J. M. SHEPARD.

ADJUSTABLE DOOR HINGE.

APPLICATION FILED APR. 18, 1908.

903,328. Patented Nov. 10, 1908.

Fig. 1.

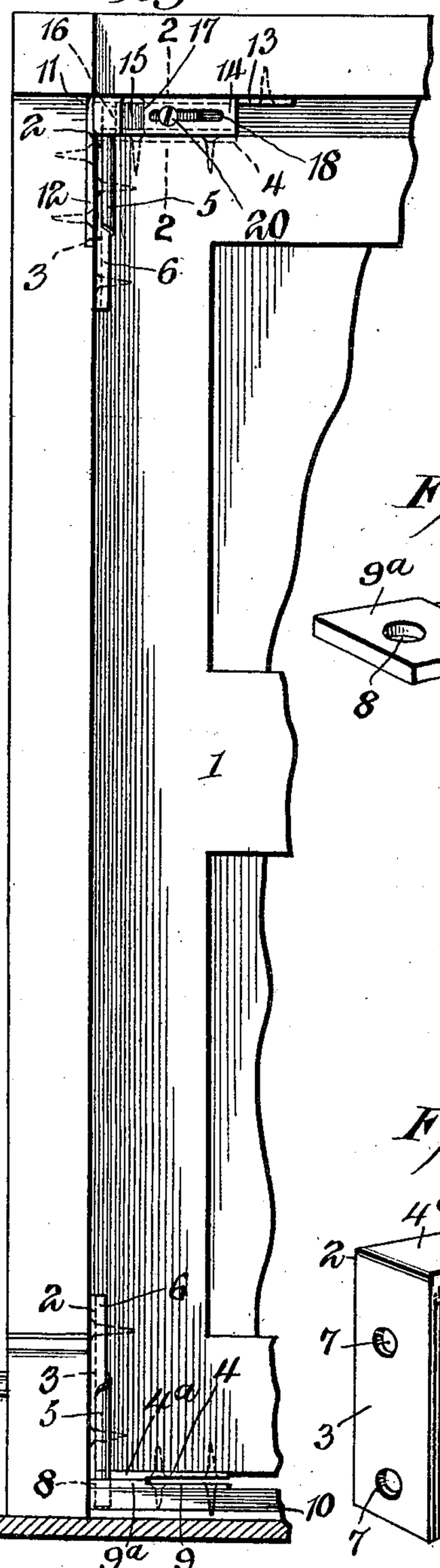


Fig. 2.

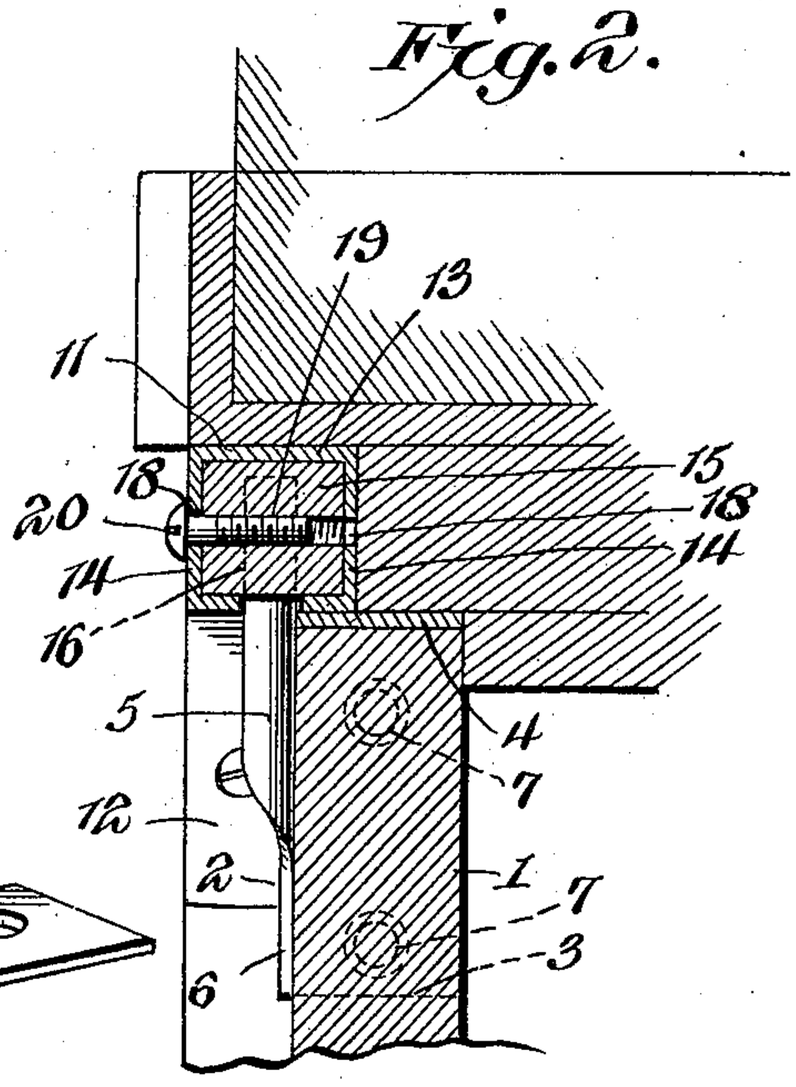


Fig. 6.

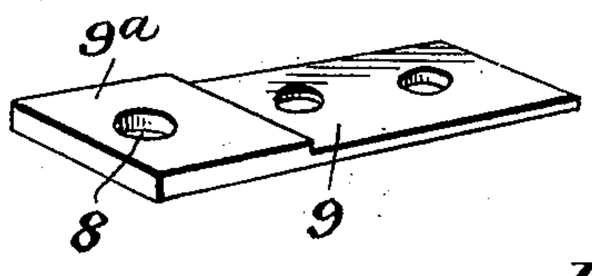


Fig. 3.

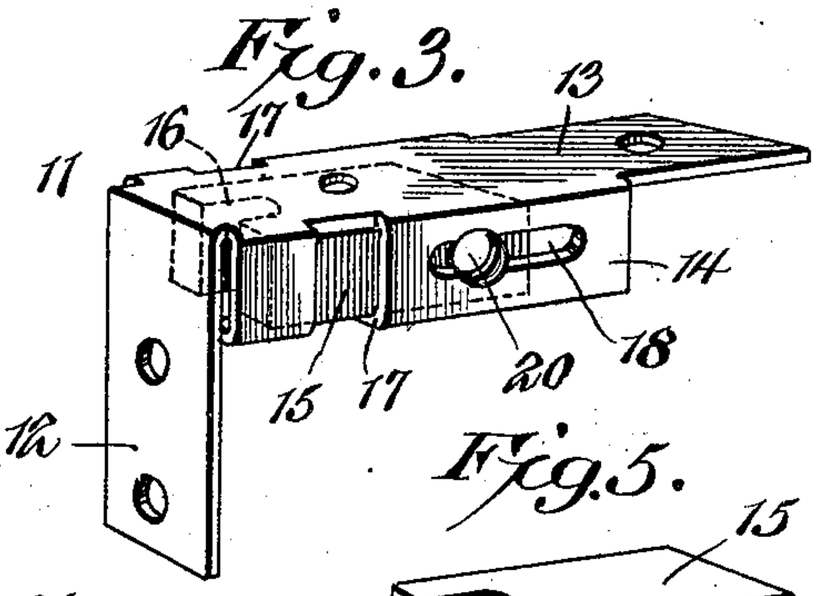


Fig. 4.

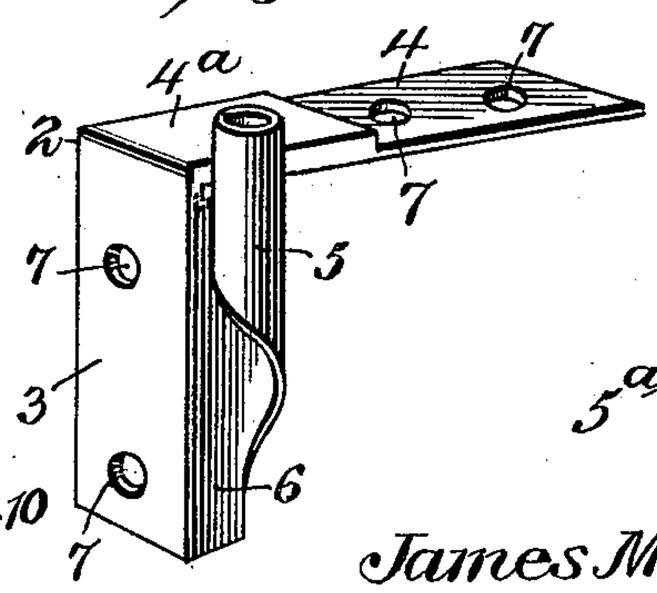


Fig. 5.

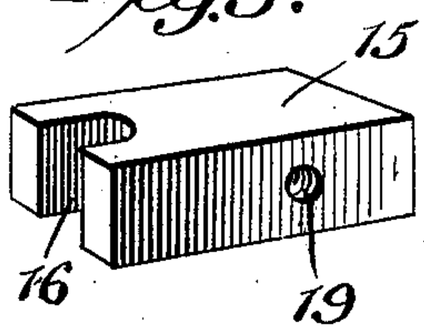
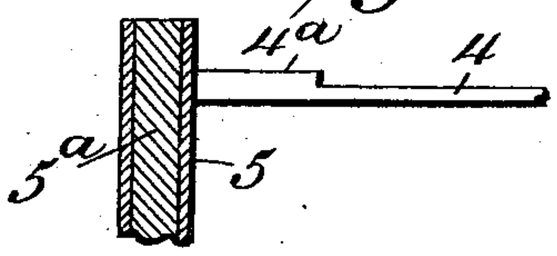


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES MILLER SHEPARD, OF FINDLAY, OHIO.

ADJUSTABLE DOOR-HINGE.

No. 903,328. Specification of Letters Patent. Patented Nov. 10, 1908.

Application filed April 18, 1908. Serial No. 427,815.

To all whom it may concern:

Be it known that I, JAMES M. SHEPARD, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented a new and useful Adjustable Door-Hinge, of which the following is a specification.

The invention relates to improvements in door hinges.

The object of the present invention is to improve the construction of door hinges, and to provide an adjustable hinge adapted to permit a door to be readily adjusted to counteract sagging without removing either the door or its hinges and without planing the former.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is an elevation partly in section of a portion of a door and its casing provided with hinges, constructed in accordance with this invention. Fig. 2 is an enlarged vertical sectional view, taken substantially on the line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of the fixed hinge element of the upper hinge. Fig. 4 is a similar view of the movable hinge element. Fig. 5 is a detail perspective view of the adjustable bearing block. Fig. 6 is a detail view of the lower wear plate. Fig. 7 is a detail view, showing the tubular pintle reinforced by a solid core.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

The hinges at both the top and bottom of the door 1 includes a hinge element consisting of an approximately L-shaped attaching plate or leaf 2, having vertical and horizontal portions 3 and 4 and adapted to fit the corners of the door at the top and bottom of the same. The hinge element may be constructed either of sheet or cast metal, and it is provided with a vertical pintle 5, formed by coiling or rolling the sheet metal at one edge of the vertical portion 3 and extending beyond the horizontal portion 4. The tubular pintle may, as illustrated in Fig. 7 of the drawing, be reinforced by an interiorly arranged solid core 5^a, adapted to be secured within the hollow pintle 5 by any suitable means. When the pintle carrying the hinge element is constructed of cast metal, the pintle will be solid, and when cylindrical, as illustrated in Fig. 4 of the drawing, the edges of the sheet metal may be united in any preferred manner.

The vertical portion 3 of the leaf 2 is provided at the side at which the pintle is located with a flange 6, which connects the pintle with the vertical portion 3. The L-shaped leaf is provided in its vertical and horizontal portions with openings 7 for the reception of screws, or other suitable fastening devices for securing the hinge elements to the door.

The pintle at the lower edge of the door engages a socket opening 8 of a wear plate 9, constructed of stout metal and secured to the sill 10 of the door, as illustrated in Fig. 1 of the drawing. The wear plate, which receives the weight of the door and the adjacent horizontal portion of the pintle carrying element, are designed to be provided with thickened portions 9^a and 4^a, so as to stand the wear incident to the opening and closing of the door. The sill is provided at the socket opening 8 with a bore or socket into which the lower depending pintle extends.

The upper pintle extends into an upper hinge element consisting of a substantially L-shaped leaf 11, having vertical and horizontal portions 12 and 13, provided with perforations for the reception of fastening devices for securing the hinge element to the door of the casing. The L-shaped leaf fits in the upper corner of the door casing, as shown, and the horizontal casing 13 is provided at opposite sides with depending guide flanges 14, L-shaped in cross section and having inwardly extending portions. The guide flanges support an adjustable bearing block 15, which is provided at its inner or rear end with a bearing recess 16 for the reception of the upper pintle. The guide flanges 14 are provided at opposite sides with entrance openings 17 to permit the upper pintle to be introduced into and removed from the space between the flanges, and the said entrance openings 17 are closed by the bearing block, when the latter is adjusted inwardly to maintain the upper pintle in a perpendicular position. The entrance openings by being located at each side of the hinge element en-

ables the hinge to be applied to doors opening in either direction, and hung either at the right or left hand edge. The flanges 14, which form a guide or way for the bearing block, are provided with longitudinal slots 18, and the bearing block has a threaded transverse opening 19, extending entirely through the block and adapted to receive a clamping screw 20, when the same is arranged at either side of the hinge. The clamping screw, which slides in one of the slots 18, secures the block in position for holding the upper pintle in a perpendicular position and also for closing the openings 17. When the bearing block is drawn backward, it exposes the outer opening 17, and the upper pintle may be readily introduced into and removed from the space between the guide flanges 14. Should the door sag the block may be adjusted rearwardly, which will lift the free edge of the door and counteract sagging without either removing the door or the hinges and without planing the former.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A hinge including an element consisting of a strip of sheet metal bent into L-shape to form two angularly related arms or portions, one of the arms or portions being provided with a cylindrical pintle extending longitudinally and along one side of such arm or portion and projecting a short distance beyond the other arm or portion, and formed by rolling the sheet metal at one of the side edges of the first mentioned arm or portion.

2. A hinge including a hinge element having a pintle, and a coöperating substantially L-shaped member provided with an adjustable bearing block slidable along one of the arms of the L-shaped member, and provided at its inner edge with a bearing recess coöperating with the other arm of the said member and receiving the said pintle.

3. A hinge comprising a leaf having a pintle, and a hinge element including a leaf having a guide or way and provided with an entrance opening adapted to permit the pintle to be introduced into and removed from the guide or way, and a bearing block slidable in the guide or way and provided with bearings to receive the pintle and arranged to cover and uncover the entrance openings.

4. A hinge comprising a leaf having a pintle, and a hinge element including a leaf provided with guide flanges and having opposite entrance openings and provided also with longitudinal slots, a block having a bearing to receive the pintle and slidable between the said flanges, and a reversible screw adapted to be arranged in either slot for securing the block in its adjustment.

5. A hinge comprising a leaf having a pintle, and a hinge element including an L-shaped leaf provided with opposite L-shaped flanges forming a guide or way and having an entrance opening and provided with a longitudinal slot, a bearing block having a bearing for the said pintle and slidable between the guide flanges, and means operating in the slot for securing the block in its adjustment.

6. The combination with a door, of upper and lower leaves secured to the door at the top and bottom thereof and provided with projecting pintles, a lower plate having an opening receiving the lower pintle and designed to be secured to the sill of the door, and an upper L-shaped member provided with an adjustable bearing block having a recess receiving the upper pintle and coöperating with one of the arms of the L-shaped member to confine the pintle in the recess.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES MILLER SHEPARD.

Witnesses:

DAISY V. SHEPARD,

FRED HEIMHOFER.