

No. 608,069.

Patented July 26, 1898.

C. O. NOACK.
CYLINDER LOCK.

(Application filed July 2, 1897.)

(No Model.)

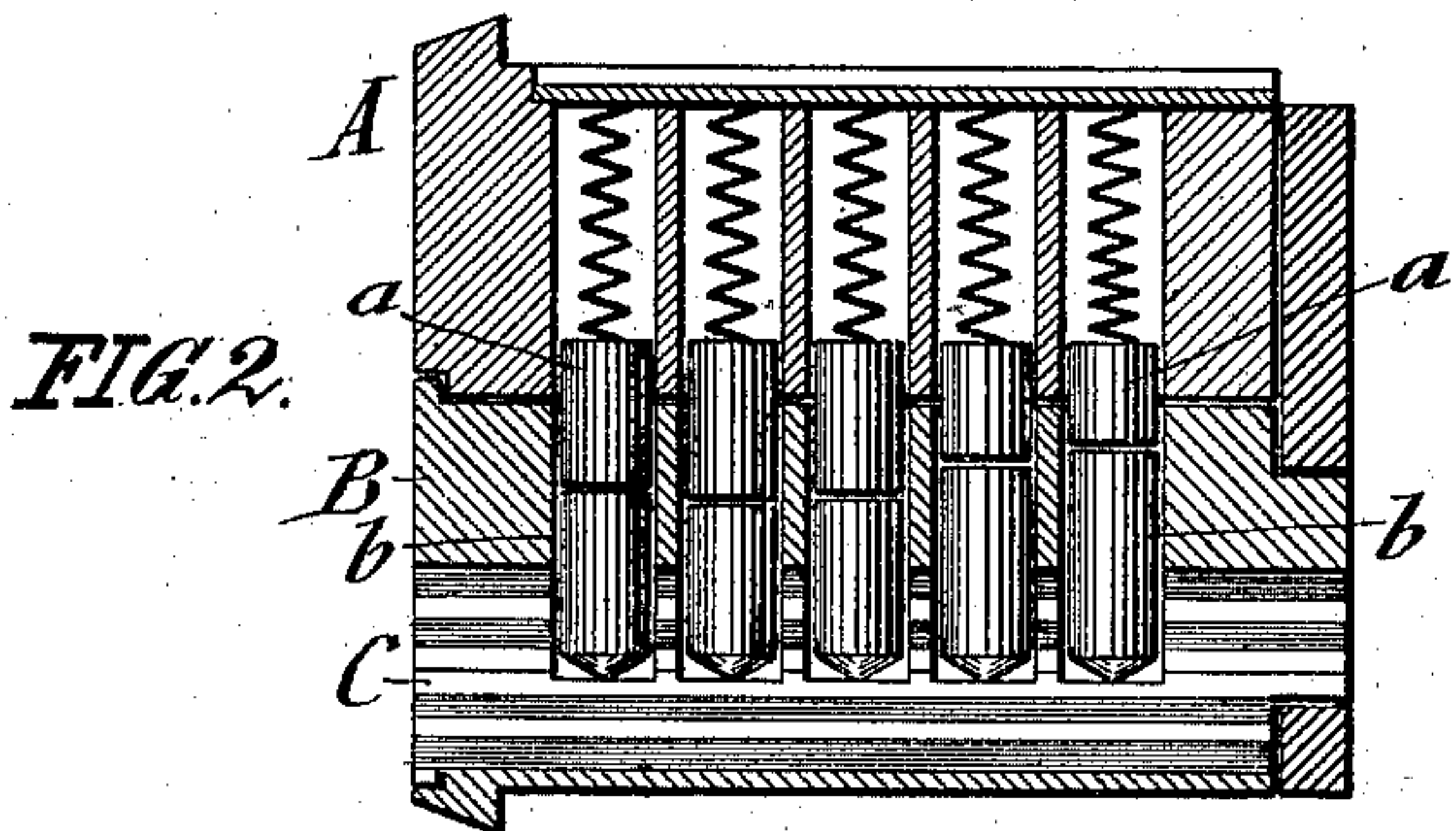
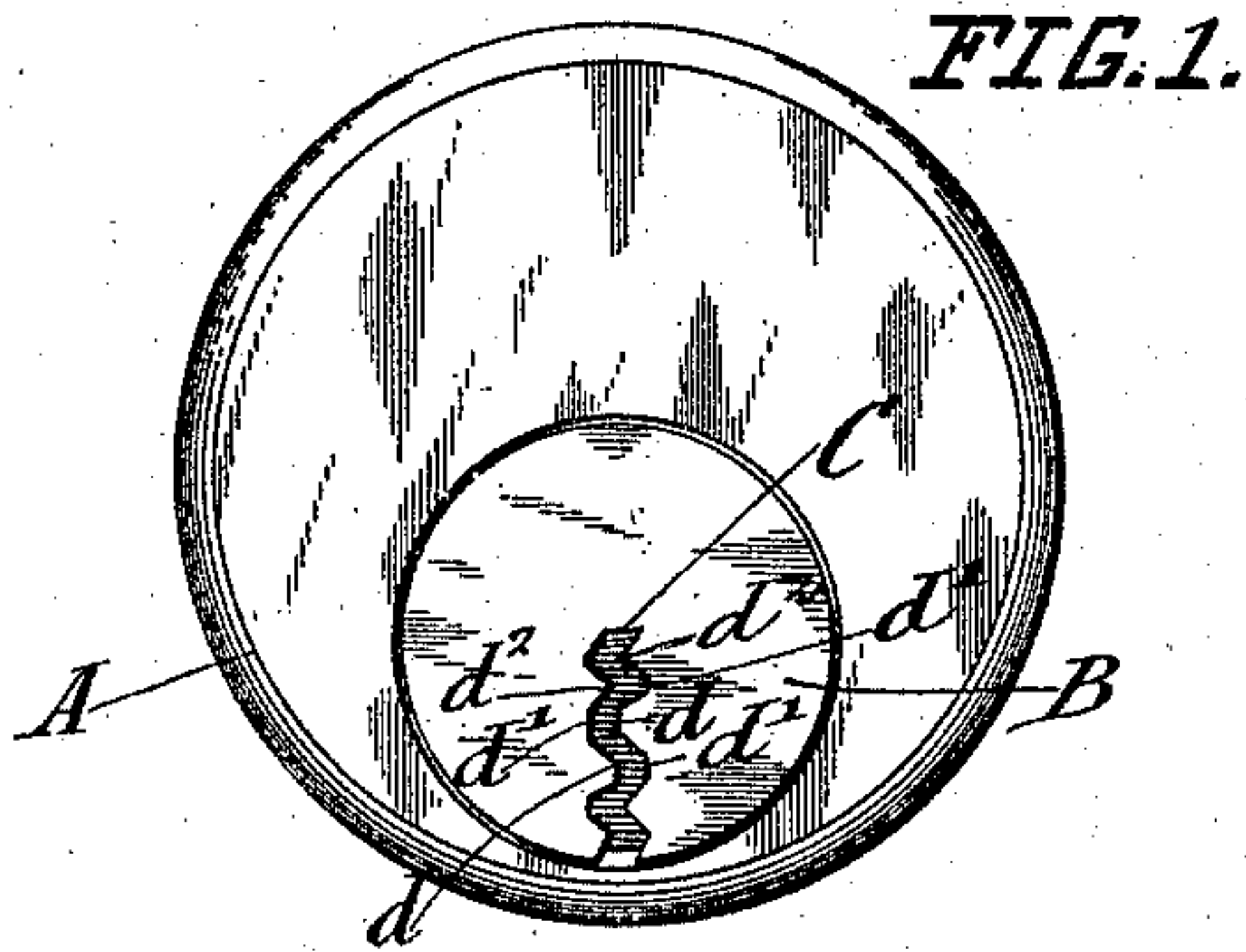


FIG. 3.

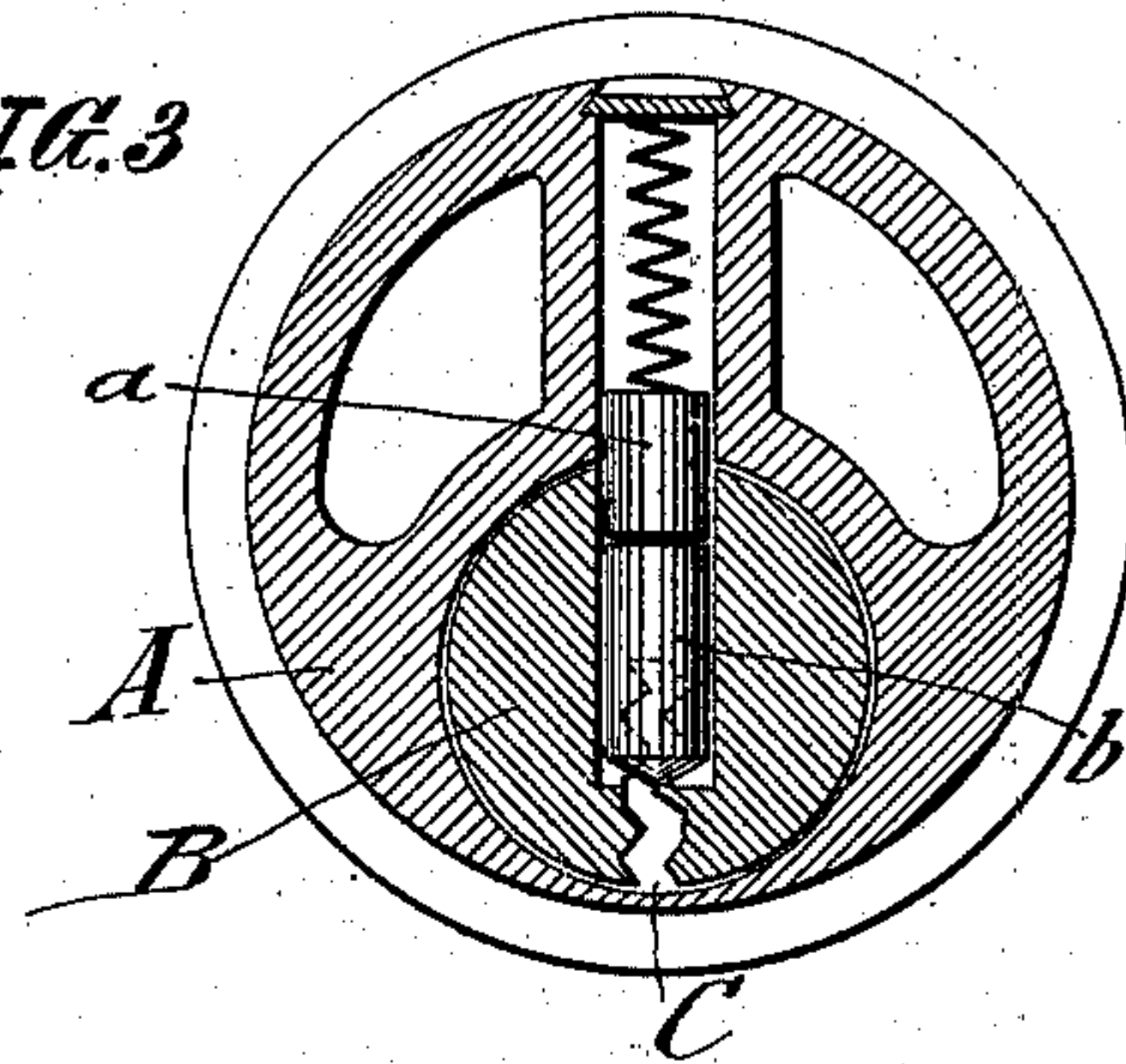


FIG. 4.

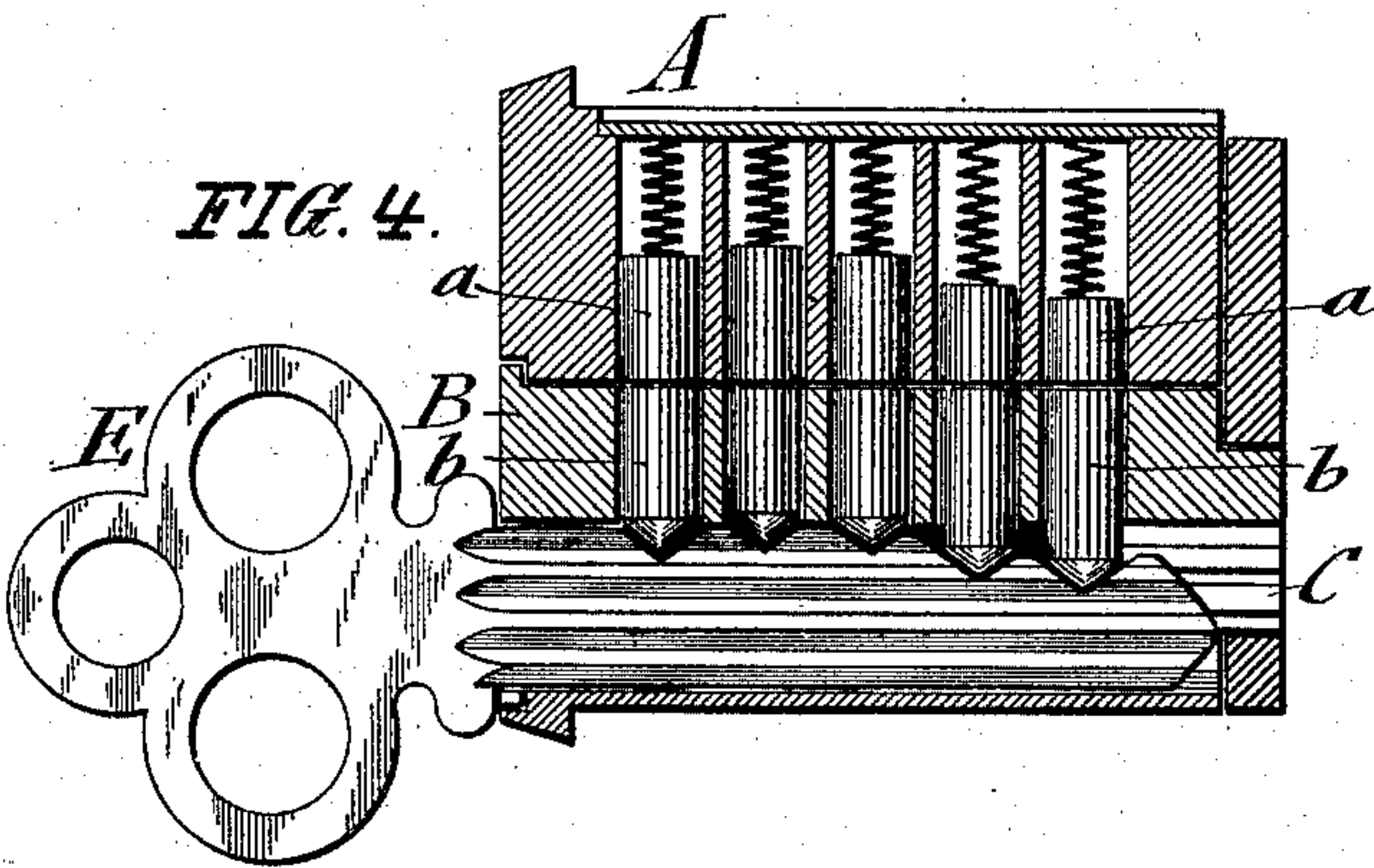


FIG. 5.

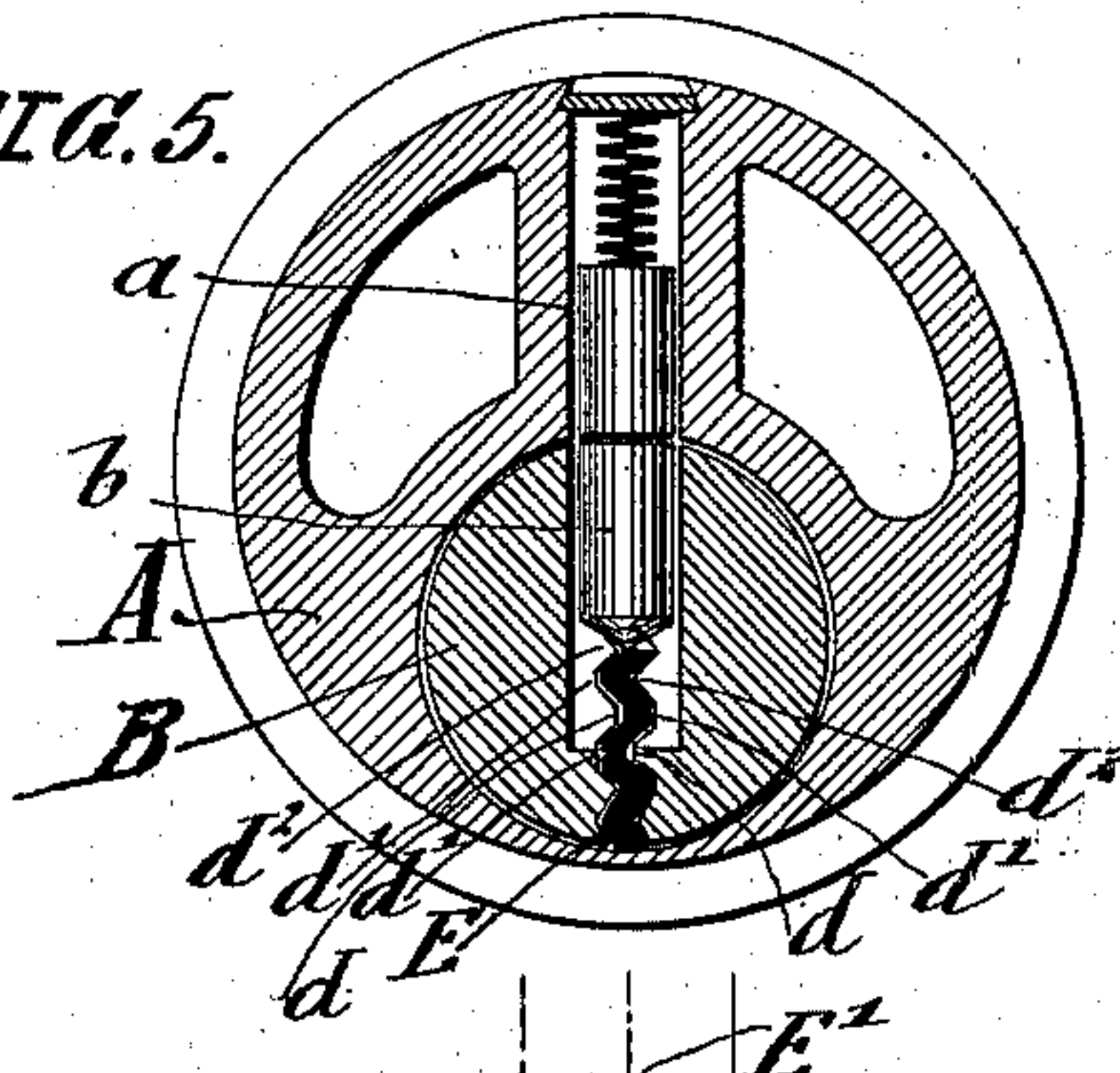


FIG. 6.

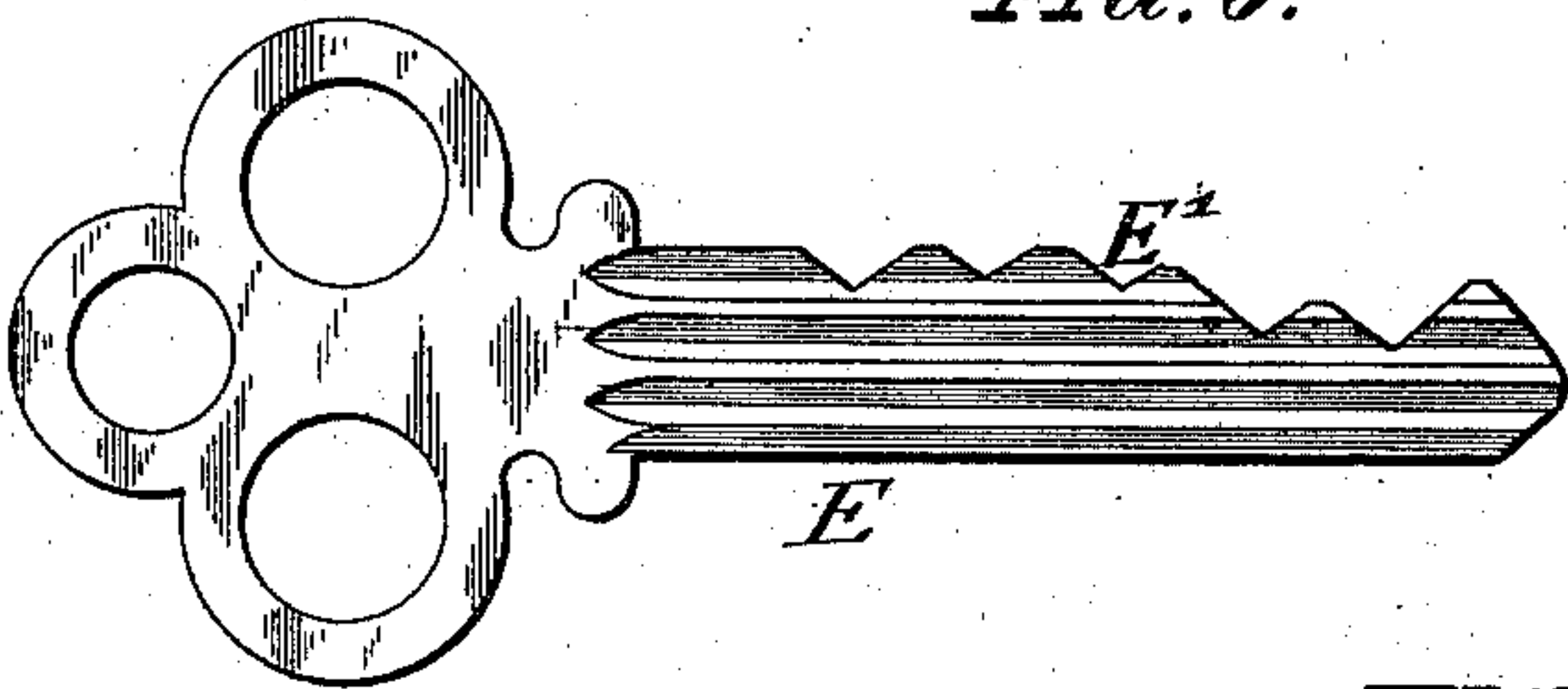


FIG. 7.

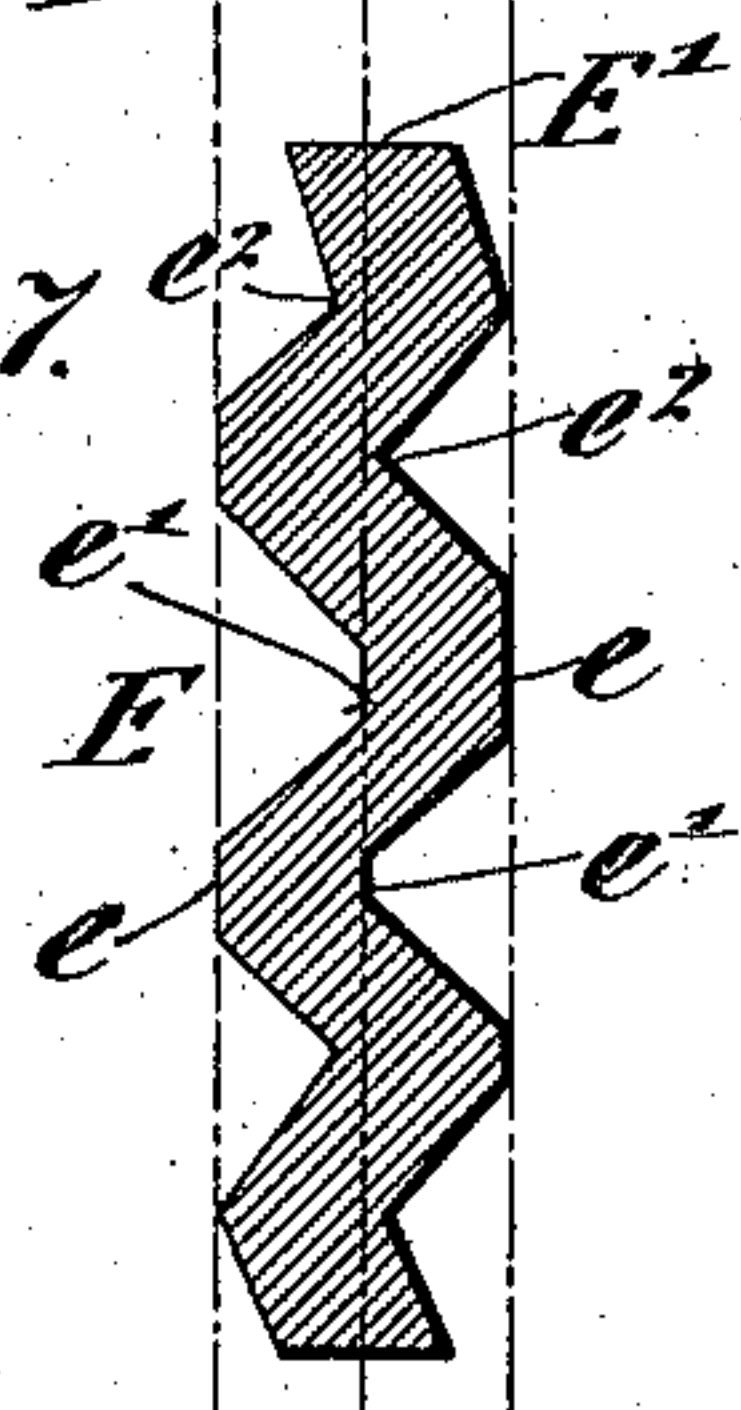


FIG. 8.

WITNESSES:



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UNITED STATES PATENT OFFICE.

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CYLINDER-LOCK.

SPECIFICATION forming part of Letters Patent No. 608,069, dated July 26, 1898.

Application filed July 2, 1897. Serial No. 643,203. (No model.)

To all whom it may concern:

Be it known that I, CARL O. NOACK, a citizen of the United States, residing at Stamford, in the county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Barrels and Keys of Cylinder-Locks, of which the following is a specification.

This invention relates to a barrel and key of cylinder-locks; and the object of the same is to provide a lock which it is impossible to pick with a picking-tool and to provide a key which shall possess the advantages of the well-known corrugated key and at the same time be so constructed as that the bearing-surface for the ends of the tumblers will not be readily worn, which is a disadvantage in many of the keys of this class, as after use for a short period the wear-surface of the key becomes so worn that the key is rendered useless; and the further object of the invention is to render the key both durable and substantial without materially altering the well-known construction of cylinder-locks.

In order that my invention may be fully understood, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is an end view of a cylinder-lock embodying my improvement. Fig. 2 is a longitudinal section of the same in the plane of the tumblers, and Fig. 3 is a cross-section of the same, both Figs. 2 and 3 showing the key removed. Fig. 4 is a longitudinal section of the lock, showing the key inserted. Fig. 5 is a transverse section of the same. Fig. 6 is a side view of the key. Fig. 7 is an enlarged transverse section of the key, and Fig. 8 is an edge view of the wear-surface of the key.

Similar letters of reference indicate like parts.

In the drawings, A indicates the cylinder; a, the spring-actuated pins guided in holes in the cylinder; B, the rotary barrel or plug, and b the tumblers, which are guided in holes of the plug or barrel, so as to be acted on by the spring-actuated pins in the usual way. The construction of the parts is the same as in the usual cylinder-lock, with the exception that the plug or barrel B is formed with a keyway C of peculiar shape. The keyway has the general sinuous shape of the former key-

ways, but is yet different. Referring more particularly to Fig. 1, it will be seen that this keyway C is constructed at opposite sides, with ribs or corrugations *d* at its longitudinal center, which extend toward corresponding depressions *d'* at the opposite side of the keyway, the edges of said ribs lying in the center plane of the keyway, so that the several points or edges of the several ribs will prevent the introduction into the keyway of a picking-tool, so that the same cannot reach the tumblers. It is necessary that several of the ribs extend to the center plane of the keyway to prevent a picking-tool from acting on the tumblers. The upper part of the keyway is formed differently from the middle part of the same by the formation of two ribs *d² d²*, the edges of which are not flattened and do not extend as far as the center plane of the keyway. The object of this formation of the upper part of the keyway is to enable the key to have a greater thickness at that part, for the purpose to be hereinafter stated when referring to the key.

The key E (see particularly Figs. 6, 7, and 8) is formed at the longitudinal center of its shank with corrugations *e*, which correspond with the grooves or depressions *d'* in the longitudinal center of the keyway, while between the corrugations depressions or grooves *e'* are formed, the bottoms of which lie in the longitudinal center plane of the shank of the key. By this construction of the longitudinal central part of the key, which is necessary, so that it corresponds with that portion of the keyway which prevents picking, the additional advantage is gained that the shank of the key is made wider, so that the key is rendered stronger and is less liable to breakage. At the wear edge or surface *E'* of the key the bittings or notches which are to correspond with the tumblers, so as to properly register with and actuate the same, are formed in such a way as to lie in the center plane of the key-shank, so that this part of the key which receives the greatest amount of wear and which in time soon wears out in former constructions will remain substantially permanent and not be subject to any material amount of wear caused by the friction of the tumblers upon the same. This principle is carried out through the entire bitted portion

of the key, so that each of the tumblers will have a sufficient amount of wear-surface. To carry out this principle of the invention, it is necessary that the depressions or grooves e^2 ,
5 formed in the bitted portion of the key, do not extend as far as the center plane of the key, so that the bottoms of said depressions lie to one side or out of the plane of the bottom of the central depressions. This furnishes a sufficient body or thickness to the
10 bitted portion of the key for the purpose stated.

The combination of the construction of the barrel or plug with the corresponding conformation of the key forms a lock which is proof
15 against being picked and in which the key, while constructed as it is at the middle portion, is sufficiently thickened at its bitted portion, so that a practically perfect wear-surface is provided for the tumblers.
20

Having thus described my invention, what I claim is—

1. A barrel or plug for cylinder-locks, having a longitudinally-corrugated keyway, in
25 which the intermediate ribs or corrugations

are arranged with the inner edges in the center plane of the keyway, while the other corrugations or ribs lie to one side or entirely outside of the center plane of the same, substantially as set forth. 30

2. A key provided with bittings or notches, said key being constructed in its longitudinal central portion with corrugations, the bottoms of the grooves between which corrugations lie in the longitudinal central plane of the
35 shank of the key, while the upper bitted or notched corrugations of the shank of the key are constructed so that the bottoms of the longitudinal depressions between them are arranged outside of the longitudinal central
40 plane of the key, whereby a broad wear-surface for the tumblers is provided, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses. 45

CARL O. NOACK.

Witnesses:

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