(No Model.) 2 Sheets—Sheet 1.

M. C. NILES.

KNOB LATCH.

No. 352,562. Patented Nov. 16, 1886.

Fig. 1.

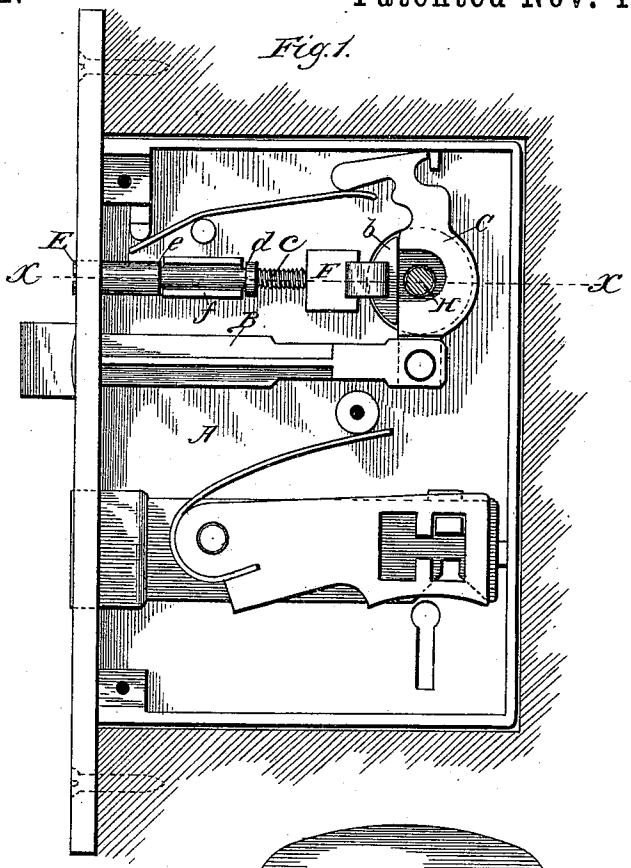
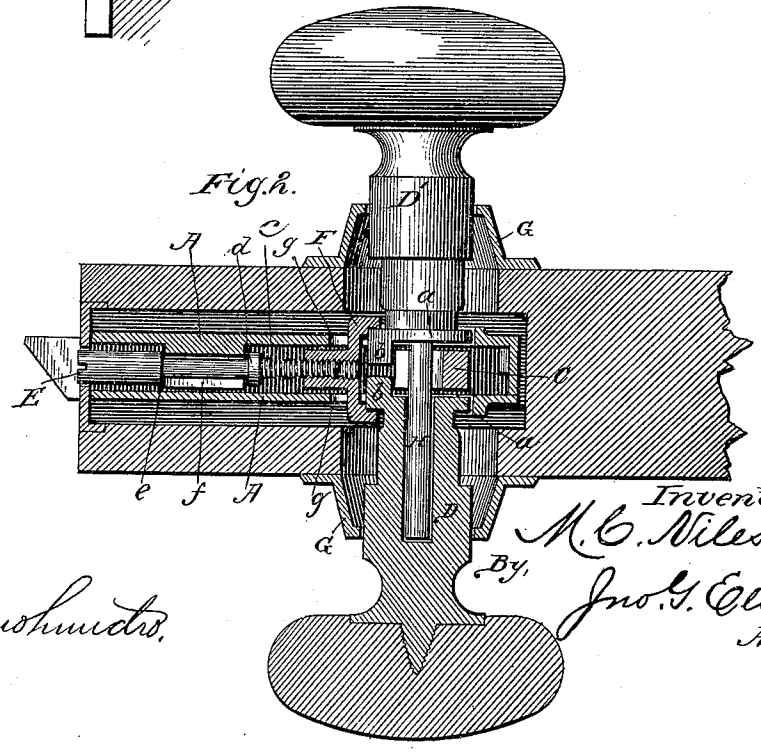


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

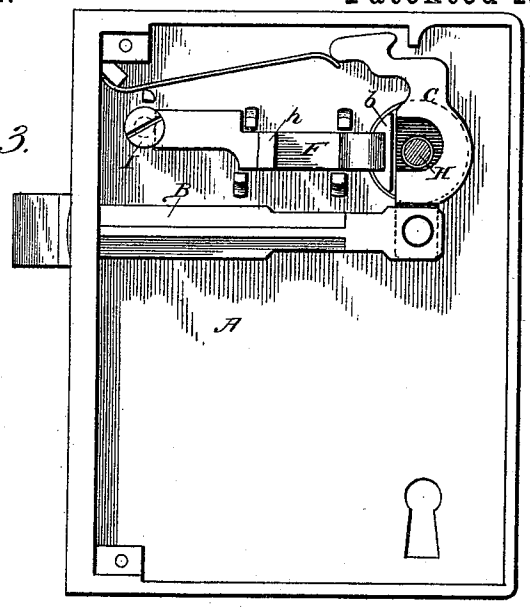
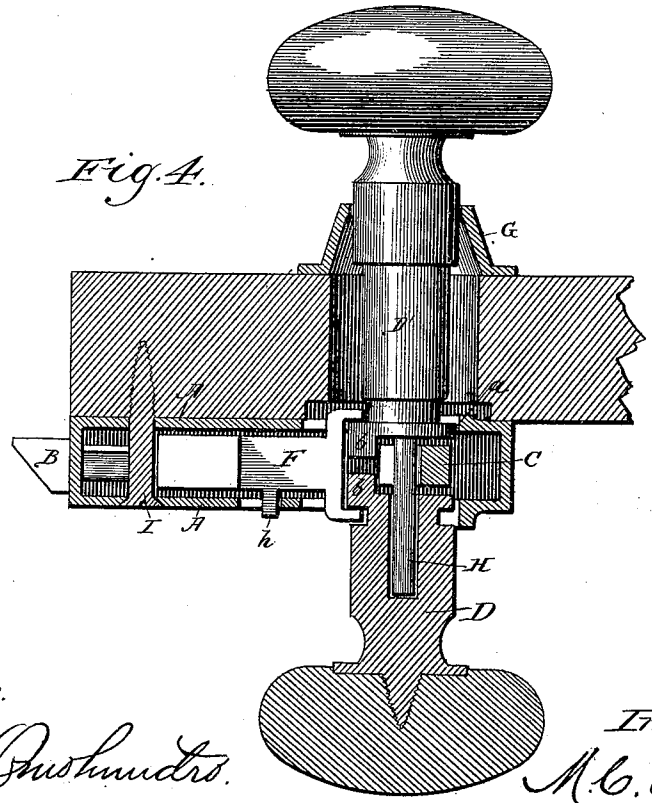


Fig. 4.



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UNITED STATES PATENT OFFICE.

MILTON C. NILES, OF CHICAGO, ILLINOIS.

KNOB-LATCH.

SPECIFICATION forming part of Letters Patent No. 352,562, dated November 16, 1886.

Application filed January 12, 1886. Serial No. 188,372. (No model.)

To all whom it may concern:

Be it known that I, MILTON C. NILES, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Knob-Latches, of which the following is a specification.

This invention relates to improvements in knob-latches, in which the knob shank or shanks are connected to the latch-case.

The prime object of this invention is to secure the knob-shank in its operative position and against longitudinal movement in a latch, or secure opposing knob-shanks in alignment with each other, and by means which may be actuated after the latch and knob-shanks are placed in their operative position.

A further object is to have the knob shank or shanks removably locked independent of the rose by a moving locking device adapted to be actuated from the outside of the latch-case, whether of a rim or mortise lock.

A further object is to actuate the knob-shank-locking device by means accessible outside of the case, and which will not shift its position relative to the latch-case when shifting said locking device.

I attain these objects by devices illustrated in the accompanying drawings, in which Figure 1 represents a side elevation of a latch embodying my invention; Fig. 2, a transverse section on the line *x x*, Fig. 1; Fig. 3, a side elevation of a modified form of my invention, illustrating its application to a rim-latch case; Fig. 4, a horizontal section of the same.

Similar letters of reference indicate the same parts in the several figures of the drawings.

The drawings illustrate my invention in connection with a mortise-latch; but it is proper here to observe that it is equally adapted and without an essential change of parts, as hereinafter described, to a rim or surface latch; and it is also immaterial to my present invention what connection there may be between the knob-shanks and the latch-bolt, or the form of the latch-bolt, except there should be a bearing of some character for the knob-shanks at a point opposing the locking device herein described, which bearing may be in the yoke or hub of the latch-bolt or in the walls of the latch-case.

From the above it will, therefore, be understood that the case A, the latch-bolt B, and its actuating-lever C are of ordinary construction, and that the knob shanks may be connected with the latch-bolt by any other well-known means.

The opposing knob shanks D D′ are precisely alike, and have formed on their inner ends an annular flange, *a*, at one side, and projecting inwardly from which is a lug, *b*, engaging and actuating in the usual manner the lever C for actuating the latch-bolt, which lugs, if desired, may be of such length that when the knob-shanks are in their operative position they may, although not so shown, have an end bearing against each other.

The latch-case has its sides or covers provided with the usual perforations, the walls of which, as shown, constitute bearings for the flange *a* of the knob shank or shanks projected into or through said perforations; but, as before observed, the knob-shanks may, instead of this bearing, have a like bearing in the hub or other portion of the latch.

Between the knob-shanks and the front edge of the latch-case, with its head flush with the outer face of the case, is a bolt, E, the inner end, *c*, of which is screw-threaded and provided between its screw-threaded and its outer end with shoulders *d* and *e*, embracing the ends of an elongated bearing, *f*, so that while the bolt may freely turn it can have no longitudinal movement, and hence its head is always maintained flush with the edge of the case and accessible of manipulation. On the inner and screw-threaded end of this bolt is a yoke or bifurcated locking device, F, which, when the bolt is turned, is advanced toward or retracted from the knob-shanks, as the case may be. The arms of this locking device are so constructed that when the knob-shanks are in their operative position the locking device, when advanced by the screw-bolt, will engage the flange *a* of the knob-shanks. The walls of this case are notched, as shown at *g*, so that said arms may project partially or wholly therethrough for the purpose of engaging the knob-shank flange; but in this connection it may be observed that it will be no departure from my invention to omit notching the case and have the bifurcated locking device oper-

ated wholly within the case, though by the construction shown the minimum diameter of case which is desirable is preserved, while at the same time it is demonstrated that the locking device can be attached to an ordinary latch-case without materially changing the said case.

With no other direct connection between the opposing knob-shanks than the locking device the knob-shanks are dependent upon their bearing in the ordinary roses, G G, to maintain them from detachment from the case and in alignment with each other, and, being so held by the roses, the knob-shanks are operative without any other direct connection than the locking device. In practice, however, the knob-shanks are preferably connected by a spindle, H, which may be detachable from both knob shanks or rigidly secured to one of them, which spindle not only forms a rigid connection between the knob-shanks, but dispenses with any necessity of the knob-shanks having any bearing in the roses, which are thereby entirely relieved from frictional wear.

After the latch is secured in its operative position the roses are passed over the knob-shanks, and the knob-shanks, by a direct movement and in a straight line, are introduced to their operative position in the latch and connected by the spindle, after which the screw-bolt is manipulated and the locking-yoke advanced to embrace the knob-shank flanges; but it is obvious, however, that the roses may first be placed in position and the knob-shanks passed through them, for with the spindle there is no reason why the opening in the roses should not be large enough for this purpose.

The adjustable screw-bolt is not only accessible at all times for manipulation to adjust the locking device, but while detachable therefrom serves to secure the locking device against accidental detachment or displacement from its operative position in the case, and insures a positive operation in the locking-yoke.

While I have shown opposing knob-shanks and the spindle-connection H, the spindle may be omitted, and in surface-latches but one removable knob-shank be used, in which case the locking device has but one prong or stud for engaging the flange of the knob-shank.

Instead of the elongated bearing *f*, the adjusting-bolt may be maintained against a longitudinal movement by any other suitable means.

The invention herein disclosed is not limited to a movable locking device accessible only from the edge of the case or necessarily manipulated by a screw-bolt to adjust it toward and from the knob-shanks, but broadly includes the combination, with one or more removable knob-shanks, of an adjustable locking device for maintaining said knob shank or shanks in an operative position in the latch, as will be fully understood by reference to Figs. 3 and 4. In said figures is illustrated the application of my invention to a rim-latch, in which application the locking device F is provided with a lug or thumb-piece, *h*, projected through an elongated slot in the latch-case, and manipulated by hand to advance it toward or retract it from the knob-shank, which may be conveniently done, owing to the usual exposure of all such latch-cases.

When the locking device is advanced to its operative position in engagement with the knob shank or shanks, it is maintained in that position by a screw, I, which may also subserve the function of securing the latch-case to the door; but instead of the screw a pin or other device adapted to hold the locking device in its operative position may be employed.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a latch, one or more knob-shanks and a flange at the end of said knob-shanks, in combination with a positively-moving locking device engaging said flange, whereby the knob shank or shanks are maintained in their operative position independent of the rose, substantially as described.

2. The knob shank or shanks, an end flange thereof, in combination with a locking device, and a means, substantially as described, accessible from the outside of the case for maintaining said locking device in engagement with the knob-shanks, substantially as described.

3. The knob shank or shanks and the end flange thereof, in combination with the locking device and screw-bolt for actuating said locking device, and a fixed bearing for the screw-bolt, whereby said bolt is maintained from a longitudinal movement, substantially as described.

4. The knob-shanks, the end flanges thereof, and the bifurcated locking device engaging said flanges, in combination with a screw-bolt for actuating said locking device and accessible from the outer edge of the case, substantially as described.

MILTON C. NILES.

Witnesses:
W. W. ELLIOTT,
WILL R. OMOHUNDRO.