Aug. 15, 1939. P. HIZA 2,169,985

HARDWARE

Filed April 12, 1938

Fig. 1

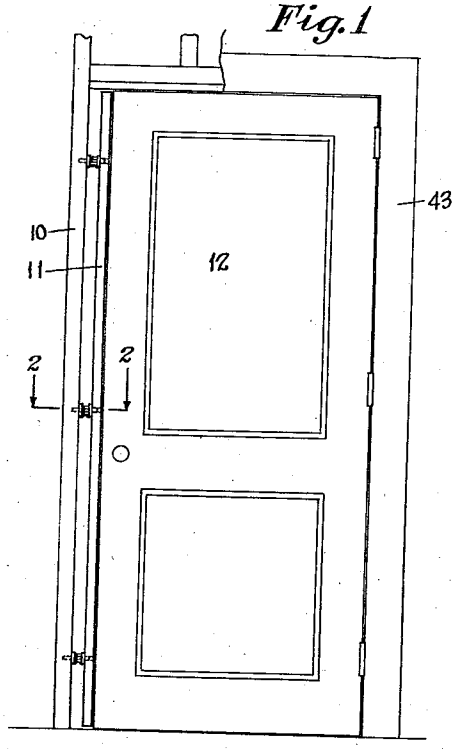



Fig. 2

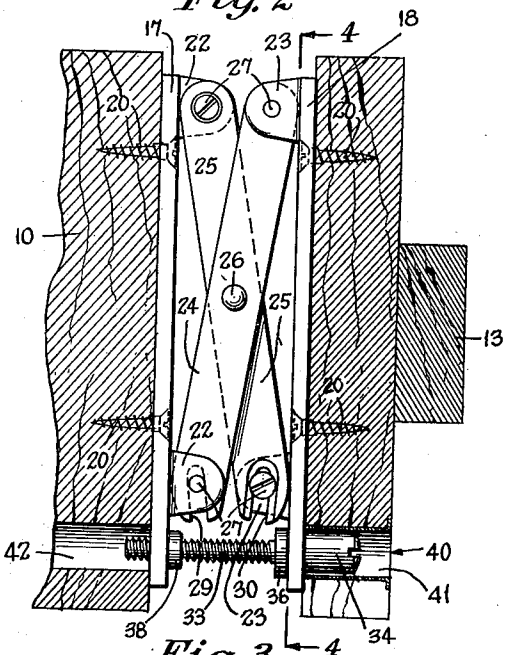



Fig. 3

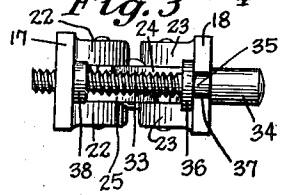



Fig. 4

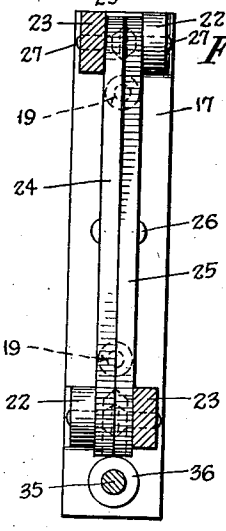



Fig. 5

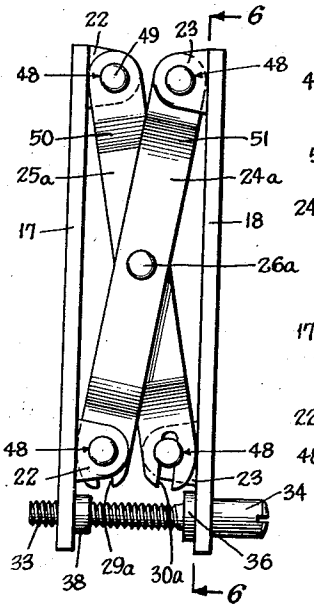
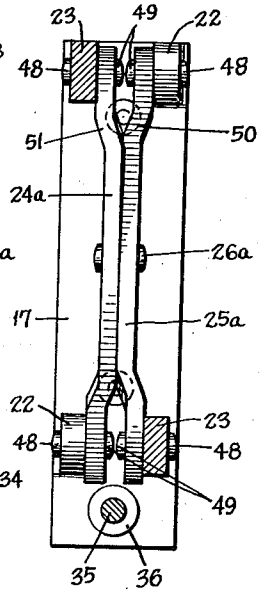



Fig. 6




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Patented Aug. 15, 1939 2,169,985

# UNITED STATES PATENT OFFICE

2,169,985

## HARDWARE

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Application April 12, 1938, Serial No. 201,477

5 Claims. (Cl. 20—12)

This invention relates to hardware, and more particularly, to hardware to be used with doorjambs, or similar devices, for adjustably mounting the same.

In erecting the doorjambs, it is necessary that the jamb be trued to receive the door. This is usually done by positioning blocks between the stud and the jamb and erecting the jamb and then adjusting its position by means of shims.

When the door is made of seasoned wood and has been erected and in use for a while, the door becomes swollen due to the absorption of moisture so that it is impossible to close the same. This requires that the door be removed from the frame and the edge thereof planed to permit the door to pass within the frame.

When the door is constructed of unseasoned wood and has been used for a short time, it very often dries out and shrinks, leaving a large opening between the jamb and the door, which requires that the framework be torn down and the jamb adjusted into engagement with the door in its shrunk condition.

The time and labor required to correct these defects becomes quite sizeable where a large number of doors are provided in the structure.

According to the present invention, a device is provided which readily enables the carpenter to set up and adjust the door and jamb with respect to one another when the door is being installed. The device also enables the jamb to be adjusted with respect to the door after it has been used for a short time to cure defects in the fit of the latter occurring from either absorption of moisture by the door or drying out of the door without requiring that the door and/or frame be removed.

The device of the present invention is simple in construction, durable, and efficient in use and can be manufactured at a low cost. The adjusting means, when positioned in the door construction, is completely concealed and does not in any way mar the appearance of the door in which it is installed.

This device is positioned between the jamb and the fixed stud and includes a pair of plates adapted to be secured to the stud and jamb respectively. The plates are interconnected by a linkage mechanism so that they are supported at a plurality of points, preferably adjacent the ends of the plates. With this construction, the jamb is effectively prevented from pivoting about a vertical axis. Due to the interconnection of the plates by a linkage mechanism, the plates will always more toward or away from one another and will always maintain a parallel relationship.

A single means is provided for interconnecting the plates in order to adjust them toward or away from one another. Access to this means is usually had through an opening in the jamb, which opening is normally covered by the door when in closed position. This feature of the invention prevents the jamb from being adjusted away from the door to thereby release the keeper and render the lock on the door ineffective.

According to the present invention, the links connecting the two blades are provided at one of their ends with a releasable connection whereby they can be readily released from the plates and the plates moved into separated position to enable them to be more easily installed.

Other features and advantages will be apparent from the specification and claims, when taken in connection with the accompanying drawing, in which:

Figure 1 is an elevation of a door and the jamb therefor, partly in section.

Fig. 2 is a sectional view taken along line 2—2 of Fig. 1.

Fig. 3 is an end view of the device.

Fig. 4 is a sectional view of the device, taken along line 4—4 of Fig. 3.

Fig. 5 is a side elevation of a modified form of the invention.

Fig. 6 is a sectional view taken along the line 6—6 of Fig. 5.

The door construction shown in Fig. 1 comprises the usual studding indicated by reference character 10 and jamb members 11 mounted thereon to form an opening in which a door 12 is mounted to strike against the usual stop strip 13.

In constructing the opening, the studs 10 are secured in place and the jambs are then positioned on the studs in proper alignment to snugly receive the door to be mounted therein. Accordingly, the jambs are mounted on the fixed stud by means of the devices of the present invention, which will securely hold the jamb in place and by means of which the jamb can be readily adjusted.

As shown in Fig. 1, three of these devices are mounted at spaced points along the jamb. Each device comprises a pair of plates 17 and 18, which in the preferred form, extend substantially the full width of the stud and jamb. These plates are interconnected by suitable linkage mechanism for movement toward and away from one another. The linkage mechanism is so arranged

that the plates always assume a definite relation to one another. In the preferred form, they insure that the plates will always remain in parallel relation.

The plates are provided adjacent their ends with a pair of outwardly extending ears 22 and 23 respectively which form a means for securing the linkage mechanism. The linkage mechanism comprises a pair of links 24 and 25, which are pivoted intermediate their ends by rivets 26. This construction forms a lazy tong connection between the two plates, with one of the ends of each arm being secured by suitable means to the upstanding ears 22 and 23 at one end of the plates. The ears extend outwardly from the plates and are provided with a flat face which forms a sufficient bearing surface for the links 24 and 25 whereby a rigid connection is obtained in all adjustments of the device.

In the form of the invention shown in Figs. 2 through 4, stove bolts 27 have been used to connect the links to the ears at this end and the holes in the links are cut away so that the heads of the bolts will lie flush with the outer surface of the link. It is to be understood that flatheaded rivets can be countersunk into the links in the same manner.

The other ends of the links are provided with suitably shaped slots 29, 30 which engage projections extending outwardly from the ears 22 and 23 at the other ends of the plates.

As shown in Figs. 2 and 3, stove bolts or the like means form the projection on the latter ears and the sides of the slots 29, 30 are cut away as shown in Figs. 2 and 4 to permit the heads to be countersunk below the outer surface of the legs.

With this construction, the links are detachably held in place and can be released upon actuation of the adjusting means to permit the plates to open into an extended position in which they can be readily secured to the stud and jamb.

In order that the plates can be readily adjusted toward and away from one another, an adjusting screw 33 is provided. The screw is formed with an elongate head 34 having a reduced portion 35 and an outwardly extending shoulder 36. This end of the screw is interlocked with the plate 18 by being inserted in the slot 37 formed in the end of the plate thereof. The other plate is formed with a projection 28 into which the adjusting screw is threaded. With this construction, rotation of the adjusting screw will move the plates toward or away from one another and the linkage mechanism will retain the plates in parallel relation and will afford adequate support for each end of the plate.

In assembling the jamb to the stud, a hole 40 is bored through the jamb and a metal liner 41 is inserted therein to protect the jamb from scarring when the screw driver or other tool is inserted to adjust the connecting mechanism. The fixed stud 10 is provided with a hole 42 positioned to receive the end of the adjusting screw.

When the stud and jamb have been prepared, the adjusting screw is interlocked with the plate 18 and the elongate head thereof is inserted into the metal lined hole 40. During this operation, the links are released from the screws 27 so that the two plates can be readily separated.

The plates 17 and 18 are provided with apertures 19 through which wood screws 20 are sent into the stud and jamb to lock them in place. In the preferred method of using the adjusting means, the plate 18 is first secured to the jamb for each of the adjusting devices. The jamb is then set upon the plates 17 are screwed to the fixed stud with the links still disconnected.

After the plates 17 have been firmly secured to the fixed stud, the slots 29, 30 in the ends of the links are interlocked with the projections on the ears and the screws 33 is threaded into the projection 38 in the plate 17. The links, when interlocked with the plate, will readily hold the jamb against pivotal movement about a vertical axis inasmuch as the cross links will support the jamb on the stud at a plurality of points. With this linkage construction, adjustments of the screw will move the jamb toward or away from the fixed stud so that the jamb can then be adjusted to the proper vertical position to receive the door. While this procedure has been outlined for one of the jamb members, it can be duplicated on the other side jamb member so that the latter can be readily set in position to receive the door.

The adjusting means, as shown in Fig. 2, is so positioned that the hole 40 will be normally covered by the door when in closed position and will not in any way mar the appearance of the doorway. By this means, the door cannot be tampered with and forced open by adjusting the device and moving the jamb away from the door far enough to permit the keeper to be released from the usual latch mechanism of the door. The door must be open in order for adjustments to be made.

By having the jamb adjustably mounted, it can be moved at any time to correct for changes in the fit of the door. For example, should the door be made of seasoned material, and after a short usage become swollen due to the absorption of moisture so that it becomes impossible to close the same, the jamb can be readily adjusted so as to fit the door. On the other hand, should the door be made of unseasoned material, which, after short usage, becomes dried out and shrinks, leaving an opening between the jamb and the door, which in some instances is sufficient to prevent the door from latching when closed, the jamb can be adjusted into proper relation with the door. These adjustments can be made without the necessity of removing the door and planing its edges or tearing down the framework to adjust it into proper position.

After the jambs have been properly positioned on the studs, the usual trim 43 around the door jamb is put in place. This can be done by being nailed in place to the fixed studs to intermediate blocks secured to the studs or any other preferred means.

The device of the present invention can be used to mount the jamb on which the door is hung. If it is used on the jambs on both sides of the opening, a large amount of adjustment can be made in order to overcome swelling or shrinking of the door.

In the form of the invention shown in Figs. 5 and 6, the links 24*a* and 25*a*, are pivoted together by rivet 26*a* and the ends thereof secured to the ears 22, 23 on the plates by means of rivets 48 provided with heads 49 overlying the outer surface of the links. The heads will provide, with the bearing on ears 22 and 23, a bearing on each side of the link. The links 24*a* and 25*a* are provided with slightly lateral offset portions 50 and 51 respectively, which form between them a recess at each end of the ends to accommodate the heads 49 overlying the outer surface of the

linkage. This construction provides a very rugged and sturdy connection between the links and the plates, and, at the same time, permits the device to be collapsed to the point in which the links 24*a* and 25*a* overlap at their end portions. The links in this form of the invention are provided with suitably shaped slots 29*a*, 30*a* which engage the rivets 48 and can be assembled in the same manner as in the form of the invention shown in Figs. 2 to 4.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

1. In an adjustable jamb, the combination of a fixed stud a movable jamb; means for interconnecting the stud and jamb comprising a pair of plates, one to be secured to the stud and the other to the shiftable jamb member and a pair of links pivoted midway the ends thereof and having the opposite ends of the links connected to the plates to form a lazy tong and support the plates in spaced parallel relation, the ends of the links adjacent one end of the plates being slotted and shaped to permit separation of the plates; and means interlocked with one plate and threaded into the other plate for moving said plates toward one another.

2. In an adjustable jamb, the combination of a fixed stud; a shiftable jamb member; a pair of plates, one adapted to be secured to the stud and the other to the shiftable jamb member; linkage mechanism for connecting the plates in such a manner that the plates are supported adjacent each end thereof for movement toward or away from one another while maintaining a parallel relation, said linkage mechanism being connected at one end in fixed relation with the plates and at the other end in releasable relation with the plates whereby the plates can be separated for installation purposes; and means interlocked with one plate and connected to the other plate for moving the plates toward or away from one another.

3. In an adjustable jamb, the combination of a fixed stud and a shiftable jamb member; a pair of plates adapted to be secured, one to the stud and the other to the shiftable jamb member; ears projecting inwardly from the plates and positioned adjacent each end thereof; and a pair of links pivoted midway their ends and having the ends thereof connected to the ears, the surface of the ear forming a bearing against which the ends of the links are secured, said arms being secured to said ears by rivets overlying the arms whereby the arms are pressed into snug engagement with the bearings and the links being provided with lateral offset portions for receiving the heads of the rivets.

4. A device of the class described, adapted to be inserted between the fixed stud and movable jamb comprising a pair of plates having ears extending therefrom adjacent the ends thereof; a pair of pivoted levers interconnecting the plates and secured to the ears, one end of the levers being fixedly secured to the ears and the other end being releasably secured to the ears and draft means interlocked with one plate and in threaded engagement with the other for moving the plates toward one another.

5. A device adapted to be interposed between a fixed stud and a movement comprising a pair of plates, one to be secured to the stud and the other to the shiftable jamb member; linkage mechanism for connecting the plates in such a manner that they are supported adjacent the ends thereof for movement toward or away from one another while maintaining a parallel relation, the ends of the links adjacent one end of the plate being slotted and shaped to permit separation of the plates whereby the device can be opened to enable it to be secured in place; and means interlocked for one plate and threaded into the other plate for moving said plates toward one another.

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