C. E. SUMMERS.

DOOR LATCH.

APPLICATION FILED FEB. 18, 1919.

1,319,187.

Patented Oct. 21, 1919.

2 SHEETS—SHEET 1.

FIG. 1.

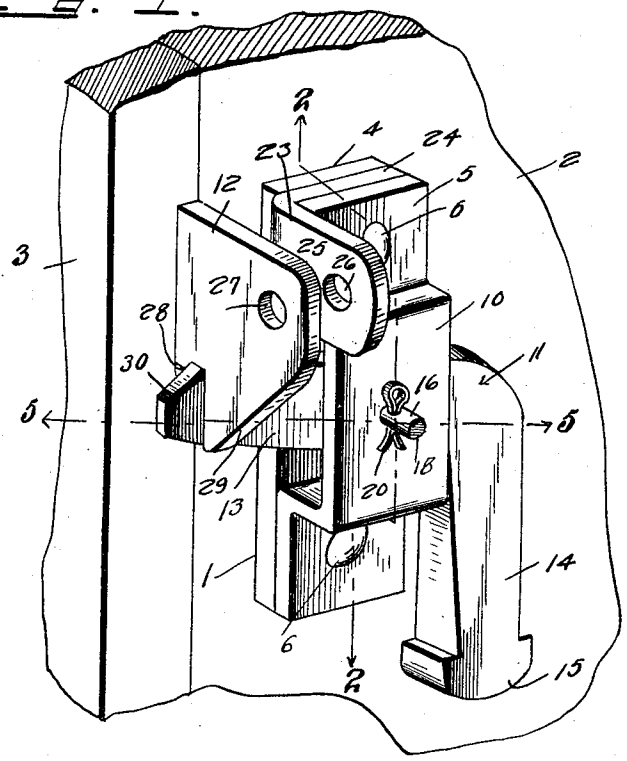


FIG. 3.

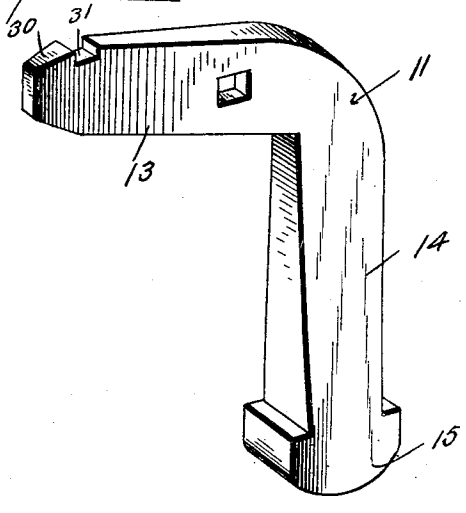
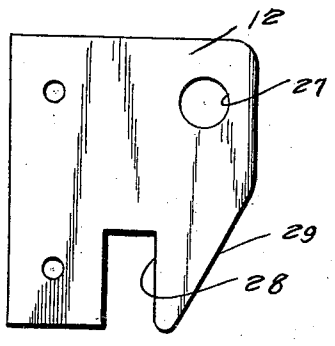


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 2.

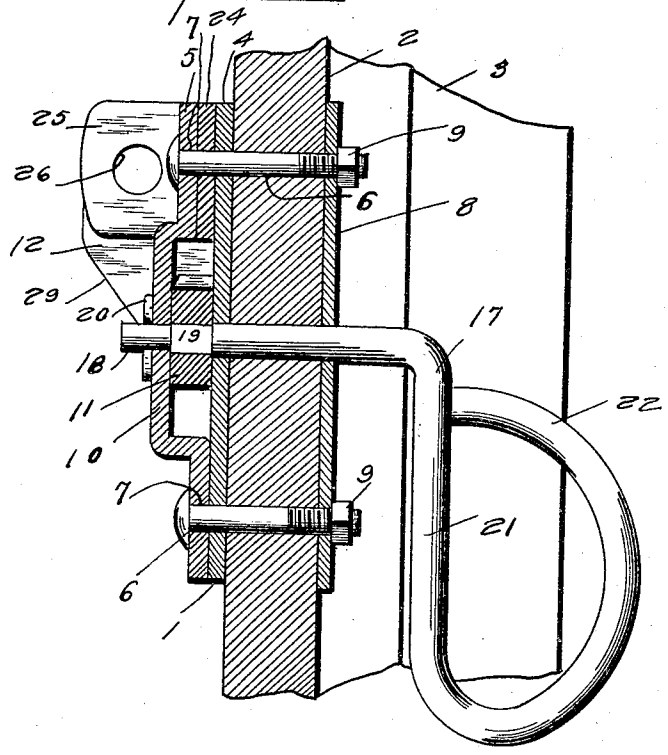
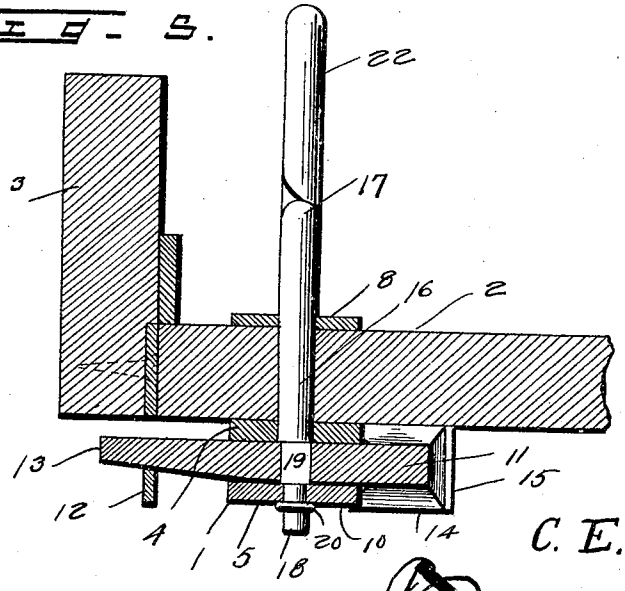


FIG. 5.



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UNITED STATES PATENT OFFICE.

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DOOR-LATCH.

1,319,187. Specification of Letters Patent. Patented Oct. 21, 1919.

Application filed February 18, 1919. Serial No. 277,698.

To all whom it may concern:

Be it known that I, CHARLES E. SUMMERS, a subject of the King of Great Britain, residing at Mannville, in the Province of Alberta and Dominion of Canada, have invented certain new and useful Improvements in Door-Latches; 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 latches for barn doors and the like and the primary object of the invention is to provide an improved latch, which can be used with equal success on both swinging and sliding doors, and which is so constructed that the same will automatically lock, when the door is swung to its closed position.

Another object of the invention is to provide an improved latch, which is so constructed, that a pad lock can be used in connection therewith, so as to positively lock the door when so desired.

A still further object of the invention is to provide an improved latch of the above character for right or left hand swinging or sliding doors, which is of exceedingly efficient and durable structure, one that is simple and easy to manufacture and one that can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved latch applied to a door,

Fig. 2 is a vertical section through the latch, taken on the line 2—2 of Fig. 1,

Fig. 3 is a detail perspective view of the locking lever,

Fig. 4 is a detail elevation of the keeper.

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 1.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the numeral 1 generally indicates an improved latch which is shown applied to a door 3 and casing 4 of the ordinary or any preferred construction.

The latch 1 includes the supporting plates 4 and 5 which are placed one upon the other and held in fixed position by means of bolts 6 which extend through registering apertures 7 formed in the ends thereof and through the door 2. The bolts 6 also extend through a plate 8 positioned on the opposite side of the door 2 and suitable nuts 9 are turned on the ends of the bolts and hold the plates against displacement. The outer plate 5 is bent intermediate the ends thereof as at 10 to space the same from the inner plate 4 to form a housing for the reception of the locking lever 11, the inner end of which extends beyond the outer edge of the door and is positioned in the path of the door frame carried plate 12, which will hereinafter be more specifically described.

The locking lever 11 includes a substantially horizontal arm 13 and a downwardly extending vertical arm 14, which is gradually widened toward the lower free end thereof, which is provided with the head 15. The head 15 and the thickened portion of the vertical arm forms a weighted end which normally holds the horizontal arm in an elevated position.

The locking lever 11 is pivotally secured in position by means of the horizontal extension 16, formed on the inner operating handle 17. The plates 4, 5, and 8 are provided with registering apertures for rotatably receiving the horizontal arm 16 which has the outer end thereof reduced as at 18 and a portion thereof is made non-circular in cross section as at 19, which portion receives the locking lever 11, whereby the lever and the arm are held against relative movement. A suitable pin 20 or the like extends through the outer free end of the arm 16 and holds the same against displacement. The inner portion of the arm 16 is bent downwardly as at 21 and then curved upwardly as at 22 to form the handle 17 whereby the arm may be readily rotated. An angled plate 23 has the inner portion 24 thereof positioned between the plates 4 and 5 and is held against displacement by means of the upper bolt 6 which extends through the same. The outer arm 25 of the plate is provided with the aperture 26, which registers with the aperture 27 formed in the door frame carried plate 12. The door frame carried plate 12 is provided with an inwardly extending slot 28 formed in the lower edge thereof which is adapted to receive the free end of the locking lever 12, which holds the door in its locked position. The lower outer

edge of this plate is beveled downwardly and inwardly as at 29, so as to facilitate the latching of the door or gate when the same is thrown closed.

It is to be understood that a suitable pad lock (not shown) is positioned through the registering apertures 26 and 27, for positively holding the door or gate in closed position against movement when so desired.

The outer projecting end of the horizontal arm 13 of the locking lever 12 has the upper edge thereof beveled downwardly and outwardly as at 30 so that when the latch is to be used on sliding doors, the locking lever is readily swung on its pivot so as to move under the door frame carried plate 12 and the upper edge of the arm 13 is provided with a groove 31 which is adapted to receive the upper wall of the slot 21 and holds the door against sliding movement.

From the foregoing description it can be seen that an improved latch is provided, which is of exceedingly simple and durable construction which is normally held in its latched position by means of the weighted end of the lever 11 which eliminates the necessity of providing springs and the like.

In practice, I have found that the form of my invention, illustrated in the accompanying drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet realizing the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required without sacrificing any of the advantages of my invention as set forth.

What I claim as new is:—

In a device of the class described, the combination with a door and frame, of a latch therefor including a housing secured to the door, a shaft extending through the housing and door and rotatably carried thereby, a handle formed on one end of the shaft, a locking lever carried by the shaft and having a downwardly extending weighted manipulating handle, the opposite end of the lever at its upper surface thereof beveled downwardly and provided with a groove, and an outwardly extending plate carried by the door frame having the forward edge thereof beveled downwardly and the lower edge thereof provided with an inwardly extending slot to receive the lever as and for the purpose specified.

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

CHARLES E. SUMMERS.

Witnesses:
J. A. Ross,
J. W. Summers.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."