

(No Model.)

T. HOOKER.

DOOR HANGER.

No. 341,007.

Fig. 1. Patented May 4, 1886.

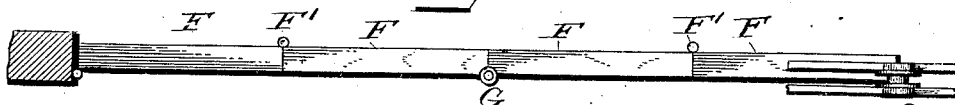


Fig. 2.

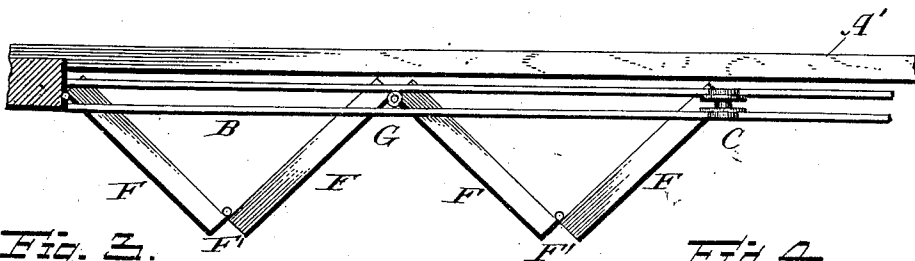


Fig. 3.

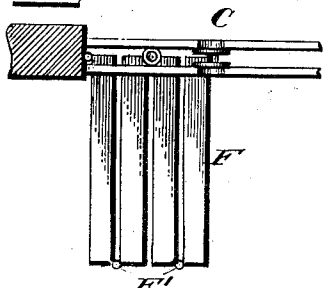
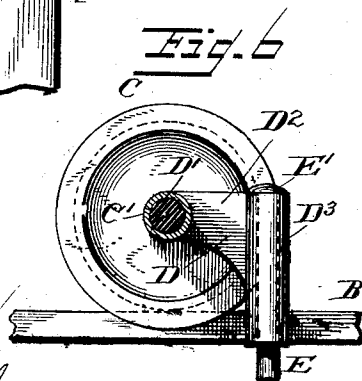
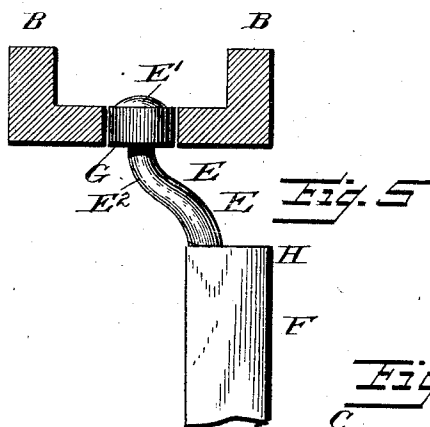
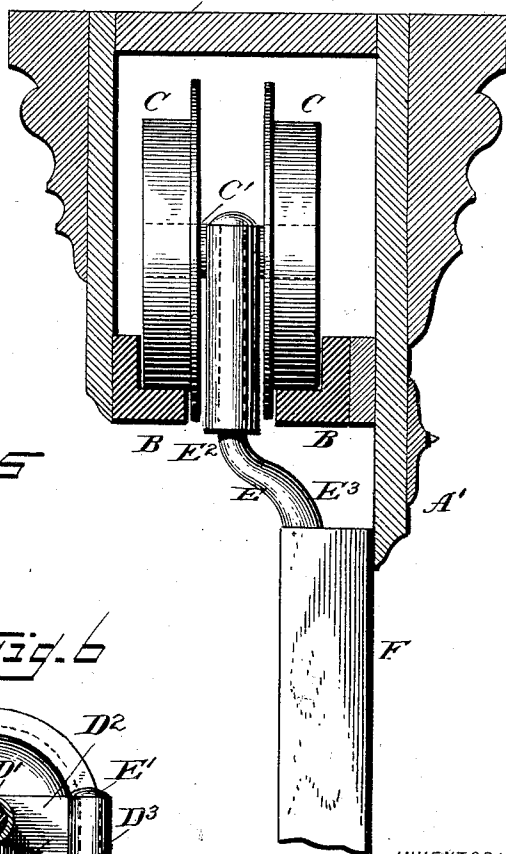


Fig. 4.



WITNESSES:
L. C. Hills
Wm. D. Small

INVENTOR:
Thomas Hooker,
BY
E. B. Stocking
ATTORNEY.

UNITED STATES PATENT OFFICE.

THOMAS HOOKER, OF SYRACUSE, NEW YORK.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 341,007, dated May 4, 1886.

Application filed September 9, 1885. Serial No. 176,631. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HOOKER, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to door-hangers, the object being to provide a hanger which by its peculiar formation will allow a series of door-sections hinged together on vertical lines to fold one upon another, thus obviating the necessity of providing a space between the walls for its reception, as heretofore. Its advantages will be readily perceived when used in a wide doorway, where there is little or no space for the door to slide back—such as, for instance, in barns, public buildings, (where substantially the whole front is used as a doorway,) saloon-parlors, assembly-rooms, churches, &c.—in which cases much larger doorways may be used.

The invention consists in certain features of construction, hereinafter specifically described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a top edge view of a door constructed in accordance with my invention, the track being broken away and the door in a closed position. Fig. 2 is a similar view showing the rail, the door being partly opened. Fig. 3 is a similar view, the door being opened. Fig. 4 is an enlarged vertical section of the hanger-supporting rolls and the adjacent wood-work of the door, the hanger being shown in elevation. Fig. 5 is a similar view of the guide-roller. Fig. 6 is a detail in section of the hanger.

Like letters indicate like parts in all the figures.

In Fig. 1 I have shown my invention in its plainest form, adapted for barns or out-houses—that is, where a finished or embellished door-frame, such as shown in Fig. 4 (used in habitations,) is not employed.

Referring more particularly to Figs. 4 and 6, A represents the usual door-frame, which forms a housing for the hangers, and is provided with the usual depending weather-strip, A', serving in this instance also as a stop against which the doors close. Within the door-frame A, and at each side thereof, are

two tracks or rails, B, and mounted upon them are a pair of rollers, C, which are connected by an axle, C'. Upon this axle C' is mounted a casting, D, formed with the sleeve D', extending from which is a web portion or bridge-piece, D², at the other end of which and at a right angle to the sleeve C' is a depending sleeve, D³, the entire casting forming a bracket in which a spindle, E, is swiveled, and is secured at the top by a nut or head, E'.

For the purpose of making a snug fit between the door-frame A' and the door-sections F, and to permit of the folding of the sections one upon the other, as clearly shown in Fig. 3, I form the spindle E with an offset or bend, somewhat in the manner of a compound curve, as clearly shown at E² E³, so that it will be readily seen that when the door is closed the sections thereof will all be in line with each other and snugly fit or abut against the weather strip or stop A'. This I regard as an important feature of my invention.

As before indicated, the door proper consists of a series of sections, F, hinged as at F', the hanger being at the extreme end of the end section. It will now be readily seen that the door, no matter what the length may be or of how many sections it may consist, may be opened or closed similar to a sliding door, and for the purpose of an easy folding of the door and prompt breakage of the sections in the right directions at the proper joints—to wit, every other one—I have mounted upon the door-sections at one or more of such hinge-lines, which tend to fold inwardly, a spindle, E, (see Fig. 5,) directly upon which is mounted a guiding-roller, G, which, instead of working upon the tracks B B, as does the hanger proper, works between the same.

The operation of my invention from the above description is obvious, in that it will be readily seen that as the door is opened the edges of the sections which swing inwardly will move along the frame in a curved line, while their inner edges will also move on a curved line on a center coinciding with the hinge-line and with the center of the sleeve D², by reason of the compoundly-curved or offset spindle E, and that said door will break at the before-mentioned hinge-joints, which is doubly assured by the guide-roller G, and the sections will be pressed back in a closed and

compact position, as clearly shown in Fig. 3, where they may be inclosed or not in a suitable casing.

It is very evident that changes in the construction of minor details of my invention may be made. For instance, the spindle E may be made integral with the axle C', and be swiveled directly in the door-section at its hinge-line, and I would therefore have it understood that I do not confine myself to the exact construction shown and described, but hold that my modifications, which involve a curved suspension spindle the axis of rotation of which is coincident with the hinge-line of the door-sections supported by said spindle or spindles, are comprehended by my invention.

It will of course be understood that the series of door-sections may be continued beyond those shown in the drawings, every fourth or sixth section being provided with a hanger, or where heavy doors are employed hangers may be placed upon every other door, thus taking the place of the guide-rollers. It is also plain that when the doors are closed they may be securely bolted or otherwise fastened against the stop, and for this purpose a more substantial stop may be employed; also, that a single door may be hinged beyond the hanger, to be used as an ordinary door, independent of the series, but which will form a part of the series when all are opened.

Having thus fully described my invention, what I claim is—

1. A door-hanger provided with a swiveled suspension-rod, in combination with hinged door-sections adapted to fold one upon the other, substantially as specified.

2. A door-hanger provided with a curved swiveled spindle or suspension-rod vertically above the corner of the door, substantially as specified.

3. A door-hanger provided with a spindle or suspension-rod turning symmetrically with the hinges of a door formed of foldable sections, substantially as specified.

4. The combination of a door-hanger provided with a swiveled suspension-rod, a series of foldable sections, and a guide-roller, substantially as specified.

5. A door comprising foldable sections and provided with a hanger arranged above one or more of said sections, and a stop, the whole

constructed, arranged, and combined substantially as specified.

6. The combination, with a door-hanger and a door formed of foldable hinged sections, of a suspension rod or spindle having its axial line coincident with the hinge-line of the door-sections, substantially as specified.

7. In a door-hanger, the combination, with the rollers thereof arranged side by side and connected by an axle, of a casting mounted on said axle and provided with a projecting bridge or web having a spindle swiveled therein, substantially as specified.

8. In a door-hanger, the combination, with the truck thereof, of a casting mounted thereon, a spindle swiveled therein in a line corresponding with the axial line of the hinges, and a door or door-sections, whereby said door or door-sections may have a curvilinear movement when opened or closed, substantially as specified.

9. The combination of a hanger consisting of a truck having a casting mounted thereon, a spindle swiveled therein, and a door comprising a series of hinged sections adapted to fold one upon the other, substantially as specified.

10. The combination of a door-hanger comprising a truck portion, a casting mounted thereon, and a spindle swiveled therein, and a door consisting of a series of sections hinged at opposite sides of their vertical edges and provided at every other hinge-line with a guide-roller mounted upon an axis coincident with that of the hinges, substantially as specified.

11. The combination of the rollers C C, axle C' of the casting D, formed with the sleeves D' D', and connected by the web or bridge D'', and the spindle E, curved as at E' E', substantially as specified.

12. The combination of the herein-described hanger with a series of door-sections, as F, hinged at their vertical edges and provided at every other vertical edge with a guide-roller, as G, adapted to work within the rails, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS HOOKER.

Witnesses:

E. C. WRIGHT,
A. J. CROOK.