

No. 741,778.

PATENTED OCT. 20, 1903.

C. E. DUGGAN.
LOCK.

APPLICATION FILED JAN. 10, 1903.

NO MODEL.

Fig. 1.

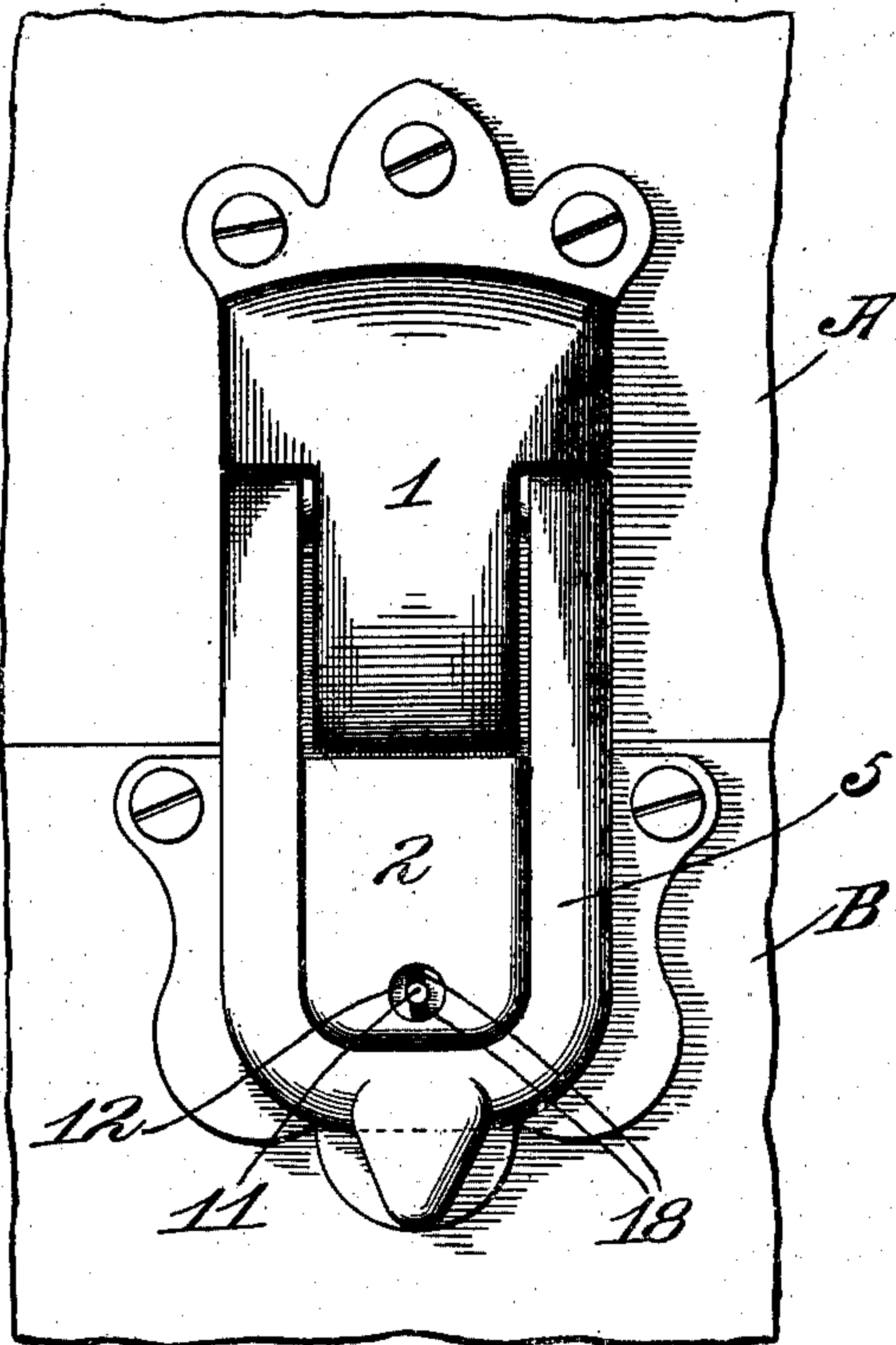


Fig. 2.

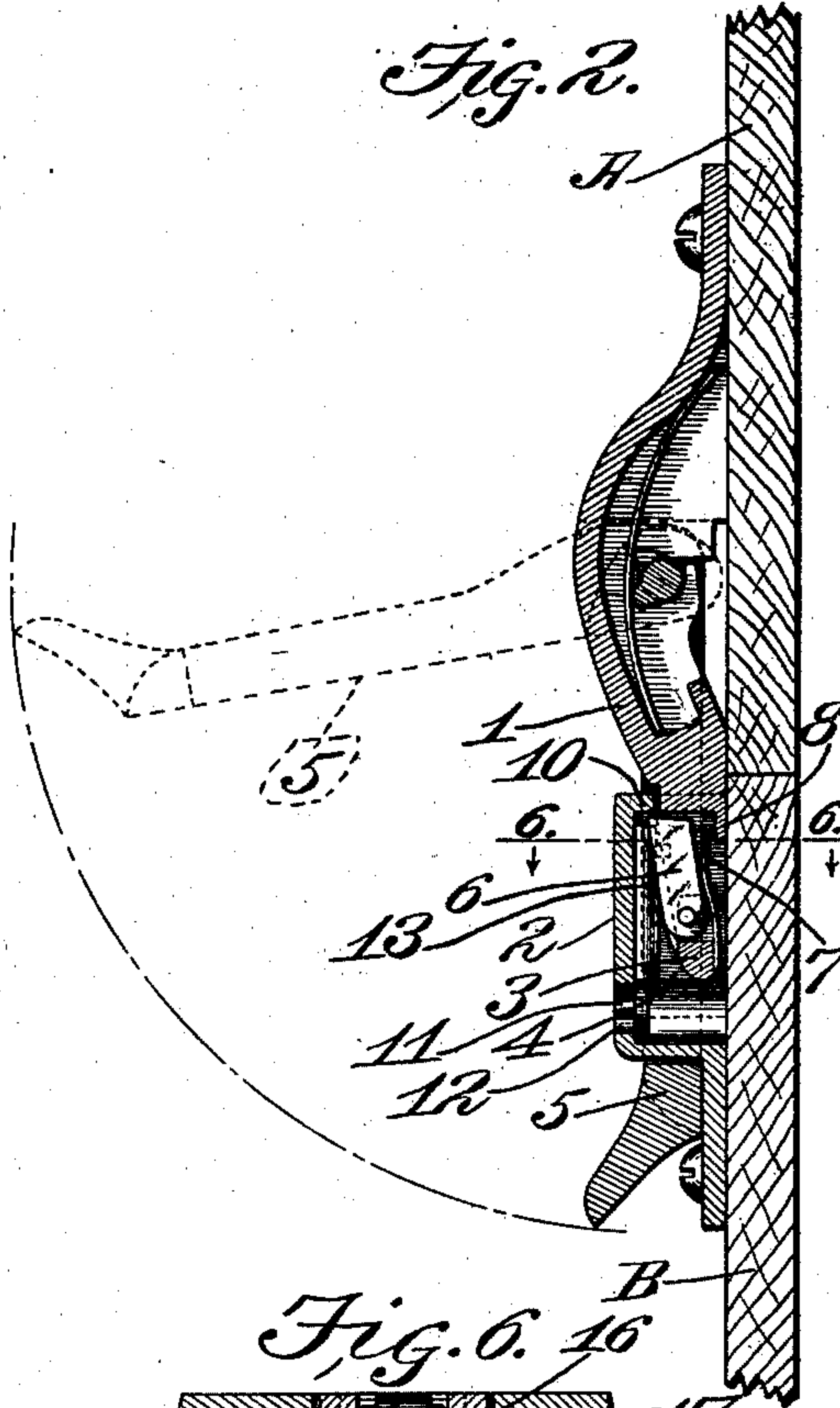


Fig. 3.

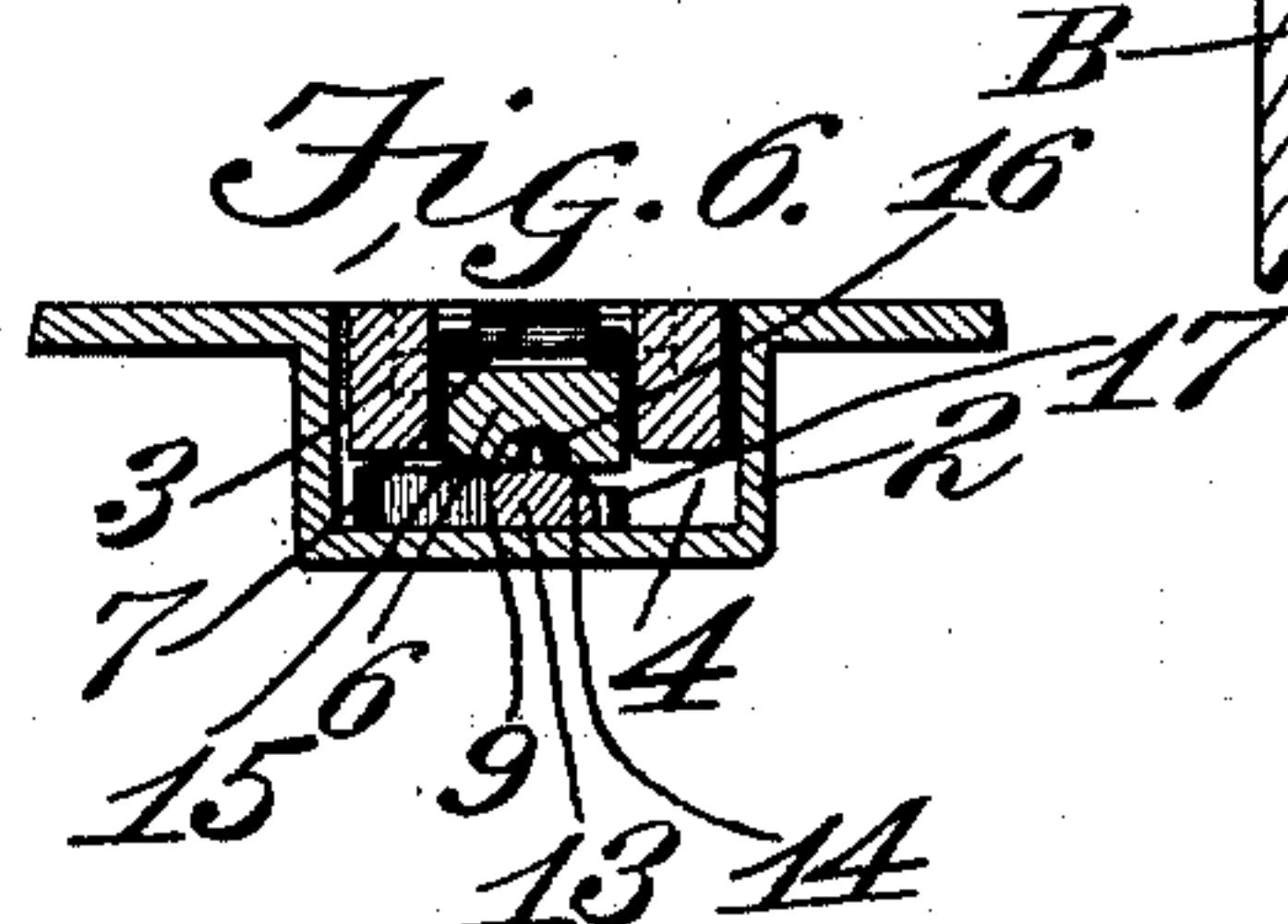


Fig. 4.

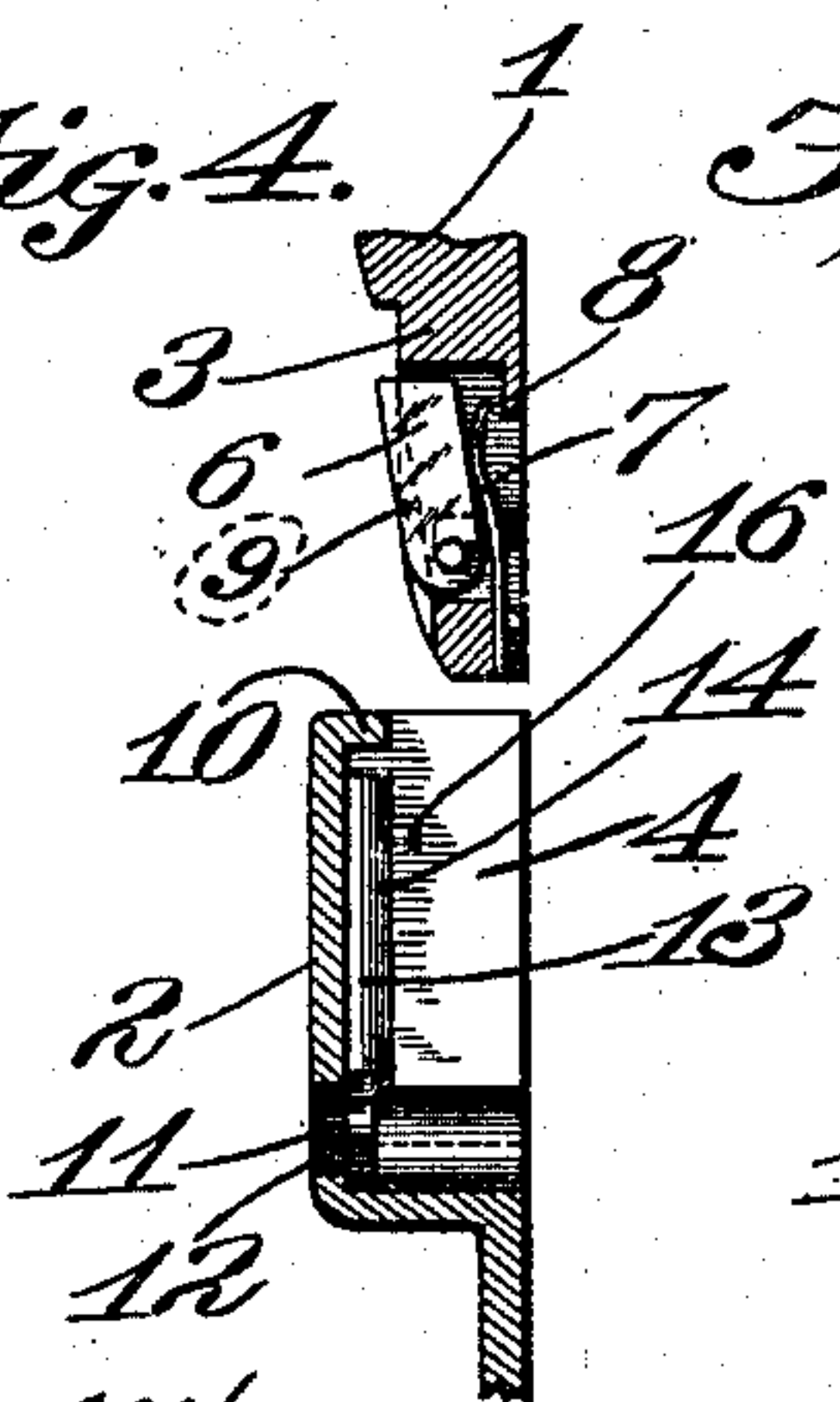


Fig. 5.

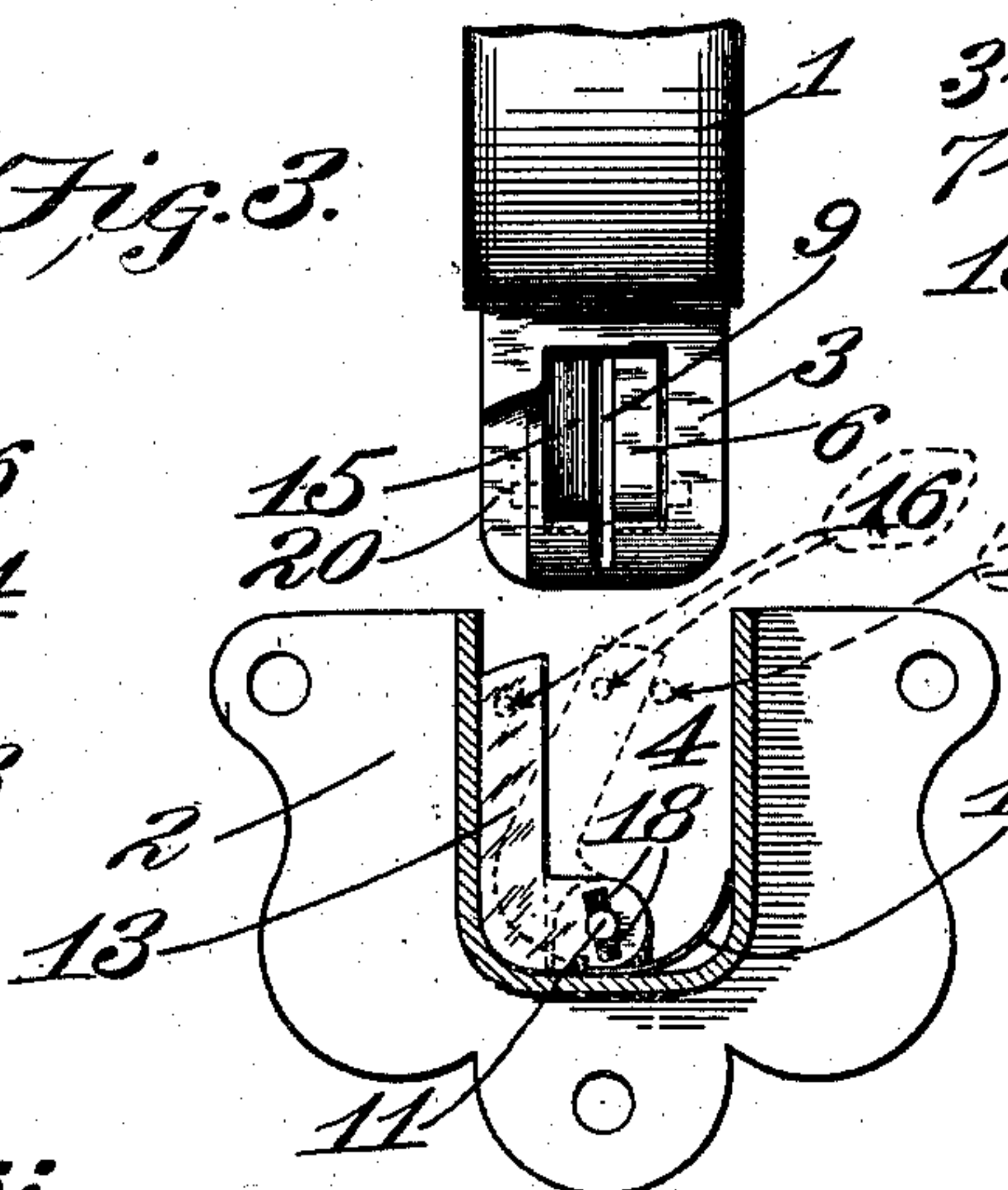
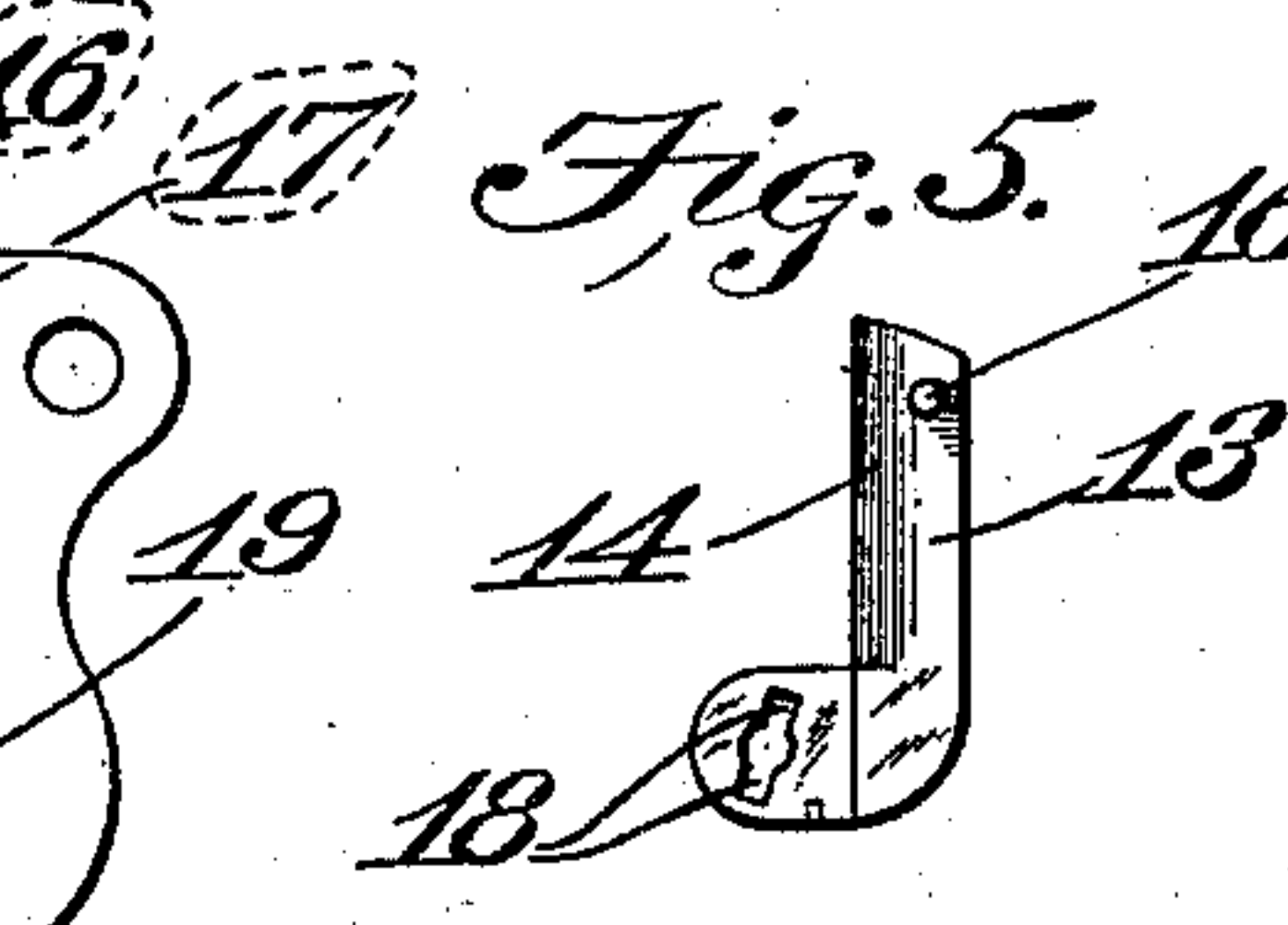


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES E. DUGGAN, OF DETROIT, MICHIGAN, ASSIGNOR TO STROMBERG, KRAUS & COMPANY, OF ST. LOUIS, MISSOURI, A COPARTNERSHIP.

LOCK.

SPECIFICATION forming part of Letters Patent No. 741,778, dated October 20, 1903.

Application filed January 10, 1903. Serial No. 138,492. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. DUGGAN, a citizen of the United States, residing at Detroit, Wayne county, Michigan, have invented a certain new and useful Improvement in Locks, of which the following is a full, clear, and exact description, 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, forming part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a central vertical sectional elevation. Fig. 3 is a front view showing the bolt or dowel removed from the socket or casing, a portion of said casing being shown in section and the releasing-lever being shown in releasing position in dotted lines. Fig. 4 is a central vertical sectional elevation of the parts shown in Fig. 3. Fig. 5 is a detail view of the releasing-lever; and Fig. 6 is a horizontal sectional view on the line 6 6 of Fig. 2, showing the dowel in position in the socket, the locking-dog and the releasing-lever being in the positions which they occupy when the releasing-lever is in operative or releasing position.

My invention relates to improvements in locks, and more particularly to locks designed for use upon trunks, boxes, and the like.

One object of my invention is to provide a lock so constructed that it serves the purposes of the usual trunk dowel, lifter, and lock, the lifting member so cooperating with the other parts when in locking position that strain is removed from the locking member.

A further object is to provide a simple, convenient, and efficient mechanism for releasing the locking-dog.

To these ends and also to improve generally upon devices of the character indicated, my invention consists in the various matters hereinafter described and claimed.

Referring now more particularly to the drawings, A and B represent the parts which are to be locked together—as, for example, the top and body portions, respectively, of a trunk or similar device. A dowel member 1 is secured to one of these parts and a socket member or casing 2 is secured to the other

thereof, the drawings showing the dowel member as secured to the upper part and the socket member secured to the lower part; but it will be readily understood that the reverse arrangement can be made. The dowel member has a projecting bolt or dowel 3, which is adapted to be received in the socket 4 of the socket member in a well-understood manner and for well-understood purposes, and upon the dowel member is pivotally supported a yoke or catch 5, adapted to engage about the socket member, as is well understood, and to serve as a lifter. Pivotally supported upon the dowel is a locking-dog 6, which is normally forced outwardly by means of a spring 7, the free end of said spring preferably lying in front of a suitable part 8 upon the bolt or dowel, so that there is no danger of said end of the spring being forced backwardly into engagement with the body of the device—*e. g.*, a trunk-body—to which the socket member is secured. The said locking-dog is provided with a longitudinal groove 9 for a purpose to be hereinafter explained. The front wall of the socket member is provided with a lip 10, which forms a shoulder under which the locking-dog is adapted to engage when the parts are in locking position, as indicated in Fig. 2. Pivotally supported upon a pin 11, whose end is accessible through an opening 12 in the front wall of the casing, is a releasing-lever 13, whose inner edge—*i. e.*, the edge toward the locking-dog when the parts are assembled—is beveled, as shown at 14, the adjacent edge of the locking-dog being also beveled, as shown at 15, whereby the releasing-lever can readily ride upon the locking-dog and force the same backwardly against the force of the spring 7. The said releasing-lever is provided with an inwardly-extending projection or pin 16, which lies in the heretofore-mentioned groove 9 when the releasing-lever has been thrown into position to force the locking-dog into retracted position, the front wall of the casing being provided with an inwardly-projecting stop or projection 17, against which the releasing-lever lies when its said pin 16 lies in the said groove, whereby the said releasing-lever cannot be thrown beyond the position in which its pin enters the said groove. The portion of the re-

leasing-lever about the supporting-pin 11 is provided with slots or recesses 18, adapted to receive suitable projections upon a key which can be inserted through the before-mentioned opening 12 in the front wall of the casing and can be guided upon the said pin 11. A spring 19 tends to hold the releasing-lever in inoperative position, as shown by full lines in Fig. 3. The yoke being thrown up as indicated by dotted lines in Fig. 2, the dowel enters the socket as the trunk-lid is lowered and the locking-dog springs under the lip 10 in a manner which will be readily apparent, the parts being thus locked together and also serving the usual purposes of trunk dowels and sockets. When the yoke is thrown down and engages about the socket member or casing, as shown in Figs. 1 and 2, there is a less distance between the connecting-bar of the said yoke and the said casing than there is between the upper surface of the locking-dog and the lip 10, whereby if there be any upward movement of the lid of the trunk the said cross-bar of the yoke comes to rest against the said casing before the locking-dog engages the said lip, and strain is therefore placed upon the relatively large and strong yoke instead of upon the locking-dog. When the parts are in locked position, the releasing-lever lies at the side of the locking-dog, the tongue or dowel being cut away, as shown at 20, if necessary, to accommodate the releasing-lever. When the releasing-lever is engaged by the proper key and the key is turned, said releasing-lever is thrown across the locking-dog to force the latter into retracted position and to bring the pin 16 into the groove 9 of the locking-dog. Pressure upon the key can now be relieved, and, if desired, the key can be withdrawn without disturbing the last-described positions of the parts, for the engagement of the pin 16 in the groove 9 prevents the releasing-lever from moving under the force of its spring 19 into unlocking position, the locking-dog being by its spring 7 held against the said releasing-lever to cause the pin 16 to be properly retained in the said groove. The releasing-lever holds the locking-dog in retracted position with the forward or outer edge of the dog in rear of the lip 10, so that when the yoke is thrown up the bolt or dowel 3 can be readily withdrawn from the socket, the spring 19 serving to throw the releasing-lever into its normal position as soon as the locking-dog has been moved sufficiently to carry the wall of its groove out of the path of movement of the pin 16.

The present device is neat in appearance and simple and efficient in its construction and operation. It presents all of the advantages of the usual trunk dowel, socket, and lifter and also forms a lock, the usual lifting-yoke serving to prevent strain upon the locking-dog.

I am aware that minor changes in the construction, arrangement, and combination of

the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. The combination with a socket member having a socket, and a locking-lip in said socket, of a dowel member having a dowel adapted to enter said socket, a locking-dog upon said dowel and adapted to engage under said lip when said dowel is in said socket, and a catch upon one of said members and engaging about the other thereof when said members are in locking position, said catch and the catch-engaged portion of the said member engaged thereby being, when the parts are in locking position, a less distance from each other than are said lip and locking-dog; substantially as described.

2. The combination with a trunk-body and its cooperating lid, of a socket member upon said trunk-body, said socket member having a casing which provides a socket, a lip upon said casing projecting into said socket, a dowel member upon said lid and having a dowel adapted to enter said socket, a locking-dog upon said dowel and adapted to engage under said lip when the said lid is closed, and a lifting-catch pivoted to said dowel member and adapted to engage the said casing of said socket member, said catch, when the lid is closed, being a less distance from the cooperating portion of said casing than is said locking-dog from said lip, whereby said catch and casing prevent movement of said lid sufficient to cause strain upon said locking-dog; substantially as described.

3. The combination with a locking-dog, of a movable releasing element therefor, yielding means tending to throw said element into inoperative position, and means whereby when said element is thrown into operative position it is held in such position; substantially as described.

4. The combination with a locking-dog, and a movable releasing element therefor, of yielding means tending to throw said dog into operative position, yielding means tending to throw said element into inoperative position, and interengaging parts carried by said dog and said element for holding said element in operative position; substantially as described.

5. The combination with a locking-dog, and a movable releasing element therefor, of yielding means tending to throw said dog into operative position, yielding means tending to throw said element into inoperative position, and a pin upon one of said first two mentioned parts adapted to enter a groove in the other thereof to retain said releasing element in operative position; substantially as described.

6. The combination with a locking-dog, and a movable releasing element therefor, of yield-

ing means tending to throw said dog into operative position, yielding means tending to throw said element into inoperative position, a pin upon one of said first two mentioned parts adapted to enter a groove in the other thereof to retain said releasing element in operative position, and means for limiting the movement of said releasing element toward operative position; substantially as described.

7. The combination with a dowel member having a dowel, and a socket member having a socket adapted to receive said dowel, of a spring-pressed locking-dog pivotally secured to said dowel and provided with a longitudinal groove, a shoulder upon said socket member adapted to cooperate with said dog, a

spring-pressed releasing-lever adapted to cooperate with said dog, and a projection upon said lever adapted to enter said groove when said lever is in operative position; substantially as described.

8. In a mechanism of the character indicated, a pin forming a key-guide, and a lever pivotally supported upon said pin and adapted to be engaged by the key; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 22d day of December, 1902.

CHARLES E. DUGGAN.

Witnesses:

A. G. ROBERTSON,
G. U. LATOUR.