

April 7, 1925.

W. H. PETERSEN

1,532,200

PLUG CONTACT

Filed Jan. 11, 1923

Fig.1

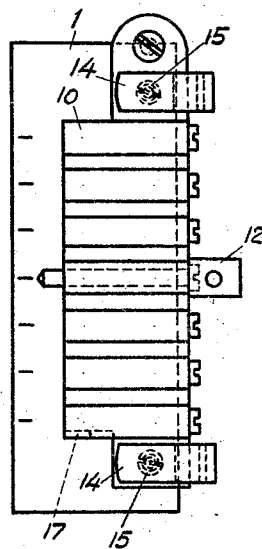
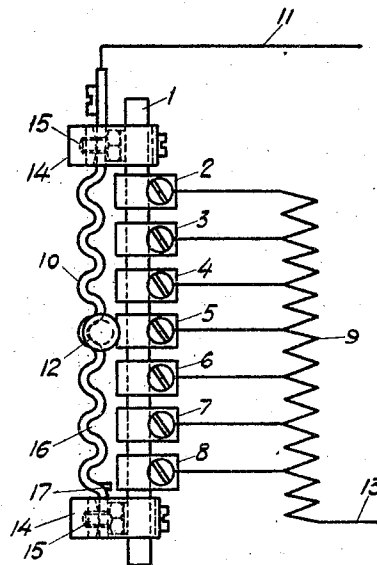


Fig.2.



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UNITED STATES PATENT OFFICE.

WILHELM HENNING PETERSÉN, OF GAMLA POSTEN, LUDVIKA, SWEDEN.

PLUG CONTACT.

Application filed January 11, 1923. Serial No. 611,991.

To all whom it may concern:

Be it known that I, WILHELM HENNING PETERSÉN, a subject of the King of Sweden, residing at Gamla Posten, Ludvika, Sweden, have invented new and useful Improvements in Plug Contacts, of which the following is a specification.

My invention relates to plug contacts for alternatively connecting one of a series of conductors to a single conductor and more particularly to such contacts in combination with certain apparatus having several taps, for instance for connecting a smaller or larger number of turns of a coil in a circuit.

The principal object of my invention is to provide a reliable, handy and easily assembled contact device of the aforesaid kind.

Another object of my invention is to provide a contact device, which can be shifted to another position while the apparatus fed by the contact device is in circuit, without running the risk of damaging the apparatus or other devices associated thereby.

Still another object of my invention is to provide a plug contact device in which no danger is incurred, even if the plug should have been drawn out and accidentally left outside for a comparatively long time.

Still another object of my invention is to provide an apparatus the connections of which, corresponding to the position of certain contacts, can be easily read on a scale.

In the drawing, Figure 1 shows a front view of one form of the invention. Figure 2 is a corresponding side view.

Referring to the drawing, an insulating plate 1 supports a number of field conductors 2—8 each connected to a tap of a coil 9, a greater or smaller number of turns of which are intended to be connected in circuit.

Another conductor 10 is connected to the line by a wire 11 and intended to be connected to either of the conductors 2—8 by means of a plug 12. A wire 13 from the end of the coil leads to the other pole of the line.

The conducting piece is in the shape of a corrugated metal plate 10, held at both ends by springs 14 against supporting screws 15. The springs allow it to yield during the introduction of the plug 12 to facilitate this operation. The grooves or corrugations 16 determine the different positions of the plug 12 just opposite the conductors 2—8, so as

to connect in each position one of said conductors to the plate. Since the latter bears against its supporting screws 15 only at two points, it is capable of rocking and tilting about an axis formed by the straight line uniting these two points for the purpose hereinafter specified. This tilting movement is governed by the action of the springs 14 in such manner that the edge of the plate, opposite to that where the plug is introduced, is pressed inwards by said springs.

The plate 10 has an inwardly directed projection 17 near one of its corners. The place of the projection is determined by the condition that it shall form contact with the tapping conductor 9, which lies nearest to the end of the coil connected to 13, when the plug 12 is withdrawn. Thus it should lie opposite the conductor 9 and near the edge of the plate 10, which is pressed inwards by the springs. The arrangement is such that the contact between the projection 17 and the conductor 9 cannot be broken until the plug has been safely plugged into one of the corrugations of the plate 10, which is of great importance for not breaking the current through the apparatus which is generally connected to the secondary of a series transformer. With the arrangement shown, even if the plug should be completely left out for a while, no danger arises, because the smallest portion of the coil is always left in circuit, corresponding to the smallest activity of the apparatus.

The plug 12 is preferably pointed at its end and its length exceeds somewhat the width of the plate 10 so that its pointed end will project beyond the plate when properly put in place. By providing an appropriate scale, for instance in amperes, opposite the pointed end of the plug, the figure at which the apparatus has been set can be easily read from outside through a window or the like.

I claim as my invention:—

1. In plug contacts for regulating purposes, a row of fixed conductors, a metal plate having a number of grooves resiliently held at a certain distance from said fixed conductor, and a plug adapted to engage one of said grooves and to make contact with one of said fixed conductors.

2. In plug contacts for regulating purposes, a row of fixed conductors, a corrugated metal plate resiliently held at a cer-

tain distance from said fixed conductor and having its corrugations opposite thereto, and a plug adapted to engage one of said corrugations and to make contact with one
5 of said fixed conductors.

3. In plug contacts for regulating purposes, a row of fixed conductors, a metal plate having a number of grooves opposing said conductors and tiltingly supported at
10 a distance therefrom, a plug adapted to engage one of said grooves and to make contact with the fixed conductor engaging said groove, and a fixed conductor making contact with said metal plate when the plug is
15 withdrawn.

4. In plug contacts for regulating purposes, a row of fixed conductors, a conductor having a number of recesses opposing said conductors and capable of tilting
20 around an axis substantially parallel to the direction of the row, and a plug adapted to engage one of said recesses and to make contact with one of said fixed conductors.

5. In apparatus having a plurality of plug contacts, a conductor having taps, a row of
25 conductors connected to said taps, a conductor movably supported opposite said row, a plug normally holding said movable conductor at a distance from said row, but electrically connecting it to one conductor
30 of said row, and a portion of said movable conductor making contact with the fixed conductor of said row when said plug is withdrawn.

6. In apparatus having a plurality of plug
35 contacts, a conductor having taps, a row of conductors connected to said taps, a recessed conductor supported opposite said row so as to be tilted under spring action, a plug to be inserted between said conduc-
40 tors, and a scale showing the position of the plug.

In testimony whereof I have signed my name to this specification.

WILHELM HENNING PETERSÉN.