

T. W. JARDINE.  
SECTIONAL ELECTRICAL SWITCHBOARD.

APPLICATION FILED AUG. 8, 1902.

NO MODEL.

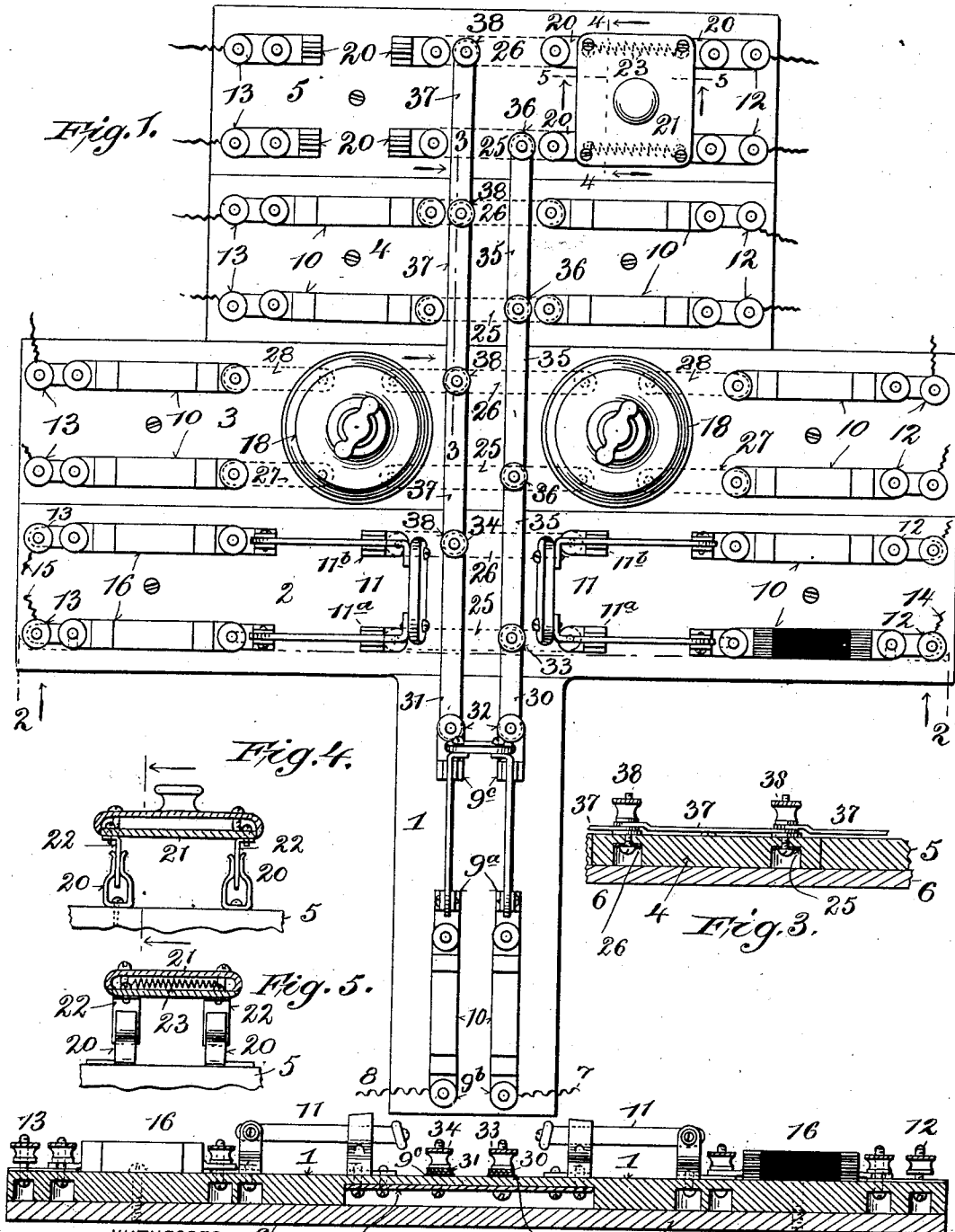


Fig. 1.

Fig. 4.

Fig. 5.

Fig. 3.

Fig. 2.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

THOMAS W. JARDINE, OF ENGLEWOOD, NEW JERSEY.

## SECTIONAL ELECTRICAL SWITCHBOARD.

SPECIFICATION forming part of Letters Patent No. 723,607, dated March 24, 1903.

Application filed August 8, 1902. Serial No. 118,842. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. JARDINE, a citizen of the United States, and a resident of Englewood, Bergen county, New Jersey, have invented certain new and useful Improvements in Sectional Electrical Switchboards, of which the following is a specification.

My invention relates to improvements in switchboards for distributing electrical current from a main line to different circuits; and the object of the invention is to provide a switchboard arranged in sectional parts in such manner that the number of sections may be readily increased or decreased in accordance with the number of circuits to be fed or supplied with the electric current from the main line, as necessity may require; and my invention embraces the novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a plan view of a sectional switchboard embodying my improvements. Fig. 2 is a cross-section on the line 2 2 in Fig. 1. Fig. 3 is a section on the line 3 3 in Fig. 1. Fig. 4 is a section on the line 4 4 in Fig. 1, and Fig. 5 is a section on the line 5 5 in Fig. 1.

Similar numerals of reference indicate corresponding parts in the several views.

In the drawings the numerals 1, 2, 3, 4, and 5 indicate the sections of a switchboard, which may be of suitable material, preferably insulating material, such as stone or the like, and said sections are so shaped that they may be placed side by side, as indicated in Fig. 1, and they may be held in position by screws and may be mounted upon a base 6, if desired, the arrangement being such that any desired number of such sections may be utilized in a switchboard and some removed and others added, as the case may require. Upon one of the sections, as 1, to which the main-line or feed wires 7 8 lead, is mounted a suitable switch 9, shown in the form of a knife-switch, and suitable fuses or fusible cut-outs 10 may be interposed between the terminals or contacts 9<sup>a</sup> of the switch and the binding-posts 9<sup>b</sup>, to which the conductors 7 8 lead.

Upon the other sections of the board are located switches or fuses, or both, to be placed in circuit with the contacts 9<sup>c</sup> of the switch 9. As shown in the drawings, upon the section 2 are knife-switches 11, that connect with the binding-posts 12 13, from which the circuit-conductors 14 15 for distribution are connected, and in the example shown suitable fuses 10 are interposed between the switches 11 and the binding-posts 12 13. On section 3 of the board snap-switches 18 are shown, between which and the binding-posts 12 13 are interposed fuses 10. On section 4 the fuses 10 are shown connected with the binding-posts 12 13 and the switches are dispensed with, and on section 5 of the board are shown springs or jacks 20, arranged in pairs, one of each pair being connected with the respective binding-posts 12 13. In this instance I have shown a pull-out switch consisting of a head 21, having contacts 22 arranged in pairs and connected by a fuse or fuse-wire 23, the contacts 22 of each pair being adapted to engage a pair of springs or jacks 20, there being two pairs of contacts 22 on each head 21 to simultaneously engage two pairs of springs or jacks 20 in well-known manner. I have illustrated different kinds of well-known switches for the purpose of showing that any desired switches may be used in connection with my improved switchboard. When one or more switches are used on a section, the corresponding terminals or contacts of the several switches are connected by a conductor or metal strip 25 26, so that similar sides of the switches will be in the same limb of the distributing-circuits. For instance, on section 2 the contacts 11<sup>a</sup> are connected together by conductor 25, and the contacts 11<sup>b</sup> are connected by conductor 26. On section 3 the conductors 25 and 26 connect with corresponding terminals of the snap-switches 18, the other terminals of said snap-switches being connected with the fuses 10, respectively, by conductors 27 28. On section 4 the conductors 25 26 connect the corresponding fuses 10, and on section 5 the conductors 25 26, respectively, connect the corresponding adjacent contacts or jacks 20.

The switches, &c., of the several sections of the board are electrically connected with the contacts 9<sup>c</sup> of the main switch 9 by adjustable

or detachable conductors adapted to permit any desired number of the sections to be used in conjunction, and the arrangements I have shown for this purpose are as follows: The conductor 25 of section 2 is connected by a conductor 30 with one of the contacts 9°, and the conductor 26 of said section is connected by a conductor 31 with the other contact 9°, and the connections are such as to enable the sections to be readily disconnected or assembled, for which purpose I utilize binding-posts or screws and nuts 32 for connecting the contacts 9° with the conductors or strips 30 31, and the conductor 25 is connected with the conductor 30 by a binding-post or screw and nut 33, the conductor 26 being connected with the conductor 31 by a binding-post 34, proper electrical circuit being made, as clearly shown in Fig. 2, wherein it is seen that the conductors 30 31 bear upon the plate or foot of the contacts 9°. As other sections are assembled or placed side by side the corresponding conductors 25 are connected together, as are also the corresponding conductors 26, and to this end any required number of strips or conductors 35 are connected together and to the adjacent conductors 25 by binding-posts 36, and likewise the conductors 26 of the several sections are connected together by strips or conductors 37 by the medium of binding-posts or screws and nuts 38. (See Figs. 1 and 3.) As shown in Fig. 3, one end of each strip or conductor is bent so as to make a proper fit and good electrical contact.

From the foregoing it will be apparent that the arrangements are such that one limb of the distributing-circuits is connected with the main line 7 through the conductors 30, 25, and 35 and that the other limbs of said circuits are connected with the main line 8 by the conductors 31, 26, and 37. By the means set forth when it is desired to increase the number of the sections to supply an increased number of circuits from one main line it is merely necessary to place the desired section or sections side by side and connect the conductors or strips 35 and 37 in series, respectively, with the conductors 25 and 26, and when the number of sections are to be reduced the appropriate conductors or strips 35 and 37 can be readily disconnected and the desired section removed.

The advantages of my improvements will be apparent, as by the means shown a switchboard can be built up to any desired proportions for distributing from a main line having the switchboard already installed without the requirement of substituting an entirely new switchboard to accommodate new circuits, which I understand is now the general practice in the class of electrical distribution to which my invention applies.

It is to be understood that the particular arrangement of switches, fuses, &c., which I have shown may be altered and that an arrangement similar to that shown for a three-

wire system may be installed by properly applying the connections for the third wire upon each section and utilizing adjustable strips and conductors, like 35 and 37, for connecting the third wire or circuits of the several sections, and other modifications can be made and the details varied from those shown without departing from the spirit of my invention.

Having now described my invention, what I claim is—

1. A switchboard comprising a plurality of sections each having a plurality of conducting elements for connection with a circuit, and adjustable means for connecting the corresponding conducting elements of the several sections together, substantially as described.

2. A switchboard comprising a plurality of sections, one of the sections having a main switch for connection with a main line or circuit, the other sections each having conducting elements for connection with distributing-circuits, conductors for connecting the main switch and the conducting elements of the sections together, and means for adjustably connecting said conductors with such terminals or contacts, substantially as described.

3. A switchboard comprising a plurality of sections, one of the sections having a switch for connection with a main line or circuit, and the other sections having switches for connection with distributing-circuits, and conductors for connecting the corresponding terminals or contacts of the several switches together, and means for adjustably connecting said conductors with such terminals or contacts, substantially as described.

4. A switchboard comprising a plurality of sections, certain of the sections having a plurality of switches, conductors for connecting the corresponding terminals or contacts of the same switches together, conductors or strips for connecting the corresponding conductors of the sections together, and means for adjustably connecting said conductors together, substantially as described.

5. A switchboard comprising a plurality of sections adapted to be placed side by side each section having switches, conductors extending lengthwise of the sections connecting the corresponding terminals or contacts of the adjacent switches together, conductors or strips adapted to extend transversely across the sections, and means for adjustably connecting each of said conductors with the corresponding terminals or contacts of the several switches, substantially as described.

6. A switchboard comprising a plurality of sections adapted to be placed side by side, one of the sections having a main switch for connection with a main line or circuit, other sections having switches whose corresponding terminals are electrically connected together, binding-posts connected with said terminals, and independent conductors or strips

each adapted to be connected with the corresponding terminals of two adjacent sections, substantially as described.

7. A switchboard comprising a plurality of sections adapted to be placed side by side, one of the sections having a main switch for connection with a main line or circuit, other sections each having a plurality of switches whose corresponding terminals or contacts are connected together, binding-posts con-

nected with said terminals, and independent strips adapted to be connected together and to extend from one section to another and arranged to be connected with corresponding binding-posts on two sections, substantially as described.

THOS. W. JARDINE.

Witnesses:

T. F. BOURNE,  
I. E. MCKIGNEY.