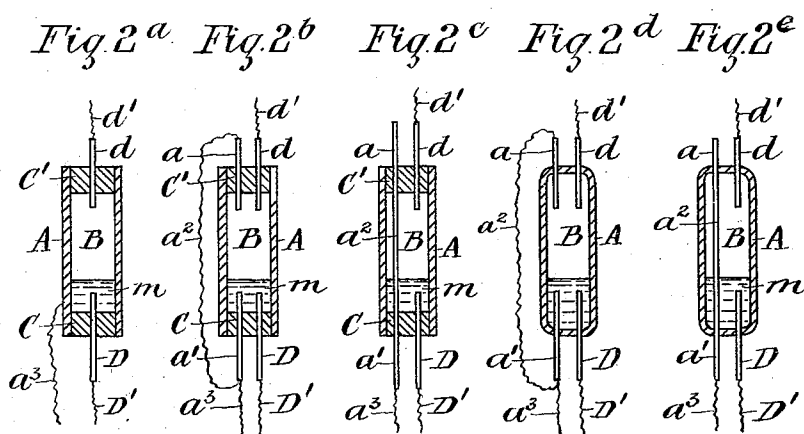
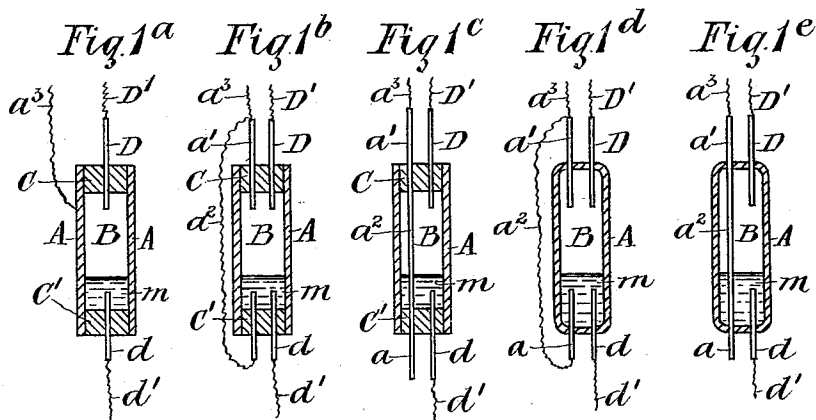


(No Model.)

P. RABBIDGE.
TELEPHONIC SWITCH APPLIANCE.

No. 489,266.

Patented Jan. 3, 1893.



Witnesses
W Walker
Gustafhiesing

Inventor
Perrnell Rabbidge

UNITED STATES PATENT OFFICE.

PARNELL RABBIDGE, OF SYDNEY, NEW SOUTH WALES.

TELEPHONIC SWITCH APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 489,266, dated January 3, 1893.

Application filed January 2, 1892. Serial No. 416,839. (No model.)

To all whom it may concern:

Be it known that I, PARNELL RABBIDGE, of Sydney, in the Colony of New South Wales, have invented new and useful Improvements in Telephonic Switch Appliances, of which the following is a full, clear, and exact description.

The object of this invention is the construction of a simple and effective switch appliance, whereby the electric current may be switched from the ringing circuit, to the speaking circuit, or vice versa, for telephonic purposes.

To facilitate description of my invention, I annex drawings, showing how I accomplish my object, and I will herein refer to same as per figures and lettering thereon.

Figures 1^a, 1^b, 1^c, 1^d, and 1^e, represent the switch in a position which I for convenience will consider normal. Figs. 2^a, 2^b, 2^c, 2^d, and 2^e, represent the switch in a position which I for convenience show in a reversed position.

A is a receptacle; B the hollow space of A, part of which is occupied by metallic mercury *m*.

C and C' are plugs or studs of some non-conducting material, through which one or more conducting points or surfaces *a'* and D, and *a* and *d* face or project into B. *a'* D *a* and *d* or surfaces *a* and *a'* are connected by a conductor *a*² either inside the receptacle as in Figs. 1^c, 1^e, 2^c and 2^e or outside the receptacle as in Figs. 1^b, 1^d, 2^b and 2^d.

a, *a'* are insulated from D and *d'*, and D and *d'* from each other.

D', *d'* and *a*³ are electrodes.

In Figs. 1^a and 2^a, A is considered as being made of some conducting material and acting as a conductor, having the electrodes *a*³ attached. In Figs. 1^b, 1^c and 2^b, 2^c, A is also considered as being made of some conducting material; but not as being used as a conductor; in this case *a'* and D and *a* and *d* are inserted into B through C and C' acting in a similar manner to *a'* and D, and *a* and *d* in Figs. 1^d, 1^e, 2^d, 2^e, in which A is considered as being made of some non-conducting material, preferably glass, through which *a'*, D, and *a* and *d* face or project into B.

When the receptacle is in the position as

shown in Figs. 1^a, 1^b, 1^c, 1^d, and 1^e, the mercury *m* is by its own gravitation at the bottom of B, connecting *a* with *d* (or A with *d* as in Fig. 1^a). When reversing the position of the receptacle as in Figs. 2^a, 2^b, 2^c, 2^d, and 2^e, the mercury *m* falls to the other end of B thereby connecting *a'* with D (or A with D as in Fig. 2^a) while breaking the connection between *a* and *d* (or A and *d* as in Fig. 2^a). Thus it will be seen that by altering the position of a receptacle containing a quantity of mercury and constructed as described, the electric current may be switched from one circuit to another through the mercury gravitating from one position to another.

This switch is to be used attached to a receiver or transmitter, so that when the position of the receiver or transmitter is altered when in operation the mercury in the switch, by gravitation, makes and breaks the necessary circuits from call to speaking apparatus.

As may readily be seen from the above description the shape and size of the receptacle, the material of which it is made and the relative position and the number of the contact surfaces or points may be varied to suit requirements, space and convenience, but the novelty of this invention for which I claim protection is:—

1. In combination with a reversible vessel, insulated end plugs, a set of contacts D *d* extending through the plugs into the vessel, mercury within the vessel, contacts *a'* *a*² and an electrical connection between them, substantially as described.

2. In combination with a reversible vessel, insulated end plugs, a pair of contacts in each end of the vessel, mercury within the vessel contacts *a* *a'* and a connection *a*² within the vessel between the contacts *a* *a'*, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PARNELL RABBIDGE.

Witnesses:

W. WALKER,
Patent Agent, Sydney.

GUSTAF DILLBERG,
E. E., Sydney.