

Nov. 26, 1935.

C. L. WILLIAMS ET AL

2,022,070

LOCK

Filed March 13, 1933

2 Sheets-Sheet 1

Fig. 1.

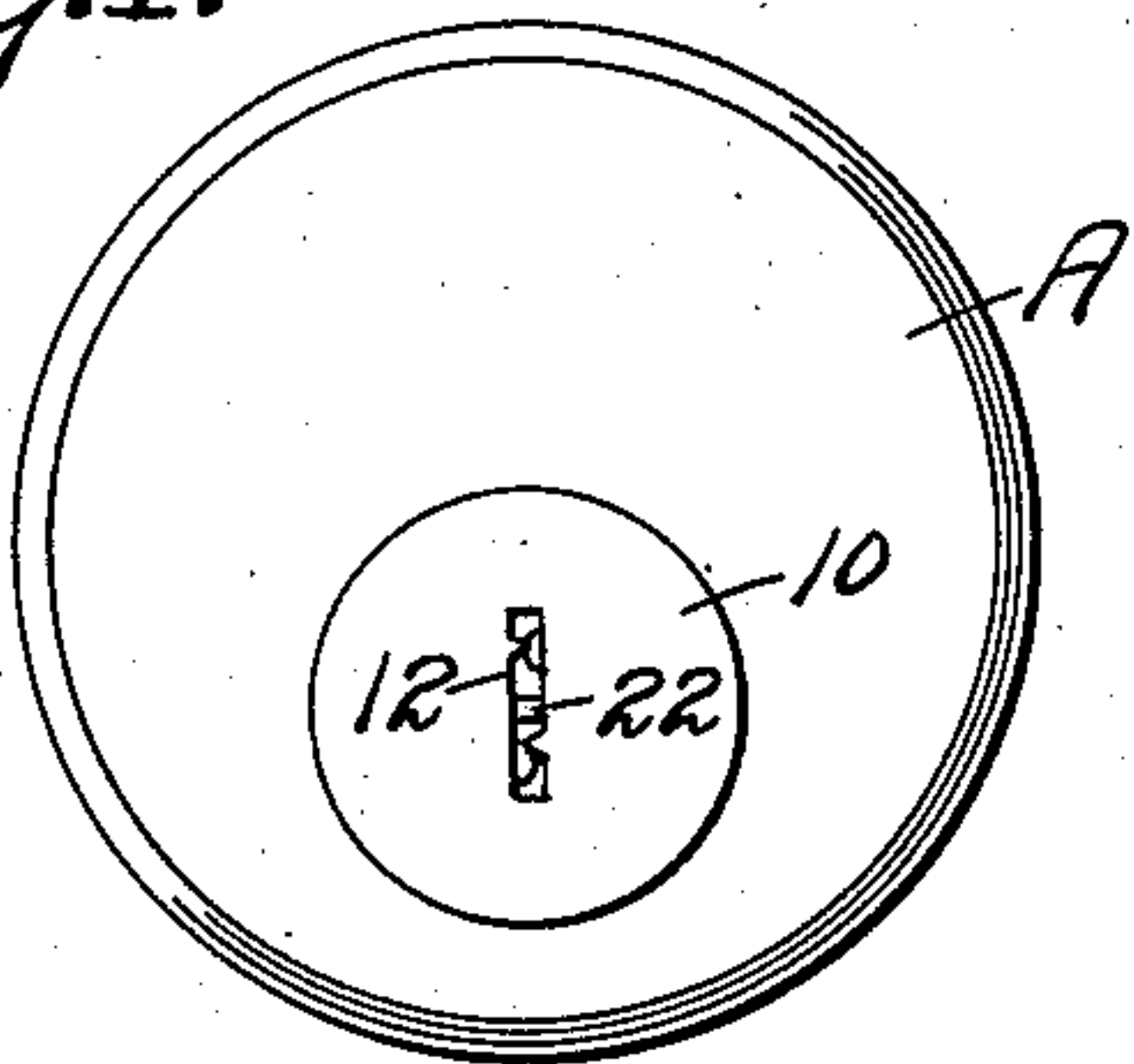


Fig. 2.

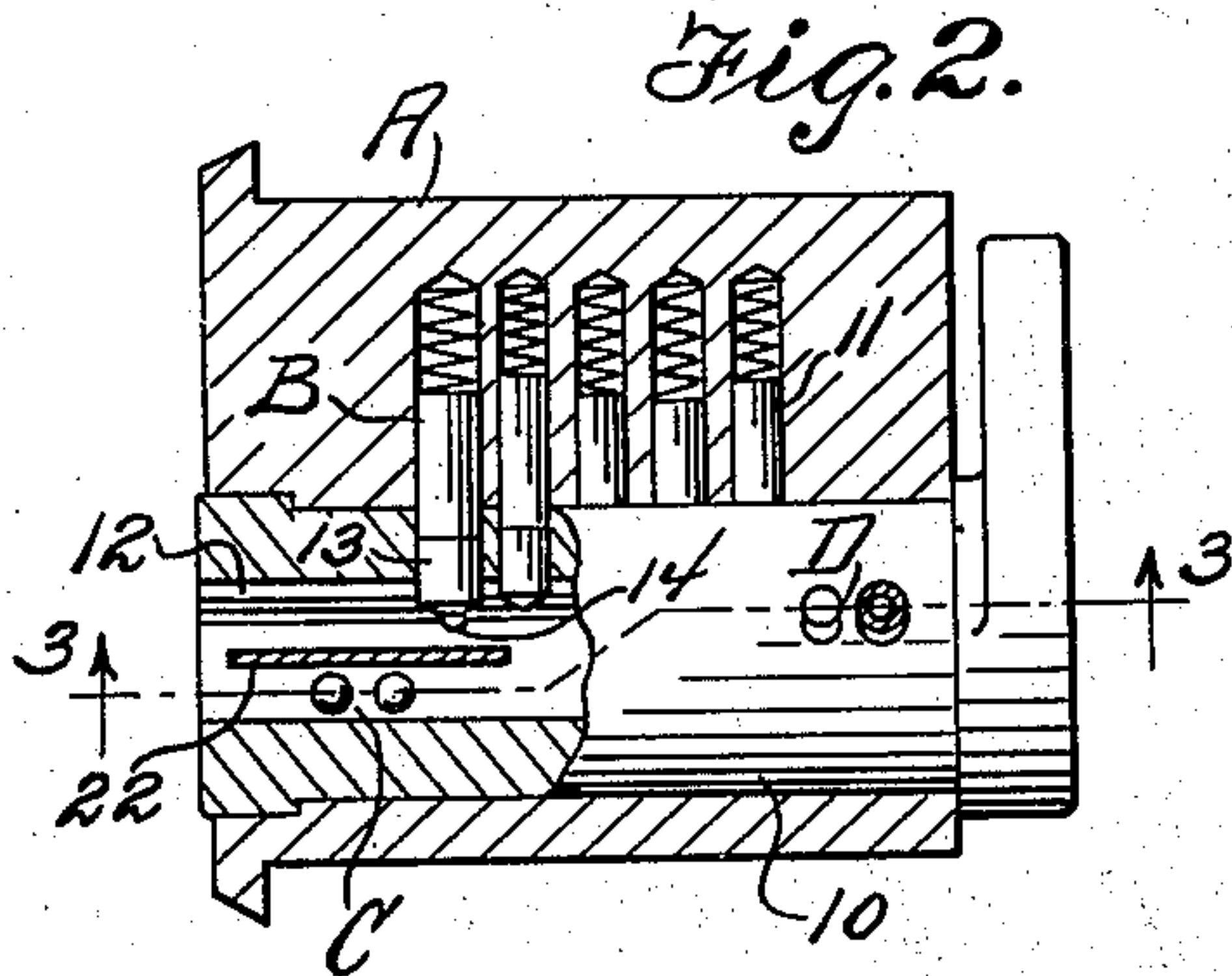


Fig. 3.

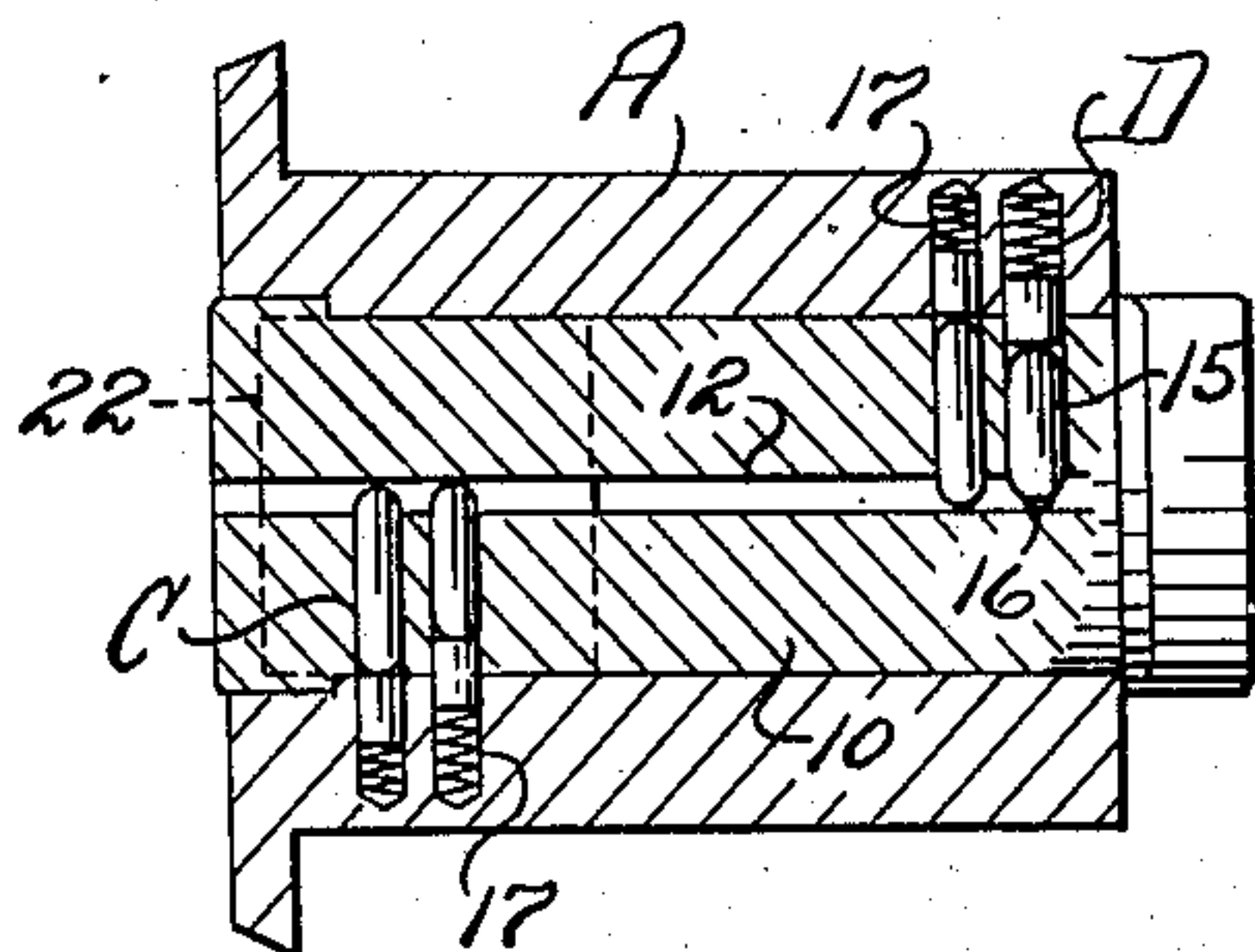


Fig. 4.

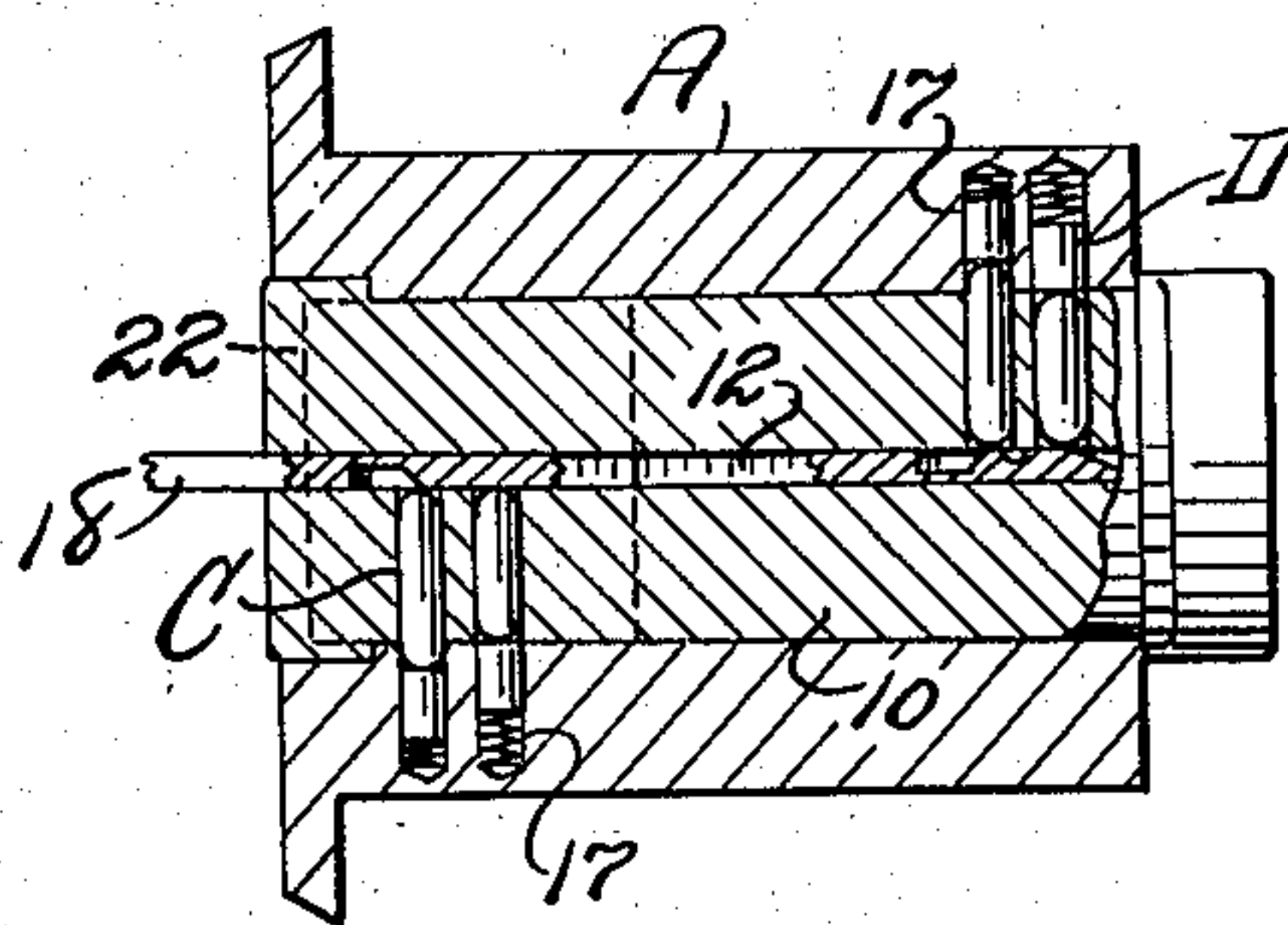


Fig. 5.

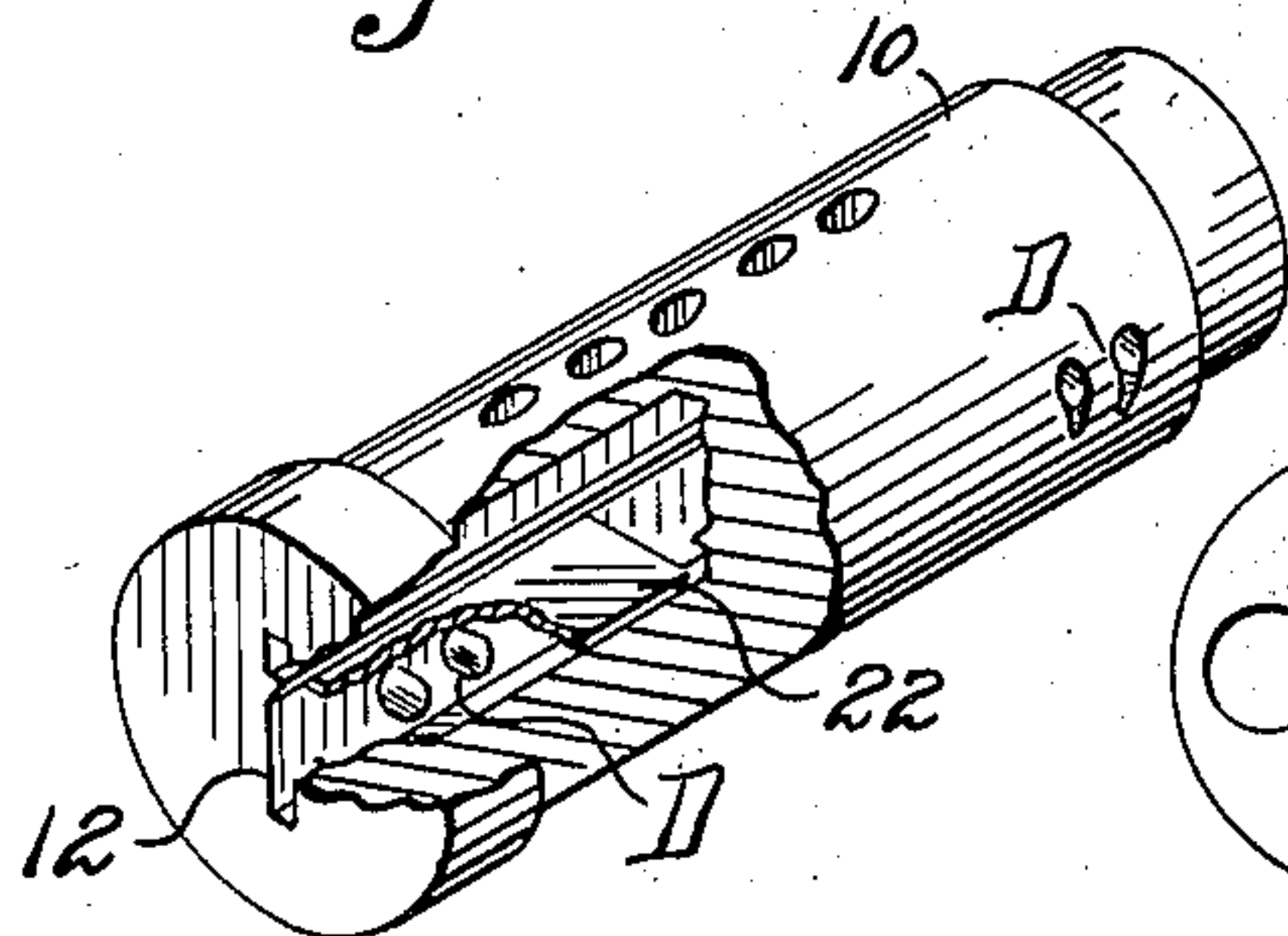
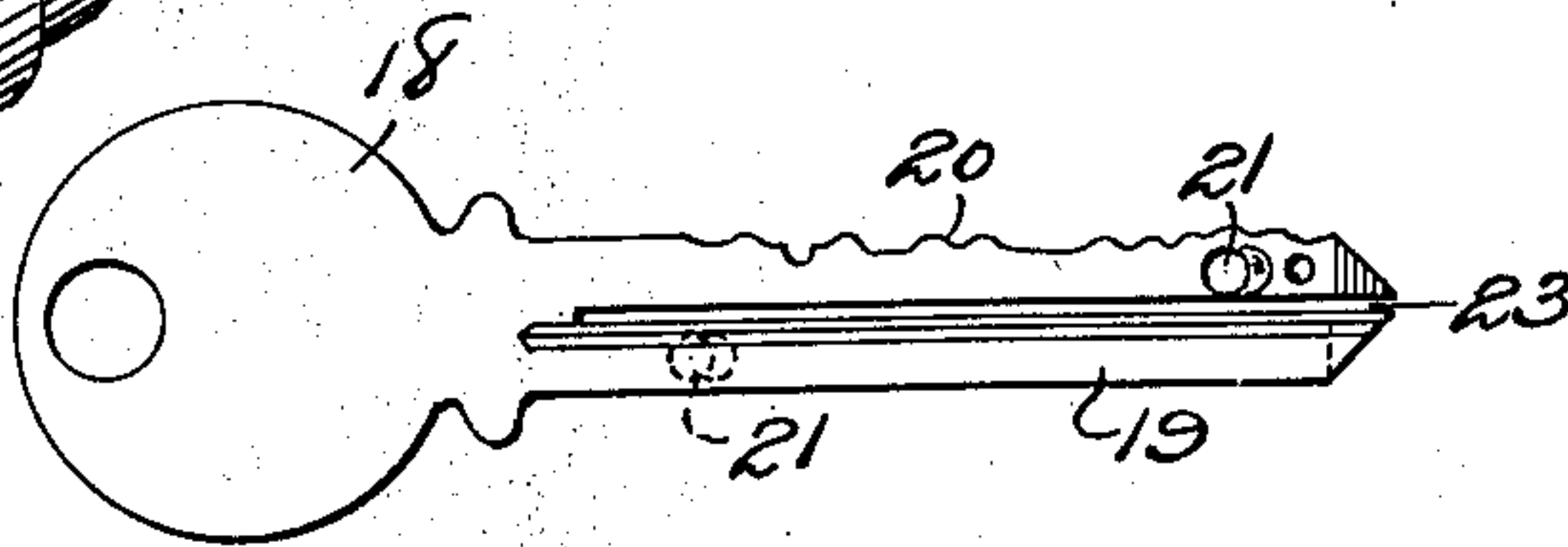


Fig. 6.



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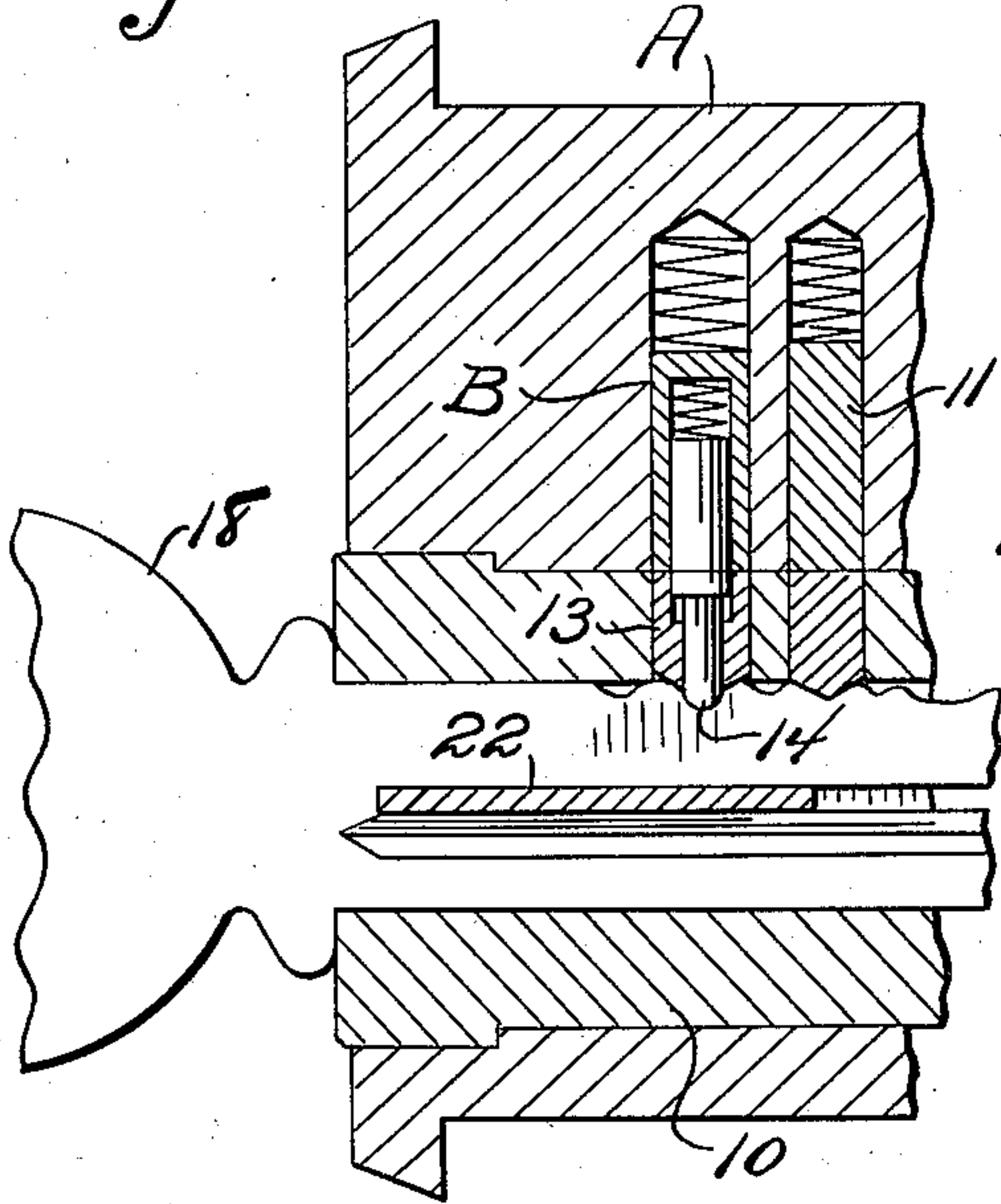
2,022,070

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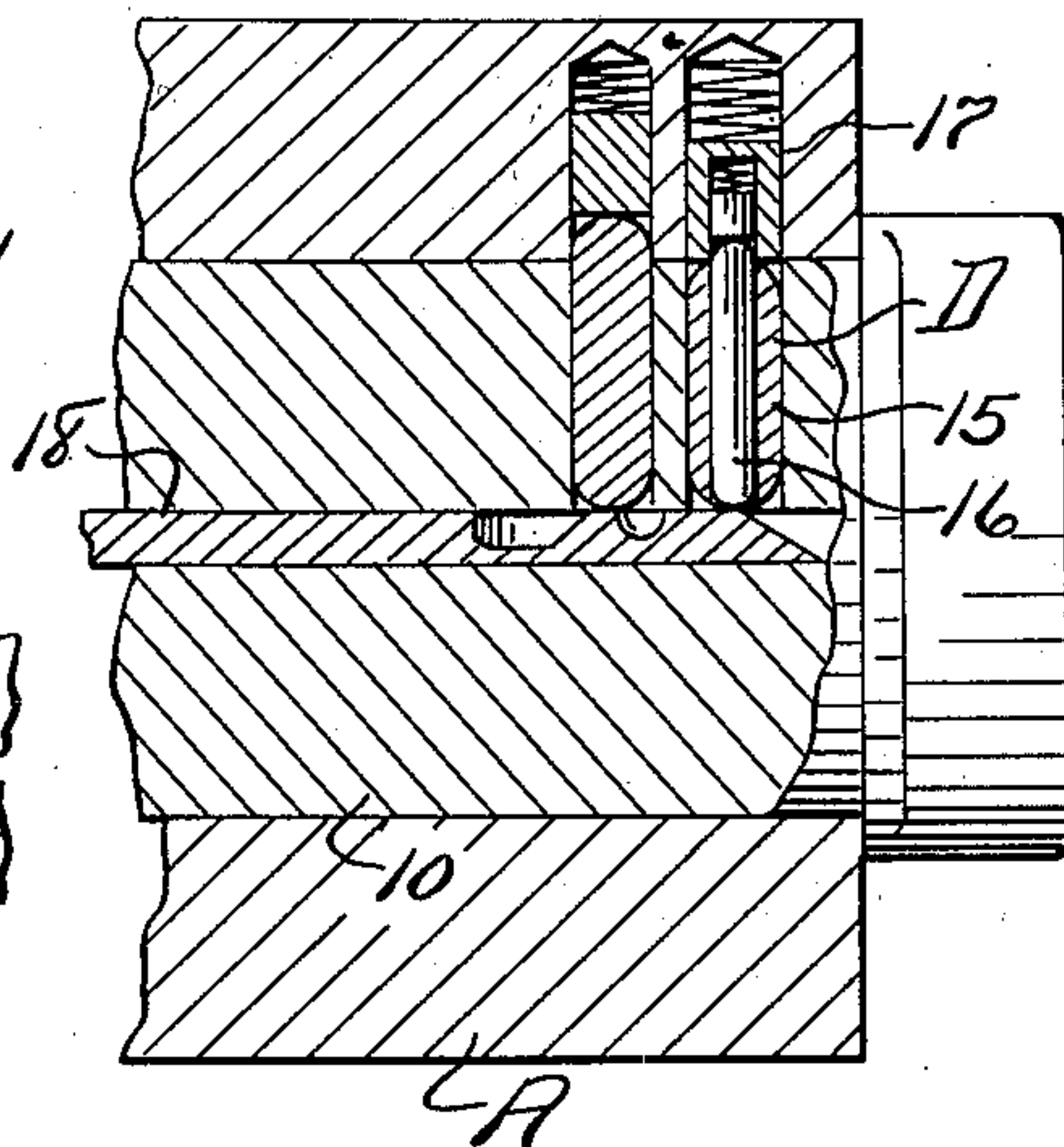
Filed March 13, 1933

2 Sheets-Sheet 2

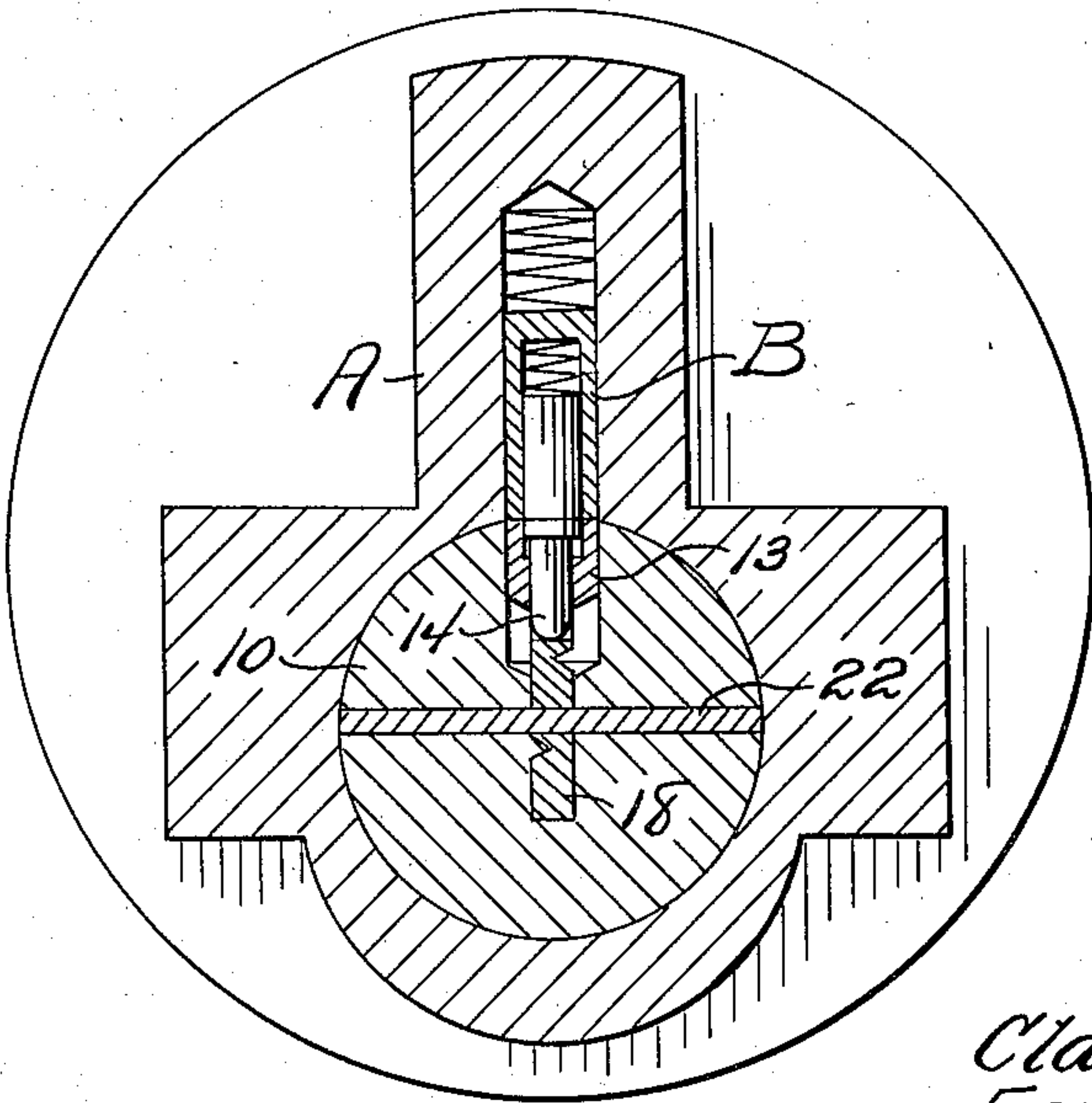
*Fig. 7.*



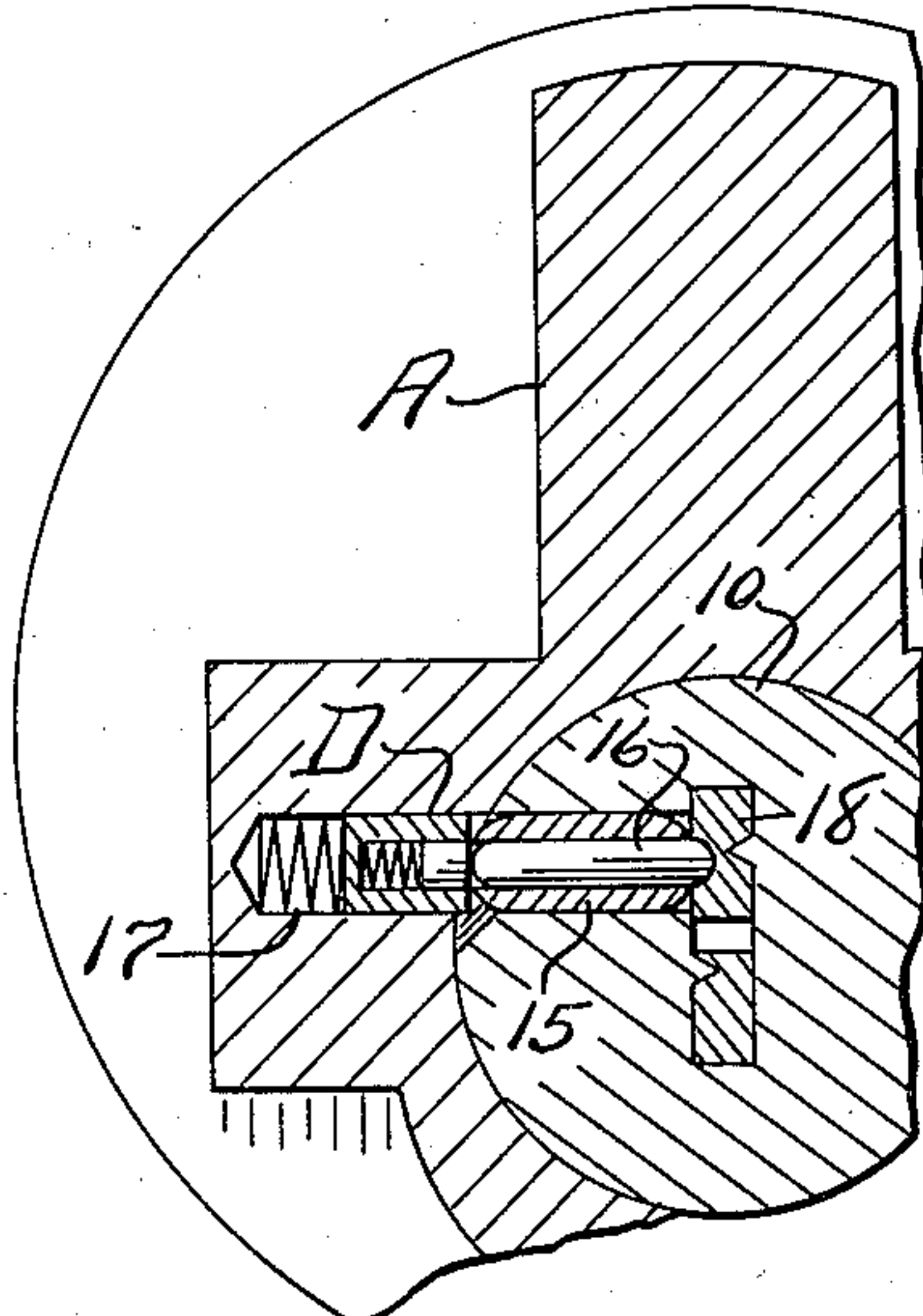
*Fig. 8.*



*Fig. 9.*



*Fig. 10.*



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## UNITED STATES PATENT OFFICE

2,022,070

## LOCK

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Application March 13, 1933, Serial No. 660,588

8 Claims. (Cl. 70—47)

The invention relates to a lock and more especially to pin tumbler locks.

The primary object of the invention is the provision of a lock of this character, wherein the pin tumblers are so disposed within the lock body that a particular key is required so that the latter will displace the tumblers at three sides of the lock body and this key is of a unique type, while the body of the lock carries a safety plate or baffle which frustrates any attempt on the part of an unscrupulous person in effecting the manipulation of any of the tumblers to permit the working of the lock, thereby rendering such lock substantially theft-proof and only workable with the key provided therefor.

Another object of the invention is the provision of a lock of this character, wherein the keyway therein is divided so that the pin tumblers contained within the lock are not accessible to an instrument for the manipulation thereof to free the lock and such lock can only be manipulated by the key matched therewith and such lock is substantially theft-proof.

A further object of the invention is the provision of a lock of this character, wherein the pin tumblers include a novel construction as one or all of such tumblers may be of the double interfitted pin type, thus making it practically impossible for manipulation of the lock without the use of the key pertaining thereto, the pin tumblers being disposed in a novel manner within the lock so as to be incapable of being picked surreptitiously.

A still further object of the invention is the provision of a lock of this character which is extremely simple in construction, thoroughly reliable and efficacious in its operation, strong, durable, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a front elevation of the lock constructed in accordance with the invention.

Figure 2 is a fragmentary vertical longitudinal sectional view thereof.

Figure 3 is a sectional view on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a view similar to Figure 3 showing

fragmentarily the key for the lock inserted therein.

Figure 5 is a perspective view of the key plug, the same being partly broken away to show in detail the baffle in the keyway or slot.

Figure 6 is a side elevation of the key for the lock.

Figure 7 is an enlarged fragmentary sectional view similar to Figure 2 with the key inserted in the plug and the outermost pin tumblers operated upon thereby.

Figure 8 is a view similar to Figure 7 with the key in the position as shown in Figure 4.

Figure 9 is an enlarged vertical transverse sectional view through the lock with the key therein.

Figure 10 is a view similar to Figure 9.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally the lock casing or what might be more properly termed the tumbler case of a pin lock, 10 the plug and 11 the ordinary two-part spring actuated pin tumblers which normally lock the plug against movement in the case. The plug 10 is provided with the usual key slot 12.

The pin tumblers 11 in a series are arranged superposed with respect to the slot 12, while separate series of such pin tumblers are arranged at opposite sides of the slot. The series B may include one or all of double interfitted spring actuated tumbler pins 13 and 14 respectively, and likewise the series C and D may include one or all of the double interfitted spring actuated tumbler pins 15 and 16 respectively. It is preferable to have the series C and D respectively arranged close to opposite ends of the case A. It is of course understood that the tumblers 11 and those of the series C and D have their key engaging ends beveled or rounded. These tumblers operate through suitable ways 17 therefor both in the case A and the plug 10 for actuation by the key 18.

The key 18 at its blade 19 has the usual edge notches 20 for the setting of the pin tumblers of the series B, while opposite sides of said blade have the depressions or cavities 21 therein at matched localities thereof with the series C and D of tumbler pins so that the latter will be properly set to permit the turning of the plug 10 on the complete insertion of the key in the slot 12 therein within the case A.

Inset from the entrance end of the slot and disposed crosswise thereof within the plug 10 is a baffle or guard 22 which eliminates any appar-



ent possibility of the insertion of an instrument in the slot 12 to gain access to the series of tumblers for the manipulation thereof to free the plug 10 for the turning thereof and in this manner, as well as in association with the series of tumblers B, C, and D, the said lock is rendered substantially theftproof.

The key is formed with the bifurcation 23 longitudinally thereof and opens through the free end of its blade 20 so that such blade will clear the guard or baffle 22 when the key is inserted in the slot 12 of the plug 10 of the lock.

Normally the series C and D of the tumblers lock the plug 10 at opposite end portions thereof in the case A and it is necessary that the blade 20 of the proper key simultaneously set these series of tumblers C and D, which are successively set on the introduction of the blade 20 in the slot 12 before the plug 10 can be turned in the case A. Thus it will be seen that the plug 10 is triple locked, and additionally, such triple lock is guarded from surreptitious control or manipulation.

I have referred to series or sets of tumbler pins B, C and D, but it is understood that each of said series or sets B, C and D may comprise but one tumbler pin assembly each within the meaning of the claims.

What is claimed is:

1. In a pin tumbler lock construction a tumbler case, a key plug and three series of pin tumblers fitted within the case and plug, a guard inset within the plug and disposed crosswise of a key slot in said plug, one series of tumbler pins being disposed uppermost of the slot and the other series being disposed laterally at opposite sides of the slot, the side series of tumbler pins being disposed fore and aft of the plug, one set of side tumbler pins being adjacent the top of the plug and the other adjacent the bottom of the plug.

2. In a pin tumbler lock construction, a tumbler case, a key plug and three series of pin tumblers fitted within the case and plug, a guard inset within the plug and disposed crosswise of a key slot in said plug, one series of tumbler pins being disposed uppermost of the slot and the other series being disposed laterally at opposite sides of the slot, one set of side tumbler pins being adjacent the top of the plug and the other adjacent the bottom of the plug.

3. In a pin tumbler lock construction, a tumbler case, a key plug and three series of pin tumblers fitted within the case and plug, a guard inset within the plug and disposed crosswise of a key slot in said plug, one series of tumbler pins being disposed uppermost of the slot and the other series being disposed laterally at opposite sides of the slot, the side series of tumbler pins being disposed fore and aft of the plug, one set

of side tumbler pins being adjacent the top of the plug and the other adjacent the bottom of the plug, and at least one of the tumbler pins of each series comprising interfitted telescopically adjustable pin sections and spring actuated.

4. In a pin tumbler lock construction, a tumbler case, a key plug and three series of pin tumblers fitted within the case and plug, of a guard inset within the plug and disposed crosswise of a key slot in said plug, one series of tumbler pins being disposed uppermost of the slot and the other series being disposed laterally at opposite sides of the slot, one set of side tumbler pins being adjacent the top of the plug and the other adjacent the bottom of the plug, and at least one of the tumbler pins of each series being formed of interfitted telescopically adjustable pin sections and spring actuated.

5. In a pin tumbler lock construction, a tumbler case, a key plug, two series of pin tumblers fitted within the case and plug, a guard inset within the plug and disposed crosswise of a key slot in said plug, said series of tumbler pins being disposed laterally at opposite sides of the slot and lying in planes substantially parallel with said guard, and one series of tumbler pins being above the plane of said guard and the other below the plane of the same.

6. In a pin tumbler lock construction, a tumbler case, a key plug having two series of pin tumblers fitted within the case and plug, a guard inset within the plug and disposed crosswise of a key slot in said plug, said series of tumbler pins being disposed laterally at opposite sides of the slot and lying in planes substantially parallel with said guard, one series of tumbler pins being above the plane of said guard and the other below the plane of the same, and one tumbler pin series being in the fore part of the plug and the other in the rear part thereof.

7. In a pin tumbler lock construction, a tumbler case, a key plug having a key slot, two series of pin tumblers fitted within the case and plug, said respective series of tumbler pins being disposed laterally at opposite sides of the key slot in different planes, and a guard spanning said key slot and interposed between said two series of pin tumblers.

8. In a pin tumbler lock construction, a tumbler case, a key plug having a key slot, at least two pin tumblers fitted within said case and plug, said pin tumblers being disposed laterally at opposite sides of the key slot and having their inner ends communicating therewith at spaced points in the direction of the height of said slot and a guard transversely spanning said slot and interposed between the inner ends of said pin tumblers which are at different sides of said slot.

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