(No Model.)

C. F. TEUFEL.

STORM DOOR.

No. 346,788. Patented Aug. 3, 1886.

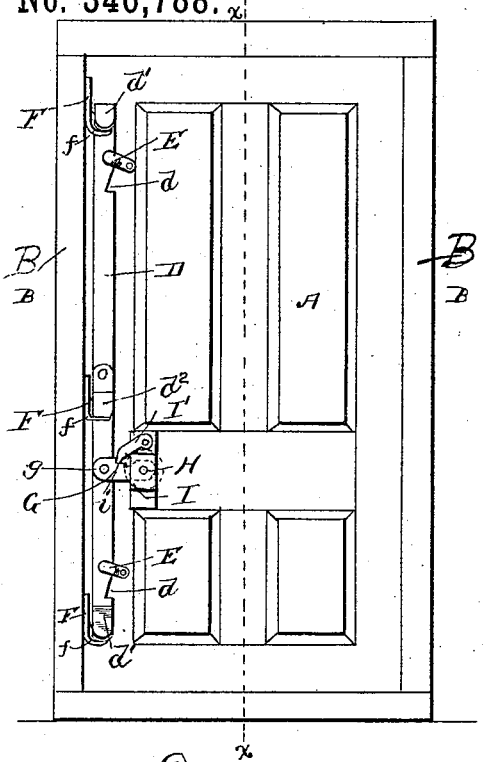

Fig. 1.

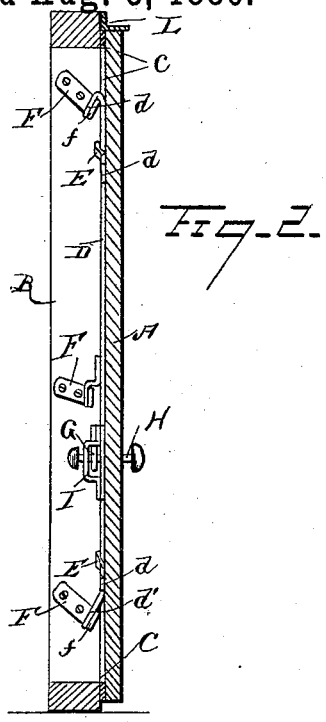

Fig. 2.

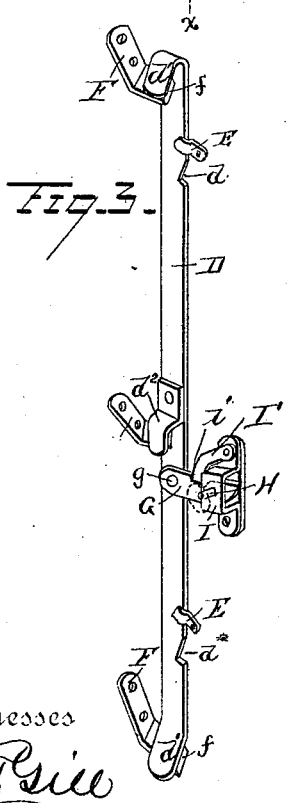

Fig. 3.

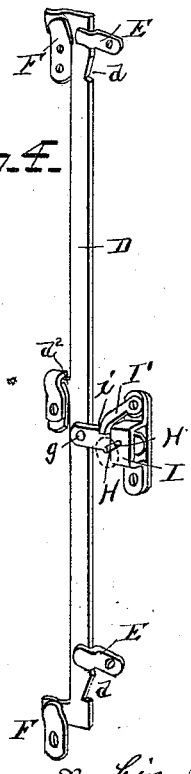

Fig. 4.

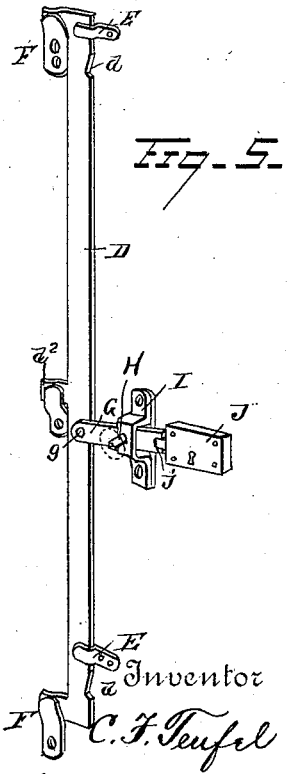

Fig. 5.

Witnesses
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W. F. Burchard

Inventor
C. F. Teufel
By his Attorneys
C. A. Snow & Co

UNITED STATES PATENT OFFICE.

CHRISTOPH F. TEUFEL, OF WOOLSTOCK, IOWA.

STORM-DOOR.

SPECIFICATION forming part of Letters Patent No. 346,783, dated August 3, 1886.

Application filed April 21, 1886. Serial No. 199,653. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPH F. TEUFEL, a citizen of the United States, residing at Woolstock, in the county of Wright and State of Iowa, have invented a new and useful Improvement in Storm-Doors, of which the following is a specification.

My invention relates to improvements in storm-doors; and it consists of the peculiar and novel construction and combination of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

The object of my invention is to provide an improved door which is especially adapted for use in that section of the country which is frequently visited by high winds and storms, which shall effectually exclude the rain and snow and resist the action of the wind in forcing the door open and carrying it away; to provide means for effectually excluding the wind, &c., from entering the dwelling or building; to provide improved means for locking the doors, and which shall equalize the strain at all points along its free edge, and to provide means that shall be simple, strong, and durable in construction, effective in operation, and cheap and inexpensive of manufacture.

In the accompanying drawings, Figure 1 is an elevation, looking from the inside of a dwelling or building, of a door having my invention applied thereto. Fig. 2 is a vertical transverse sectional view thereof on the line *x x* of Fig. 1. Fig. 3 is a detached perspective view of the locking devices. Fig. 4 is a like view of a modified form of my invention; and Fig. 5 is a like view of another modification of invention, showing it adapted for use in connection with an ordinary door-lock.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates a door of ordinary construction, and B the frame thereof. At its several edges, and on the inner faces, the door A is provided with elastic or yielding packing C, which is of felt, rubber, or any other suitable material, and adapted to come in contact with the edges of the frame and close the cracks or openings that may exist between the door and its frame.

D designates a vertically-movable locking-bar that is fitted against the inner face of the door near or at its free edge, and this bar is confined to and held in place on the door by means of brackets E, which overlap and bear against the same. These brackets are suitably secured to the door by means of screws or other suitable fastening devices, and the locking-bar is provided on its inner edges with notches that form shoulders *d*, which come in contact with the edges of the brackets and limit the upward movement of the locking-bar. This vertically-movable bar is provided at its ends with bent or angular lips *d'*, and at its middle with an outwardly-extending lip, *d²*, and when the door is closed these lips interlock or engage with similar lips, *f*, of keepers F, that are suitably secured on the door-frame. The locking-bar is actuated by means of a link, G, that is pivotally connected thereto at one end, as at *g*, and the other end of the link is rigidly secured to and carried by a shaft or arbor, H, that extends through the door, and is journaled in a keeper, I, secured on the door. The ends of this shaft extend through the door and the keeper, and are provided with suitable knobs or handles for the convenient manipulation thereof. It will thus be seen that when the shaft is rotated, by manipulating the handles or knobs thereof the free end of the link G will be moved either up or down and elevate or depress the vertically-movable locking-bar to cause the lips thereof to lock with or be released from the lips of the keepers F, whereby the door will be securely locked in place along its outer free edges, and the packing will serve to exclude the wind or snow, &c., and the door can be opened by simply disengaging the interlocking lips of the movable bar and the keepers F.

To lock the movable bar D against movement, and thus afford additional protection, the link is provided with a series of two or more teeth, *i*, with which are adapted to engage one end of a pawl, I', that is pivoted on the door or the keeper thereon, and when the dog or pawl is in engagement with the link it will be seen that the latter cannot be affected when the handles or knobs of the shaft are operated.

In Fig. 4 of the drawings I have shown another form of my invention, which is especially adapted for use in connection with inside doors of dwellings and the like. The same general features of the locking device are employed,

and but a few slight changes in the shape and proportion of the various parts thereof are made, which, however, it is not necessary to refer more particularly to in this specification, as they can be readily seen and understood by reference to the said Fig. 4.

In Fig. 5 of the drawings I have shown my invention especially adapted for use in connection with an ordinary door-lock to be operated by a key, and when this device is employed the ratchet-teeth on the link and the pivoted pawl are dispensed with. The rear end of the link that is connected to the locking-bar and carried and actuated by the shaft is extended through the keeper and provided with a recessed or cut-out portion, *j*, to receive the locking-bolt of a lock, J, which is of any class at present in use and actuated by a key.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings.

I do not desire to confine myself to the exact details of construction and form and proportion of parts herein shown and described as an embodiment of my invention, as I am aware that changes therein can be made without departing from the principle or sacrificing the advantages of my invention.

The door A is protected at its upper edge by a cap, L, that is secured to the upper end of the frame, and projects outwardly therefrom over the said upper edges of the door.

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

1. The combination of a locking-bar having the lips, the keepers, a rotary shaft or arbor connected with the locking-bar to actuate the same, and means, substantially as described, for locking the bar against movement, as and for the purpose set forth.

2. The combination of a locking-bar having the lips, the keepers, a rotary shaft or arbor, a link carried by the shaft and pivotally connected with the locking-bar, and means, substantially as described, for locking the link and the bar against movement, as and for the purpose set forth.

3. The combination of the vertically-movable locking-bar having the lips, the keepers having the similar lips adapted to interlock with the lips of the bar, and an arbor or shaft for moving the bar, substantially as described.

4. The combination of the vertically-movable locking-bar having the angular lips, the keepers, the link pivotally connected with the bar, the shaft for actuating the link and bar, and means for locking the link in place, substantially as described.

5. The combination, with the door and the frame therefor, of the elastic packing secured around the edges of the door, the locking-bar having the limiting-shoulders and the angular lips, the brackets carried by the door for confining the bar thereto, the keepers secured to the frame, the arbor or shaft carried by the door and carrying a link that is pivotally connected to the locking-bar, and a pawl for engaging the link to lock the latter and the bar in place, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHRISTOPH F. TEUFEL.

Witnesses:
F. Q. LEE,
ISAIAH DOANE.