

UNITED STATES PATENT OFFICE.

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LATCH AND LOCK COMBINED.

SPECIFICATION forming part of Letters Patent No. 524,756, dated August 21, 1894.

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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 certain new and useful Improvements in Latch-Locks for Refrigerators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to latch-locks especially intended for fastening refrigerator doors, though of course otherwise applicable. Its objects are chiefly to provide strong and simple devices, with ample leverage, for forcing the latch down into the catch so that the beveled faces of these parts will draw and hold the door tightly together; to combine with such a latch a satisfactory horizontally operating bolt with spring and actuating means, whereby the said latch may be locked at will in such position of engagement; to adapt the handle of the said latch to be worked by the foot of the person opening the door when said latch is located near the bottom of the latter; and generally to improve latch-locks of this description. These objects I attain by the construction and combination of devices hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a rear elevation of a latch-lock embodying my invention the back plate of the casing being removed. Fig. 2 represents a perspective view of the front of the casing with the hinged handle out of position for operation, as it normally hangs, the operative position being indicated by dotted lines. Fig. 3 represents an end elevation of the mechanism and casing, the latter partly in section, showing the flange with which its locking bolt engages; and Fig. 4 represents a detail view of the hub.

A designates the casing of the lock, having the usual key-hole *a*, the back plate *A*³ and the hole *A*¹ for the hub *B* of the knob or handle. The said hub has the usual prismatic bore *B*¹ to receive the handle shank *k*, a circumferential groove *b*—and a radially extending lug or projection *B*².

C designates the latch, which is pivoted at

its rear end on a stud *d* formed with the latch-case *A* and has its middle part *C*¹ bent nearly into a semi circle to leave room for the hub aforesaid. The groove *b* may receive the said middle part *C*¹, to hold the said devices more firmly together. The said latch is further provided with a recess *e* just in front of the said bent part and with a backwardly curving horn *f* below the said recess. There is further a long horn or shoulder *g* extending upward and slightly backward from the said latch at a point almost directly above the said horn *f*, to receive the downward pressure of the latch-spring *F* which has its bearings against flanges *G* *G*¹ formed with the inner face of the latch case *A*. The nose *C*² of the said latch protrudes as usual through a slot *A*² in the side of the said case and is adapted to move freely up and down therein. Its inner face is curved downward and outward and by its engagement or contact with the catch or keeper tends to draw the door tightly together. But the strength of the latch spring *F* will not always suffice to fully effect this. To complete the closing, the hub *B* is then turned forcibly by the handle *K* and its shank *k*, so that the lug or projection *B*² will bear down on the horn *f*, forcing the said nose down into the catch with strong leverage, due to the relatively great distance of the point of applying power from the pivotal point. This peculiarity of construction also assists the action of the handle, hub and projection in lifting the latch to open the door.

For locking the latch from its position of engagement, I provide it on the front face near the upper horn *g* with a small flange *h*, and combine with it a horizontally sliding locking bolt *H*, moving between guide-flanges *i* on the inner face of case *A* and held by them against rising. When in its shot position this bolt extends over the flange or shoulder *h* of the latch and prevents the latter from rising. When withdrawn from such position, the said bolt leaves the latch free to rise. It is held in either position by the V-shaped retaining spring *I*, which is in contact with an inversely V-shaped shoulder on the top of the said bolt and acts thereon in the usual way. Flanges or lugs *I*¹ *I*² of the case *A* hold the said spring in place. The under side of

the said bolt is provided with an approximately V-shaped recess i' , to allow the usual action of the key.

As latches of this description are often placed on the lower doors of a refrigerator, it becomes desirable to provide some means for lifting them by the foot instead of the hand, thus avoiding the necessity of stooping to open the door. It is also desirable to have a folding handle, that there may be no part protruding in the way like a knob. To this end I hinge the shank k by a pintle k' to the handle K and provide the said shank with a flange k^2 , also forming one of the lugs K' of the handle proper with a cam K^2 which comes into contact with the said flange k^2 when the said handle is raised into the horizontal position. Of course the operator has only to slip his foot under it and lift it, to almost immediately lift the latch also. When the support of his foot is removed, the handle drops down again.

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

1. A pivoted latch which is recessed in its

under part, leaving a portion of the material below the said recess in combination with a hub and handle independent of the said latch, the said hub being provided with a projection arranged in the said recess to turn against the material of the latch below the same and force the nose of the said latch down, the said nose being curved or beveled so that such depression will tighten the door substantially as set forth.

2. In combination with a latch, a rotary hub, a shank adapted to fit therein and turn therewith, and a handle hinged to the said shank so as to hang down or be raised into horizontal position at will, the said shank being provided with a flange k^2 and the said handle being provided with a cam K^2 for acting against the said flange when the said handle is thus raised, for the purpose of lifting the latch substantially as set forth.

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

NICHOLAS H. COLWELL.

Witnesses:

A. W. MUNSON,
WILLIAM F. STEWART.