

C. E. BLECHSCHMIDT.
 REMOVABLE DIAL FOR PERMUTATION LOCKS.
 APPLICATION FILED MAR. 9, 1910.

966,646.

Patented Aug. 9, 1910.

Fig. 1.

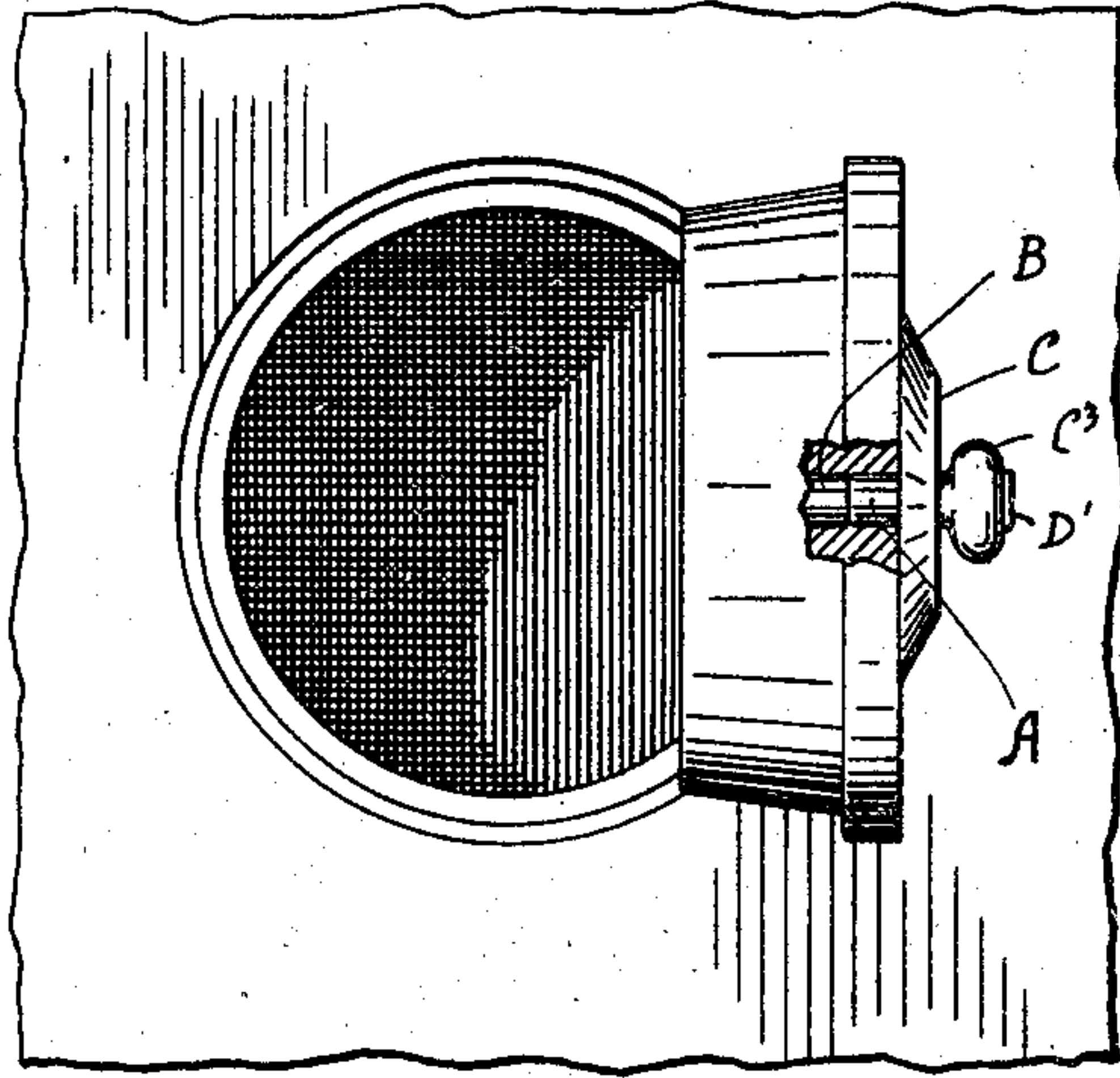


Fig. 4.

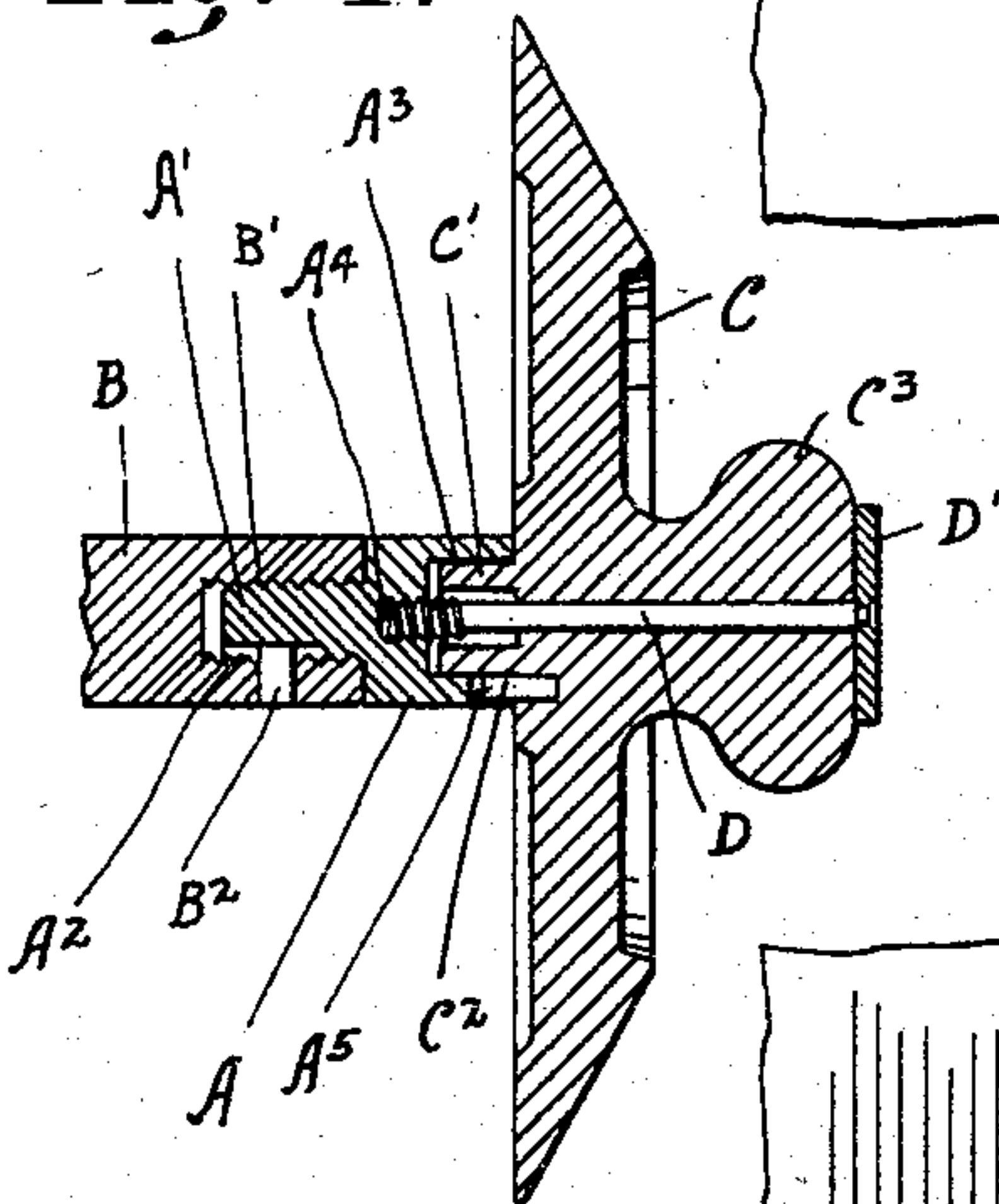


Fig. 3.

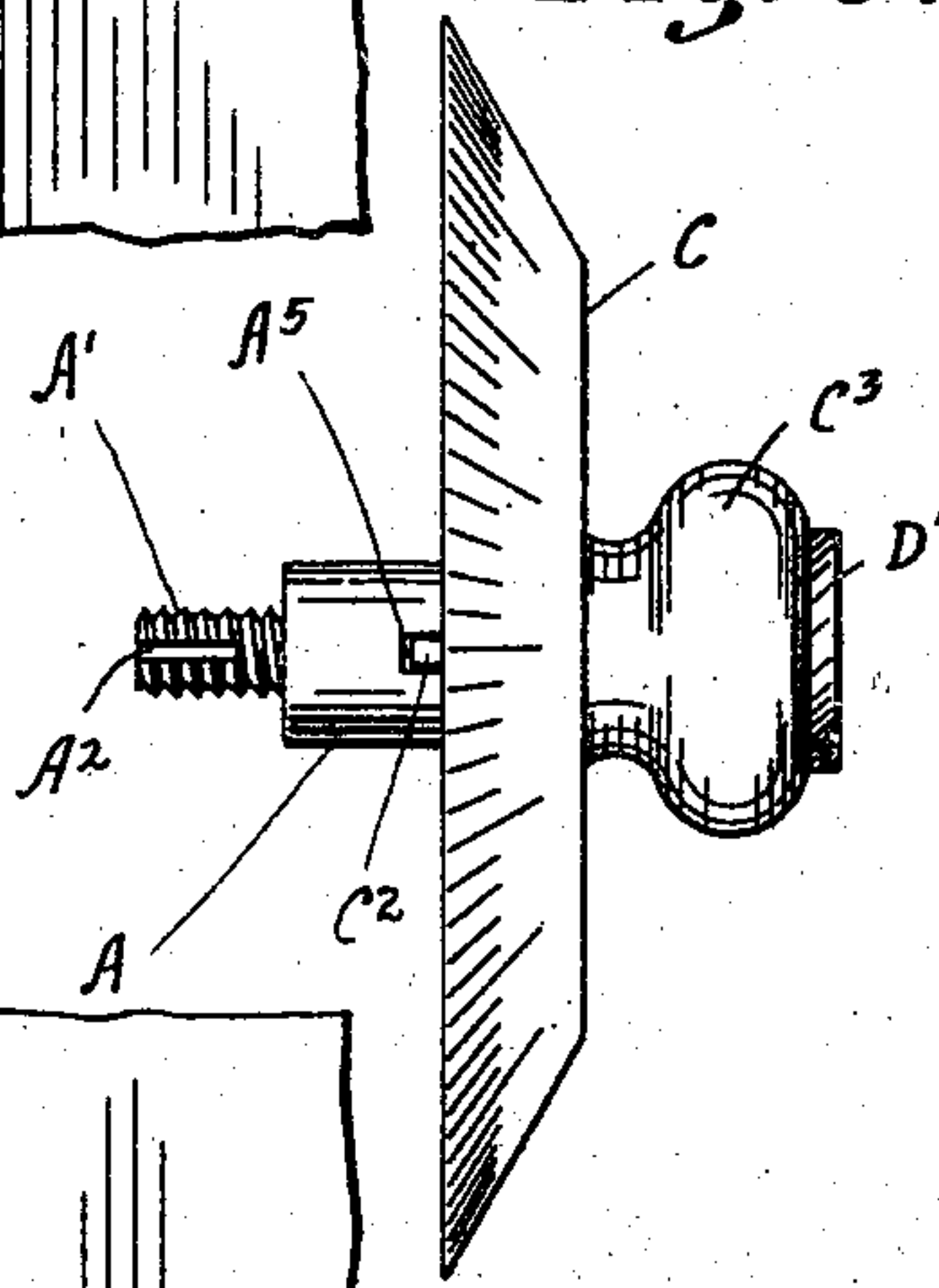


Fig. 2.

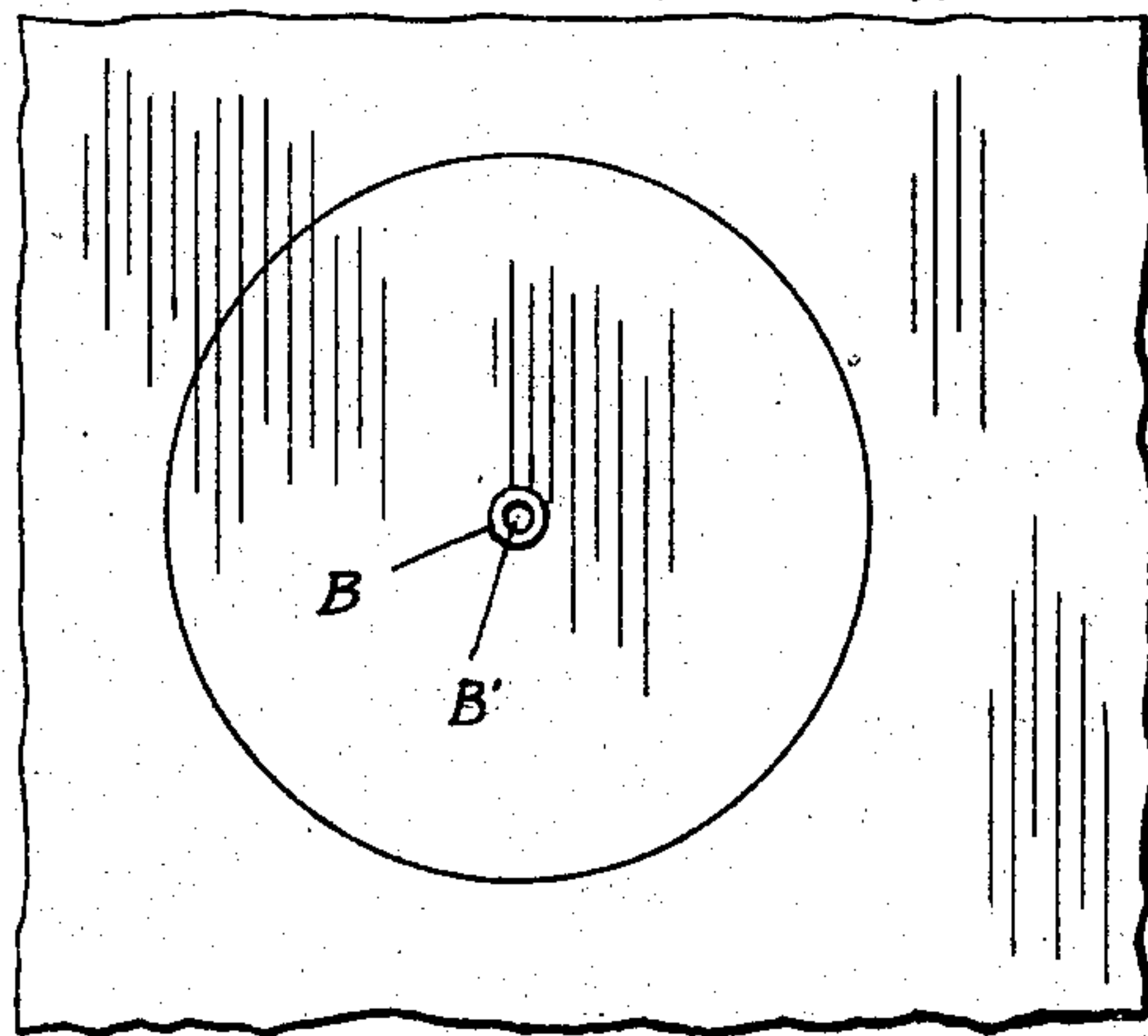
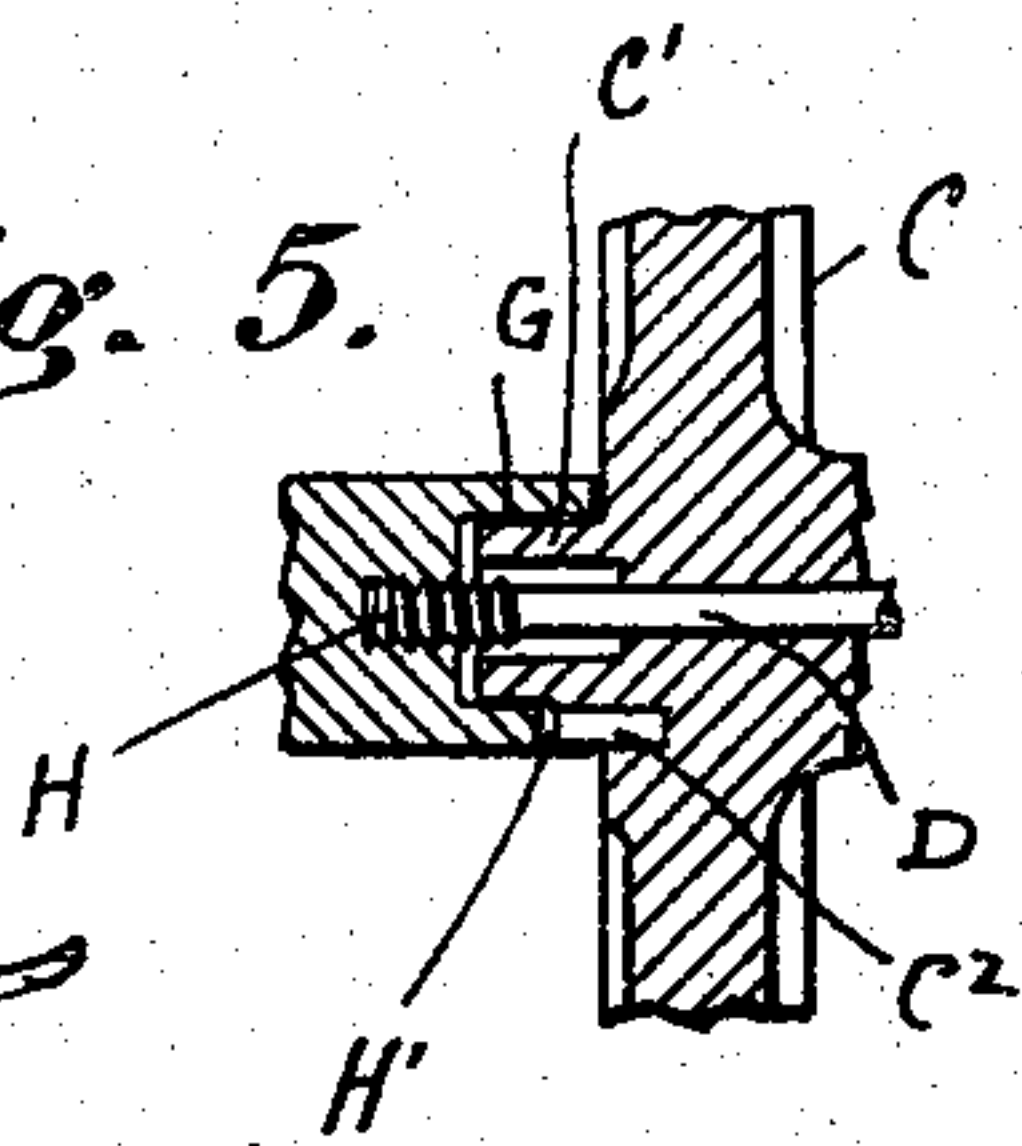


Fig. 5.



WITNESSES:
John W. Ryan
Harold P. Haynes

INVENTOR
CHARLES E. BLECHSCHMIDT.
 BY
Thomas R. Ryan
 ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES E. BLECHSCHMIDT, OF CONNERSVILLE, INDIANA.

REMOVABLE DIAL FOR PERMUTATION-LOCKS.

966,646.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that I, CHARLES E. BLECHSCHMIDT, a citizen of the United States, and a resident of the city of Connerville, in the
5 county of Fayette and State of Indiana, have invented new and useful Improvements in Removable Dials for Permutation-Locks, of which I declare the following to be a specification.

10 This invention relates to improvements in removable dials for permutation locks.

The objects of my invention are to provide a device of the kind described which will be capable of being applied to use in connection
15 with the arbor or central shaft of any ordinary combination lock mechanism.

More specific purposes of this invention are to accomplish such improvement in the construction, combination, and arrangement
20 of parts that a removable dial of the character referred to will be provided which will be of simple construction, and fewer parts and be very easy to understand and apply to use.

25 My invention is shown embodied in the construction illustrated in the accompanying drawings wherein the several parts of my improved removable dial are indicated by corresponding characters of reference
30 throughout the several views in which:—

Figure 1 is a side view of a safe door upon which my invention is shown applied; a portion of the door being broken away. Fig. 2 is a front view of the safe door as the same
35 appears after the dial has been removed. Fig. 3 is a side view of the dial and head-piece detached. Fig. 4 is an enlarged transverse sectional view of the dial and head-piece. Fig. 5 is a modified form of applica-
40 tion of my invention.

In safe doors provided with combination locks the dial is ordinarily made substantially an integral part of the central shaft or arbor of the lock mechanism.

45 To render my invention of especial utility as applicable to use in combination with an arbor of any diameter, I provide the head piece A which will form the head or terminal portion of the arbor B which may be of any
50 diameter. The threaded shank A¹ of the head piece is of comparatively small diameter and may be screwed into a threaded bore B¹ provided in the arbor. I provide a recess A² in the shank which may receive the end of a
55 slug or screw B² carried by the arbor. Inasmuch as there will be no strain ever imposed

on the head piece sufficient to loosen or disengage the head piece from the arbor, a mere close fitting or tight jointure of the head piece by screwing the shank of the former
60 into the bore of the latter is ordinarily quite sufficient, in which case the recess A² of course performs no function, and the slug B² is unnecessary. From the bottom of the smooth central recess A³ extends a centrally
65 disposed threaded hole A⁴. Opening from this central recess into the wall of the head piece is a notch A⁵.

Provided on the rear side of the dial C is the centrally formed boss C¹ and immediately adjacent thereto is a tooth C². The
70 bore of the boss C¹ is of diameter to permit the free passing of the threaded end of the stem D. The stem D is passed through the smooth central bore of the head C³ of the
75 dial, its inner end is threaded and of diameter slightly larger than that of the said central bore and is capable of being screwed into the threaded hole A⁴ of the head piece. The outer end of this stem is shouldered and
80 riveted thereon is the head D¹.

With the dial in position the boss C¹ and the tooth C² will engage the central recess A³ and the notch A⁵ respectively. By screwing the stem D into the threaded hole A⁴ of
85 the head piece, the dial will be held in rigid and immovable engagement with the latter, so that by the movement of the dial there will be a movement of the arbor. The head D¹ is of such contour and size that when the
90 dial is in the locked engagement with the head piece, the head D¹ appears to be an integral part of the dial head. The peripheral edge of the head D¹ is suitably milled whereby it may be more conveniently ma-
95 nipulated by the hand. To accomplish the removal of the dial the stem D is unscrewed; the dial may be then easily pulled away from its engagement with the head piece. The stem will be not entirely disengaged
100 from the dial but will be retained loosely in the bore thereof.

The utility of my invention is obvious. The removal of the dial from the door renders the wall surface unobstructed and
105 appearances indicating the presence of a wall safe are lessened. Wall covering may be laid over the safe door. An object of any kind such as a picture placed in front of
110 same, will effectively conceal from view any interruption in the wall surface. Moreover the dial having been detached from the lock

mechanism, the unlocking of same by operation of the arbor is made practically impossible, and tampering with it is rendered exceedingly difficult should force be applied to turn the dial, separation of same from the lock mechanism would occur, either through its becoming unscrewed at the shank A¹, or by the derangement of the tooth C² and notch A⁵ and breaking of the stem D.

My invention is more especially desirable when carried into effect in the preferred form and construction as just described. With the head piece forming a part thereof with its threaded shank as shown, the invention is rendered capable of physical attachment to arbors of various sizes, there being no machine work necessary on the arbor except to provide the hole therein necessary to receive the shank. Where it may be more convenient, or where it may possibly be not practical to reduce the length of the arbor proper, then the modified form of my invention, as shown in Fig. 5 may be used. In this modification the end of the arbor is simply provided with a bore G and the threaded hole H and the notch H¹ into which bore and hole and notch, the boss C¹, the stem D, and the tooth C² will fit respectively.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A dial of the kind described having a central aperture therethrough and counter-bored at its rear side, a tooth carried on the rear side of the said dial and near its center, a stem to work freely in the said aperture its

inner end being of slightly increased diameter and threaded, and its outer end being provided with a head.

2. In a device of the kind described, the combination of a dial having a central aperture therethrough, a tooth carried on the rear side of the said dial and near its center, a stem to work freely in the said aperture, its inner end being threaded and its outer end being provided with a head, a head-piece having a threaded hole to receive the said stem and notched to receive the said tooth and there being a centrally threaded shank on said head-piece.

3. In a lock operating device of the kind described a lock mechanism including an arbor provided with a central threaded opening, a dial having a central aperture therethrough, a tooth carried on the rear side of said dial and near its center, a stem to work freely in the said aperture, its inner end being threaded and its outer end being provided with a head, a head-piece having a threaded hole to receive said stem and notched to receive the said tooth and there being a centrally threaded shank on said head-piece to be screwed into the central threaded opening in said arbor.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CHARLES E. BLECHSCHMIDT.

Witnesses:

GEORGE W. HOBSON, Jr.,
EDWARD TIERNEY.