

UNITED STATES PATENT OFFICE.

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HINGE.

SPECIFICATION forming part of Letters Patent No. 730,265, dated June 9, 1903.

Application filed August 23, 1902. Serial No. 120,814. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. HILL, a citizen of the United States, residing at Bartold, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Hinges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in hinges; and it consists in the novel arrangement and construction of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of a door, showing my invention applied thereto, the latch of the lock not quite engaging the socket of the jamb formed for its reception. Fig. 2 is a face view of the hinge, corresponding to the position of the parts when the door is closed. Fig. 3 is a view at right angles to Fig. 2. Fig. 4 is a rear view of Fig. 2. Fig. 5 is a view similar to Fig. 2, but showing the hinge extended. Fig. 6 is a section on line 6 6 of Fig. 2. Fig. 7 is a section on line 7 7 of Fig. 5; and Fig. 8 is a face view of a hinge, showing a modified form of the adjusting mechanism.

The object of my invention is to construct an extension-hinge which will permit an accurate adjustment of the door within its frame, so that the door shall always be hung to the best advantage.

In detail the invention may be described as follows:

Referring to the drawings, F represents a door-frame, and D the door for the same. The latter is secured to the frame by means of hinges, each hinge comprising a leaf 1, secured in the ordinary manner to the frame, and a leaf 2, which in the present instance is not rigidly fastened to the door, as in the prevailing form of hinge, but whose construction is qualified, as follows: The leaf 2 has projecting therefrom a series of stems 3, which operate in suitable sockets 4, formed in the rear of a plate 5, secured directly to the outer face of the door, said plate being adjustably secured or coupled to the hinge by means of a screw-threaded rod 6, projecting from the leaf 2 at a point adjacent to the hinge-line, (or pivotal pin of the hinge,) said

rod operating in a socket 7, formed on the outer face of the plate 5. The walls of the socket 7 are partially removed for the accommodation of a nut 8, operating on the screw-threaded portion of the rod 6, rotation being imparted to the nut in either direction by a pin or lever 9, inserted into any one of a series of peripheral openings 10, formed in the nut, or the latter may be in the form of a gear-wheel 8', to which rotation may be imparted by a pinion 11 at one end of a stem 12, mounted on the plate 5 and rotated by means of a terminal head 13, as seen in the modification in Fig. 8. The door is thus virtually supported by the guide-stems 3 and rod 6, the nut 8 on the latter by rotation in one direction or the other being adapted to carry with it the plate 5 in the direction of its own longitudinal motion along the rod 6, and hence carry with it the door, to which the plate 5 is directly secured.

It frequently happens that by reason of shrinkage of the door the locking-latch L does not quite reach the socket formed for its reception in the jamb, and the door in consequence does not lock. The latch can readily be made to effect the necessary engagement by simply turning the nuts 8 in proper direction, thus forcing the plates 5 and door carried by them away from the hinge-line until the necessary adjustment is effected. The manner of this adjustment and extension is fully shown in Fig. 5, where the plate 5 has been shifted along the rod 6 a considerable distance from the hinge-line. It is apparent, of course, that other adjustments may be effected by the present improvement. For example, if the door sags, the lower hinge alone can be adjusted by moving the nut 8 away from the hinge-line, this movement having the effect of swinging the door as a body about the upper hinge as an axis, so that the lower edge of the door will be raised out of contact with the base of the frame, leaving the door to swing without binding.

I do not, of course, wish to be limited to the precise details here shown, as these may in a measure be departed from without affecting either the nature or spirit of my invention.

Having described my invention, what I claim is—

1. A hinge comprising a leaf adapted to be secured to the door-frame, a second leaf hinged to the first leaf, stems rigidly projecting from the second leaf and adapted to loosely operate between the opposite faces of the door, a plate secured to the outer face of the door, and means for adjustably coupling said plate to the hinge, substantially as set forth.
2. A hinge comprising a leaf adapted to be secured to the door-frame, a second leaf hinged to the first leaf, stems rigidly projecting from one face of the second leaf, a plate secured to the outer face of the door, sockets formed in the rear of said plate for the reception of the stems, a screw-threaded rod projecting from a point adjacent to the hinge-line and carried by the second leaf, a socket formed on the outer face of the plate for the reception of the rod, a nut operating on the rod, the walls of the outer socket of the plate being partially removed for the accommodation of said nut, and means for imparting rotation to the nut in either direction, substantially as set forth.
- In testimony whereof I affix my signature in presence of two witnesses.
- GEORGE R. HILL.
- Witnesses:
EMIL STAREK,
G. L. BELFRY.