June 29, 1943. T. E. SHAW ET AL 2,322,748

RACK OR SUPPORTING STRUCTURE

Filed Oct. 21, 1941

Fig. 1.

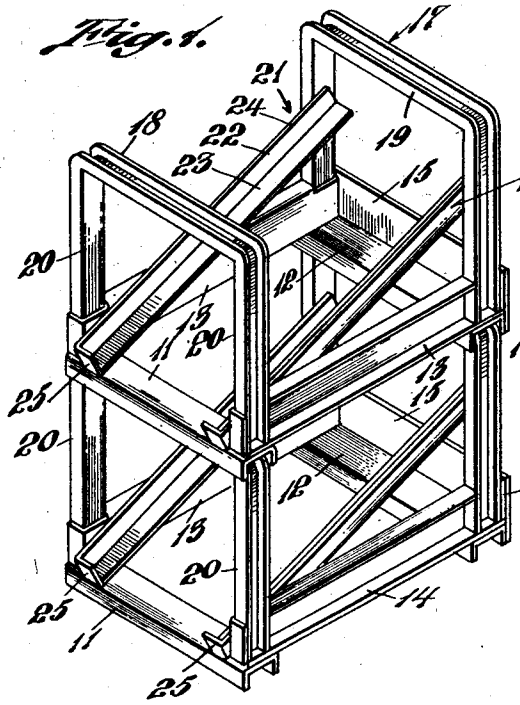


Fig. 2.

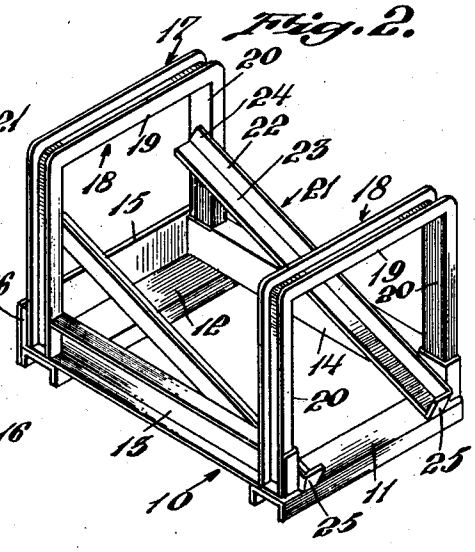


Fig. 3.

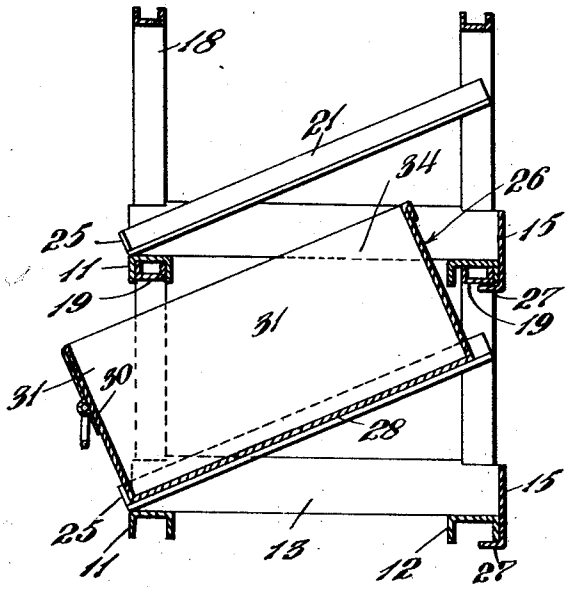
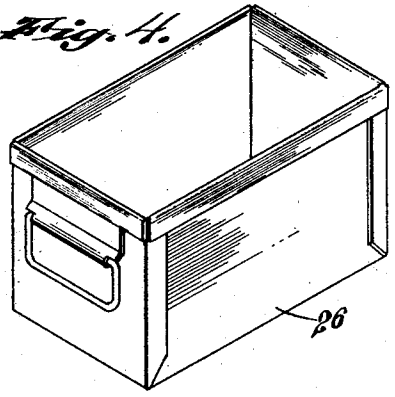


Fig. 4.



INVENTORS
Thomas E. Shaw
Richard A. Shaw
BY
Barlow & Barlow
ATTORNEYS

Patented June 29, 1943 2,322,748

UNITED STATES PATENT OFFICE

2,322,748

RACK OR SUPPORTING STRUCTURE

Thomas E. Shaw and Richard A. Shaw, Cranston, R. I., assignors to Stackbin Corporation, a corporation of Rhode Island

Application October 21, 1941, Serial No. 415,914

4 Claims. (Cl. 211—71)

This invention relates to a rack for storage receptacles of the type used for the storage for relatively small metal parts which are kept in boxes or bins.

Heretofore in the use of storage racks where rectangular boxes having a bottom and opposite end and side walls with an open top were used, each box was pulled from its supporting structure like a drawer to provide access to the contents of the box. In other types of storage the box was provided with a hopper front or a front wall inclined with respect to a vertical or at an angle to the bottom so as to provide access to the bin through this inclined front. A box provided with such an inclined front is more expensive to construct.

One of the objects of this invention is to utilize a rectangular box having right angular opposite side and end walls by so supporting it that access may be had to the contents thereof through its open top without pulling the box as a drawer from its supporting structure.

Another object of this invention is to utilize the supporting structure to provide a change in the supporting structure rather than in the box to afford access to the contents of the box.

Another object of the invention is to so arrange the supporting structure and the box supported thereby that there will be a nesting of the units one within the other as they are vertically superimposed one on the other.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view illustrating two of my skeleton units as supported one on the other.

Fig. 2 is a perspective view of one of the units alone.

Fig. 3 is a central sectional view through two of the supporting units and illustrating a box or container as located in the lower one of these units.

Fig. 4 is a perspective view of the box.

Proceeding with this invention we use a regular formation of box having a bottom wall and right angularly disposed opposite end and side walls extending upwardly at right angles to the bottom wall while leaving the top open. Certain reinforcements of this box to provide the required strength are formed in a customary manner. In utilizing this box we provide a framework in unit form so that sections may be added or subtracted from the entire arrangement, with each of these units arranged to receive one box. The unit is similar to that now utilized in Patent No. 2,046,095 with which we are familiar, but instead of supporting the box on a horizontal slide or base the box is inclined by suitable inclining means so as to tip the box up to provide access through the forward end while causing the contents to slide to this forward end for removal. The box protrudes beyond the front of the frame and also above the top of the frame, protruding upwardly and nesting within the superimposed frame for compact storage.

With reference to the drawing, each of the units consists of a base designated generally 10 and consisting of laterally extending channel irons 11 at the front and 12 at the rear which are joined together by longitudinally extending channel irons 13 at one side and 14 at the other side. This is one convenient formation of the base for the unit which may be suitably strengthened such for instance as by the back plate 15 extending across the channel iron 12 and the inwardly bent portions 16 of the ends of the channel irons 13 and 14. A supporting frame superstructure 17 extends upwardly from the base which consists of U-shaped members designated generally 18 at the front and rear of the unit, each providing an upper top bridging bar 19 with depending leg portions 20 all of channel shape formation with the legs held securely in notches in the channel irons 13 and 14 as shown in Fig. 2.

Within the skeleton structure described we provide receptacle supporting means in the form of angle iron supports or bars 21 having a vertically extending portion 22 and a laterally extending portion 23. These bars engage the front cross bar of the base 11 and are inclined upwardly and secured at 24, along the leg 20 of the U-shaped superstructure just described. The vertically extending wall of the supporting bar is turned inwardly as at 25 to provide a stop so that when the box designated generally 26 is supported thereon it will not slide out of the frame.

The units may be superimposed one of the other by reason of the cross bars 11 and 12 being of a width to receive the top bars 19 of the superstructure. A lip 27 extends inwardly from the strengthening back wall 15 so as to lock beneath the cross bar 19 of the rear U-shaped superstructure of the frame (see Fig. 3). The channel 11 is such to receive the cross bar 19 of the forward U-shaped superstructure as indicated in Fig. 3. The box 26 consists of bottom wall 28 and walls 29 and 30 extending forward-

ly therefrom with side walls 31 also extending upwardly from the bottom wall. This box is of a width to be received between the vertical walls 22 of the inclined supporting structure 21 and of a height a little less than the distance between the box and the bar 19 of the superstructure. Thus when the box is supported on the inclined support 21 its forward end portion 33 will project beyond the plane of the forward superstructure 18 as shown in Fig. 3 affording access through its open top to the contents within the box. The inclination of the box is such that bolts or such contained articles will slide forwardly to the forward end of the box so as to be accessible for taking from the box. The rear portion 33 of the box will project upwardly through the skeleton unit to be above the superstructure frame 18 but this will be at such a location with reference to the superimposed unit as to project into the skeleton work base in the space beneath its inclined support and the base and thus will nest therein so that a compact arrangement of the box may be had.

We claim:

1. A storage rack comprising individual unit sections of skeleton formation assembled one on top of another, each section comprising a base portion consisting of front and rear channel form plates, front and rear frame sections generally U-shaped and with the end extremity of the sides thereof resting on said plates, side plates on each side of said frame sections and extending from the front to the rear section and secured to the lower end portion of the sides thereof, and angular form supports resting on the front channel plate and extending therefrom upwardly toward the rear section and secured to the sides thereof and to the side plates at the front lower end portion of said angular supports.

2. A storage rack comprising individual unit sections of skeleton formation assembled one on top of another, each section comprising a base portion consisting of front and rear channel form plates, front and rear frame sections generally U-shaped and with the end extremity of the sides thereof resting on said plates, side plates on each side of said frame sections and extending from the front to the rear section and secured to the lower end portion of the sides thereof, and angular form supports resting on the front channel plate and extending therefrom upwardly toward the rear section and secured to the sides thereof and to the side plates at the front lower end portion of said angular supports, and a stop at the front end extremity of said supports.

3. In a storage rack, a unit comprising a framework of skeleton formation comprising a base having front and rear channel plates extending transversely of the unit, spaced upright supports resting on said channel plates with the upper end portion of said upright supports received within the channel of the superimposed unit and there locked in position, spaced supporting bars in said unit resting on the said front plate and inclined upwardly therefrom and secured to the upright support extending from said rear plate, and a rectangular box open at the top and having a bottom with opposite side and end walls on said inclined support bars with the lower portion of said box projecting through and forward of said superstructure to provide access through its open top forward of the unit to the contents thereof.

4. In a storage rack, a unit comprising a framework of skeleton formation comprising a base having front and rear channel plates extending transversely of the unit, spaced upright supports resting on said channel plates with the upper end portion of said upright supports received within the channel of the superimposed unit and there locked in position, spaced supporting bars resting on the said front plate and inclined upwardly therefrom and secured to said upright support extending from said rear plate and a rectangular box open at the top and having a bottom with opposite side and end walls on said inclined supporting bars with the lower portion of said box projecting through and forward of said superstructure to provide access through its open top forward of the unit to the contents thereof, the rear portion of the box projecting above the unit and through the bottom of a unit above and into the space below the supporting means in the superimposed unit.

THOMAS E. SHAW.
RICHARD A. SHAW.