

(No Model.)

W. TUCKER.
KNOB LOCK.

No. 536,666.

Patented Apr. 2, 1895.

Fig. 1.

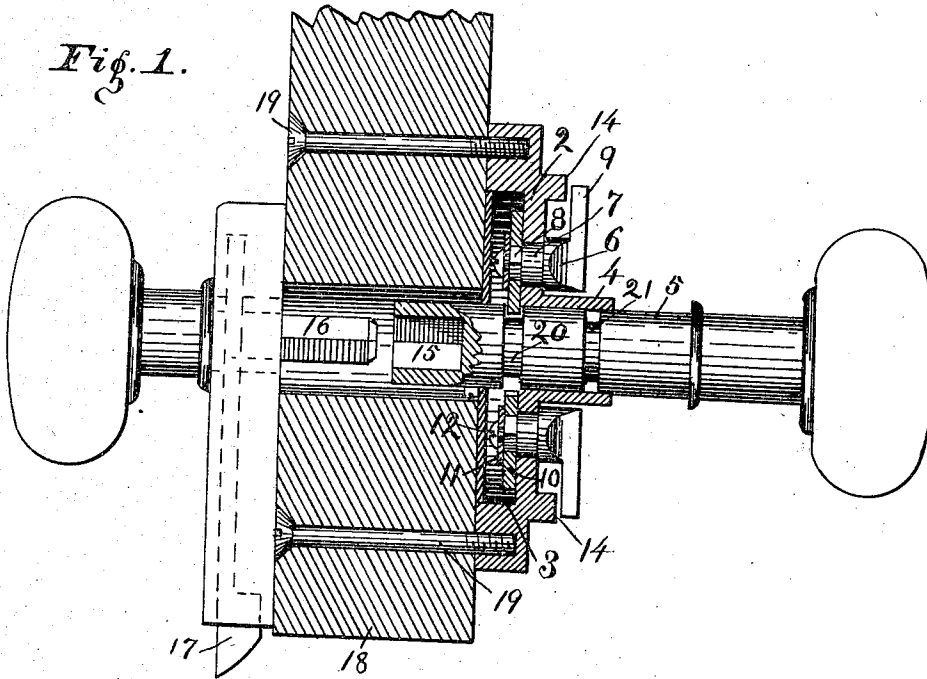


Fig. 2.

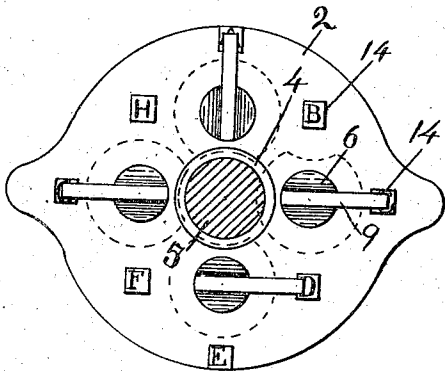
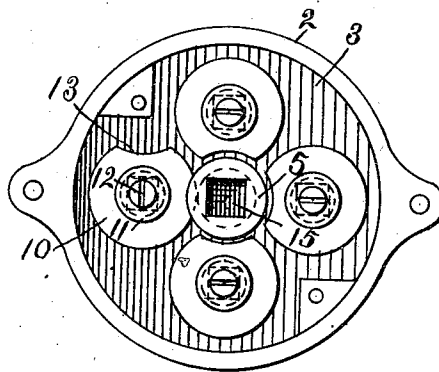


Fig. 3.



Witnesses
V. M. Hood.
M. V. Hood

Inventor:
William Tucker.

By Attorney
H. P. Hood.

UNITED STATES PATENT OFFICE.

WILLIAM TUCKER, OF INDIANAPOLIS, INDIANA.

KNOB-LOCK.

SPECIFICATION forming part of Letters Patent No. 536,666, dated April 2, 1895.

Application filed November 12, 1894. Serial No. 528,514. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TUCKER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Knob-Locks, of which the following is a specification.

My invention relates to an improvement in knob locks.

10 The object of my improvement is to provide a combination-lock for fastening a knob-shank into or out of engagement with the operating mechanism of a lock or latch.

Another object of my improvement is to 15 provide in a combination-lock of the described class, means whereby the combination may be easily worked or set by the sense of touch alone.

The accompanying drawings illustrate my 20 invention.

Figure 1 represents a longitudinal section showing the lock in position on a door. Fig. 2 represents a front elevation of the lock. Fig. 3 represents a rear elevation, the back 25 plate having been removed.

In the drawings, 2, indicates a flat cylindrical casing having in one side a circular recess, 3, and on the other side a hollow hub, 4, which forms a bearing for the cylindrical 30 knob-shank, 5, which is adapted to turn and to slide longitudinally in said hub. Arranged concentrically about the hub are a series of short shafts, 6, each having a cylindrical portion, 7, a squared portion, 8, and a 35 radial arm, 9. The cylindrical portion of said shafts is mounted in a bearing formed in the front of casing 2, while the squared portion projects into the recess 3.

Each of the shafts 6 is provided with a circular 40 disk, 10 which is mounted on the squared portion of the shaft so as to turn therewith, and is held in place by a washer, 11, and cap-screw, 12.

The arrangement of the disks 10 is such 45 that the edge of each will project into a circumferential groove 20, formed in the knob-shank. Each of the disks is cut away at the edge, as at 13, Fig. 3, so as to clear the knob-shank when that edge of the disk is turned toward 50 the shank.

Arranged upon the front surface of the casing 2, and projecting therefrom, are a series

of short studs, 14. Said studs are so arranged as to register with the arms 9, of the shafts 6, so that the position of either of the disks, 55 relatively to the knob-shank, may be determined by turning the shaft 6 so that its arm 9 will register with one of the adjacent studs.

The inner end of the knob-shank is provided with a squared recess, 15, or equivalent 60 means for coupling the shank with the projecting end of the knob-spindle, 16, which is in engagement with the mechanism for operating a latch, 17, secured to the inner surface 65 of the door, 18.

The knob-lock is secured to the door upon the outside, by means of screws, 19, passing through the door from the inside and into the casing.

In operation, the knob-shank 5 being out 70 of engagement with the latch mechanism, as shown in Fig. 1, is prevented from sliding longitudinally by the engagement of one or more of the disks 10 with the groove in the knob-shank. In this position the knob-shank turns 75 freely in the hub 4, but cannot be used to operate the latch mechanism. By turning shafts 6 until the cut away portion of each of the disks is presented toward the shank, the shank is then free to slide longitudinally into 80 engagement with the spindle 16, or its equivalent latch mechanism, so that, upon then turning the knob-shank, the latch may then be operated and the door opened. If it is desired to hold the knob-shank in this position 85 of engagement, one of the shafts is turned so as to bring its disk into engagement with the groove 21, in the knob-shank. It is obvious that, each of the shafts being arranged so as to be separately operated, and each having, 90 upon its outer end, a radial arm 9, and the studs which indicate the position of the disks being raised from the surrounding surface, the combination of the lock may be worked, or set, by the sense of touch only. 95 To facilitate the operation of the lock by sight, each of the studs 14 is provided on its face with a distinguishing mark, as a letter of the alphabet.

I claim as my invention—

1. In a knob-lock, the combination of the knob-shank having a circumferential groove and mounted in a casing so as to turn and to slide longitudinally therein, a series of shafts 100

mounted in bearings formed in the casing and surrounding said shank, each of said shafts being provided, on its inner end, with a disk adapted to engage said groove in the knob-shank; and having a cut away portion which may be turned so as to clear the knob-shank, substantially as set forth, and means for turning said shaft, all arranged to co-operate with each other and with a lock or latch mechanism, substantially as set forth.

2. In a knob-lock, the combination of the casing having a central hub, the knob-shank arranged to turn and to slide longitudinally in said hub, the series of shafts mounted in said casing and surrounding said knob-shank, tumblers secured to each of said shafts and arranged to be thrown into and out of engagement with the knob-shank by the turning of the shafts, so as to prevent the longitudinal movement of the knob-shank but not interfering with its turning, radial arms or pointers on the outer ends of the shafts, and

a series of raised studs projecting from the front of the casing and arranged to register with said arms or pointers, all arranged to co-operate with each other and with a latch or lock mechanism, substantially as set forth.

3. In a combination lock, the combination of a casing, a movable part which is to be locked in position, a series of tumbler-shafts grouped about said movable part, tumblers secured to each of said shafts and adapted to independently lock the movable part, arms secured to the outer ends of the shafts and studs projecting from the surface of the casing and arranged to register with said arms, whereby the position of the tumblers may be determined by the sense of touch alone, substantially as set forth.

WILLIAM TUCKER.

Witnesses:

H. P. HOOD,
V. M. HOOD.