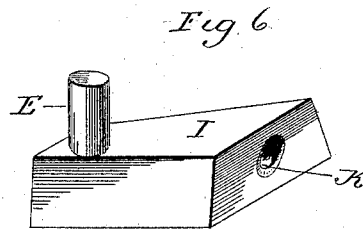
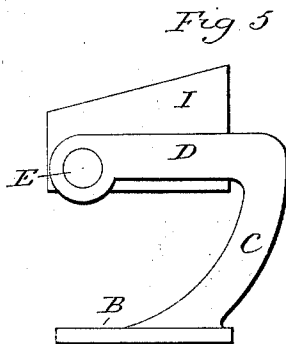
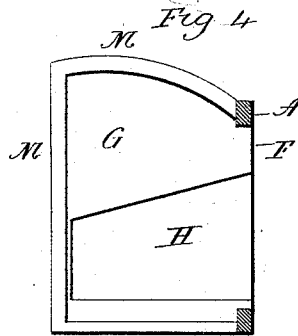
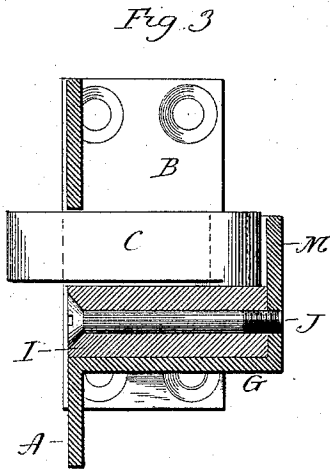
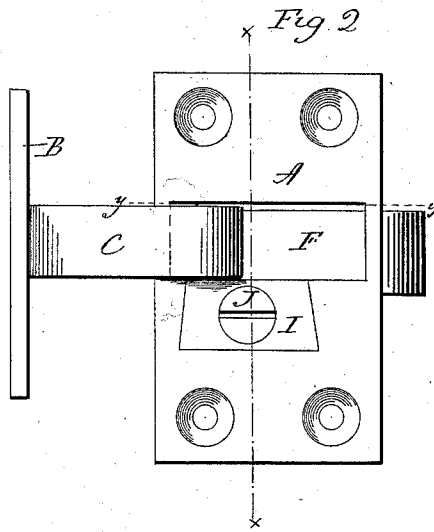
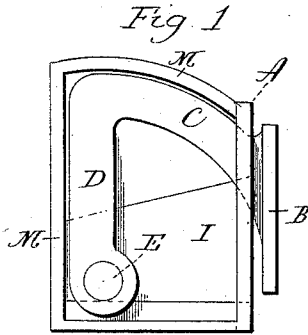


(No Model.)

A. W. WERLE.
COACH HINGE.

No. 475,993.

Patented May 31, 1892.



Witnesses:
J. H. Shumway.
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UNITED STATES PATENT OFFICE.

ALBERT W. WERLE, OF NEW HAVEN, CONNECTICUT.

COACH-HINGE.

SPECIFICATION forming part of Letters Patent No. 475,993, dated May 31, 1892.

Application filed October 19, 1891. Serial No. 409,161. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. WERLE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Coach-Hinges; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same,
10 and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top or plan view of the hinge complete and in the closed position; Fig. 2, a view of the hinge open, showing the post-plate in face view; Fig. 3, a vertical section on line *xx* of Fig. 2; Fig. 4, a transverse section of the post-plate cutting on line *yy* of Fig. 2; Fig. 5, a top view of the pivot-plate and door-plate hung together but detached from the
20 post part of the hinge; Fig. 6, a perspective view of the pivot-plate detached.

This invention relates to an improvement in that class of hinges which are adapted to be placed directly between the door and jamb
25 and within the thickness of the door, so that no portion of the hinge appears when the door is closed, a class of hinges specially adapted for coach-doors, and commonly called "concealed hinges."

35 In the more general construction of this class of hinges a plate is secured to the post or jamb and a similar plate secured to the corresponding edge of the door. From the plate on the door an arm extends through a slot in the jamb or post-plate, the arm hung upon a pivot at a distance from the front face of the plate, the said pivot forming a pintle upon which the hinge turns, the arm working through the slot or opening in the jamb-plate as the door swings. To make the pivot as a
40 part of the post or jamb-plate or permanently secure it thereto, it is necessary that the slot through the plate shall be of a height sufficient for the arm to be raised, so as to set on over the pivot and then drop to place. Such arrangement makes the slot very much larger than is actually necessary for the working of the hinge. Again, the slot forms an opening through which water in washing the
50 carriage is liable to pass, which is detrimental to the woodwork of the carriage.

The object of my invention is to overcome

these difficulties and without materially changing the general construction of the hinge; and it consists in the construction, as
55 hereinafter described, and particularly recited in the claims.

A represents the jamb or post-plate, and B the door-plate of the hinge. The plate B is constructed with an arm C, which is of segment shape, the curve from the plate being
60 from the center of the pivot. The curved arm bends from its inner end to form a straight part D of the arm, substantially parallel with the plane of the plate B, upon which the arm
65 is formed. This part D at its extreme end has an opening through it corresponding to the pivot E, upon which the door or swinging plate B is to be hung. The plate A is constructed with a transverse opening or slot F
70 through its face, through which the arm C may swing, as from the position in Fig. 1 to that seen in Fig. 2 and return. The plate A is constructed with a projecting flange G upon its rear side, and in this flange is a
75 dovetail recess H, which opens below the slot F in the plate. This is preferably made of wedge shape, the sides being undercut, preferably in dovetail form, as seen in Fig. 2.
80 The recess H is adapted to receive a pivot-plate I, the plate shown detached in Fig. 6. This plate is of shape corresponding to the recess H, and so that it may be set therein, the undercut shape of the sides serving to hold the plate against up-and-down move-
85 ment. The plate is secured against outward movement or withdrawal by means of a screw J, introduced through a longitudinal hole K in the plate and screwed into the flange G at the end of the recess, as seen in Fig. 3. The
90 plate I carries upon its inner end the vertical pivot E, which corresponds to the pivot-hole in the arm of the door-plate B.

In assembling the parts the pivot-arm is first set upon the pivot of the block I, as seen
95 in Fig. 5. Then the block and arm are inserted through the face of the plate, the block entering the recess and the arm passing in through the slot F, and then the screw J is introduced to draw the pivot-plate I to its
100 home position and firmly secure it therein; and if at any time it be desired to remove the door from the carriage the screw J may be withdrawn, and then the door-plate, with the

pivot-plate, may be readily removed, thus greatly facilitating the removal of the carriage-door when occasion requires. An upwardly-projecting rim M is formed around the edge of the flange G, as seen in Figs. 3 and 4. It is open above and is of a height only sufficient to prevent water from passing over the edge of the flange G, so that should water pass through the slot F onto the flange G it cannot escape into the wood-work of the carriage, but must return and escape from the slot by which it enters.

By making the pivot-plate of wedge shape—that is, narrowing toward its inner end—it is more easily removed than if it were of equal width throughout, for the reason that the instant it is started from its home position it is loosened throughout its whole extent, and should the metal in the joints between the pivot-plate and the flange become oxidized that oxidation will be more readily broken than could be done were the plate of uniform width throughout.

I claim—

1. The combination of the plate A, constructed with a transverse slot F and with an inwardly-projecting flange G, and also constructed with a recess H in said flange, opening through the plate A below the slot F, the pivot-plate adapted to be secured in said re-

cess and carrying a pivot at its inner end, the plate B, constructed with an arm adapted to work through said slot and hung upon the said pivot on the pivot-plate, and the said flange constructed with an upwardly-projecting rim M around its inner edge, substantially as and for the purpose described.

2. The combination of the plate A, constructed with a transverse slot F and with an inwardly-projecting flange G, and also constructed with a recess H in said flange, opening through the plate A below the slot F, the said recess contracting in width from its outer end inward, the pivot-plate I of a contracting shape corresponding to the contracting shape of said recess and adapted to set therein, the pivot-plate constructed with a pivot near its inner end, with the plate B, constructed with an arm adapted to work through said slot and hung upon the said pivot on the pivot-plate, and means, substantially such as described, for securing said pivot-plate in its recess, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT W. WERLE.

Witnesses:

FRED. C. EARLE,

LILLIAN D. KELSEY.