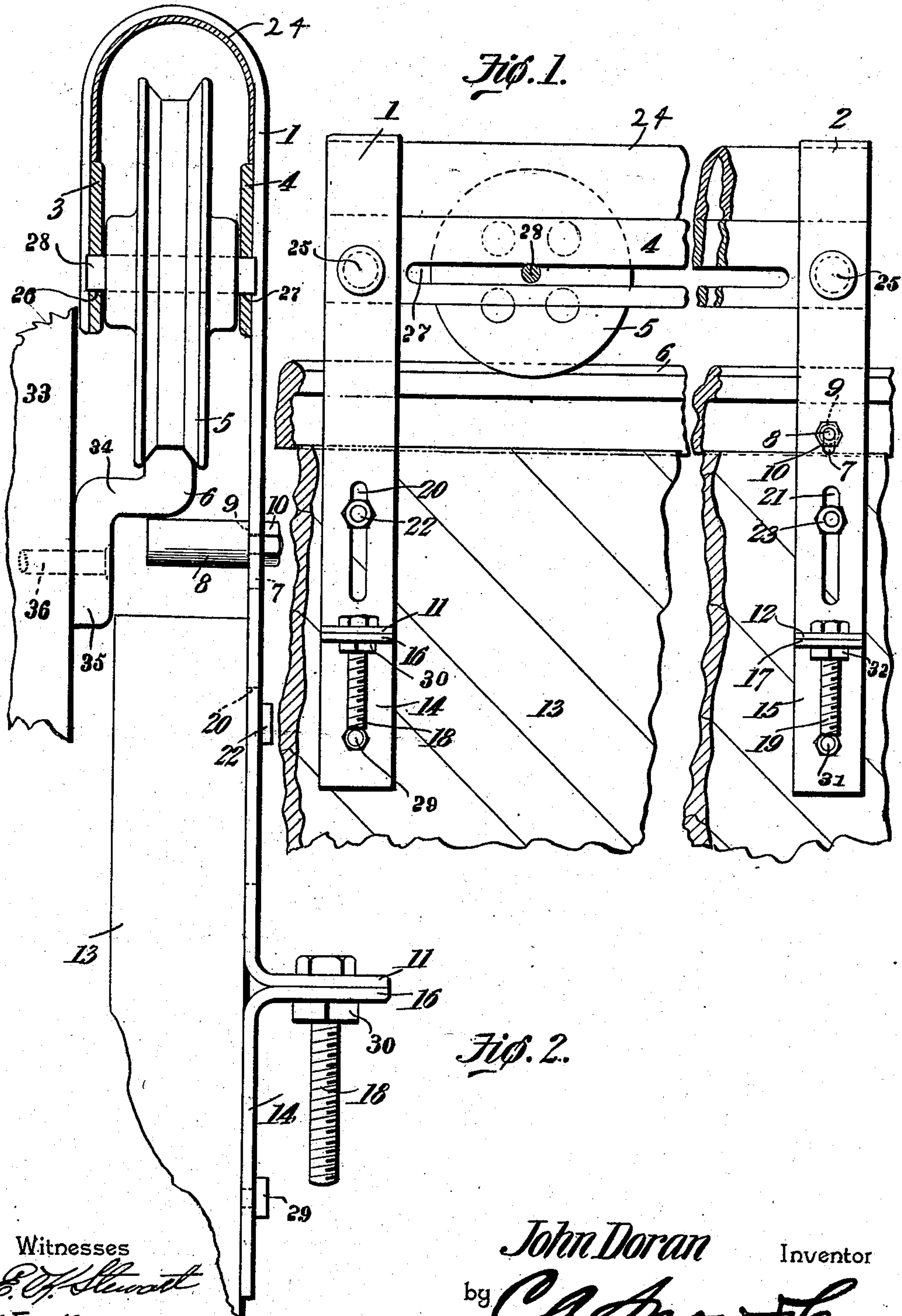


J. DORAN.
DOOR HANGER.
APPLICATION FILED MAY 23, 1904.

900,270.

Patented Oct. 6, 1908.



Witnesses
E. J. Stewart
W. H. Clarke.

John Doran Inventor
by C. A. Snow & Co. Attorneys

UNITED STATES PATENT OFFICE

JOHN DORAN, OF EMPIRE, MICHIGAN.

DOOR-HANGER.

No. 900,270.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed May 23, 1904. Serial No. 209,356.

To all whom it may concern:

Be it known that I, JOHN DORAN, a citizen of the United States, residing at Empire, in the county of Leelanaw and State of Michigan, have invented a new and useful Door-Hanger, of which the following is a specification.

This invention has relation to hangers for sliding doors and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide a hanger of the character indicated the parts of which may be readily adjusted so that the door may be made to fit snugly at its lower edge against a sill when in closed position.

A further object of the invention is to so arrange the parts of the hanger whereby means is afforded for holding the door in an open position by causing a stud which is carried by the door to engage the track rail and present sufficient friction to hold the door open. When the door is closed or in the act of being closed the said stud does not engage the track rail and in order to permit the movement of the stud with relation to the track rail the door is so mounted that it may rock upon the axle of its supporting wheel.

In the accompanying drawing: Figure 1 is a side elevation of a portion of the door and hanger with parts broken away. Fig. 2 is an edge elevation of a portion of the door showing part of the hanger in section.

The hanger consists, in part, of the standards 1 and 2 which are spaced apart and preferably attached to the opposite edge portion of the door as will hereinafter appear. Said standards are disposed in vertical positions with their upper ends turned over in inverted U-shape and with the rear terminals of the said U-shaped portions connected together by a longitudinal bar 3. The body portions of the said standards are likewise connected by horizontal bar 4 spaced from the bar 3 and parallel therewith and occupying the same horizontal plane. The bars 3 and 4 are riveted to the standards 1 and 2 as at 25 and are provided with longitudinal slots 26 and 27 which receive the opposite ends of the axle 28 of the track wheel 5. A hood 24 is located upon the upper edges of the bars 3 and 4 and is U-shaped in transverse section with its end

portions extending beneath the turned over ends of the standards 1 and 2.

The standards 1 and 2 are provided with the elongated slots 20 and 21 respectively through which the respective bolts 22 and 23 operate to clamp the standards to the door represented at 13. The bolts 22 and 23 are slightly smaller in diameter than the width of the slots 20 and 21 to provide for a limited amount of lateral movement between the bolts and slots in order that the door 3 may be adjusted from a strictly vertical position with relation to the said standards to a position at a slight angle thereto. The lower ends of the standards 1 and 2 are turned outward as at 11 and 12 and are perforated to receive the adjusting screws 18 and 19.

Attached to the door 13 beneath the standard 1 by a single bolt 29 is a bracket 14 having the upper end 16 turned outwardly and perforated to receive the adjusting screw 18, the latter being provided with a nut 30 which bears against the under side of the portion 16 of the bracket 14. Attached to the door 13 beneath the standard 2 by a single bolt 31 is a bracket 15 having its upper end turned outwardly and perforated to receive the adjusting screw 19, the latter having a nut 32 which bears against the under side of the portion 17 of the bracket 15.

Attached to the wall of a building or other object (portion of which is represented at 33 in the drawing) is a track 6 having a lateral offset 34 and a vertical web 35, the latter bearing against the structure 33 and being secured thereto at suitable intervals as by bolts 36 or like devices. The track is thus spaced away from the structure 33 so that the bar 3 and inner ends of the turned over portions of the standards will not strike the supporting structure when the door is open or at other times.

One of the standards, for illustration the standard 2, is provided with a second elongated slot in which the threaded and shouldered end 9 of a stud 8 is inserted and secured in position by a nut 10. One of the functions of the stud 8 is to prevent the hanger and door from having vertical movement which would permit the wheel 5 to leave the track 6 and it will be seen that the stud 8 may be adjusted vertically in the slot 7 to enable the wheel 5 to be lifted from the track 6 and released at any desired point,

thus avoiding the necessity for removing the door at the end of the track only.

By this simple arrangement it is obvious that the ends of the slotted carrier bars 3 and 4 are independently supported and also independently adjustable vertically to an extent sufficient to maintain the slots 26 and 27 in proper longitudinal position or with relation to the track 6. The slight degree of looseness of the bolts 22 and 23 in the slots 20 and 21 permit sufficient lateral movement to enable the parts to be adjusted as indicated without binding. It will also be observed that the door 3 may be adjusted with relation to the standards 1 and 2 by turning the nuts 30 and 32. By such means the door may not only be adjusted vertically but it may be positioned higher at one edge than at the other so as to fit snugly against an inclined or worn sill. By reason of the fact that the brackets 14 and 15 are each secured to the door 13 by means of a single bolt the said bracket may turn upon the said bolts in order to maintain proper alinement with the standards 1 and 2 during the adjustment of the door last above mentioned. When the door has been properly adjusted the nuts upon the bolts 22, 23, 29 and 31 are tightened up so that the weight of the door is not borne by the thread of the screws 18 and 19. Thus the said screws serve simply as adjusting means and are not subjected to strain incident to the weight of the door. Inasmuch as the outstanding portion 16 and 17 do not in any particular vertically overlap the portions 11 and 12 of the hangers and vice versa there are no overlapping projecting parts to interfere with the adjustment of the door as above indicated, the only connecting members between the said parts being the adjusting screws 18 and 19 and their attachments.

By reason of the fact that the stud 8 is mounted upon one of the standards only it is at all times out of vertical alinement with the center of the wheel 5 and as the said stud lies under the portion 34 of the track 6 the stud at times will engage the portion 34 of the track as the door and hanger is tilted upon the axle 28 of the wheel 5. This tilting movement occurs when the axle 28 passes from one side of the door to the other

and traverses or crosses the center of gravity thereof when the door is open or moved to an open position from a closed position. 55

In Fig. 1 it will be observed that the stud 8 is indicated as being below the outstanding portion of the track 6. In this position the door 13 is closed and the wheel 5 is nearer the standard 1 than the standard 2. In Fig. 2 the stud 8 is shown in engagement with the outstanding portion 34 which position can occur only when the door is tilted upon the axle 28, as for instance when the center of gravity of the door is between the said axle and the standard 1. This occurs when the door is open and the wheel 5 is nearer the standard 2 than the standard 1. The stud 8 is in no sense an antifrictional device as its functions are to prevent the wheel 5 from jumping the track 6 and also to engage the said track when the door is in an open position for the purpose of holding the door in such a position. When the door is closed or in the act of being closed the stud 8 is entirely out of engagement with the track 6. 60 65 70 75

Having described my invention, what I claim as new and desire to secure by Letters Patent is: 80

A door hanger comprising two standards spaced apart, horizontal bars connecting the upper ends of the standards together and fixing the same with relation to each other, a single track wheel having its axle bearing within alined slots provided in said bars between the standards, a track rail supporting said track wheel and a stud mounted upon one of the standards only and at all times being out of vertical alinement with the center of the wheel and lying under the track and being normally out of engagement with the same but which engages the track when the door is moved so that the axle of the wheel crosses a line lying in the vertical plane of the center of gravity of the door. 85 90 95

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

JOHN DORAN.

Witnesses:

ALBERT E. WILLARD,
RENA A. WILLARD.