A. H. NEWPHER.

DOOR.

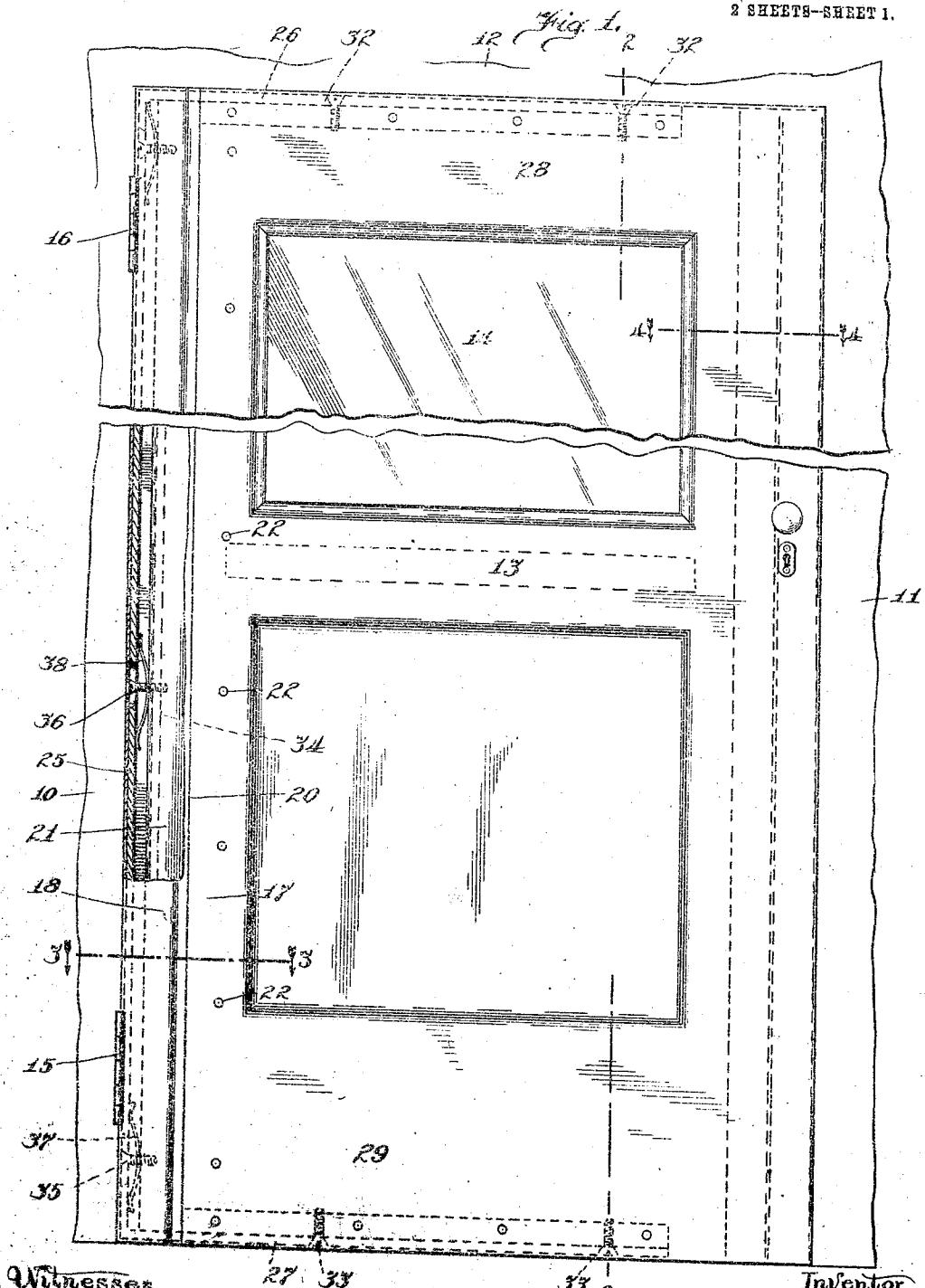
APPLICATION FILED APR. 3, 1911.

1,073,160.

Patented Sept. 16, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

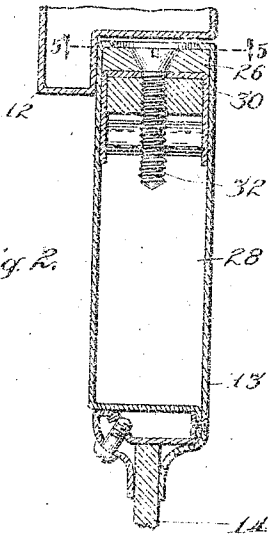
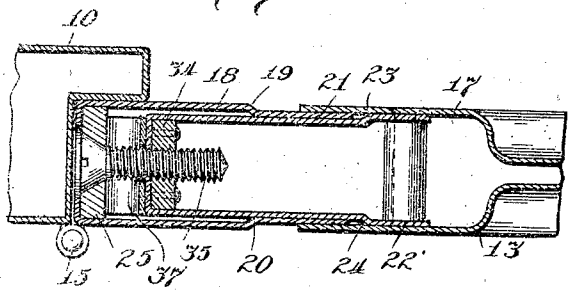


Fig. 3.



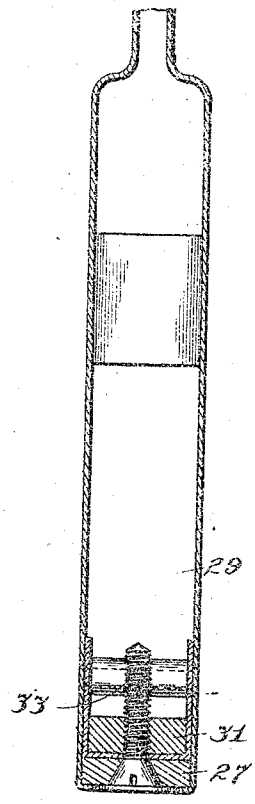


Fig. 4.

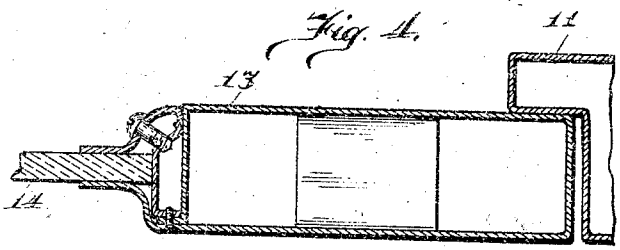
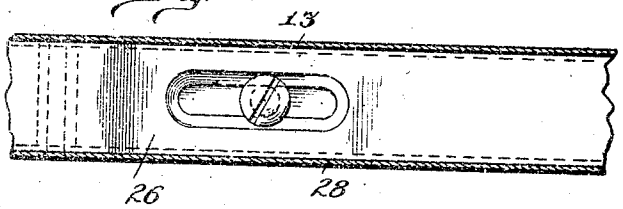


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALFRED H. NEWPHER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, A CORPORATION OF ILLINOIS.

DOOR.

1,073,160. Specification of Letters Patent. Patented Sept. 16, 1913.

Application filed April 3, 1911. Serial No. 618,753.

To all whom it may concern:

Be it known that I, ALFRED H. NEWPHER, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Doors, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to doors for buildings, and is especially adapted for metal doors such as are used in car construction. In this class of work difficulty is encountered in securing a perfect fit of the door and its casing. It is the practice to adjust doors of any character to the door opening after the framing has been put in place, and while no serious difficulty is encountered in properly fitting a door made of wood great difficulty is encountered in properly fitting a metal door.

The object of this invention is to provide for the adjustment of the door laterally, though obviously it might be applied for the purpose of vertical adjustment.

Broadly, the invention consists in a door comprising a plurality of telescoping sections, with means for relatively moving adjacent sections.

More specifically, it consists in a door having one of its rails divided, the two sections being secured together in such manner that they may be relatively adjusted either for the purpose of varying the width of the door throughout its entire extent, or for giving it slight variations in width from end to end for the purpose of adapting it to a casing which is slightly out of true.

The invention consists in further details of construction all as hereinafter described, and as shown in the accompanying drawings, in which—

Figure 1 is a detail elevation, partly in section, of a door casing and door; Fig. 2 is a sectional detail on the line 2—2 of Fig. 1; Fig. 3 is a sectional detail on the line 3—3 of Fig. 1; Fig. 4 is a sectional detail on the line 4—4 of Fig. 1 and Fig. 5 is a detail plan view of the door.

The jambs of the door casing are represented at 10, 11, and its lintel at 12.

The door, generally represented by the numeral 13, is shown as comprising a framework of sheet metal, with suitable panels which may be of glass, as shown at 14. The door is shown as attached to the jamb 10 by means of hinges, as 15, 16. The hinge stile of the door comprises a sheet metal shell 17, extending outwardly from the panel and consisting of a pair of side plates, the outer ends of which are spaced apart to receive an adjustable sheet metal section 18, generally U-shaped in cross-section, and to which the hinges are attached. The side plates of the member 18 are offset inwardly, as shown at 19, 20, to permit them to slidingly fit between the side plates of the shell 17.

A tenon 21, formed of sheet metal bent to U shape, is secured between the side plates of the shell 17, as by means of rivets 22. The side walls of this tenon are offset inwardly, as shown at 23, 24, to fit between and slidingly engage the inner surfaces of the offset portions of the side plates of the stile section 18, thus providing space between the sides of the tenon and the outer portions of the side walls of the shell 17 between which the inner portions of the side plates of the stile section 18 may enter. A flat bar 25 is fitted within the stile section 18 lying against the inner face of its cross-member. This bar is continuous throughout the entire length of the door, and also projects laterally across or partially across its top and bottom, as indicated by dotted lines, as shown at 26, 27. These lateral extensions of the bar 25 are housed within the cross-bars 28, 29, within which there are fixed cross-bars 30, 31 for receiving securing screws 32, 33, which pass through the lateral extensions 26, 27.

A bar 34 is secured within and at the outer edge of the tenon 21 for receiving screw-bolts 35, 36, as many being used as the judgment of the builder may dictate, these screw-bolts entering through the outer edge of the stile section 18 and passing through the bar 25. Expansion springs 37, 38, are interposed between the bar 25 and the outer edge of the tenon 21 for the purpose of urging these elements apart, thus permitting the expansion of the stile as the screws 35, 36, are turned back and preventing any rattling of the parts. By turning the screws 35, 36, by means of a screw-driver the width of the door may be varied either uniformly or otherwise, as may be required to properly fit it to the casing. The screws 32, 33, set through longitudinal slots in the bar exten-

sions 26, 27, and are loosened slightly preliminary to effecting the adjustment by means of the screws 35, 36.

The telescopic engagement of the two sections of the stile provides a neat joint and gives the door a finished appearance. Adjustments are, of course, seldom required, usually in metallic structures the original fitting being the only change that is ever required. The door may, therefore, be painted after the adjustment is made, and as the parts are firmly secured against accidental movement the paint remains intact and the door has the appearance of a permanent structure.

I claim as my invention—

1. In a door, in combination, top and bottom rails having longitudinal channels, a side rail comprising a plurality of sheet metal sections U-shaped in cross-section, the side plates of one section fitting between and slidingly engaging the side plates of the other section, rigid bars slidingly engaging the channels of the top and bottom rails, each bar having a lateral extension fitting within the outer section of the side rail, and means for adjustably securing the two sections of the side rail together.

2. In a door, in combination, top and bottom rails having longitudinal channels, a side rail comprising a plurality of sheet metal sections U-shaped in cross-section, the side plates of one section fitting between and slidingly engaging the side plates of the other section, a rigid bar fitted within and extending throughout the length of the outer section of the side rail and having laterally extending arms slidingly engaging the channels in the top and bottom rails of the door, and means for adjustably securing the two sections of the side rail together.

3. In a door, in combination, a sectional stile formed of sheet metal and comprising a shell open at its outer edge, a tenon secured within the shell and extending beyond the outer edge thereof, a stile section U-shaped in cross-section and telescopically receiving the tenon, and means for adjustably securing the stile section to the tenon.

4. In a door, in combination, a sectional stile formed of sheet metal and comprising a shell open at its outer edge, a tenon secured within the shell and extending beyond the outer edge thereof, a stile section U-shaped in cross-section and telescopically receiving the tenon, and means for adjustably securing the stile section to the tenon, the inner edges of the side plates of the stile section fitting between the side plates of the shell and the tenon.

5. In a door, in combination, a sectional stile formed of sheet metal and comprising a shell open at its outer edge, a tenon secured within the shell and extending beyond the outer edge thereof, a stile section U-shaped in cross-section and telescopically receiving the tenon, and screw-bolts setting loosely through the edge face of the stile section and being in threaded engagement with the tenon.

6. In a door, in combination, a sectional stile formed of sheet metal and comprising a shell open at its outer edge, a tenon secured within the shell and extending beyond the outer edge thereof, a stile section U-shaped in cross-section and telescopically receiving the tenon, screw-bolts setting loosely through the edge face of the stile section and being in threaded engagement with the tenon, and expansion springs reacting between the end of the tenon and the edge wall of the stile section.

7. In a door, in combination, a sectional stile formed of sheet metal and comprising a shell open at its outer edge, a tenon secured within the shell and extending beyond the outer edge thereof, a stile section U-shaped in cross-section and telescopically receiving the tenon, means for adjustably securing the stile section to the tenon, and bars extending laterally from the stile section across the top and bottom of the door, and means for securing such bars in their adjusted position.

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