

(No Model.)

W. H. WILDER.

2 Sheets—Sheet 1.

DOOR HANGER.

No. 262,714.

Patented Aug. 15, 1882.

Fig. 1.

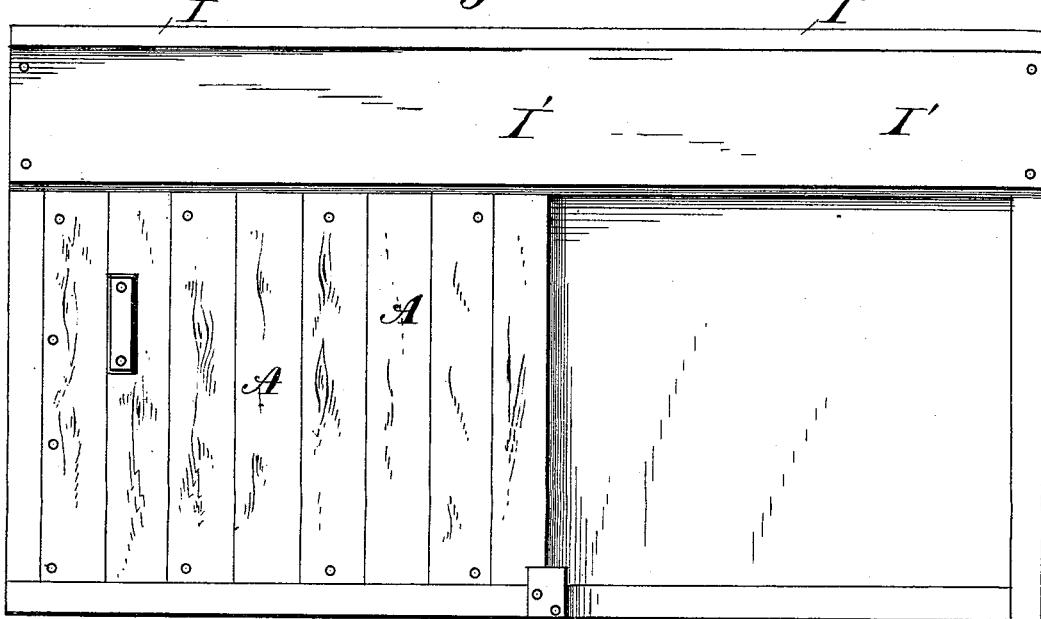
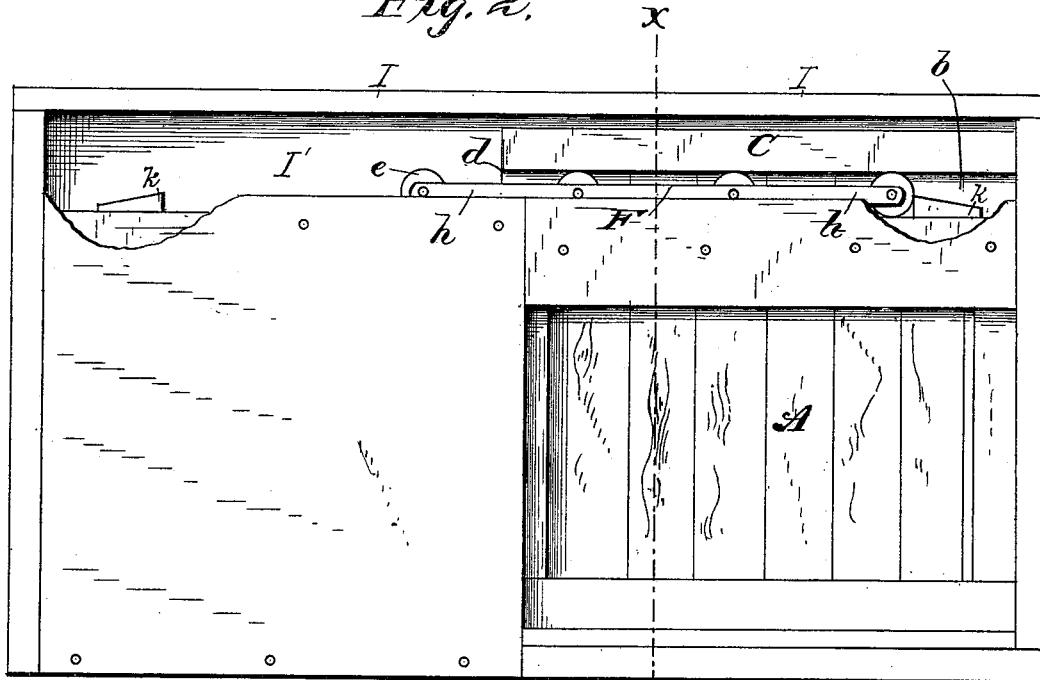


Fig. 2.



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Fig. 3.

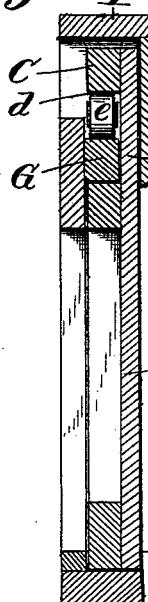


Fig. 7.



Fig. 4.



Fig. 5.

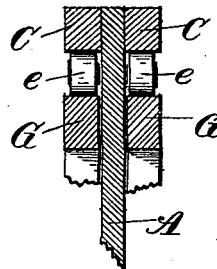
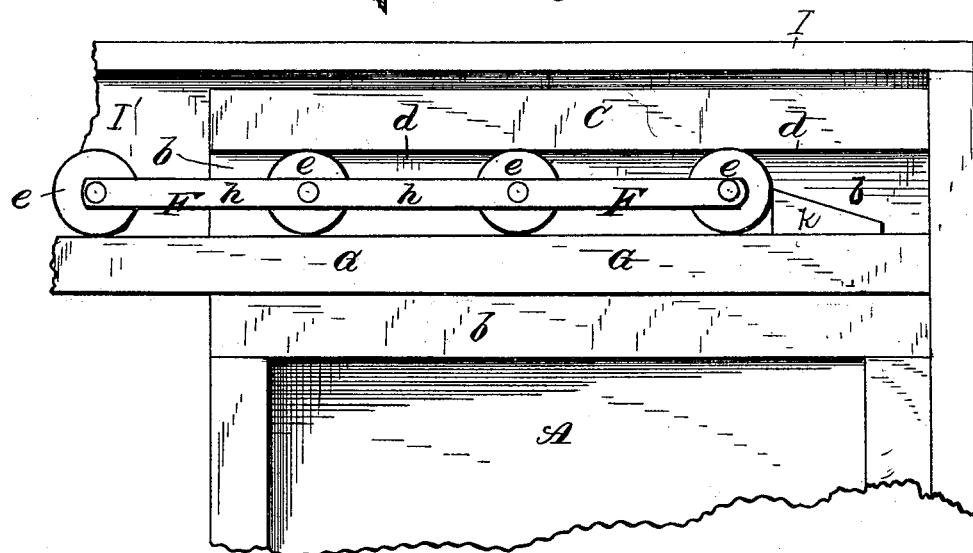


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. WILDER, OF CALEDONIA, NEW YORK.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 262,714, dated August 15, 1882.

Application filed December 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILDER, of Caledonia, in the county of Livingston and State of New York, have invented certain new and useful Improvements in Hanging or Sliding Doors; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of my invention are to dispense with all metal castings and almost entirely with iron-work in the construction of hanging sliding doors, to simplify and cheapen their construction, to diminish materially the friction when the door is moved, and to prevent the door from getting displaced or from falling away from the building or wall to which it may be applied.

In the drawings, Figure 1 is a front view of my improved door-hanger applied to a door and building; Fig. 2, a rear view of the same; Fig. 3, a cross-section in the line $x-x$ of Fig. 2; Fig. 4, a plan of the carriage on an enlarged scale; Fig. 5, an adaptation of the invention for a sliding door between two rooms. Fig. 6 shows the position of the roller relatively to the door when the door is closed, and Fig. 7 a slight modification of the carriage.

The door A is made with an upward extension, b, composed of boards laid upon the whole breadth of the door and projecting above its top to a height sufficient to have a bar or batten, C, secured firmly by nails, screws, or otherwise all across the inner face of this extension, for a purpose hereinafter stated. The under face, d, of this beam, bar, or batten C is a plane or level, that it may hang or run directly upon the peripheries of the cylindrical wooden or other rollers, e, of the free or unattached traveling carriage F, which is placed loosely on the level upper surface of the beam or batten G, which is permanently secured to the vertical front of a building, or to any wall or partition to which the door is to be applied. The extension b is solid, and it thus protects the carriage

50 and in a great degree keeps dirt, &c., from

it and from the batten G, which constitutes the track.

The carriage, which is very simple of construction and yet very strong, is made of two rollers, (or more, if desired,) which are short sections of a cylinder, so as to give a sufficiently broad and smooth bearing-surface on both of the beams C and G, these rollers having appropriate journals, which are supported and turn in two straight metal or wooden strips, h h. The cheapness and simplicity of this carriage are such that they can be easily made by farm-hands and at places quite remote from builders or skilled mechanics. If iron rollers be used, they may be made integral with their journals, or a wire may be cast in them of sufficient length to form journals and to keep the bars or strips h in place. A very ready and simple mode of applying the strips h h (whether made of wood or iron) to the wooden rollers is to pass screws loosely through the strips and screw these screws into the centers of the rollers. The carriage is preferably made, as shown, with a series of rollers, and its length is at least equal to the breadth of the door or of extension b, and therefore the door has at all times a well-balanced level support on the carriage for nearly its whole breadth, even when the carriage shall have been arrested by one of the fixed stops k and the door shall have moved on to the end of its travel, for in such case one or more of the wheels and one end of the carriage project a distance considerably beyond the door, (in practice a foot or more,) in order to receive and take up the weight of the door when the latter, on its return movement, shall travel up to and ride upon such wheel or wheels. The stops, it will be observed, are so located that when the carriage and also the door shall have been moved to the extreme end of their route, either to the right or left, the rear wheel is always some distance beyond the rear of the carriage, while the other wheels extend under the top beam for a large part—say three-quarters—of the breadth of the door and preserve its proper level, hang, or suspension, thus preventing improper tilting of the door and consequent sticking or catching when commencing its sliding movement.

A wooden cap or covering, I I', secured to

and projecting from the wall or from the front of the barn or other building, not only serves as a water-shed, but also as a housing to protect the carriage and the beams C and G from exposure to the sun and rain and from being clogged or injured by snow, hail, and ice; and its downwardly-projecting part I', extending, as it does, all across the space in which the carriage travels, and lapping, as it does, over and near the extension b of the door, serves to keep the beam C from running off the carriage-rollers, and also to keep the carriage from running off the beam G, thus being a continuous guide and guard for the extension b to bring it back to place in case, by any accident or rough treatment, the door should be disposed to run out of true line.

It will be seen that I can, by this construction, dispense with any metal tracks or raised tracks or any grooved or peculiarly-constructed wheels or castings of any sort; that no flanges are needed on the wheels, nor any device on the beams to hold the wheels to their course; that both of the beams present a good broad bearing-surface for the wheels; and that there is no liability of wearing or cutting the periphery of the wheels or of wearing grooves in the tracks, as the breadth of the wheels is nearly equal to that of the beams.

The whole structure requires only ordinary mechanical skill to build, and no metal work whatever except the screws when wooden strips h are used.

In Fig. 5 a beam, C, is secured to each side of the door, and one of the carriages is also

placed on each side, each running on its own beam G, as shown.

Fig. 7 shows the metal strips, which may be of hoop-iron, as riveted together at about the center to keep the rollers in line.

I do not claim broadly the stationary batten or beam G; and I am aware that hanging battens having a track-bar secured thereon have been used for guiding grooved wheels—as, for instance, in Richards's patent, No. 202,587. Such construction, therefore, I disclaim; but

I claim—

1. In combination with a hanging door and with a traveling carriage and stationary bed for the same, the cap-piece I I', whereby lateral and vertical displacement of the door is obviated and running off of the carriage from its track is prevented, these parts being arranged substantially as and for the purpose set forth.

2. In a hanging door, one or more free and unattached carriages, F, each made with a series of cylindrical rollers adapted to run upon the surface of a beam or batten, and also made of a length equal to the breadth of the door, and whereby, when the door has been shifted to the end of its route of travel and the carriage arrested in its travel, one or more of the rollers shall be left some distance from the door, to take up its weight when the door reaches it or them on its return movement.

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Witnesses:

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