Feb. 24, 1931. D. J. McEWAN 1,793,946

HINGE

Filed April 5, 1929

Fig. 1.

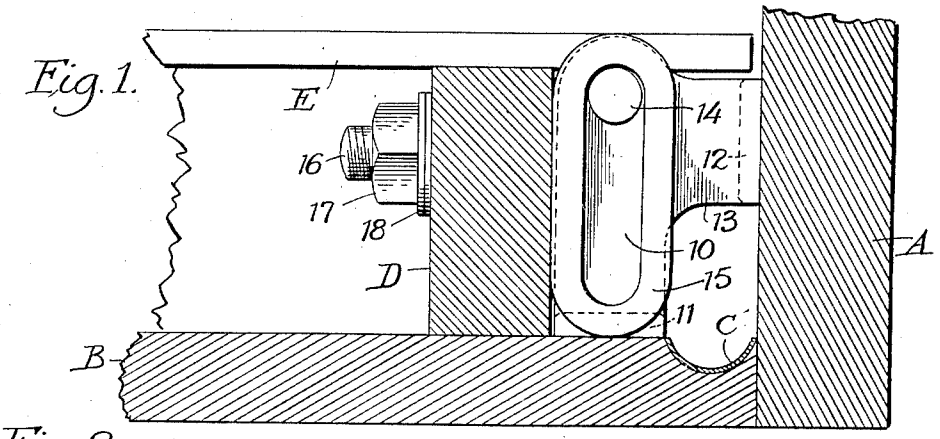


Fig. 2.

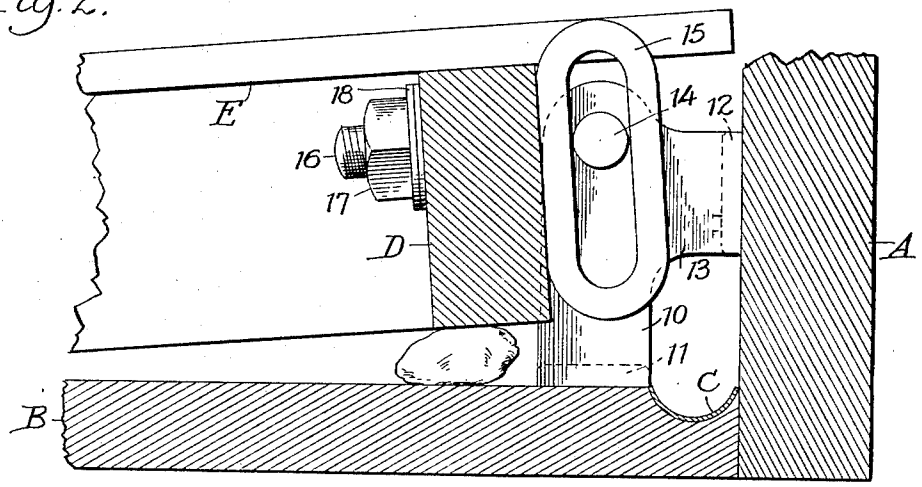


Fig. 3.

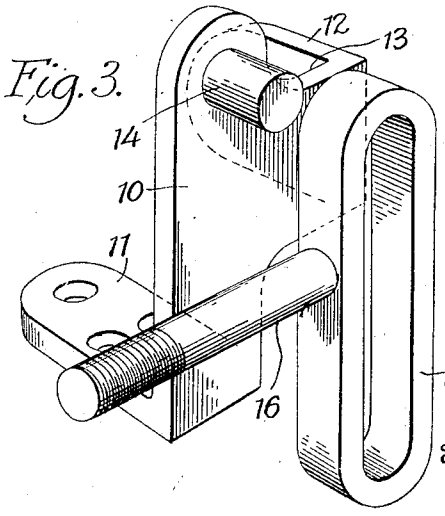
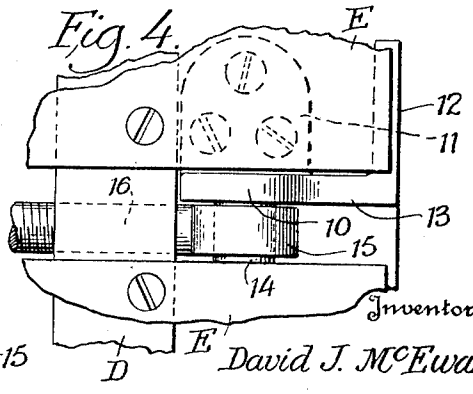


Fig. 4.



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UNITED STATES PATENT OFFICE

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HINGE

Application filed April 5, 1929. Serial No. 352,702.

This invention relates to hinges and has for an object to provide a hinge which is especially adapted, though, of course, not exclusively confined to use, for hinging the grating employed in the bottom of refrigerator cars supporting the merchandise spaced away from the floor of the car itself for circulation.

It is well known that in such construction it is deemed necessary to lift the grating for the purpose of cleaning the bottom of the car under the grating, and numerous hinges have been devised for the purpose, all of which show weaknesses either in use or in basic principle.

The present invention is directed to a hinge which is exceedingly simple and, therefore, cheap and economical to install and one which will permit the grating to be raised in the usual manner upon the hinge as a fulcrum or to yield to any obstruction which may accidentally be placed under the grating in the process of conditioning or loading the car.

A further object, therefore, is to provide a hinge having one part rigidly connected with the car body and a second part rigidly connected with the grating, but providing means whereby the grating is enabled to move not merely upon the hinge as a fulcrum but independently of such hinge and in a vertical direction.

With these and other objects in view, the invention comprises certain novel parts, elements, constructions, interactions, mechanical movements and functions as disclosed in the drawings together with mechanical and functional equivalents thereof as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a view of the hinge in side elevation attached to the stringer of a grating and shown in normal position relative to a car body which is shown in section.

Figure 2 is a similar view but showing an obstruction under the grating.

Figure 3 is a perspective view of the hinge parts slightly separated.

Figure 4 is a top plan view of the hinge in position.

Like characters of reference indicate corresponding parts throughout the several views.

The improved hinge which forms the subject matter of this application is adapted to be connected with a car body represented in the drawings by the side walls A and floor B, the latter being provided with the usual metal gutter C.

Associated also with the car body is the usual and ordinary grating comprising the stringer D which normally extends throughout approximately half the length of the car and the slats E which normally extend throughout substantially half the width of the car.

The hinge itself comprises an upright plate-like portion 10 having a foot 11 adapted to be secured rigidly to the floor B, and an ear 12 adapted to be attached rigidly to the side A of the car. The ear 12 is carried on an overhang 13 which spaces the plate 10 and foot 11 sufficiently away from the side wall to accommodate the gutter C.

The plate 10 is proportioned to stand above the floor B of the car substantially to the height of the grating, consisting of the stringer D and slats E, and adjacent its upper end is provided with an integral or rigid pintle 14.

The second and only other member of the hinge comprises an elongated loop member 15, the inner recess of which is properly proportioned to slide over and upon the pintle 14. The loop member 15 is provided with a rigidly connected or integral bolt 16, properly proportioned and positioned to extend through the stringer D as shown more particularly at Figures 1 and 2 and is secured thereto by means of a nut 17. Washers 18 are employed which may be transferred from one side to the other of the stringer D as may be found necessary or desirable to provide the proper clearance of the grating relative to the car structure.

The combined thickness of the plate 10 and the loop 15 is substantially equivalent to the interval between the slats E, as shown more particularly at Figure 4, whereby the slats

themselves prevent the hinge from coming apart and require no means for holding the two sections together. While the grating as such forms no part of the present invention, being the usual and ordinary grating standard in such equipment, it does perform a function as holding the hinge in proper hinging and sliding relation and, therefore, functionally at least co-acts with and forms a combination with the hinge.

It is believed that the operation will be perfectly apparent, but it may be explained that in the conditioning of cars it is necessary to raise the gratings to permit access beneath the gratings for sanitary purposes and that it not infrequently happens that some material or obstruction is left by careless workmen in such position that the gratings when again returned to floor covering position may be raised at some point above the normal level which may not be noticed instantly. The present hinge, therefore, comprising the loop member rigidly attached to the grating adapts itself to lift as shown at Figure 2 to accommodate such obstruction without in any way damaging the hinge which still functions as a hing irrespective of such obstruction.

What I claim to be new is:

1. A hinge comprising a pair of rigid members, one comprising a plate having a laterally offset pintle at one side, and laterally offset fastening members at the side opposite the pintle, the other member comprising a loop properly proportioned to slide upon the pintle and having a rigid offset shank adapted to be inserted through an article, and a nut upon the shank.

2. A hinge member comprising a rigid plate, means carried by the rigid plate offset from one side adapted to attach to a rigid body, a pintle offset from the side of the plate opposite the fastening members, a loop slidable upon the pintle, in combination with a grating attached to the loop and having slats spaced at proper intervals to maintain the hinge members in operative union.

3. The combination with a body member embodying a side wall, a floor and a gutter in the floor adjacent the side wall, of a hinge member comprising a plate, means laterally offset from one side of the plate for securing the plate to the side wall and to the floor and spanning the gutter, a pintle offset from the plate on the side opposite the fastening members, a loop properly proportioned to slide upon the pintle, a grating having a stringer, means carried by the last mentioned hinge member for attaching rigidly to the stringer, and slats carried by the stringer properly spaced to and embracing the combined hinge members and holding them in operative union.

In testimony whereof I affix my signature.

DAVID J. McEWAN.