

May 8, 1934.

L. GUTMAN

1,957,586

LOCK

Filed Sept. 12, 1931

FIG. 1

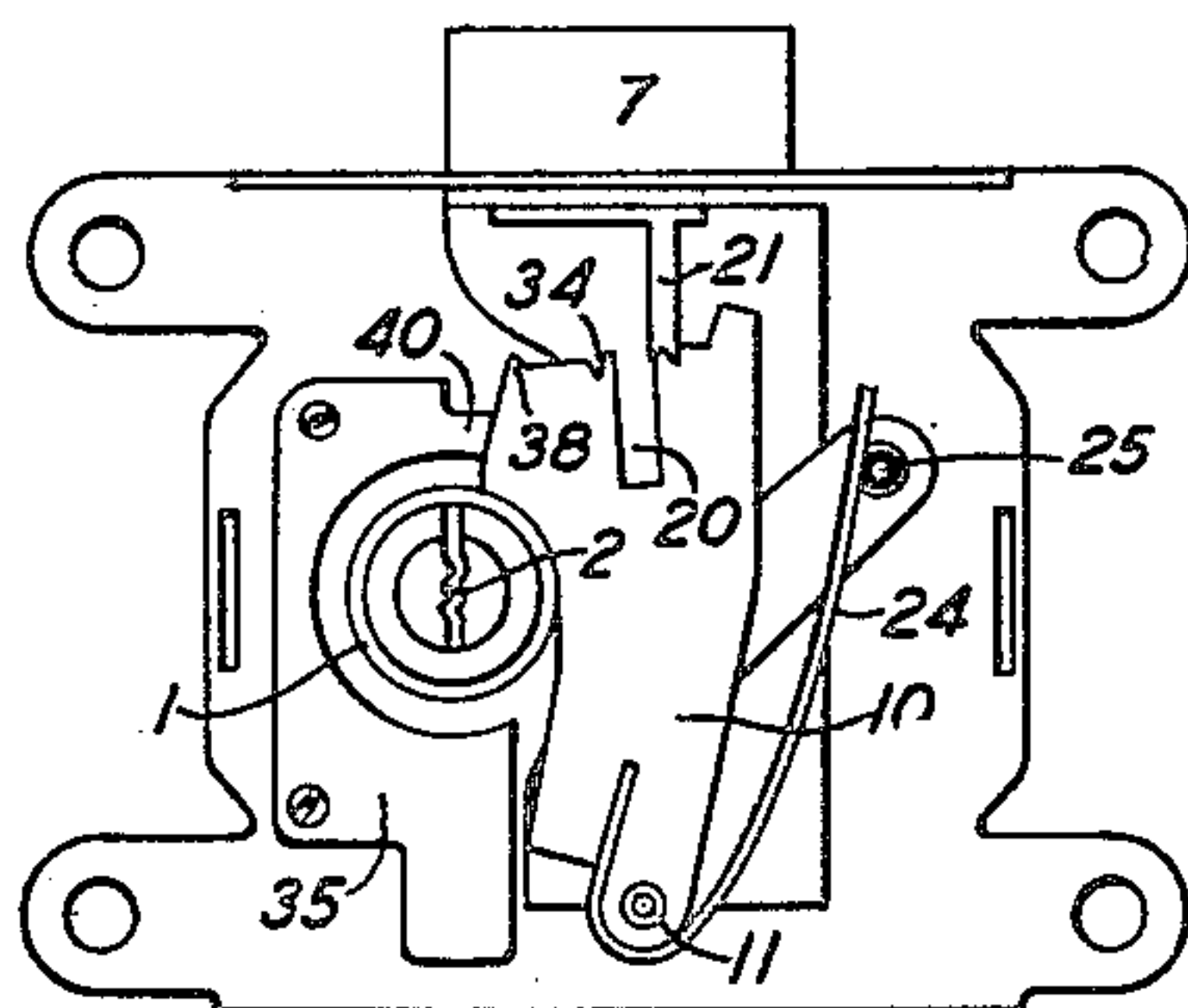


FIG. 2

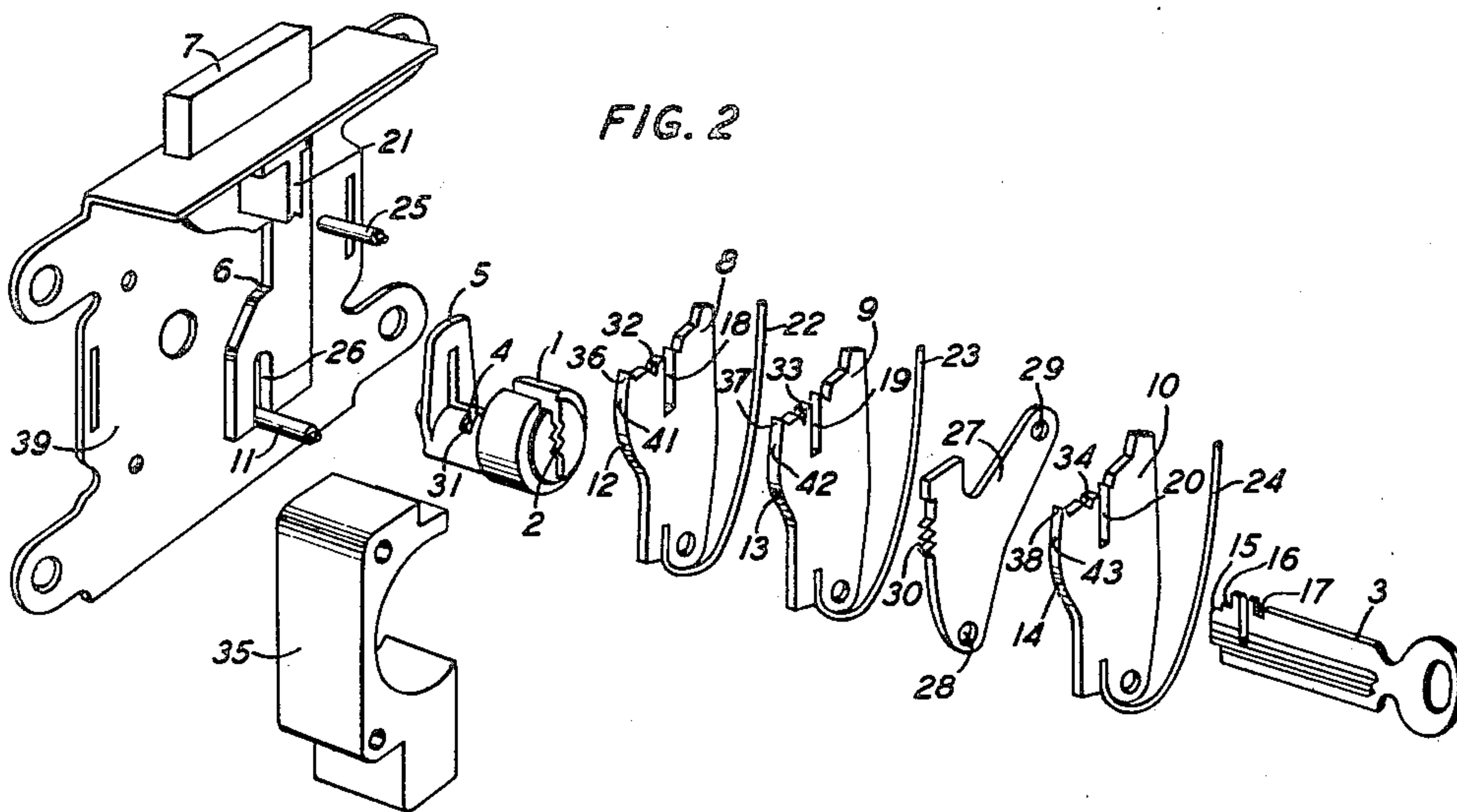


FIG. 4

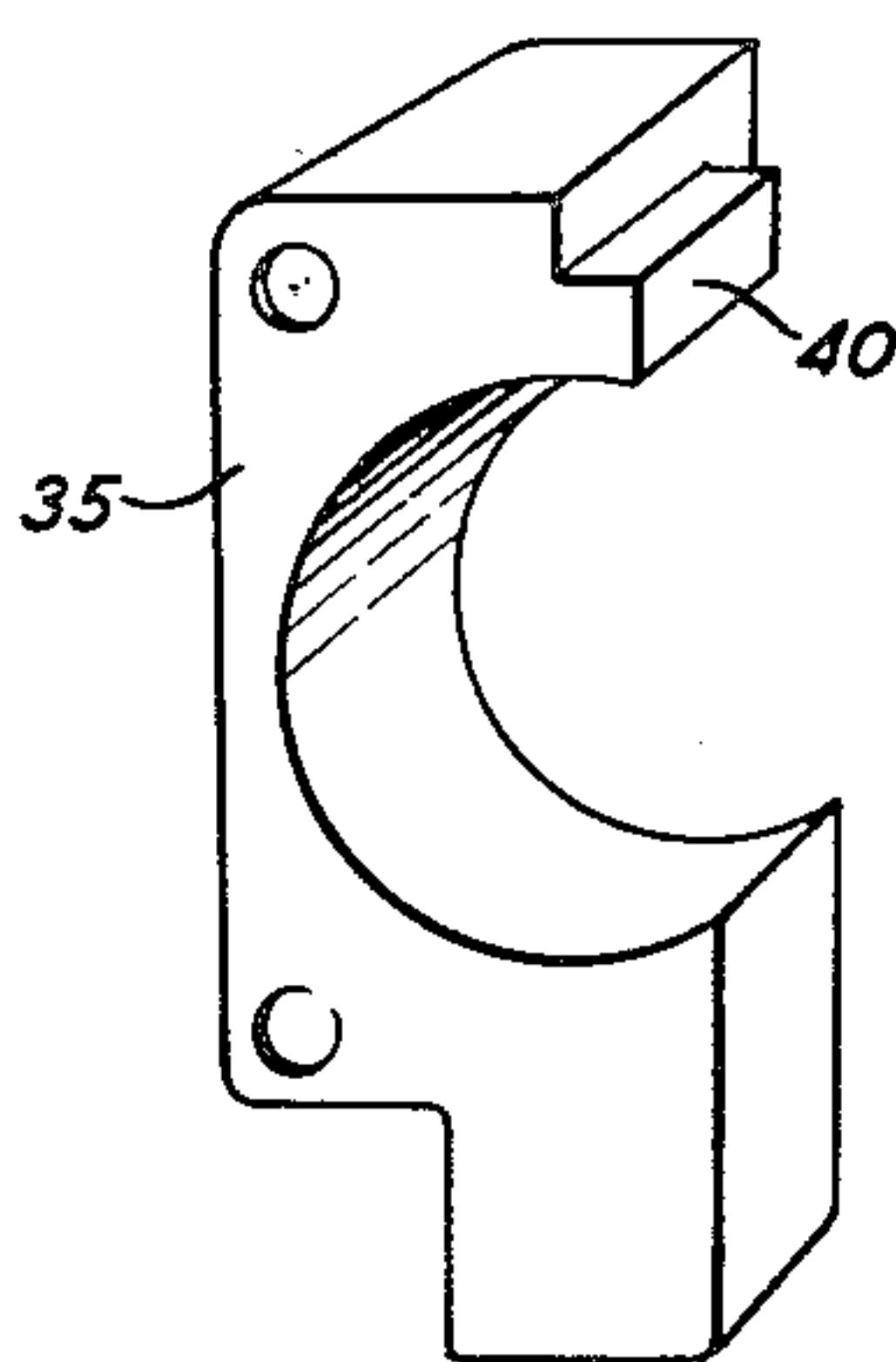
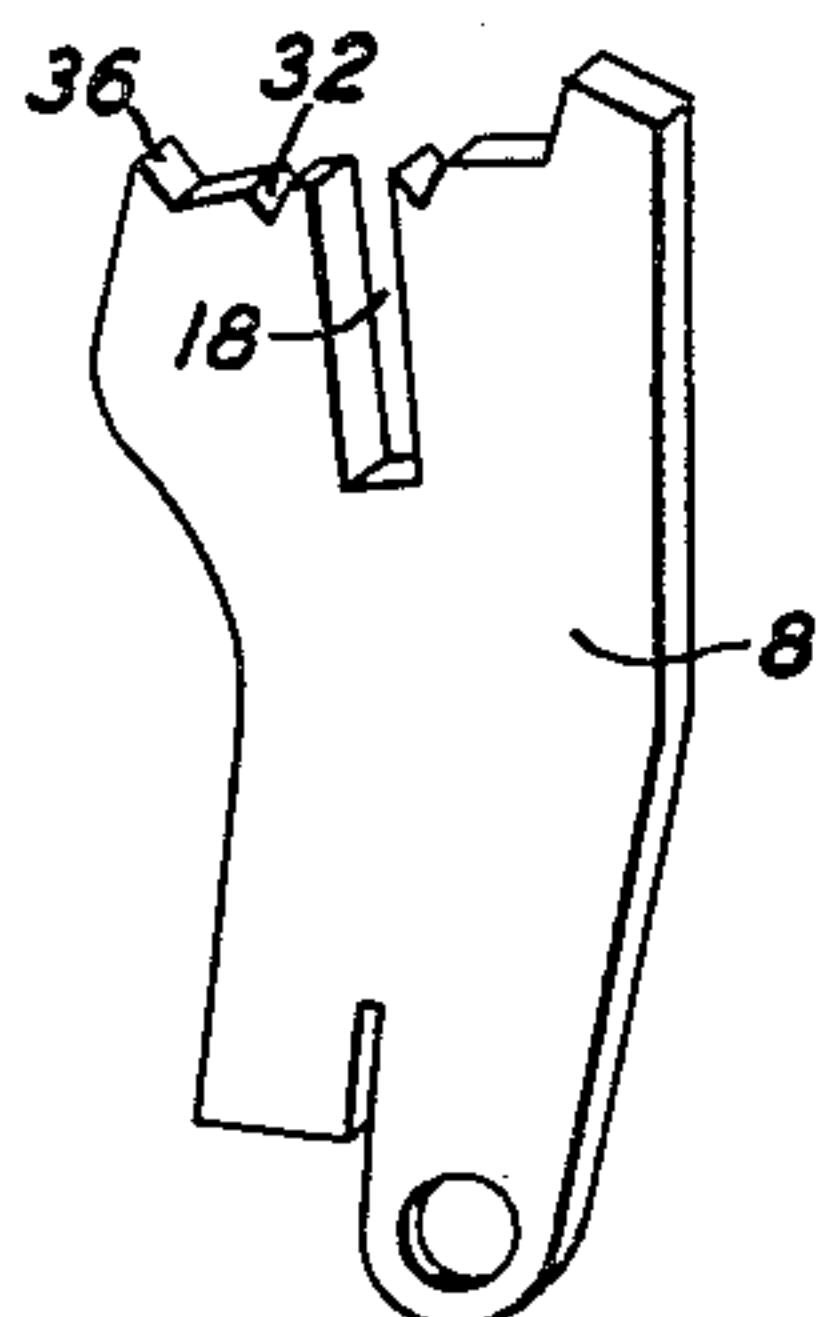


FIG. 3



INVENTOR
L. GUTMAN

BY

gr 702

ATTORNEY

UNITED STATES PATENT OFFICE

1,957,586

LOCK

Louis Gutman, Brooklyn, N. Y., assignor to
American Telephone and Telegraph Company,
a corporation of New York

Application September 12, 1931, Serial No. 562,574

5 Claims. (Cl. 70—75)

This invention relates to improvements in locks. The object of the invention is the improvement of lever type locks to prevent the fraudulent operation thereof.

According to one feature of the invention a lever type lock is provided in which access to the bolt control portion of the levers through the key-slot is prevented.

Specifically there is provided a housing for the key cylinder of the lock which has a projection adjacent to and in contact with that portion of the levers above the key cylinder when the lock bolt is in its locked position.

Referring to the drawing, Figure 1 is a front view of the lock according to this invention with the cover removed to show the barrel housing and the levers or tumblers;

Fig. 2 is an exploded perspective view of that portion of the lock shown by Fig. 1 with the operating key also shown;

Fig. 3 is a front view of one of the operating levers;

Fig. 4 is a front perspective view of the barrel housing shown in Fig. 2.

Within the barrel 1 is a keyslot 2 into which the operating key 3 is adapted to be inserted. The sides of the slot 2 are notched or fluted to correspond with flutings which are placed in the sides of the key 3. These flutings extend throughout the entire barrel 1 and are so designed that no flat blank can be inserted into the barrel 1 and to make it difficult to manipulate a tool therein for the purpose of picking the lock. The rear end of the barrel 1 has a cam or lever member 5 which contacts with the sweep 6 of the bolt 7 to withdraw the bolt upon rotation of the barrel 1. The levers or tumblers 8, 9 and 10 are pivoted on the post 11 and are all of different widths so that their key operating faces 12, 13 and 14 extend to such distances toward the barrel 1 that they rub against bits 15, 16 and 17 respectively of the key 3 as the barrel 1 is rotated by the key 3, causing as the barrel 1 is further rotated, the levers to move in a direction away from the barrel 1 until the slots 18, 19 and 20 in the levers 8, 9 and 10 respectively are under a projection 21 on the bolt 12. At this point the barrel has rotated sufficiently to cause the cam or lever 5 to engage the sweep 6 on the bolt 7 and upon further rotation of the barrel 1 by the key 3, the bolt 7 is completely withdrawn, the projection 21 passing into the slots 18, 19 and 20 of the levers. The levers 8, 9 and 10 are moved against the pressure of the springs 22, 23 and 24 respectively which are attached to the levers at one end and bear

at their other ends against the spring post 25. The lower end of the bolt 7 has an opening 26 which fits over post 11 serving to keep the bolt in alignment on withdrawal. A stationary partition 27, as shown arranged between the movable levers 9 and 10, is supported by posts 11 and 25 which extend through the openings 28 and 29 respectively in the partition 27. This partition 27 extends to the very edge of the slot 2 when the barrel 1 is in its normal position and has its edge 30 notched to correspond to the configuration of the keyslot 2 to enable the partition 27 to have its face 30 as close as possible to key 3 when it is inserted in the slot 2 and also to prevent a key without the correct fluting from passing partition 27. The barrel 1 has a slot 31 to enable the barrel 1 to avoid partition 27 when rotated by the key 3.

The levers 8, 9 and 10 have notches 32, 33 and 34 respectively on their upper edges adjacent the slots 18, 19 and 20 respectively. On the corners of the upper edges of the levers 8, 9 and 10 nearest a barrel housing 35 are projections or toes 36, 37 and 38 respectively. These notches and projections or toes are for the purpose of preventing a person fraudulently determining the combination of the lock.

A barrel housing 35 rigidly attached to the casing 39 of the lock is so designed that it extends around that part of the barrel 1 not adjacent the levers 8, 9 and 10 and the partition 27. On the upper portion of the barrel housing 35 is a projection 40 which extends over to and contacts with the faces 41, 42 and 43 of the levers 8, 9 and 10 respectively when the bolt 7 is in its locked position as shown in Fig. 1. It is impossible, therefore, to determine the relative positions of the slots 18, 19 and 20 in the levers 8, 9 and 10, respectively, by means of any tool inserted through the key opening. This will be obvious from the fact that a tool inserted between the fixed projection 40 will move the levers out of position and will always be in forced contact with the face of the lever being gauged thus preventing free movement of the tool across the top of the lever which is necessary to feel and determine the position of the slot.

What is claimed is:

1. A lock comprising a casing, a barrel having a keyslot therein, a bolt, a plurality of levers pivoted at one end for controlling the retraction of said bolt, and means rigidly fixed to said casing and adapted to engage the faces of said levers in their locking positions to prevent means in-

serted through said keyslot from measuring the free ends of said levers.

2. A lock comprising a casing, a barrel having a keyslot therein, a bolt, a plurality of levers 5 pivoted at one end for controlling the retraction of said bolt, and means rigidly fixed to said casing adjacent the free ends of said levers to prevent means inserted through said keyslot from determining the combination of said levers.
- 10 3. A lock comprising a casing, a barrel having a keyslot therein, said slot being so grooved as to prevent manipulation of a tool therein, a housing for said barrel permanently and rigidly fixed to said casing, a bolt, a plurality of levers pivoted 15 at one end for controlling the retraction of said bolt, a projection and a notch spaced apart on the free ends of said levers, and means on said barrel housing adjacent the free ends of all of said levers to prevent means inserted through 20 said keyslot from determining the combination of said levers.

4. A lock comprising a casing, a barrel having

a keyslot therein, a bolt, a plurality of pivoted levers having surfaces for engaging said bolt at one end and a housing for said barrel permanently and rigidly fixed to said casing, said housing having a laterally extending projection engaging 80 all of said levers to prevent access through said keyslot to the bolt engaging surfaces of said levers in their normally locked position.

5. A lock comprising a bolt, a plurality of levers for controlling the retraction of said bolt, a barrel 85 having a keyslot therein, a housing extending substantially the full length of and surrounding said barrel, means for permanently and rigidly securing said housing to said casing, said housing having an opening extending longitudinally 90 thereof to permit access to the key contacting surfaces of said levers, the upper portion of said housing engaging all of said levers when said bolt is in locked position to prevent access to the 95 free ends of said levers through said keyslot.

LOUIS GUTMAN.

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