

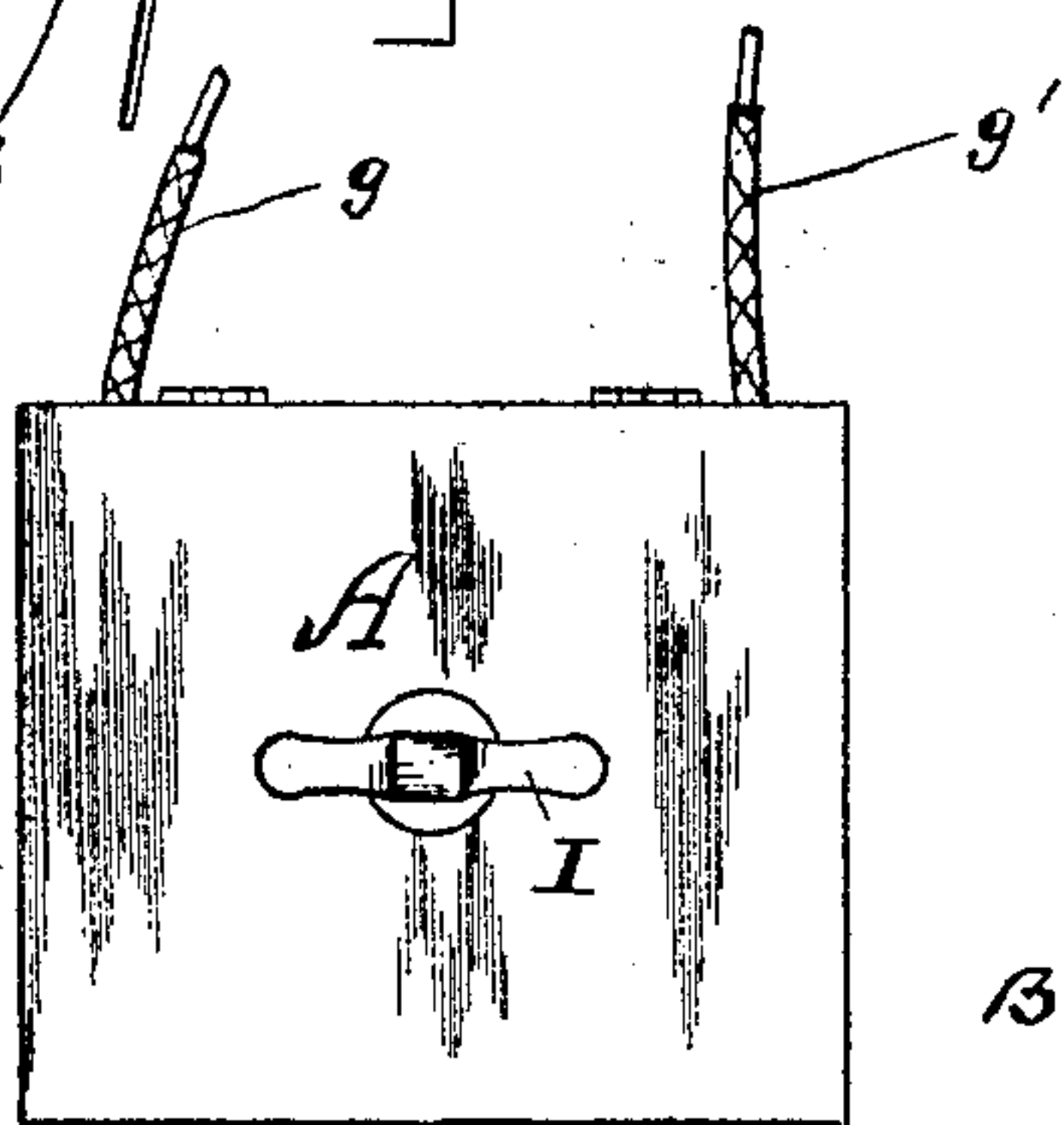
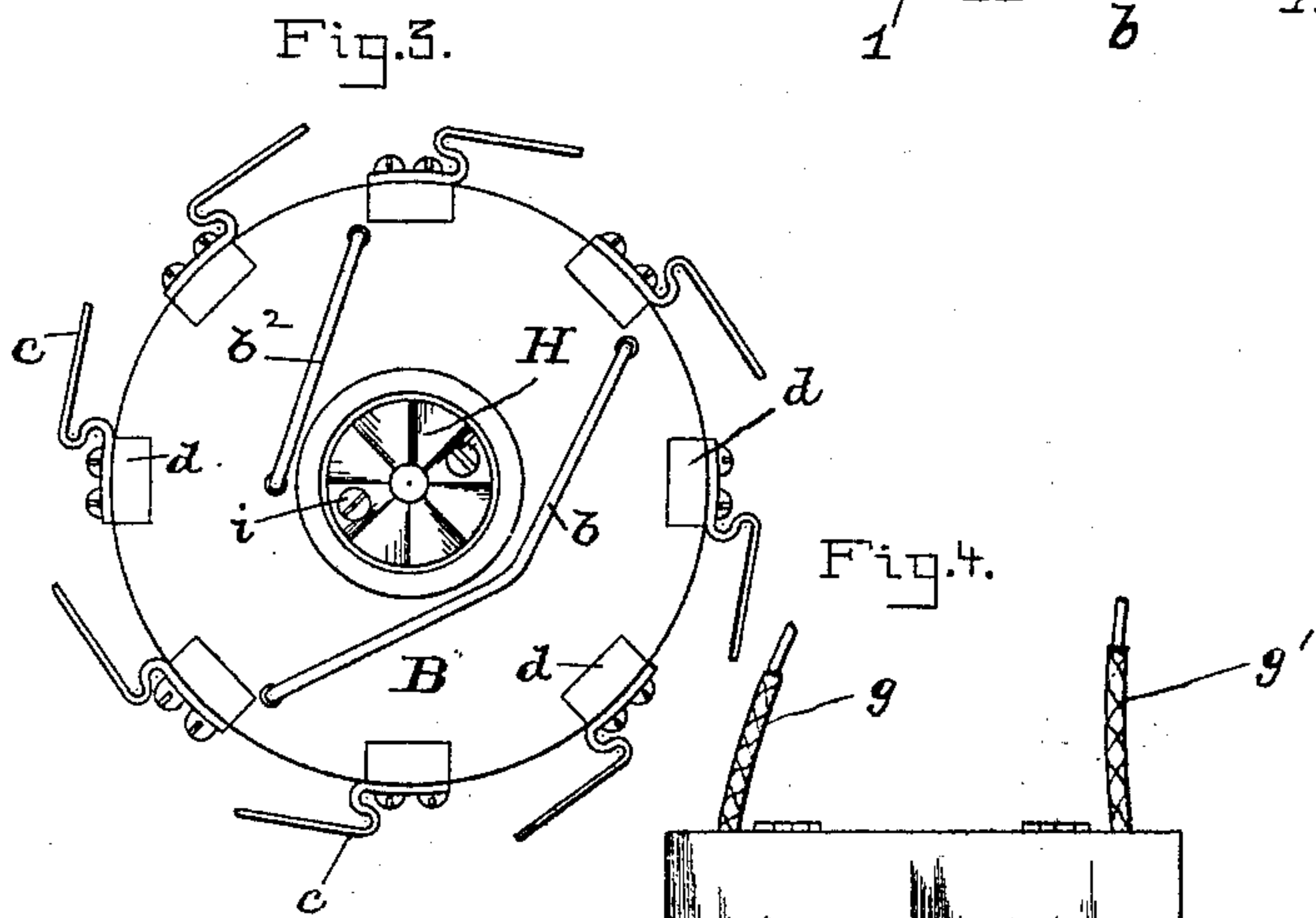
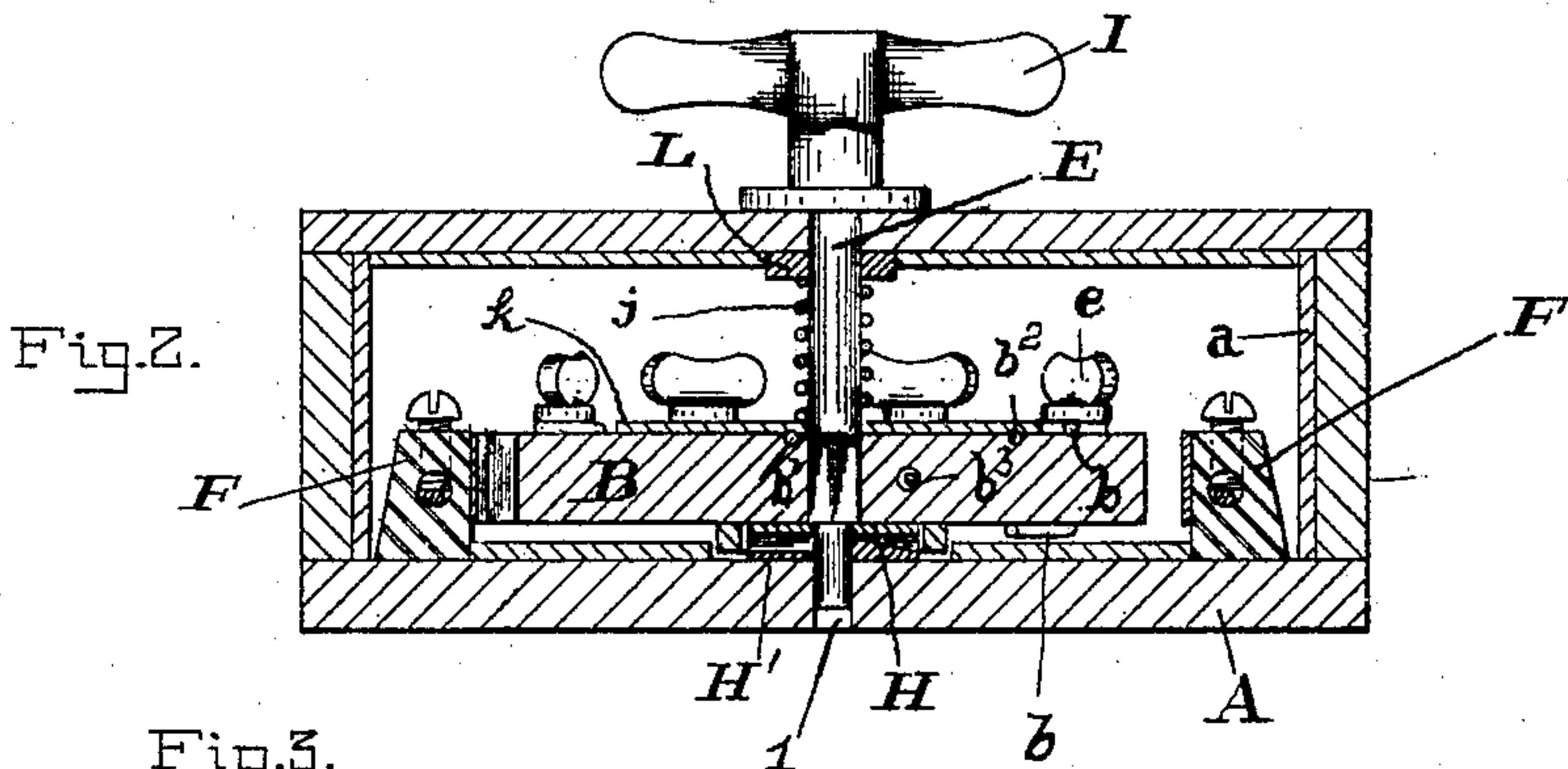
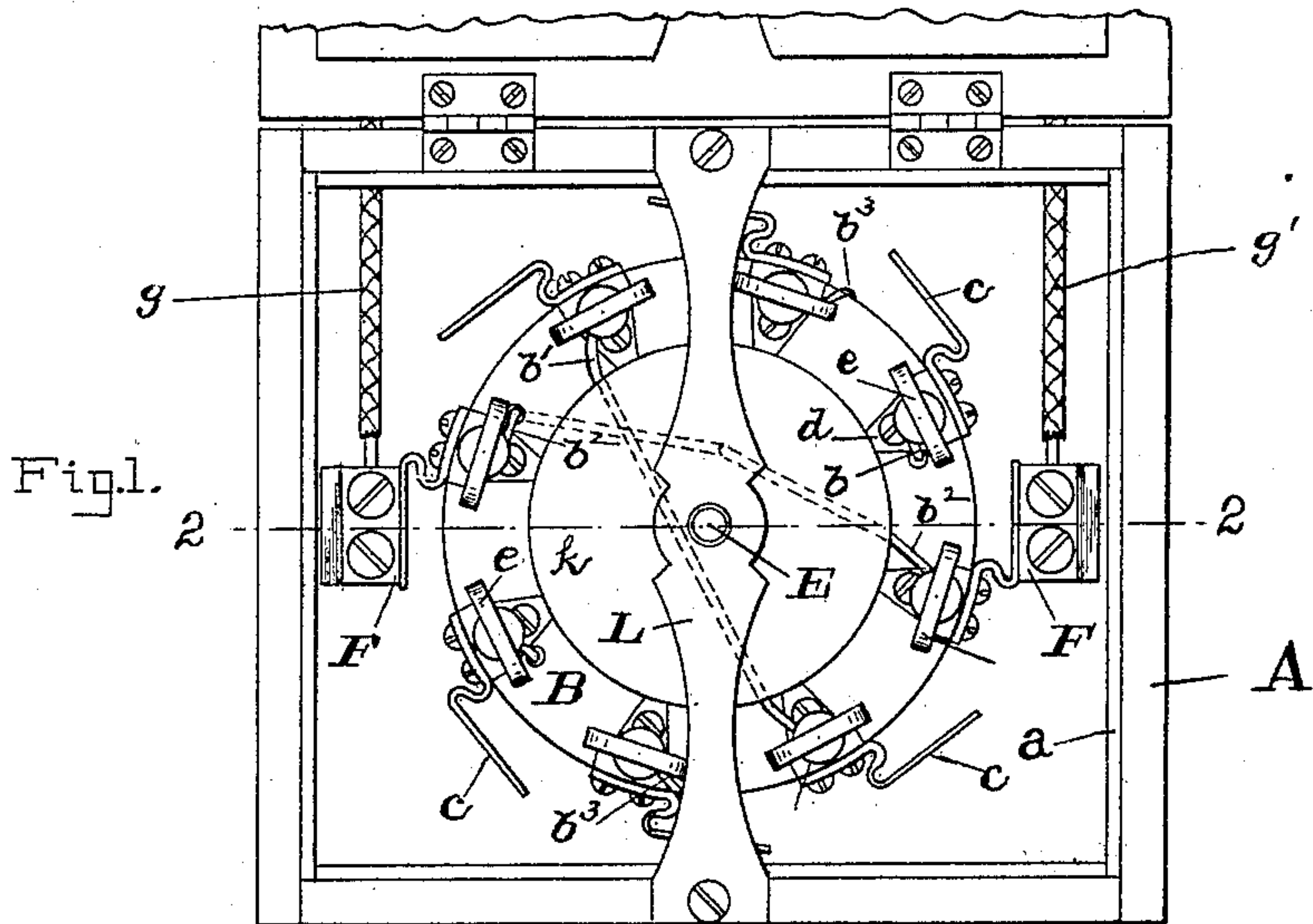
No. 644,357.

Patented Feb 27, 1900.

J. B. HUBBARD & C. J. DORSEY.
MULTIPLE FUSE CUT-OUT.

(Application filed Oct. 28, 1899.)

(No Model.)



Witnesses:—

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UNITED STATES PATENT OFFICE.

JAMES B. HUBBARD AND CHARLES JAMES DORSEY, OF BALTIMORE, MARYLAND, ASSIGNORS OF ONE-THIRD TO HARRY T. MUDD, OF SAME PLACE.

MULTIPLE-FUSE CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 644,357, dated February 27, 1900.

Application filed October 28, 1899. Serial No. 735,059. (No model.)

To all whom it may concern:

Be it known that we, JAMES B. HUBBARD and CHARLES JAMES DORSEY, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Multiple-Fuse Cut-Outs, of which the following is a specification.

Our invention relates to improvements in electric-fuse boxes adapted especially for street-cars and similar purposes; and it consists of a suitable framework or box of non-inflammable material or lined with such material and having mounted therein mechanism to successively replace "blown" fuses, as will hereinafter be more fully described.

A further object of our invention is to provide for mechanically and electrically separating each of a plural number of fuses from the other and means whereby when one fuse is moved into position to replace another it may be locked in such position to insure permanency of the fuse when in activity.

The construction and organization of the fuse-box are shown in the drawings, in which—

Figure 1 is a plan view of the multiple-fuse box with lid open and partly broken away. Fig. 2 is a sectional view of Fig. 1 on line 2 2. Fig. 3 is an inverted view of the revolving disk carrying the fuses. Fig. 4 is a plan view of fuse-box closed and showing circuit-wires.

In the several figures, A is the casing or shell of a multiple-fuse box constructed of any desired material and lined with fireproof material *a*, such as asbestos.

B is a circular disk mounted on a spindle E and constructed of non-conducting material and contains a plural number of fuses *b b' b² b³*, electrically and mechanically isolated within the disk one from the other and each fuse connected to oppositely-disposed contact-plates *c*, borne on the periphery of said disk. These contact-plates are S-shaped and flexible and are secured to metal blocks *d*, secured to the disk at its rim. A screw *e* secures the end of each fuse to a block. Two oppositely-disposed contact-plates *c* on the periphery of said disk are designed to engage the face of a pair of stationary contact-blocks F, through which are introduced the conducting-wires *g g'*. The bottom face of the disk has a cir-

cular ratchet H secured to it by screws *i*. (See Fig. 3.) The edges of the ratchet-teeth are in line with the diametrically-opposed blocks and contact-plates, and these teeth engage a contrary ratchet H', secured to the bottom of the box A.

The spindle E is provided with a spiral spring *j*, which bears upon the disk B and is interposed between the cross-bar L and disk and forces into engagement the ratchets H and H', except when the disk is turned to bring a new fuse into activity. At such a time it is necessary to turn the key I on the outside of the box and mounted on the head of spindle E, which causes the disk to rotate to the next ratchet-notch. As before stated, the edges of the ratchet-teeth are in direct line with the diametrically-opposed contact-plates, and therefore the ratchet and spring serve not only as a locking device to hold the contact-plates against the stationary blocks F, but insure proper contiguous contact and will only be movable at the pleasure of the operator by manipulating handle or key I.

A circular plate *k* partly covers the top of the disk B and serves to conceal the fuses *b' b²*, socketed in said disk, while one or more of the other fuses may be conducted through the disk, as shown in Fig. 2 at *b³*.

The cross-bar L, secured to the sides of the box A, supports one end of the spindle E, the other end being journaled in the bottom of the box at *l*, and said cross-bar also serves to hold the entire mechanism in position within the box.

In order to operate the device when a fuse has been blown, give the handle I a partial turn, which disconnects the contact-plates of the dead fuse and throws the next pair of contact-plates and another fuse into activity with the blocks F. The concealment within the disk of the fuses prevents their destruction by the instantaneous flame within the box consequent upon the burning out of a fuse.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a multiple-fuse apparatus, the combination of a disk carrying a plurality of fuses each electrically and mechanically separated and protected by surrounding non-conduct-

ing material; spring contact-plates connected to said fuses and borne on the periphery of said disk and engaging a pair of stationary blocks, as shown and described.

- 5 2. In a multiple-fuse apparatus, the combination of a box; a non-conducting disk containing a plurality of fuses electrically and mechanically isolated one from the other and mounted in the box; spring contact-plates disposed in pairs diametrically opposite on the periphery of said disk; a pair of stationary contact-blocks; a circular ratchet fixed to one

side of said disk, a similar ratchet secured to the wall of the box; and a spring bearing on the opposite side of the disk, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

JAS. B. HUBBARD.

CHARLES JAMES DORSEY.

Witnesses:

WM. H. VAIL,

CHARLES VIETSCH.