

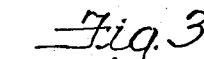
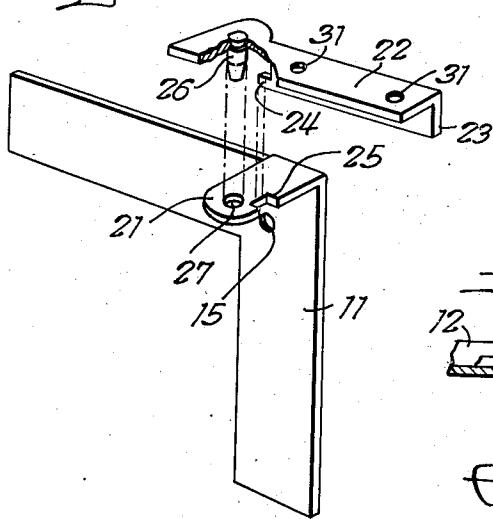
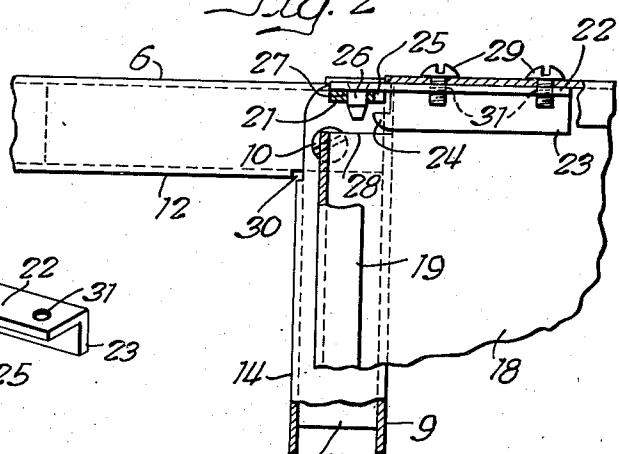
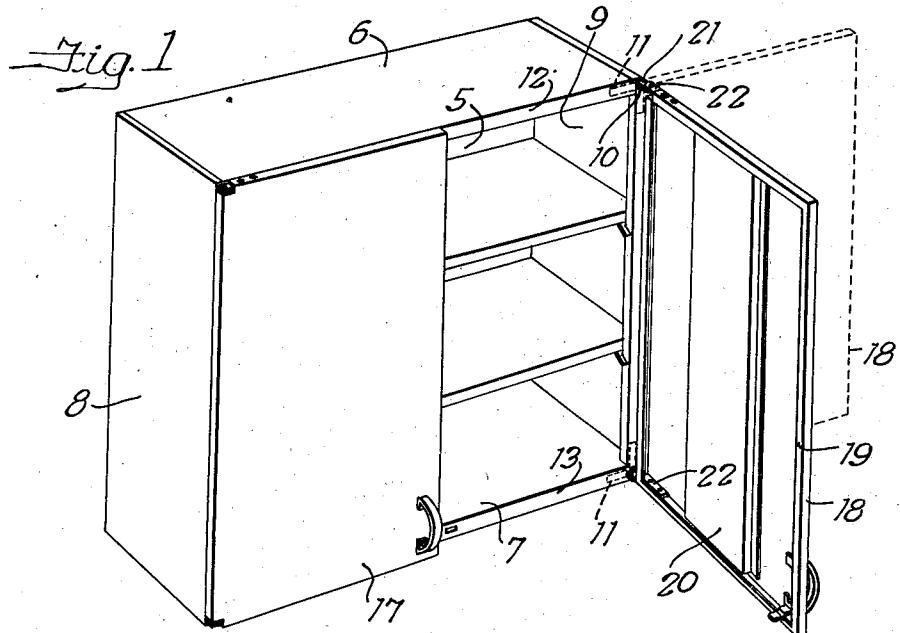
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CABINET DOOR HINGE

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2,443,516

CABINET DOOR HINGE

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4 Claims. (Cl. 16—135)

1

This application is a division of my copending application Serial No. 536,679, filed May 22, 1944.

This invention relates to hinges generally but is more particularly concerned with cabinet door hinges, the present hinges being especially designed for a knock-down type of sheet metal cabinet in which the doors are adapted to be quickly and easily applied to the cabinet or removed therefrom.

A novel feature of the hinge of my invention is the provision of angle iron hinge members on the door having hinge pintle projections on one flange thereof for detachable engagement in bearing holes provided therefor in hinge bracket members on the cabinet, the other flange on at least one of a pair of angle iron hinge members having a projection arranged in the mounting of the door on the cabinet to be passed through a notch in the associated hinge bracket member, said notch being so located that the projection can be passed therethrough only in one extreme position of the door with respect to the cabinet, the projection serving, therefore, to prevent accidental and unintentional disconnection of the hinge members.

The invention is illustrated in the accompanying drawing in which—

Fig. 1 is a perspective view of a sheet metal cabinet, the doors of which have hinges made in accordance with my invention.

Fig. 2 is an enlarged detail, partly in front elevation and partly in vertical section, of the upper right hand front corner of the cabinet illustrating the corner reinforcing cleat as well as the hinge for the door.

Fig. 3 is a horizontal sectional detail in the plane of the screw 10 in Fig. 2, showing how the cleat is fastened into the corner portion of the cabinet with a single screw, and

Fig. 4 is a perspective view of the cleat and door hinge, the dot-and-dash lines indicating the manner of assembly.

The same reference numerals are applied to corresponding parts throughout the views.

Referring to Fig. 1, the reference numeral 5 designates the back panel, 6 the top panel, and 7 the bottom panel. 8 and 9 are side panels. The top and bottom panels interlock at their rear edges with the top and bottom edges of the back 5 as fully described in the parent application. The side panels 8 and 9 interlock at their rear edges with the side edges of the back panel 5 in the same way.

The top, bottom and end panels, when interlocked with the back in the manner stated, are

2

arranged to be fastened securely in assembled relationship, using only four screws 10, one at each of the four corners of the front of the cabinet. L-shaped cleats 11, stamped from sheet metal, preferably of medium heavy gauge in relation to the thinner sheet metal used in the panels, are inserted in the corners of the cabinet at the front thereof, and are made to fit snugly in the channels 12, 13 and 14. The ends of the rearwardly projecting flanges of the channels are cut away at these corners as at 30 to permit interfitting the ends of the top and bottom panels with the side panels in the manner shown, and inserting the cleats 11. A tapped screw hole 15 in the corner portion of the L, registers with holes 16 punched in the overlapping web portions of the channels 12 and 14, or 13 and 14, as the case may be, to permit entering the screws 10 and threading the same in the holes 15, to draw the cleats up tight when the screws are tightened, and accordingly make for a rigid cabinet structure, and one which is not apt to get out of shape in service. The cleats keep the corners squared up, and whatever strains are imposed upon the 25 cleats are distributed the full length of the arms thereof in the channels, in which these arms fit snugly, and, hence, there is little or no shearing strain imposed upon the screws 10. The screws merely prevent displacement of the cleats from 30 operative position.

The cleats 11 also provide supports for the doors 17 and 18 of the cabinet. While I have shown two doors, each covering a half of the open front of the cabinet, it should, of course, be understood that I may provide a single door covering the whole front. Each of the doors is shown as made from a single sheet metal panel, the four edges of which are bent rearwardly and inwardly, to define channels 19, to give the desired strength and rigidity, and also to avoid exposure of any raw edges. A reinforcement 20 is preferably provided in the middle portion of the doors in the form of a dished sheet metal panel, the flanged edges of which are spot-welded to the inner side 40 of the door. A lug 21 is bent outwardly from each of the cleats 11, to form a fixed hinge member for cooperation with a swingable hinge member 22 on the door. Registering slots are punched in the webs of the channels 12 and 14, or 13 and 50 14, as the case may be, for projection therethrough of the lugs 21, as indicated in Fig. 2. The hinge members 22 are preferably angle irons formed from sheet metal like the cleats 11, and each has a longitudinal reinforcing flange 23, on 55 the end of which a prong 24 is formed, arranged

in the assembling of the door on the cabinet to pass freely through a notch 25 in the edge of the lug 21 after the pintle 26 on the hinge member 22 has been entered in the hole 27 provided therefor in the lug 21. The pin 26 on the upper hinge member 22 is preferably a trifle shorter than the pin 26 on the lower hinge member 22 to simplify the assembling operation, the lower, longer pin being started in its hole 27 before the upper pin 26 enters its hole. There is therefore no such difficulty as would otherwise be involved if both pins had to be aligned with the holes at the same time. The pins are preferably also tapered on the ends, as shown, to facilitate assembling. The prong 24 and notch 25 will be provided only on the upper hinge, and it should be clear from Fig. 2 that, after the door is hung and the prong 24 is disposed under the lug 21 and the door is swung forwardly from the dotted line position shown in Fig. 1 and corresponding to that in Fig. 2, the door is locked against accidental displacement off its hinges, because the prong 24 will strike the bottom of the lug 21 and prevent upward displacement of the door from operative position in all positions except that indicated in dotted lines in Fig. 1, where the lug 24 is in register with the notch 25 and is therefore movable through the notch, as indicated by the dot-and-dash lines in Fig. 4. The upper and lower rear corners of the door are cut away, as indicated at 28 in Fig. 2, for projection of the pintle and prong-carrying ends of the hinge members 22 and to receive the lugs 21 forming the fixed hinge members and provide operating clearance for these lugs for the extent of vertical movement of the door required in applying and removing the same. While I have shown screws 29 threading in holes 31 provided therefor in the hinge members 22, to fasten the hinge members 22 in the channeled upper and lower edges 19 of the door, it should be understood that these hinge members may be riveted or spot-welded to the door.

It is believed the foregoing description conveys a good understanding of all of the objects and advantages of my invention. The appended claims have been drawn with a view to covering all legitimate modifications and adaptations.

I claim:

1. A detachable hinge comprising two hinge members, one of which comprises an attaching portion having a lug projecting horizontally therefrom in which a pintle bearing hole is provided in the outer end portion and a notch in the edge thereof at a predetermined radial distance from the pintle bearing hole, the other hinge member being elongated and of angular cross section providing two longitudinal flanges one of which is an attaching portion, one of said flanges being horizontally disposed and having a pintle projecting vertically from one end thereof for engagement in the pintle bearing hole aforesaid, the other flange being vertically disposed and having a prong projecting from the end thereof at approximately the same radial distance from said pintle as said notch is spaced from said pintle bearing hole and adapted to pass thru said notch in the assembling of the hinge members, the prong being so spaced vertically relative to the horizontal flange to prevent disconnection of the hinge members after assembly thereof except when the prong is in vertical alignment with the notch.

2. A detachable hinge comprising two hinge members, one of which comprises an attaching portion having a lug projecting horizontally

therefrom in which a pintle bearing hole is provided in the outer end portion and a notch in the edge thereof at a predetermined radial distance from the pintle bearing hole, the other hinge member comprising an attaching end portion and a pintle supporting end portion, a pintle on the latter end portion for engagement in the pintle bearing hole aforesaid, and a prong on the same end of said hinge member at approximately the same radial distance from said pintle as said notch is spaced from said pintle bearing hole and adapted to pass thru said notch in the assembling of the hinge members, the prong being so spaced vertically relative to said pintle to prevent disconnection of the hinge members after assembly thereof except when the prong is in vertical alignment with the notch.

3. A hinge adapted to be mounted on a cabinet having a rectangular sheet metal door frame provided with a horizontal hinge slot in a corner portion thereof, the hinge consisting of a pair of detachably pivotally connected hinge members, one of which comprises a generally L-shaped attaching portion designed to fit in and reinforce the aforesaid corner portion of said door frame on the inner side and having a lug projecting horizontally from the junction portion of the L through the aforesaid slot, the lug having a pintle bearing hole provided in the outer end portion and a notch in the edge thereof at a predetermined radial distance from the pintle bearing hole, the other hinge member being elongated and of angular cross section providing two longitudinal flanges one of which is an attaching portion, one of said flanges being horizontally disposed and having a pintle projecting vertically from one end thereof for engagement in the pintle bearing hole aforesaid, the other flange being vertically disposed and having a prong projecting from the end thereof at approximately the same radial distance from said pintle as said notch is spaced from said pintle bearing hole and adapted to pass through said notch in the assembling of the hinge members, the prong being so spaced vertically relative to the horizontal flange to prevent disconnection of the hinge members after assembly thereof except when the prong is in vertical alignment with the notch.

4. A hinge adapted to be mounted on a cabinet having a rectangular sheet metal door frame provided with a horizontal hinge slot in a corner portion thereof, the hinge consisting of a pair of detachably pivotally connected hinge members, one of which comprises a generally L-shaped attaching portion designed to fit in and reinforce the aforesaid corner portion of said door frame on the inner side and having a lug projecting horizontally from the junction portion of the L through the aforesaid slot, the lug having a pintle bearing hole provided in the outer end portion and a notch in the edge thereof at a predetermined radial distance from the pintle bearing hole, the other hinge member comprising an attaching end portion and a pintle supporting end portion, a pintle on the latter end portion for engagement in the pintle bearing hole aforesaid, and a prong on the same end of said hinge member at approximately the same radial distance from said pintle as said notch is spaced from said pintle bearing hole and adapted to pass through said notch in the assembling of the hinge members, the prong being so spaced vertically relative to said pintle to prevent disconnection of the hinge members after assembly thereof.

5

of except when the prong is in vertical alignment
with the notch.

LYLE C. ROCKWELL.

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10

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