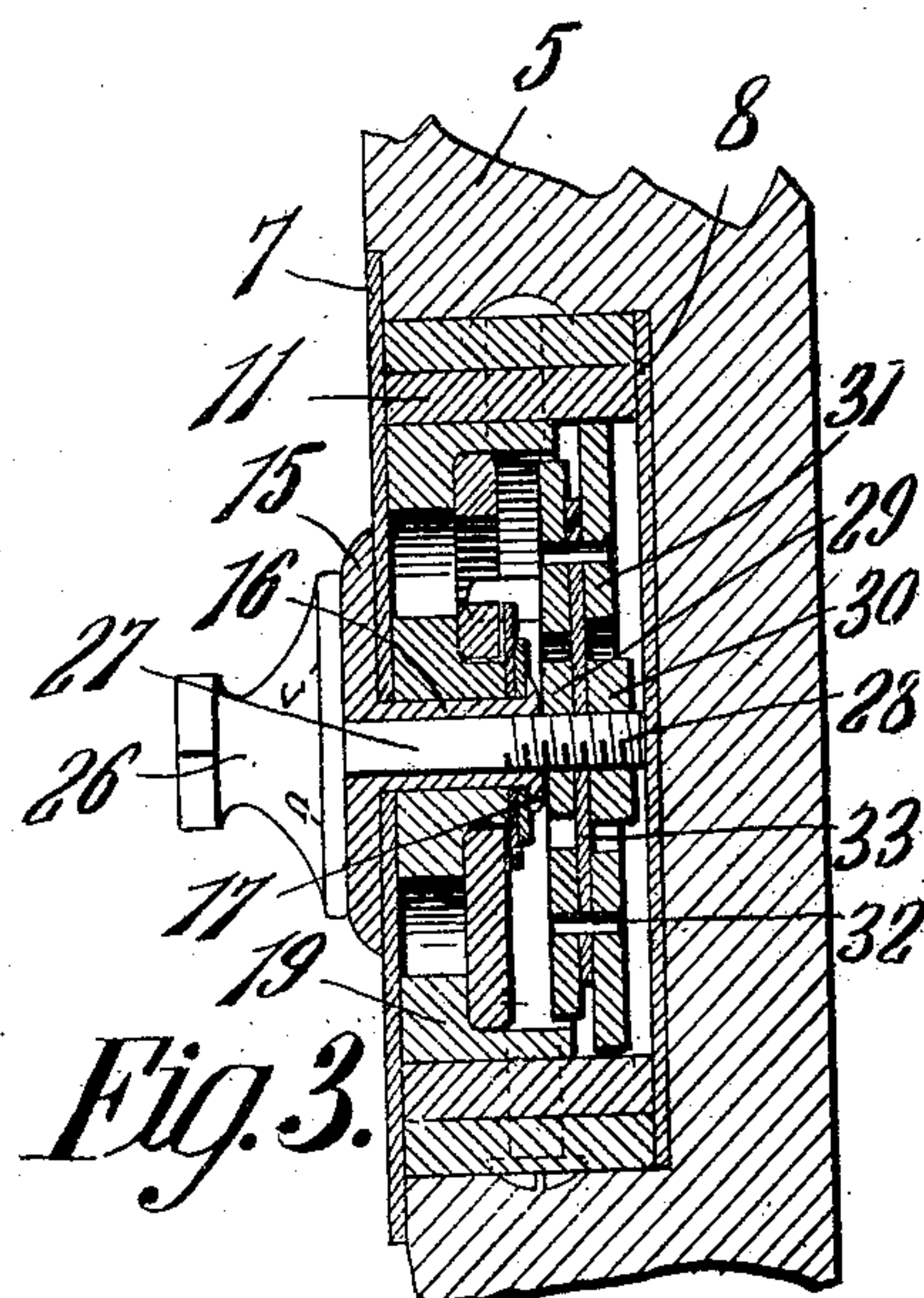
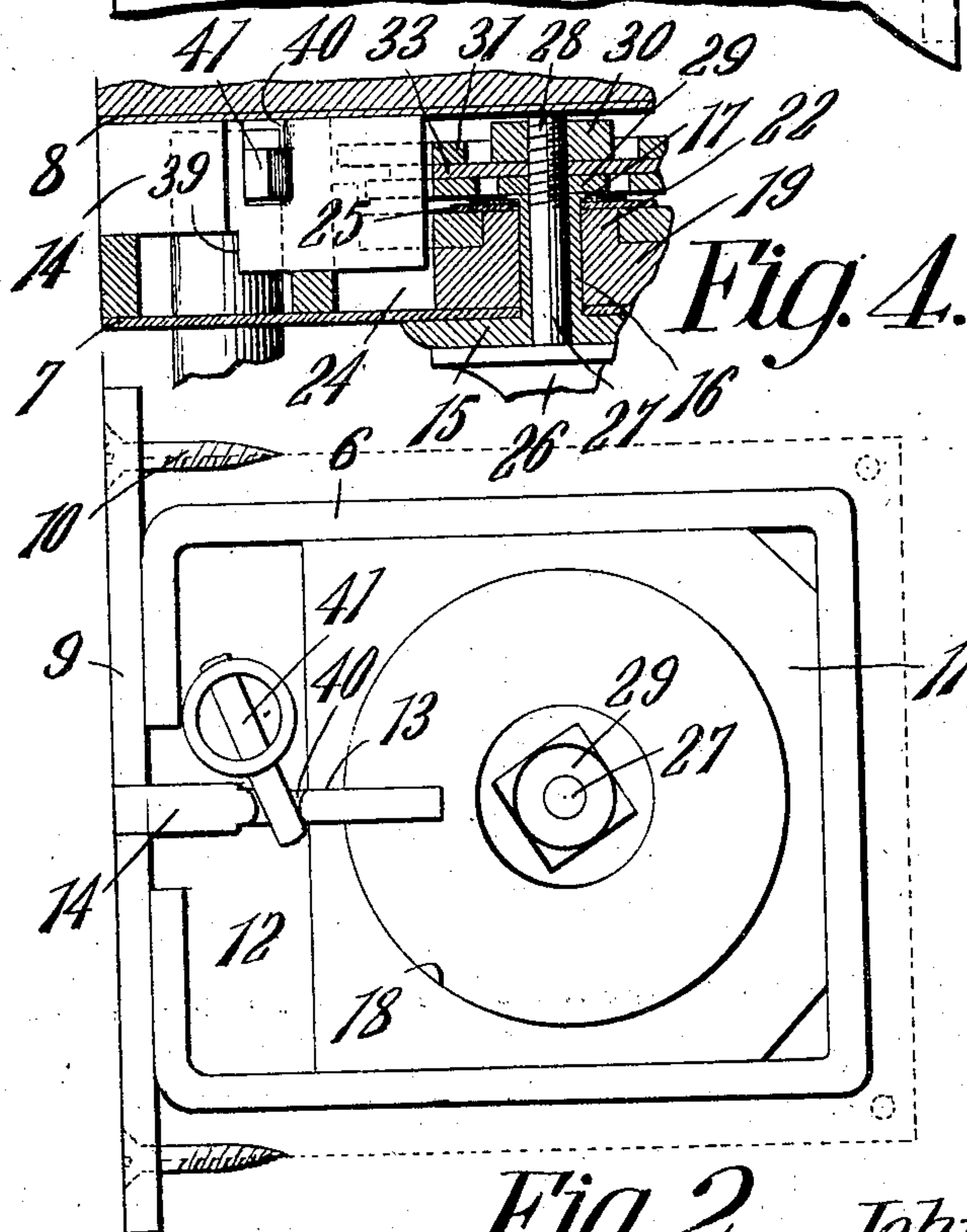
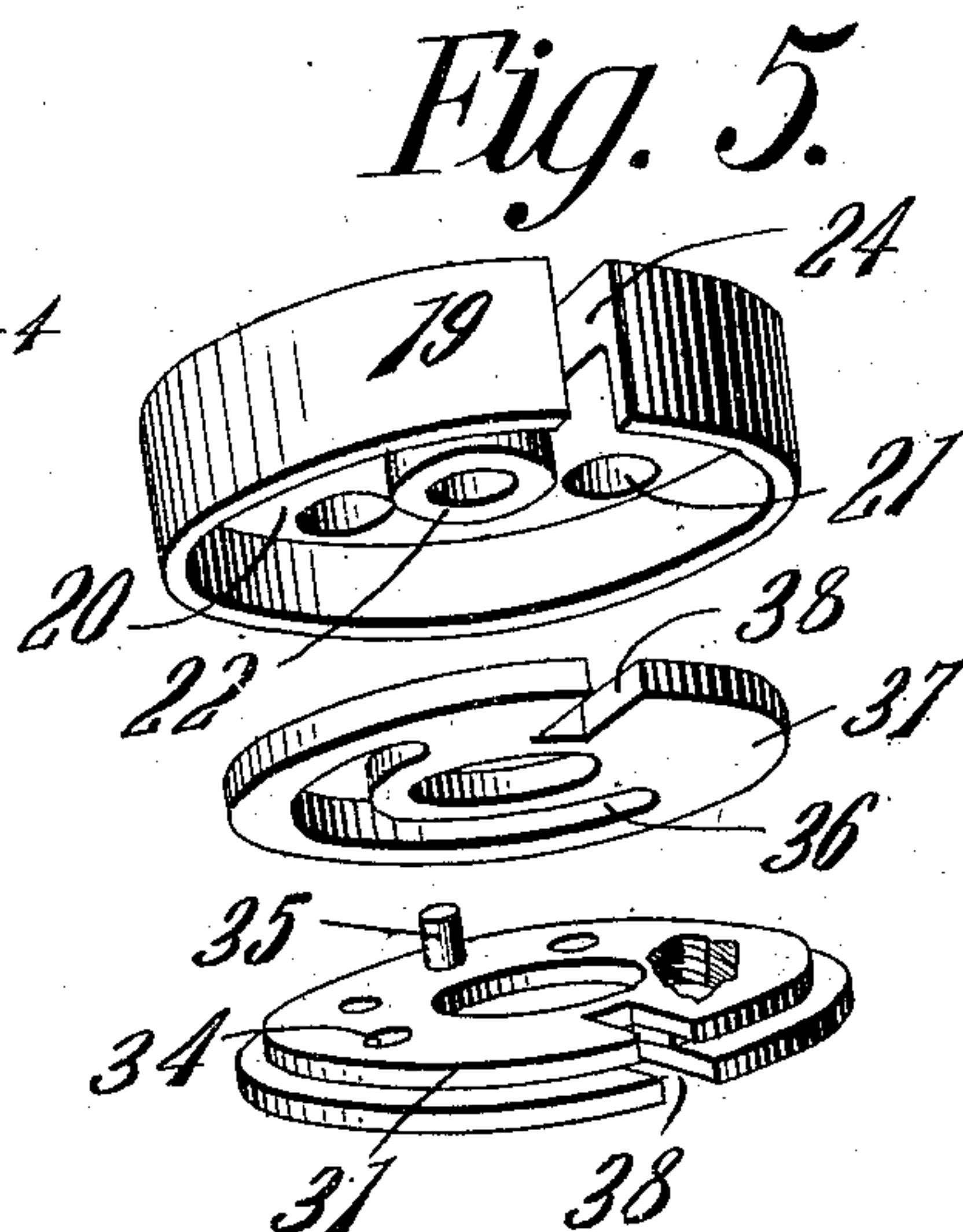
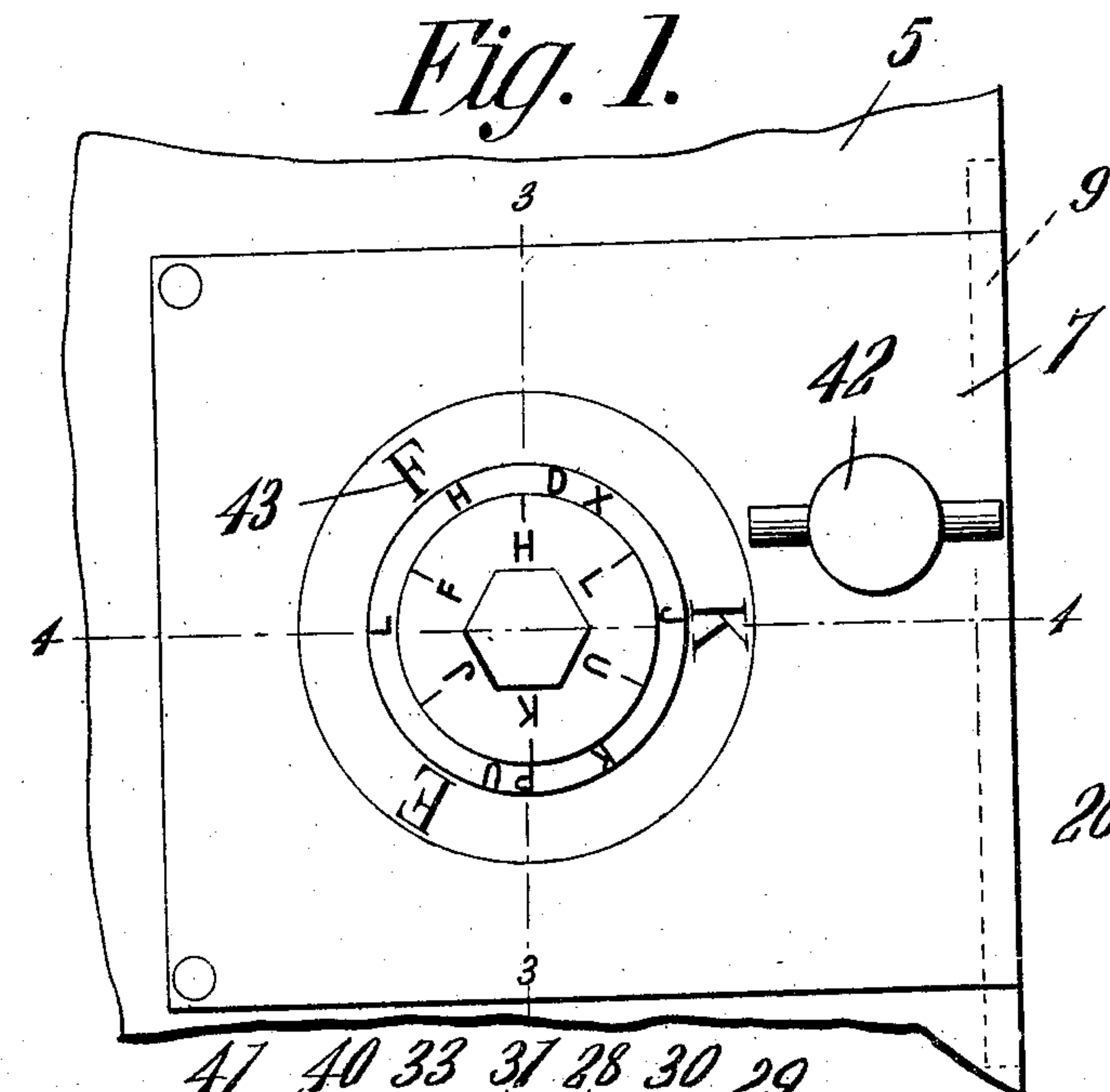


No. 861,591.

PATENTED JULY 30, 1907.

J. H. HOBSON.
COMBINATION LOCK.
APPLICATION FILED MAR. 2, 1907.



WITNESSES:

E. J. Stewart
L. J. Tucker

Fig. 2. John H. Hobson, INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN H. HOBSON, OF DENNING, ARKANSAS, ASSIGNOR OF ONE-HALF TO CHARLES B. CRUTCHFIELD, OF DENNING, ARKANSAS.

COMBINATION-LOCK.

No. 861,591.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed March 2, 1907. Serial No. 360,190.

To all whom it may concern:

Be it known that I, JOHN H. HOBSON, a citizen of the United States, residing at Denning, in the county of Franklin and State of Arkansas, have invented a new and useful Combination-Lock, of which the following is a specification.

This invention relates to permutation locks and has for its object to provide a comparatively simple and inexpensive lock of this character which cannot be opened except by the owner or other person familiar with the combination.

A further object of the invention is to provide a lock including a plurality of tumblers or disks having notches formed in the periphery thereof and adapted to register with each other thereby to permit the locking bolt to be withdrawn or moved to released position.

A further object is to form one of the tumblers with a laterally extending actuating pin adapted to engage the intermediate tumbler for effecting the movement of the latter.

A further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation of a combination lock constructed in accordance with my invention. Fig. 2 is a side elevation with the back plate removed. Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the tumblers detached.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The lock consists of a casing or housing mortised or otherwise seated in one longitudinal edge of a door or other suitable support 5 and consisting of a substantially rectangular body portion 6 and provided with front and rear plates 7 and 8 and a vertical face plate 9, the latter being secured to the free edge of the door by screws or similar fastening devices 10.

Disposed within the frame or housing and rigidly secured thereto in any suitable manner is a block or casting 11 one wall of which is spaced laterally from the face plate 9 to form a chamber 12 and provided with a transverse recess 13 in which is slidably mounted a locking bolt 14.

Mounted for rotation on the face plate 7 is a rotating member or disk 15 having stamped or otherwise printed

thereon one or more letters or figures, as shown, and provided with an integral sleeve or collar 16 which extends through an opening in the plate 7 and is provided with a laterally extending flange 17.

Seated in a circular opening or recess 18 formed in the block 11 is the forward locking tumbler 19 mounted for rotation with the sleeve 16 and provided with an annular recess or depression 20 the walls of which are perforated as indicated at 21 to permit the passage of a quantity of oil or other lubricating fluid. The tumbler 19 is provided with a central hub 22 and extending laterally from said hub and opening through the periphery of the tumbler is a notch or recess 24 adapted to receive the adjacent end of the bolt 14. Interposed between the hub 22 and flange 17 are one or more washers 25, the flange 17 being pressed downwardly in engagement with said washers thereby to form a rigid connection between the sleeve 16 and the tumbler 19.

Mounted for rotation on the disk 15 is a knob or finger piece 26 having stamped or otherwise formed thereon suitable letters or symbols corresponding with the letters on the disk 15, said knob being provided with a spindle or shaft 27 the inner end of which is threaded as indicated at 28 for engagement with a pair of clamping nuts 29 and 30. Mounted on the threaded end of the spindle 27 is a rear tumbler 31 preferably formed of a plurality of metal plates riveted together in any suitable manner, as indicated at 32, the central plate 33 of the rear tumbler being interposed between the clamping nuts 29 and 30 whereby when movement is imparted to the knob 26 the rear tumbler will be correspondingly rotated. Formed in one of the plates comprising the rear tumbler 31 are a plurality of spaced threaded openings 34 adapted to receive a correspondingly threaded actuating pin 35 the free end of which is extended within the segmental slot 36 formed in an intermediate tumbler 37, the latter being mounted for rotation on the hub 22 of the forward locking tumbler 19, as shown. The tumblers 31 and 37 are provided with recesses or notches 38 adapted to register with the recesses 13 and 24 when the lock is moved to open position.

The bolt 14 is provided with a shoulder 39 adapted to engage the face plate 9 when the bolt is extended, said bolt being provided at the upper edge thereof with a recess or opening 40 adapted to receive the laterally extending arm 41 of the operating handle 42.

To open the lock, the plate or disk 15 is first rotated until the recess 24 registers with the recess 13 in the block 11, the extent of movement of the disk or washer being determined by the relative position of the symbols or letters on the plate 15 with respect to the letters 43 on the face plate 7. The knob 26 is then rotated to the right a predetermined distance which causes the

pin 35 to engage one of the walls of the segmental slot 36 and thus move the locking recess 38 in alinement with the locking recess in the forward tumbler 19, after which the knob is rotated in the opposite direction until the locking recess in the tumbler 31 also registers with the recess in the locking tumbler 19. The handle 42 is then partially rotated which retracts the bolt 14 and causes the inner end thereof to engage the walls of the recesses in the several tumblers thus permitting the door to be readily opened.

By changing the position of the actuating pin 35 different combinations may be formed thus rendering it extremely difficult to open the lock by persons not familiar with the combination.

It will of course be understood that the locks may be made in different sizes and shapes and that any number of tumblers may be employed.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

1. In a lock, a casing, a bolt, spaced tumblers mounted for rotation within the casing and provided with peripheral recesses adapted to register with each other, a disk for rotating one of said tumblers, a spindle for rotating the other tumbler, an intermediate tumbler having a segmental slot formed therein and provided with a similar peripheral recess, and a pin carried by one of the tumblers and adapted to engage the walls of the slot for rotating the intermediate tumbler thereby to aline the several recesses and permit the passage of the bolt.
2. In a lock, a casing, a block disposed within the casing and provided with a circular recess the wall of which is provided with a transverse opening, a bolt mounted for sliding movement within the casing and having its inner end seated in said opening, spaced tumblers mounted for rotation in the circular recess and provided with peripheral locking recesses adapted to register with each other and with the opening in the block, a disk for rotating one of said tumblers, a spindle for rotating the other tumbler, an intermediate tumbler having a segmental slot formed therein and provided with a similar locking recess, and a pin carried by one of the tumblers and adapted to engage the walls of the slot for rotating the intermediate tumbler.
3. In a lock, a casing, a bolt, spaced tumblers mounted for rotation within the casing and provided with peripheral recesses adapted to register with each other to permit the passage of the bolt, there being a plurality of threaded openings formed in one of said tumblers, an intermediate tumbler provided with a segmental slot, a pin threaded in one of said openings and adapted to engage the walls of the slot when the pin carrying tumbler is rotated, and means for rotating said pin carrying tumbler.
4. In a lock, a casing, a bolt, spaced tumblers mounted for rotation within the casing and provided with peripheral locking recesses adapted to register with each other, one of said tumblers being formed with an annular recess the walls of which are perforated and the other tumbler

being provided with spaced threaded openings, an intermediate tumbler having a segmental slot formed therein and provided with a similar recess, a pin threaded in one of said openings and adapted to engage the walls of the slot when the tumbler is rotated, a sleeve operatively connected with one of the spaced tumblers and provided with a graduated disk, and a spindle operatively connected with the other spaced tumbler and provided with a correspondingly graduated knob.

5. In a lock, a casing, a bolt slidably mounted in the casing and provided with an opening, spaced tumblers mounted for rotation within the casing and provided with peripheral recesses adapted to receive one end of the bolt, an intermediate tumbler having a segmental slot formed therein and provided with a similar locking recess adapted to register with the adjacent tumbler, one of said tumblers being provided with a laterally extending pin adapted to engage the walls of the slot when said tumbler is rotated, a disk provided with graduations for rotating one of the tumblers, a knob for rotating the pin-carrying tumbler, and an operating handle provided with a laterally extending arm the free end of which is seated in the opening in the bolt for moving the latter to locked and unlocked position.

6. In a lock, a casing, a bolt, a disk mounted for rotation on the casing and provided with a sleeve extending within the casing, a tumbler secured to and mounted for rotation with the sleeve, a knob having a spindle extending through the sleeve and provided with terminal threads, a rear tumbler carried by the threaded end of the spindle, clamping nuts engaging the threads on the spindle and bearing against said rear tumbler, an intermediate tumbler provided with a segmental slot, a pin extending laterally from the rear tumbler and adapted to engage the walls of the slot when said tumbler is rotated, said tumblers being each provided with a peripheral locking recess adapted to register with adjacent recesses to permit the passage of the bolt.

7. In a lock, a casing one wall of which is provided with an opening, a block seated within the casing and provided with a circular opening and having a recess formed therein communicating with the circular opening and disposed in alinement with the opening in the casing, a bolt slidably mounted in said openings, a disk mounted for rotation on one wall of the casing and provided with a sleeve extending within the circular opening, a tumbler secured to the sleeve and mounted for rotation in said circular opening, a knob bearing against the disk and provided with a spindle extending through the sleeve and having its inner end threaded, a rear tumbler formed of a plurality of superposed plates one of which is provided with spaced threaded openings, clamping nuts engaging the threads on the spindle and bearing against one of the plates of the rear tumbler, an intermediate tumbler provided with a segmental slot, a pin seated in one of the openings in the rear tumbler and adapted to engage the walls of the slot when said rear tumbler is rotated, said tumblers being provided with peripheral locking recesses adapted to register with the opening in the block to permit the passage of the bolt.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN H. HOBSON.

Two witnesses:

J. M. NICHOLS,

W. S. PARKER.