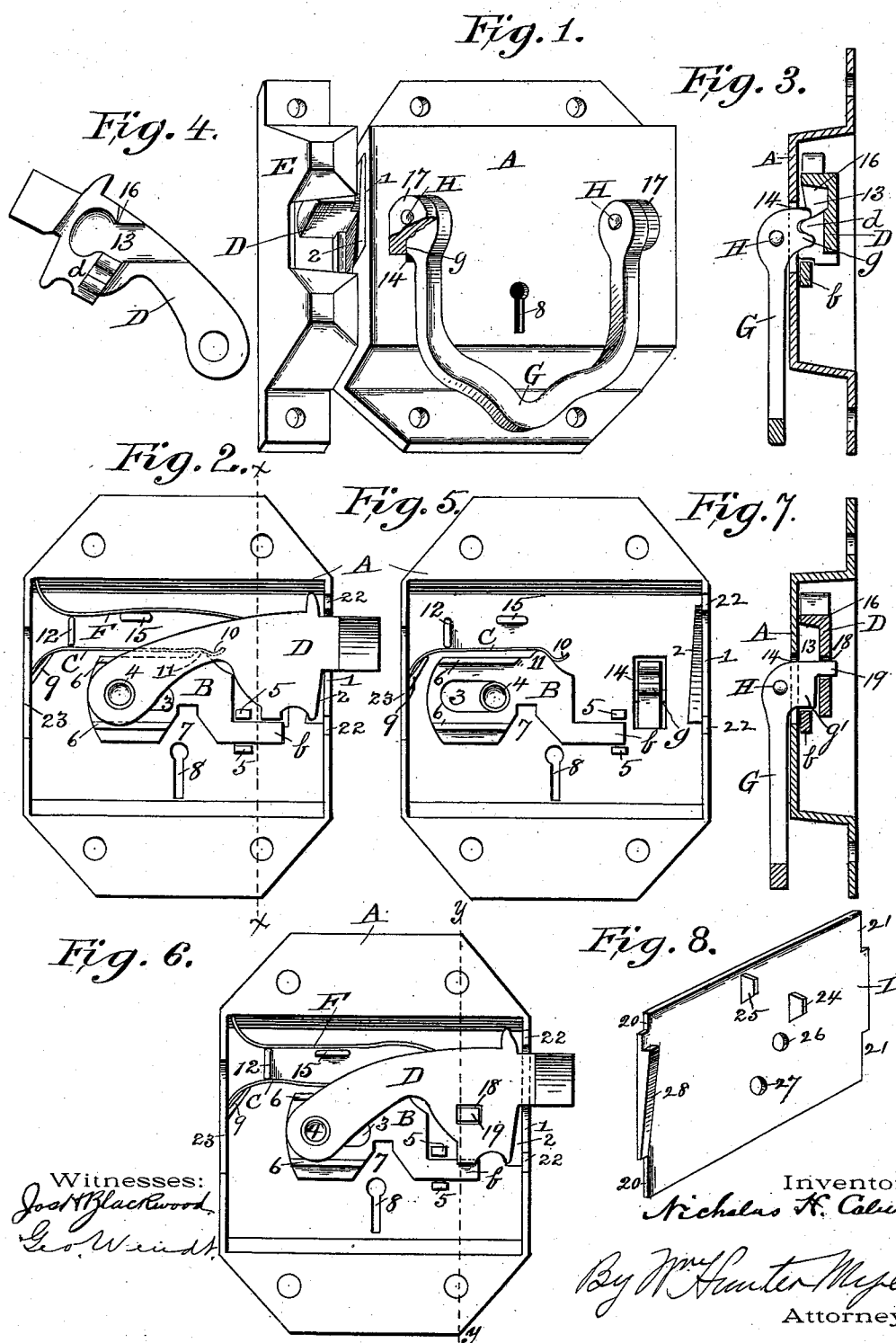


(No Model.)

N. H. COLWELL.
COMBINED LATCH AND LOCK.

No. 534,548.

Patented Feb. 19, 1895.



UNITED STATES PATENT OFFICE.

NICHOLAS H. COLWELL, OF KENTON, OHIO.

COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 534,548, dated February 19, 1895.

Application filed July 25, 1894. Serial No. 518,501. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS H. COLWELL, a citizen of the United States, residing at Kenton, in the county of Hardin and State of Ohio, have invented a certain new and useful Improved Combined Latch and Lock, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved combined latch and lock well adapted for use on refrigerators and other like receptacles; and it has for one of its objects the production of an article of this kind in which the drop-handle is in positive engagement with the latch, whereby the operating end of the latter can be raised into or lowered out of engagement with the upper portion of the keeper by movement of the drop-handle.

Another object of my invention is the production of improved and simplified spring mechanism for causing the latch to automatically engage the keeper on closing the door.

Another object of my invention is to provide a locking-dog very simple in construction and operation.

With these objects in view my invention consists in the novel construction and arrangement of parts, which will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 of the drawings is a perspective view of my improved combined latch and lock, showing the latch in engagement with the keeper. Fig. 2 is a rear plan view of the combined latch and lock with the back-plate removed, showing the latch locked. Fig. 3 is a vertical section of the same taken on the line *x x*, Fig. 2, showing more particularly the cogg engagement of the drop-handle with the latch. Fig. 4 is a detail plan view of the latch as seen from the front side. Fig. 5 is a plan view of the combined latch and lock with the back-plate and the latch and its operating-spring removed, to clearly illustrate the construction and operation of the locking-dog. Fig. 6 is a plan view of the combined latch and lock with the back-plate removed, illustrating the positive engagement of the drop-handle with the latch in a modified form, and also showing the dog in the locking position. Fig. 7 is a vertical section

of the same taken on the line *y y*, Fig. 6. Fig. 8 is a perspective view of the back-plate, showing its construction on the inner side.

Referring to the drawings, A is the casing, having the usual chamber for receiving the operating mechanism, and also having a vertical slot 1 in one of the end walls for the passage therethrough of the operating end or nose of the latch. Just inside of this slot is formed an inclined web 2, sloping gently upward from its upper end, for a purpose hereinafter mentioned.

B is the locking-dog, constructed of a single piece of metal. It is slotted at one end, as at 3, fitting over an interiorly screw-threaded stud 4 projecting from the inner side of the face of the casing. The other end of the dog is reduced to a small rectangular arm *b*, which works between two studs 5, also projecting from the inner side of the face of the casing, this arm being adapted to be moved into position to lock the latch. Both above and below the slot 3 is a raised rib 6, to reduce the frictional bearing of the latch on the dog. In the lower edge of the dog there is cut a deep notch 7, having front and rear inclined walls, with which engages the wing of an ordinary key inserted through a keyhole 8 in the casing, for the purpose of moving the locking-dog into or out of locking position. The dog is held in either position by means of a leaf-spring C, one end of which is secured to a lug 9 on one end of the casing, its free end being curved, as at 10, so as to bear on either side of a rounded projection 11 on the upper edge of the dog. A short distance forward of its attached end the spring C bears against the under edge of a stud 12 secured to the casing.

D is the latch, which is pivoted at its rear end on the stud 4, and bears against the ribs 6 on the locking-dog. The nose of the latch is shaped to engage with the upper portion of a reversible keeper E, as clearly shown in Fig. 1. In the front face of the latch there is cut a groove 13, in which works the free end of an actuating-spring hereinafter mentioned. Immediately beneath this groove the latch is formed with a cogg rib *d*, which registers with a slot 14 in the front of the casing. On reference to Fig. 3 it will be seen that when the latch is locked the arm *b* of the

locking-dog is beneath the lower edge of this rib.

For the purpose of rendering the latch automatic in its action in engaging the keeper, I employ an actuating-spring F, which is thoroughly effective and at the same time easily applied, occupying such a position in the casing as to be easily removed and replaced. It consists simply of a strip of spring metal bent upward at its rear end so as to bear against the upper wall of the chamber, it being supported at the bend by the stud 12 and forward of the bend by another stud 15, the free end of the spring passing into the groove 13 in the latch and bearing against a shoulder 16 at the upper edge of said groove. It will thus be seen that the spring, when free to act, will automatically throw the nose of the latch up into the upper portion of the keeper. It will also be observed that as the spring is not a fixed one its removal and replacement when weakened or broken are easily accomplished.

G is the drop-handle, pivotally mounted on pins H secured in lugs 17 projecting from the front of the casing. One branch of the drop-handle is formed with a cogged extension g, which projects through slot 14 in the casing and engages with the cogged rib d on the latch, whereby the drop-handle is placed in positive engagement with the latch, so that should the operating-spring become broken or otherwise inoperative the latch can be made to engage the keeper by means of the handle.

In Figs. 6 and 7 I have shown a modified form of placing the drop-handle in positive engagement with the latch. In this case I dispense with the cogged rib on the latch, and in lieu thereof cut an opening 18 through the latch; and instead of forming the handle with a cogged extension I form it with a plain inward extension g', having a finger 19, which passes through the opening 18 in the latch. In this construction the arm b of the locking-dog, when the latch is locked, will rest under the extension g'.

Other ways of placing the drop-handle in positive engagement with the latch may be employed without in the least departing from the spirit of my invention.

I is the back-plate, having its ends tenoned, as at 20 and 21, to fit flush in recesses 22 and 23, respectively, in the casing. Projecting from the front side are lugs 24 and 25, the former being designed to bear against the edge of spring C and the latter against the edge of spring F, to hold them in place. In the plate are formed two holes 26 and 27, through the former of which passes a screw which takes into stud 4, for securing the plate to the casing, the hole 27 serving as a bearing for the rear end of the key. On that end of the plate which fits in the recess 22 in the casing is formed an inclined web 28, which directly overlies, in an opposite direction, the inclined web 2 on the casing. From this con-

struction it results that when the latch moves into the upper portion of the keeper it travels in a slightly outward direction between the inclined webs 2 and 28, which tends to draw the door to which the lock is secured more tightly against the door-jamb, thus forming a practically tight joint.

The operation of my improved combined latch and lock will be apparent from the foregoing description taken in connection with the drawings.

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

1. In a combined latch and lock, a latch pivoted within the casing, and a drop-handle pivoted on the outer side of the casing and provided with one or more integral extensions projecting through the casing and in positive engagement with the latch, whereby the latch may be operated in either direction by the handle.

2. In a combined latch and lock, a latch pivoted at one end within the casing and provided with a cogged rib, and a drop-handle pivoted on the outer side of the casing and provided with an integral cogged extension projecting through the casing and meshing with the cogged rib on the latch.

3. In a combined latch and lock, a latch pivoted at one end within the casing, a leaf-spring in engagement with and adapted to automatically raise the free end or nose of the latch, and a drop-handle pivoted on the outer side of the casing and provided with an integral extension projecting through the casing and in positive engagement with the latch, whereby should the spring become inoperative the latch can be depressed and elevated by means of the handle.

4. In a combined latch and lock, a latch pivoted at one end within the casing, a leaf-spring supported by one or more fixed studs, one end of said spring resting under a shoulder on the latch, its other end bearing against the upper wall of the casing-chamber, and a drop-handle adapted to operate the latch in either direction, said handle being pivoted on the outer side of the casing and provided with an integral extension projecting through the casing and in positive engagement with the free end of the latch.

5. A combined latch and lock comprising a latch pivoted at one end within the casing, a pivoted drop-handle adapted to operate the latch in either direction, said handle being provided with an integral extension in positive engagement with the latch forward of the pivotal point of the latter, a spring for actuating the latch in the upward direction independent of the handle, a keeper with which the latch in its upward movement engages, and a locking-dog adapted to be moved to lock the latch.

6. In a combined latch and lock, the combination, with a latch pivoted at one end and a

drop-handle adapted to operate the latch in either direction, said handle being pivoted on the outside of the casing and provided with an integral extension projecting through the casing and in positive engagement with the free end of the latch, of a locking-dog slotted at one end and loosely fitted over a fixed stud and having an integral horizontal arm at its other end, said dog being adapted to be moved into such position that its arm will render the latch immovable.

In testimony whereof I affix my signature in presence of two witnesses.

NICHOLAS H. COLWELL.

Witnesses:

WM. MCPHERSON,
GERTIE RUBINS.