Dec. 13, 1932. W. P. GRIFFITH 1,890,983

METAL FOLDING CRATE

Filed May 15, 1930

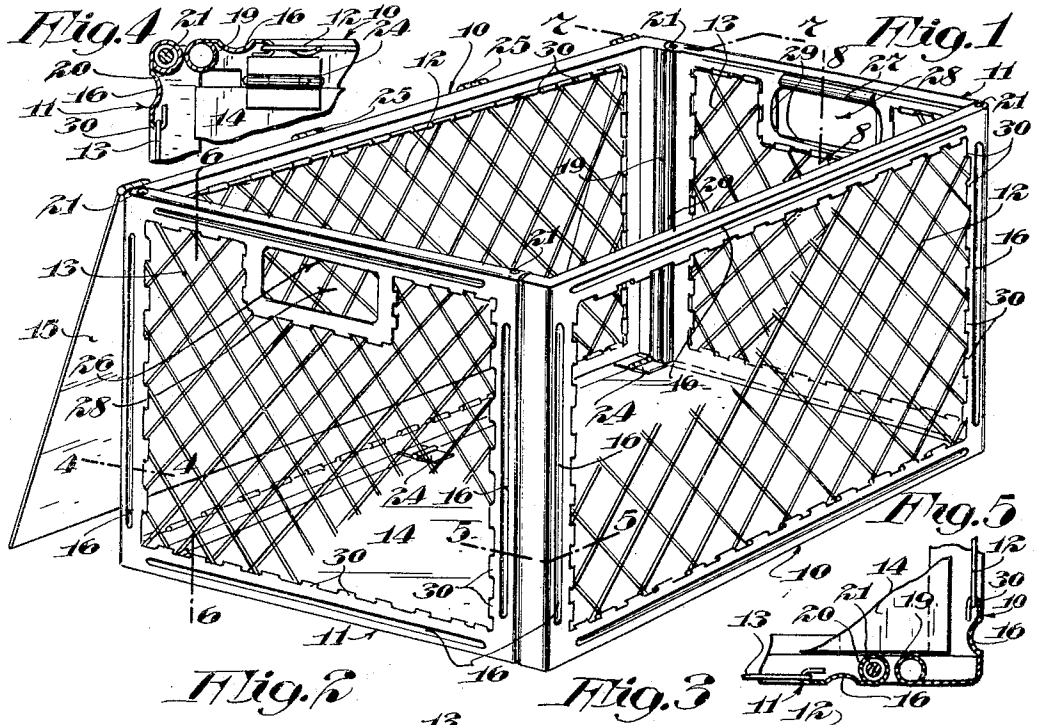


Fig. 4

Fig. 1

Fig. 5

Fig. 2

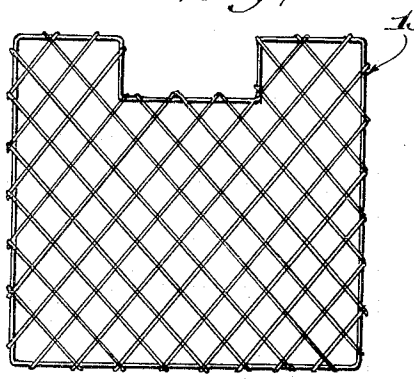


Fig. 3

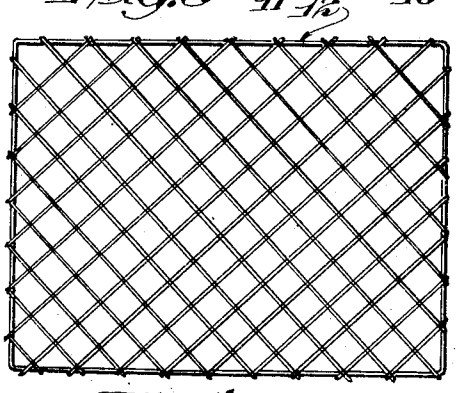


Fig. 6

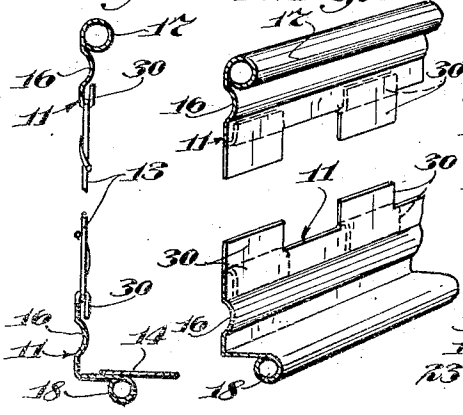


Fig. 9

Fig. 7

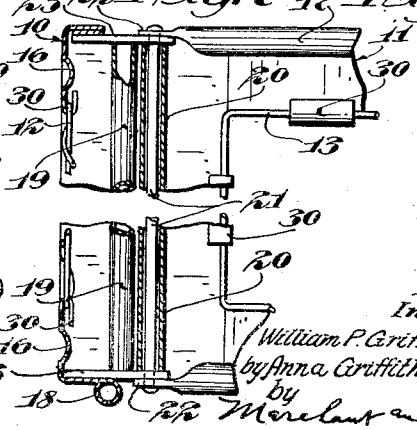
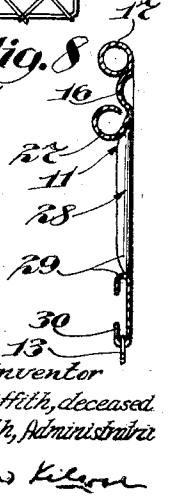


Fig. 8



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by

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UNITED STATES PATENT OFFICE

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METAL FOLDING CRATE

Application filed May 15, 1930. Serial No. 452,743.

This invention relates to crates and has for its object the provision of a highly efficient metal folding crate, and to this end, it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawing, which illustrates the invention, like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a perspective view of the improved crate, some parts being broken away and the cover open;

Figs. 2 and 3 are elevations of one of the end panels and one of the side panels, respectively, removed from the crate;

Figs. 4, 5, 6, 7 and 8 are fragmentary detail views with some parts sectioned on the lines 4—4, 5—5, 6—6, 7—7 and 8—8, respectively, on an enlarged scale; and

Fig. 9 is a fragmentary perspective view of the upper and lower frame members shown in Fig. 6, some parts being shown in different positions by means of broken lines.

The improved crate includes rectangular pressed sheet metal marginal side frames 10 and end frames 11, each side frame 10 and each end frame 11 has a reticulate panel 12 and 13, respectively. Said crate further includes a bottom 14 and a cover 15 each of which is formed from a single piece of sheet metal. Each upright and horizontal member of each frame 10 and 11 has an inner longitudinally extended reinforcing bead 16 pressed therefrom and which bead extends substantially the full length of the respective member.

The upper edge portions of the upper horizontal members of the frames 10 and 11 are inwardly rolled to form tubular reinforcing beads 17. Each lower horizontal member of each frame 10 and 11 is in the form of an angle bar the lower horizontal flanges of which are turned inward and their free edge portions rolled to form underlying tubular beads 18. The several sections of the beads 17 as well as the beads 18 form substantially continuous beads except at the corners of the crate and give these outer edge portions of the crate a smoothed and finished appearance. The beads 18 also afford a rest which holds the crate above the support on which it rests.

The outer edge portions of the upright members of the frames 10 and 11 are inwardly rolled to form, at each corner of the crate, a pair of tubular reinforcing beads 19 and 20. These pairs of beads 19 and 20 not only reinforce the frames 10 and 11 but eliminate sharp edges and one thereof rolls about the other, but not in contact therewith, during the folding and opening of the crate.

The frames 10 and 11 are hingedly connected by long hinge rods 21 which loosely extend through the beads 19 and through aligned holes in overlapping upper and lower ears 22 and plates 23. These hinge ears 22 are formed by flattening the ends of the beads 17 over the ends of the beads 20 and the hinge plates 23 are rigidly secured by welding or otherwise to the ends of the upright members of the frames 10 and 11 having the beads 19, see Fig. 7.

It is important to note that two of the upright members of the side frames 10 and at opposite ends thereof are in the form of angle bars which laterally offset the hinge connections at the respective corners of the crate in the plane of the end frames 11 and cause the two sides of the crate when folded to assume parallel arrangement. The two hinge connections at the other two corners of the crate cause the connected side frame 10 and end frame 11 of each side of the folded crate to assume positions in the same plane.

The bottom 14 is hinged at 24 to one of the side frames 10 and when closed rests on the horizontal flanges of the horizontal members of the frames 10 and 11 and when the crate is folded extends within said crate substantially parallel to the frame 10 to which it is hinged.

The cover 15, as shown, is hinged at 25 to the upper horizontal member of the same side frame 10 to which the bottom 14 is hinged and, when closed, rests on the beads 17 and when the crate is folded lies flat against the outer side of the frame 10 to which it is hinged. Suitable latches or hooks, not shown, may be provided for holding the cover 15 either in an open or closed position.

Each end frame 11 is provided with a hand hold 26 formed in part by the top member thereof intermediate of its ends and in part by forming a tubular bead 27 on the lower edge portion of said member. In order to grip the hand holds 26 through the end frame members 11 the top members of said end frame members 11 have inwardly extended portions, at said hand holds that are apertured at 28, and the metal at the ends and the bottom of said apertures is rolled inward at 29 to eliminate all sharp edges.

Each panel 12 and 13 is of open mesh and, as shown, is formed by an endless marginal wire and crossed diagonal wires secured to said marginal wire by bending their end portions therearound. The panels 12 and 13 are secured in the frames 10 and 11, respectively, by shaping the inner edge portions of said frames to form edgewise spaced bendable lugs 30 which primarily extend in the planes of said frames, see Fig. 9. These lugs 30 are bent around the marginal wires of the panels 12 and 13 between certain of the diagonal wires thereof, see Figs. 4, 5, 6 and 7 and permanently and rigidly secure the panels 12 and 13 in the frames 10 and 11, respectively.

The following is claimed:

1. In a crate, a section thereof comprising a marginal frame having on its inner edge a multiplicity of hook-like lugs that are folded over the inner face of the frame and spaced therefrom, and a reticulate panel having an endless marginal member between the frame and lugs and held thereby against movement in all directions in respect to the frame.

2. The structure defined in claim 1 in which the frame and its lugs are cut and pressed from a single sheet of metal.

In testimony whereof I hereby affix my signature.

ANNA GRIFFITH,
Administratrix of the Estate of William P. Griffith, Deceased.