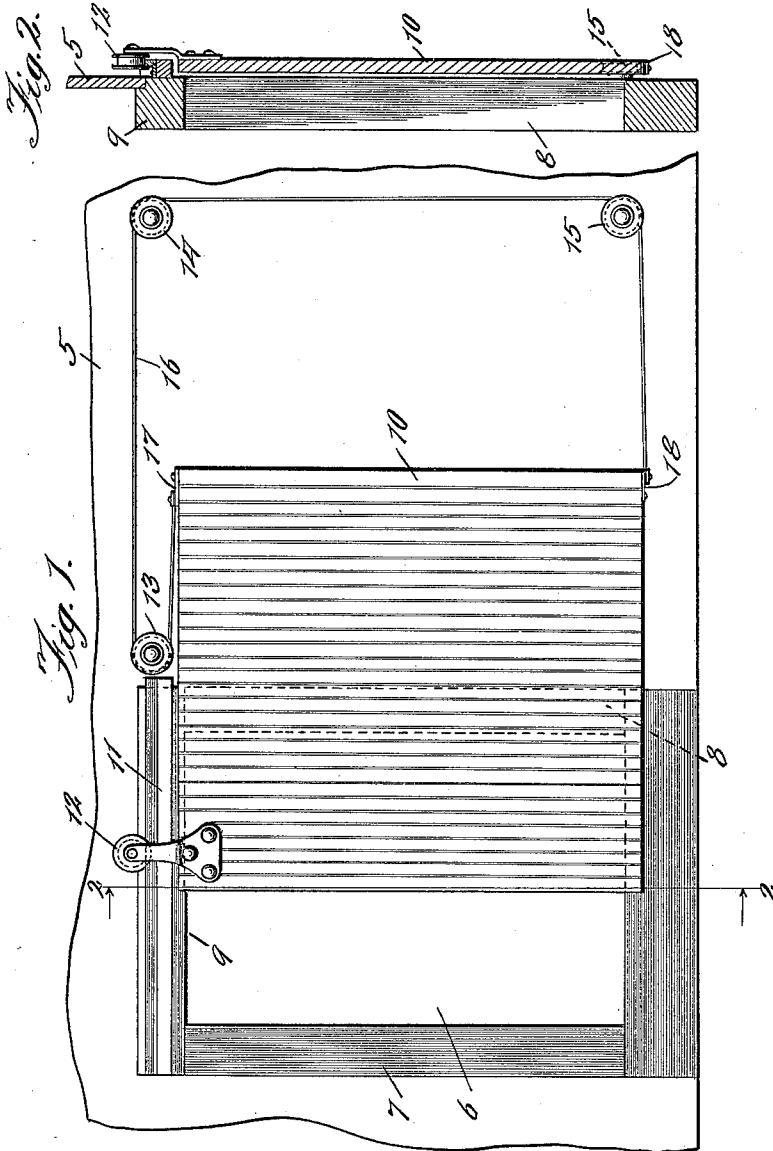


T. C. PROUTY.
 MEANS FOR SUSTAINING SLIDING DOORS.
 APPLICATION FILED FEB. 10, 1910.

1,008,989.

Patented Nov. 14, 1911.

2 SHEETS—SHEET 1.



Witnesses:

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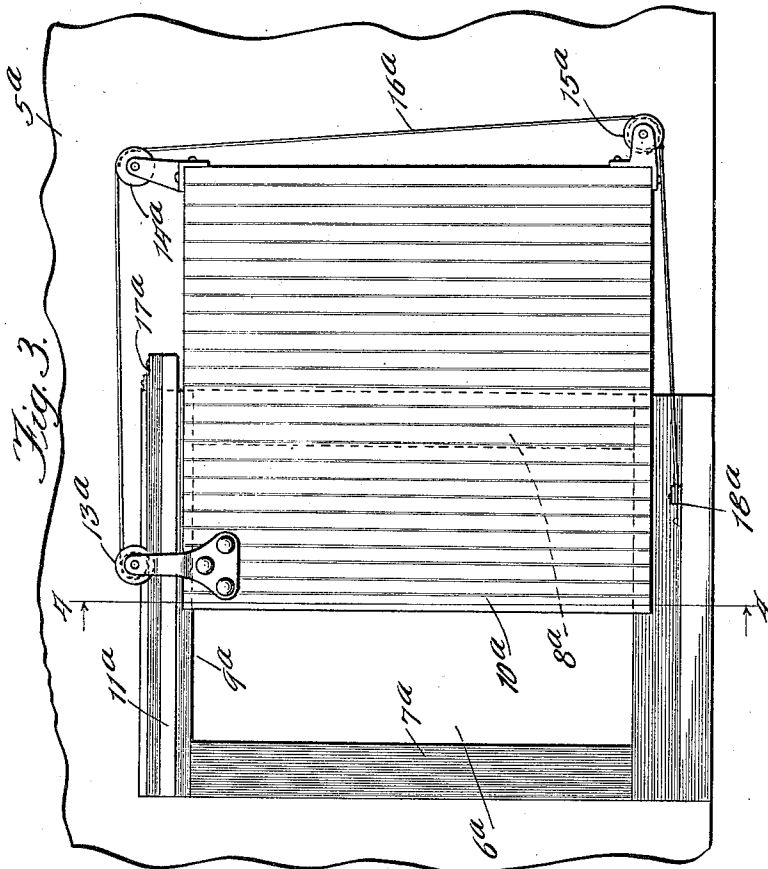
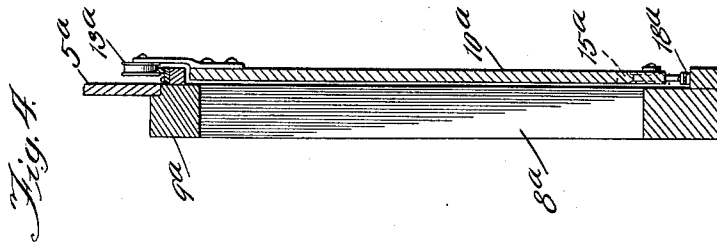
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2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THEODORE C. PROUTY, OF AURORA, ILLINOIS, ASSIGNOR TO RICHARDS-WILCOX MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

MEANS FOR SUSTAINING SLIDING DOORS.

1,008,989.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed February 10, 1910. Serial No. 543,182.

To all whom it may concern:

Be it known that I, THEODORE C. PROUTY, a citizen of the United States, residing at Aurora, in the county of Kane, State of Illinois, have invented certain new and useful Improvements in Means for Sustaining Sliding Doors, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to means for sustaining sliding doors, and particularly to that class of devices wherein the door is sustained in proper position by means of a flexible connection that is secured at a plurality of places, either to the door or to a fixed support, as the wall of a building, and is led over a plurality of pulleys that are secured to that one of the members,—viz., the door or the wall,—that the said connection is not secured to.

The object of the invention is to provide a novel, simple and effective construction and arrangement of the sustaining means, which object I accomplish as illustrated in the accompanying drawings and as herein-after specifically described.

That which I believe to be new will be set forth in the claims.

In the drawings:—Figure 1 is a side elevation of an ordinary sliding door to which is applied my improved sustaining devices, a portion of a building wall being also shown in which is the doorway that the door closes. Fig. 2 is a vertical section taken at line 2—2 of Fig. 1. Fig. 3 is a view similar to Fig. 1 but illustrating a modification in the arrangement of the sustaining means. Fig. 4 is a vertical section taken at line 4—4 of Fig. 2.

The constructions shown are particularly applicable in connection with doors designed for outdoor use and the like, or for closing doorways in interior walls of buildings where the door when drawn back to uncover the doorway will lie alongside of such wall, or, in other words, it is especially designed for situations wherein the door is not drawn back into a "pocket" when opened, as is generally the case in connection with what are known in the trade as "parlor doors." However, I do not wish to be understood as restricting or limiting the invention to any particular class of doors,

but only as specifying wherein, in my opinion, is the greatest field of usefulness for this invention.

Referring now to the construction illustrated in Figs. 1 and 2,—5 indicates a portion of a wall of a building, in which is a doorway 6, the uprights forming the sides thereof being indicated by 7 and 8, respectively, the part 8 being represented in Fig. 1 by dotted lines. The top beam of the doorway frame is indicated by 9. 10 indicates an ordinary sliding door adapted to close the doorway 6. 11 indicates a track attached to the overhead beam 9, in the form of construction shown, upon which runs a single guide wheel 12 journaled in an ordinary bracket that is bolted to the door. This wheel 12 compels the door to move always in a straight line. 13, 14 and 15 indicate three pulleys suitably journaled in place upon the wall 5. As shown, the pulley 13 is located near the upper end of the doorway 6 adjacent to the side piece 8 of the doorway frame; the pulley 14 is located at a distance away from the pulley 13, such distance being about equal to the width of the door, and the pulley 15 is located beneath the pulley 14 and near the line of travel of the lower edge of the door. Thus arranged, the pulleys are as though set at the angles of a triangle and hence may, for brevity, be said to be placed in triangular relation to each other. 16 indicates a flexible connection secured at its upper end to the upper edge of the door near the rear thereof, from which it is led under and around the pulley 13, back over the pulley 14, down and around the pulley 15, and forward to the door to which it is secured at a point on said door immediately forward of said pulley 15. The flexible connection is best made in the form of a ribbon like band of steel and to insure perfect running of the same over the pulleys I have found it very important that the ends of the band be attached in place pivotally, as thereby any tendency of the band to buckle or bend sideways is counteracted. I therefore have shown the ends connected to small plates 17 and 18 that are pivoted respectively to the upper and lower edges of the door. Such means for securing the ends are not however any part of the present invention but are claimed in another application, Serial No.

543,180, filed herewith by me. So also, in its broadest aspect, the arranging in the plane of the door of a sustaining mechanism comprising pulleys and a flexible connection is claimed in my said other application. With the flexible connection secured as shown to a door, the door will be sustained at all times in perfect position whether opened or closed, and can be moved back and forth with the expenditure of but very little force, and as but one wheel is necessary for running upon the track-rail there is far less frictional resistance and less liability of sticking and binding than where a door is wholly dependent upon a plurality of wheels for its support and guidance, as is now very largely the case. It is obvious that the same secure support by means of a flexible connection and pulleys can be had if such connections and pulleys are reversely arranged,—that is, if the ends of the said connection are suitably secured to the fixed member,—viz., the building wall,—and the pulleys are carried by the movable member,—viz., the sliding door. This reversed condition is illustrated in Figs. 3 and 4, where the parts that correspond to the parts that are shown in Figs. 1 and 2 are indicated by the same reference numerals but with the addition to each numeral of the letter "a." In this modified construction I am able to dispense with the separate wheel 12 of the other construction, as I make one wheel or pulley,—the one indicated by 13^a,—perform the functions of those parts indicated by 12 and 13 in Figs. 1 and 2. In this modification, it will be noted that there is always a part of the flexible connection lying between the pulley 13^a and the track-rail, and that as the door is moved in one direction a considerable portion of the flexible connection is laid upon the track-rail by the action of said pulley 13^a. In its broadest aspect, however, this feature forms no part of my present invention, as it is claimed broadly in my other application hereinbefore referred to. It is

here claimed only in connection with the peculiar arrangement of pulleys shown and described.

In another application filed by me, viz., Serial No. 543,183, is illustrated and described another effective arrangement of pulleys and a flexible connection passing thereover by means of which a door may be slidably supported.

What I claim as my invention and desire to secure by Letters Patent is,—

1. The combination with a reciprocable member and a fixed member, of three pulleys arranged in triangular relation to each other and mounted on one of said members, a flexible connection passing around said pulleys, means for attaching said connection at two points to the other member, and a guiding device for compelling said reciprocable member to move in a straight line.

2. The combination with a reciprocable member and a fixed member, of three pulleys arranged in triangular relation to each other and mounted on one of said members and arranged in the plane of said reciprocable member, a flexible connection passing around said pulleys, means for attaching said connection at two points to the other member, and a guiding device for compelling said reciprocable member to move in a straight line.

3. The combination with a reciprocable member and a fixed member, of three pulleys carried by the reciprocable member and arranged in triangular relation to each other, a flexible connection passing around said pulleys, means for attaching said connection at two points to the fixed member, and a track-rail over which one of said pulleys travels with a portion of the flexible connection laid thereon by the action of said last-named pulley.

THEODORE C. PROUTY.

Witnesses:

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