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PIVOT SPRING HINGE

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Fig. 1.

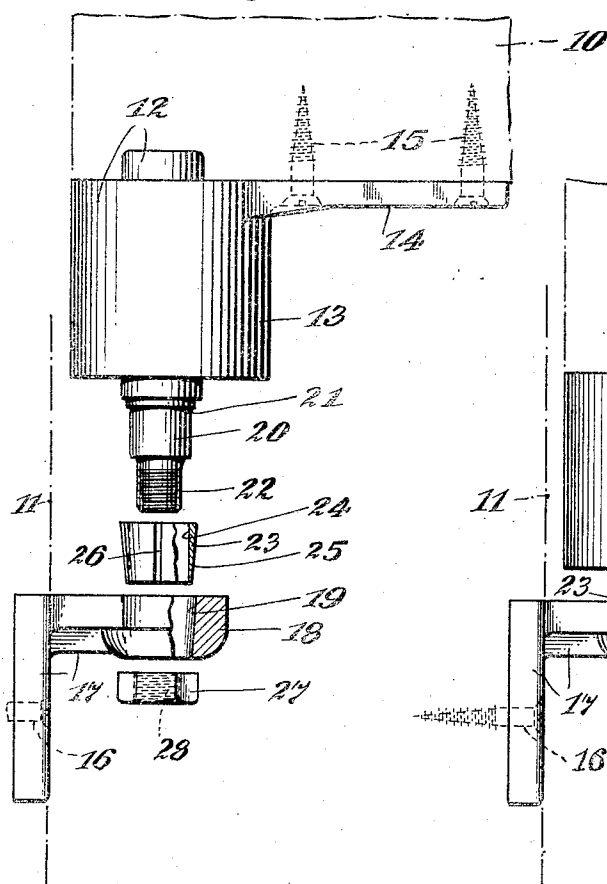


Fig. 2.

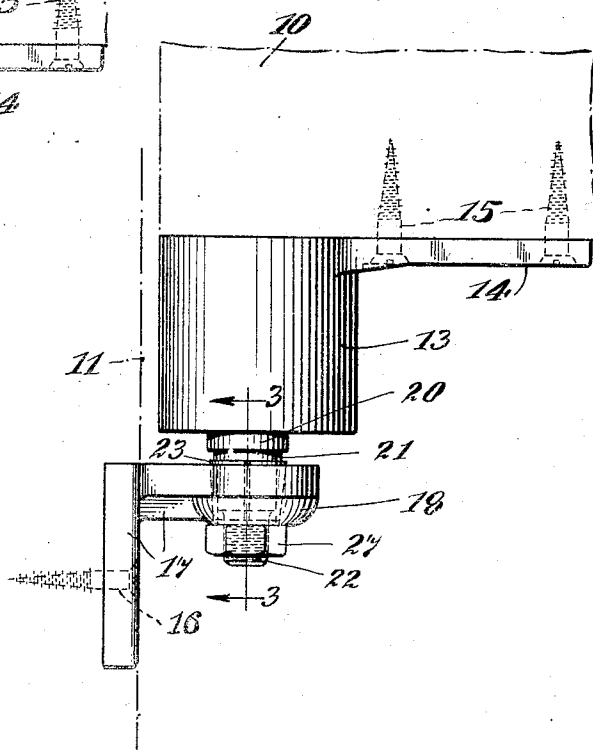
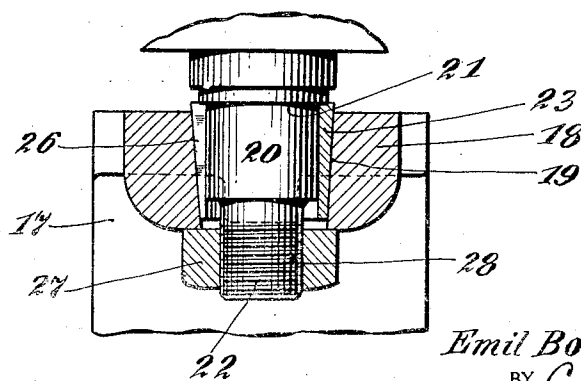


Fig. 3.



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PIVOT SPRING HINGE.

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This invention relates to pivot spring hinges and has for its object the provision of means whereby such pivot spring hinges may be readily aligned in respect to the door and its supporting jamb or frame.

The invention also has for its object to simplify the manufacture of such devices in that the main structure is provided with a cylindrical pivot pin, which lends itself more readily to manufacturing requirements than a conically shaped pin and enables the advantages of a conical fit to be obtained from a conical intermediary member disposed between the cylindrical pin and the conical socket. Further advantages in such alignments result from the conical member being split longitudinally thereof, thus enabling rapid adjustment thereof and finally the wedging action resulting from the operation of the parts, secures a tight fit. Further advantages in manufacturing result from the exterior screw threaded portion of the cylindrical pivot pin being readily engaged by a screw threaded nut, in contrast to the different requirement of interiorly threading a pivot pin and providing a special exterior threaded locking member.

Other objects and advantages will appear from the following description of my invention, aided by the annexed drawings showing embodiments thereof, and the invention comprises such features as will also appear therefrom, and the invention will be finally pointed out in the claim.

In the accompanying drawings,

Figure 1 is a side view of a pivot spring hinge of well known construction applied to a door and its support, with the parts entering into my invention shown as separated from each other, and partly in side view and partly in section,

Fig. 2 is a side view of the same parts, in assembled position; and,

Fig. 3 is section taken on line 3—3 of Fig. 2.

Similar characters of reference are used in the different figures to indicate corresponding parts.

Referring to the drawings, the door 10 is pivotally disposed in respect to the frame or jamb 11 and either at the upper or lower end of the door, in proximity to the frame or jamb 11, there is secured a pivot spring hinge 12, consisting of a cylindrical casing 13, and an extension 14, secured by screws 15

to the door. In the drawings, this structure is secured to the lower end of the door. To the jamb or frame 11, is secured by screws 16, a bracket 17 having supporting circularly shaped enlargement 18, provided with a conical bore 19. The parts of the spring hinge specifically described are old and well known for use in conjunction with the doors of the double swinging type and I make no claims thereto.

The novel change consists in providing the pivot pin 20 with a cylindrical exterior, and a cylindrical shoulder 21, and cylindrical exterior screw thread 22, the shoulder being a larger diameter than the pin 20, and the screw threaded portion 22 having a smaller diameter than the pivot pin. An intermediary collar 23 having a cylindrical bore 24 matching the exterior cylindrical configuration of the pin 20, and having an exterior conical configuration 25, with a slotted portion forming a longitudinal channel 26, is provided to fit on to the pin 20. The longitudinal length of the collar 23 is longer than the length of the cylindrical main portion of the pivot pin, as is seen in Fig. 3. When the collar is applied it seats at one end against the shoulder 21. The exterior conical part of the collar seats into the conical bore 19, but not entirely as a portion of the collar extends above the enlargement 18, as seen in Fig. 3.

An interiorly screw threaded nut 27 has its threads 28 engaging the exterior threads 22 of the pivot pin 20, and locks against the lower portion of the enlargement 18, when drawn tight, such rotary movement of the nut 27 wedging the parts together so as to secure a tight fit, by pulling the pin 20 and its shoulder 21, the shoulder 21 presses against the collar 23, and forces it into the collar bore 19 of the enlargement 18, and the greater the pull, the more secure the locking action. By the action described a very secure hold is obtained.

The device may be readily adjusted, by simply loosening the nut 27, and thereby the collar from its bore 19, the door re-aligned, and then the nut again drawn tight.

The hinge constructed with the novel feature above specifically set forth has the advantage that the pivot member is simpler to manufacture and can be more quickly and easily constructed. In the operation of the hinge it has the advantage that the pivot

member can be more easily centered or adjusted for holding the swinging member or door in the normal position desired.

While I have herein shown and described one preferred embodiment of the invention, it is nevertheless apparent that the same desirable results might be obtained by means of other alternative construction. Accordingly, I reserve the privilege of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

What is claimed as the invention and is desired to be secured by Letters Patent is:

15 A spring hinge for a door, comprising a bracket extending substantially horizontally from the door jamb, the bracket having a vertically extending, downwardly tapering

opening therethrough, a pivot pin having an annular shoulder near the lower end thereof, and having a cylindrical portion just below said shoulder, a split collar, the inside bore of which is cylindrical and the outside surface of which is tapered downwardly, said bushing being engageable around said cylindrical portion of the pivot pin, against said annular shoulder, and a nut threaded onto the lower end of the pivot pin, below the bracket, for drawing the pivot pin downwardly and causing said shoulder to jam the collar into the opening in the bracket, for locking the pin in place in the bracket.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

EMIL BOMMER.