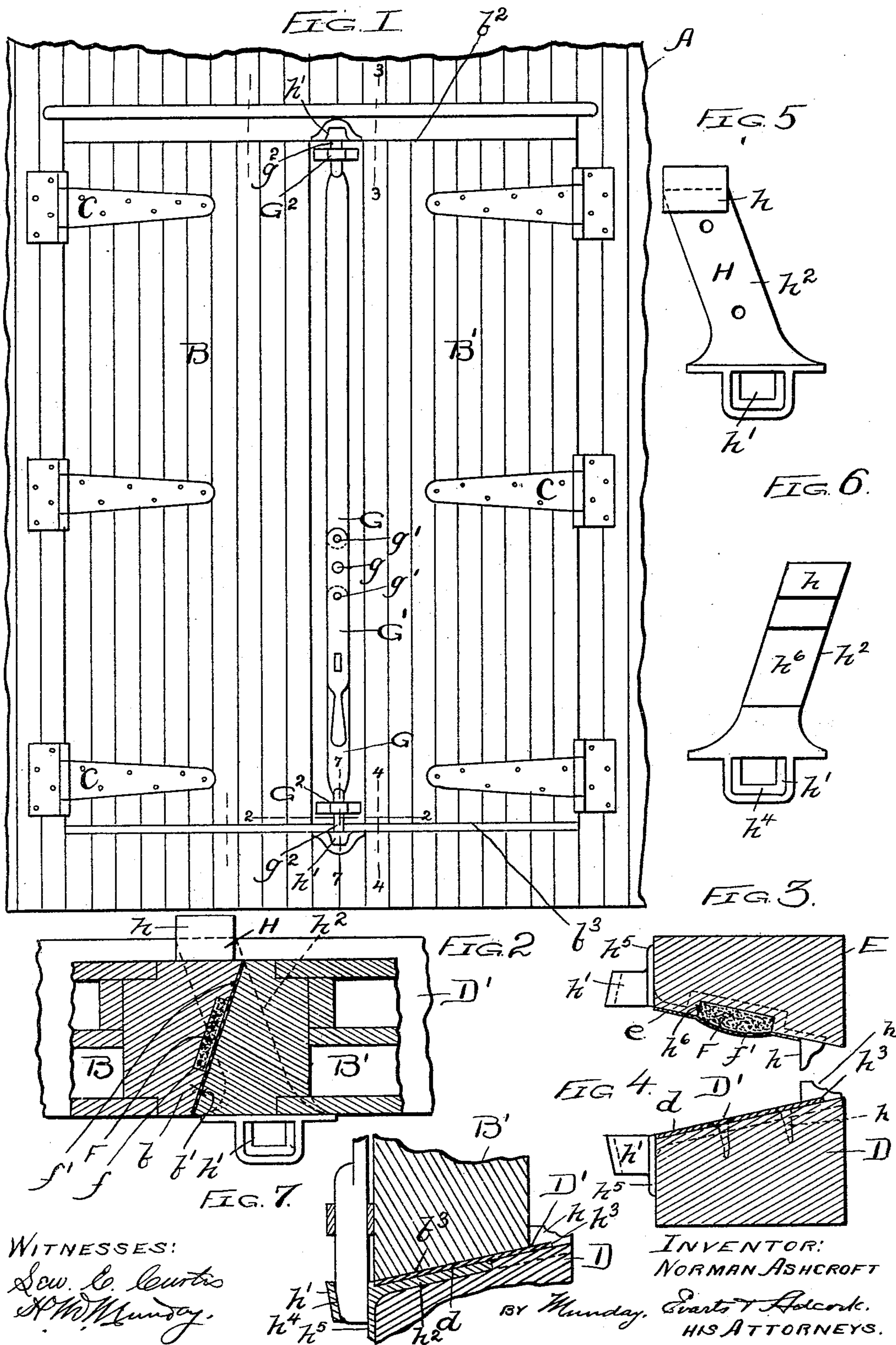


Patented Dec. 12, 1899.

COMBINED DOOR STOP AND LOCK BAR SOCKET.

(Application filed Feb. 17, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

NORMAN ASHCROFT, OF CHICAGO, ILLINOIS.

COMBINED DOOR-STOP AND LOCK-BAR SOCKET.

SPECIFICATION forming part of Letters Patent No. 638,690, dated December 12, 1899.

Application filed February 17, 1899. Serial No. 705,751. (No model.)

To all whom it may concern:

Be it known that I, NORMAN ASHCROFT, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Combined Door-Stop and Lock-Bar Socket for Refrigerator-Car Doors, of which the following is a specification.

My invention relates to improvements in doors for refrigerator-cars, and more particularly to improvements in the blocking or fastening devices therefor, by which the inclined or beveled meeting faces of the doors are wedged or held tightly together in close contact as required to prevent transmission of air or heat from the outside to the inside of the car, or vice versa.

Heretofore the stop against which the inner door abuts and the opposing wedging-socket in which the end of the lock or fastening-bar carried by the outer door fits, in order to crowd or wedge the beveled or wedging meeting faces of the two doors firmly and tightly together, have been made in two separate pieces or blocks independently secured to the door sill or frame by screws or nails, so that the whole wedging and leverage strain of the locking or fastening bar in crowding the doors tightly together necessarily comes upon the screws or fastening devices, by which the stop and the opposing socket are held in place, and great difficulty in practice has been experienced in keeping such separate stops and sockets from giving way or yielding, so that the doors will not be held tightly closed or wedged together, and in this old construction with a stop for the inner door and the socket for the locking-bar carried by the outer door in separate pieces considerable trouble and difficulty is experienced in fixing the stop and socket in proper relations to each other to effectually cooperate in wedging or tightly closing the two doors together.

The object of my invention is to provide a simple and cheap construction and combination of parts and devices by which these difficulties may be effectually overcome and by which the doors may be wedged or crowded together as tightly as desired without any danger of causing either the stop for the inner door

or the socket for the locking-bar on the outer door giving way or yielding under any strain caused by the leverage and wedging action of the locking-bar and its socket.

My invention consists in the means I employ to accomplish this object or result—that is to say, it consists in the combination, with a pair of refrigerator-car doors having the customary beveled or wedging meeting faces where they shut together and a suitable locking or fastening bar, lever, or device, of a stop for the inner door to abut against and a socket to receive the wedging end of the locking-bar made in one piece with the stop, the stop and socket being united together by a diagonal connecting-bar integral with the stop and socket, the connecting-bar extending diagonally across the beveled meeting faces of the doors, so that the inner door may abut against the stop on the inside, while the locking-bar carried on the outer door may enter the socket. One of these combined diagonally-connected integral stops and sockets is provided at the door-sill for the lower end of the locking-bar and one at the header for the upper end of the locking-bar. By this simple combination of parts it will be seen that the wedging and leverage action of the locking-bar or fastening device in crowding or forcing the doors together in one direction against the stop on the inside and in the other direction against the socket on the outside is opposed and equalized by the integral connection of the stop and socket together, so that no strain tending to disrupt the stop or socket from the door-sill or door-frame comes upon either the stop or socket.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a pair of refrigerator-car doors embodying my invention. Fig. 2 is an enlarged horizontal section on line 2 2 of Fig. 1. Fig. 3 is a vertical section on line 3 3 of Fig. 1. Fig. 4 is a vertical section on line 4 4 of Fig. 1. Fig. 5 is a detail plan view of the lower combined integral stop and socket. Fig. 6 is

a detail view of the upper combined integral stop and socket, and Fig. 7 is a section on line 7 7 of Fig. 1.

In the drawings, A represents a refrigerator-car or the portion thereof immediately surrounding the doors B B'.

C C are the hinges uniting the swinging doors to the door-frame or car.

D is the door-sill, D' the door-plate or threshold-plate, ordinarily made of steel or other metal, and E is the door-header or frame-piece of the doorway, which extends horizontally across the upper ends of the doors.

The inner door B and the outer door B' may be of any suitable or customary construction employed upon refrigerator-cars. They have beveled or inclined meeting faces $b b'$ where they join together at the center of the doorway, and beveled or wedging upper and lower faces $b^2 b^3$, corresponding to the beveled or inclined faces $d e$ of the door-sill D and header E, and the customary elastic or yielding packing F is inserted in suitable grooves or channels f , formed in one or the other of the meeting faces of the doors or door-frames.

f' represents the canvas for holding the elastic or yielding packing in place.

G represents the locking or fastening bar or lever, the same being of any usual or customary construction, but preferably consisting of upper and lower sliding bars G G, connected together by an operating-lever G', pivoted to the outer door B' at g and pivotally connected to the sliding bars G G at $g' g'$. The sliding bars G G have guides G² G², and their ends $g^2 g^2$, which enter the sockets, are made slightly tapering or inclined to give a wedging action upon the doors.

H is my combined integral stop and socket, the same comprising a stop h for the inner door to abut against, a socket h' to receive the end of the locking or fastening bar, and a diagonal connecting member h^2 , extending diagonally across the beveled meeting faces of the doors, so that the inner door B may abut against the stop h , while the socket h' is brought in line with the locking-bar G, carried by the outer door B'.

The door-sill D is provided with a diagonal notch or recess to receive the diagonal connecting member h^2 of the combined integral door-stop and socket, so that the metal door-plate D' may fit properly over the connecting member or portion of the combined integral stop and socket.

The combined stop and socket H is further provided with a groove h^3 to receive the inner edge of the door-plate, as will be readily understood from Fig. 4. The socket h' is provided with a wedging or inclined wall h^4 to give the necessary wedging action of the locking or fastening bar in closing the doors. My combined door stop and socket is further provided with an upright flange h^5 to fit against the outer face of the door sill or header. My combined integral door stop and socket for

the upper ends of the pairs of doors is of substantially the same construction as that for the lower ends of said doors, excepting that the groove h^3 for the door-plate is of course omitted, and excepting, further, that it is provided with an offset or channel h^5 to receive the packing F, thus enabling the packing to extend continuously. This offset or recess h^6 is not necessary in the combined stop and socket at the door-sill, as the packing F, if employed at all, is here located in the lower face of the doors instead of in the door-frame, as at the top of the doors. This will be readily understood from Figs. 3 and 4.

My combined door stop and socket is preferably secured in place by screws h^7 .

I claim—

1. The combination with a pair of refrigerator-car doors having beveled meeting faces, and provided with a locking or fastening bar on the outer door, of a combined door stop and socket having a stop for the end of the inner door only to abut against, a socket registering with the locking or fastening bar on the outer door, and a connecting member extending diagonally across the meeting faces of the doors uniting said stop and socket, substantially as specified.

2. The combination with an inner door and an outer door furnished with a locking-bar, of a combined stop and socket extending at the end of the doors across the meeting faces of the doors so that the inner door only may abut against the stop and the locking or fastening bar on the outer door register with the socket, substantially as specified.

3. The combination with a pair of doors, one fitting inside the other at their meeting faces, a locking or fastening bar or device G G carried on the outer door, and upper and lower combined door stops and sockets extending above and below the doors across the meeting faces of the doors so that the inner door only may abut against the two stops at its upper and lower ends and the locking bar or device register with the sockets at the upper and lower ends of the outer door, substantially as specified.

4. The combination with a pair of doors, a door-sill, a door-plate fitting on the sill, and a combined door stop and socket extending across the sill under the door-plate so that the inner door only may abut against the stop, and a fastening device on the outer door registering with the socket, substantially as specified.

5. The combination with a pair of doors, a door-sill, a door-plate fitting on the sill, and a combined door stop and socket extending across the sill under the door-plate so that the inner door may abut against the stop, and a fastening device on the outer door registering with the socket, said stop having a groove to receive the inner edge of the door-plate, substantially as specified.

6. In a refrigerator-car, the combination with a pair of doors, a header having a chan-

nel or groove to receive the packing and a combined door stop and socket extending across the header and provided with a channel or offset to receive the packing, substantially as specified.

7. In a refrigerator-car, the combination with a pair of doors having beveled or wedging meeting faces, of fastening or locking bars G G provided with connecting-lever G' mounted upon the outer door and a pair of combined stops and sockets H H, consisting each

of a stop for the inner door to abut against and an integral socket to receive the locking or fastening bar on the outer door, said combined stop and socket for the upper ends of the doors having an offset or channel extending across the same for the packing, substantially as specified.

NORMAN ASHCROFT.

Witnesses:

EDW. S. EVARTS,
H. M. MUNDAY.