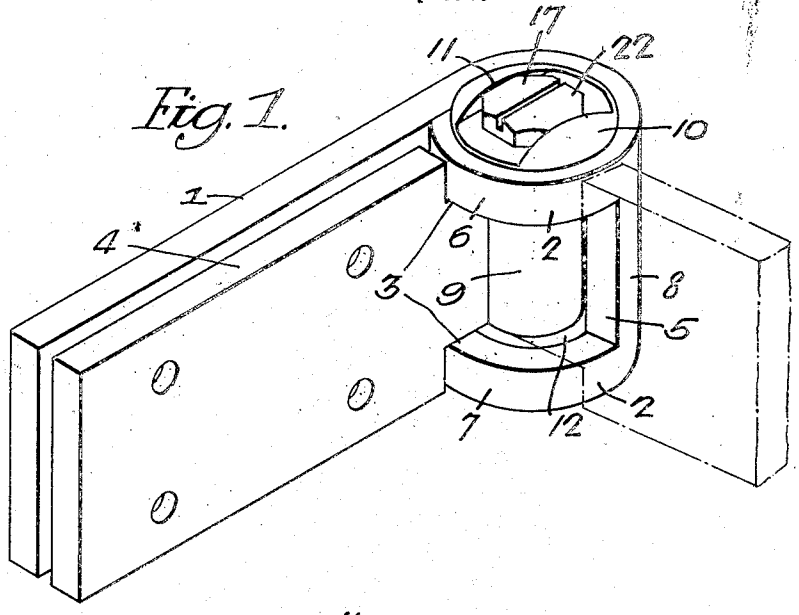
March 24, 1925. 1,531,164

A. W. WAY

AUTOMOBILE DOOR HINGE

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Fig. 1.



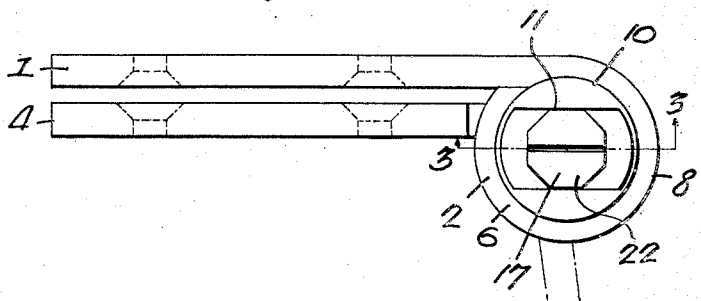


Fig. 2.

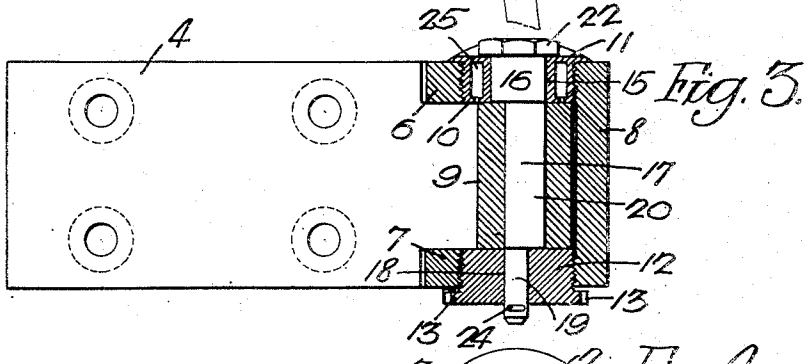


Fig. 3.

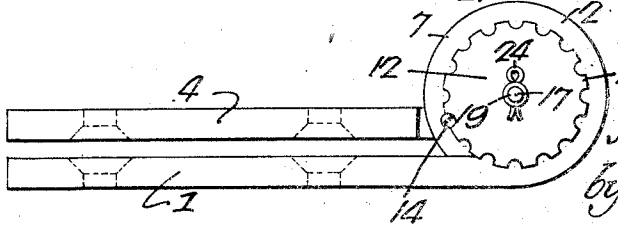


Fig. 4.

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Howson & Howson

March 24, 1925. 1,531,164

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Fig. 7.

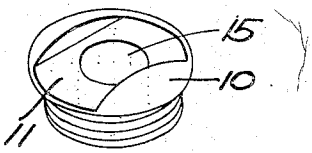


Fig. 5.

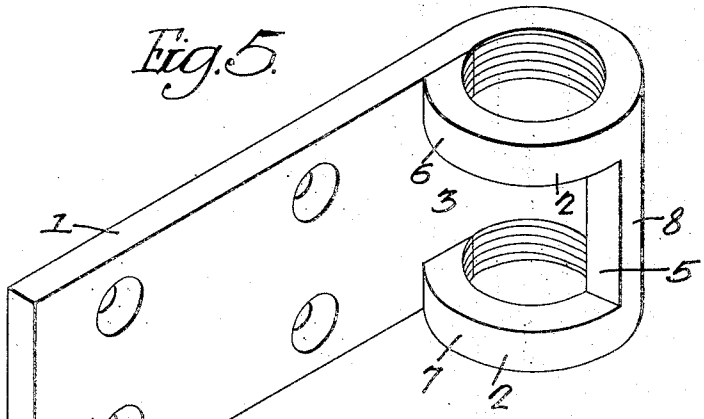


Fig. 9.

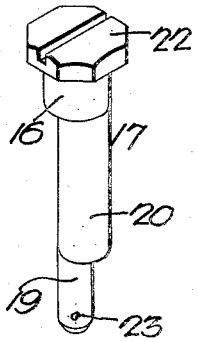


Fig. 6.

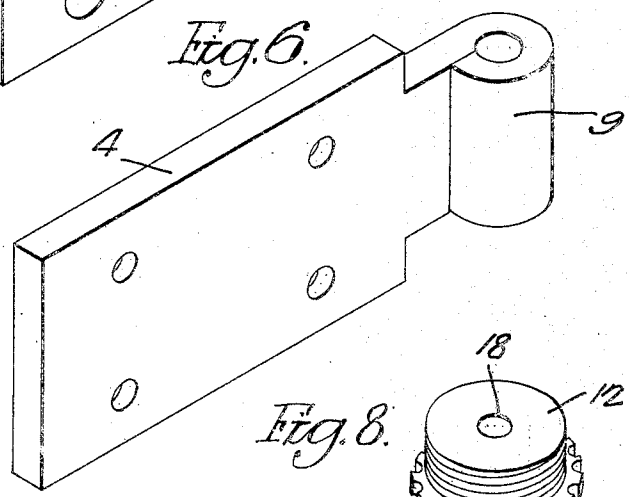


Fig. 8.

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Patented Mar. 24, 1925. 1,531,164

UNITED STATES PATENT OFFICE.

ALBEN WARREN WAY, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMOBILE DOOR HINGE.

Application filed June 20, 1923. Serial No. 646,550.

To all whom it may concern:

Be it known that I, ALBEN WARREN WAY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Automobile Door Hinges, of which the following is a specification.

My invention relates especially to hinges used for hanging automobile and other vehicle doors.

One object of my invention is to construct the hinge so that it can be adjusted after a door is in place, insuring accuracy in fitting the door to the vehicle body.

A further object of the invention is to design the hinge so that the leaves can be shaped from strip metal and the upper and lower bearings made in the form of detachable plugs, one of which is adjustable to take up slack from excessive wear.

In the accompanying drawings:

Fig. 1 is a perspective view of my improved hinge;

Fig. 2 is a plan view;

Fig. 3 is a sectional view on the line 3—3, Fig. 2;

Fig. 4 is an inverted plan view;

Fig. 5 is a perspective view of one of the leaves of the hinge;

Fig. 6 is a perspective view of the other leaf of the hinge;

Fig. 7 is a perspective view of the upper bearing;

Fig. 8 is a perspective view of the lower bearing; and

Fig. 9 is a perspective view of the eccentric pintle.

Referring to the drawings, 1 is the one of the leaves of the hinge made from a metal strip cut from portions 2, which are spaced apart, as shown at 3, for the movement of the other leaf 4 of the hinge. The wall 5 of the space forms an abutment for the leaf 4 when the door is opened to its full extent. The plate forming the leaf 1, as well as the portions 2, is bent to form the upper knuckle 6, and the lower knuckle 7, of the hinge. The bent portion 8 joins the two knuckles and forms a closure for the hinge so that the knuckle 9 of the leaf 4 is not exposed to view from the side of an automobile and is also protected from the weather.

The leaf 4 is reduced in width at one end, as shown in Fig. 6. This reduced portion is bent to form the knuckle 9.

Each end of the leaf 1 is threaded, as shown in Fig. 5. A bearing 10 has a threaded portion adapted to the thread in the upper end of the leaf 1 and has a channel 11, as shown in Fig. 7. A lower bearing 12 has a threaded portion adapted to the lower threaded opening in the leaf 1 and has a notched flange 13. An anchor pin 14 on the leaf 1 engages the notched flange 13 and holds the bearing in the position in which it is adjusted. By adjusting this bearing, any slack caused by excessive wear can be readily taken up.

In the upper bearing is a large hole 15 for the portion 16 of the pintle 17, Fig. 9. In the lower bearing is a small hole 18 for the portion 19 of the pintle. The portion 20 of the pintle is eccentric and fits the opening 21 in the knuckle 9 of the leaf 4. On turning the pintle, the leaf 4 can be adjusted in respect to the leaf 1. On the upper end of the pintle is an octagonal head 22, which, when in place, fits the channel 11 in the upper bearing, and prevents the pintle turning in the bearing. The lower end of the pintle is perforated at 23 to receive a cotter pin 24.

If desirable, a grease cavity 25 may be formed in the upper bearing 10, as shown in Fig. 3. An opening may be made to supply small quantities of grease, or other lubricant, to the joint between the knuckles.

By the use of my invention, the door of an automobile can be hung on the body and adjusted so as to fit the door opening accurately by merely turning the pintles of the hinges. The cam section shifts the door the required distance.

In making an adjustment, the cotter pin 24 is withdrawn and the pintle is raised so that the head 22 clears the walls of the groove 11. Then the pintle is turned, and, as the eccentric portion 20 is in the knuckle 9, of the leaf 4, the leaf is moved until the door fits the door opening accurately.

When it is necessary to adjust the parts vertically to take up a loose fit, or wear, the pin 14 is removed and the lower bearing 12 is turned so as to raise the bearing, after which the pin is inserted in the notch

opposite the pin opening, which holds the bearing in the position in which it is adjusted.

By forming the leaves from sheet, or strip, metal, the knuckles can be readily formed and a substantial hinge produced, which closes the working parts, the hinge being protected from the weather. A stop for the door, when opened, is also formed.

I claim:

1. The combination in a hinge, of two leaves bent to form knuckles, one leaf having upper and lower knuckles and an enclosing portion between said knuckles, said enclosing portion forming a stop for the other leaf; a pintle having an eccentric portion adapted to the knuckle of one leaf; and means for retaining the pintle in the position in which it is adjusted.

2. The combination in a hinge, of two leaves, one leaf having upper and lower bearings, the lower bearing being vertically adjustable, the other leaf having a knuckle resting on the lower bearing; and an eccentric pin for adjusting one leaf laterally in respect to the other leaf.

3. The combination in a hinge, of a leaf having a portion bent to form upper and lower knuckles and a connecting stop portion; a second leaf bent to form an intermediate knuckle located back of the stop portion, upper and lower bearings in the knuckles of the first mentioned leaf; a pintle having an eccentric portion located in the intermediate knuckle; and means, on the upper bearing, for retaining the pintle in the position in which it is adjusted.

4. The combination in a hinge, of two leaves, one leaf having an upper and a lower bearing; a grease receptacle in the upper bearing; and a pintle having an eccentric portion adapted to one of the leaves.

ALBEN WARREN WAY.