

Goffin & Liebrick,

Padlock.

N^o 6,522.

Patented June 12, 1849.

Fig: 1.

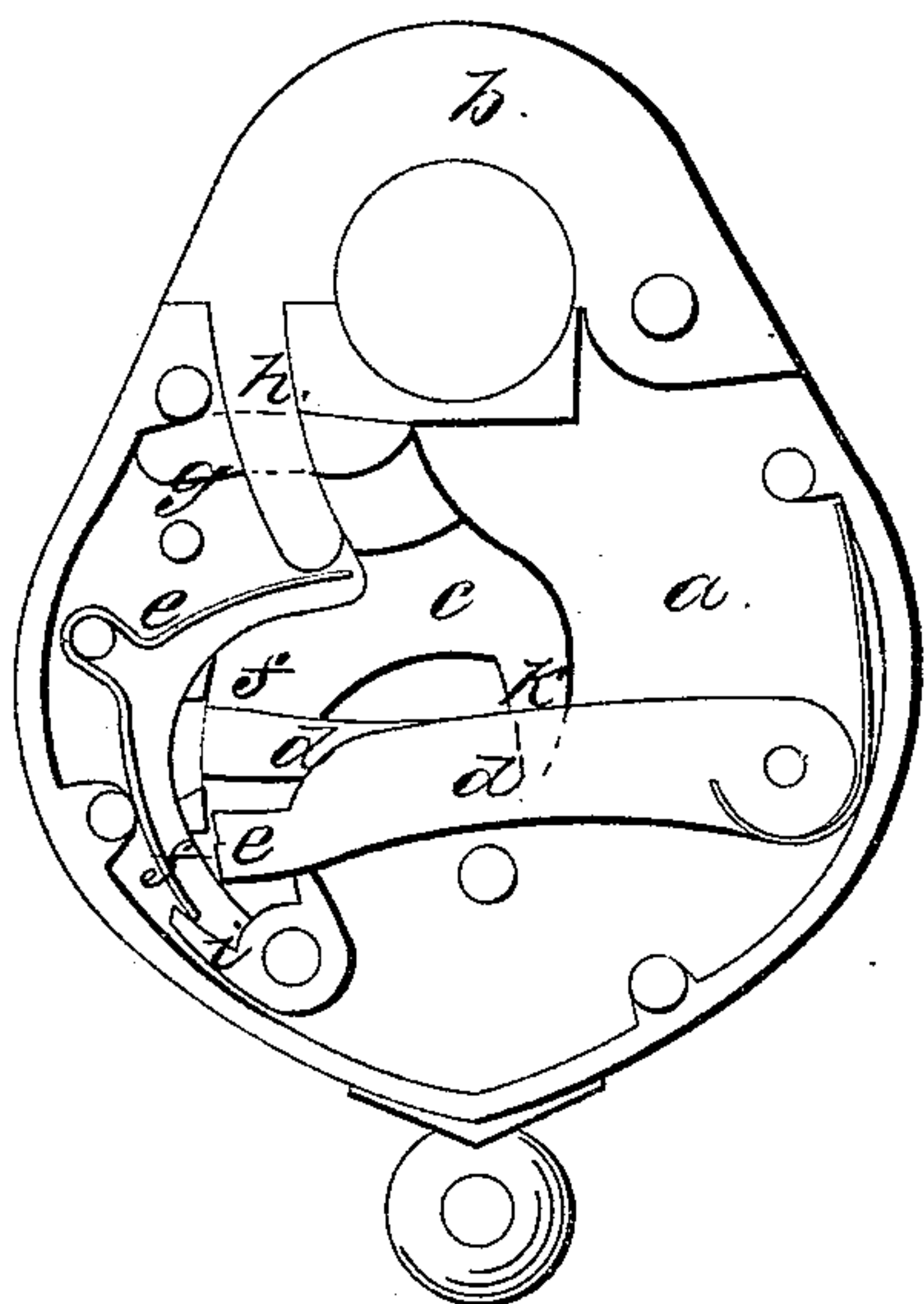


Fig: 2.

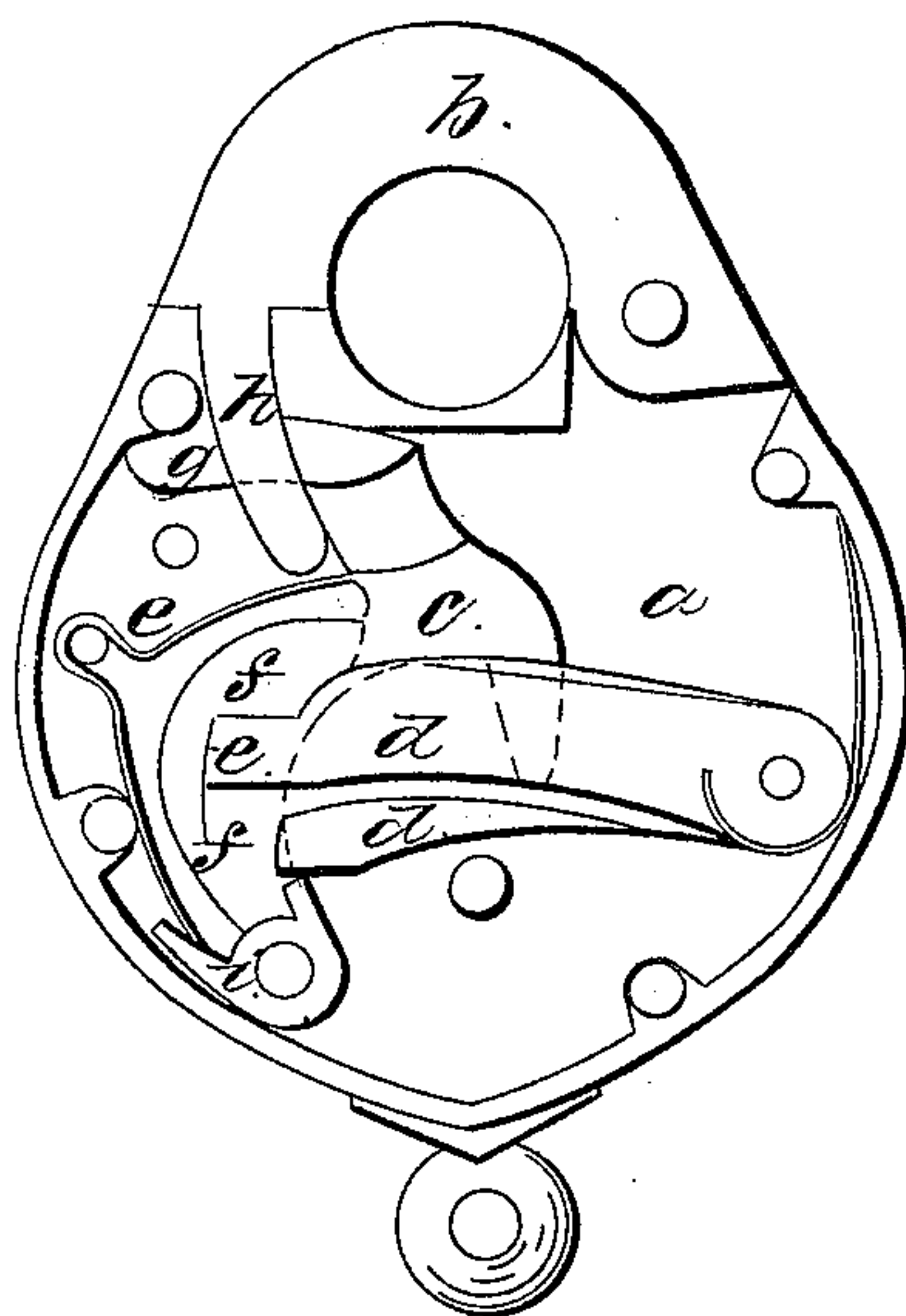


Fig: 3.

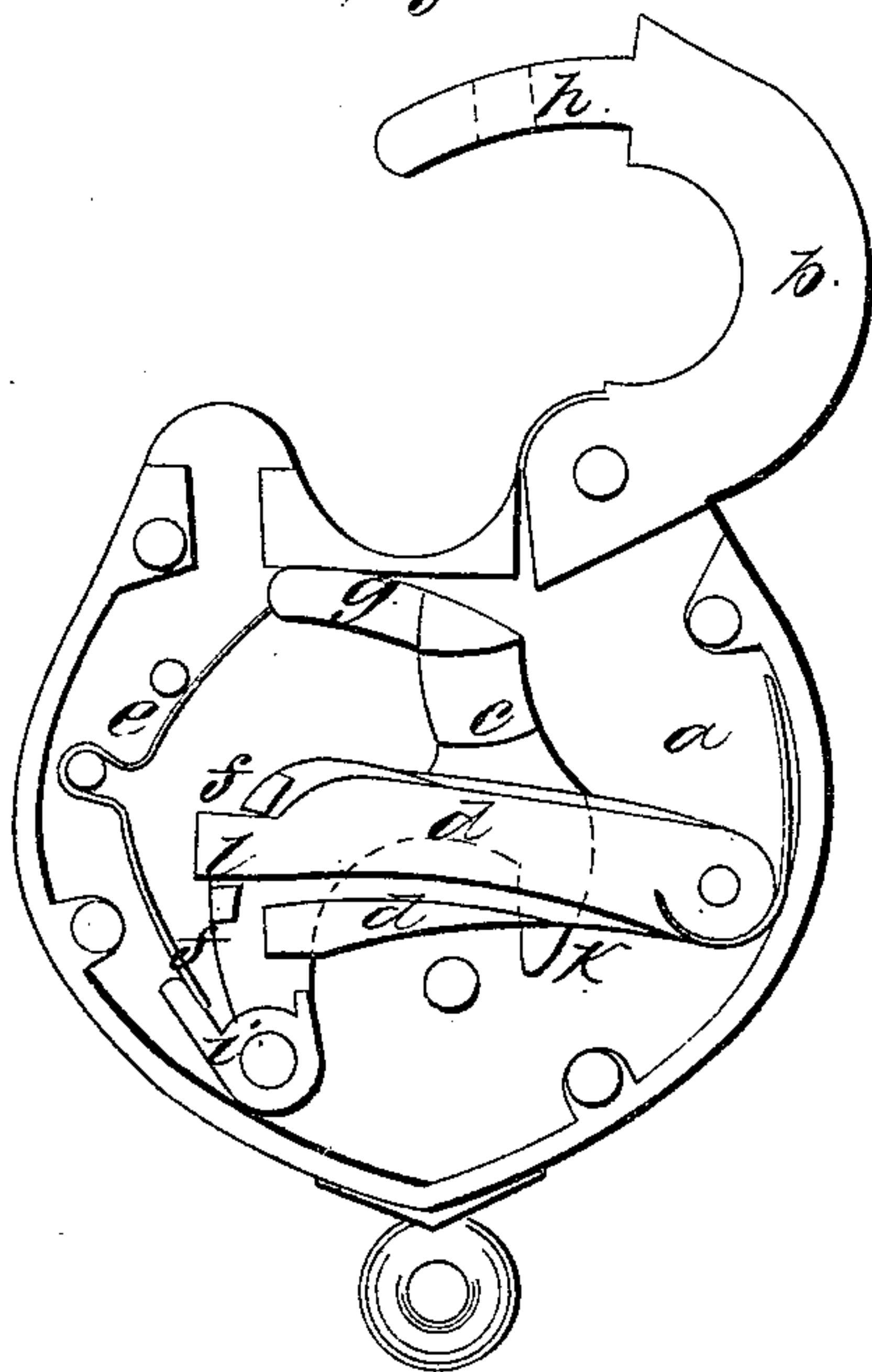
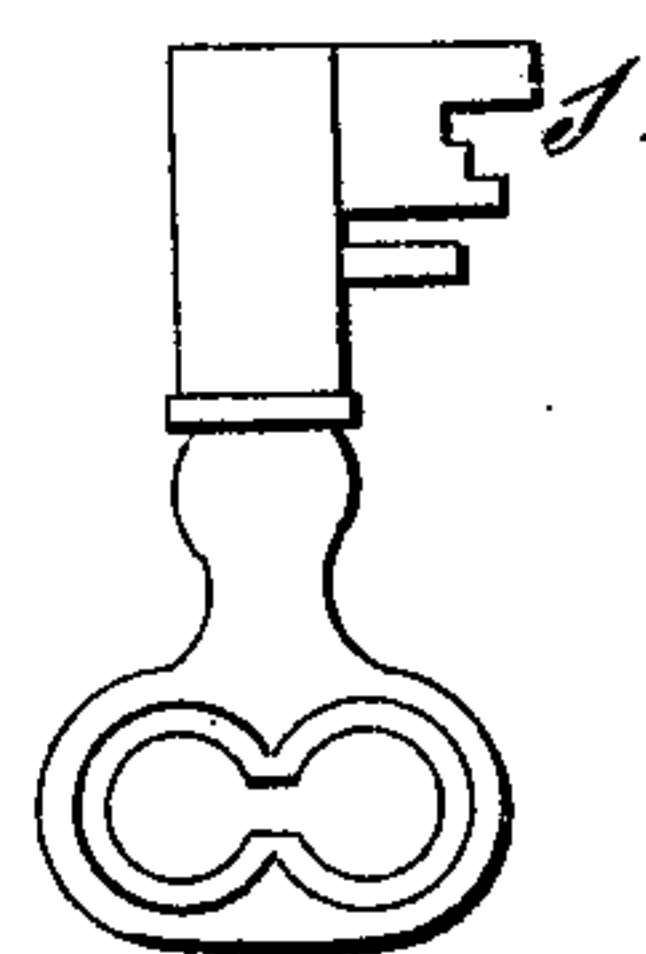


Fig: 4.



UNITED STATES PATENT OFFICE.

CONRAD LIEBRICH AND FRANCIS C. GOFFIN, OF PHILADELPHIA, PENNSYLVANIA.

PADLOCK.

Specification of Letters Patent No. 6,522, dated June 12, 1849.

To all whom it may concern:

Be it known that we, CONRAD LIEBRICH and FRANCIS CHARLES GOFFIN, both of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Locks; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a padlock locked; Fig. 2, the same with the tumblers partly raised by the key; Fig. 3, the same fully unlocked, and Fig. 4 represents the key to said lock.

The lock as represented consists of the case *a*, the bow *b*, the fulcrum-bolt *c*, the tumblers *d* (of which there are five, but which number may be reduced or increased), and the main-spring *e*.

The tumblers differ in construction from the usual ones in this respect, that they are solid instead of having notched grooves, and their extreme ends (opposite to the fulcrum whereon they move) operate upon the bolt. Said extreme ends of the tumblers are so shaped as to fit in between the two studs *f* on the bolt *c*, and allow said bolt to move back, when the tumblers are raised the proper height by the key belonging to the lock. If any other key (differing the least) is applied, it will either raise one or the other of the tumblers either too high or not high enough, and thus prevent the bolt from moving back. The extremity of the fulcrum-bolt *c*, or what may be styled the bolt-proper *g*, passes through a slot in the extremity *h* of the bow *b*, as indicated by dots.

The principal distinguishing feature of this lock consists in the main-spring *e*, the shape of which is similar to what is termed an "elbow-lever," and which is best understood by inspection of the drawings. The action of the opposite extremities of said spring is reciprocal, viz: when locked, the lower extremity thereof presses against the projection *i* at or near the fulcrum of the bolt *c*, and consequently forcing the bolt-proper *g* forward, while the upper extremity of said spring presses against the extremity *h* of the bow *b*, thus closely locking both.

The proper key being inserted and partly turned, the tumblers are raised so as to coin-

cide with the space between the studs *f*, allowing the bolt *c* to move back. The key being further turned, the lower or extreme bit *j* of the key (Fig. 4) catches the bolt-shaft *k*, and, turning the fulcrum-bolt *c*, withdraws the bolt-proper *g* from the mortise of the bow; at the same time, the upper extremity of the spring *e*, in consequence of the opposite extremity thereof (being pressed against by the projection *i*) increasing in strength, throws up the bow. The lock being thus opened, the last-named extremity of the spring braces against the end of the bolt proper *g*, preventing it from coming forward of its own accord, if the lock should be turned up or knocked about. The process of locking consists in swinging the bow down, when the extremity thereof presses down the spring, disengaging the bolt-proper and allowing it to spring forward and into the slot, which is accomplished by the lower extremity of said spring pressing against the projection *i* of said fulcrum-bolt.

To prevent the picking of this lock by ordinary means (such as pick-locks or wires) the ends of the tumblers are furnished with small notches *l*, so that by bearing on the bolt-shaft it will move back sufficiently to fasten all the tumblers, in such a manner as that even the proper key will not open the lock, without the bow being previously pressed in.

We do not confine ourselves to padlocks only but intend combining the same improvements with any kind of locks, where they may be applicable, be they locks with fulcrum-bolts or with sliding-bolts.

What we claim as our invention, and desire to secure by Letters-Patent, is:

The main-spring *e*, answering three distinct purposes, viz: throwing out the bow, holding back the bolt-proper when unlocked, and forcing it forward in locking; its power increasing during the process of locking and unlocking, while it is perfectly at ease when unlocked, all of which is constructed and operates, substantially, in the manner herein above described.

CONRAD LIEBRICH.
FRANCIS CHARLES GOFFIN.

Signed in presence of—
GEO. GRISCOM,
JONAS BROOKE.