

D. WOLF.
Knob-Latches.

No. 153,291.

Patented July 21, 1874.

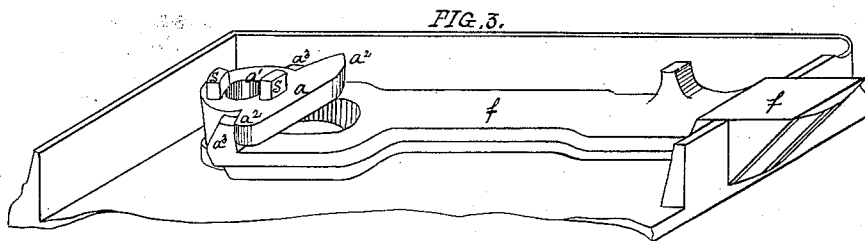
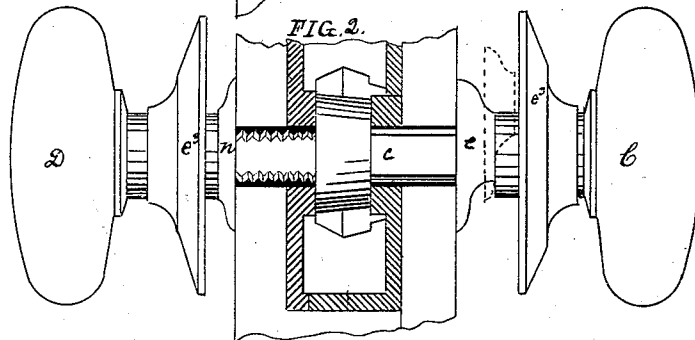
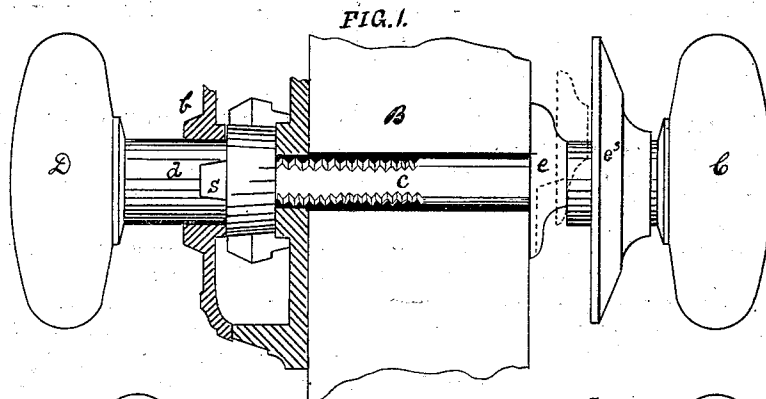


FIG. 4.

WITNESSES
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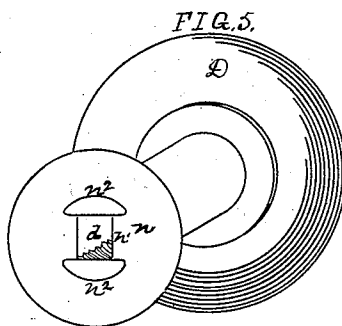


FIG. 6.

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IMPROVEMENT IN KNOB-LATCHES.

Specification forming part of Letters Patent No. **153,291**, dated July 21, 1874; application filed March 3, 1874.

To all whom it may concern:

Be it known that I, DANIEL WOLF, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Knob-Latches; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents my improvements as applied to an outside or surface lock. Figs. 2 and 5 represent devices for a similar purpose, as heretofore applied to a mortise-lock. Fig. 3 represents, in perspective, the arrangement of the follower and bolt in the lock-case; and Figs. 4 and 6 are detached views, presently to be explained.

Like letters of reference indicate like parts in each.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and manner of use.

In Fig. 1, a section of the door is represented at B, and the lock-case at b. This lock-case contains, as represented in Figs. 1 and 3, a follower, *a*, of the form substantially as indicated, with an eye, *a*¹, flattened on two sides, or of such other irregular shape as to be engaged by the flattened sides of the spindle *c*, or other irregularity thereon, whereby the rotation of the follower, in operating the bolt *f*, will be secured. This motion is imparted to the bolt by means of the lugs *a*² of the follower, which engage the lugs *a*³ on the bolt. The door-knobs are represented at C and D. To the knob C is secured a spindle, *c*, which is flattened on two sides, as indicated, the remaining cylindrical surface being threaded, as shown, so that the shank *d* may be screwed thereon. This shank *d* is preferably made in two parts, one of which is represented in Fig. 6, where *d*¹ represents so much of the same as goes into the knob D, and is there secured by cement in the usual way, so as to effect a firm union. It is cast in two pieces, with a threaded recess in each half, so that when the two halves are placed together, as represented in Fig. 1, they will form a threaded socket, which is screwed onto the spindle *c*. In making the shank *d*, notches *d*² are made, as represented in Fig. 6, which notches are of such form that when the two halves of the

shank are put together the end of it will have the form of a clutch, or, in other words, will have two recesses in its end on opposite sides. These recesses, when the shank is in proper position for operating the lock are occupied by lugs *s*, which are made on the follower *a*, and which mechanically constitute the other half of the clutch above referred to. The lock-case *b* being placed in position, and a hole being bored through the door at a proper point, the spindle *c* is passed through the follower *a* as far as it will go, and the shank *d* is screwed thereon until its recessed end engages the lugs *s*, when, of course, it can be screwed no farther. In order, now, that both the shank and spindle may be shifted to the right, I employ a plate, *e*, the form of the outer or knob face of which is represented in Fig. 4, the opposite or door face being plain. This plate has an opening, *e*¹, of suitable width for the passage of the spindle *c* through the same, but considerably longer than the spindle is deep, and with a recess, *e*², made in its outer or knob face, such that it can be raised vertically upward and permit the spindle *c* to move through the door and lock beyond the position it is to occupy when in use a distance equal to the depth of the clutch devices formed by the lugs *s* and the recesses *d*² in the shank *d*. Hence, the spindle *c* being thrust through the door with the plate *e*, in the position indicated by dotted lines in Fig. 1, the shank *d* may be screwed thereon, as already stated, and, after reaching the proper point for the interlocking of the clutch devices named, both the spindle and shank are shifted to the right, so as to bring the clutch devices named into the position shown in Fig. 1, and then the plate *e* is dropped down so as to keep the spindle from being shifted either way, and the usual circle-plate *e*³ is placed over the same so as to keep it in position and conceal it from view. It will now be obvious that the follower *a* may be operated by either knob without the possibility of unscrewing the spindles or removing either one. The knob D, by the recesses on the end of its shank *d*, interlocks with the lugs *s* on the follower, so as to operate it from that side, and the knob C, being rotated, will, through the flat-sided spindle *c* and the flat eye in the follower, operate it from that side, and neither part can be unscrewed from the

other until the circle-plate e^3 is removed, the plate e raised and shifted back so as to allow of both the spindles and shank being shifted to the left, whereby the two parts of the clutch above described will be thrown out of gear.

To clearly distinguish my invention, I have shown in Fig. 2 the devices that have heretofore been applied to a mortise-lock. In said figure, shank d , instead of interlocking with the lugs s , interlocks with a plate, n , the form of which is indicated in Fig. 5, which shows, in perspective, the knob D , its shank d , and the plate n , with which it interlocks. This plate has an opening, n^1 , through which the spindle c passes, and it also has two recesses, n^2 , of such form that the projecting ends of the spindle c may enter and interlock with the same. In putting the lock together, the spindle c is passed through the door and lock, as above described, passing through the follower a , and onto this projecting end the plate n is placed. The shank d is then screwed thereon until its projecting ends come against the plate n . In the meantime, the plate e has been raised and thrown back, as indicated by dotted lines. Both the spindle and shank are now shifted to the right, so as to bring the projecting ends of the shank d into the recesses n^2 of the plate n , as illustrated in Fig. 5, and

the plate e is then dropped to position, and the circle-plates e^3 attached on both sides. The lock is operated by the knob D , the shank d of which interlocks with the plate n , and the latter, by the flattened or other irregular form of its eye n^1 , engages the spindle c and communicates motion through it to the follower a , and, as above described, the shank and spindle cannot be unscrewed or separated, except by shifting the plate e . The screw-spindle c is cast, and in this, as in the shank d , the threads are cast, a suitable mold or core being employed for that purpose.

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

1. The threaded spindle c and shank d , in combination with the follower a , having an irregular eye suitable for being engaged by the irregularities of the spindle c , and suitable projections for effecting a clutch-lock with the shank d , substantially as described.

2. The knob-shank d , cast in two parts, substantially as described.

In testimony whereof I, the said DANIEL WOLF, have hereunto set my hand.

DANIEL WOLF.

Witnesses:

JAMES BLACK,
G. H. CHRISTY.