(No Model.)

J. C. CULMER.

COMBINATION LOCK.

No. 338,586. Patented Mar. 23, 1886.

Fig. 1.

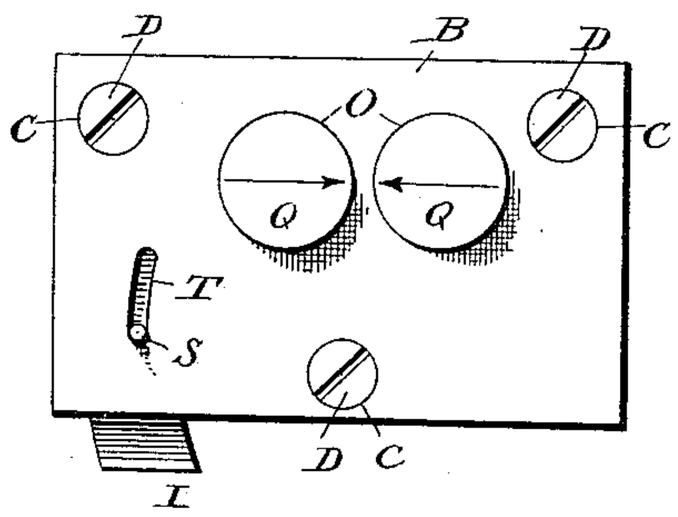


Fig. 2.

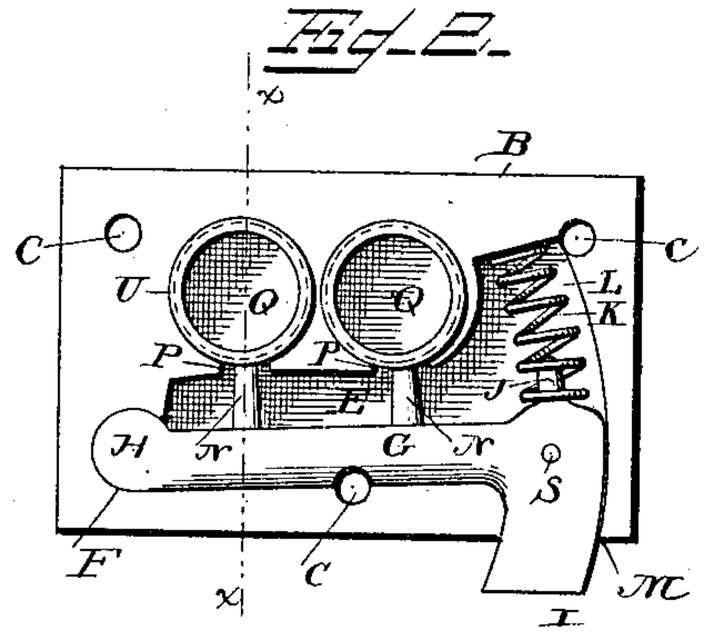


Fig. 3.

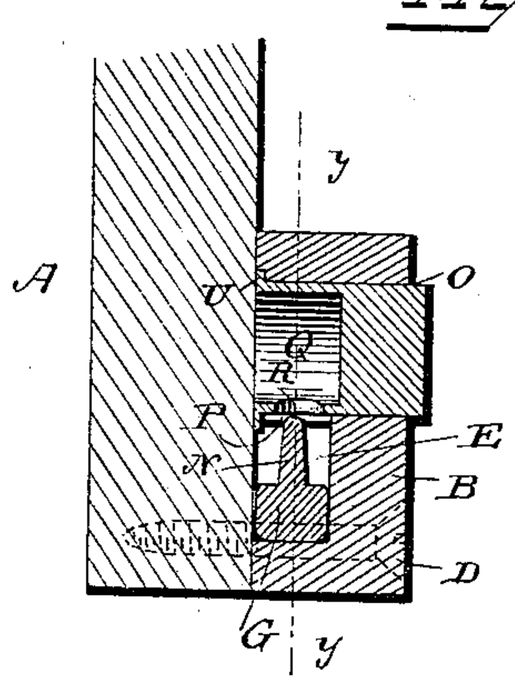
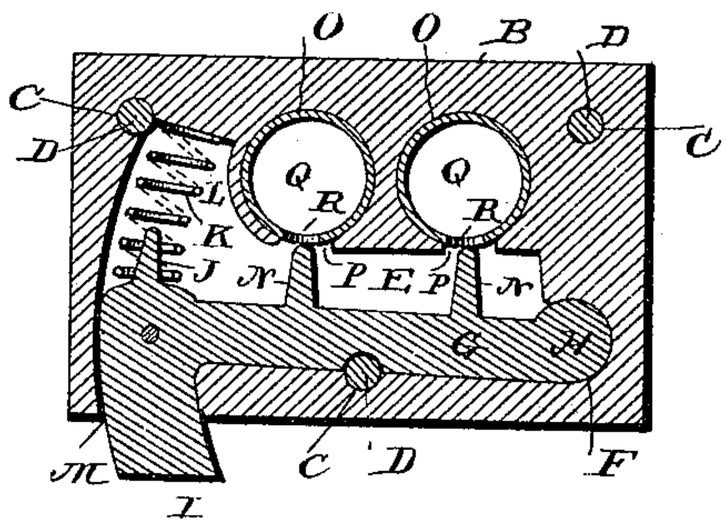


Fig. 4.



WITNESSES
F. L. Ourand.
Edward Stanton

Jethro C. Culmer
INVENTOR
By Louis Bagger & Co
Attorney

UNITED STATES PATENT OFFICE.

JETHRO C. CULMER, OF SPENCER, INDIANA.

COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 338,586, dated March 23, 1886.

Application filed November 23, 1885. Serial No. 183,758. (No model.)

To all whom it may concern:

Be it known that I, JETHRO C. CULMER, a citizen of the United States, and a resident of Spencer, in the county of Owen and State of Indiana, have invented certain new and useful Improvements in Combination-Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front view of my improved combination-lock. Fig. 2 is a rear view of the same removed from its seat. Fig. 3 is a cross-section on line *x x*, Fig. 2; and Fig. 4 is a longitudinal section on line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of locks in which tumblers having perforations or recesses bear with their sides against projections upon the bolt, preventing the same from being moved, excepting when the perforations or recesses register with the projections; and it consists in the improved construction and combination of parts of such a lock, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates a door or similar object to which the lock is fastened, and B is the casing of the lock, which consists of a casting or block having perforations C for the fastening-screws D, and a recess, E, in which the bolt and its spring are inclosed. The recess in the block is formed at one end with a rounded enlargement, F, within which the enlarged inner end, H, of the bolt G is pivotally secured. The free end of the bolt is provided with an outwardly-projecting head or block, I, which may engage the catch upon the opposite member of the objects to be locked together, and with an inwardly-projecting lug, J, upon which one end of a spiral spring, K, fits, the other end of the spring bearing against the end of a branch, L, of the recess of the casing, which is formed with a slot, M, through which the head I of the bolt projects. A series of tumblers, Q Q, fit and turn within cylindrical bearings O O in the casting. Each of these tumblers has an aperture or perforation, R, near its inner end, which registers with a slot or aperture, P, in the side of the recess E. The back of the bolt G is provided with a series of pins, N N, which project through the apertures P and R, when the bolt is drawn back for the purpose of opening the lock. The free end of the bolt is provided with a forwardly-projecting pin, S, which projects through a slot, T, in the forward side of the casing, and by means of which the bolt may be tilted back, and the forward ends of the tumblers are provided with suitable marks, which, when registering with suitable marks upon the edges of the transverse perforations in the forward side of the casing, indicate that the perforations in the tumblers register with the slots in the sides of the transverse perforations O, and that the bolt may be tilted back. The inner ends of the thimbles are flanged, as shown at U, and these flanges bear against the inner ends of the transverse perforations of the casing, preventing the said thimbles or tumblers from dropping out at the forward end of the casing, and at the same time not interfering with the turning of the said thimbles or tumblers. It follows that any number of tumblers may be used, the number of lugs upon the bolt increasing with the number of tumblers, and that any desired manner of marking the outer ends of the tumblers, and the edges of the perforations may be used; and it also follows that although the hollow thimbles are preferable, on account of their light weight and the ease with which they may be perforated or flanged, solid tumblers may be used having simply perforations extending into their interior.

For the purpose of complicating the combination more completely, smaller tumblers may be fitted within the larger tumblers, which in that case are open at their outer ends, and these smaller tumblers are provided with perforations which must register with the perforations in the larger tumblers and with the slots in the sides of the perforations or bearings for the tumblers before the bolt may be tilted.

The joint or pivotal point of the bolt in the recess in the casing does away with any pivotal pintle or pin, and affords a simple and strong pivotal point for the bolt, the entire construction of the casing consisting of a block having recesses and perforations and of the

bolt and tumblers being strong and simple, the lock consisting of comparatively few pieces.

The bolt may be provided with a suitable handle at its pivotal point, instead of the pin at its outer end, and other changes in the construction of the lock may be made without departing from the spirit of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of a casting having a recess upon its inner side, a bolt pivoted within said recess and having a head projecting through an opening in the side of the casting and a lug upon its back portion, a spring bearing against said bolt around said lug and against the side of the recess, a pin in said head projecting through a slot in the side of the casting, and revolving apertured tumblers for locking said bolt with its head projecting through the opening in the side of the casting, as shown and described.

2. The combination of a casting having a recess upon its inner side, a bolt pivoted within said recess and having a head projecting through an opening in said casting, and a series of pins upon its back portion, a series of apertures through said casting, forming bearings, and an apertured tumbler in each of said bearings, each of said tumblers having a flange at its inner end and marks upon its outer end, said marks registering with marks upon the outside of the casting, as shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JETHRO C. CULMER.

Witnesses:

WILLIAM I. OVERSTREET,

THOMAS J. BAIN.