Nov. 20, 1923 1,474,418

E. J. LARSON

HINGE

Filed March 10, 1923

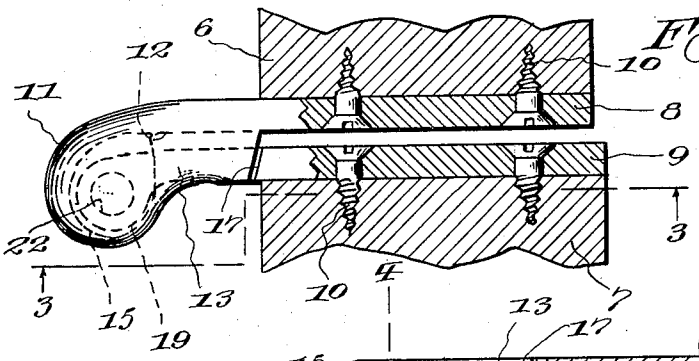


Fig. 1.

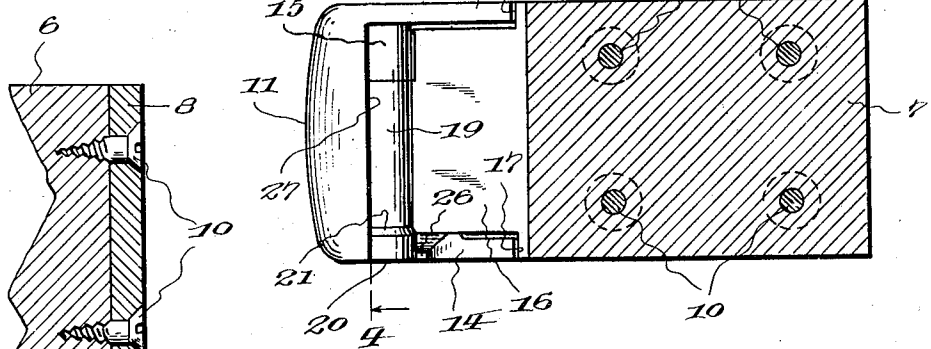


Fig. 3.

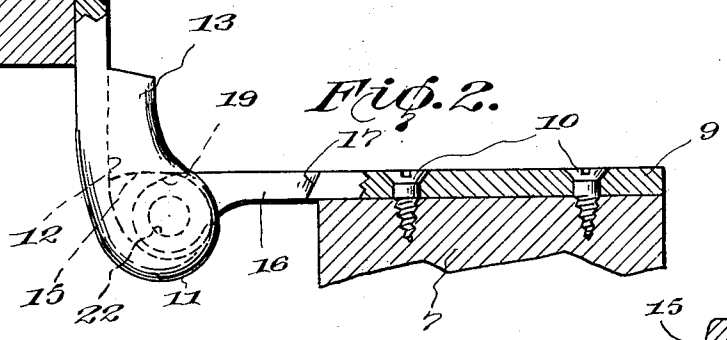


Fig. 2.

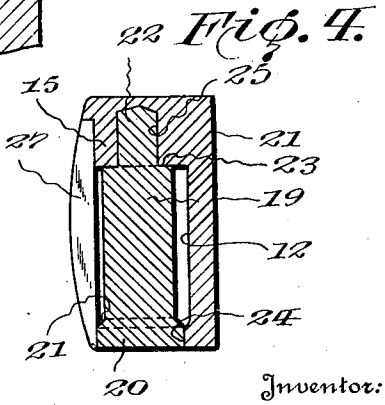


Fig. 4.

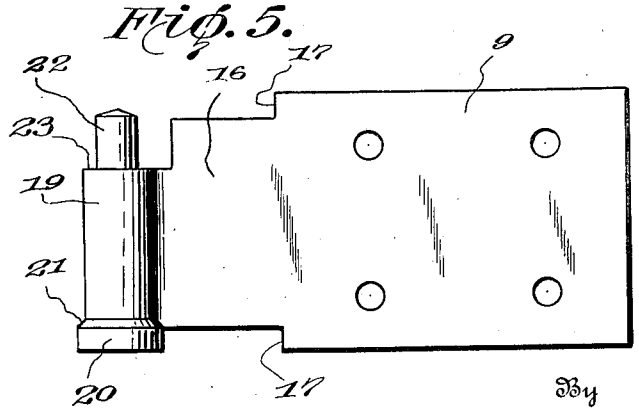


Fig. 5.

Inventor:
Emil J. Larson.

By Milo B. Stevens & Co.

Attorneys.

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UNITED STATES PATENT OFFICE.

EMIL J. LARSON, OF HAMMOND, INDIANA.

HINGE.

Application filed March 10, 1923. Serial No. 624,169.

To all whom it may concern:

Be it known that I, EMIL J. LARSON, citizen of the United States, residing at Hammond, in the county of Lake and State of Indiana, have invented new and useful Improvements in Hinges, of which the following is a specification.

This invention relates in general to improvements in hinges having particular reference to hinges used on the doors of coaches, automobiles or the like.

The principal object of the invention is to provide a hinge that will insure free and easy mounting or demounting of the door, reduce the usual jumping and rattling of the same to a minimum, but at the same time insure positive closing of the hinge.

A further object is to provide a hinge of improved construction that will carry the weight of the door through the medium of a small amount of contacting surfaces thereby eliminating considerable wear.

Still further objects and features of my invention will appear hereinafter, and in order that the same may be better understood reference is had to the accompanying drawings showing a preferred embodiment thereof. In said drawings:

Figure 1 is a horizontal section through a door and its casing showing the hinge in elevation.

Fig. 2 is a similar view showing the hinge fully swung open.

Fig. 3 is a vertical transverse sectional view taken substantially on the line 3—3 of Figure 1.

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 3; and,

Fig. 5 is a detail view of one of the elements of the invention.

In the drawing 6 denotes a fragment of a door and 7 its casing. 8 and 9 are hinge leaves, respectively mounted upon the door and casing, flush with the edges thereof and secured thereto by screws 10.

In designing this hinge I have kept in mind the fact that it is to be positioned on the exterior of the door, and with this in view I have endeavored to construct a hinge that will be artistic in appearance, thereby adding to, rather than detracting from the appearance of its associated parts.

To this end the exterior or protruding portion of the leaf 8 has been given a claw-like configuration, as indicated generally at 11. The major part of said protruding portion has been cored out, as shown at 12, forming top and bottom lateral extensions 13 and 14 respectively. However, within the cored portion enough material is left to form a lug 15, as best shown in Fig. 3, the purposes of said lug 15 and the lateral extensions 13 and 14 aforementioned being described hereinafter.

The leaf 9 is constructed of one piece of metal having a reduced portion 16 which defines shoulders 17, best shown in Fig. 5. The inner end of the said leaf 9 is enlarged to form a substantially circular portion 19 which is increased in diameter at its lower end to form a head 20, the shoulder between the same being beveled as indicated at 21. The top of the said portion 19 is reduced in diameter to form a pintle 22 and shoulder 23.

Referring now to the leaf 8, particularly to the protruding claw-like portion 11, it will be noted that the lateral extension 14 is cut away to form an opening 24 which is equal in diameter to that of the head 20, and also on reference to Fig. 4 it will be observed that the lug 15 is apertured as shown at 25.

In assembling the device the circular portion 19 of the leaf 9 is inserted in the opening 24 of the leaf 8, and the latter is carried downwardly until the pintle 22 enters the aperture 25. The reduced portion 16 of the leaf passes through the side outlet of the opening 24. The threading or insertion of the leaf 9 is facilitated by having the beveled surface between the portion 19 and the head 20. The hinge being now properly assembled the two leaves 8 and 9 may be swung together, the reduced portion 16 swinging within that space defined by the lateral extensions 13 and 14, as best shown in Fig. 3.

However, in order to insure a positive closing of the leaves of the hinge I have slightly beveled off the lateral extension 14 as indicated at 26. Also, in order to limit the swing of the hinge I have provided means in the form of a stop 27.

On reference to Fig. 5 it will be noted that the pintle 22 and shoulder 23 carry substantially the entire weight of the door. It will at once become apparent that the pivotal contacting surfaces in my improved hinge have been reduced to a minimum; therefore, since I have reduced friction to a minimum I have done away with, and pro-

vided against excessive wear which plays a conspicuous part in the hinges in present use. Further, my improved hinge does not require the use of a removable pin as its pivotal support.

I have endeavored to describe my invention in a brief and concise manner so that it may be readily understood by those skilled in this art, and while I have shown the preferred embodiment of my invention, nevertheless, it is to be understood that minor modifications and changes may be resorted to liberally without departing from the spirit of the invention nor the scope of the appended claims.

I claim:

1. A hinge construction comprising two leaf members, one having a cored portion with an apertured lug therein, and the other having an enlarged head insertible through said cored portion and projecting within the said apertured lug.

2. A hinge construction comprising two leaf members, one having a cored portion with an opening in the bottom thereof and an apertured lug concentric with the said opening, and the other having an enlarged head insertible through the said opening and means for entering the said apertured lug.

3. A hinge construction comprising two leaf members, one having a cored portion with a substantially circular opening at the bottom and an apertured lug at the top thereof, the other having an enlarged head with an upstanding pintle, said enlarged head being insertible through the opening in the cored portion of the first-named member and the said pintle of the said enlarged head of the last-named member being also insertible in the apertured lug thereby providing pivotal means between the two members.

4. A hinge construction comprising two leaf members, one having a cored portion with a substantially circular opening at the bottom and an apertured lug at the top thereof, the other having an enlarged substantially circular portion with an upstanding pintle and an enlarged head with a beveled surface at the base thereof, the said enlarged circular portion being insertible through the said opening in the cored portion of the first-named member and the pintle of said enlarged portion of the last-mentioned member being also insertible within the apertured lug thereby providing pivotal means between the two members.

5. A hinge construction comprising two leaf members, one having a cored portion which defines top and bottom lateral extensions and a substantially circular opening at the bottom and an apertured lug at the top thereof, the other having an enlarged substantially circular portion having its upper end reduced in diameter to form a shoulder and an upstanding pintle and its lower end enlarged to form a head portion the shoulder therebetween being beveled thereby enabling easy insertion of the said enlarged circular portion through the said opening in the opening of the said cored portion of the first-named member and the pintle of the last-named member being also insertible within the apertured lug together with the said shoulder providing contacting surfaces and pivotal means between the two members, the bottom lateral extension having its upper face slightly beveled thereby assuring positive coaction between the aforesaid hinged members.

In testimony whereof I affix my signature.

EMIL J. LARSON.