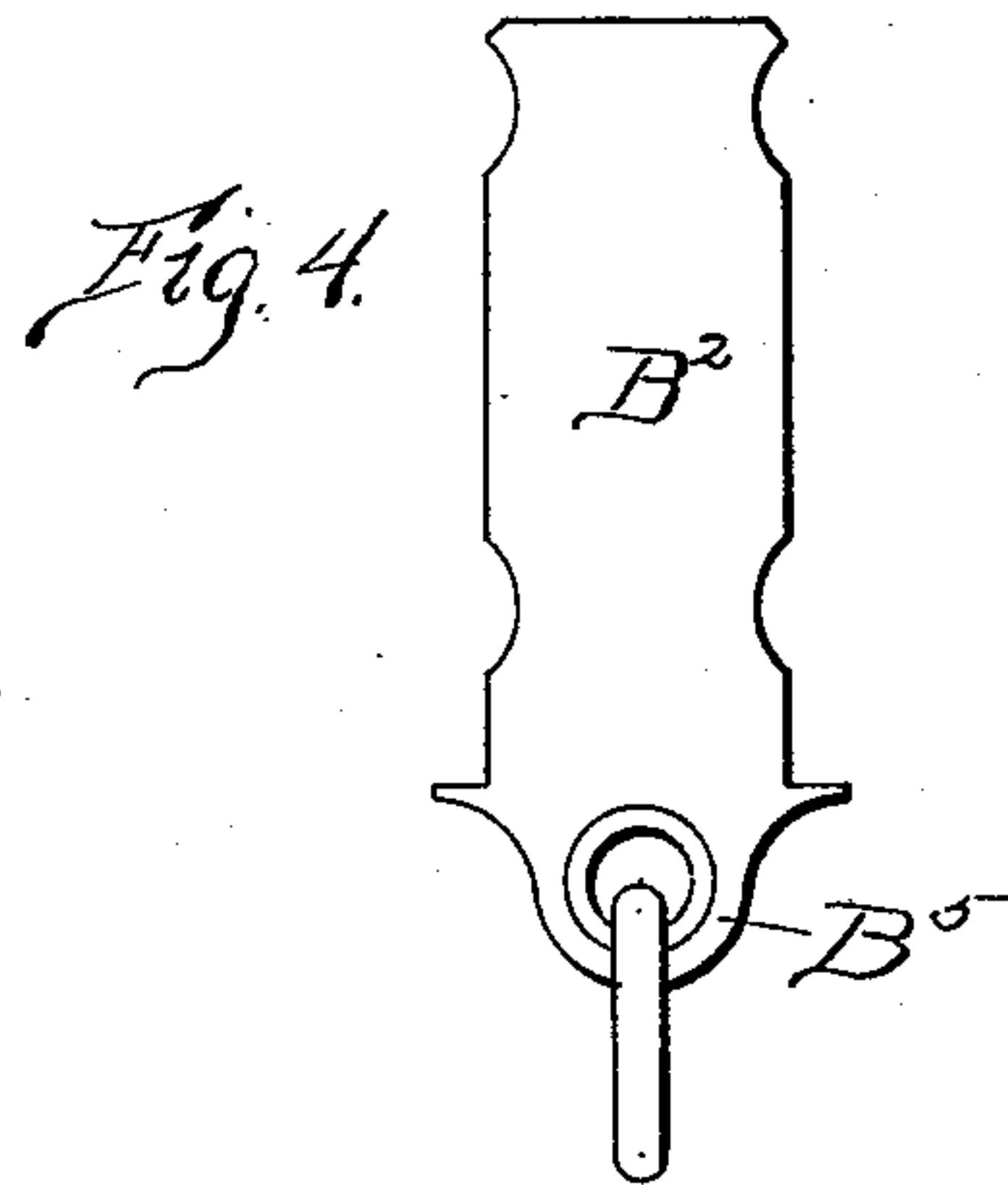
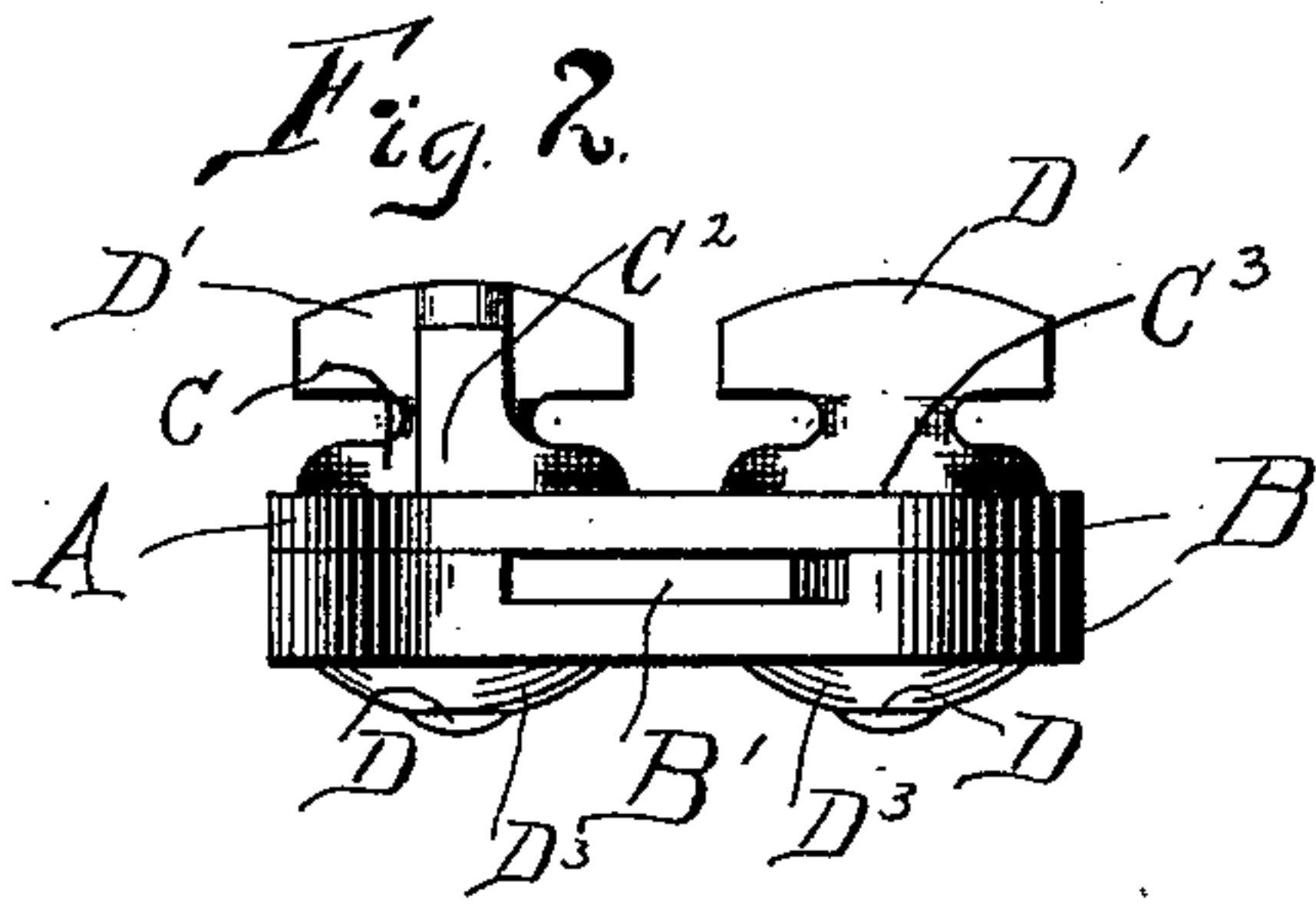
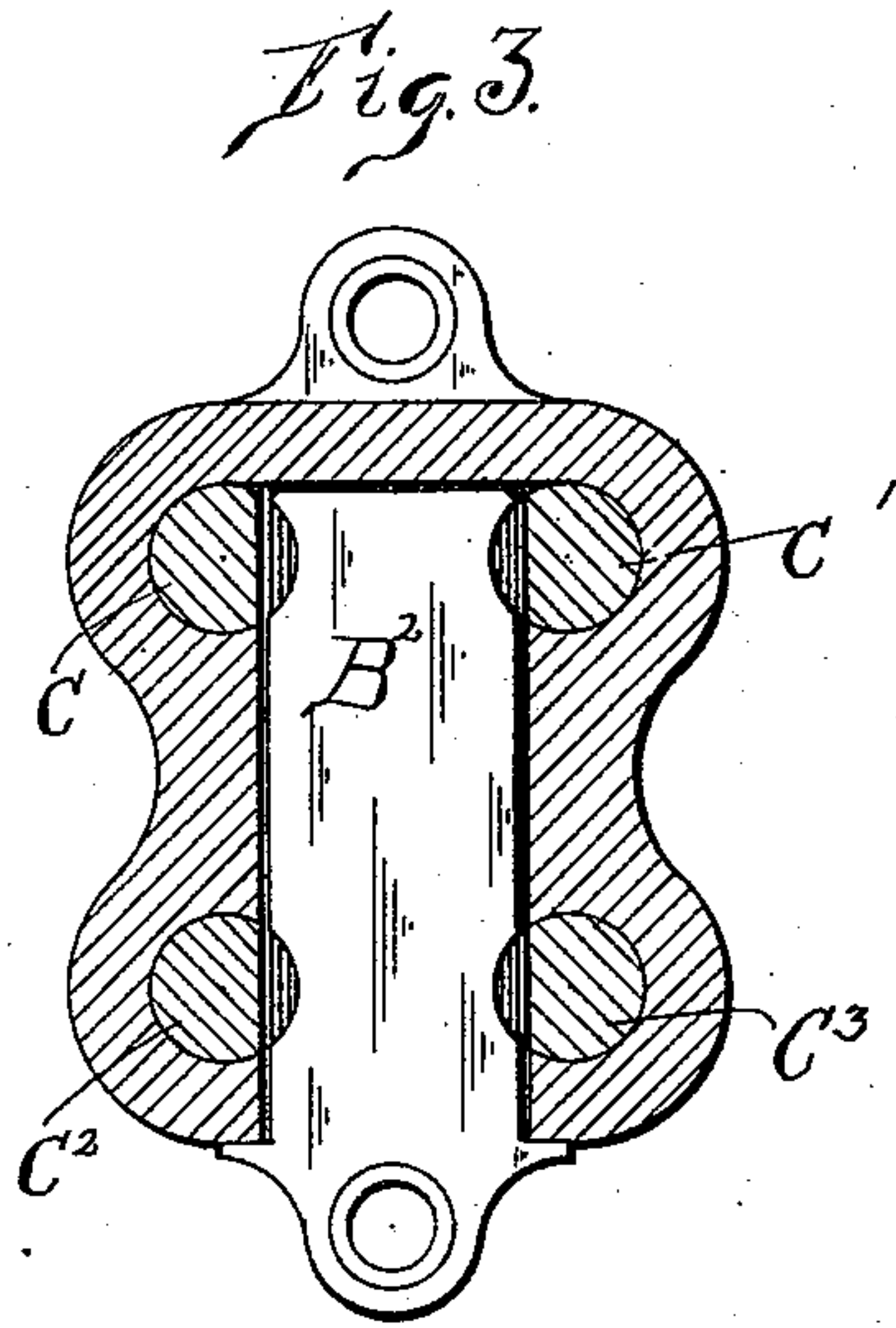
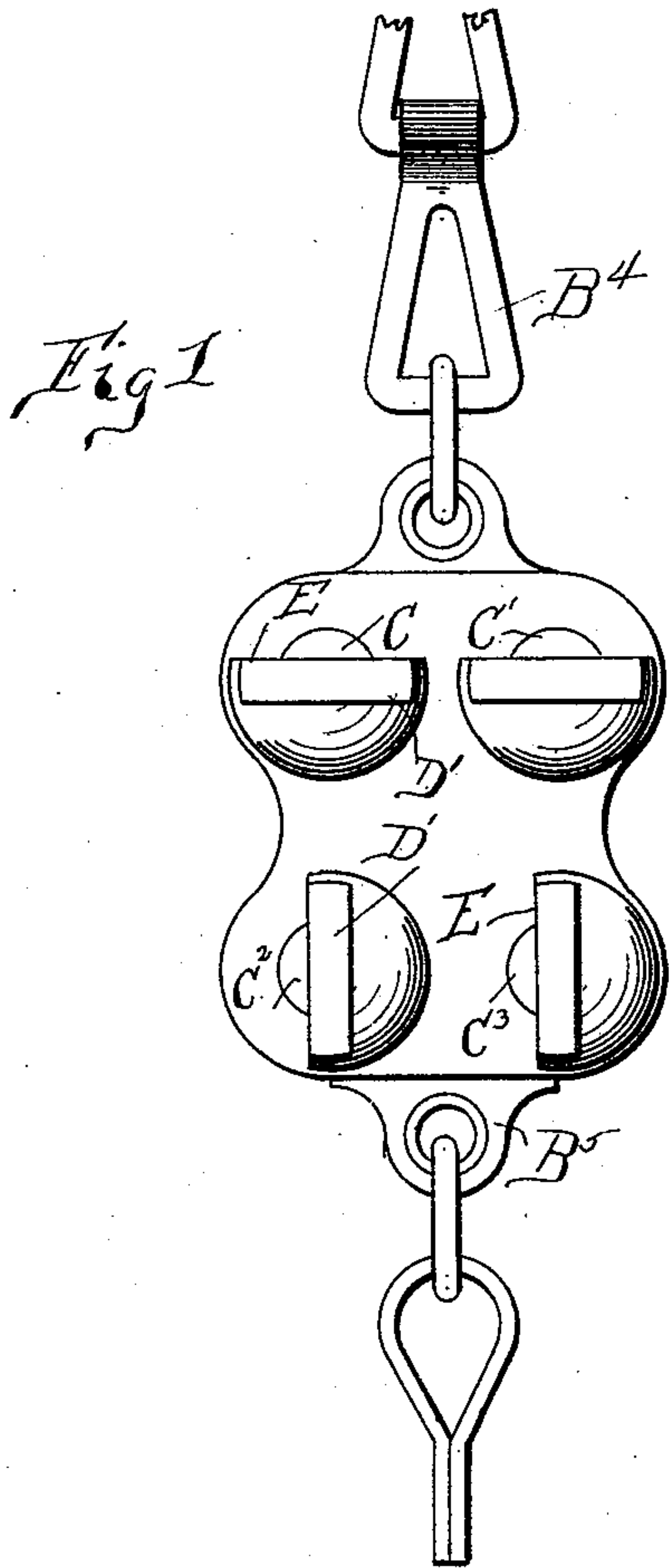


(No Model.)

J. E. GOODHUE.
LOCK.

No. 539,397.

Patented May 14, 1895.



WITNESSES

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JAMES E. GOODHUE, OF ST. CHARLES, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 539,397, dated May 14, 1895.

Application filed March 5, 1894. Serial No. 502,464. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. GOODHUE, a citizen of the United States, residing at St. Charles, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to combination locks and has for its object to provide a simple, cheap and efficient combination lock, of which the following is a description:

Referring to the accompanying drawings, Figure 1 is a plan view of one form of my device. Fig. 2 is an end elevation of same with sliding bar removed. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is a view of the sliding bar of the lock.

Figs. 1, 2, 3 and 4 show a form of my device to be used as a bicycle lock or the like.

The body of the lock is composed of the cover or top A and the bottom B. The bottom piece B is provided with the groove B' for the reception of the sliding bar B². At each corner of the lock there is a hole through which pass the turned or cylindrical pins C, C', C² and C³. These pins are provided at one end with the projecting shoulders or heads D D. Said heads have the projecting thumb pieces D' D' by which the pins are rotated and the heads are cut away as shown so as to form the straight edges D² D², leaving only a portion of a circle so as to indicate the combination as will be described hereinafter. The pins C, C', C² and C³ are held in place by the disks or washers D³ D³ and are each provided with the slot or flat side E extending along a portion of their length equal to the depth of the groove B'. The sliding bar B² is cut away at the points opposite the pins C, C', C², C³ so as to form the arc shaped notches B³ B³. Said sliding bar has a hole through one end so that the chain B⁴ can be attached thereto. The bottom piece B of the lock has a projecting piece B⁵ for the attachment of the chain B⁴.

I have shown a lock provided with four pins, but it is evident that a less or greater number of pins can be used if desired. The position of the pins may also be varied. For example, when the lock is applied to a valise the lack

of space makes it desirable to have the pins all in line if more than two are used.

It is evident that these several parts may be varied in form, construction and arrangement, and that the lock may be put to a great variety of uses. I therefore do not wish to be limited to the construction and arrangement shown.

The use and operation of my invention are as follows: Referring to Figs. 1, 2, 3, and 4, the pins C, C', C² and C³ have each a flattened surface E which is opposite and equal in height to the groove B'. The sliding bar B² has the arc shaped notches B³ opposite the pins C, C', C² and C³, and since the said pins are free to revolve, it is evident that when they are turned so as to be in the position of the pin C³ (see Fig. 2) *i. e.*, when they extend upwardly beyond the edge of the sliding bar B² a part of their diameter, said bar cannot be removed. It is not necessary for all the pins to be in the position of the pin C' in order that the sliding bar may be held in place, as any one of them will be sufficient to keep the device locked. It is also evident that if all the pins are turned so that the grooves or flat surfaces E are next to the sliding bar B², see pins C, C² C³ Fig. 3, the said bar can be removed. When the lock is put together it is impossible to tell when the flat surfaces E E are in the right position to unlock the device. Since all of such flat surfaces must be in a certain position to allow the bar to be removed, a small fraction of a turn of either pin from such position locking the bar, it is evident that without knowing the combination it is practically impossible to remove said bar. As seen in Fig. 1, a part of the head D of each pin is cut away, forming the straight edges D² D², so that any one knowing the relative position of said straight edges D² and the flat surface E on each of the pins, can unlock the lock. The cutting away of a portion of the head D of each pin, provides a simple and easy means for indicating the combination, as all that it is necessary to keep in mind is the relative position of the straight edges D² D² when the lock is unlocked. In making the locks the heads D D may be cut away, so that the rela-

tive position of the straight edges D^2D^2 , when the bar B^2 is released, will vary in the different locks. In this manner a great variety of different combinations can be produced.

5 As has been described, the combination cannot be altered after the lock is made, but it is evident that the various parts can be arranged so that the combination can be changed at will.

10 The pins may be regarded as mutilated, the mutilations within the case to register with the notches on the bar, when the lock is unlocked and those without the case to indicate the combination.

15 I am aware that locks having pins mutilated within the lock case as herein described are old and I therefore do not claim such a lock. My invention consists in taking such a lock and mutilating or otherwise arranging
20 the pins on the outside of the case so that the

combination can be worked without the use of the eye.

I claim—

A combination lock comprising a case, a notched bar adapted to be received into said 25 case, a series of rotatable pins in the case and adapted to be received into the notches of the bar and thus hold the parts together, and grooves or mutilations on one side of each of said pins within the case to register with the 30 notches on the bar and thus release the latter, and exterior indicating mutilations on one side of each of said pins such exterior mutilations being used to indicate the combination.

JAMES E. GOODHUE.

Witnesses:

WALTER J. GUNTEORP,
ALICE H. GEDDES.