Aug. 3, 1937. C. W. OLIVER 2,089,165

TWO-PART ELECTRICAL SWITCH

Filed Feb. 25, 1936

FIG. 1.

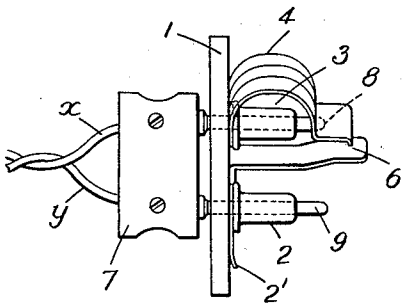


FIG. 2.

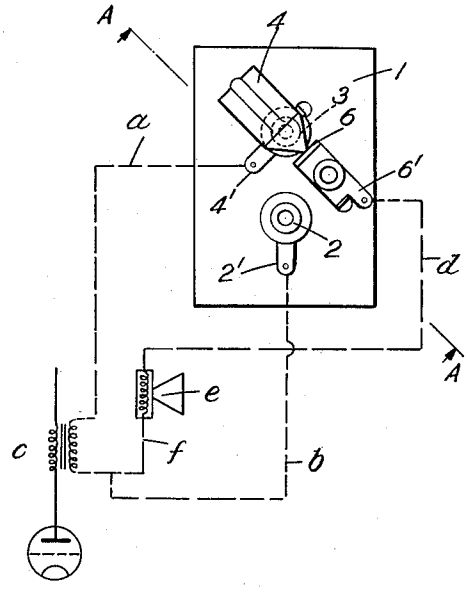


FIG. 3.

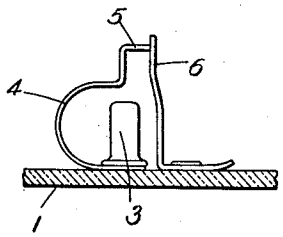
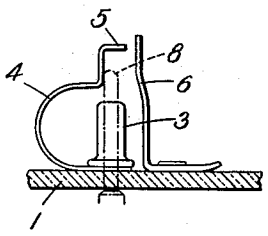


FIG. 4.



Inventor:
Charles William Oliver
by Walter S. Jones
Atty.

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TWO-PART ELECTRICAL SWITCH

Charles William Oliver, London, England, assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Massachusetts

Application February 25, 1936, Serial No. 65,620
In Great Britain March 13, 1935

3 Claims. (Cl. 179—1)

This invention relates to two part electrical couplings for use with thermionic valve circuits.

According to the invention in a two part electrical coupling for use with thermionic valve circuits one part comprises a base having two metallic sockets one of which is permanently connected with a resilient contact member adapted normally to engage with a contact member mounted on the base independently of the sockets and the other part comprises a plug member adapted to be inserted into said sockets in two stages, the second stage of its insertion effecting the separation of the said engaging contact members.

To enable the invention to be fully understood it will now be described with reference to the accompanying drawing in which the coupling is described as used for connecting an extension loud speaker to the output circuit of a thermionic valve receiver and in which:—

Fig. 1 is a side elevation of the socket member of the coupling with the plug inserted;

Fig. 2 is a plan view of the socket showing wiring connections with the output circuit of a thermionic valve receiver or amplifier;

Fig. 3 is a sectional elevation on line A—A of Fig. 2; and

Fig. 4 is a similar view to Fig. 3 but with the plug inserted.

As shown, a base 1 of insulating material is provided with metallic sockets 2, 3. The socket 2 has a wiring tag 2' at its base and the socket 3 has a contact strip 4 in electrical contact therewith. The strip 4 comprises a bowed portion, one end of which is clamped between the socket 3 and the base 1 and the other end of which projects over the upper end of the socket and is provided with an extension terminating in a contact tip 5. Due to the spring effect of the bowed portion, the tip 5 is normally urged into engagement with a second contact strip 6 mounted on the base 1. The contact strips 4 and 6 are provided at their base with wiring tags 4', 6' and are positioned on the base 1 by locating fingers adapted to enter apertures in the base.

The plug member of the coupling comprises a block 7 having a pair of pins 8, 9 adapted to be inserted through holes in the base 1 into the sockets 2, 3. Leads x and y from a loud speaker or headphones are connected to the plug in the usual way.

As shown in Fig. 2, the wiring tags 2', 4' are connected by conductors a, b to the terminals of the output circuit c of a thermionic valve receiver or amplifier diagrammatically indicated at c. The wiring tag 6' is connected by the conductor d to one terminal of a loud-speaker e another terminal of which is connected to the same side of the output circuit as the conductor b. It will be seen therefore that before the plug is inserted in the sockets the loud-speaker e is coupled to the output circuit. When the plug is inserted to its fullest extent the pin 8 will engage with the contact strip 4 and separate it from the strip 6 to break the circuit between the output circuit of the receiver and the loud-speaker e. At the same time the loud-speaker or headphones whose leads x, y are connected with the plug 7 will be coupled to the output circuit through sockets 2, 3, pins 8, 9, conductors a, b.

If, however, the plug is not fully inserted, that is to say, not to an extent where the pin 8 will separate the contact strips 4 and 6, the second or extension loud speaker or headphones will be connected in parallel with the loud speaker e and both will be operated by the output circuit simultaneously.

It will be noted that the arrangement of the coupling ensures that there is always at least one speaker in operation.

When the coupling is used for connecting an electrical pick-up of a gramophone, the plug is connected with the leads of the pick-up and the tags 2', 4' and 6' wired to suitable points in a receiving set so that before the plug is inserted the set functions in the ordinary way as a receiving set but when the plug is inserted to its fullest extent the receiver circuit of the set is cut out and the pick-up operatively connected with the remaining circuit or circuits.

I claim:—

1. A two part electrical coupling for use with thermionic valve circuits, one part comprising a base having two metallic sockets, one of which is permanently connected with a resilient contact member adapted normally to engage with a contact member mounted on the base independently of the sockets and the other part comprising a plug member having metal pin members adapted to be inserted into said sockets in two stages, the second stage of insertion effecting the separation of the said engaging contact members.

2. A two part coupling according to claim 1 wherein the sockets and contact members are connected with the output circuit of a thermionic valve receiving or amplifying apparatus and the plug member is connected with a loud-speaker or pair of head-phones, the arrangement being such that the plug member may be inserted into the sockets to connect the loud speaker or headphones with the said output circuit in addition

to or in place of a loud-speaker originally in said circuit.

3. A two part electrical coupling for use in connection with several electrical circuits, one of said parts including a base portion, at least two socket contacts carried by said base, a pair of other contacts associated with said base and one being movable toward and away from the other for closing and opening a circuit, one of said contacts being electrically connected with one of the socket contacts and said other part comprising an electrical plug member having pin members for contacting in said socket contacts and one of said pin contacts adapted to extend through a socket contact and engage said movable contact to move it out of contact with the other of said pair of contacts for the purposes described.

CHARLES WILLIAM OLIVER.