

(No Model.)

W. F. TROAST.  
PADLOCK.

No. 386,510.

Patented July 24, 1888.

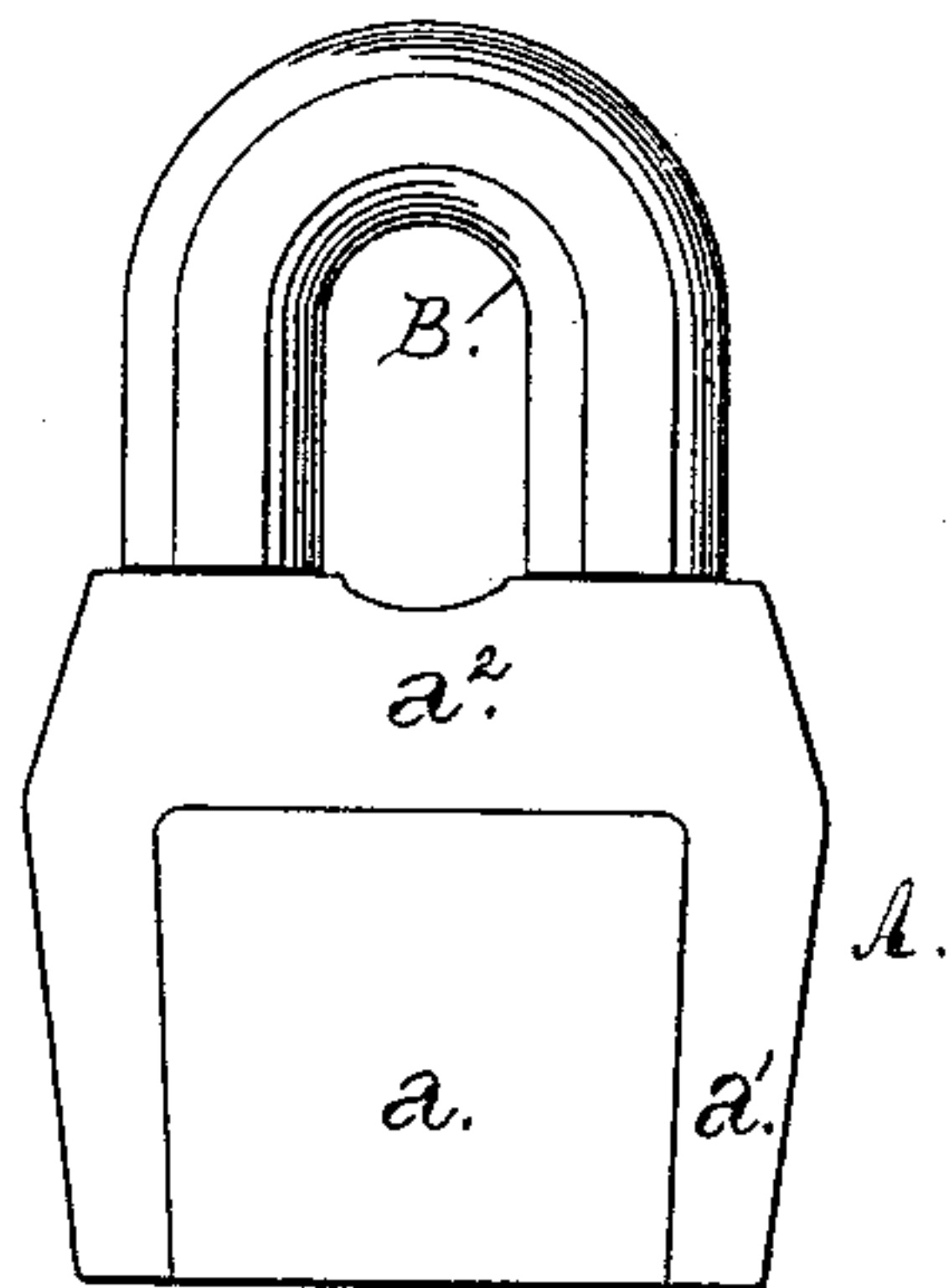


Fig. 1.

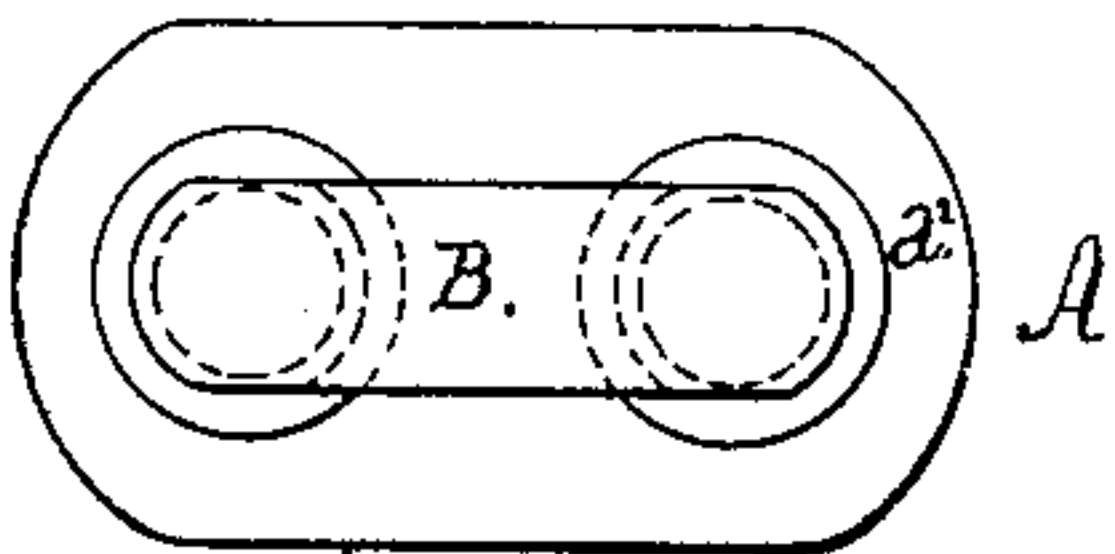


Fig. 2.

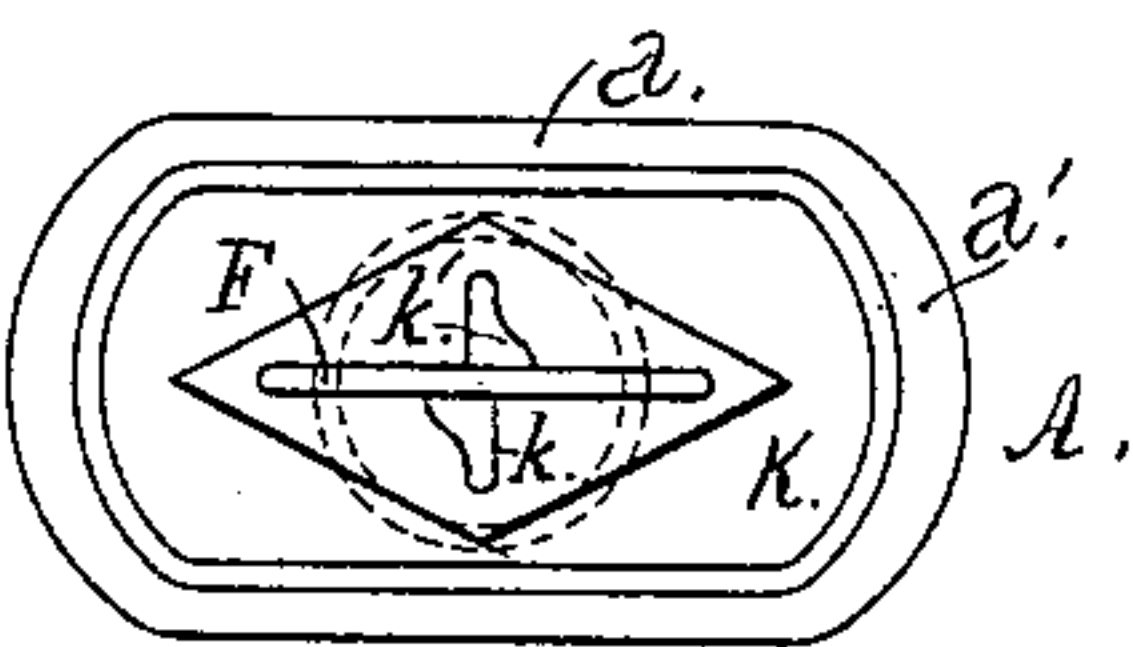


Fig. 3.

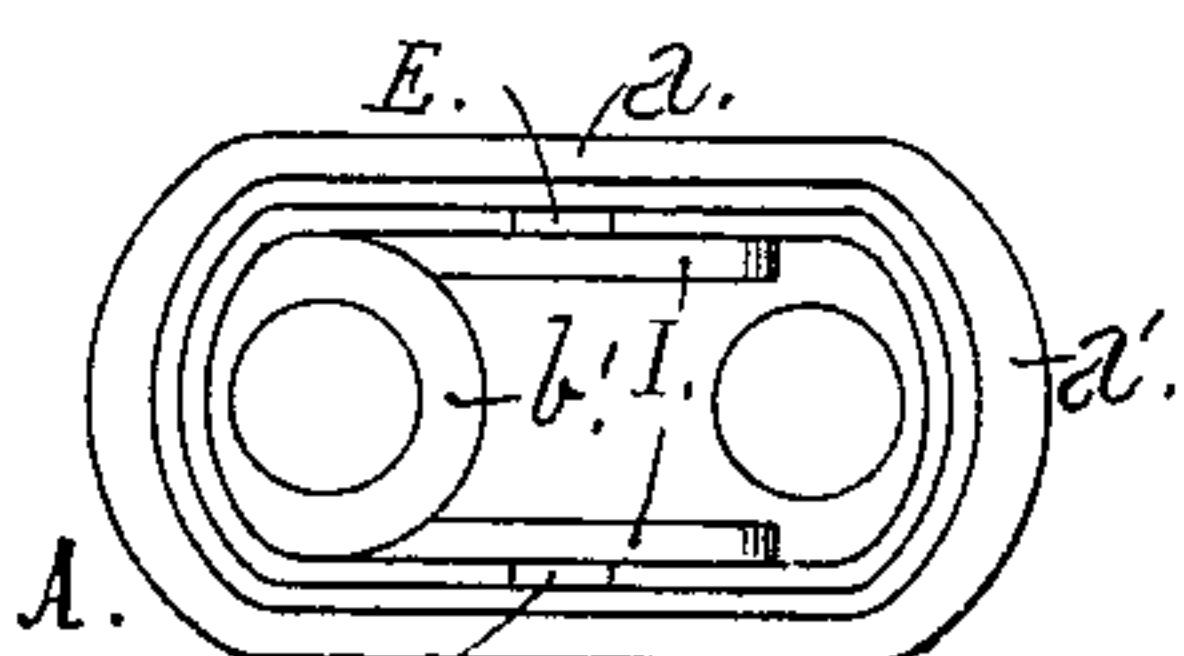


Fig. 4.

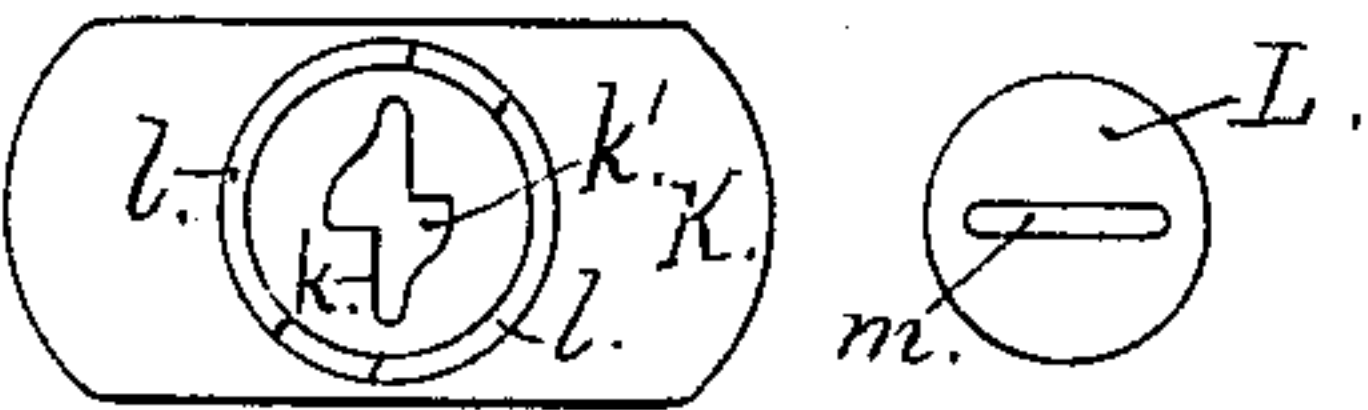


Fig. 10.

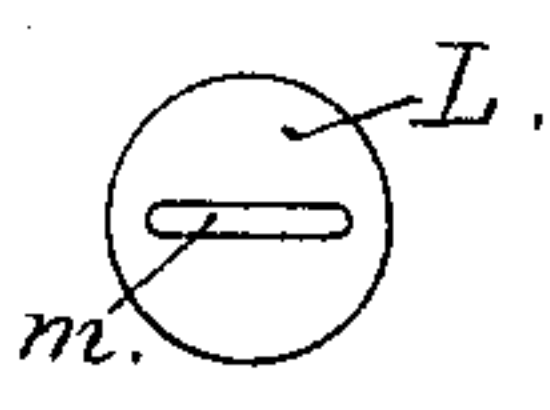


Fig. 11.

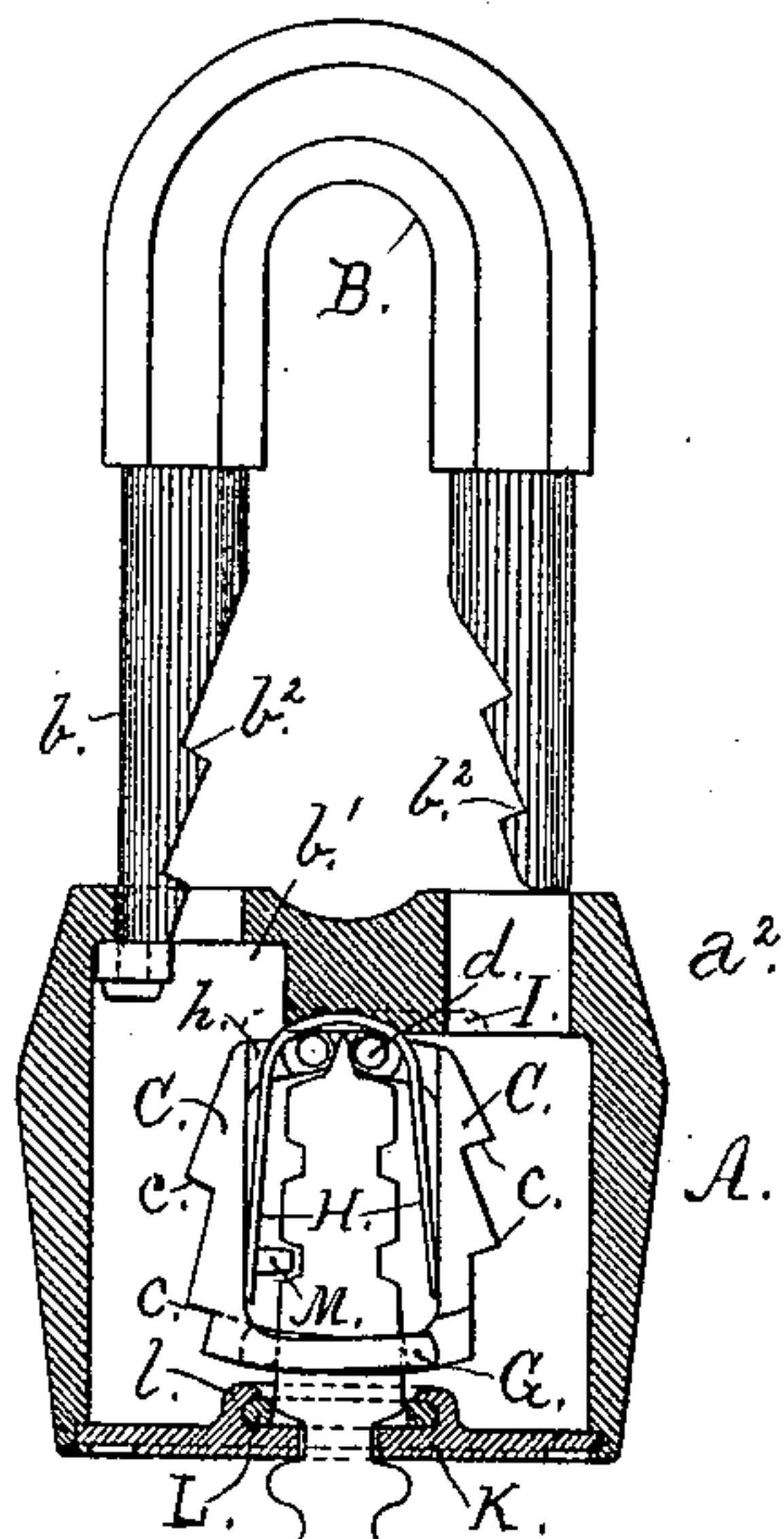


Fig. 5.

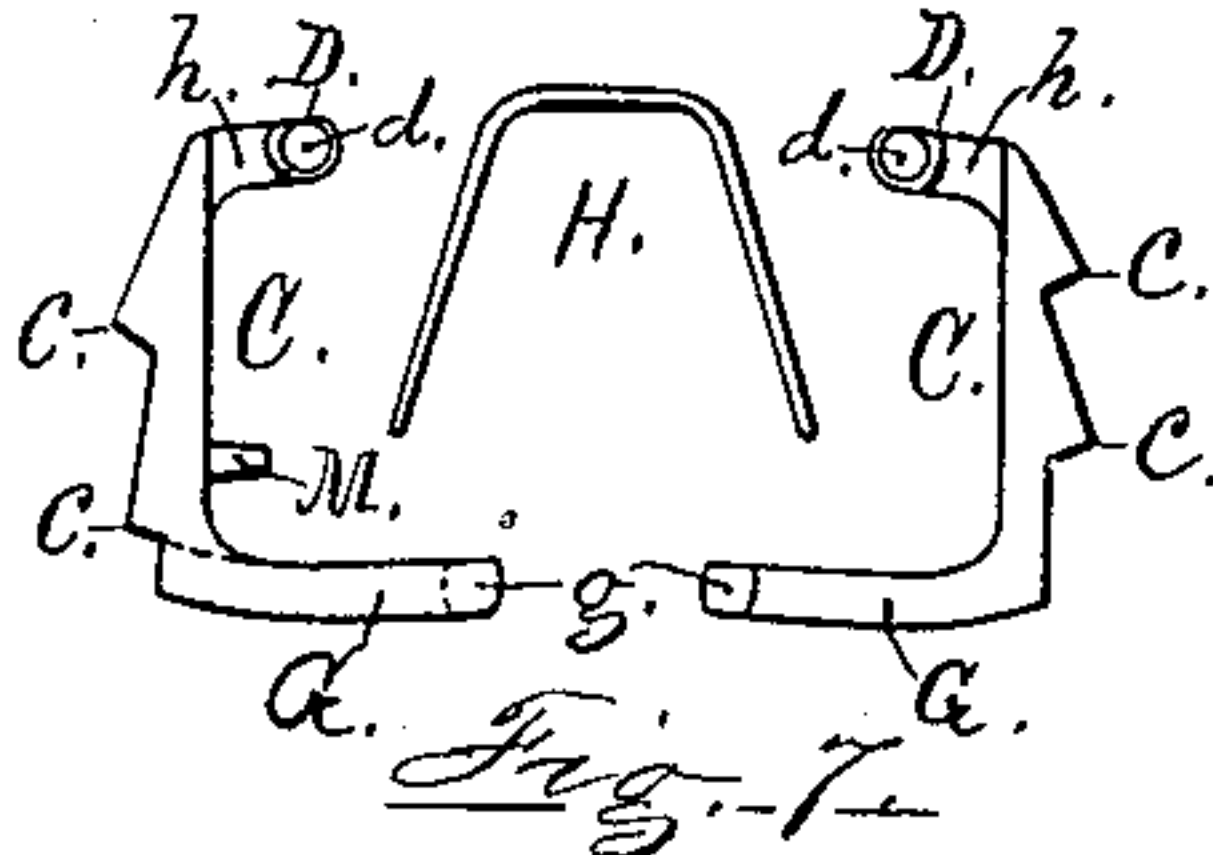


Fig. 7.

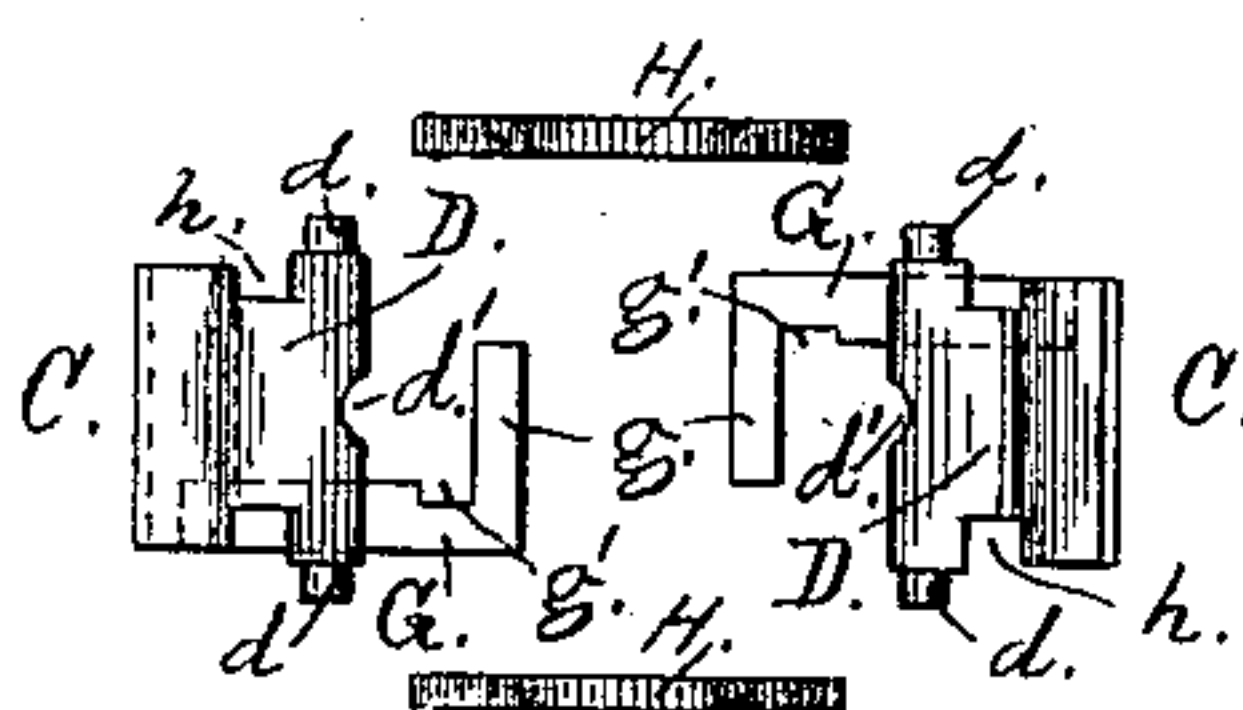


Fig. 8.

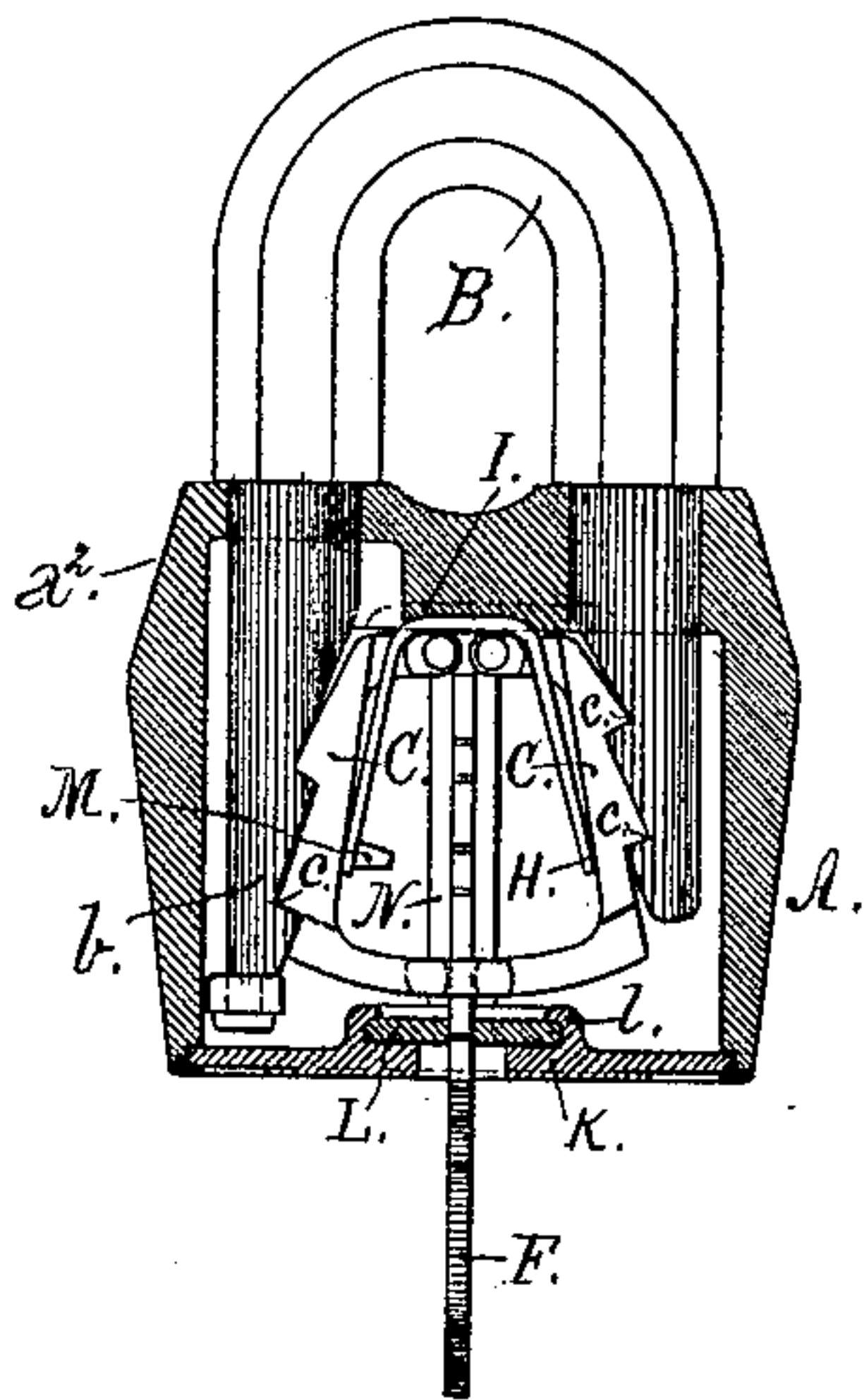


Fig. 6.

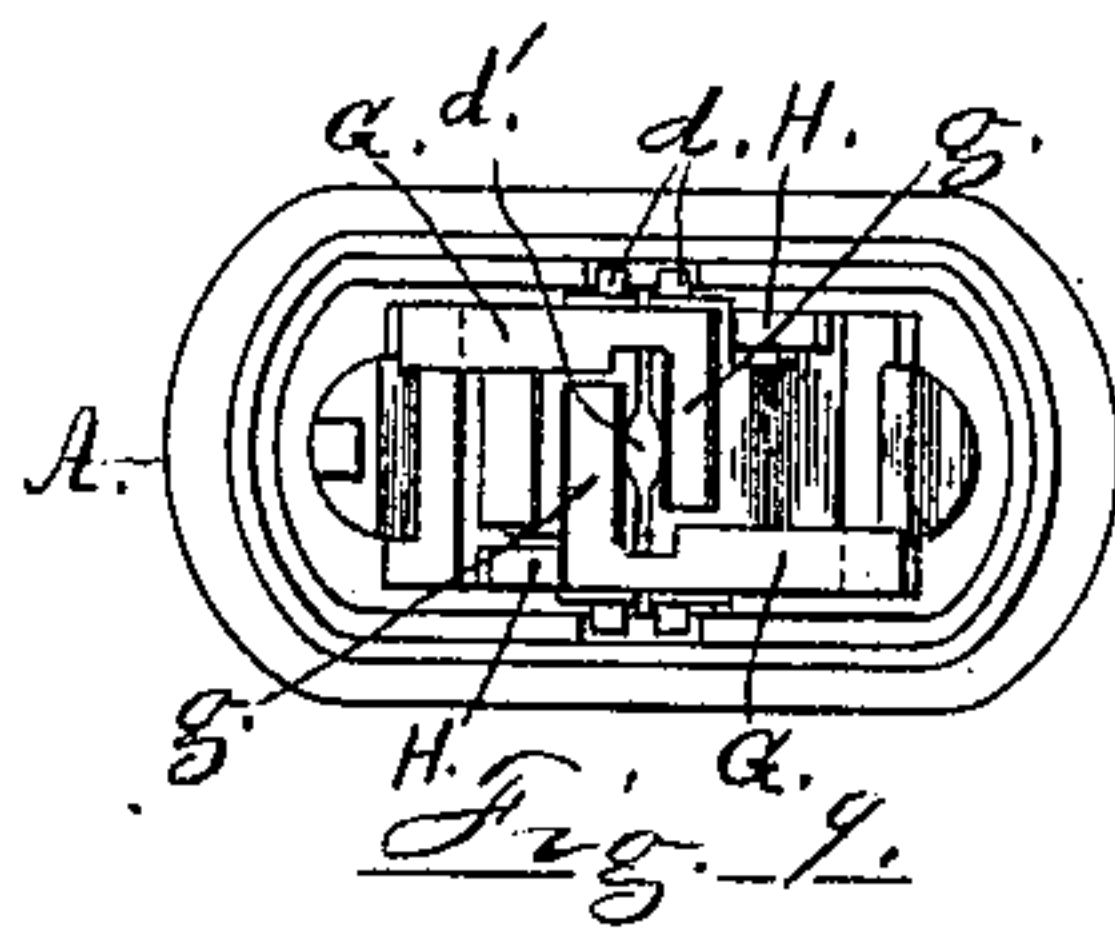


Fig. 9.

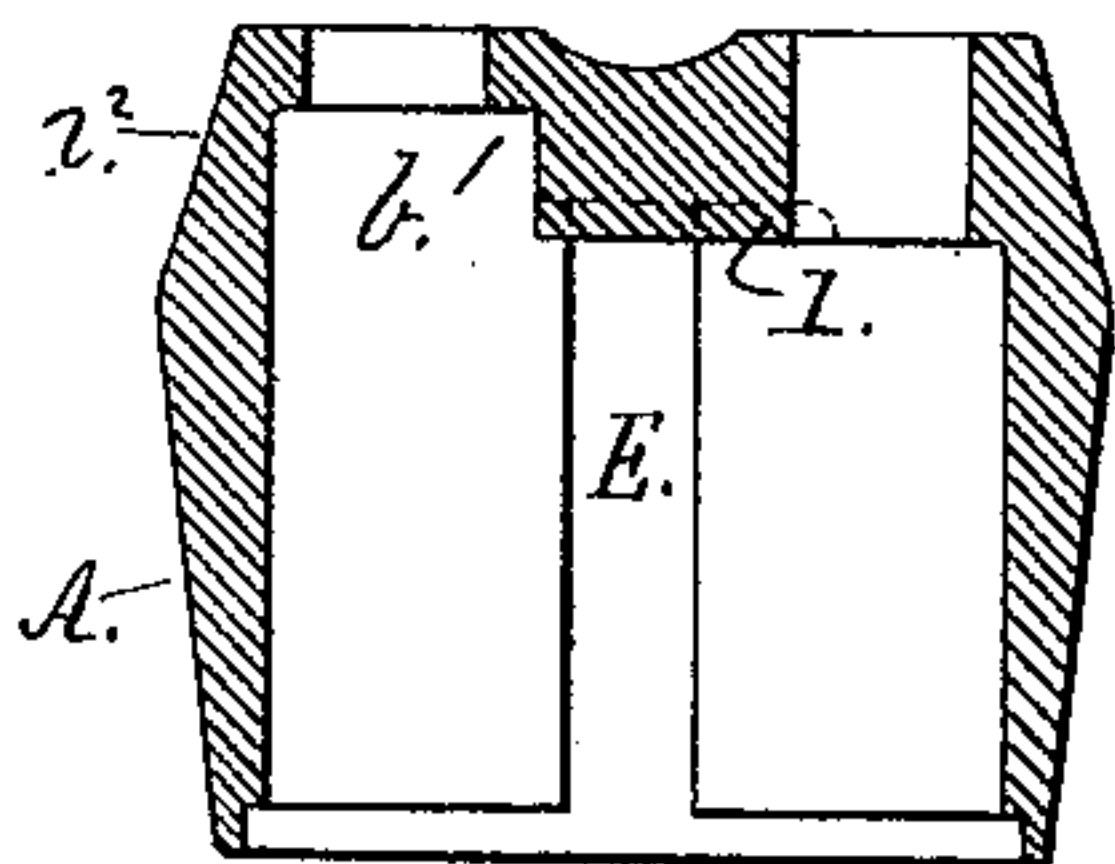


Fig. 12.

Witnesses.

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*William F. Troast.*  
By *his* Attorney,  
*Wm. R. Gerhart.*



# UNITED STATES PATENT OFFICE.

WILLIAM F. TROAST, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO SAMUEL R. SLAYMAKER, OF SAME PLACE.

## PADLOCK.

SPECIFICATION forming part of Letters Patent No. 386,510, dated July 24, 1888.

Application filed March 3, 1888. Serial No. 266,050. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. TROAST, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Padlocks, of which the following is a specification.

My invention relates to improvements in that class of padlocks in which a U-shaped hasp or shackle with notches cut in both arms thereof is held in place by means of tumblers actuated to engage said notches by means of springs; and it consists in the construction and combination of the various parts, as herein-  
after fully described and claimed, and as illustrated in the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a side view of my improved lock. Fig. 2 is a top view of the same, the shackle being in place. Fig. 3 shows a bottom view, with the key in the position it occupies as it unlocks the shackle. Fig. 4 is an interior bottom view of the case. Fig. 5 presents a side elevation of the lock having the side of the casing cut away, the shackle drawn out, and the key and the tumblers in the position occupied by them when the tumblers are disengaged from the shackle. Fig. 6 is a similar view to Fig. 5, but the shackle is pushed into the lock and the tumblers engaged therewith. Fig. 7 is a side view of the tumblers and springs separated, and Fig. 8 a top view of the same. Fig. 9 is a plan view of the lower end of lock with the bottom plate removed. Fig. 10 shows an inside view of the bottom plate with guard removed, and Fig. 11 a plan view of the guard of lower plate. Fig. 12 is a side elevation of the interior of the casing.

Similar letters indicate like parts throughout the several views.

In the drawings, A represents the shell or case oblong in shape, but having flat straight sides, *a*, and rounded ends *a'*, with the usual tapering top, *a''*.

B is the shackle, one arm, *b*, of which is longer than the other, and provided with a head, which, when the shackle is withdrawn from the shell, engages the recess *b'*, surrounding the opening through which that arm passes and prevents the entire separation of the

shackle from the case, as is usual with other fast shackle-locks.

C C represent two tumbler-plates, which are inserted crosswise and vertically in the case, the outer faces—those toward the ends of the shell—being provided with a series of projections, *c*, which, when the shackle is locked, engage the notches *b''* therein, as shown in Fig. 6. The upper ends of these plates C C have inwardly-projecting lips D, each of which is provided with journals *d*, which are received by and rest in vertical grooves E in the sides of the case. Each lip also has a semicircular recess, *d'*, cut in its interior edge, so that when the two are brought together these recesses form a circular opening to receive the end of the key F.

There is an arm, G, extending inwardly from the opposite ends of the lower or outer edge of each tumbler, each one projecting beyond the end of the other, the arms having each a rectangular portion, *g*, which extends toward the main arm of the other. These portions *g* are separated by a slight space through which the key passes, and the main arms G have each a recess, *g'*, on their interior edges inside of the portion *g*, that receive the edges of the key and afford it additional bearing.

Between the plates C C and the journals *d* the lips D have recesses *h* cut therein, which receive the curved spring H. The curve of this spring passes around the outer faces of the lips D, resting in grooves I cut in the top of the shell, the arms extending downward through the recesses *h* and bearing against the edges of the inner faces of the tumbler-plates.

To put the locking mechanism into place in the shell, the tumblers are joined, as shown in Fig. 5, the springs connected with them, and then the whole dropped into the inverted case, the journals *d* passing down the vertical grooves E, and when they have reached the inner end of the same they are secured and held there by the filling-plates N, inserted in said grooves E, and the bottom plate is then secured in place.

The ward *k* of the bottom plate, K, is a narrow slot having a recess, *k'*, on each side, as shown in Fig. 3, to permit the key to turn. Upon the inner face it is provided with a cir-



cular lip, *l*, the edges of which project inward and serve to hold in place the circular guard-plate *L*. This guard-plate is provided with a slot, *m*, which coincides with the ward *k* when the key is removed. This plate covers the recesses *k'* when the key is not in the lock and turns with it when said key is revolved.

As will be observed in Fig. 5, when the shackle is withdrawn the lower ends of the tumblers are forced apart by the springs, the upper ends being held pivotally stationary by the journals, and that the projections *c* slope upwardly, but have their lower faces square. The result of this construction is that as the shackle is pushed into the case the lower ends of the tumblers are forced inward upon each other until the shackle is fully in, when the tumblers automatically engage with it. The action of the key when inserted and turned serves to draw the lower ends of the tumblers together by reason of the lapping of the arms *G*. One of these tumblers is provided with a change, *M*, as shown.

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

1. The combination, with the case having slots to receive the journals of the tumblers and filling-plates to keep said journals in place, of the tumblers having journals at one end and springs bearing upon the inner faces of said tumblers to force the vibrating ends of the same apart, substantially as and for the purpose specified.

2. The combination, with the case having slots to receive the journals of the tumblers and filling-plates to keep said journals in place, of the tumblers journaled at one end in said slots and curved springs passing around the journaled bearing-lips of said tumblers and

having their ends resting against the inner faces thereof to force the vibrating ends of the same apart, substantially as and for the purpose specified.

3. The tumblers journaled in the case at their inner ends and having inwardly-projecting arms interlocked at the other, with a space between said arms to receive the key to draw those ends of said tumblers together, and springs connected with said tumblers to force the vibrating ends of the same apart, substantially as and for the purpose specified.

4. The combination, with the case and shackle, of tumblers extending lengthwise between the top and bottom of the shell or case and each having projections on the outer sides or faces thereof to engage notches in the shackle, and means for forcing the tumblers into engagement with said shackle, the tumblers being constructed to be disengaged from the shackle by a key, for the purpose specified.

5. The combination, with the case and shackle, of tumblers *CC*, journaled in the top of the case, extending toward the bottom thereof and provided on their outer faces with projections *c*, adapted to engage notches *b<sup>2</sup>* in the arms of the shackle, a spring bent around arms *D*, projecting inwardly from the upper ends of the tumblers and bearing against the inner faces of said tumblers, and rectangular arms *G*, projecting inwardly from the lower ends of the tumblers and lapping each other, so as to form an opening to admit the key, all constructed and operating substantially as specified.

WILLIAM F. TROAST.

Witnesses:

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WM. R. GERHART.