T. E. MURRAY.

SPRING CONTACT PLATES.

APPLICATION FILED OCT. 4, 1911.

1,018,334.

Patented Feb. 20, 1912.

Fig. 1.

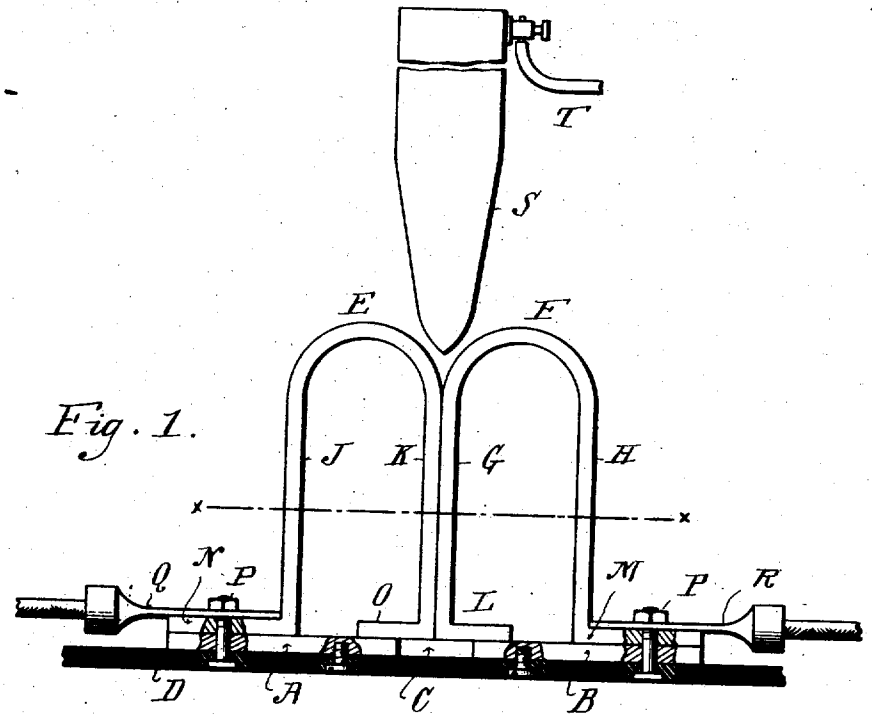
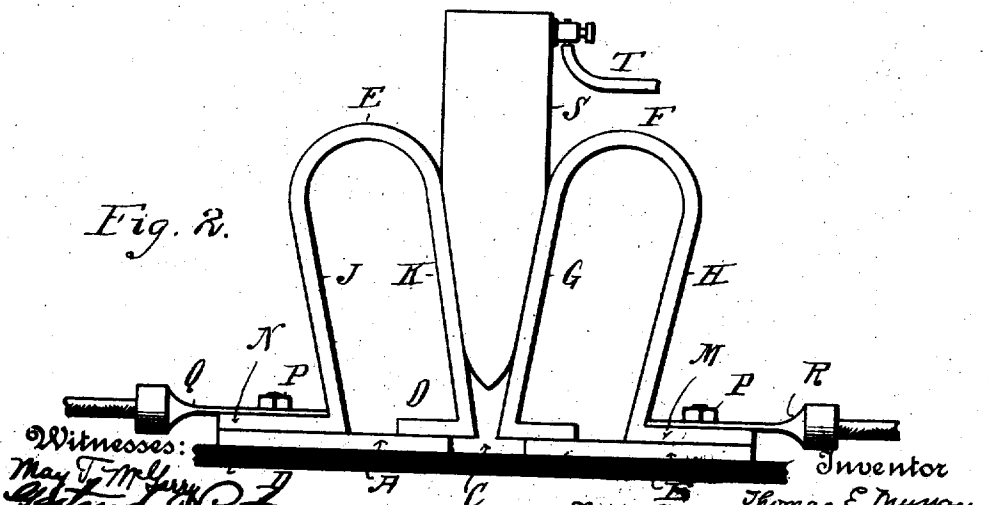


Fig. 3.

Fig. 2.



Witnesses:

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THOMAS E. MURRAY, OF NEW YORK, N. Y.

SPRING CONTACT-PLATES.

1,018,334. Specification of Letters Patent. Patented Feb. 20, 1912.

Original application filed June 29, 1911, Serial No. 636,016. Divided and this application filed October 4, 1911. Serial No. 652,794.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Spring Contact-Plates, of which the following is a specification.

The invention relates to the construction of spring contact plates, between which a conducting plug is inserted, in order to establish circuit from said plates to a branch conductor.

The invention is more especially designed for plates conveying current of large volume. The construction is such that the plates are sufficiently resilient to permit the plug to be easily introduced, while at the same time they present paths for the current of sufficient cross sectional area to enable them to convey the heavy current without undue heating.

A utilization of my present invention is described in connection with a meter testing cut-out disclosed in another application for Letters Patent, Serial No. 636,016, filed by me June 29, 1911, of which application, this application is a division.

In the accompanying drawing—Figure 1 is an elevation of my contact plates, showing their position before the plug is inserted between them. Fig. 2 is a similar view showing the position of said plates after the insertion of the plug. Fig. 3 is a cross section on line x, x of Fig. 1.

Similar letters of reference indicate like parts.

When the members of a pair of spring plates, designed to receive a plug of conducting material, are in the usual form of simple leaf springs in contact, it is difficult to adapt said plates to the conveyance of a heavy current. To give the plates a cross sectional area sufficient to convey the current without undue heating, renders them so rigid and stiff as to make their separation by the inserted plug difficult. In order to overcome this difficulty, I construct the plates as follows: A and B are fixed plates, of metal, separated at C by an air gap and secured on any suitable support D of insulating material. Each spring contact plate E, F is bent in the form of a loop, with parallel vertical portions G, H on plate F, and J, K on plate E. The ends L, M of plate F and the ends N, O of plate E are bent at right angles, the ends L, M being turned in the opposite direction to the ends N, O. The vertical portions G of plate F and K of plate E are normally in contact, and the turned ends L of plate F and O of plate E extend over the air gap C, and are free to slide respectively upon the separated fixed plates B, A. The ends M, N are respectively secured to contact plates B, A by the bolts P, which may also be used to attach the main circuit terminals Q, R to said ends.

The tapered plug S of conducting material which is connected to a branch circuit terminal T, is inserted between plates E, F, as shown in Fig. 2, the separated ends O, L then sliding on the plates A, B. The current from one main circuit terminal, as Q, then has two conducting paths; namely from end N, by the parts J, K of spring contact plate E, and by fixed plate A, to end O, and part K of said plate, to plug S. Similar paths are established from plug S, to parts G, H of spring contact plate F, to end M, and by part G and fixed plate B and end L, to said fixed plate B, and so to main circuit terminal R. In this way, a much enlarged cross sectional area is provided for the passage of the main current through the plates E, F, while at the same time the cross sectional area on line x, x, Fig. 1, of the parts J, H of said plates, which parts bend outwardly, as shown in Fig. 2, remains sufficiently small to render the plates resilient and easily separated by the plug S.

I claim:

1. A support, two insulated fixed plates thereon, and two spring contact plates in loop form: the inner legs of said loops being normally in contact and having their free extremities bearing respectively on said fixed plates, and the outer legs of said loops being secured respectively to said fixed plates.

2. A support, two fixed plates thereon having an interval between them, and two spring contact plates in loop form: the inner legs of said loops being normally in contact and having their free extremities turned at right angles to extend over said gap and to bear respectively on said fixed plates, and the outer legs of said loops being secured respectively to said fixed plates.

3. A support, two insulated fixed plates thereon, circuit terminals connected to said fixed plates, two spring contact plates in loop form, a plug of conducting material adapted to enter between said plates, and a circuit terminal connected to said plug: the inner legs of said loops being normally in contact and having their free extremities bearing respectively on said fixed plates, and the outer legs of said loops being secured respectively to said fixed plates.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. MURRAY.

Witnesses:
GERTRUDE T. PORTER,
MAY T. MCGARRY.