

(No Model.)

F. N. SILVEY.
PERMUTATION PADLOCK.

No. 514,387.

Patented Feb. 6, 1894.

Fig. 1.

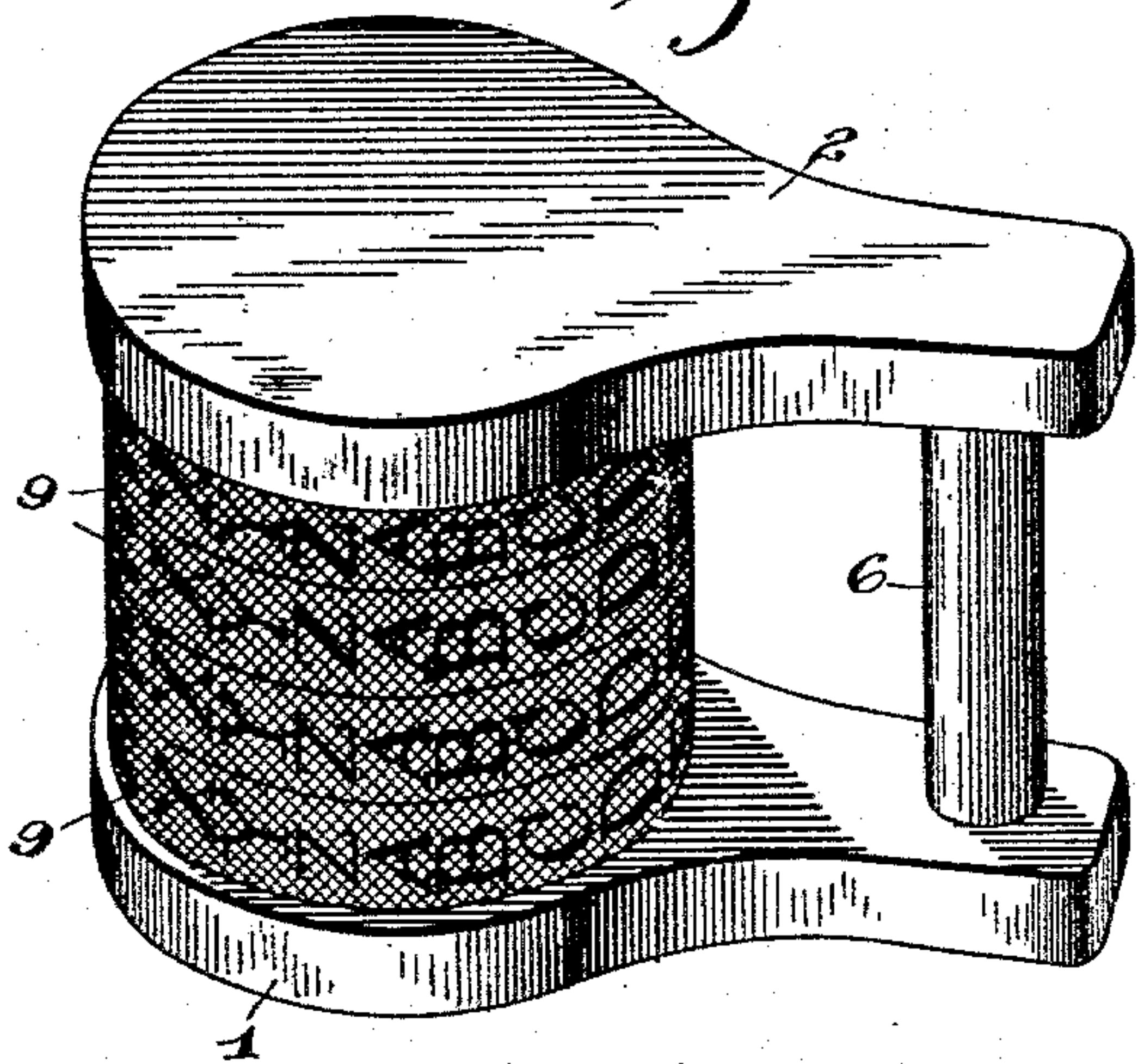


Fig. 2.

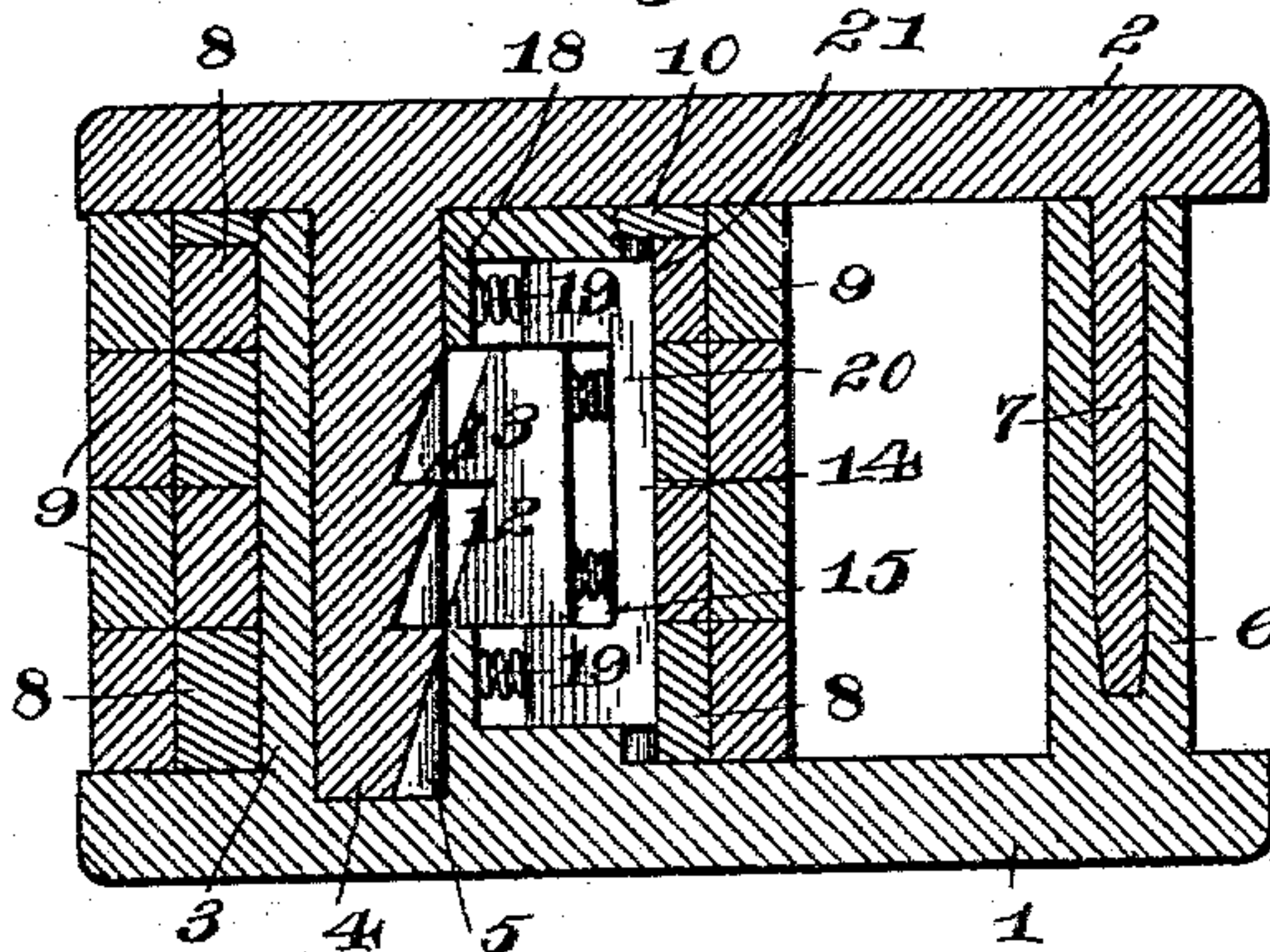


Fig. 3.

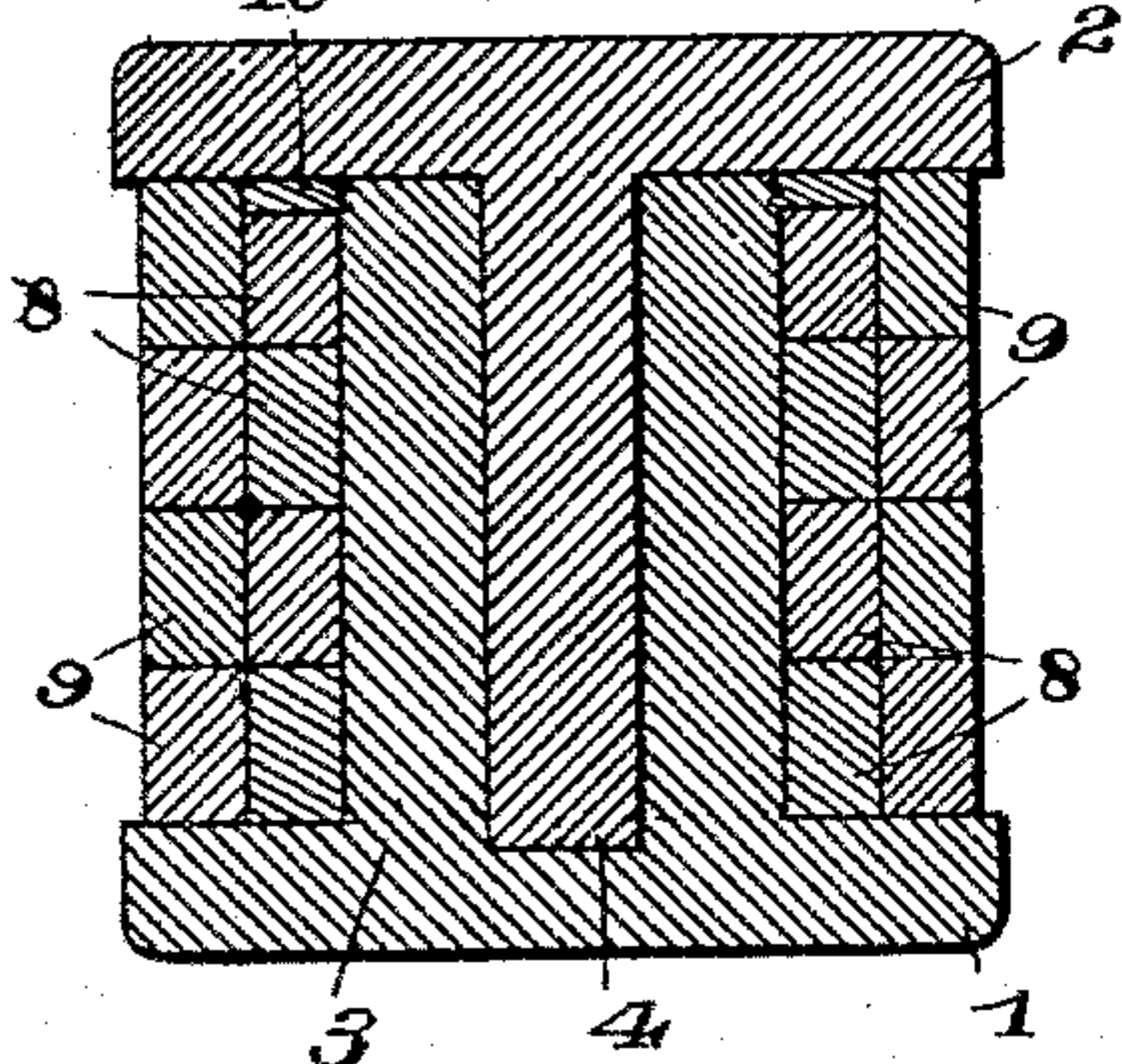


Fig. 4.

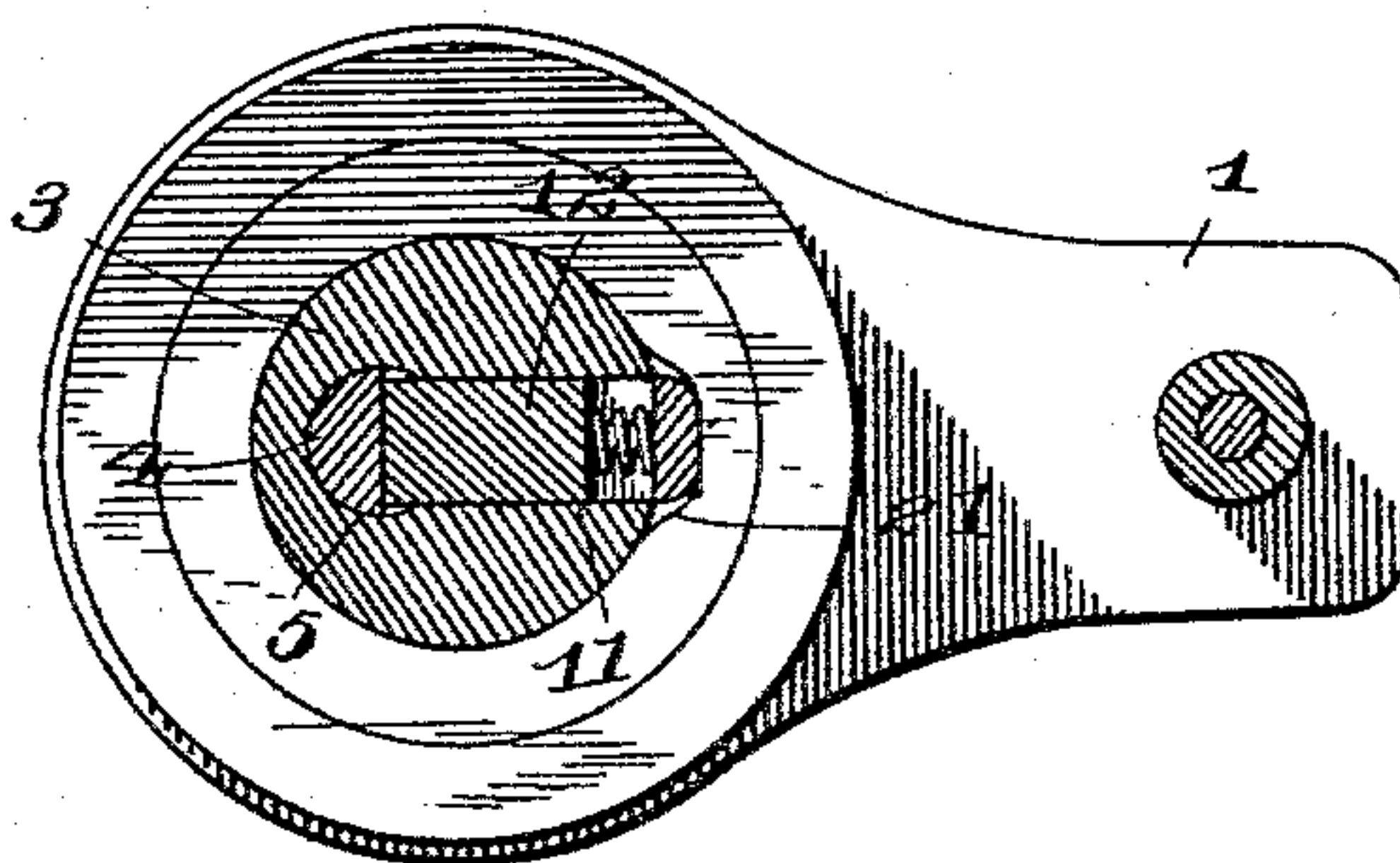


Fig. 6.

Fig. 5.

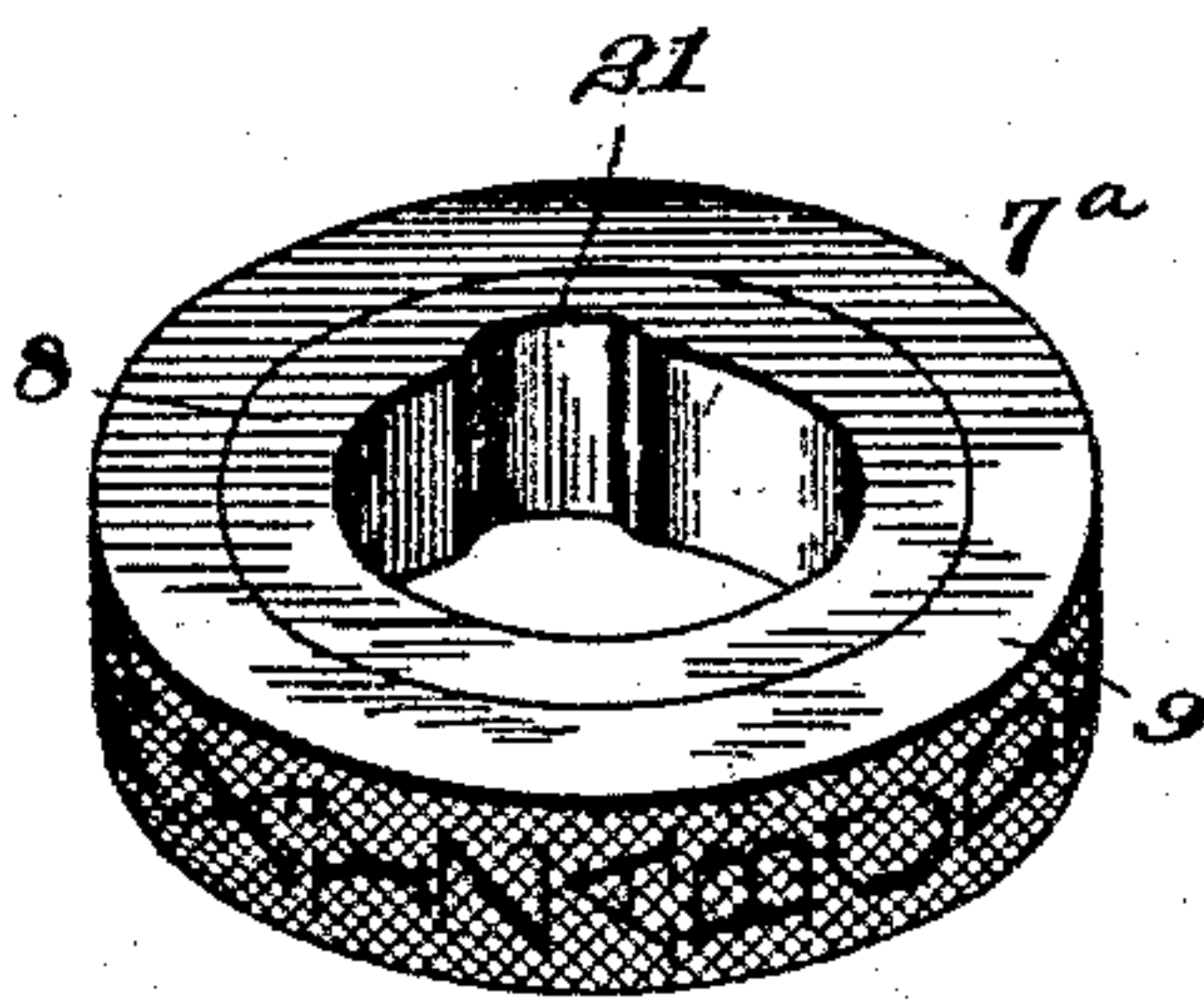
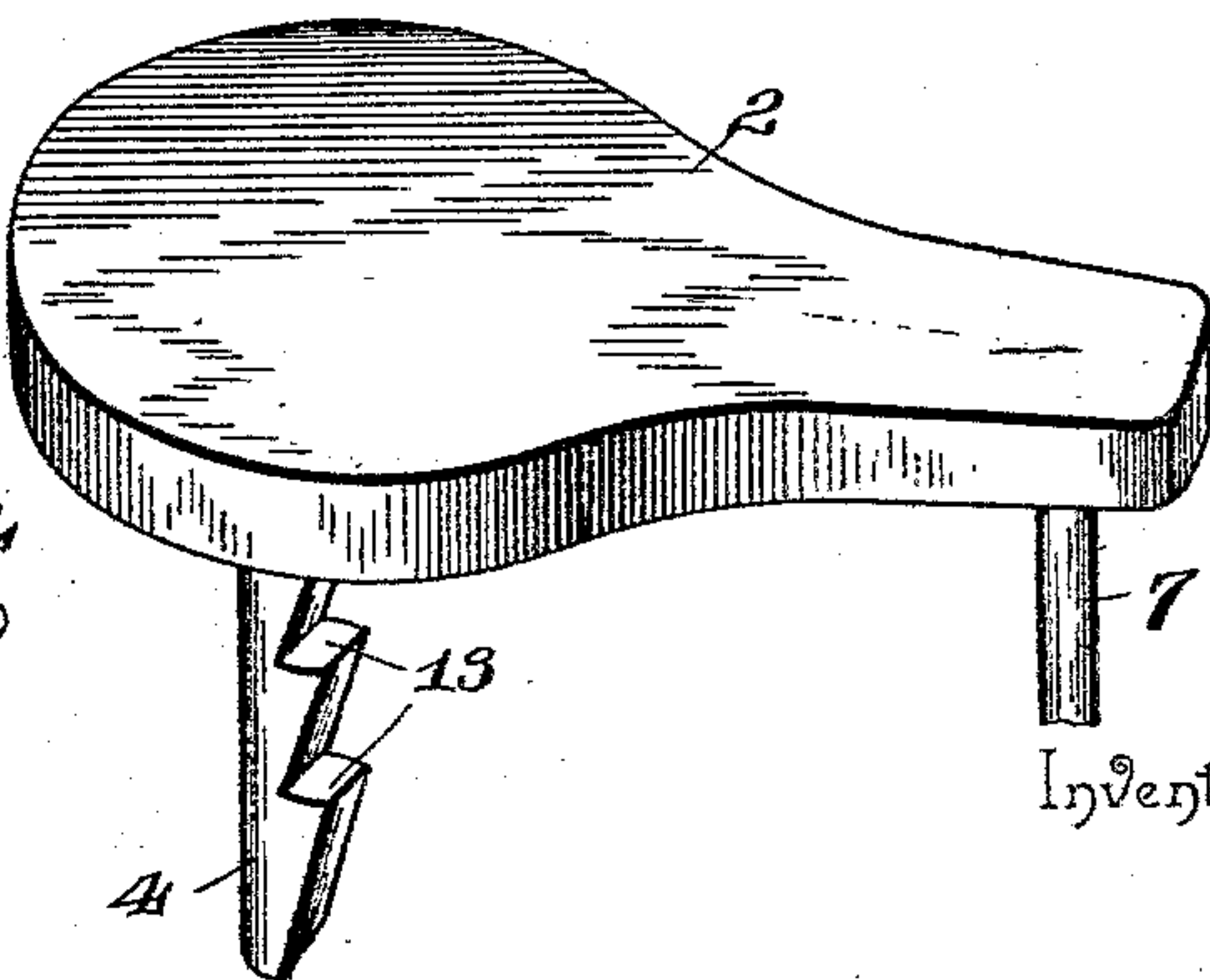
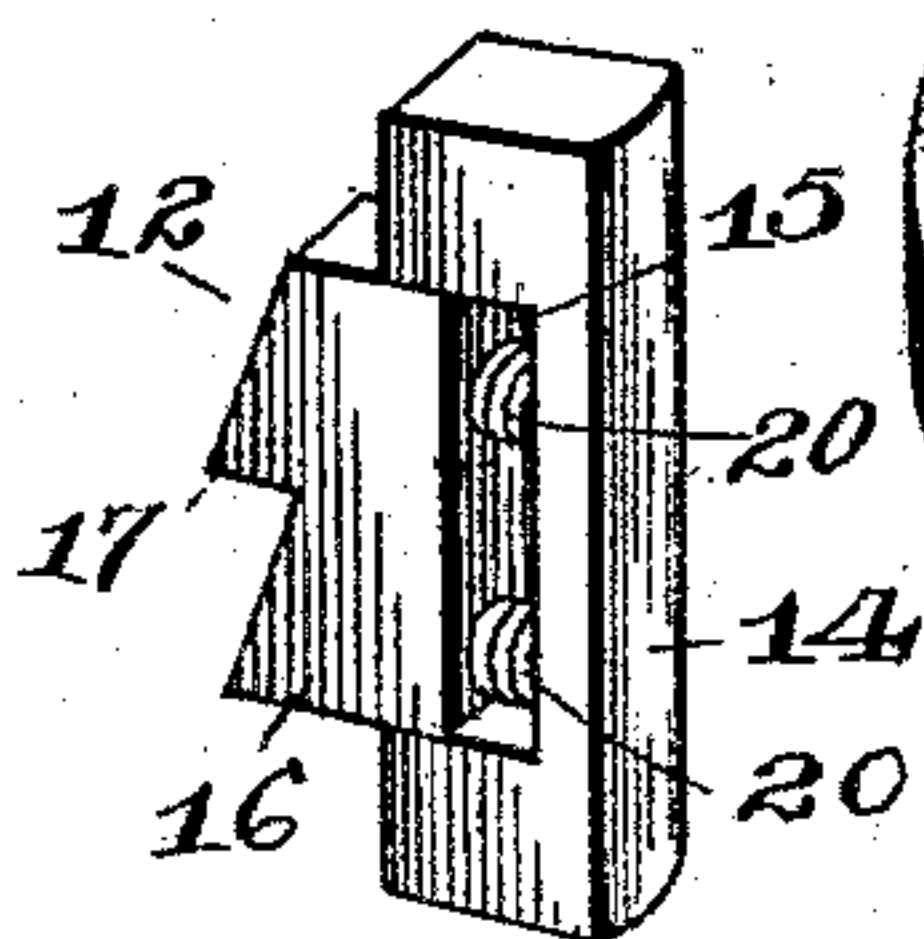


Fig. 7.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

FAINES N. SILVEY, OF CLARENCE, ALABAMA.

PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 514,387, dated February 6, 1894.

Application filed June 6, 1893. Serial No. 476,728. (No model.)

To all whom it may concern:

Be it known that I, FAINES N. SILVEY, a citizen of the United States, residing at Clarence, in the county of Blount and State of Alabama, have invented a new and useful Combination-Lock, of which the following is a specification.

My invention relates to improvements in combination locks, and has for its object to provide a simple, inexpensive and efficient device, suitable for use as a padlock, and constructed of a minimum number of parts.

Further objects of my invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a lock embodying my invention. Fig. 2 is a sectional view, parallel with the axis of rotation of the tumblers. Fig. 3 is a sectional view parallel with the axis of rotation of the tumblers, and at right angles to the plane of Fig. 2. Fig. 4 is a sectional view at right angles to the axis of rotation of the tumblers. Fig. 5 is a detail view, in perspective, of one of the tumblers. Fig. 6 is a similar view of that member or cheek of the lock which carries the locking-bar. Fig. 7 is a similar view of the clutch by which the locking-bar is engaged.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 and 2, respectively, designate the members or cheeks of the casing, which are similar in shape; the member or cheek, 1, carries a preferably integral cylindrical core, 3, which is disposed concentric with the rounded portion or main body of the member, and the other part, 2, carries the locking-bar, 4, which is adapted to fit removably in a bore, 5 of said core, parallel with its axis. The member 1 also carries a tubular cross-bar or socket, 6, to receive the pin, 7, which is fixed to the corresponding part of the member, 2.

Revolubly mounted upon the core, 3, are the tumblers, 7^a, which are annular in shape and each comprise an inner or locking ring, 8, and an outer or setting-ring, 9, the latter being loosely or rotatably mounted upon the former. The outer setting or indicating rings of the tumblers are provided with combina-

tion characters, such as numerals or letters. A tap, 10, is threaded upon the free end of the core, 3, to hold the tumblers in place when the sections or members of the lock are detached. The core is provided in one side with a vertical slot or seat, 11, in which is fitted a clutch, 12, to engage ratchet teeth or serrations, 13, upon the locking-bar. Said clutch comprises a spring-actuated body-portion or bar, 14, which is provided with a recess or cut away portion, 15, and a spring-actuated clutch-block, 16, fitted in said recess or cut away portion and provided with teeth, 17, to engage the teeth or serrations of the locking-bar. The seat, 11, is provided at its ends with shoulders, 18, between which and the ends of the body-portion and bar are arranged actuating springs, 19, which normally hold said part pressed away from the locking-bar. Arranged in the recess, 15, of the bar, 14, between the latter and the adjacent side of the clutch-block, 16, are actuating springs, 20, to press said clutch-block toward the locking-bar. The inner or locking rings of the tumblers are provided with beveled off-sets or notches, 21, which, when aligned with the clutch permit the actuating springs, 19, which may be termed releasing springs, to release the clutch-block from engagement with the locking-bar, and when a tumbler is turned to carry its off-set or notch out of alignment with the clutch, the bar, 14, is repressed to permit the actuating-springs, 20, which may be termed engaging springs, to throw the clutch block into engagement with the teeth of the locking-bar. The peripheries of the tumblers are notched or milled to enable them to be grasped readily for manipulation.

The operation of the improved lock will be readily understood from the above description, without more than a brief statement to the effect that after the release of the locking bar, by reproducing the combination for which the lock is set, or bringing the off-sets or notches of the several tumblers into alignment with the clutch mechanism, the clutch block will remain permanently out of its engaging position unless one or more of the tumblers are disarranged. When disarranged the locking-bar will be engaged automatically upon introducing it into the socket in

the core. Any desired combination may be set by turning the outer or indicator rings independently of the inner or locking rings, in the manner before mentioned. The outer rings 9 are revoluble upon the inner rings 8 to permit of changing the combination but they can only be turned independently of the inner rings when the latter are locked securely against rotation, as by engagement with the clutch, which must be held forcibly in engagement with the notches of the inner rings by pressure exerted against the part 16, by inserting a suitable instrument into the bore of the core 3, the frictional contact between the pairs of rings being sufficient to resist independent rotation during the ordinary manipulation of the locks. The combination may be changed also by removing the rings from the core, but the manner of adjusting these parts forms no part of my invention inasmuch as it may be accomplished in a variety of ways.

It will be understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of my invention.

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

1. The combination with a casing having separable members or cheeks, a hollow core carried by one member, and a locking-bar carried by the other member to fit in the bore of the hollow core, of a clutch seated in a recess

in the core provided with a toothed member to engage serrations in the locking-bar and having repression springs to automatically disengage the clutch from the locking-bar, and rotary tumblers adapted to normally hold the clutch advanced and in engagement with the locking-bar and provided with notches which are adapted to be aligned with each other to receive and permit the repression of the clutch, substantially as specified.

2. The combination with a casing having separable members or cheeks, a hollow core carried by one member, and a locking-bar carried by the other member to fit in said hollow core, of a clutch seated in a recess in the core and comprising a body-portion having repression springs, and a toothed member carried by said body-portion and having actuating or advancing springs to normally hold the toothed member in engagement with serrations on the locking-bar, and rotary tumblers adapted to normally hold the clutch advanced and in engagement with the locking-bar and provided with notches which are adapted to be aligned with each other to receive and permit the repression of the clutch, substantially as specified.

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

FAINES N. SILVEY.

Witnesses:

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JAMES UNDERWOOD.