

(No Model.)

T. W. McGRATH.
COMBINATION LOCK.

No. 505,120.

Patented Sept. 19, 1893.

Fig. 1.

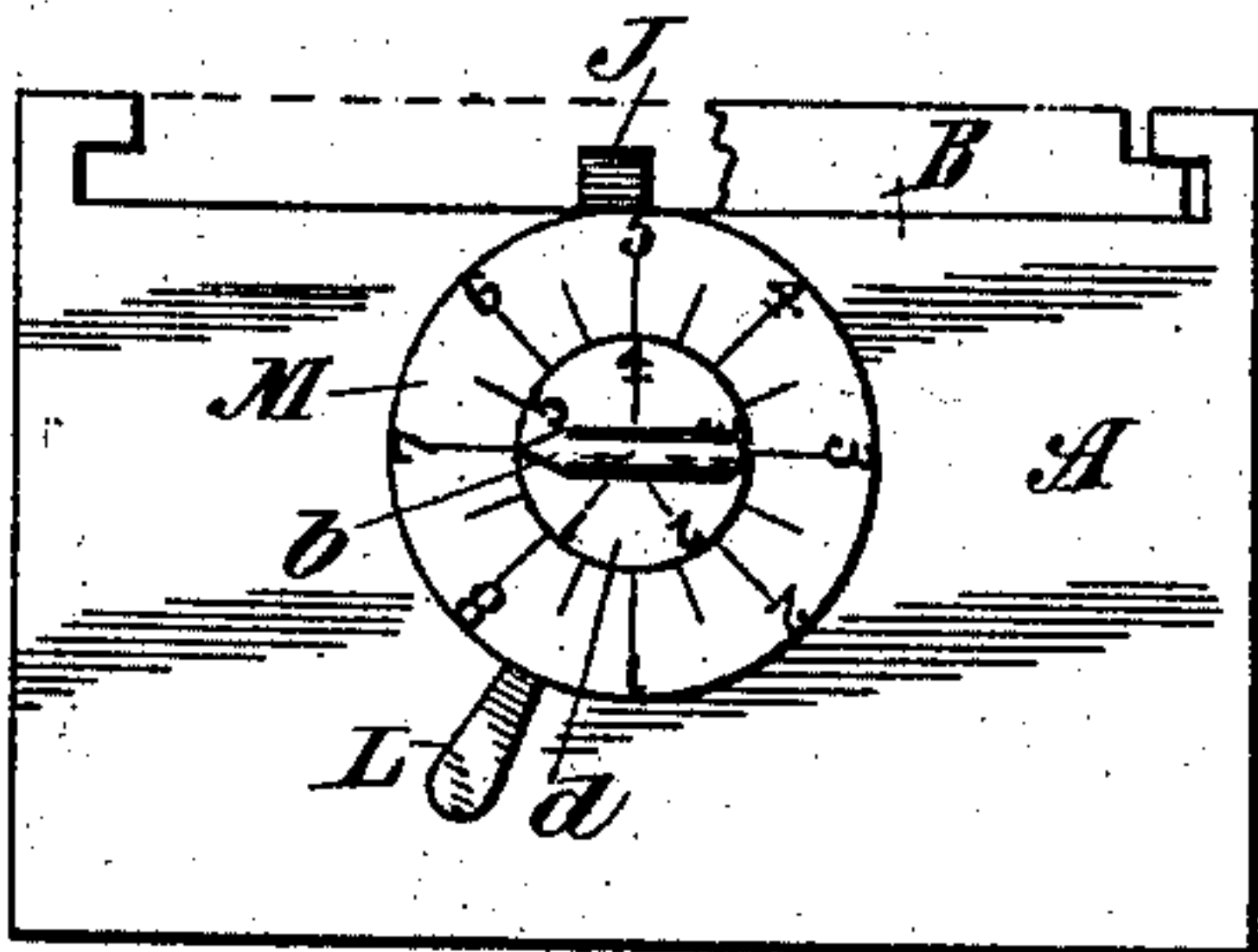


Fig. 2.

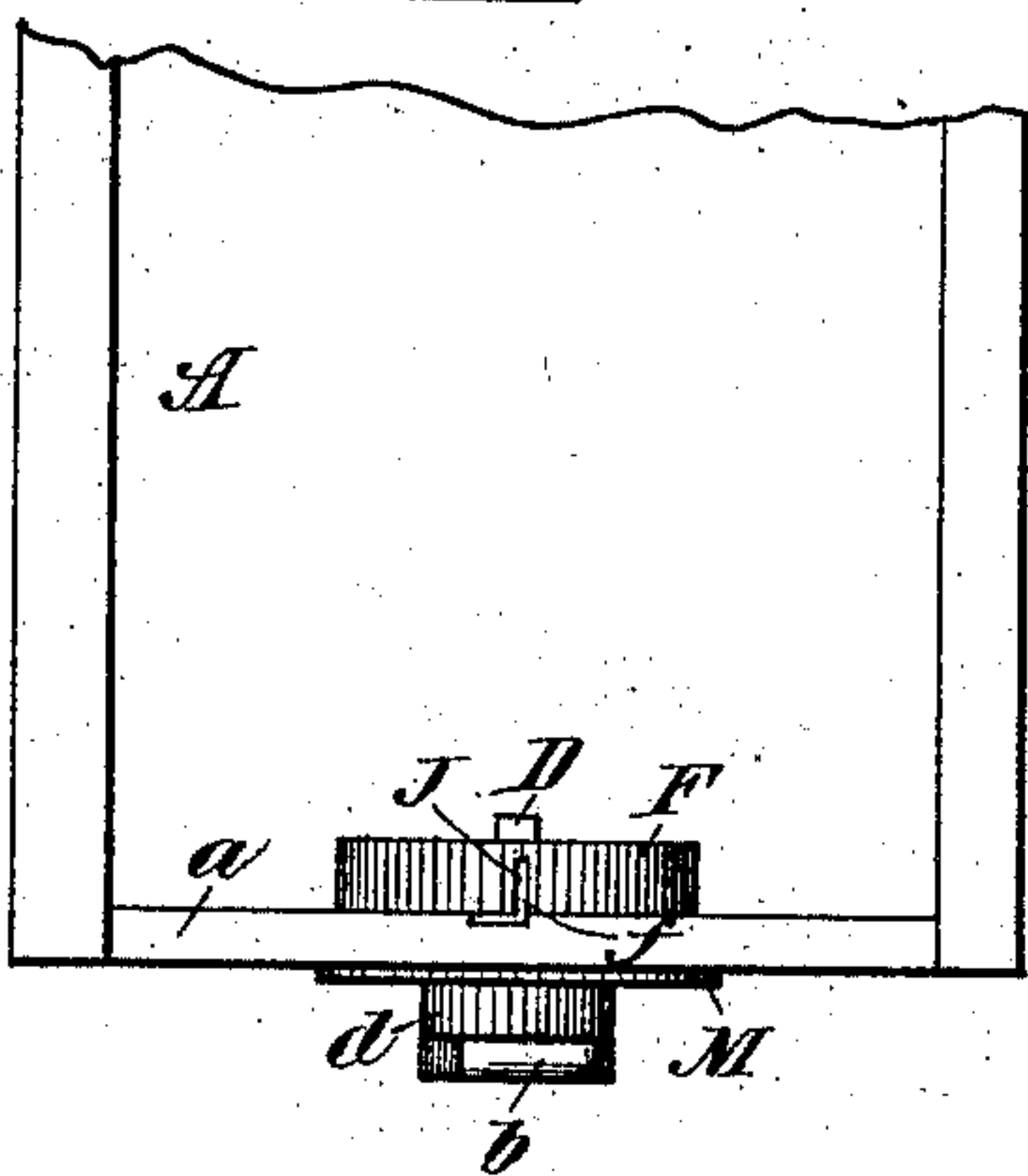


Fig. 4.

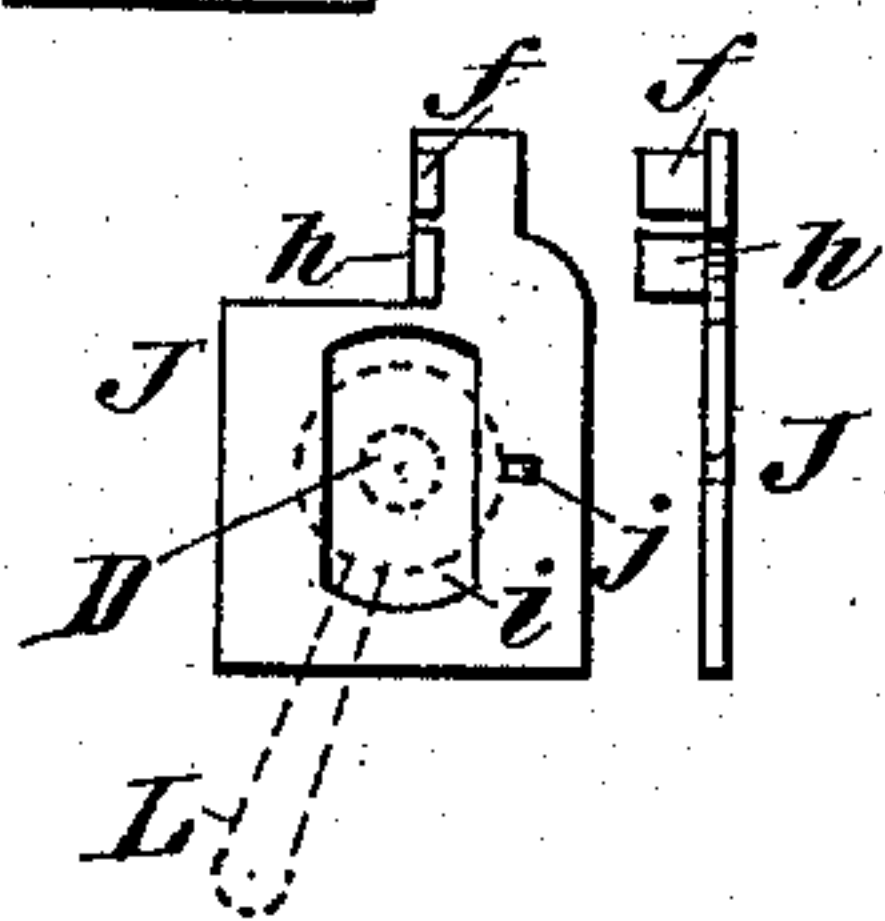


Fig. 5.

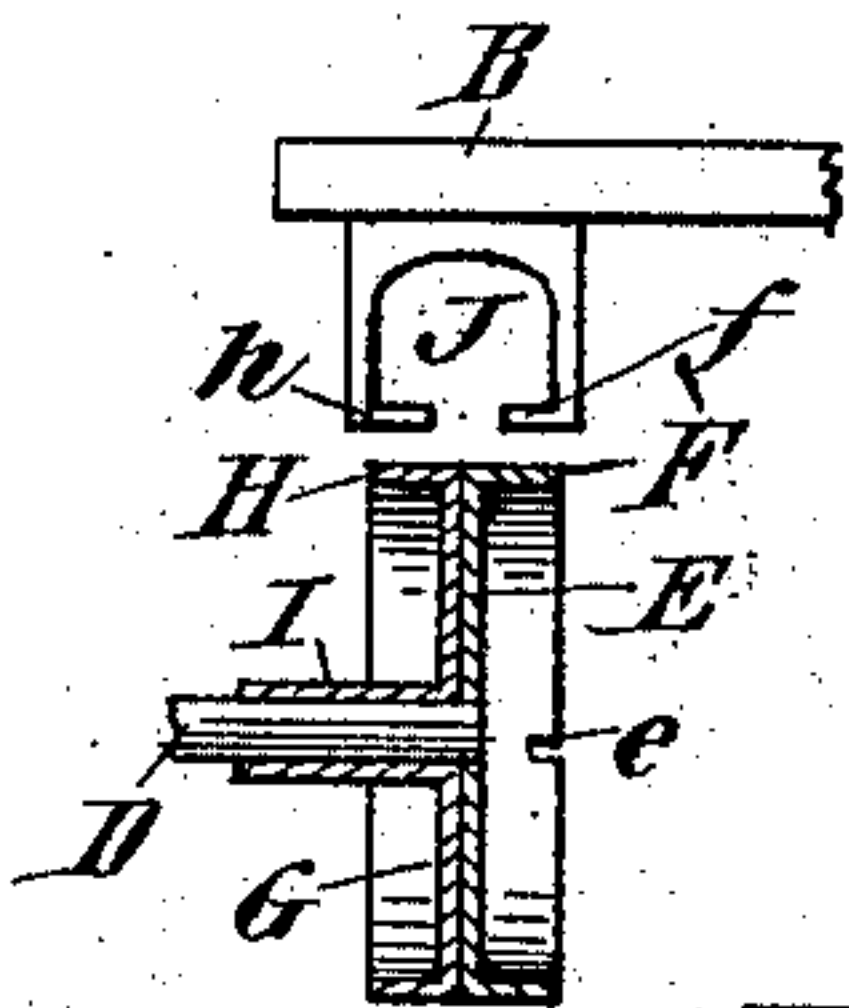
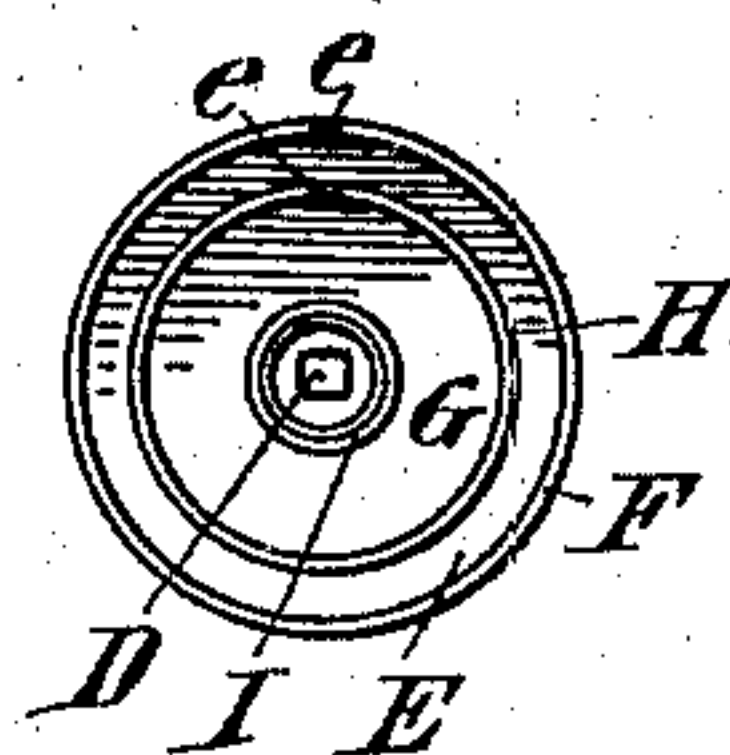


Fig. 6.

Fig. 3.

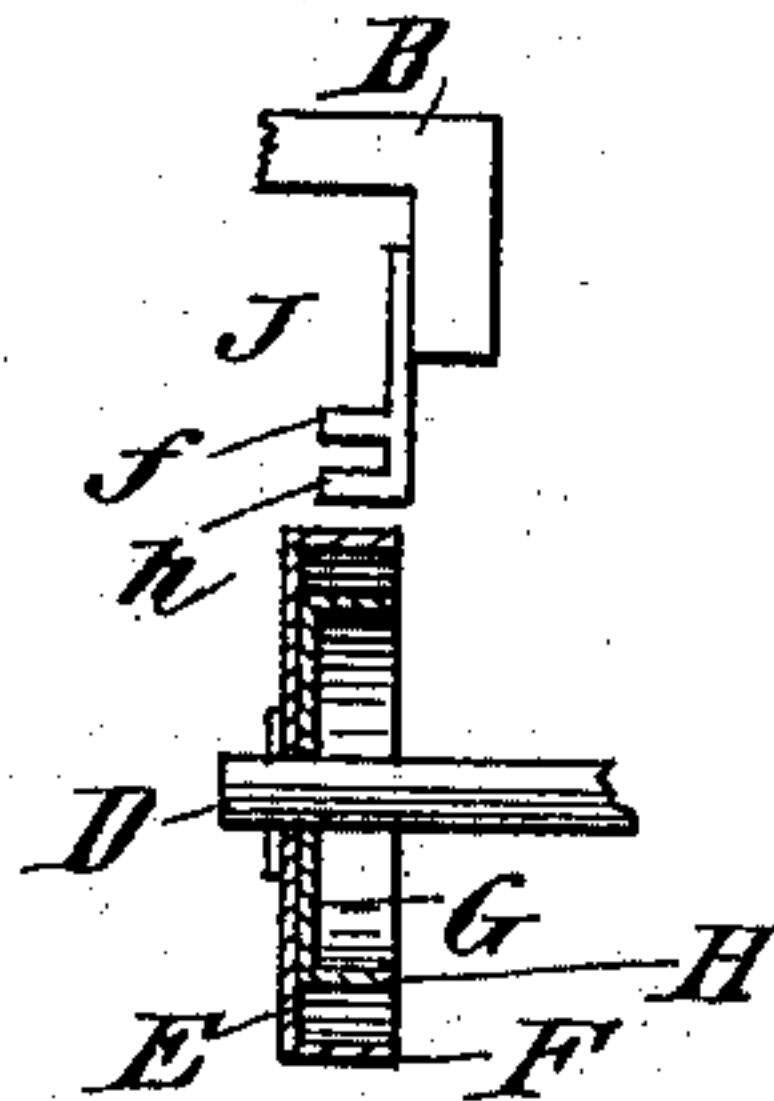
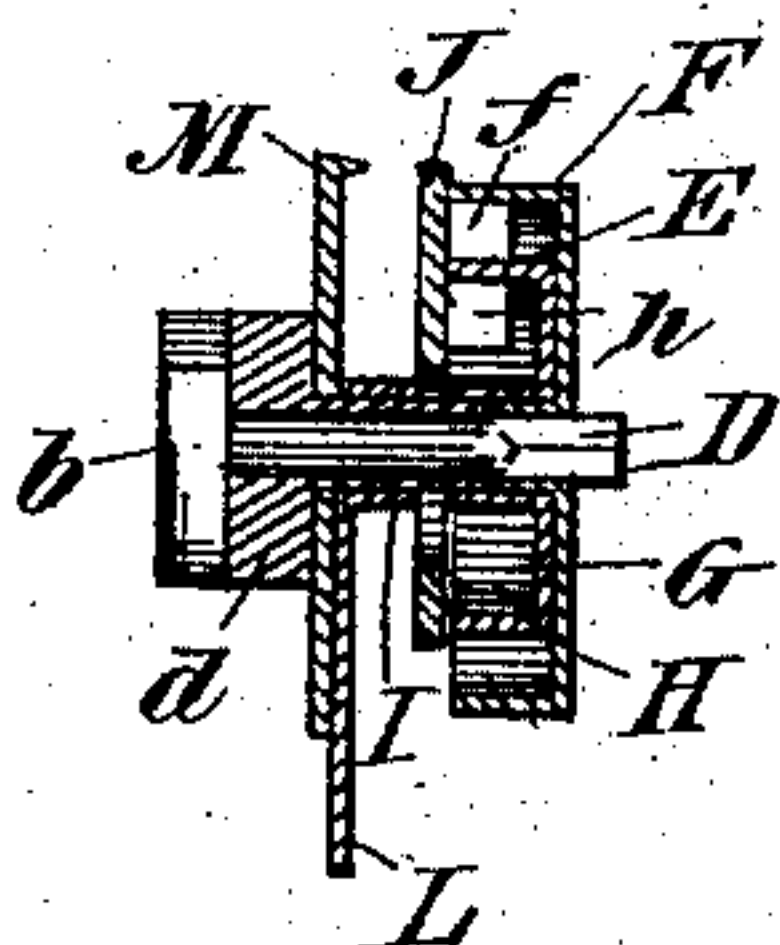


Fig. 7.

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Witnesses
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UNITED STATES PATENT OFFICE.

TIMOTHY W. McGRATH, OF BROOKLYN, NEW YORK.

COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 505,120, dated September 19, 1893.

Application filed May 6, 1892. Serial No. 432,088. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY W. McGRATH, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Combination-Locks, of which the following is a specification.

The object of my invention is to provide a combination lock that will be simple in construction, effective in use and cheap to manufacture to enable it to be placed upon boxes, drawers, &c., as well as adapted for use on larger articles.

The invention consists in the novel details of improvements and the combinations of parts that will be more fully hereinafter set forth and then pointed out in the claim.

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

Figure 1 is an end view of a box having my lock applied. Fig. 2 is a plan view thereof the cover being removed. Fig. 3 is a vertical cross section through the lock. Fig. 4 is a detail view of the bolt shown in Figs. 1 and 3. Figs. 5 is a face view of the disks shown in Fig. 3. Fig. 6 is a central section through the locking disks arranged to hold a swinging lid or cover, and Fig. 7 is a similar view showing the disks arranged concentrically.

In the accompanying drawings the letter A, indicates a box, safe or other receptacle, and B, is the cover, door or the like suitably carried thereby.

The main spindle D, of my improved lock is shown carried by one wall *a*, of the receptacle A, although the lock could be on the cover. On its outer end the spindle D, carries a pointer or knob *b*, by which the spindle can be turned, and on its inner end said spindle rigidly carries a disk or the like E, having an outwardly projecting ring-like flange F. G, is a similar disk loosely hung on the spindle D, said disk also having a ring or flange H, corresponding to F, as shown. The disk G, is carried by a sleeve I, on the spindle D, said sleeve carrying a knob *d*, for operating it. By this means either disk E, or G, can be turned independently. The flanges or rings F, and H, each have one or more notches *e, e*, which when they are aligned permit the

bolt J, to be operated. The bolt J, has lips or projections *f, h*, to engage the flanges or rings F, H, respectively, to prevent movement of the bolt, and to permit such movement only when the notches *e, e*, in rings F, H, are aligned. The bolt J, may be carried by the cover or door B, when the latter is hinged to swing, or said bolt may be arranged within the lock when a sliding cover or part is to be held, as in Figs. 1 to 4. In the latter case the bolt J, preferably has an opening *i*, to receive the spindle D, (see Fig. 4) by which the bolt is guided. A handle or lever L, also hung on the spindle D, and having a projection to engage an aperture *j*, in bolt J, serves (when the lever is rocked on its pivot) to slide the bolt J longitudinally when the notches *e, e*, are aligned to permit this movement of the bolt J.

M, is a dial or dial-plate having a number of figures, and the knob *d*, also carries figures, the arrangement being such that when any two certain figures on dial M, and knob *d*, are brought together, and the pointer *b*, is brought to a certain figure on knob *d*, the disks and flanges E, F, G, H, will be so turned as to cause the notches *e, e*, to align as in Fig. 5, to permit the bolt J to operate.

In operation if the notches *e, e*, are not aligned the lips *f*, and *h*, of bolt J, will engage the rings or flanges F or H, respectively and prevent operation, and the sense of touch will not assist a person to ascertain when the notches *e, e*, are aligned, but the combination must be known.

In Figs. 1 to 5, to release the cover the notches *e, e*, are aligned and then the bolt is drawn down in the lock away from the cover (see Fig. 3) to permit it to slide and when the bolt is raised the cover will be locked.

In Fig. 6 the rings F and H, are placed substantially side by side, and the lips *f, h*, of bolt J, cannot either pass through F or H, until the notches *e, e*, are aligned, and when so passed and one or both rings turned the bolt J, will be locked until both notches *e, e*, are again aligned. So also in Fig. 7, where the bolt J, is carried by the cover B, but the rings F, H, are concentric or one within the other. With either arrangement a positive locking of the cover is effected by merely passing the

lips *f, h*, of bolt J, through apertures *e, e*, and then turning one or both of the rings F or H.

The device is simple to construct and operate, and is perfect in its operation.

5 In Figs. 6 and 7 the bolt J, corresponds to a hasp in its action of approaching the lock.

It is evident that the rings or flanges F, H, can be carried otherwise than by disks.

Having now described my invention, what
10 I claim is—

In a lock, the combination of a spindle, a flange or ring carried thereby and having a

notch *e*, a sleeve on the spindle carrying a flange or ring having a notch *e*, a bolt having lips *f, h*, and a lever or handle to operate said bolt when the notches *e, e*, are aligned, substantially as described. 15

Signed at New York, in the county of New York and State of New York, this 25th day of April, A. D. 1892.

TIMOTHY W. McGRATH.

Witnesses:

GEO. HASELTINE,
JONATHAN MARSHALL.