March 13, 1928. 1,662,280

E. E. PERRITT

MORTAR BOX

Filed April 28, 1927

Fig. 1.

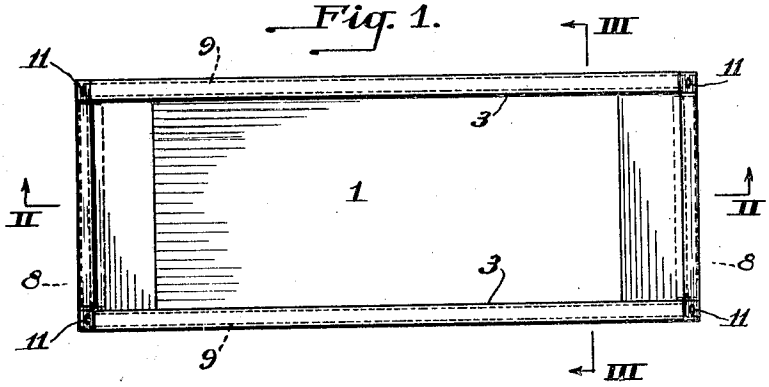


Fig. 3.

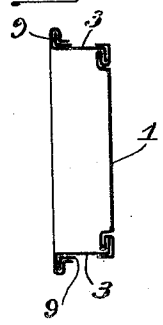


Fig. 2.

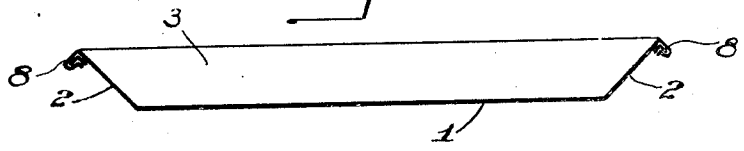


Fig. 5.

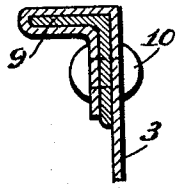


Fig. 4.

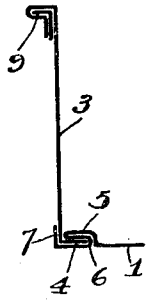


Fig. 7.

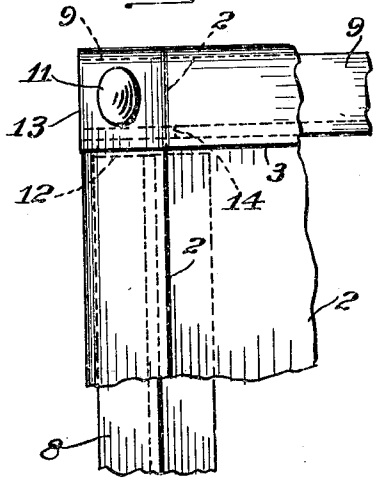
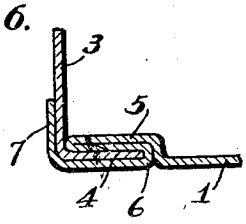


Fig. 6.



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atty

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UNITED STATES PATENT OFFICE.

ELLIOTT E. PERRITT, OF PITTSBURGH, PENNSYLVANIA.

MORTAR BOX.

Application filed April 28, 1927. Serial No. 187,148.

The invention relates to an improvement in motar boxes. It has for its principal objects the provision of an improved box of sheet steel, which has a minimum number of plates and joints or seams, which can be cheaply constructed, and which is very rigid and durable. One embodiment of the invention is shown in the accompanying drawings, wherein:

Figure 1 is a plan view of the box. Figs. 2 and 3 are sections on the lines II—II and III—III, respectively, of Fig. 1. Fig. 4 is an enlarged partial section also on the line III—III of Fig. 1. Figs. 5 and 6 are enlarged detail sections through one of the seams. And Fig. 7 is an enlarged plan view at one of the corners of the box.

The box is made up of three sheet steel plates only, namely, the bottom plate 1, which has the inclined ends 2, 2, and the two side plates 3, 3. The bottom plate is secured at its edges to the side plates by the seam construction shown in detail in Fig. 6. The side plate 3 has its lower edge bent inward forming the flange 4, while the bottom plate 1 is extended over the top of the flange, as indicated at 5 and then extended around such flange in the lap 6 of U-shape in cross section, whose free end is turned up along the outer side of the plate 3, as indicated at 7. This seam is formed by a machine operation, so that the various laps of metal are clamped tightly together, thus making a secure union and one which is tight enough for the intended purpose without soldering. This form of seam with the plurality of laps of metal is desirable here as a stiffening means for the box, and in order to withstand the hard usuage to which the edges of a box of this type, which is carried around from place to place, is exposed.

The upper edges of the inclined ends 2, 2 are reinforced by the angle irons 8, 8 (Fig. 2), while the upper edges of the sides 3, 3 are reinforced by the angle irons 9, 9. The sheet metal, after being bent around the angle irons, is securely held by the rivets 10 spaced at intervals of six or eight inches. At the corners of the box, the folded over corner edges of the sheets 2, 2 are extended across or between the folded over edges of the sides 3, 3, as indicated in Fig. 7. The end of the angle iron 8 is cut off short of the corner of the box, as shown by the line 12, but the horizontal flange of the angle iron 9 is extended through to the point 13, the vertical flange of such angle iron being cut off short of the corner of the box at the point 14. This arrangement at each corner provides five overlapping layers of metal at such points, and these layers are fastened securely together by the rivets 12.

The side sheets 3, 3 with the seam reinforcing along the bottom edges and the angle iron reinforcing along the upper edges, practically form longitudinal trusses for the box, making it very strong and stiff, and permitting the use of much lighter sheet metal than would otherwise be possible. The rectangle formed by the four upper edges reinforced by the angle irons and riveted together at the corners of the box, also greatly stiffens the box and prevents it from being deformed during handling or by rough usuage. The box, because of its simple construction, requiring, as it does, only three separate sheets of metal, and having only two seams, can be made at a low cost and will give a long period of service.

The overlapping and interfitting of the lapped over edges of the sheets at the corners, as shown in Fig. 7, gives the box a finished appearance at these points and also gives additional strength at points especially exposed to rough usage. The arrangement of the cross angle irons 8, 8 as indicated in Fig. 2, with the outer flange inclinded downwardly instead of lying horizontally, also involves certain advantages, one of which is the additional stiffness of a rightangle iron over one having an angle greater than a right angle, and another of which is the secure grip for the hands, this being provided by the downwardly inclined flange, thus avoiding the necessity of equipping the box with handles.

What I claim is:

1. A mortar box of sheet metal comprising a bottom sheet inclined upwardly at its ends to form the end walls of the box, and a pair of side plates, each secured rigidly at its bottom and inclined end edges to the side edges of said bottom plate, a reinforcing angle iron at the upper edge of each of said ends and each of said side plates, around which angle irons said edges are bent and positively secured, said bent upper edges extending past each other and overlapping at the corners of the box, and means for rigidly securing said overlappiing edges rigidly together.

2. A mortar box of sheet metal comprising

a bottom sheet inclined upwardly at its ends to form the end walls of the box, and a pair of side plates, each secured rigidly at its bottom and end edges to the side edges of said bottom plate, and a reinforcing angle at the upper edge of each of said end walls and each of said side plates, around which angle irons said edges are bent and secured, the angle irons at the ends of the box having their outer flanges throughout the length of said ends at an angle of about ninety degrees to said end walls, thus providing lifting handles for the box.

3. A mortar box of sheet metal comprising a bottom sheet inclined upwardly at its ends to form the end walls of the box, and a pair of side plates, each secured rigidly at its bottom and end edges to the side edges of said bottom plate, and a reinforciing angle at the upper edge of each of said end walls and each of said side plates, around which angle irons said edges are bent and secured, the angle irons at the ends of the box having their outer flanges throughout the length of said ends at an angle of about ninety degrees to said end walls, thus providing lifting handles for the box, and said bent upper edges extending past each other and overlapping at the corners of the box and being rigidly secured together.

In testimony whereof, I have hereunto subscribed my name this 25th day of April, 1927.

ELLIOTT E. PERRITT.