T. C. PROUTY.

MEANS FOR SUSTAINING SLIDING DOORS.

APPLICATION FILED FEB. 10, 1910.

1,008,990. **Patented Nov. 14, 1911.**

2 SHEETS—SHEET 1.

Fig. 2.

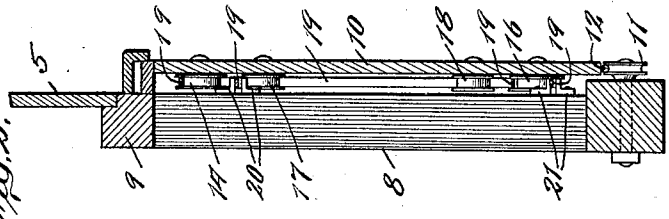
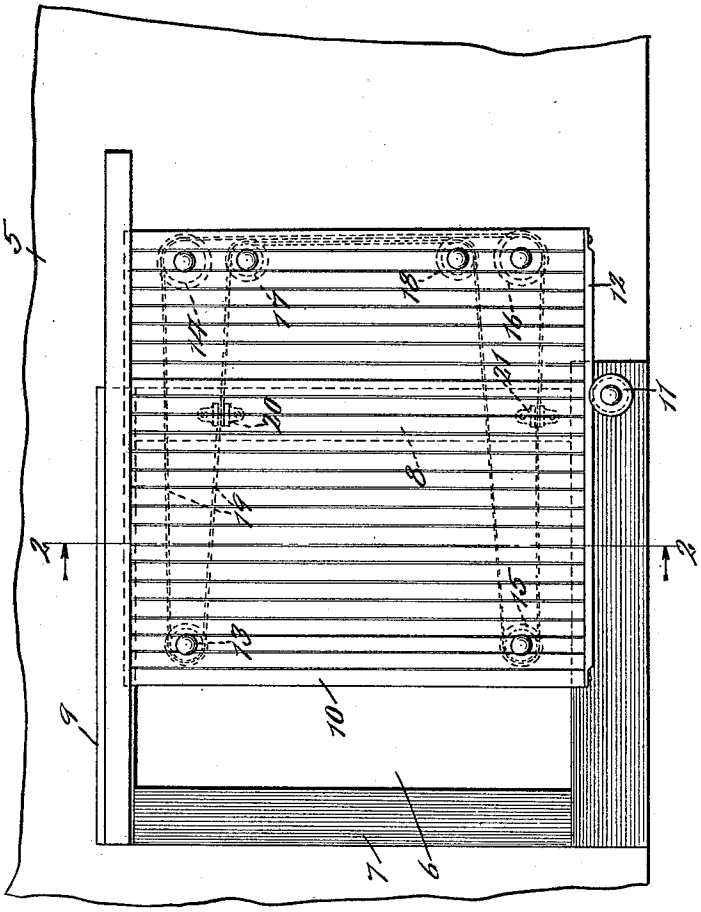


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 4.

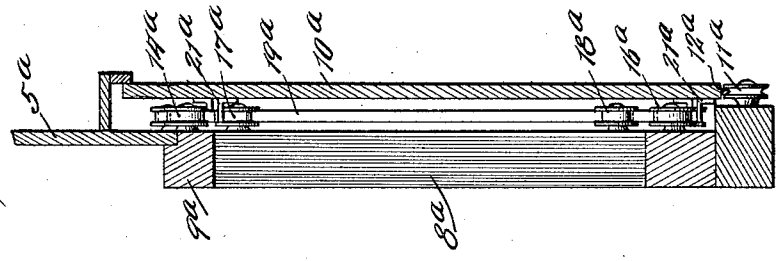
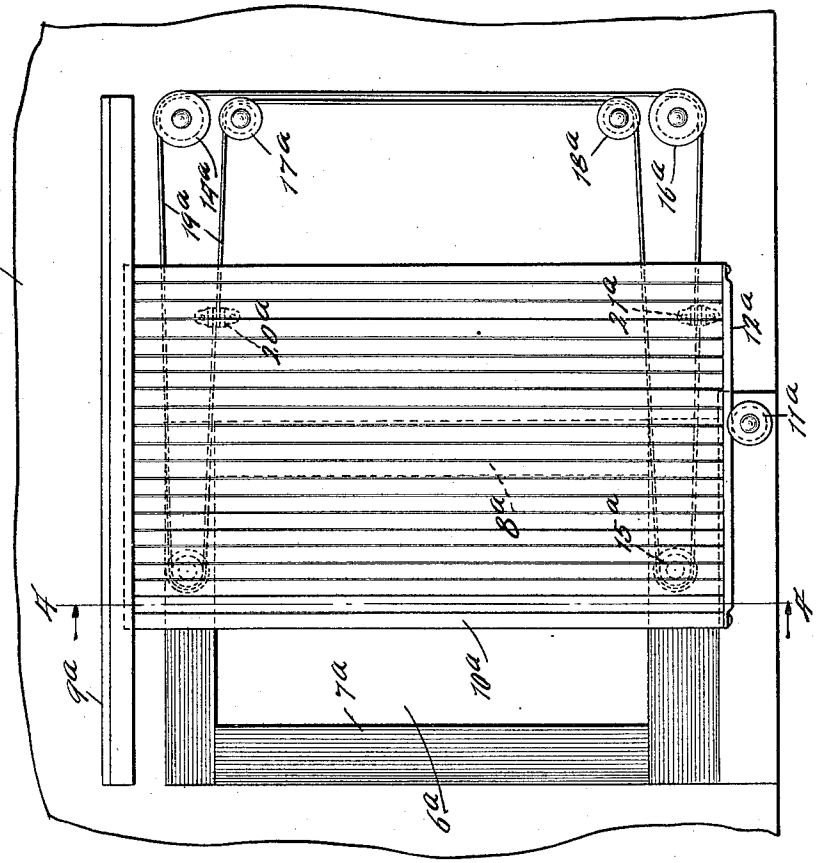


Fig. 3.



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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.

1,008,990. Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed February 10, 1910. Serial No. 543,183.

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 and 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 tightly stretched flexible connection that passes over a plurality of pulleys and moves thereover as the door is moved to open and close a doorway.

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

That which I believe to be new will be pointed out 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 designed to be closed by said door; 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 modified form of construction; and Fig. 4 is a vertical cross-section taken at line 4—4 of Fig. 3.

In the drawings the door shown is one particularly designed for out door 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 particularly designed for situations wherein the door is not drawn back into a "pocket" when opened. I do not wish to restrict the use of the invention in this manner, however, as it of course might be employed in connection with doors other than those of the character for which it is, as stated, especially adapted.

Referring to the construction shown in Figs. 1 and 2,—5 indicates a wall of a building, in which is a doorway 6, the uprights forming the sides thereof being indicated by 7 and 8, respectively, and the top beam thereof by 9. 10 indicates a sliding door of ordinary construction and adapted to close the said doorway 6. The door is shown as partially open, and as the sustaining devices are located on the side opposite to that side of the door that is shown in Fig. 1, they are indicated in that figure by dotted lines. 11 indicates a roller on which the door rests and is guided, a suitable rail 12 being secured to the lower edge of the door as shown. 13 and 14 indicate two pulleys rotatably mounted on one face of the door 10 and located a short distance from the upper edge of the door, the pulley 13 being located near the forward edge of the door and the other one near the rear edge. 15 and 16 represent two other pulleys that are located respectively near the forward and rear lower corners of the door. 17 and 18 represent two more pulleys, 17 being located adjacent to the pulley 14 and lower down on the door than pulley 14, and 18 being located adjacent to the pulley 16 and higher up than said pulley 16. 19 indicates a flexible connection, best made of a ribbon-like steel strip. This connection is made fast at a point about midway between its ends to one of two suitable clamps 20 and 21 secured to one of the uprights or sides of the doorway frame and near the opposite ends of such upright or side. Assuming that the flexible connection is secured at about its center to the clamp 20, for example, one end will be led toward the front of the door and passed around the pulley 13, thence back and over the pulley 14 down to and under the pulley 16 to the other clamp 21; the other half of the connection will be lead from the said clamp 20 toward the rear of the door, over the pulley 17, thence down and under the pulley 18 to the pulley 15, over which it is conducted, and from there it is carried back, and, with the first-mentioned end of the connection, is secured in place by the clamp 21. This flexible connection 19 will of course be stretched very tightly before its ends are secured by the clamp, and before being so secured the door is to be rocked or turned on its guide-wheel 11, as on a pivot, to bring it into the exact position required for it to move in a horizontal plane. The door being properly positioned and the ends of the connection being secured by the clamp it will be found that the door will be so perfectly supported that it can be moved back

and forth very easily and with practically all danger of sticking or binding eliminated. If at any time for any cause the door sags so as not to run perfectly true, or if through settling of the building the frame of the doorway should yield or give so as to interfere with the proper running of the door, a readjustment of the door so as to bring it again into proper relation with the fixed wall or framework can be readily made by loosening that clamp that holds the ends of the flexible connection, and then by a pull on one end or the other of the connection causing the door to be turned on the wheel 11 as before described, after which the ends are to be again secured.

It is obvious that the same secure support by means of a flexible connection can be provided if instead of the pulleys around which the said connection passes being carried by the door and the clamps being secured to the fixed member,—that is, the building wall or the doorway-frame portion thereof,—the conditions are reversed so that the said pulleys are on the fixed member while the clamps are carried by the movable member, or door. This is made plain by Figs. 3 and 4 where such reversal of parts is shown. The parts in Figs. 3 and 4 that correspond to the parts that are shown in Figs. 1 and 2 are indicated by the same reference characters with the addition however to each of the letter "a", and as they are exactly the same in construction as the construction described in detail, it is not believed that any further description is required.

In another application filed by me, viz., Serial No. 543,182, is illustrated and described another effective arrangement of pulleys and a flexible connection passing thereover by means of which a door may be slidingly supported.

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

1. In a device of the class described, the combination with a reciprocatable member and a fixed member, of a flexible connection, means for securing it to one of said members at a plurality of places, a plurality of pulleys carried by the other one of said members and around which said flexible connection passes, there being a greater number of pulleys at one side of the said securing means than at the other side thereof, and a guide for the reciprocatable member.

2. In a device of the class described, the combination with a reciprocatable member and a fixed member, of a flexible connection, means for securing it to one face of the fixed member at points above and below the horizontal center of the reciprocatable member, a plurality of pulleys mounted on the reciprocatable member and around which said flexible connection passes, there being a greater number of pulleys at one side of the said securing means than at the other side thereof, and a guide for the reciprocatable member.

3. In a device of the class described, the combination with a reciprocatable member and a fixed member, of a flexible connection, means for securing it at a plurality of points to said fixed member, four pulleys on one face of the reciprocatable member, one of such pulleys being located adjacent to each corner thereof, two other pulleys located respectively adjacent to two of said first-mentioned pulleys, said flexible connection being guided by all of said pulleys, and a guide for the reciprocatable member.

THEODORE C. PROUTY.

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