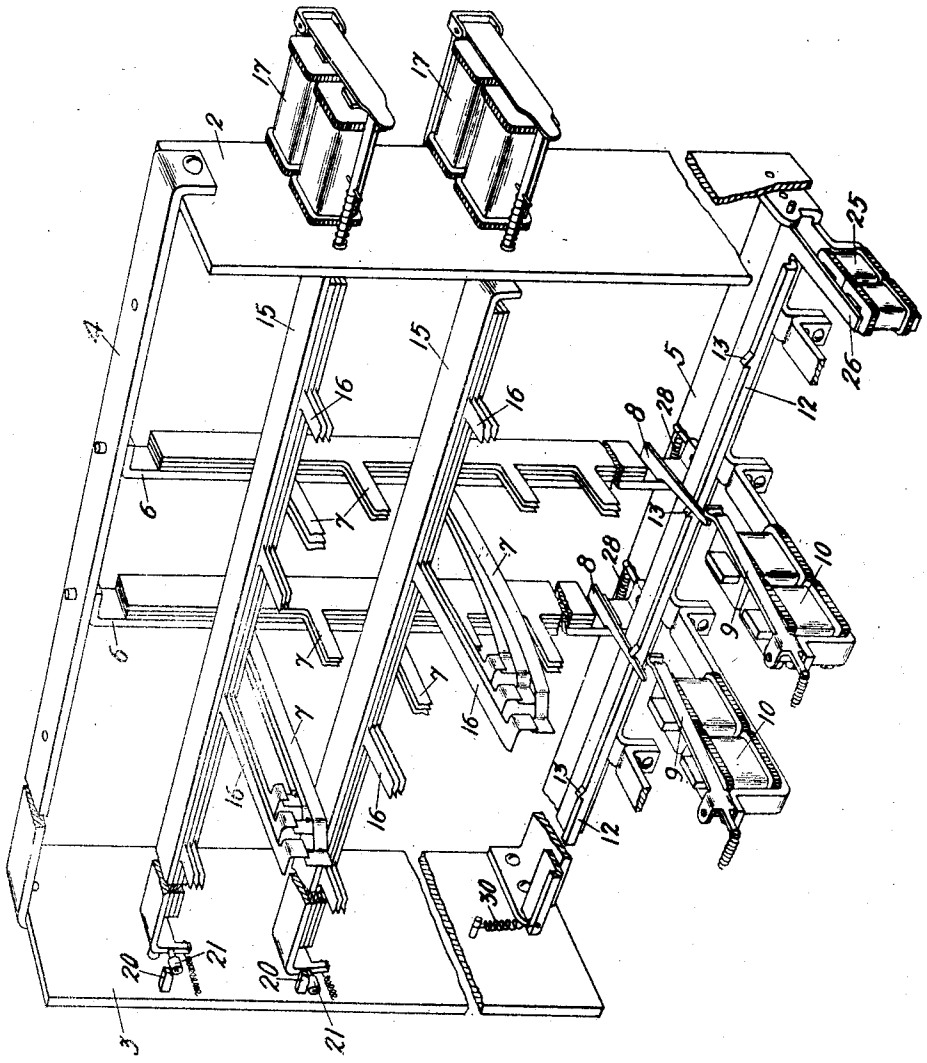
J. N. REYNOLDS.

SWITCH MECHANISM.

APPLICATION FILED MAY 22, 1916.

1,215,859.

Patented Feb. 13, 1917.



Inventor:
John N. Reynolds.
by A. C. Fraser. Atty.

UNITED STATES PATENT OFFICE.

JOHN NEWBERRY REYNOLDS, OF GREENWICH, CONNECTICUT, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SWITCH MECHANISM.

1,215,859. Specification of Letters Patent. Patented Feb. 13, 1917.

Application filed May 22, 1916. Serial No. 99,115.

To all whom it may concern:

Be it known that I, JOHN NEWBERRY REYNOLDS, a citizen of the United States, residing at Greenwich, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Switch Mechanisms, of which the following is a full, clear, concise, and exact description.

This invention relates to telephone switch mechanism, and more particularly to improvements in switch mechanisms such as shown in Patent No. 1,131,734 of March 16, 1915, in which circuit connections are established through the agency of two sets of relatively movable contact members carried by movable bars hereinafter termed trunk and line bars. The trunk bars are adapted to be selectively displaced to bring their contacts into position to be engaged by contacts upon a line bar, the engagement between contacts of an operated line bar and trunk bar causing said trunk bar to be swung to a position where the contacts will be out of line of engagement with the contacts of subsequently operated line bars. In the switch shown in the Patent 1,131,734 there is an individual latching means for each trunk bar, controlled by a common operating means to cause the preselective operation of a trunk bar, and individual releasing magnets for restoring the trunk bar when taken for use.

The object of this invention is to simplify the structure and improve the operation of such switches.

In accordance with the general features of this invention, there is provided a common latching and releasing bar for the trunk members with a single magnet which in the operation of the switch is operated to release the latched trunk bar. Individual magnets are provided for setting the trunk bars into latched position.

The drawing is a perspective view, with parts broken away, of a switch embodying the features of this invention.

As shown in the drawing, there is a frame comprising end members 2 and 3, and top and bottom members 4 and 5. Pivotally supported in the top and bottom members 4 and 5 are trunk bars 6—6, each carrying a plurality of sets of contact members 7—7. At their lower ends, each of the trunk bars is provided with a projecting latching member 8, adapted to be engaged by an armature 9 of an electromagnet 10, individual to each of said trunk bars. Extending longitudinally of the frame is a swinging latch plate 12, having projections 13—13 thereon, adapted to engage the latch member 8 of a displaced trunk bar to retain it temporarily in such displaced position. Pivotally supported in the end frame members 2 and 3 are line bars 15—15, each provided with a plurality of sets of contacts 16—16, the said line bars 15—15 being adapted to be moved longitudinally by means of electromagnets 17—17, and to be rotated through a slight angle to bring the contacts 16 thereon into engagement with the contacts 7 of a displaced trunk bar. The line bars are swung through an angle by means of a cam projection 20, secured to the end frame member 3, and which is engaged by a projecting member 21, secured to the end of the line bar 15 adjacent the frame member 3.

Located at one end of the frame is an electromagnet 25, adapted when energized to attract a projection 26 on the latch plate 12 to swing said latch plate to a position where the latch member 8 of a displaced trunk bar will be released from its held position.

Each trunk bar is adapted to be displaced against the tension of a spring 28 which operates when the trunk bar is released from its latched position to return it to a normal position, where the sets of contacts 7—7 thereon are out of position to be engaged by the sets of contacts 16—16, carried by the line bars.

The operation of the electromagnet 25 swings the latch plate 12 against the tension of a spring 30, which, when the magnet 25 is deënergized, returns the latch plate to position, where the projections 13—13 thereon will be in a position to engage and hold a displaced latched member 8 on one of the trunk bars 6.

What is claimed is:

1. In a connecting switch, a plurality of trunk bars, contacts on said trunk bars, a plurality of line bars, contacts on said line bars adapted to engage the contacts on said trunk bars, individual means for displacing each of said trunk bars into position to have its contacts engaged by the contacts of said line bars, and a latching plate common to all of said trunk bars for retaining a trunk bar in displaced position.

2. In a connecting switch, a plurality of trunk bars, contacts on said bars, a plurality of line bars, contacts on said line bars adapted to engage with the contacts on said trunk bars, an individual electromagnet for each trunk bar adapted to move it into position to have its contacts engaged by the contacts of said line bars, a movable latching bar common to all of said trunk bars for latching said trunk bars in displaced position, and an electromagnet for operating said latch bar to release a displaced one of said trunk bars when the contacts thereon are in engagement with the contacts on a line bar.

3. In a connecting switch, a plurality of trunk bars, contacts carried by said trunk bars, a plurality of line bars, contacts on said line bars adapted to engage the contacts on said trunk bars, a latch member on each of said trunk bars, an electromagnet individual to each of said trunk bars, an armature for said electromagnet adapted when said electromagnet is energized to engage said latch member and move said trunk bar into a displaced position, a swinging latch plate common to all of said trunk bars, projections thereon adapted to be engaged by the latch member of a displaced trunk bar, and a releasing magnet for swinging said latch plate to release the latch member of a displaced trunk bar.

In witness whereof, I hereunto subscribe my name this 18th day of May A. D., 1916.

JOHN NEWBERRY REYNOLDS.