T. E. MURRAY.

SWITCH BLOCK.

APPLICATION FILED SEPT. 9, 1909.

956,136. Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.

Fig. 1

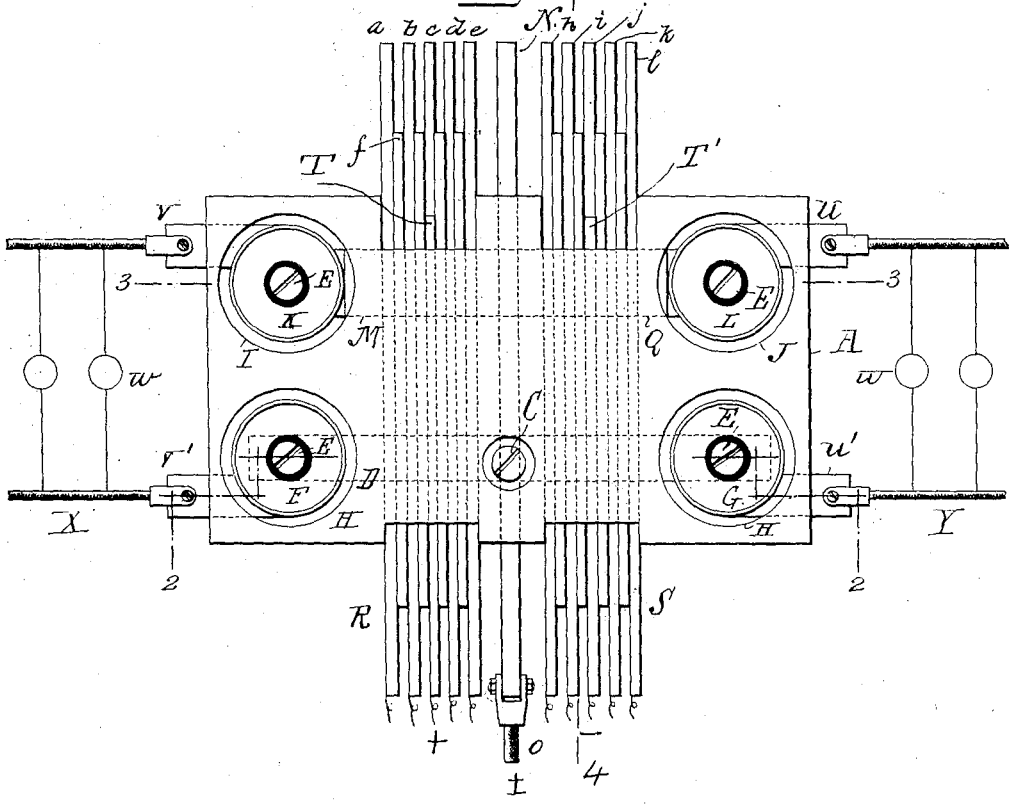
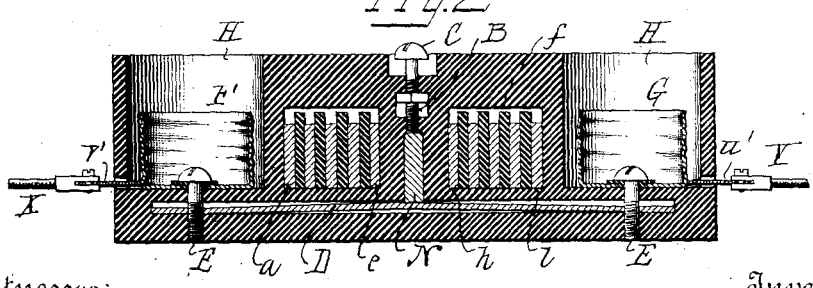


Fig. 2



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2 SHEETS—SHEET 2.

Fig. 3

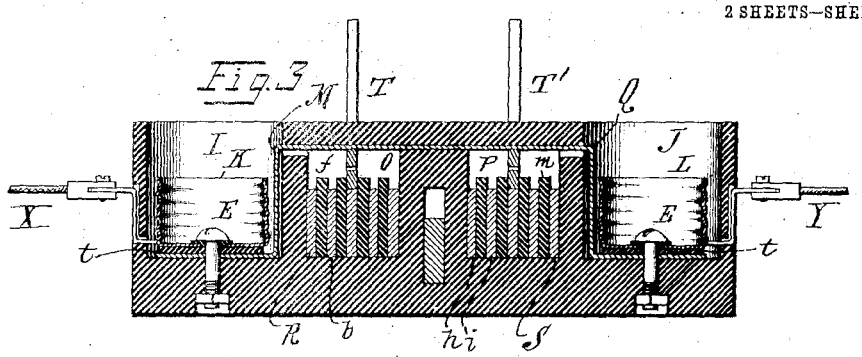


Fig. 4

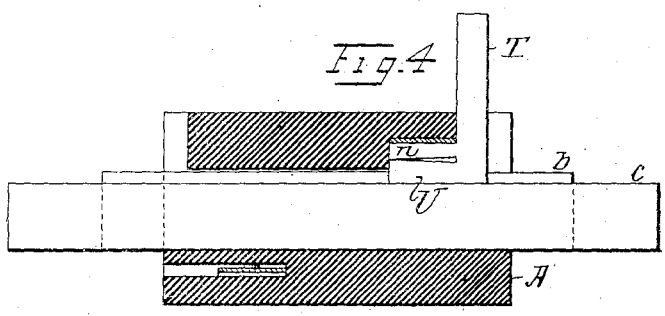
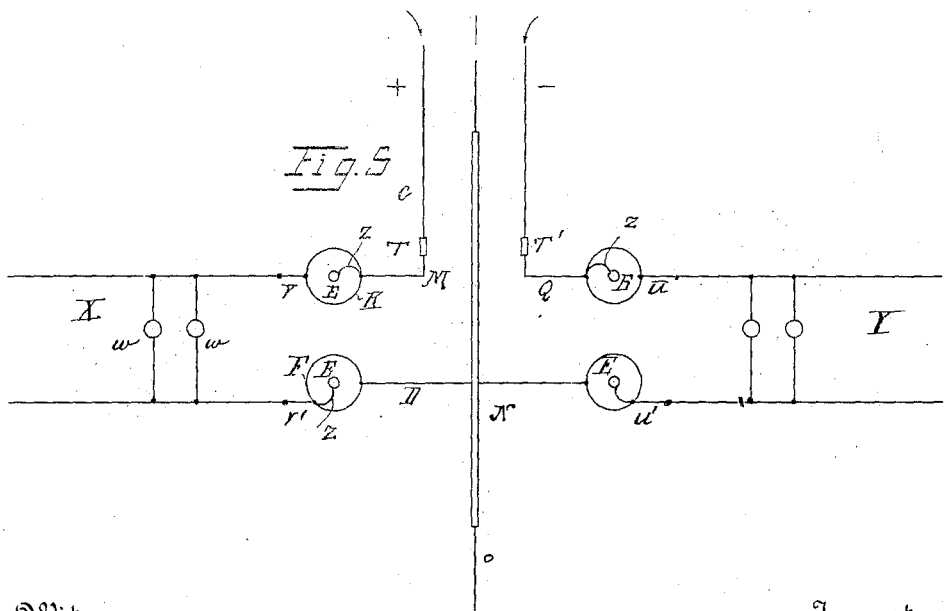


Fig. 5



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UNITED STATES PATENT OFFICE.

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SWITCH-BLOCK.

956,136. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed September 9, 1909. Serial No. 516,885.

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 Switch-Blocks, of which the following is a specification.

The invention is a switch cut-out, by means of which a branch circuit, in which cut-outs may be interposed, may be connected at will in any of a plurality of parallel main circuits in which parallel circuits any desired translating devices may be inserted.

The invention consists in the construction more particularly set forth in the claims.

In the accompanying drawings—Figure 1 is a plan view of my switch cut-out. Fig. 2 is a section on the line 2, 2, of Fig. 1. Fig. 3 is a section on the line 3, 3, of Fig. 1, and Fig. 4 is a section on the line 4, 4, of Fig. 1. Fig. 5 is an electrical diagram showing the circuit connections.

Similar letters of reference indicate like parts.

A is the base block preferably made of porcelain or other refractory insulating material.

N is a neutral main-conductor received in and extending through a passage B formed in the block and secured in place by the clamping screw C. The conductor N, at its lower edge, rests upon a metal strip D received in a recess in the block, and said strip is connected at its ends by means of the insulated screw bolts E with the threaded metal sockets F, G disposed in cylindrical recesses H formed in said block. The sockets F, G are of the usual kind adapted to receive fuse plugs not shown, but indicated diagrammatically in Fig. 5 at *z*, which plugs are interposed in the local circuits X and Y. In the base block are also two other recesses I, J, in which are disposed threaded metal sockets K, L, similar to sockets F, G, and which also are adapted to receive fuse plugs (not shown) which plugs are to be respectively connected in the local circuits X and Y. Interposed between the bottoms of the sockets K, L and their receiving recesses are metal strips M, Q which are bent upward, Fig. 3, and then turned horizontally through openings in the side walls of two passages O, P. Said strips are insulated from the sockets by disks *t* of insulating material. Said passages extend through the block and are disposed on opposite sides of the passage in which is placed the neutral conductor N. The strips M, Q extend transversely across said passages O, P, the strip M being disposed in the passage O and the strip Q in the passage P. In the passage O is placed the plus main conductor R, and in the passage P is placed the minus main conductor S. The conductors R, S substantially fill the passages O, P, except at the portions thereof into which the metal strips M, Q enter. At said portions, said passages are enlarged in area so that a space or interval, Fig. 3, is formed above the conductors R, S and below the strips M, Q. The conductor R is composed of a plurality of parallel metal bars *a*, *b*, *c*, *d*, *e* with interposed bars *f* of insulating material. Similarly the conductor S is composed of a plurality of parallel metal bars *g*, *h*, *i*, *j*, *k* with interposed bars *m* of insulating material. In both conductors the insulating bars *f*, *m* extend somewhat above the metal bars *a*, *b*, etc., *g*, *h*, etc., so that a guide channel or groove is thus formed above the upper edge of each metal bar.

T is a removable switch piece made of metal having its lower portion U horizontal and of such thickness as to slide easily into any of the grooves formed, as described, above the metal bars of conductors R, S. Said horizontal portion is preferably split, as shown at *n*, and is of such vertical height as that when it is inserted in any groove, the arms formed by the split shall be closed together, as shown in Fig. 4, so that said horizontal portion makes resilient contact with the metal conducting strip M or Q above it, and the metal bars *a*, *b*, etc. or *g*, *h*, etc. below it. To the sockets G, L, are soldered metal strips *u*, *u'* which extend through openings in the wall of block A and serve as terminals for the connection of the local circuit Y. To the sockets F, K, are soldered similar strips *v*, *v'*, which extend through openings in the wall of block A and serve as terminals for the connection of the local circuit X.

In the local circuits may be interposed the lamps or other translating devices indicated at *w*. If a switch piece T, as shown in Fig. 1, be inserted to establish contact between the parallel member *c* of the posi-

tive conductor and the strip M, the circuit will proceed as follows: form member *c* by strip M to screw E to fuse *z* to socket K to strip *v* and so to circuit X to strip *v'* socket F, fuse, screw E, plate D, neutral bar N and line conductor *o* attached thereto. Similarly, if a switch piece T' be inserted to establish contact between a parallel member of the negative conductor and the strip Q, the circuit will proceed as follows: from member *j* by strip Q to screw E to fuse, to socket L to strip *u* and so to circuit Y, to strip *u'*, fuse, screw E, plate D, metal bar N and line conductor *o* attached thereto. Obviously other circuits will be formed in like manner, if the removable switch pieces T, T', are inserted in contact with other members of the potential conductors. In this way I am enabled to bring a branch circuit into any one of a number of parallel main circuits, in which main circuits any desired translating devices may be interposed.

I claim:

1. The combination of a base block of refractory insulating material having transverse tubular passages, two main circuit conductors respectively in said passages, one of said conductors being formed of a plurality of parallel members, two branch circuit conductors on said block, one of said branch conductors extending into said passages and crossing said parallel members, a removable switch plug constructed to enter between said extended branch conductor and any one of said parallel members, and means within said block for connecting the other of said branch conductors to the other main circuit conductor.

2. The combination of a base block of refractory insulating material having transverse passages, two circuit conductors respectively in said passages, one of said conductors being formed of a plurality of parallel plates, insulating partitions disposed between said plates and extending above the upper edges thereof, two branch terminals on said block, one of said terminals extending into said block and crossing said parallel members, a removable switch plug constructed to enter the channel formed above any plate and between the insulating partitions adjacent thereto and to close circuit between said extended terminal and said plate, and means for connecting the other of said terminals to the other circuit conductor.

3. The combination of a base block, the main conductors of a three-wire system disposed in separate passages therein, the main potential conductors each being formed of a plurality of parallel members, two pairs of branch circuit conductors on said block, removable means for connecting a branch conductor of one pair to any one of the positive parallel members, removable means for connecting a branch conductor of the other pair to any one of the negative parallel members, and means for connecting the remaining branch conductors of both pair to the neutral main conductor.

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Witnesses:

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