Nov. 25, 1924. 1,516,747

G. MAILLÉ

HINGE

Filed Sept. 30, 1922 2 Sheets-Sheet 1

Fig. 1

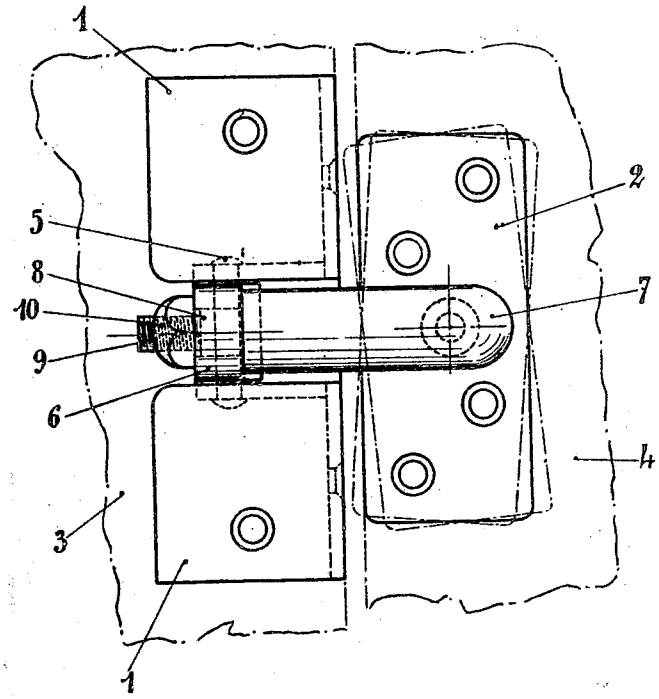
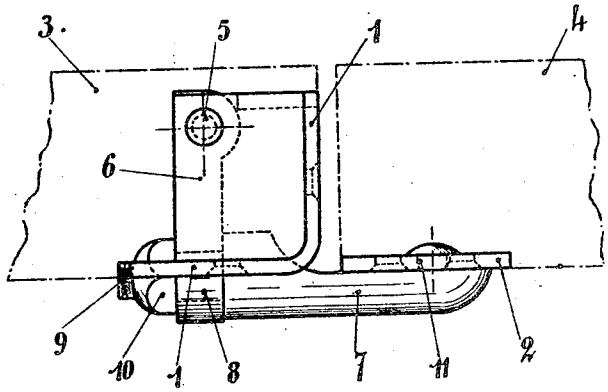


Fig. 2.



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Filed Sept. 30, 1922 2 Sheets-Sheet ?

Fig. 3

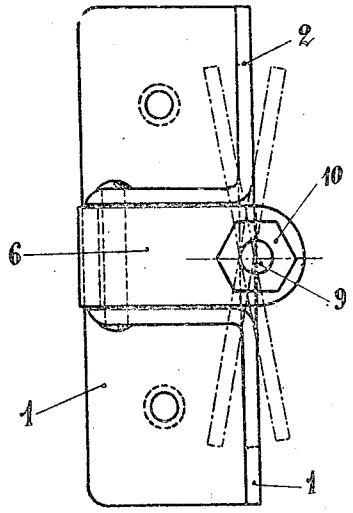
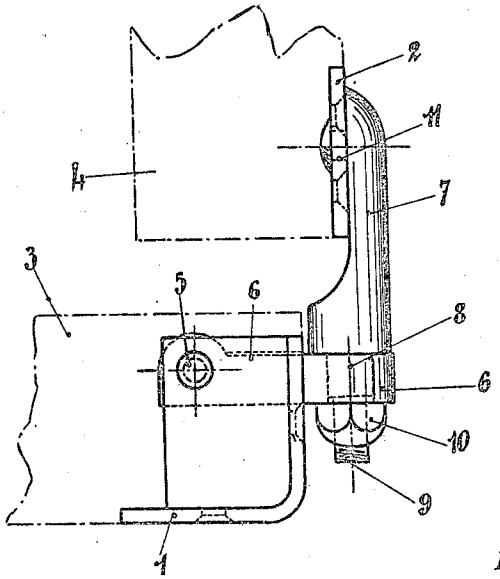


Fig. 4.



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Patented Nov. 25, 1924. 1,516,747

UNITED STATES PATENT OFFICE.

GABRIEL MAILLÉ, OF AMIENS, FRANCE.

HINGE.

Application filed September 30, 1922. Serial No. 591,604.

To all whom it may concern:

Be it known that I, GABRIEL MAILLÉ, a citizen of the French Republic, residing at Amiens, France, 5 Rue de Bellevue, have invented certain new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to a hinge which, in addition to the main pivotal connection, comprises two secondary pivotal connections enabling swinging or turning movements of the associated parts about axes disposed at right angles to each other, these two secondary connections being designed to facilitate the setting into place of the hinge, especially upon the doors of vehicles.

In order that the invention may be fully understood, it has been illustrated by way of example, in the accompanying drawing, in which:

Figure 1 is a view in front elevation, showing the hinge closed;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a view similar to Fig. 1, but showing the hinge opened;

Fig. 4 is a plan view of Fig. 3.

The hinge shown comprises two co-ordinate members or plates 1 and 2, one fixed and the other movable.

The fixed plate 1, which has the form of an angleiron, is embedded in the upright 3 of the car body; while the plate 2, constituting the movable member, is fastened to the upright 4 of the door.

The plate 1 bears the pivot 5 of the main pivotal connection of the door, said pivot being disposed vertically.

The swing bolt, which connects the fixed plate 1 with the movable plate 2, comprises two arms 6 and 7 arranged at right angles to each other, so that the bolt as a whole may thus be regarded as L-shaped. These arms are connected together at their mutually-adjacent ends by a horizontal pivot pin 8 integral with the arm 7 and extending rotatably through and beyond a horizontal opening in the arm 6, the projecting portion 9 of the pin being threaded to receive thereon a clamping nut 10 adapted to be tightened against the adjacent side face of arm 6.

The arm 7 is connected at its outer end with the plate 2 by a pivot 11 which is attached to this plate and is disposed horizontally, but is arranged at right angles to the pivots 5 and 8 which are likewise perpendicular to each other, so that each of the three pivots utilized is thus arranged at right angles to the other two; but it is to be observed, however, that the said pivots are disposed out of intersecting relation.

The setting into place of the hinges of the types heretofore used is very difficult, because these hinges are almost always employed in pairs, one at the upper part of the door and the other at the lower part thereof; and it is neccessary, in order that the opening of the door may take place normally, that the pivots be located exactly in alinement. To obtain this result, it is essential that the plates be mounted with the utmost care and accuracy by special workmen.

It will be readily understood that, owing to the arrangement of the two horizontal pivots 8 and 11, which enable the position of the door relatively to the plates to be varied by rotary or turning movements in two different vertical planes at right angles to each other, the mounting of the hinges becomes quite easy.

Moreover, owing to the detachable connection of the two arms 6 and 7 of the swing bolt, it is possible, by merely removing the nut 10, which is perfectly accessible when the door is opened, to dismantle the latter without unscrewing the plates.

I claim as my invention:—

1. In a hinge, the combination of co-ordinate fixed and movable members; and a swing bolt connecting said members and comprising two arms arranged to form a right angle and having their mutually-adjacent inner ends connected for relative pivotal movement in one plane, one arm having its outer end connected to the fixed member to enable bodily pivotal movement of the bolt as a unit in a second plane and the other arm having its outer end connected to the movable member for relative pivotal movement between that member and said other arm in a third plane.

2. In a hinge, the combination of co-ordinate fixed and movable members; and an L-shaped swing bolt having the outer ends of its two arms pivoted one to the fixed member and the other to the movable member, to enable relative pivotal movement between the bolt as a unit and said members in two different planes; and the mutually-adjacent inner ends of its arms pivoted directly together, for relative pivotal movement in a third plane each of the three piv-

ots being perpendicular to the other two but disposed out of intersecting relation thereto.

3. In a hinge, the combination of co-ordinate fixed and movable members; a horizontally disposed, L-shaped swing bolt, the two arms of which are structurally separate; a horizontal pivotal connection between the mutually-adjacent inner ends of said arms to enable relative pivotal movement therebetween; a horizontal pivotal connection between the outer end of one arm and the movable member to enable pivotal movement of the latter relative to the bolt; and a vertical pivotal connection between the outer end of the other arm and the fixed member to enable a bodily swinging movement of said bolt relative to said fixed member.

4. A hinge, according to claim 3, in which the two horizontal pivots are disposed at right angles to but do not intersect each other or the vertical pivot.

5. In a hinge, the combination of co-ordinate fixed and movable members; a horizontally disposed, L-shaped swing bolt, the two arms of which are structurally separate, one arm provided at its inner end with a horizontal pivot pin which extends rotatably through a transverse, horizontal opening in the inner end of the other arm to enable relative movement between the two arms, said pin projecting through said opening and having its projecting portion threaded; a removable clamping nut engaged with said threaded portion and adapted to be tightened against the adjacent side face of the first-named arm; a vertical pivotal connection between the outer end of the second-named arm and the fixed member to enable a swinging movement of the bolt relative to that member; and a horizontal pivotal connection between the outer end of the first-named arm and the movable member to enable a pivotal movement of the latter relative to said bolt.

In testimony whereof I affix my signature.

GABRIEL MAILLÉ.