

C. J. Clements.

Padlock.

N<sup>o</sup> 72166

Patented Dec. 17, 1867.

Fig. 1.

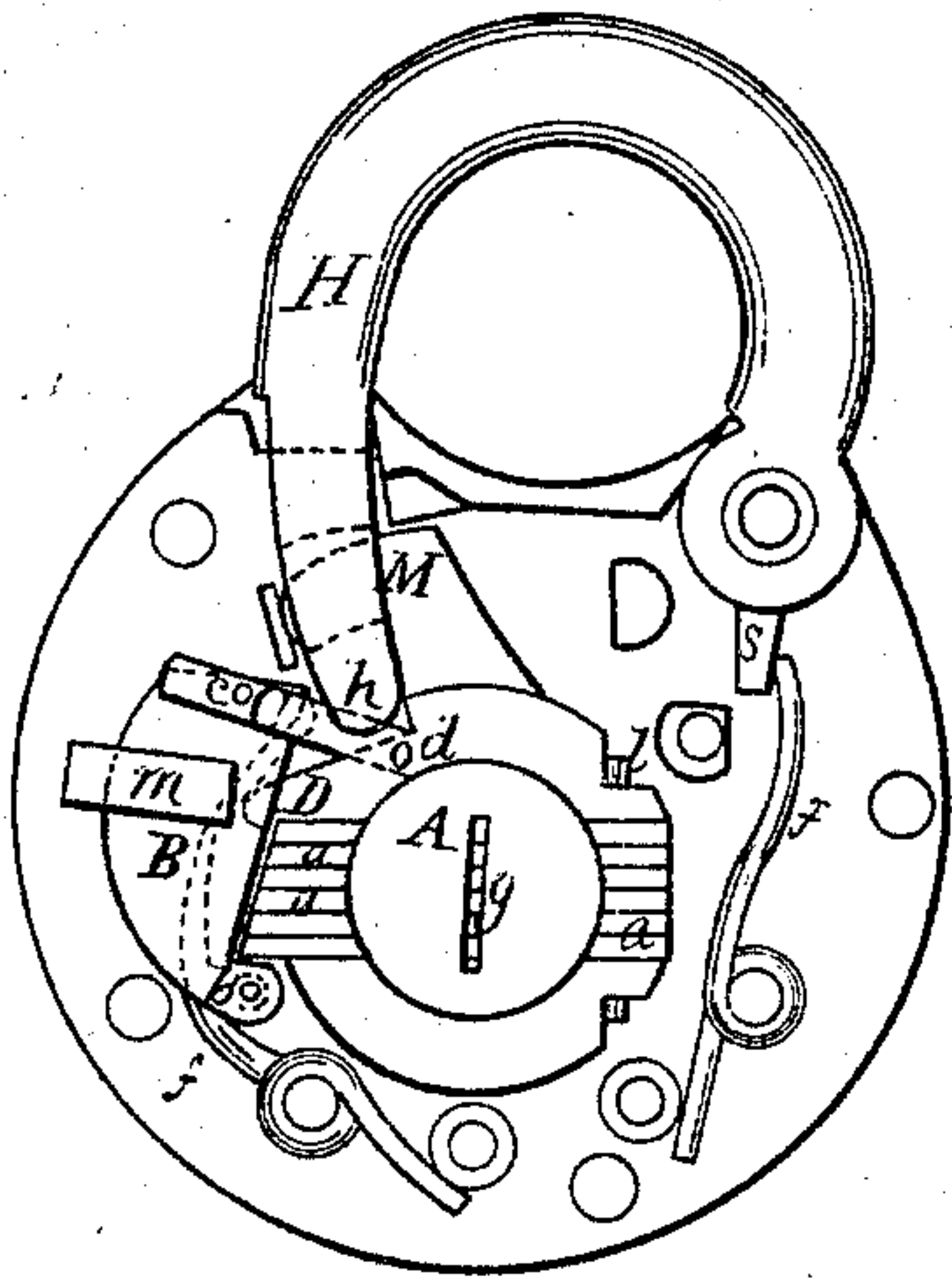


Fig. 2.

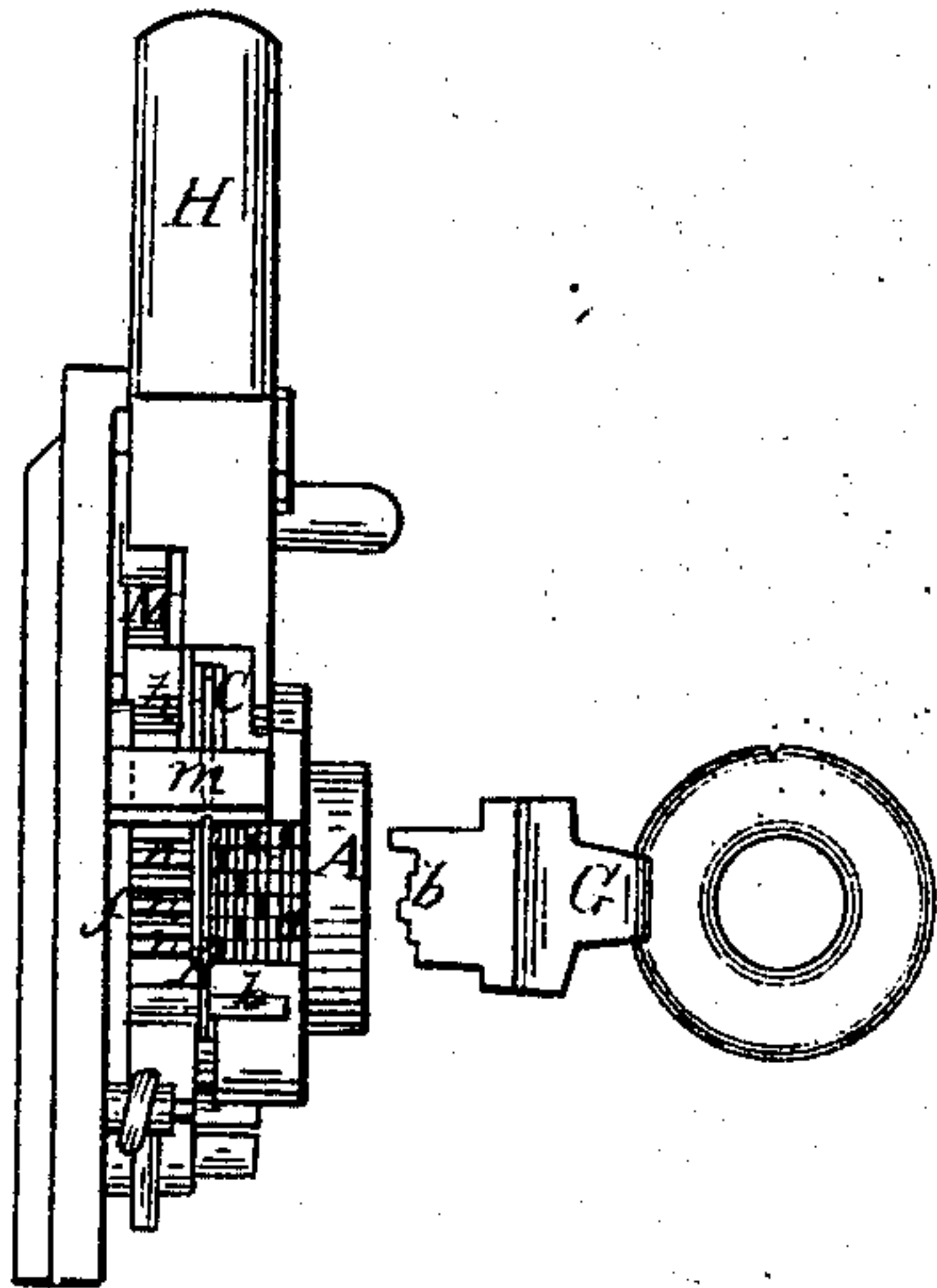
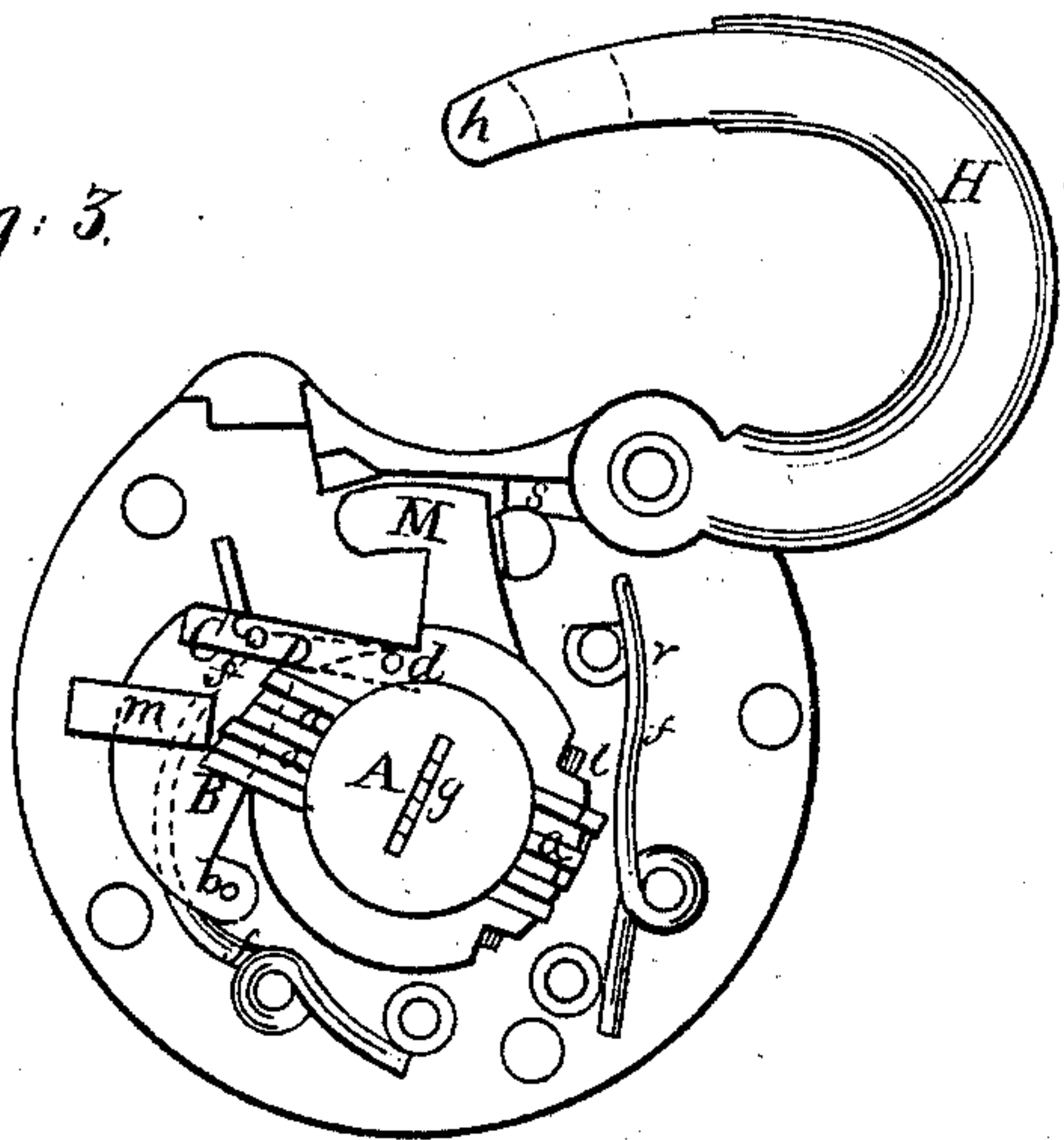


Fig. 3.



Witnesses:

Thos J Parker  
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Inventor:

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By his atty.,  
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# United States Patent Office.

CHARLES J. CLEMENTS, OF NEW YORK, N. Y.

Letters Patent No. 72,166, dated December 17, 1867.

## IMPROVEMENT IN PADLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES J. CLEMENTS, of the city, county, and State of New York, have invented an Improved Lock; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1, being a plan of a padlock, provided with my improvements; the top plate of the case being removed to show the interior construction, and the parts being in position as when locked.

Figure 2, an edge view of the same.

Figure 3, a view corresponding with that in fig. 1, except that the parts are shown in position, as when unlocked.

Like letters designate corresponding parts in all of the figures.

The main feature of my improvement consists in the employment of a hinged guard-plate, acting in connection with notched tumblers, to prevent their turning around for unlocking till their respective notches are brought opposite to the said plate, which then swings into said notches, and thereby allows the bolt to be thrown.

Let A represent the cylinder of the lock, and *g* the key-hole therein. The tumblers *a a* are located transversely therein, and turn with the cylinder, as indicated by comparing the positions in figs. 1 and 3. These tumblers are all pivoted at one end upon a pin, *l*, and the other end is free to be depressed, by pushing the key down into the key-hole. The free ends of all, however, are held up to an even position by springs, *n n*, underneath, as shown clearly in fig. 2. In front of the tumblers *a a* is located the guard-plate B, being a thin plate, pivoted at one end, *b*, while the other end is connected by a plate or link, C, with the cylinder A, the link being pivoted to the guard-plate at *c*, and to the cylinder at *d*, substantially as represented. The guard-plate may have a guide, *m*, in which it moves, to keep it securely in the right position. The front ends of the tumblers have series of shallow or false notches, at regular intervals, along the entire width thereof; though these, if the guard-plate enters them, will not allow the tumblers to turn. But each tumbler has one deep notch, in some position, in its edge, as indicated by black shade in fig. 2. These notches in the different tumblers are at various distances from the upper edge thereof, as indicated, so that the different tumblers have to be depressed, some more than others, in order to bring all their notches exactly opposite to the edge of the guard-plate, which is just thick enough to enter the notches. All the notches must be brought precisely opposite to the guard-plate before the cylinder can turn; and the different steps of the bit *i*, of the key G, fig. 2, for the several tumblers, project, each just far enough to bring the notches into position to receive the guard-plate; thus the key turns the cylinder A, which has the bolt M attached to it, and swings the same out of the hook or loop of the lock-bar or staple H. At the same time, the motion of the cylinder draws upon the connecting-link C, and thereby throws the guard-plate B into the notches of the tumblers, as indicated in fig. 3. The tumblers are thus securely held in position for locking again, without the use of the key. This is effected by the lock-staple, when it enters the lock again, its point, *h*, striking and pressing against a stud, D, of the cylinder, which starts the cylinder back toward the position for locking. The remainder of the movement is continued automatically by a spring, *f*, pressing on the stud D. A spring, *r*, pressing on a stud, *s*, of the lock-staple, throws the staple out, as soon as the bolt is freed from it in unlocking. The notched ends of the tumblers are represented as bevelled or oblique. This allows the guard-plate to enter and pass out again, with less movement than otherwise.

These improvements are applicable to other kinds of locks, as well as that represented. It makes a very secure lock, as well as simple, cheap, and durable.

The bevelled-edge tumblers also give greater depth of true groove, acting on the guard-plate, and act as wedges upon the edge thereof.

What I claim as my invention, and desire to secure by Letters Patent, is—

The guard-plate B, arranged and operating in combination with the tumblers *a a*, substantially as and for the purpose herein specified.

The above specification of my improved lock signed by me, this 1st day of August, 1867.

CHAS. J. CLEMENTS.

Witnesses:

W. B. WHITEMAN,

J. L. CHAMBERS.