

No. 715,373.

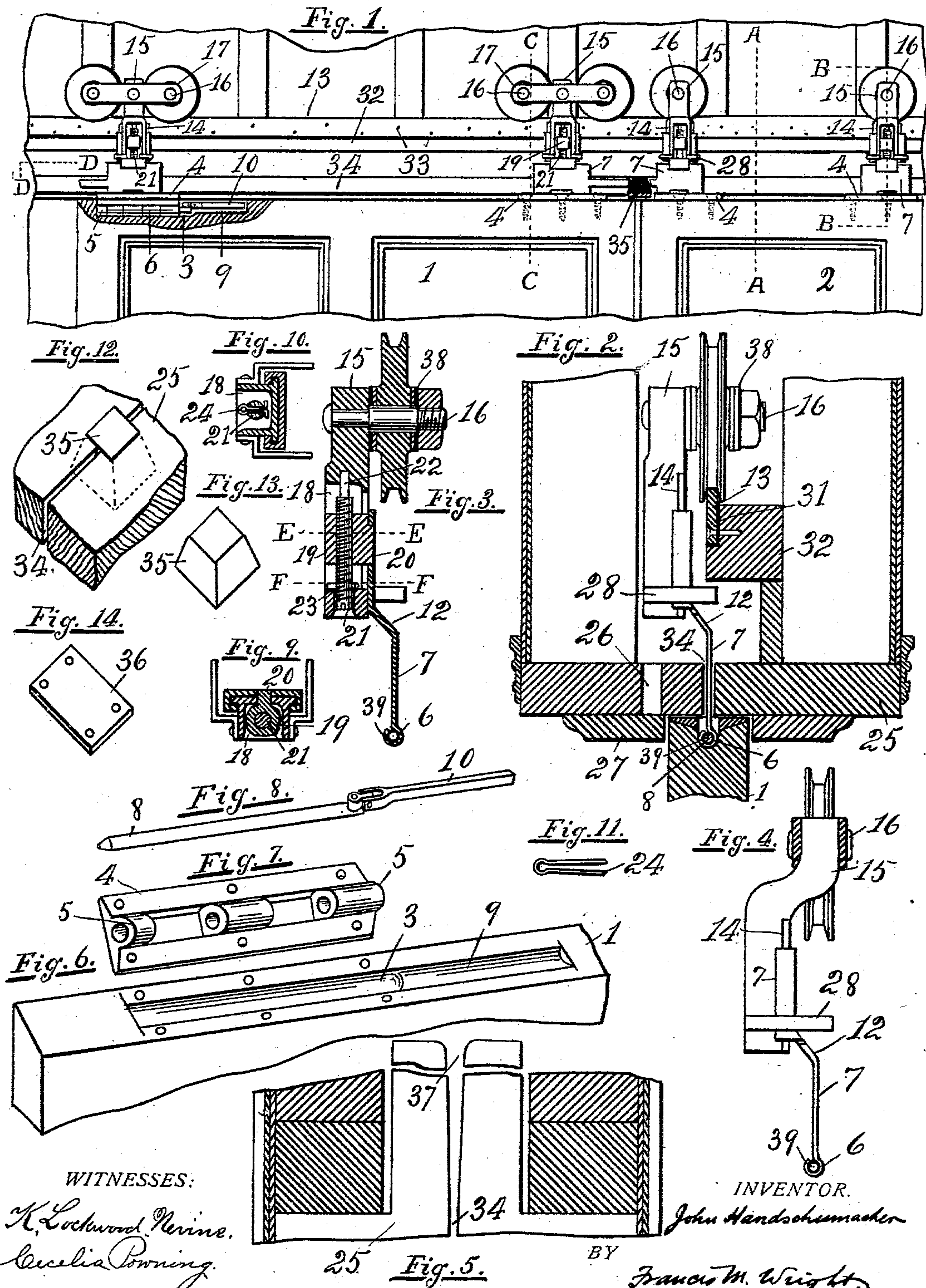
Patented Dec. 9, 1902.

J. HANDSCHUMACHER.

DOOR HANGER.

(Application filed Dec. 24, 1901.)

(No Model.)



WITNESSES:

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DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 715,373, dated December 9, 1902.

Application filed December 24, 1901. Serial No. 87,128. (No model.)

To all whom it may concern:

Be it known that I, JOHN HANDSCHUMACHER, a subject of the Emperor of Austria-Hungary, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification.

My invention relates to improvements in hangers for sliding doors, one object of my invention being to provide an apparatus of this character so constructed and which can be so connected to the door as to require a very narrow slot in the header or upper jamb of the door, in which said hanger moves, thereby to a much greater extent excluding dust and drafts and also providing a much neater and more attractive finish to the door than has been possible with hangers requiring a wide slot in which to move.

A further object of the invention is to provide an apparatus of this character which can be assembled and put in place with the least possible expenditure of labor and time and also without having to remove parts of the side jambs of the door for that purpose.

A further object of the invention is to provide improved means for reducing the noises made by the movement and stoppage of the door.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends, hereinafter fully specified and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a pair of doors equipped with my improved hangers, certain parts of the casing of the door being broken away to show the construction. Fig. 2 is an enlarged cross-section on the line A A of Fig. 1. Fig. 3 is a cross-section on the line B B of Fig. 1. Fig. 4 is a cross-section on the line C C of Fig. 1. Fig. 5 is a horizontal section on the line D D of Fig. 1. Fig. 6 is a perspective view of the upper edge of the door, showing the groove or trough therein, the hinge member attached to said door being removed. Fig. 7 is a perspective view of the under side of said hinge member detached. Fig. 8 is a perspective view of the hinge-pintle and the key thereof detached. Fig. 9 is a cross-section on the

line E E of Fig. 3. Fig. 10 is a cross-section on the line F F of Fig. 3. Fig. 11 is a detail of the pin for limiting the movement of the screw. Fig. 12 is a broken perspective view of a portion of the jamb-header, showing the rubber block therein. Fig. 13 is a perspective view of the rubber block detached. Fig. 14 is a perspective view of the plate for supporting the rubber block in place detached.

Referring to the drawings, it will be seen that 1 2 represent sliding doors, and I have for the purpose of illustration shown the door 1 on the left as a double-paneled door and the door 2 on the right as a single-paneled door. The hangers for suspending the double-paneled door 1 each require a pair of rollers, while for the single-paneled door only a single roller is necessary to support the hangers; otherwise the construction of the hanger for each door will be the same and the description of one will suffice for the other.

The upper edge of the door is formed at each end with a groove or trough 3, in which is secured a plate 4, having formed on its under side pintle-knuckles 5, constituting a hinge member. Said hinge member extends downward into said groove, as clearly shown in Fig. 2. It is formed with openings between said knuckles 5 wherein lie the knuckles 6 of the lower edge of the plate 7, which forms the lower section of the hanger, which knuckles 6 constitute the other member of the hinge and may be seated in alinement with said knuckles 5, the two members being connected by a pintle 8, whereby the door is pivotally secured to the hanger to have lateral movement. Said pintle 8 is inserted through said knuckles by being first laid in an extension 9 of the groove 3 of less depth than the groove proper, so that the point of the pintle is in line with the eyes of the knuckles, and is then pushed forward by means of a key 10, hinged, as shown at 11, to said pintle. In this operation the key extends outward or transversely to the door, so as to permit of its being grasped by the fingers, thus permitting the pintle to be inserted. After the pintle has been pushed into place the key will be swung back into the extension 9 of the groove and will lie in said extension and by its position therein will prevent accidental removal of the pintle. When it is desired to remove

the pintle to separate the door from the hangers, the key can be readily fished out of the extension, and by means thereof the pintle can be drawn out of the hinge members.

5 The lower hinge-section comprises a plate 7, of sheet metal, bent inward in the middle, as shown at 12, so that the lower portion thereof is substantially in the same vertical plane as the rail 13, upon which the rollers
10 travel, while the upper portion is outside of said plane and has its sides bent around to engage flanges 14, formed upon the upper hanger-section 15, and thus guide said lower section upon the upper section. Said upper
15 hanger-section when suspended from a single roller carries the axle 16 itself of said roller, while when suspended from a double roller it carries the beam 17, in which are secured the axles 16 of said rollers. Said up-
20 per section has a central cavity 18, in which slides a nut 19, secured, as shown at 20, to the lower hanger-section, and through said nut is screwed a screw 21, said screw rotating in upper and lower bearings 22 23 in said
25 section 15, so that by the rotation of said screw the nut may be raised or lowered. The screw is held up in the upper hanger-section by means of a split pin 24, which is passed through said screw and the ends thereof bent
30 around, as shown in Fig. 10. Thus by turning said screw the relative position of the upper and lower hanger-sections may be adjusted to raise or lower the door, as may be
35 desired. In order to provide access to said screws for this purpose, the jamb-header 25 is apertured, as shown at 26, through which aperture a screw-driver can be inserted to engage the screw, said aperture being after-
40 ward covered by the finishing-stop 27. The upper hanger-section is provided with the stops 28, limiting the upper movement of said section, and thus preventing the rollers jump-
45 ing the rail. Said rollers roll upon a track-rail 13, made of a strip of hard wood let into a rabbet 31 in a track-support 32 and secured by nails, as shown at 33, therein, a strip of paper, felt, or other sound-deadening material being interposed between said rail and track. This construction of providing a hard-
50 wood rail instead of a metallic rail permits of nails being used, so that the apparatus can be put in place in a much shorter time and more cheaply than with the other construction.

55 The jamb-header 25 above the door is formed with a slot 34, in which the hanger travels, and it will be observed that by the above construction said slot can be made extremely narrow, especially in comparison with prior de-
60 vices, whereas in prior constructions the slot in which the hanger moves has been about an inch in width. With my device the slot does not need to be more than one-eighth of an inch in width. In order to limit the move-
65 ment of the doors, there is provided a stop 35, formed of a block of rubber tapering upward and let into a similarly-shaped socket

formed by making recesses in the jamb-header in each side of the slot. After the block has been pushed into place it is there upheld by
70 means of a metallic plate 36, secured to the under side of said header.

Of the two hangers that which is nearest to the outer edge of the door never leaves the slot 34, while the one over the inner edge will
75 leave said slot when the door is pushed back. In order to insure the latter entering the slot when the door is again closed, said slot is enlarged or flared at its entrance, as shown at 37 in Fig. 5. 80

In order to assist in deadening the sound caused by the movement of the door, washers 38, of felt, are interposed between the rollers and the bearings therefor, and the hinge-pin-
85 tle is also surrounded by a sleeve 39, of felt, which thus intervenes between said pintle and the hinge members.

I claim—

1. The combination of a rail, a roller thereon, a door, a slotted header above the door,
90 and a hanger comprising an upper section and a lower section, the lower section passing through said slot, and a screw, the head of which is above said header, and the stem of which extends upwardly therefrom and ad-
95 justably connects said upper and lower sections, substantially as described.

2. The combination of a rail, a roller thereon, a door, a slotted header above the door,
100 a hanger comprising an upper section and a lower section, the lower section being passed through said slot and a screw the head of which is above said header and the stem of which extends upwardly therefrom and ad-
105 justably connects said upper and lower sections, said header having an aperture at the side of the slot permitting access to said screw-head to operate the same, substantially as described.

3. The combination of a rail, a roller thereon, a door, a slotted header, an upper hanger-
110 section suspended from the roller, a lower hanger-section bent inward so that its lower end is substantially in the vertical plane of the roller, said lower end so bent inward be-
115 ing passed through said slot and being connected to the upper edge of the door, a nut attached to one of said sections, and a screw the head of which is above the header and the stem of which extends upwardly therefrom
120 and engages said nut, substantially as described.

4. The combination of a rail, a roller thereon, an upper hanger-section suspended from
125 said roller, a lower hanger-section bent inward so that the lower end of said section is substantially in the vertical plane of the roller, a screw working in the upper section, a nut supporting the lower section, and en-
130 gaged by said screw, a door suspended from the lower hanger-section, and a header having a slot through which the lower section moves, said header having an aperture in the vertical plane through which the said screw

can be moved to be operated through said aperture, substantially as described.

5 The combination of a track-rail, a roller thereon, an upper hanger-section supported from said roller, a lower hanger-section formed of sheet metal having sides turned over to form guides to guide said lower section upon the upper section and having its lower portion bent upward to form a hinge member, 10 means for adjusting said lower section upon said upper section, and a door carrying a hinge member coöperating with the hinge member of the hanger-section, substantially as described.

15 6. The combination of a rail, a roller thereon, a hanger suspended from said roller, a knuckle secured on the lower end of said hanger, a door having a groove in its upper edge, a plate secured to said upper edge and 20 having a knuckle extending downward into said groove, said groove being of sufficient length to permit the hanger-knuckle to extend also into said groove in alinement with the plate-knuckle, and a pintle through said 25 knuckles, substantially as described.

7. The combination of a rail, a roller thereon, a hanger suspended from said roller, the lower end of said hanger being bent upward to form a hinge member, a door having a 30 groove in its upper edge, a plate secured to said upper edge and having a hinge member extending into said groove, and a hinge-pintle for connecting said hinge members together, substantially as described.

35 8. The combination of a rail, a roller there-

on, a hanger-plate suspended from said roller, a slotted header through which the lower end of said hanger-plate passes, a door having a horizontal groove sunk in its upper edge, the lower end of said hanger-plate extending into 40 said groove and a connection between said plate and the door, said connection being wholly within the groove and between the vertical faces of the door, substantially as described.

9. The combination of a rail, a roller thereon, a hanger suspended from said roller, a door suspended from said hanger, a slotted header in the slot of which said hanger moves, said header having a socket formed by recesses on 50 each side of said slot, and a removable stop secured in said socket, substantially as described.

10. The combination of a rail, a roller thereon, a hanger suspended from said roller, a door 55 suspended from said hanger, a slotted header in the slot of which said hanger moves, said header having an upwardly-tapering socket formed by recesses on each side of said slot, an upwardly-tapering stop in said socket, and 60 a plate secured to said header beneath said stop, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN HANDSCHUMACHER.

Witnesses:

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CECILIA POWNING,