

No. 868,141.

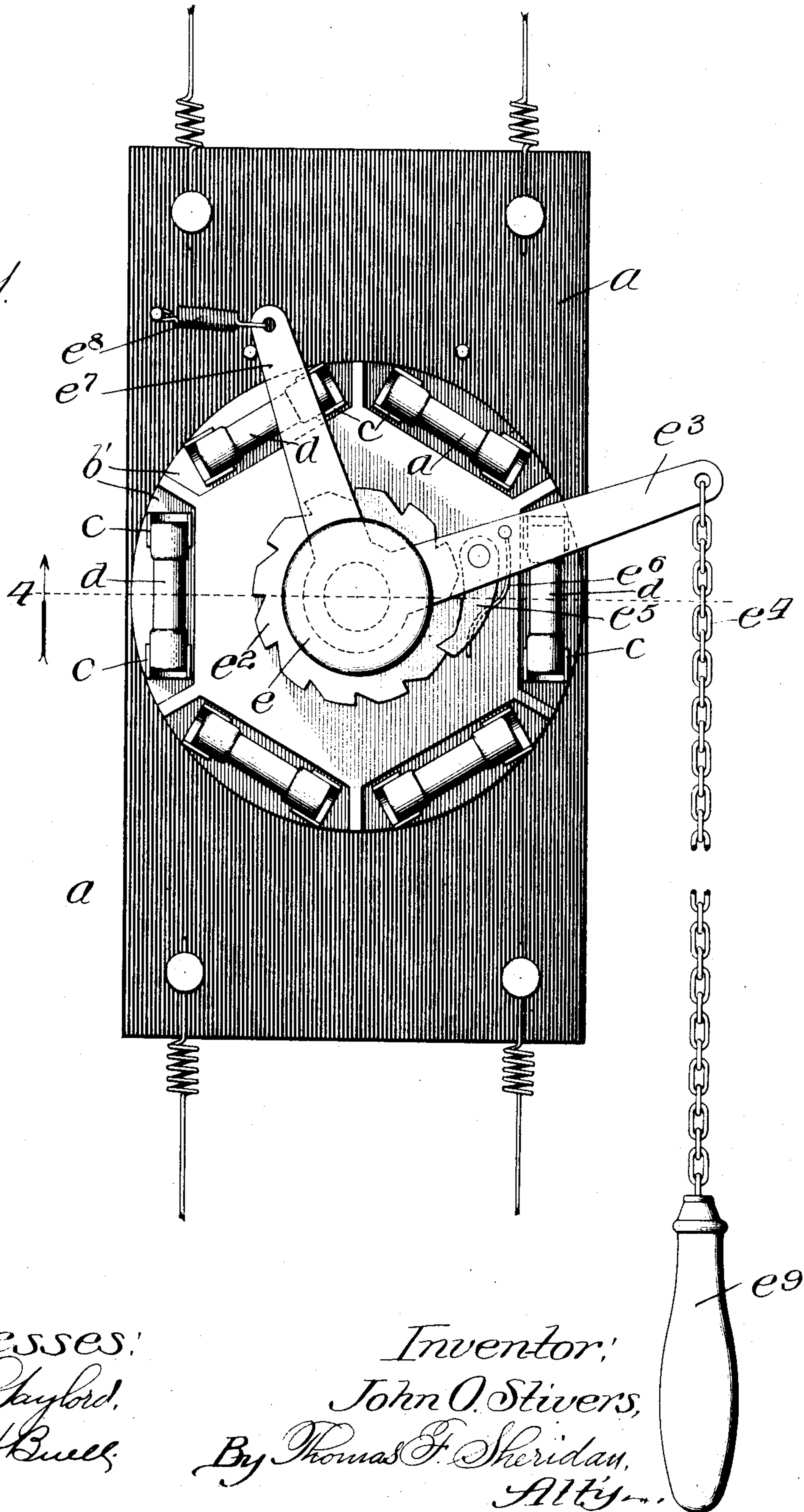
PATENTED OCT. 15, 1907.

J. O. STIVERS.
FUSE BOX.

APPLICATION FILED OCT. 26, 1906.

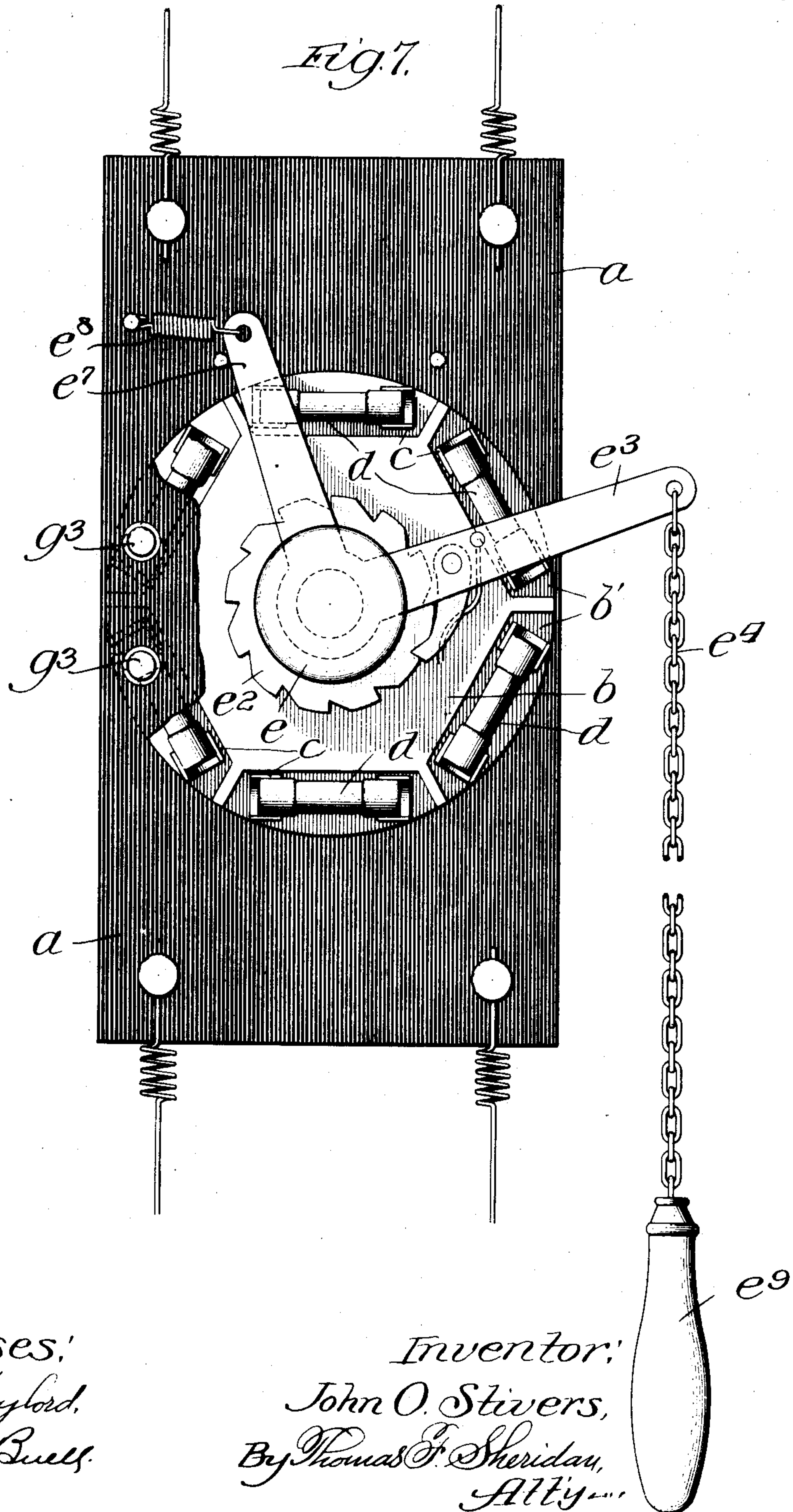
3 SHEETS—SHEET 1.

Fig. 1.



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UNITED STATES PATENT OFFICE.

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FUSE-BOX.

No. 868,141.

Specification of Letters Patent.

Patented Oct. 15, 1907.

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To all whom it may concern:

Be it known that I, JOHN O. STIVERS, a citizen of the United States, residing in the city and county of Denver, State of Colorado, have invented certain new and useful Improvements in Fuse Boxes, of which the following is a specification.

My invention relates to fuse boxes; and has for its object to provide a device of this kind in which a plurality of fuses may be mounted and thrown into and out of operative position at will.

To this end my invention consists in the combinations and details hereinafter set forth and claimed.

In the accompanying drawings—Figure 1 is a top plan view. Fig. 2 is a bottom plan view of the carrier. Fig. 3 is a top plan view of the base plate. Fig. 4 is a transverse section on the line 4 of Fig. 1. Fig. 5 is a longitudinal section on the line 5 of Fig. 3. Fig. 6 is a sectional elevation on the line 6 of Fig. 3. Fig. 7 is a top plan view.

As is well-known in the art to which this invention relates, when a fuse is blown out it often happens there is no fuse at hand with which to replace the blown-out fuse and much trouble and delay arises from this cause. It is very desirable, therefore, to provide some means by which a number of fuses may be carried so that should one of them become inoperative another may be quickly substituted for it.

In the drawings, I show one form of device for carrying out this purpose. In these drawings *a* represents a base plate of suitable insulating material, and *b* represents a carrier suitably mounted upon the base plate to rotate thereon. As shown, this carrier is made in hexagonal form and is provided with recessed portions *b'*. It will, of course, be understood that the form of the carrier may be changed and the number of recesses increased or diminished as may be desired. In each of the recesses I mount clips *c* forming holders and contact devices for a fuse *d*. The clips *c* are suitably secured in position by fastening devices *c'* having heads *c²* flush with the under face of the carrier, these heads forming contact points.

The base plate is provided at each side with pairs of contacts *g* in the form of binding posts. These binding posts are connected by springs *g'* with a contact *g³* mounted in a recess *g⁴* in the base plate. The contacts *g³* have a vertical play in the recesses *g⁴*, and the springs *g'* normally tend to force the contacts *g³* upwardly against the under face of the carrier.

It will be readily understood that when a fuse is brought into position with its contact *c²* engaging a pair of contacts *g³* the current will flow through the contacts and the fuse in the ordinary manner. Should the fuse for any reason be blown out or become otherwise inoperative, and it is desired to bring a new fuse into operative position as a substitute therefor, this may be

done by rotating the carrier so as to bring the next adjacent fuse into operative position.

In order that the carrier may be conveniently and quickly rotated, I have mounted it upon a central journal *f* suitably secured in the base plate at its lower screw threaded end *f²* by a nut *f³*. A collar *f'* upon the journal serves to properly position the journal upon the base plate. Surrounding the journal is a bearing *e'* having an intermediate flange *e²* which is fastened to the carrier by any suitable fastening devices, such as screws *e⁸*. A handle *e* is suitably secured to the upper end of the bearing *e'*. The flange *e²* is in the form of a ratchet plate—as clearly shown in Fig. 1—and a number of teeth upon this ratchet plate is such that it is necessary to rotate the ratchet plate for the space of two teeth in order to bring the next adjacent fuse into operative position.

In order to conveniently rotate the carrier I provide a bell crank lever having arms *e³*, *e⁷*—the arm *e³* being provided with a pawl *e⁵* and a spring *e⁶* which presses the pawl into engagement with the teeth of the ratchet. The arm *e⁷* is connected at its outer end by means of a spring *e⁸* with the base plate, and a chain *e⁴* provided with a handle *e⁹* serves as a suitable means for operating the lever. The bell crank lever being loosely mounted upon the bearing, it will be readily understood that at each operation thereof, the pawl being in engagement with the ratchet plate, will cause the carrier to advance one step. This will bring the carrier and the fuses thereon into the position shown in Fig. 7, at which time all the contacts are out of operative position and the current is accordingly cut off. By advancing the carrier another step, the contacts of one of the fuses on each side of the carrier are brought into engagement with a pair of contacts *g³* and the fuses are thus placed in operative position. If for any reason the bell crank lever should become broken or inoperative, the carrier may be turned by means of the handle *e*—as will be readily understood.

Upon the under face of the carrier I provide a series of recesses *k* adapted to be engaged by a rounded detent *h* which is mounted in a recess in the base plate. This detent *h* has a flange *h³* at an intermediate point, and a spring *h'* bears against the flange and against a screw threaded cap *h²* inserted in the base plate, serving to normally hold the detent in its upper position. Owing to the rounded shape of the detent and of the corresponding recesses, the carrier may readily be advanced by the operation of the lever or of the handle.

It is believed that the operation of my device has been sufficiently described. It will be seen that I have provided a fuse box in which a plurality of fuses are mounted and in which a fresh fuse may be substituted for a fuse which has become blown out or inoperative for any reason. I have also provided contact

devices which are normally forced together by the spring, and which will be appreciated by those skilled in this art.

I claim:

- 5 1. A fuse box, comprising a base plate having apertures therein, spring pressed contacts in said apertures, a fuse carrier pivotally mounted on said base plate, a plurality of fuses mounted on said carrier, said fuse carrier being provided with contact plates connected to the terminals of said fuses, and a pawl and ratchet for rotating said fuse carrier step by step, whereby said fuse carrier may be positioned to connect said spring pressed contacts through any of the fuses.
- 10 2. A fuse box, comprising a base plate having apertures

therein, spring pressed contacts in said apertures, a spring 15 pressed detent projecting from said base plate, a fuse carrier pivotally mounted on said base plate and a plurality of fuses mounted on said carrier, said fuse carrier being provided with a plurality of depressions in its under side and with contact plates connected to the terminals of said fuses, and a pawl and ratchet for rotating said fuse carrier step by step whereby said fuse carrier may be positioned to connect said spring pressed contacts through any of the fuses or whereby the fuses may be positioned out of operative relation to said spring pressed contacts. 20

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