Aug. 18, 1936. E. B. G. LEFEVRE 2,051,726

CONCEALED DOOR HINGE

Filed Feb. 9, 1934

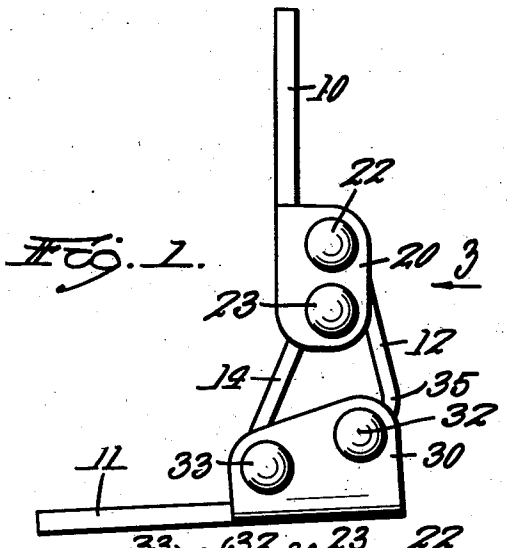


Fig. 1.

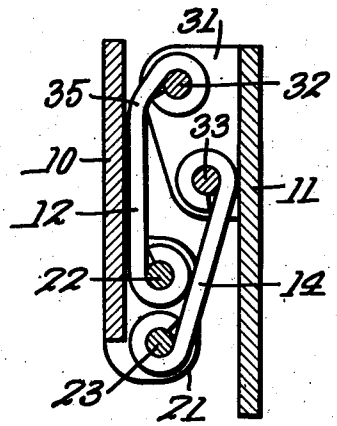


Fig. 2.

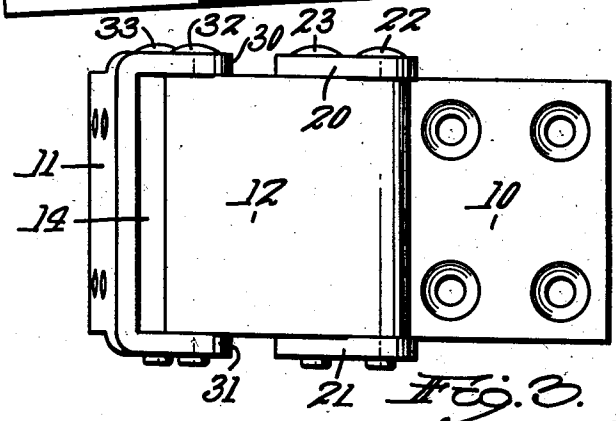


Fig. 3.

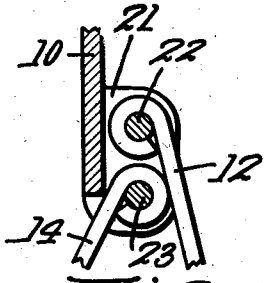


Fig. 6.

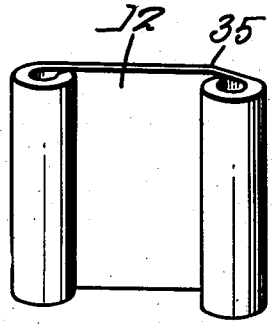


Fig. 5.

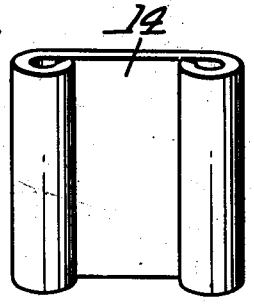


Fig. 4.

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Patented Aug. 18, 1936 2,051,726

UNITED STATES PATENT OFFICE

2,051,726

CONCEALED DOOR HINGE

Emil B. G. Lefevre, Detroit, Mich.

Application February 9, 1934, Serial No. 710,437

1 Claim. (Cl. 16—164)

This invention relates to a hinge designed to provide an abrupt throw-out for an automobile door or other supported part.

It is the general object of my invention to provide a hinge of the defined type in which the parts are simple in design, economical to manufacture and well adapted to their intended purposes.

My improved hinge is also so designed that it may be easily manufactured from sheet metal by pressing and bending operations.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawing, in which—

Fig. 1 is a plan view of my improved hinge in open position;

Fig. 2 is a sectional plan view of the hinge in closed position;

Fig. 3 is a side elevation of the open hinge, looking in the direction of the arrow 3 in Fig. 1;

Figs. 4 and 5 are perspective views of two different hinge links, and

Fig. 6 is a detail sectional plan view of parts of the hinge in open position.

Referring to the drawing, my improved hinge comprises a hinge plate or leaf 10 to be secured to an automobile body or pillar post or other stationary part, and a hinge plate or leaf 11 to be secured to a door or other swinging part. My improved hinge also comprises a relatively longer hinge link 12 and a shorter hinge link 14.

The hinge plate 10 is preferably made from a single piece of relatively heavy sheet metal and is provided with upper and lower out-turned flanges 20 and 21 having openings therein to receive hinge pins 22 and 23. The axes of the hinge pins 22 and 23 are parallel and are preferably in a plane substantially parallel to the surface of the hinge plate 10.

The hinge plate 11 is also made of heavy sheet metal and is similarly provided with upper and lower outturned flanges 30 and 31 having bearing openings to receive hinge pins 32 and 33. The axes of the pins 32 and 33 are parallel and are preferably disposed in a plane forming an acute angle with the surface of the hinge plate 11.

The hinge links 12 and 14 are each preferably formed from a single piece of sheet metal, having end portions rolled to provide bearings for the hinge pins extending therethrough. The end bearing portions of each link are offset from the body of the link, as clearly shown in Fig. 2, and a sharp bend is provided at 35 in the link 12 to increase the offset of the adjacent end bearing portion. The major straight portion of the link 12 is substantially parallel to the hinge plate 10 and directly engages said hinge plate when the hinge is closed. The link 12 thus forms a stop which insures that the plates 10 and 11 will be substantially parallel when in closed position as shown in Fig. 2.

The parts are assembled by placing the links 12 and 14 between the end flanges 20, 21, 30 and 31 and by inserting hinge pins 22 and 32 through the end bearings of the link 12, and hinge pins 23 and 33 through the end bearings of the link 14.

The difference in length of the links and the difference in spacing and angular position of the hinge pins causes the initial opening movement of the hinge to be substantially a simple swinging movement about the axis of the hinge pin 23.

As soon, however, as the edge of the door clears the door jamb, the links 12 and 14 come into action and provide an abrupt throw-out motion by which the hinge plate 11 and attached door swing to the outwardly offset position shown in Fig. 1. In this position the body portion of the link 12 engages an end portion of the link 14, as shown in Fig. 6, and thus acts as a stop to limit opening movement of the hinge.

My improved hinge is thus very simple in construction and rugged in structure, and presents long bearings not easily subject to wear.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:—

A sheet metal concealed door hinge comprising four pivotally connected plates of substantially equal width, two of said plates comprising hinge leaves having means for attachment respectively to a support and to a swingably supported member, the other two plates constituting links between said attachable leaves, a pair of integral bearings at and formed from the opposite ends of each hinge link, ears at opposite edges of each of said attachable leaves and overlapping said bearings, and pivot pins extending through said bearings and said ears.

EMIL B. G. LEFEVRE.