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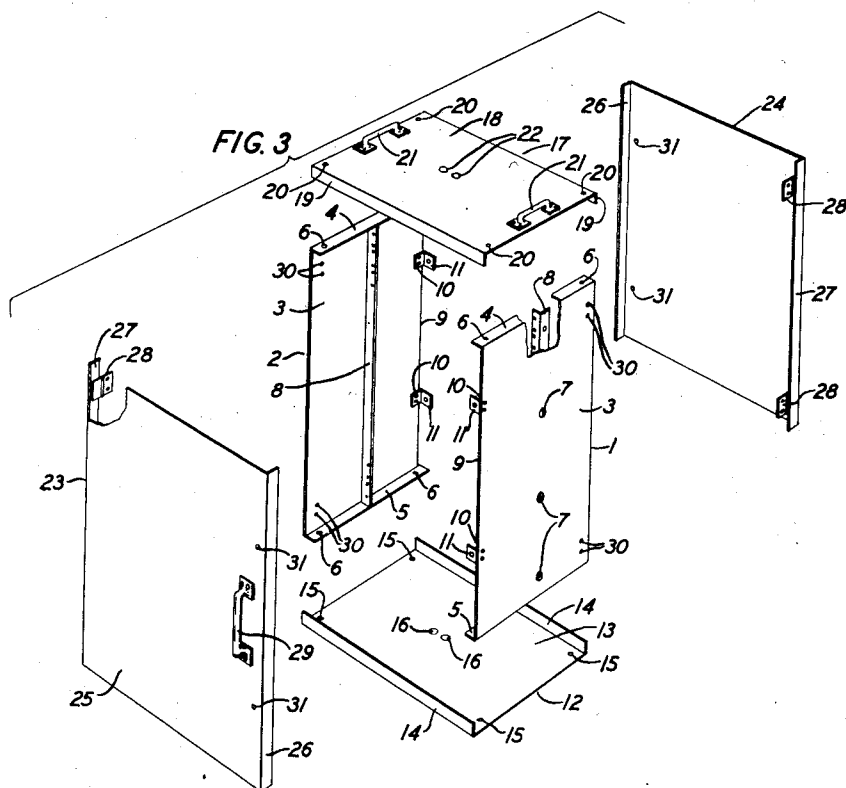
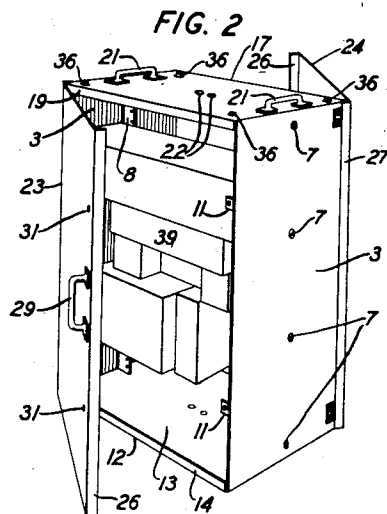
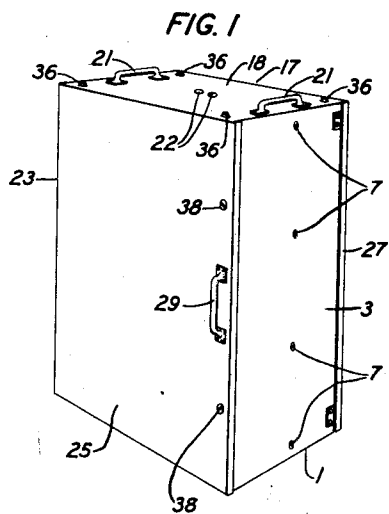
H. D. KELSO

2,091,549

CABINET

Filed Oct. 12, 1934

2 Sheets-Sheet 1



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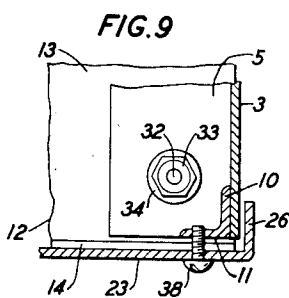
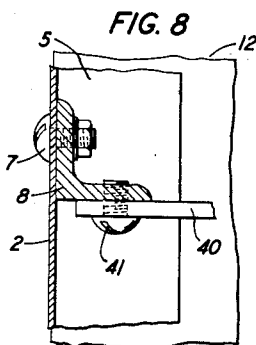
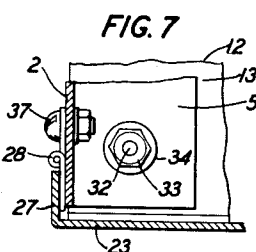
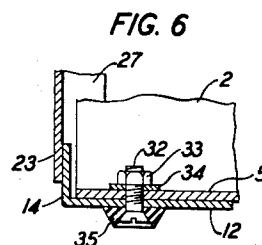
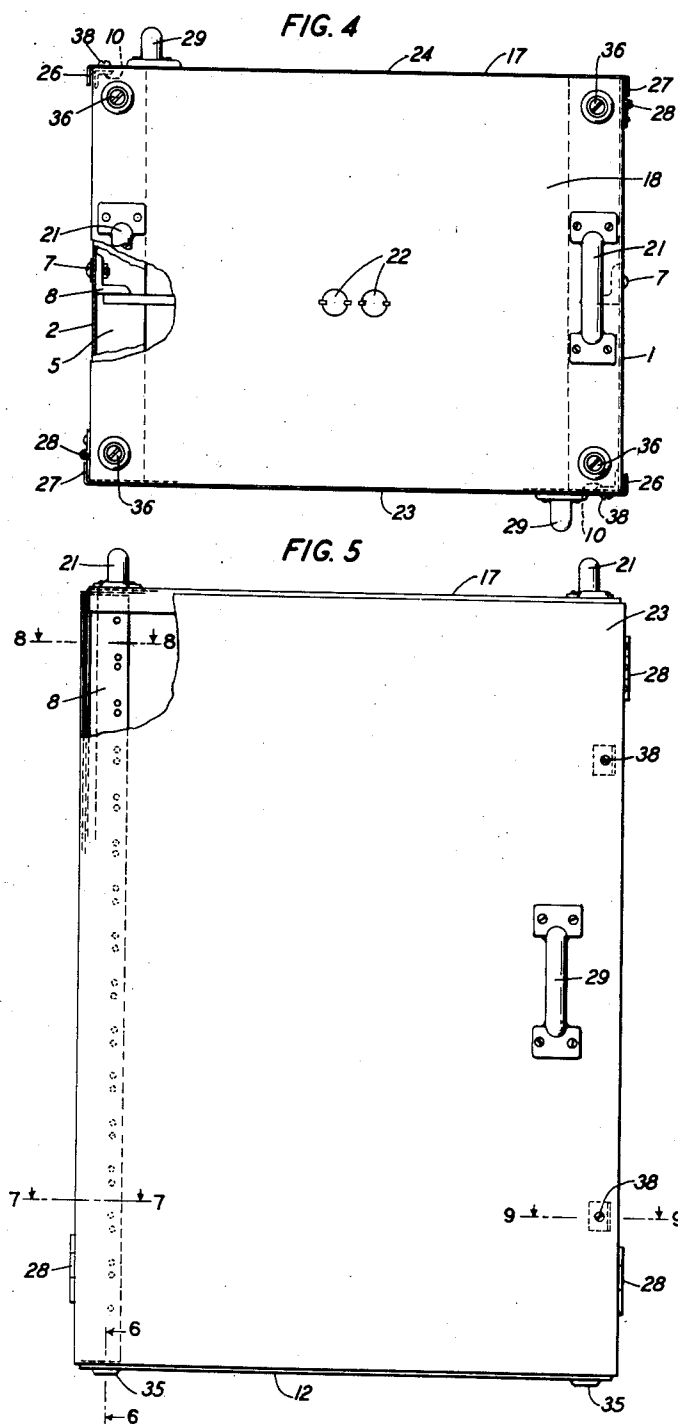
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UNITED STATES PATENT OFFICE

2,091,549

CABINET

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Application October 12, 1934, Serial No. 748,005

2 Claims. (Cl. 220—4)

This invention relates to cabinets and more particularly to cabinets formed from sheet metal.

The object of this invention is to provide a comparatively light-weight cabinet which can be made at very low cost.

A feature of this invention resides in a plurality of wall members all of the same form which may be cooperatively assembled to form a cabinet without requiring a supporting framework.

In the drawings:

Fig. 1 is a view in perspective of the cabinet;

Fig. 2 is a view in perspective of the cabinet with the doors open and with apparatus mounted within the cabinet;

Fig. 3 shows in perspective and partly in section parts of the cabinet in their relative positions for assembly;

Fig. 4 is a top plan view, partly in section, of the cabinet;

Fig. 5 is a front elevational view, partly in section, of the cabinet;

Fig. 6 is a side view, in section, of a lower corner of the cabinet taken on the line 6—6 in Fig. 5 and viewed in the direction indicated by the arrows;

Fig. 7 is a view, in section, of a corner of the cabinet taken on the line 7—7 in Fig. 5 and viewed in the direction indicated by the arrows;

Fig. 8 is a top view, partly in section, of a side portion of the cabinet taken on the line 8—8 in Fig. 5 and viewed in the direction indicated by the arrows; and

Fig. 9 is a view, partly in section, of a corner of the cabinet taken on the line 9—9 in Fig. 5 and viewed in the direction indicated by the arrows.

In connection with temporary and sometimes permanent installations of electrical apparatus, it is often found advisable or necessary to assemble portions of the apparatus into various units at a factory and to transport the apparatus in assembled form to the place where the apparatus is to be installed in a system. For instance, where electrical repeater equipment is required the apparatus forming the repeater may be assembled into a complete repeater unit at a factory and then sent in completely assembled form to the place where it is required.

To facilitate assembling of the apparatus into the required unit form at the factory and to protect the apparatus while being transported to the point of installation and while it is in use, it is an advantage to have a suitable cabinet

or housing structure for the apparatus. The cabinet should be a comparatively strong and rigid structure to properly protect the apparatus and should be comparatively light in weight to permit ready transportation.

Electrical apparatus is sometimes required on such short notice that there is not sufficient time between the time of receipt of the order for the apparatus and the time limit set for its installation to make a cabinet for the apparatus. In such cases the apparatus is sometimes assembled, shipped and installed without having a suitable enclosure for its protection and transportation. For instance, in case of fire, storm, or other conditions of general disaster, telephone repeater equipment may be required immediately to restore telephone communication.

To be in readiness for a condition such as above mentioned and to have available suitable housings for the apparatus it is necessary to have on hand the various pieces of apparatus required and a stock of cabinets or cabinet parts.

Since cabinets take up considerable space and storage space is often quite expensive, it is desirable to have the cabinet so constructed that the parts may be readily assembled and disassembled to permit storage of the cabinet in disassembled form.

The cabinet of this invention is made of a comparatively small number of parts most of which are of the same general form and which permit storage in a relatively small space. The walls and the doors of the cabinet may be stacked one upon another and stored in a comparatively small space. The walls and doors may be quickly assembled to form a cabinet and require no inner framework or other supporting structure which would add considerable weight to the cabinet.

In the drawings in which like parts bear like numerals and referring first to Fig. 3, 1 and 2 are the side walls of the cabinet, each side wall 1 and 2 is a rectangular sheet of metal comprising a comparatively long upright flat wall portion 3. The upright flat wall portion 3 has plain side edges and terminates at its top and bottom in inwardly turned end flanges 4 and 5, respectively. The end flanges 4 and 5 extend inwardly at right angles to the upright flat wall portion 3 and are apertured at the corners at 6 to receive bolts to be latter described. Extending longitudinally down the center of each upright flat wall portion 3 and secured to the inner surface thereof by bolts 7 is an apertured strip of angle iron 8 which serves as part of a rack support for electri-

cal apparatus housed in the cabinet. Extending inwardly of each upright flat wall portion 3 and adjacent an upright edge portion 9 thereof are spaced angle brackets 10. The spaced angle brackets 10 are welded, riveted or otherwise secured at one leg portion of the bracket to the inner surface of the upright flat wall portion 3 and have a free leg portion 11 which extends inwardly of and normal to the plane of the upright flat wall portion 3. The flat face of the leg portion 11 extends parallel to the plane of a door for the cabinet and is drilled and tapped to receive a screw projected inwardly through a door and which will be subsequently referred to and identified. It will be seen by reference to Fig. 3 that the side walls 1 and 2 are identical in structure, but that each stands in a reverse position to the other so that the angle brackets 10 of the side wall 1 face the front of the cabinet and the angle brackets 10 of the side wall 2 face the rear of the cabinet. The side walls 1 and 2, therefore, are interchangeable and may be stacked and stored in stock designated merely as side walls for the cabinet.

A bottom wall 12 for the cabinet is shown in Fig. 3 below the side walls 1 and 2. The bottom wall 12 is a rectangular metal sheet comprising a horizontally disposed flat portion 13 having plain edges on the sides and upwardly turned flanges 14—14 on the ends. The flat portion 13 of the bottom wall 12 is apertured at the corners at 15 and the apertures at 15 register with the apertures 6 in the corners of the end flanges 5 of the side walls 1 and 2. Knock-out holes 16—16 are provided in the bottom wall 12 so that conductor wires may be brought into the cabinet through the bottom wall 12. A top wall 17 for the cabinet is shown in Fig. 3 above the side walls 1 and 2. The top wall 17 is a rectangular metal sheet comprising a horizontally disposed flat portion 18 and downwardly turned end flanges 19—19. The flat portion 18 of the top wall 17 is apertured at the corners at 20 and the apertures at 20 register with the apertures at 6 in the corners of the end flanges 4 of the side walls 1 and 2. Spaced handles 21—21 are provided on the upper surface of the top wall 17 to facilitate carrying of the cabinet from place to place. The spaced handles 21—21 are shown as being strap type metal handles and are secured by rivets or other fastening means to the upper surface of the top wall 17. Knock-out holes 22—22 are provided in the top wall 17 to permit entrance therethrough of electrical conductors. It will be seen that the top wall 17, with the exception of the handles 21—21, is the same in structure and dimensions as the bottom wall 12 and that these parts may be made more economically than if they were of different forms and dimensions.

A front door 23 and a rear door 24 are provided for the respective front and rear faces of the cabinet. The doors 23 and 24 are rectangular sheet metal doors and are identical in structure and dimensions. Each door comprises a rectangular flat portion 25 and upright inwardly extending side flanges 26 and 27. The top and bottom edges of the doors are plain. Spaced butt hinges 28—28 are provided on the doors 23 and 24. One of the leaf members of each spaced butt hinge 28 is welded or otherwise attached to the inner surface of the flange 27. The other leaf member of each hinge 28 is to be attached by bolts or other fastening means to a side wall 1 or 2 in which apertures 30 are provided near the edges for the accommodation of the fas-

tening means for the door. Attached to the outer face of each door by suitable fastening means is a handle 29. Along the free side portion of each door are spaced apertures 31—31, the number and spacing of these apertures 31—31 being the same as the number and spacing of the angle brackets 10 on the respective side walls 1 and 2. By having the doors 23 and 24 identical in structure and dimensions the front and rear doors for the cabinet are interchangeable and may be carried in stock as a common piece part.

To assemble the cabinet a bottom wall 12 is placed with the flanges 14—14 extending upwardly from the flat portion 13. The side walls 1 and 2 are then set upright on the bottom wall 12 and are placed at each end of the bottom wall 12 with the flanges 5 of the side walls resting against the upper surface of the flat portion 13 of the bottom wall 12 and extending transversely between the flanges 14—14. The apertures 6 in the flanges 5 are then brought into alignment with the apertures 15 in the bottom wall 12. The side walls 1 and 2 are then bolted to the bottom wall 12 as shown in Fig. 6 by means of screw bolts 32. The screw bolt 32 extends upward through an aperture 15 in the bottom wall 12 and through an aperture 6 in the flange 5 of the side wall member and is engaged by a nut 33 under which is a washer 34. Clamped between the head of the screw bolt 32 and the under surface of the bottom wall 12 is an inverted frusto-conical ring 35 preferably made of rubber or some like composition, which will serve as a foot for the cabinet and which will prevent marring of a floor or other surface upon which the cabinet may be placed. The inner circumference of the ring 35 is countersunk to receive the head of the screw bolt 32, the countersink being of sufficient depth and diameter to permit the head of the screw bolt 32 to pass upward within the ring 35 beyond the lower face of the ring 35. A screw bolt 32 and a ring 35 are provided at each corner of the bottom wall 12 so that the bottom wall 12 is bolted at each of the four corners to the flanges 5 of the side walls 1 and 2 and four feet comprising the four rings 35 are provided for the cabinet.

After the side walls 1 and 2 have been bolted to the bottom wall 12 in the manner above described, the top wall 17 is placed across the upright side walls 1 and 2 with the lower face of the flat portion 18 of the top wall 17 resting on the flanges 4 of the side walls 1 and 2 and with the flanges 19 of the top wall 17 extending downwardly and transversely between the two upright side walls. The apertures 20 in the top wall 17 are then brought into register with the corresponding apertures 6 in the top flanges 4 of the side walls 1 and 2. Screw bolts 36, preferably having round heads, are then applied to bolt the top wall 17 to the side walls 1 and 2.

When the side walls 1 and 2 have been bolted to the bottom wall 12 and to the top wall 17 in the manner above described, a rectangular box is formed having an opening at the front and at the back, the box being cooperatively formed by the respective side walls 1 and 2 and the bottom and top walls 12 and 17. It will be seen that the structure above described has no frame or other supporting structure. The doors 23 and 24 are then applied to the rectangular box by attaching the hinges 28 of each door to a side wall. The doors swing outward and although it is not essential to this invention a convenient arrangement is to have each door swing toward the left in opening. The hinges 28, therefore, of the door 23

are brought into engagement with the outer face of the side wall 2 and are attached thereto as shown in Fig. 7 by screw bolts 37 which pass through apertures in the hinge 28 and through apertures 30 in the side wall 2. A nut and a washer are provided for each bolt 37 to cooperate with the bolt 37 in clamping the hinges 28 to the side wall. The hinges 28 for the door 24 are attached by screw bolts 37 to the side wall 1. The screw bolts in this case pass through the hinges 28 of the door 24 and through the apertures 30 in the side wall 1. The flanges 26 and 27 of the doors 23 and 24 extend lengthwise of the doors and upright with respect to the cabinet. Each door is made of sufficient length to overlap the lower extremity of a flange 19 of the top wall 17 and the upper extremity of a flange 14 of the bottom wall 12 when the door is closed. Each door is maintained closed by means of machine screws 38—38 shown in Fig. 1. The machine screws 38 extend through the apertures 31 in the door and thread into the threaded apertures in the leg portions 11 of the angle brackets 10 as shown in Fig. 9. It is quite obvious that some form of latch might be used in place of the machine screws 38 and the brackets 10 to keep the door closed. Since the cabinet described, however, is a cabinet for protecting apparatus during transportation as well as for providing protection to apparatus while installed in a system, the machine screw and bracket arrangement described is considered a better arrangement than a latch. A latch might become accidentally operated to release the door during transportation of the cabinet.

The apparatus contained in the cabinet and which is given a general designation number 39 in Fig. 2 is supported within the cabinet on apertured plates 40 which, as shown in Fig. 8, are attached by means of machine screws 41 to the apertured strips of angle iron 8 which are attached by means of the bolts 7 to the side walls of the cabinet. The apertured plates 40 extend horizontally across the cabinet from one apertured strip of angle iron 8 to another and are adjustable along the strips of angle iron 8 and within the cabinet to accommodate various sizes and assemblies of apparatus 39. The apertured plates 40 may be comparatively wide or may be comparatively narrow strips, according as required and a sufficient number of apertured strips may be supported horizontally across the inner portion of the cabinet to accommodate the apparatus 39 to be contained in the cabinet. It is preferable in mounting the various apparatus parts on an apertured plate 40 to mount the pieces of apparatus all on the same face of the apertured plate 40 and to have the terminals of the various apparatus parts extend through apertures in the plate 40 to the opposite side.

This will bring all the wiring and connecting points for the wiring toward the back of the cabinet. Access may be had, therefore, to the wiring and points of connection on the apparatus by opening the rear door of the cabinet. To adjust or replace apparatus parts in the cabinet, access may be had to the apparatus parts by opening the front door of the cabinet.

What is claimed is:

1. A cabinet comprising a pair of spaced upright side walls having plain side edges and inwardly turned flanges at each end, a top wall and a bottom wall each having plain side edges overlapping adjacent flanges on the ends of said side walls and having inwardly turned flanges extending transversely of said side walls, a pair of doors forming the front and rear walls of the cabinet each having plain top and bottom edges overlapping adjacent inwardly turned flanges of said top and bottom walls, each door having inwardly turned flanges at its sides overlapping adjacent plain edges of said side walls, fastening means at the corners of said top and bottom walls, said fastening means extending through the respective top or bottom wall and through the adjacent inwardly turned flange of a side wall, a pair of hinges for the front door secured to one flange of the door and to one side wall adjacent a plain edge thereof, and a pair of hinges for the rear door secured to one flange of the door and to the other side wall adjacent a plain edge thereof.

2. A cabinet comprising a pair of spaced upright side walls having plain side edges and inwardly turned flanges at each end, a top wall and a bottom wall each having plain side edges overlapping adjacent flanges on the ends of said side walls and having inwardly turned flanges extending transversely of said side walls, a pair of doors forming the front and rear walls of the cabinet each having plain top and bottom edges overlapping adjacent inwardly turned flanges of said top and bottom walls, each door having inwardly turned flanges at its sides overlapping adjacent plain edges of said side walls, fastening means at the corners of said top and bottom walls, said fastening means extending through the respective top or bottom wall and through the adjacent inwardly turned flange of a side wall, a pair of hinges for the front door secured to one flange of the door and to one side wall adjacent a plain edge thereof, a pair of hinges for the rear door secured to one flange of the door and to the other side wall adjacent a plain edge thereof, a pair of angle brackets secured to each side wall adjacent a plain edge thereof and which is overlapped and engaged by the free flanged edge of the corresponding door, and screws passing through perforations in said doors and into said angle brackets to hold the doors closed.

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