March 4, 1924. 1,485,398

J. LEDWINKA

HINGE STRUCTURE FOR AUTOMOBILE DOORS

Filed April 17, 1919

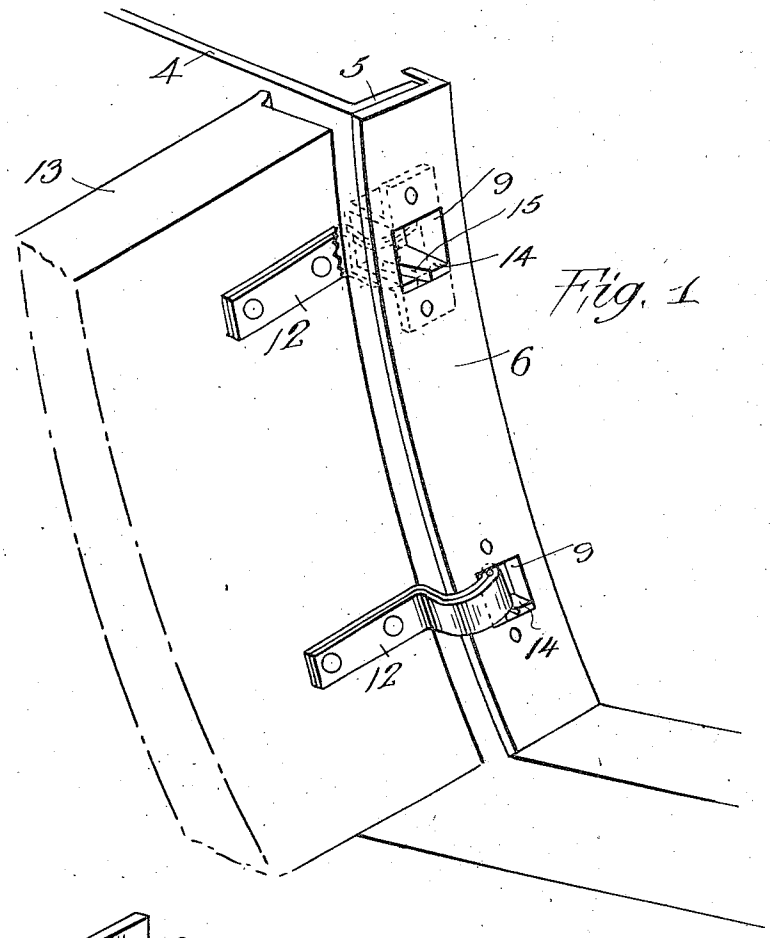
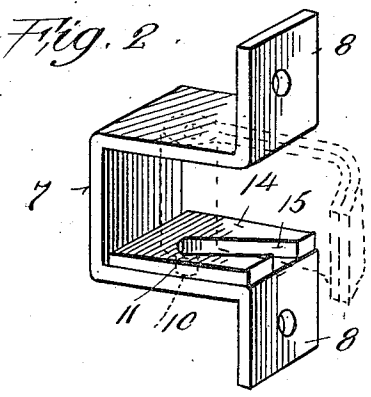


Fig. 1

Fig. 2



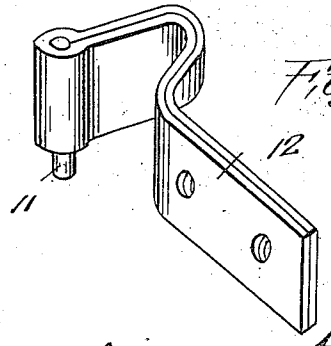


Fig. 3

Inventor
Joseph Ledwinka
by his atty Samuel E. Darby

Patented Mar. 4, 1924. 1,485,398

UNITED STATES PATENT OFFICE.

JOSEPH LEDWINKA, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO EDWARD G. BUDD MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

HINGE STRUCTURE FOR AUTOMOBILE DOORS.

Application filed April 17, 1919. Serial No. 290,785.

To all whom it may concern:

Be it known that I, JOSEPH LEDWINKA, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have made a certain new and useful Invention in Hinge Structure for Automobile Doors, of which the following is a specification.

This invention relates to hinge structures for automobile doors.

The object of the invention is to provide means which are simple and efficient for facilitating the assembly or removal of hinged doors of automobiles.

A further object of the invention is to provide means which are simple and efficient for guiding the pintles of automobile and other door hinges into the hinge plates in the door posts.

Other objects of the invention will appear more fully hereinafter.

The invention consists substantially in the construction, combination, location and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawing and finally pointed out in the appended claims.

In the accompanying drawing,—

Fig. 1 is a view in perspective, parts broken off, showing a hinge structure embodying my invention as applied to an automobile door.

Fig. 2 is a detached detail view in perspective showing the hinge plate and the pintle guiding means associated therewith.

Fig. 3 is a similar view showing the hinge strap and pintle.

The same part is designated by the same reference character wherever the same occurs throughout the several views.

In the application of doors to automobiles it is a common custom to supply the door with hinge straps having pintles which are received in hinge plates attached to the door post. Usually the hinge plate is formed with a hole or opening into which the end of the pintle of the hinge strap is stepped. The common practice is to apply the hinge plate inside the door post and to cut a slot or opening through the door post through which the pintle end of the hinge strap is inserted into position for the pintle thereof to be received in the hole in the hinge plate. In applying a door to an automobile having such hinge structure difficulty is frequently encountered and time is consumed in properly assembling the pintles of the hinge straps into position to be received in the holes in the plates. Since ordinarily the door is equipped with at least two, and sometimes more, hinges, the inconvenience and difficulty of simultaneously assembling a plurality of pintles in proper relation with respect to their associated hinge plates is increased and the operation consumes time thereby adding to the expense of assembling the doors.

It is among the special purposes of my present invention to provide an arrangement which is simple and effective whereby the pintles of the hinge straps are easily and quickly guided into position to be received in the holes in the hinge plates, and in the accompanying drawing I have shown a simple structure and arrangement embodying the principles of my invention.

Referring to the drawing, 4 designates the side or body panel of an automobile terminating at the doorway in a flange 5. Applied to the flange 5 is a door post member 6, which may be of any suitable or desired structure. In the form shown this door post is in the form of an angle plate or stamping fitted into the flange 5 of the body panel. So far as my present invention is concerned the particular structure of the door post and the connection of the same to the door panel is not of consequence. The hinge plates, one of which is shown detached in Fig. 2, are each in the form of a U-shaped stamping 7 having end flanges 8 adapted to be fitted against and suitably secured by welding, bolts, or otherwise, to the inner face of the door post 6, or to the inner face of the flange 5 to which the door post is applied, the open end of the U-shaped stamping presenting outwardly towards the door post and registering with an opening 9 through the door post. Through the lower leg or the U-shaped stamping forming the hinge plate, a hole or opening indicated at 10, Fig. 2, is formed to receive the end of the pintle 11 carried in the end of a hinge strap 12 which is suitably secured to the door 13. In the arrangement shown two such assemblies of pintle straps and hinge plates are employed for the door.

In order to facilitate the insertion of the

pintles 11 of the straps coincidently into position to be received in the pintle holes 10 of the plates I provide a reinforcing plate 14 which is applied to the leg of the U-shaped hinge plate in which the hole 10 is formed. A guide slot 15 is formed in the reinforcing plate 14 and extends from the mouth of the U-shaped bend of the hinge plate across the reinforcing plate until at its inner end said slot terminates in register with the pintle hole 10 of the hinge plate. With this arrangement the work of applying the door to the automobile body is very greatly facilitated since it is only necessary to cause the pintles 11 of the door hinge straps to enter the guide slots 15 of their respective hinge plate structure, and thereafter by simply pressing the pintles along said guide slots said pintles are quickly brought into true register with the pintle seats or holes 10 and are permitted to drop into place therein.

It will be observed that the plates 14 with their guide slots 15 not only serve the purpose of guiding the pintles into position to be received in the pintle seats or holes 10 but they also serve to strengthen and reinforce the hinge plates.

Having now set forth the objects and nature of my invention and a construction embodying the principles thereof, what I claim as new and useful and of my own invention and desire to secure by Letters Patent is,—

1. A hinge construction comprising a stamping having a substantially U shaped portion, one leg of said U-shaped portion having a pintle hole therethrough, a hinge member having a pintle to be received in said pintle hole, and means to guide said pintle along the leg of the U-shaped portion of said stamping and into position to be received in said pintle hole.

2. A hinge construction comprising a plate having a pintle hole, a hinge member having a pintle to be received in said hole, and a reinforcing member applied to said hinge plate, said reinforcing member having a slot therethrough forming a guide to guide the pintle from the edge of said recess into position to be received in said hole.

3. A hinge construction comprising a plate stamped into substantially U shape, and having a hole through one of the legs thereof to receive the pintle of a hinge member, a reinforcing plate applied to the hinge plate, said reinforcing plate having a guide slot formed therethrough and extending from the outer edge thereof, to guide the hinge pintle into register with the hole in said hinge plate.

4. A hinge construction comprising a stamping member having a U-shaped portion, one leg of which has a hole therethrough to receive a hinge pintle, an auxiliary plate secured to said leg and provided with a slot, one end of which is in line with said hole and the other end of which opens at the mouth of said U-shaped portion, and a hinge strap carrying a pintle adapted to be guided by said slot to its seat in said hole.

In testimony whereof I have hereunto set my hand on this 14th day of April, A. D 1919.

JOSEPH LEDWINKA.