April 21, 1925. 1,534,216

A. N. HORNUNG

LATCH FOR REFRIGERATOR DOORS

Filed Aug. 27, 1924

Fig. 1

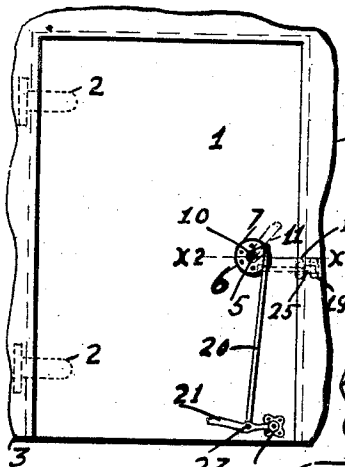


Fig. 2

Fig. 4

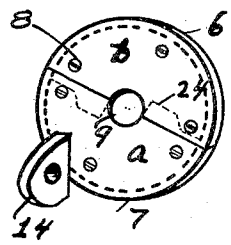


Fig. 3

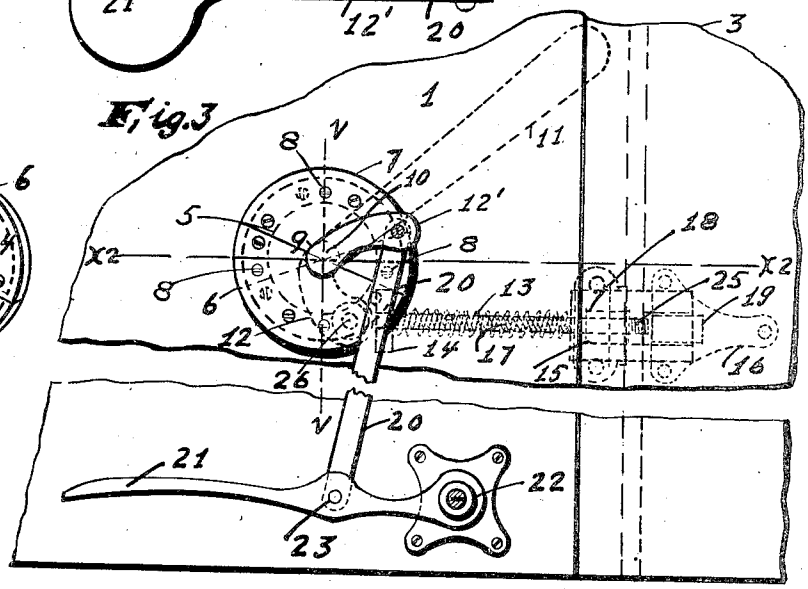


Fig. 5

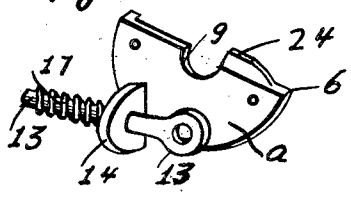
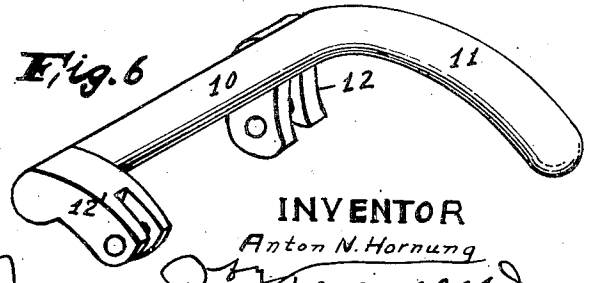


Fig. 6



WITNESS:

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INVENTOR

Anton N. Hornung

by James R. Townsend his atty

Patented Apr. 21, 1925. 1,534,216

UNITED STATES PATENT OFFICE.

ANTON N. HORNUNG, OF LOS ANGELES, CALIFORNIA.

LATCH FOR REFRIGERATOR DOORS.

Application filed August 27, 1924. Serial No. 734,414.

To all whom it may concern:

Be it known that I, ANTON N. HORNUNG, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Latch for Refrigerator Doors, of which the following is a specification.

This invention relates to a novel latch for doors of large refrigerators, such as are installed in butcher shops, and through which doors the attendant passes from time to time for the purpose of carrying meat into and out from the refrigerating chamber.

Such doors are spring closed and it is desirable that they be kept closed as constantly as possible with minimum interference with the movement of the attendant; automatic latches are provided to hold the spring closed doors shut.

It frequently occurs that the attendant must carry heavy loads, such for instance as a quarter of beef, or other large bodies of meat such as veal, mutton or pork carcasses; and the opening and closing of such spring closed and latched doors is a serious inconvenience to the butcher or other attendant.

An object of this invention is to avoid such interference, and to facilitate the opening of the closed door by a person carrying a heavy load out of the refrigerator.

Usually there are attendants outside the refrigerator who may open the door to allow a person laden with the whole or part carcass to pass in; but it is seldom that there is any attendant inside the refrigerator to serve the same purpose when the laden person wishes to go out; and consequently the one who goes inside the refrigerator to select a carcass or a heavy portion of a carcass to bring the same out through the door, finds it very difficult while he is carrying the load, to open the door by devices heretofore employed.

An object of this invention is to provide strong and substantial means adapted to facilitate the opening of the door latch by the person on the inside while heavily loaded and while having his hands employed in carrying the load.

The invention broadly considered includes the combination with the door and an automatic latch thereon, of a shaft journalled in the door and extending on both sides thereof, and bent at one end to form a handle on one side of the door, and bent at its other end for attachment to means operable by the foot of an attendant.

Objects of the invention are cheapness, simplicity, ease of application and convenience of operation.

The invention includes the novel part comprising a latch operating rock shaft having a terminal handle and two bell crank arms spaced apart to accommodate the door closure between them and adapted respectively for attachment to connecting rods.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detail description and the appended claims.

The accompanying drawing illustrates the invention.

Figure 1 is an inside fragmental diminutive view of a refrigerator door with its automatic latch and means involving my invention for retracting said latch in accordance with this invention.

Fig. 2 is a plan section on line x^2, Fig. 1.

Fig. 3 is an enlarged fragmental view of the assembly shown in Figs. 1 and 2 viewed from inside the refrigerator with parts in latching position.

Fig. 4 is a view of the outside half escutcheon plates assembled together.

Fig. 5 is a perspective view of the lower outside escutcheon plate member with fragments of latch rod and spring.

Fig. 6 is a perspective view of the handle and rock shaft.

1 indicates the door closure of a refrigerator hinged at one edge by spring hinges 2 of any well known type, for automatic closing of the closure, to the refrigerator door frame 3. Said door is provided with a latch hole 5 extending therethrough. Divided escutcheon plates 6, 7 of greater diameter than the latch hole are adapted to be mounted on opposite sides of the door and are so mounted by means of screws 8.

Each of said escutcheon plates is formed of two semi-circular members, each provided with a central notch 9 to form a bearing, in which is journalled a rock shaft 10 provided at one end with a terminal handle 11, and a bell crank 12, and at the other end with a bell crank 12′. Said bell cranks are spaced apart to accommodate the door closure 1 between them.

The bell crank arm 12 is pivotally connected to a latch bar 13 that slides through a stationary guide 14 that is fixed to and ex-

tends from the lower plate *a* of the outer escutcheon 6, and the latch slides through the latch guide 15 of a well known type, into engagement with a catch 16 fixed to the closure 1. The latch guiding means 14 and 15 are fixed to the door as will hereinafter appear.

The latch spring 17 acts between the latch bar guide 14 and the latch head 18 to hold the head and its roller tip 19 yieldingly projected for engagement with the catch 16 upon closing of the door.

The handle 11 and the bell crank arms 12 and 12′ are disposed in angular relation to each other on one side of a vertical V through the axis of the shaft 10, and are so disposed that when the spring 13 has fully projected the latch to latching position shown in Fig. 1, with the latch roller 19 ready to engage the catch 16, the handle 11 and inner bell crank arm 12′ will be elevated, and the outer bell crank arm 12 will be depressed so that a downward movement of the handle 11 or of the inner bell crank arm 12′ will cause the outer bell crank arm 12 to swing away from the guide 15 to withdraw the latch from latching position.

20 is the connecting rod for a treadle 21 pivoted to the door at 22 and to the connecting rod 20 at 23, so that the downward movement of the treadle 21 will withdraw the latch in the same manner as by operation of the handle 11.

The escutcheon plates are each provided with interlocking offsets 24 and are secured in place by the screws 8 with their bearings 9 coaxial of the latch hole 15. The crank arms are thus held in true position for operation.

The crank arm 12′ is of such length as to allow it to be inserted through the latch hole 5. Preferably the hole 5 is of such diameter that the insertion can only be accomplished when the shaft is inserted obliquely.

The latch head 18 is socketed and threaded to receive the threaded end 25 of the latch bar 13.

The latch bar 13 is pivoted to the arm 12 by the pivot 26, and is inserted through the guide 14 and is screwed into the socket in the head 18, which is inserted through the guide 15.

To install the device the bell crank arm 12′ and rock shaft 10 will be inserted through the latch hole 5 and then the escutcheon plates will be brought together on the shaft and brought into central position relative to the latch hole 5, and will then be secured to the door by the screws 8.

The latch bar is inserted through the latch bar guide 14 and through the coil spring 13, and is screwed into the socketed head 18, which is adapted to slide through the guide 15.

I claim:

1. The combination with a door and an automatic latch thereon, of a shaft journalled in the door and bent at one end to form a handle at one side of the door; and means operable by the foot of an attendant and connected to rock the shaft to retract the automatic latch.

2. The combination with a door of latch guiding means fixed to the door; a rock shaft extending through and journalled to the door and provided at one end with a bell crank arm and at the other end with a bell crank arm and a handle, said bell crank arms and handle being so disposed on one side of a vertical drawn through the axis of the rock shaft that depression of the handle and one of the bell crank arms, will retract the other bell crank arm toward such vertical.

3. The door latch rock shaft set forth provided with two bell crank arms disposed in angular relation and spaced apart to accommodate a door closure between them, and a terminal handle.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 22nd day of August, 1924.

ANTON N. HORNUNG.

Witness:

JAMES R. TOWNSEND.