, in combination with a switch arm comprising a switch blade pivoted to said post, a plate insulated from but carried by said blade and a spring leg extending from said plate to said ring to electrically connect the latter, and means to limit the extent to which said blade may be swung upward on its pivot, for the purpose specified.

8. In a device of the character described, a swiveling post and a terminal ring around the same, in combination with a switch arm comprising a switch blade pivoted to said post, a plate insulated from but carried by said blade and a spring leg extending from said plate to said ring to electrically connect the latter, and means to limit the vertical angular displacement of said switch blade in either direction whereby said leg is prevented from overrunning the edges of the said ring.

9. A device of the character described, comprising a base, a plurality of pairs of normally engaged spring terminals for a series of line circuits arranged in an arc thereon, a switch arm having insulated contacts adapted to engage and separate a pair of said line terminals, said switch arm being pivoted on both vertical and horizontal axes, whereby it may be swung into position to engage any of said pairs of line terminals and then pressed down into engaging position.

10. A device of the character described, comprising a base, a plurality of pairs of normally engaged spring terminals for a series of line circuits arranged in an arc thereon, a switch arm having insulated contacts adapted to engage and separate a pair of said line terminals, said switch arm being pivoted on both vertical and horizontal axes whereby it may be swung into position to engage any of said pairs of line terminals and then pressed down into engaging position, together with means for maintaining said switch arm normally in disengaged position.

11. A device of the character described, comprising a base, a plurality of pairs of normally engaged spring terminals for a series of line circuits arranged in an arc there-

on, a switch arm having insulated contacts adapted to engage and separate a pair of said line terminals, said switch arm being pivoted on both vertical and horizontal axes
5 whereby it may be swung into position to engage any of said pairs of line terminals and then pressed down into engaging position, together with means for maintaining said switch arm normally in disengaged po-
10 sition, said cooperating switch arm and line

terminals being shaped to interlock and thus hold the same in contact after having been brought into engagement.

In testimony whereof I have signed my name to this specification, in the presence of 15 two subscribing witnesses.

ROBERT L. RAMSAY.

Witnesses:

W. H. FARMER,

V. G. THOMAS.
