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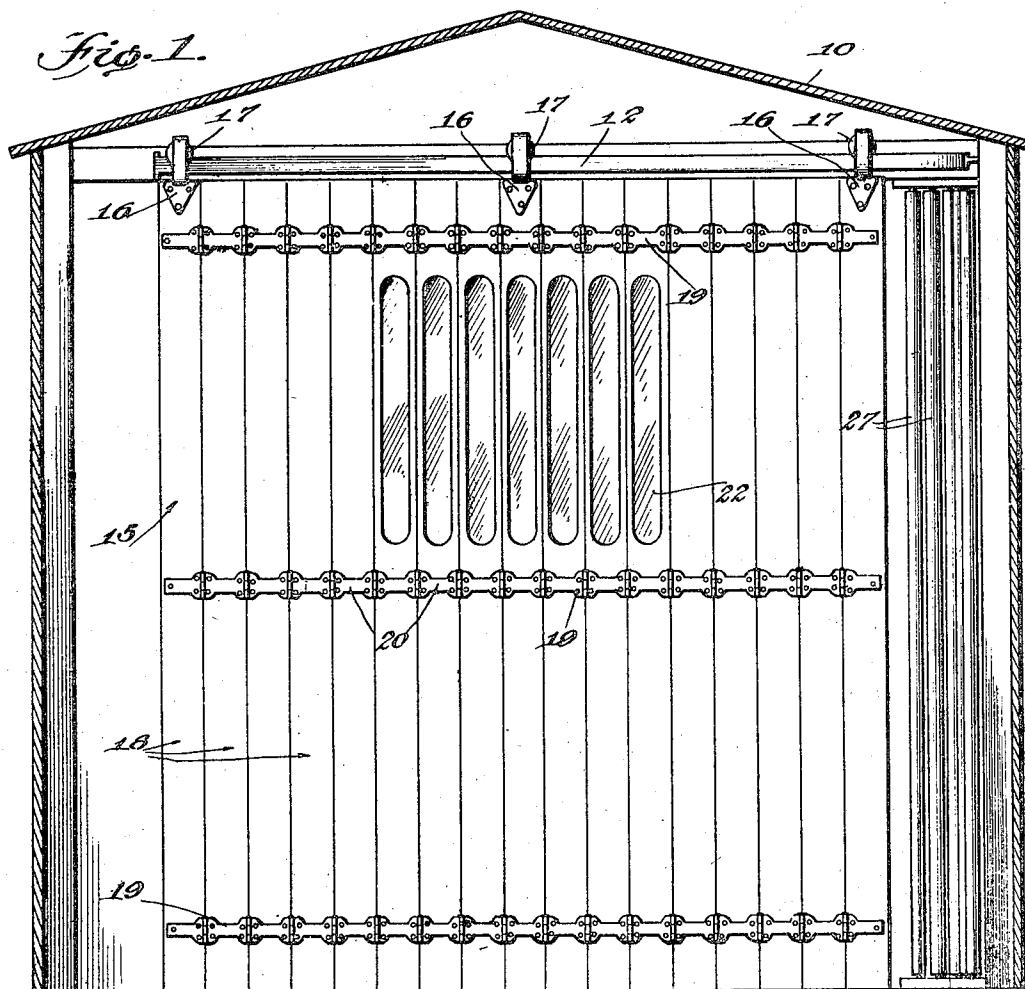
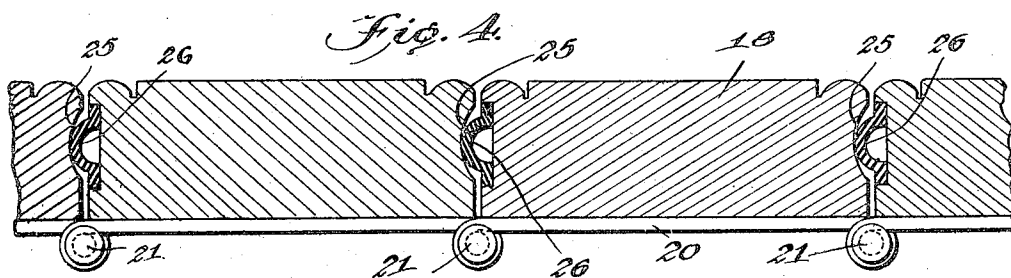
1,697,772

J. A. LEWIS

SLIDING DOOR

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2 Sheets-Sheet 1



WITNESSES

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SLIDING DOOR.

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My present invention relates generally to garage and other doors usually of a large bulky nature, and more particularly to sliding doors, my primary object being the provision of a simple inexpensive construction which will be strong and durable and which may be readily shifted on a turn having a relatively short radius between a closed position across a door-way and in open position at right angles to the door-way, as well as one which will thus be housed within the garage or other building in connection with which it is used, when the door is in open position.

A still further object is to so connect the several relatively movable sections of the flexible sliding door of my invention as to mutually brace and strengthen the sections, and to provide means whereby to insure against leakage between the door sections when the door is closed.

In the accompanying drawing which illustrates my present invention, and forms a part of this specification:—

Figure 1 is a sectional view taken through a garage or other building equipped with my improved door, looking at the inner side of the latter in the closed position.

Figure 2 is a horizontal section taken through a portion of a garage building with the door in closed position, showing the guide rail upon which the door is movable to open position.

Figure 3 is an enlarged horizontal section through a portion of the garage and the door thereof showing the latter shifted to partly open position, and,

Figure 4 is an enlarged horizontal section through a portion of the door showing the parts in the position they will assume when the door is closed.

Referring now to these figures, and particularly to Figs. 1 and 2, I have generally shown at 10, a building which may be a garage or of any other suitable nature, having across its door-way 11, a door guiding rail 12, which extends by virtue of a curved portion 12 at one corner of the garage along one inner side of the building as at 14, in order to provide for the movement of the door between open and closed positions, in the latter of which it extends across the door-way as illustrated in Figs. 1 and 2 and in the former of which positions it extends along the inner portion of one side of the building 10 upon the portion 14 of the guide rail 12.

The door as a whole is supported from the

guide rail by virtue of hangers 16 at spaced points along the upper edge of the door, each hanger having a roller 17 engaging the guide rail or track, but it is to the particular construction of the door that my invention resides for the most part, especially the construction of the door of a plurality of vertically disposed relatively narrow sections or strips 18 flexibly united to one another by virtue of vertically spaced hinge connections as at 19. Each of these hinge connections includes alined series of hinge straps 20, flexibly joined by their pintles 21 at the adjoining side edges of the door sections or strips 18, each of the hinge straps extending entirely across, and being securely connected to, its respective door section or strip so that the several door sections or strips are in this way braced and reinforced to insure a long and useful life, as well as to provide for the easy replacement of the sections or strips in case they become worn or broken.

Of course it is essential to convenient manipulation of a door, especially with respect to its sliding movement along the curved portion 13 of the guide rail, that the door sections or strips 18 be sufficiently narrow to lend themselves readily to the required curvature of the door as a whole, but on the other hand, the several door sections or strips may in practice be made of sufficient width to justify the use of windows 22 in such door sections or strips, and in a number varying in accordance with the needs.

My invention further proposes the employment of a flexible door having its sections or strips 18 provided with means adapted to avoid leakage between the strips or sections when the door is closed and to this end I purpose that the several door sections or strips be provided along their side edges with longitudinally coacting grooves and ribs which will come into relatively engaged relation when the door is straightened out in the closed position as will be seen by reference to Figs. 3 and 4.

In Fig. 3 each of the door sections or strips 18 has along one side edge a groove 23 and is provided along its other side edge with an integral rounded rib 24 of the same general shape as its complimentary groove 23, so as to enter the groove in the next adjacent strip, as particularly seen at the left of the figure. In Fig. 4 I have shown the sections or strips 18 provided with side grooves 25 at one side and with angular grooves 25^a formed in their

opposite side edges to receive elastic members 26 for movement into the grooves 25 when the door straightens out in the closed position. These elastic ribs 26 are U-shaped in cross section with out-turned flanges 26^a which fit in the seats 25^a with the open portion of the rib facing inward providing for a firm contact between the side edges of the strips or door sections so as to positively act to prevent movement of air between the door sections or strips when the door is closed.

I may also utilize a series of vertical guide rollers 27 as shown in Figs. 1, 2 and 3 in one corner of the building 10 along a curved line corresponding to and at one side of the curved portion 13 of the guide rail, so as to cooperate with the latter in guiding the door as it is moved between open and closed positions, and it becomes obvious from the foregoing description that my invention provides a sliding door well adapted to the carrying out of the objects first above stated, as well as one

which will be economical, adapted to ready repair and substitution of parts, and also one which will be economical in the first instance and durable in use.

I claim:—

A sliding door of the class described including a plurality of sections or strips flexibly united with their longitudinal edges adjacent one another, each of said strips having grooves in its opposite edges, one of said grooves being angular in cross section and the other arcuate, and an elastic rib member having flanges fitted in the angular groove, the body portion of said rib being made U-shaped in cross section forming a yieldable bulge projecting beyond the edge face of the strip on which it is mounted and entering the arcuate groove of the adjacent section whereby an air tight joint is formed on the closing of the sections.

JAMES A. LEWIS.