

(Model.)

G. M. BARTH.
Padlock.

No. 241,279.

Patented May 10, 1881.

FIG. 1.

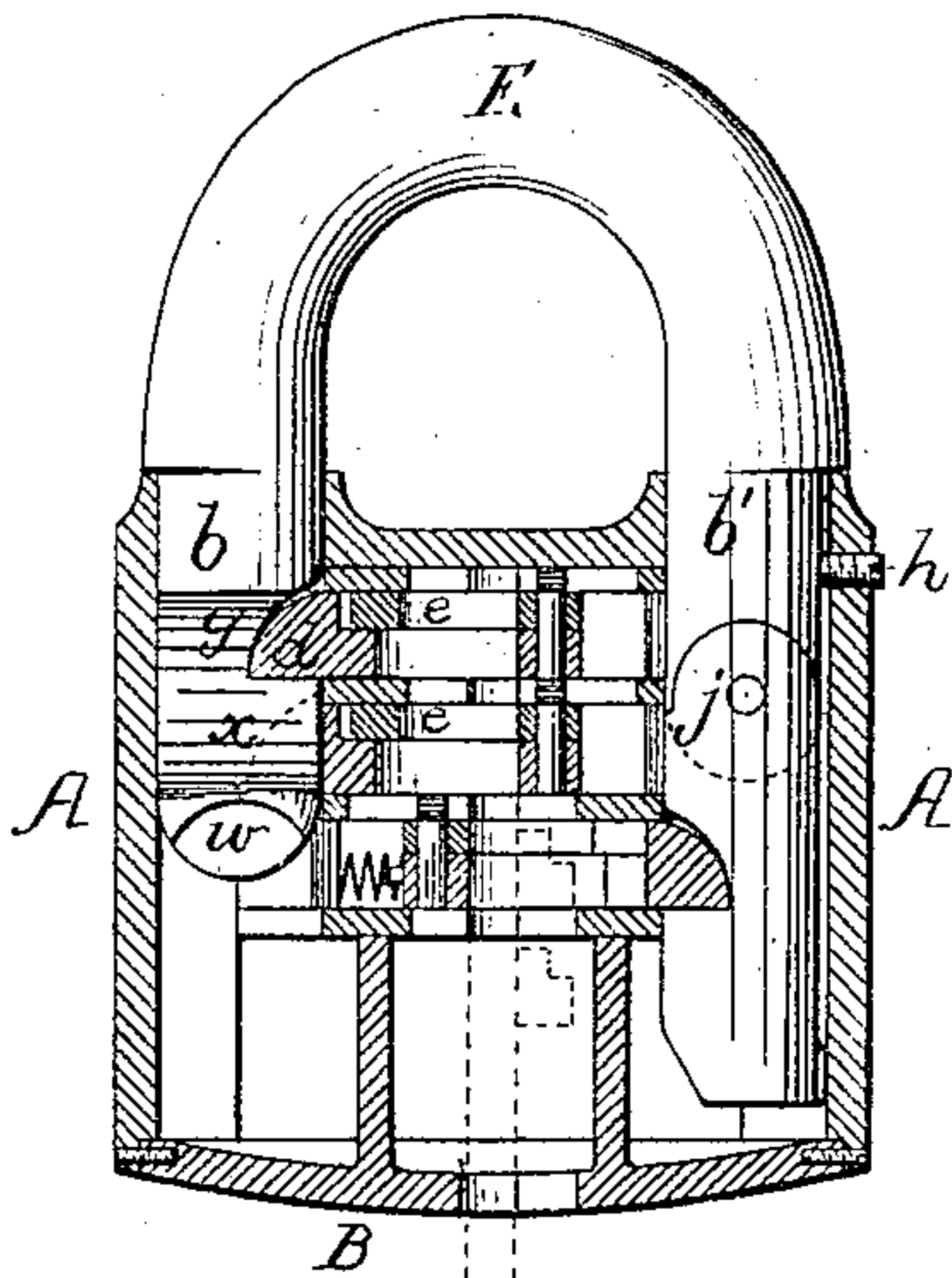


FIG. 2.

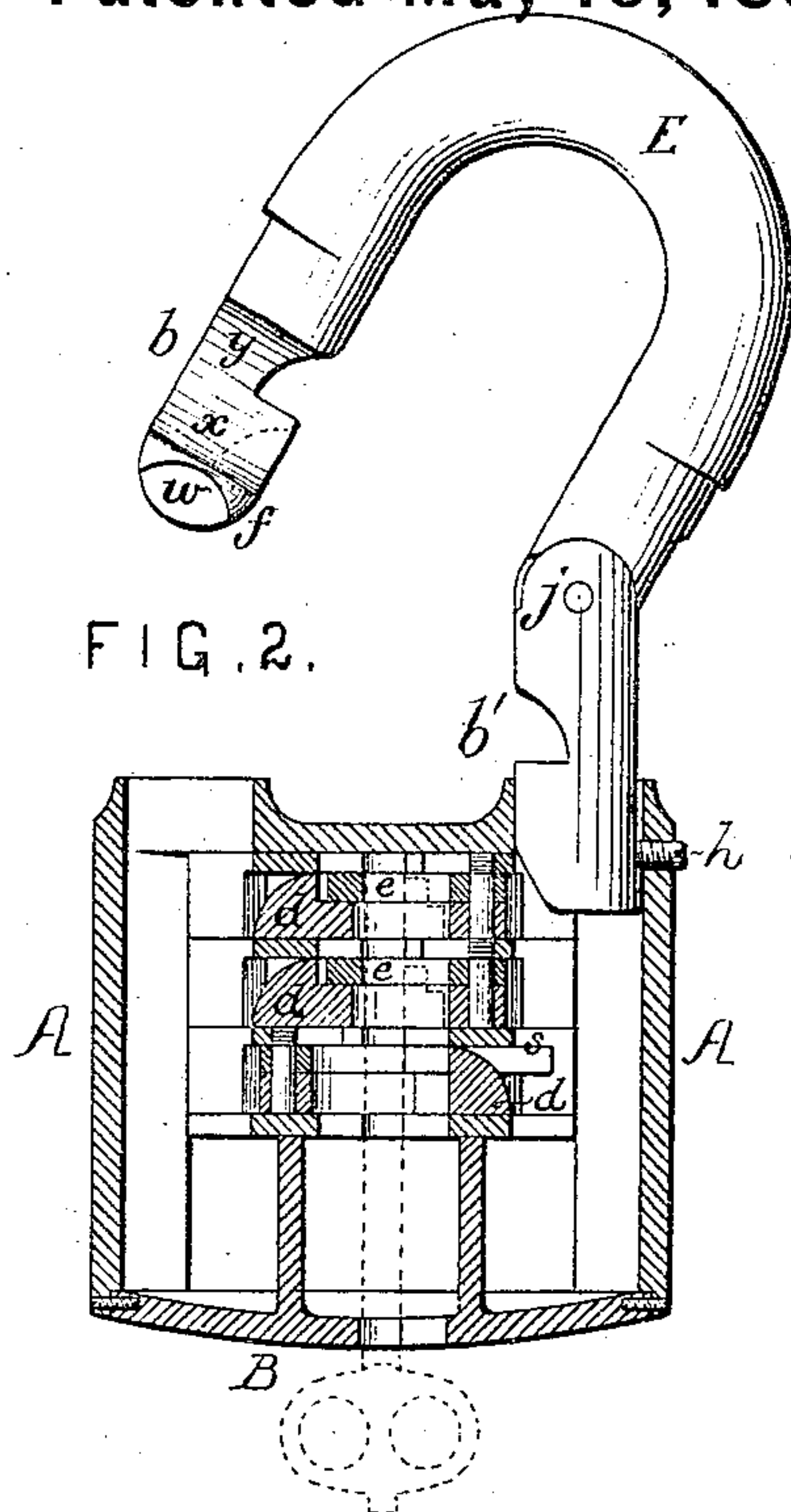


FIG. 3.

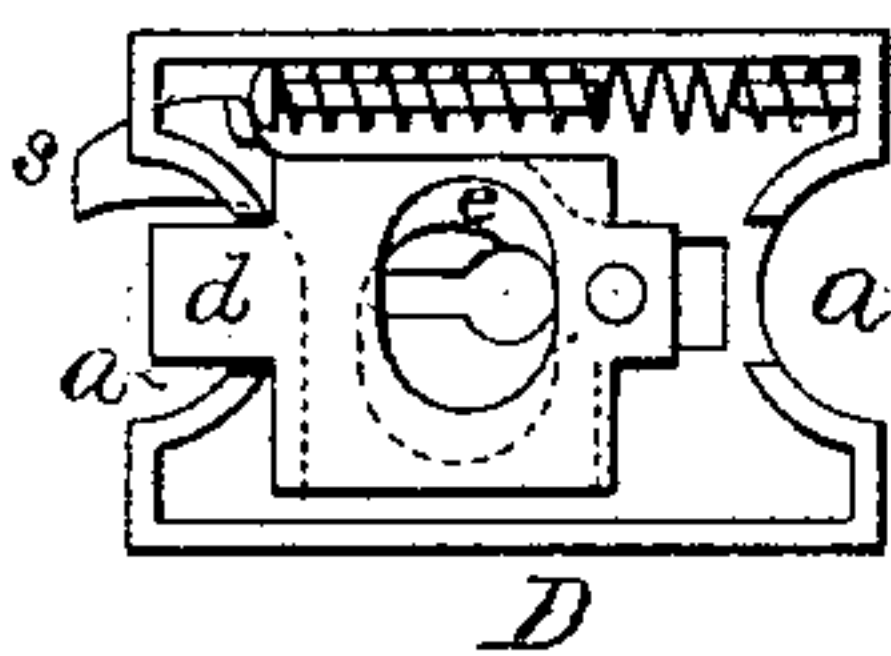


FIG. 7.

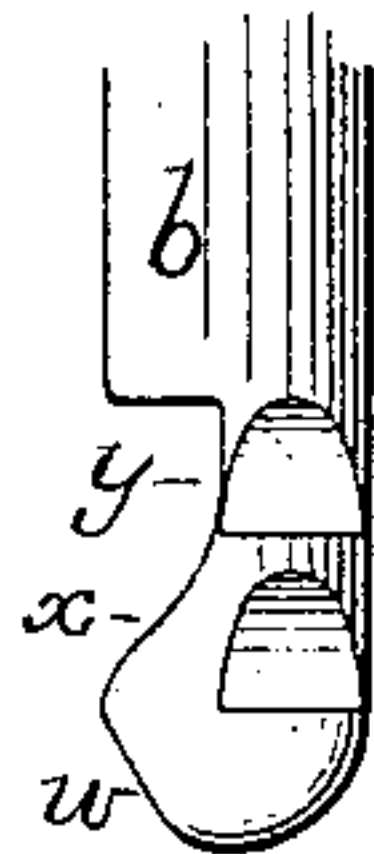


FIG. 5.

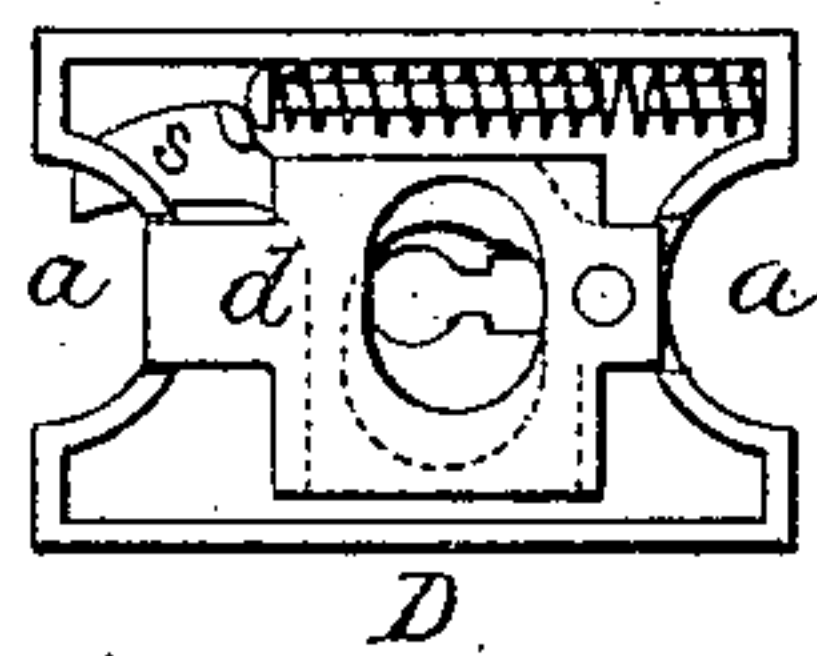


FIG. 4.

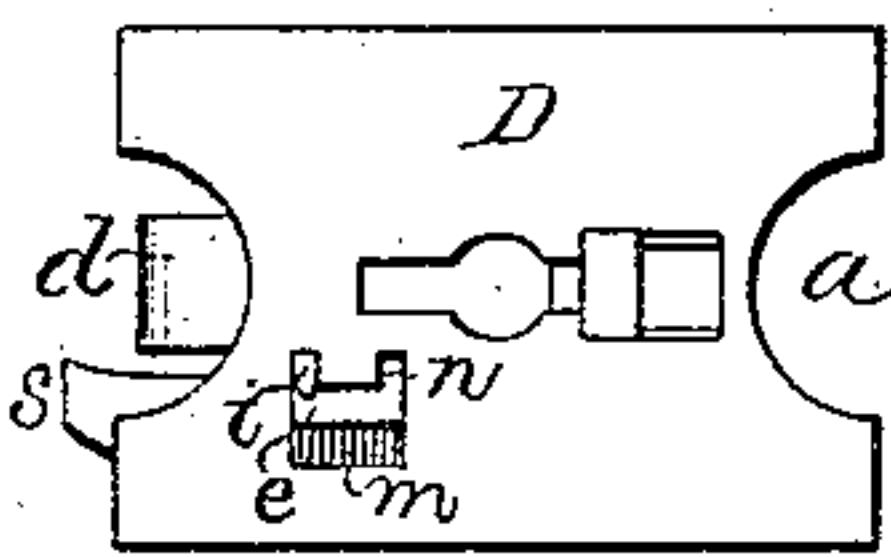


FIG. 8.

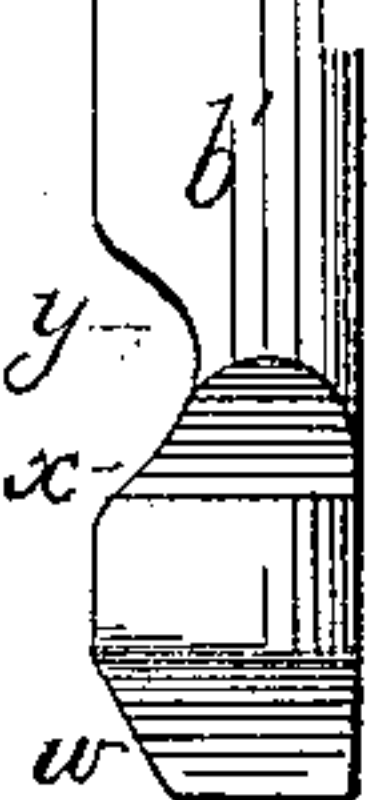
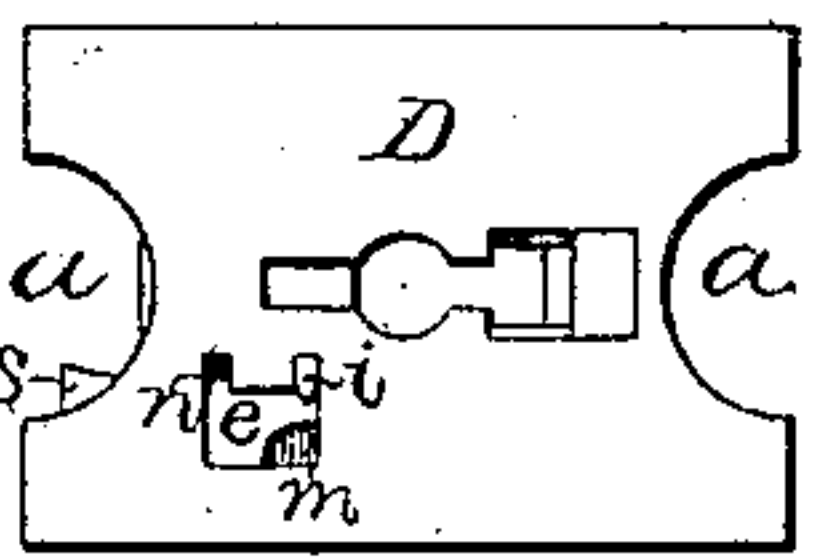


FIG. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 241,279, dated May 10, 1881.

Application filed April 12, 1880. (Model.)

To all whom it may concern:

Be it known that I, GOTTLIEB M. BARTH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improvement in Padlocks, of which the following is a specification.

My invention relates to an improvement in that class of locks in which a number of sets of independent lock-bolt mechanisms are arranged within a single case, my object being to so construct the lock that while difficult to pick it can be readily opened by means of a proper key, and can be locked either by the use of the key or when the key is removed. This object I attain in the manner too fully described hereinafter to need preliminary explanation, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved padlock, showing the hasp locked; Fig. 2, a vertical section, showing the hasp unlocked, and Figs. 3 to 8 detached views of parts of the lock.

A is the outer casing of the lock, and B the cover-plate, the interior of said casing A being adapted for the reception of a number of small casings, D, which are retained in proper position in the casing A by lugs on the cover-plate. Each casing has semicircular recesses *a* at the ends, for the reception of the legs *b b'* of the hasp E, and each casing carries a bolt, *d*, and tumbler *e*, the tumbler being pivoted to the bolt at the rear end, and both tumbler and bolt being properly guided and retained in the casing. In the present instance the lock has three casings, D, the bolts of the two upper casings being left-handed and engaging with notches in the leg *b* of the hasp, while the bolt of the lower casing is right-handed and engages with a notch in the leg *b'* of the hasp. Each tumbler is acted upon by a spring-pin, the tendency of which is to force the tumbler outward, and the outer end, *s*, of each tumbler projects through an opening in the end of its casing D, the end of the tumbler occupying a position adjacent to the end of the bolt *d*, but projecting slightly beyond the same.

On the back of each tumbler is a lug, *i*, which is adapted to and can move in a recess, *m*, in the back of the casing D, containing the tumbler, notches *n* being formed at each end of the

recess *m* for the reception and retention of the lug *i* when the tumbler is in either of its extreme positions—that is to say, when the bolt is advanced or retracted.

The leg *b'* of the hasp is confined to the casing of the lock by a screw-pin, *h*, adapted to a slot in the hasp, and said leg has a joint, *j*, in order that the upper portion of the hasp may be swung back in order to more readily free the staple. The lower end of each leg of the hasp is beveled on the inside, as shown at *f*, in order to effect the automatic retraction of the bolts *d* when the hasp is thrust into the casing of the lock; but in order that this retraction may be effected the lugs *i* of the tumblers must first be released from the outer notches, *n*, of the casings D; hence I provide each leg of the hasp with a side incline, *w*, for acting on the projecting ends *s* of the tumblers *e* as the hasp is thrust into the lock. Each leg of the hasp has also a side incline, *x*, the reverse of the incline *w*, the object of this incline *x* being to operate on the ends *s* of the tumblers and release the lugs *i* of the latter from the inner notches, *n*, of the casings D on the removal of the hasp from the casing A. Each leg of the hasp also has in the side adjacent to the ends *s* of the tumblers a recess, *y*, in which said ends of the tumblers rest when the hasp is inserted and the bolts projected, the lugs *i* of the tumblers then resting in the outer notches of the casings D and preventing the retraction of the bolts except by the action of the key.

When the above-described lock is fastened, as shown in Fig. 1, the operation of unlocking is as follows: The key held with its wards to the right is first inserted into the lock until the first set of wards are in position for acting on the right-hand bolt and tumbler of the first casing D, as shown by dotted lines in Fig. 1, a suitable mark on the stem of the key or an appropriate stop within the casing determining this position. The key is then turned half-way around, so as to retract the bolt and tumbler, which are retained in the retracted position by the engagement of the lug *i* of the tumbler with the inner notch, *n*, of the casing. The key is now in position to be thrust completely into the lock, so as to act on the bolts and tumblers of the two upper casings, which are retracted by another half-turn of the key,

as shown in Fig. 2, and retained in the retracted position by the engagement of the lugs *i* of the tumblers with the inner notches, *n*, of the casings, as in the case of the first bolt and tumbler. The hasp is now free to be withdrawn, as is also the key, the bolt *d* of the first casing of the lock being recessed, in order to permit the passage through it of the wards of the key. On reinserting the hasp the tumblers will be released from the control of the inner notches, *n*, of the casings *D* by the action on the ends *s* of the said tumblers of the side inclines, *w*, on the legs *b b'* of the hasp, the bolts *d* consequently engaging with the notches of the hasp. When the hasp is inserted the ends *s* of the tumblers rest in the recesses *y* of the legs *b b'* of the hasp, the lugs *i* of the tumblers engaging with the outer notches, *n*, of the casings *D* and preventing the retraction of the bolts. When, after unlocking the bolts with the key, the latter is withdrawn before the hasp, the side inclines, *x*, of the said hasp, as the latter is withdrawn, release the tumblers and permit the bolts to spring out, and on inserting the hasp when the bolts are extended, the side inclines, *w*, first operate the tumblers, and the inclines *f* of the hasp then thrust back the bolts until the latter come into line with their proper notches, into which they spring and retain the hasp.

The incline *x* of the leg *b* of the hasp is so formed as to prevent such an inward movement of the end *s* of the tumbler of the upper casing as would cause the locking of said tumbler on the springing of the upper bolt into the end notch of said leg *b* of the hasp.

A greater number of casings *D*, with their

bolts and tumblers, may be employed than are shown in the drawings, and the casings may be arranged in a manner different from that described.

I claim as my invention—

1. The combination of the casing *A*, the notched hasp *E*, and a series of independent sets of bolt mechanism, each set comprising a locking-bolt, and a retaining-tumbler operated by the hasp, some of the sets being right-handed and others left-handed, as set forth.

2. The combination of the casing *A*, the notched hasp *E*, spring-bolts *d*, and tumblers *e*, for retaining said spring-bolts in their extreme positions, said tumblers having projecting ends adapted for being acted upon by the legs of the hasp, as set forth.

3. The combination of a casing, *D*, having a recess, *m*, with notches *n n*, the bolt *d*, a spring for acting thereon, and a tumbler, *e*, hung at one end to the bolt, and having at the opposite end a lug, *i*, adapted to the recess *m*, and notches *n n*, said tumbler being adapted to be acted upon by the key and by the hasp, as set forth.

4. The combination of the casing *A*, the casings *D*, having bolts *d* and tumblers *e*, and the notched hasp *E*, having legs, with inclines *w* and *x*, and recesses *y*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GOTTLIEB M. BARTH.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.