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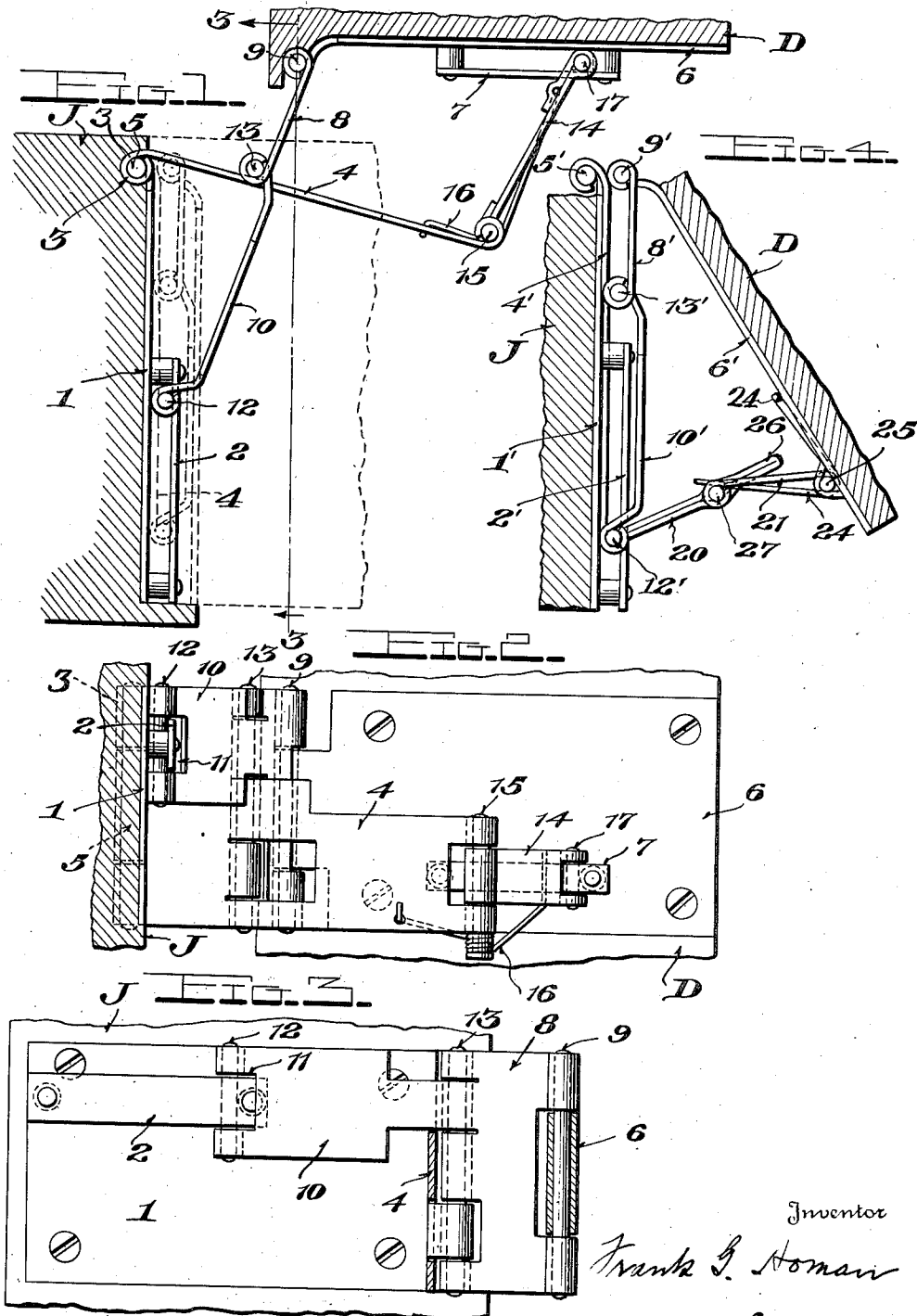
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2,074,112

DOOR HINGE

Filed Jan. 25, 1936

2 Sheets-Sheet 1



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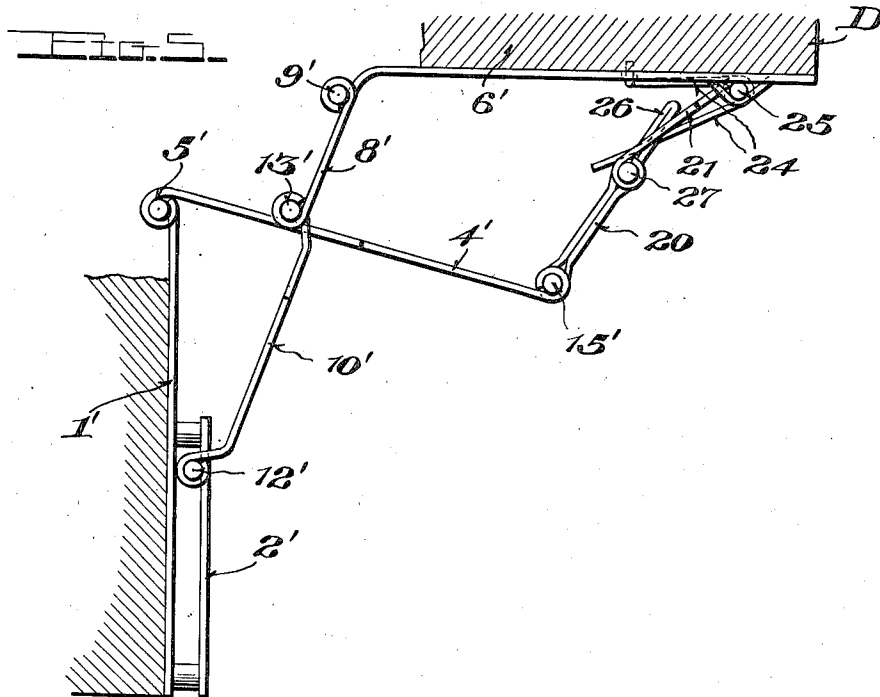
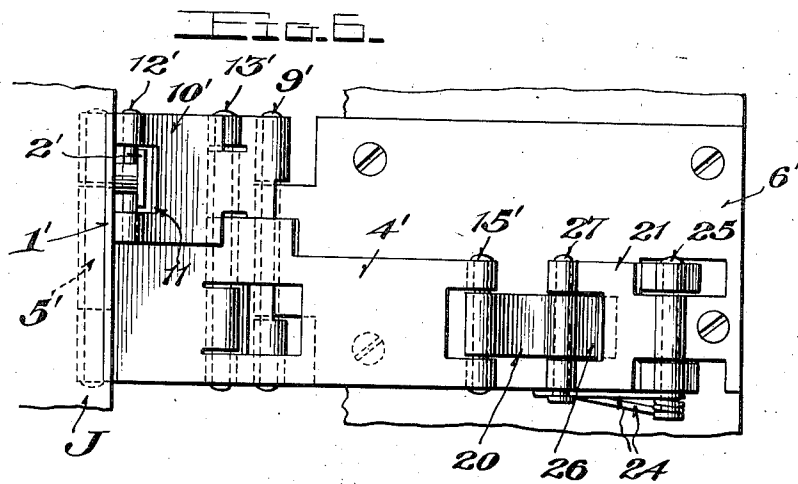
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2 Sheets-Sheet 2



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DOOR HINGE

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6 Claims. (Cl. 16-166)

This invention relates to door hinges and the primary object thereof is to provide a hinge which is concealed between the door jamb and door, and which is positive and effective in operation, and at the same time enables easy and free opening of the door.

A further object of the invention is to provide a hinge which positively restricts the opening movement of the door to hold same in a plane substantially parallel to the inner face of the jamb.

The invention has further and other objects which will later be set forth and manifested in the course of the following description.

In the drawings:

Fig. 1 is a top plan view of the invention, as in use and in open position the door jamb and door being shown in fragment and in section;

Fig. 2 is a front elevation of Fig. 1;

Fig. 3 is a section on line 3-3 of Fig. 1;

Fig. 4 is a view similar to Fig. 1, of a modified form of the invention, the door being partly closed;

Fig. 5 is a view similar to Fig. 1, showing the modified form of the invention in open position; and

Fig. 6 is a front elevation of Fig. 5.

In proceeding in accordance with the present invention a leaf 1 is provided, which is fixed to the door jamb J, and which has a guide 2 suitably secured thereto and spaced therefrom. The outer end of the leaf is formed with a knuckle 3 to which a member or arm 4 is pivoted by pintle 5. A leaf 6 is fixed to the door D and has a guide 7 secured thereto corresponding to guide 2. A stop arm 8 is hinged at 9 to leaf 6 and has an extension 10 slotted at 11 to receive guide 2. A pin 12 is secured to the extension 10 and is slidably disposed in the space between the leaf 1 and its guide 2. The arm 8 is pivoted at 13 to the member 4 between the ends of the latter.

The outer end of the member 4 has a control arm 14 pivoted thereto at 15, the arm being normally urged to the position of Fig. 1, by a spring 16 and has a pin 17 secured thereto, the latter being slidably disposed in the space between leaf 6 and its guide 7.

In the modified form of the invention depicted in Fig. 4, the elements which are designated by reference characters that bear prime marks, are identical with those in the preferred form of the invention, the only difference residing in the control device. Here the control device is composed of two parts 20 and 21, of which 21 has its outer end pivoted at 25 to leaf 6', and has its inner end pivoted at 27 to an intermediate portion of 20.

Part 20 is pivoted at 15' to extension 4' while a spring 24 is secured centrally of its ends to pin 25 and is secured to leaf 6' at one end, and has its opposite end engaged with the pin 27, thus acting to normally urge the door to open position. This form of the invention it will be observed dispenses with use of the guide 7 in the preferred form. The end 26 of part 20 engages part 21 and thereby limits outward movement of part 20 under the influence of spring 24.

In operation, and with the parts in the dotted line position of Fig. 1, it will be seen that upon opening of the door the member 14 will move from the left hand end of the guide 7 to the position shown in full lines, thus assisting in the initial opening of the door and upon the latter being fully opened, as shown in full lines of Fig. 1, the pin 12, will engage the inner end of guide 2, thereby holding the door against further opening movement.

The control device functions in the nature of a guide to insure movement of the leaf 6 and thereby arc-like movement of the door, so that when the latter is fully opened the same will lie with its front and rear faces parallel to the adjacent or inner face of the jamb, as shown in Fig. 1. The springs assist in smooth movement of the control device, and also to maintain the parts under tension and thereby insure against rattling.

What I claim is:

1. In a hinge, a pair of leaves, a guide carried by one of the leaves, a pair of arms pivoted together intermediate their ends, the outer ends of the arms being pivoted to the adjacent ends of the leaves, a member slidable in the guide and connected to the arm that is pivoted to the other leaf, and a spring actuated control device connected to the other arm and to said other leaf.

2. A hinge in accordance with claim 1, wherein the control device consists of a guide carried by the other leaf and a member having a part slidable in the last named guide and pivoted to the adjacent arm.

3. A hinge in accordance with claim 1, wherein the control device consists of a pair of pivotally connected parts pivotally connected, to the other arm and to said other leaf.

4. In a hinge, a pair of leaves, a pair of arms, pivoted to one another intermediate their ends and pivotally connected at one of their ends to the adjacent ends of the leaves, means to movably connect the other end of one of the arms to the adjacent leaf, and a control device interposed between the other end of the other arm and the

other leaf and movably connected to said other end of the other arm, means to movably connect the control device to said other leaf, and means to tension the device.

- 5 5. A hinge in accordance with claim 4, wherein the control device embodies a guide carried by

said other leaf and a member slidable in said guide.

6. A hinge in accordance with claim 4, wherein the control device embodies a pair of pivotally connected spring tensioned parts.

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