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CONSTRUCTION IN BINS.

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My invention relates to a new and useful construction in steel shelves and bins adapted to be used for various purposes, but particularly for storing shoe lasts and the like and it consists more particularly in a novel construction of shelves and bins, whereby the storing of lasts and other articles is greatly facilitated, and whereby the same are rendered more easily accessible.

By my invention, I provide shelves or bins of sufficient strength to withstand a relatively heavy load, and I further reinforce and construct the fronts thereof, so that it is possible to stand or climb along the front edges thereof, whenever necessary, without any consequent damage to the shelves or bins or to the goods stored therein, and at the same time, my novel device is very compact and occupies a minimum amount of floor space.

Another object of my invention is to provide steel shelves or bins which can be built up in superimposed sections or tiers to any desired height to suit the requirements of different sized plants and store-rooms.

A still further object of my invention is to provide shelves or bins, which may be divided up transversely into any desired number of compartments of varying sizes to answer the varying requirements of the articles to be stored therein, the size of such compartments being easily and quickly changeable or alterable at will.

With the above ends in view, my invention consists of a single or double section bin or shelving, the same being built up in tiers, the two sections being placed contiguously back to back and being secured to a common supporting and dividing vertical partition, extending longitudinally the entire length of the shelves. My invention further consists in providing vertical polygonal partitions or dividers adapted to be detachably secured in position at any desired points along the length of the horizontal shelves, thus transversely dividing the same into a number of compartments of varying sizes, as may be desired. I further provide a novel construction of steel shelves or bins having an outwardly bulging front, the shelves or compartments being generally polygonal in cross section, thus facilitating

throwing into the bin the articles to be stored, such as shoe lasts and the like, from a distance; and at the same time increasing the capacity of such bins, without simultaneously increasing the floor area occupied by such bins or shelves, the outwardly inclined or bugling front providing a convenient footing on which workmen can climb to reach the uppermost shelves whenever necessary.

My invention further consists of a channel beam support, on which my novel steel shelf construction is placed and to which it is firmly and rigidly secured, thus giving the bins added stability and maintaining the same a little distance above the floor and away from dampness and dirt.

For the purpose of illustrating my invention, I have shown in the accompanying drawings forms thereof which are at present preferred by me, since they will give in practice, satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists, can be variously arranged and organized, and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Referring to the drawings,

Figure 1 represents a perspective view of a double section steel shelving or bin, embodying my invention.

Figure 2 represents, on an enlarged scale, a vertical sectional view on line 2—2 of Figure 1.

Figure 3 represents, on an enlarged scale, a horizontal sectional view on line 3—3 of Figure 2.

Figure 4 represents a perspective view of one of the vertical partitions seen in Figure 1, in detached position.

Figure 5 represents a vertical sectional view of a modification of my novel construction.

Referring to the drawings, in which like reference characters indicate like parts, 1 designates a double section steel bin or shelving construction embodying my invention, the same being composed of the two contiguous, horizontally disposed, oppositely facing rows of shelves 2 and 3, sepa-

rated from each other and secured together in a novel manner hereinafter described. Each of the horizontal shelves 2 and 3, is divided into a number of compartments 4, by means of the vertical dividers or partitions 5.

Referring now to Fig. 2, it will be seen that each of the horizontal shelves 2 and 3, consists of the shelf member 6, of one integral piece of sheet metal, all of a standard size, the same comprising the horizontal portion 7, which at the same time forms the bottom wall of one shelf and the top wall of the shelf directly below it, the downwardly extending flange 8, and the outwardly and upwardly inclined wall 9, which terminates in the inwardly and upwardly inclined reinforced edge portion 10, which is formed by bending the sheet metal over upon itself to form the inner flange 11, which encloses the flat or rectangular reinforcing bar 12, best seen in Fig. 2.

The partitions 5, best seen in Fig. 4, are detachably secured in place at any suitable points along the length of the shelf members 6, by means of rivets or bolts and nuts 13 passing through the apertures 14 in the reinforced front edge 10 of each shelf member 6 and the corresponding apertures 15 in the front, outwardly and downwardly inclined edge wall 16 of the partitions 5. It will be noted that the holes or apertures 14 are provided along the entire length of said reinforced edge 10, so that the partitions 5 can be quickly and conveniently adjusted to and fro, along the entire length of each shelf member 6, thus dividing the shelves into any number of compartments of any desired size. The horizontal or bottom wall 7 of each shelf member 6 is also provided with a series of holes 15^a, which also register with corresponding apertures 17 in the top horizontal wall 18 of the partition 5. Thus, the partition 5, in addition to being secured at the reinforced edge 10, by means of the bolts 13, is also further secured to the wall 7 of the shelf, (which forms, at the same time, the bottom wall of the shelf directly above it,) by means of the bolts 19, passing through the holes or apertures 17 in the top wall 18 of the partition 5 and the holes 15^a in said horizontal portion 7 of said shelf. Each of the partitions 5 is provided with the ventilating holes or apertures 20, which not only permit a free circulation of the air within the bins, but also considerably reduce the weight of said partitions.

It will be seen from Fig. 3 that the size and number of compartments into which the shelves may be divided by the partitions 5, is readily adjustable and may be varied at will to suit varying requirements.

In Fig. 2 is illustrated the novel manner of erecting the steel shelves and bins

of my invention, wherein I take two channel beams 20 and 21 and space them apart a distance equal to the width of the horizontal portion 7. I then take another pair of channel beams 22 and 23 and place them in the same spaced relation with respect to each other as the pair of channel beams 20 and 21 and at a suitable distance therefrom. I next take a pair of shelf members 6 and place them on said channel beams 20 and 21 and 22 and 23 respectively, with the horizontal portions 7 resting directly upon the upper surfaces of said pairs of channel beams respectively. In this position, it will be seen, the downwardly extending flanges 8 of the shelf members 6 are contiguous to the inner side of the vertical walls 24 of the channel beams 21 and 22 respectively. The partition 25 is then inserted vertically between the respective channel beams 21 and 22 and the pendant flanges 8, and secured thereto by the bolts or rivets 26. The partitions 5 are placed vertically at any suitable points along the length of the shelf 6, depending on the size of the compartment desired, and are secured to the same and to the reinforced edge 10 in the manner above set forth. This operation gives me a double section bin or shelf one tier high. I next take another pair of shelf members 6 and place them along the top walls 18 of the partitions 5 and secure them thereto also in the manner above set forth. It will be noted that the inner upper corner of the partition 5 is slightly offset, or provided with shoulder 27 (see Fig. 4), so as to receive the pendant rear flanges 8 of the shelf members 6 directly above. A second back or partition 28 is inserted vertically between said pendant flanges 8 and secured thereto by means of bolts or rivets 29. The lower end of the partition 28 overlaps the upper end of the partition 25 and is secured thereto, as well as to the rear pendant flanges 8 by the same bolt or rivet 29, thus giving added strength and stability. This operation produces a double section bin or shelf several tiers high, (see Fig. 2). Obviously, therefore, the number of tiers or the height of my novel double section steel shelf or bin construction can be increased or diminished according to requirements. The end pieces or side walls 37, having the general shape and contour of the shelf members 6 and the partitions 5, are then welded, bolted or otherwise secured to the respective ends of each of the shelf members 3, thus inclosing the same. The side walls 37 are also provided with the ventilation holes or apertures 38 and are preferably stamped out of sheet metal or steel, in any conventional manner.

It will be understood that my novel bin construction is equally adapted for the formation of a single section bin, since the shelf members 6, the transverse partitions 5, and

the longitudinally extending backs or partitions 25 and 28 are adapted to be secured to each other and to the supporting channel beams 21 and 22, independently, thus forming a single section steel shelf or bin, of as many tiers in height as may be desired.

In Fig. 5 I have shown a modified construction of steel bin or shelf of my invention, in which I may employ a double sided shelf 30 having the horizontal base portion 31, the upwardly and outwardly inclined portions 32, which terminate in the inwardly and upwardly inclined portion or reinforced edge 33, of substantially the same construction as the reinforced edge 10, best seen in Fig. 2. In this modified construction, I dispense with the two rows of independent shelves placed contiguously back to back and secured together as in Fig. 2. In this modified construction also, the partitions 5 are secured to the reinforced edge 33 and the horizontal portion 31 of the shelf member 30 in substantially the same manner as they are secured to the reinforced edge 10 and the bottom wall 7 in the construction shown in Figs. 1, 2, and 3. A vertical central partition 34 is then placed longitudinally in the shelf 30 substantially along the center thereof, thus dividing the same into oppositely facing shelves or bins. The longitudinal partition 34 may be secured to the transverse partitions 5 and to the horizontal base portions 31 of the shelf member 30 directly above it, by the provision of corresponding, aligning and registering holes (not shown) through which suitable fastening means such as bolts or rivets (not shown) may be passed.

It is well known that in storing shoe lasts, hardware, or the like, it often saves time and trouble if the objects to be thus stored can be thrown into the bin or shelf from a distance. In flat faced shelves known and used heretofore, great difficulty has been experienced since it was not easy to hit the right bin and when the right bin was hit, the object thus thrown into the bin, would be liable to fall out again, unless placed therein carefully. By providing the outwardly inclined or bulging front (see Fig. 1) in the steel shelves of my novel construction, I overcome all of these disadvantages and at the same time increase the capacity of such shelves or bins. I further eliminate the use of step ladders, stools and the like, since the workmen can climb up and down the tiers of my novel construction quickly and with great ease.

By providing the movable or adjustable partitions 5, I make it possible to regulate the number and size of such compartments into which a shelf may be divided according to requirements.

It is also obvious, that notwithstanding I have described my novel steel shelves or bins

as being adapted for the storage of shoe lasts, the same are equally adapted to be used for storing a great variety of articles such as canned goods, hardware, moulds, models and the like.

It will now be apparent that I have devised a new and useful construction in last bins which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance shown and described forms thereof which are at present preferred by me, since they will give in practice, satisfactory and reliable results, it is to be understood that the various instrumentalities of which my invention consists are susceptible of modifications in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character stated, a bin constructed of a series of metallic shelves, each shelf having a base and a reinforced outwardly inclined front, terminating in an inwardly inclined edge, movable transverse partitions for said shelves, each having a base and front edges outwardly converged, the lower front edges of said partitions conforming to the inclination of the front of said shelves, and means passing through said inclined edge and said partitions for detachably securing the latter at suitable intervals along the length of said shelves.

2. In a device of the character stated, the combination of a metallic shelf having a horizontally disposed base and an inclined front and metallic partitions having five edges, the lower front edge of said partitions conforming to the front of said shelf, and the rear end of the upper edge of said partitions being offset and means for adjustably securing said partitions to said shelf.

3. In a device of the character stated, the combination of a shelf having a base, an inclined reinforced front edge and a rear pendant vertical integral flange, five sided metallic partitions having a continuous peripheral flange, the top and bottom flanges being attached to the upper and lower walls of a shelf and the front edges of said partitions being converged and secured to the front wall of said shelf.

4. In a device of the character stated, superimposed shelves each having a forwardly inclined reinforced front wall and a pendant, vertical integral rear wall, and a five sided metallic partition having peripheral flanges, the top and bottom thereof being secured to the contiguous portions of said shelves, the lower front of said partition being secured to the front edge of said shelf

and the inclined face of said partition having a double edge to prevent the cutting of material thrown into the bin.

5 In a device of the character stated, a lower shelf having a base, a rear pendant integral flange and an upwardly inclined front having a reinforced upper edge, a vertical back secured to said rear pendant flange, five sided partitions having a shoulder at their upper inner portions, an upper shelf having a rear pendant flange seated in the shoulders of said partitions, means for adjustably securing the top and bottom walls of said partitions to the contiguous portions of a pair of shelves, upper and lower front converging walls for said partitions and fastening means for securing the fronts of said partitions within the fronts of said shelves.

20 6. In a device of the character stated, a double bin structure having a bottom wall, and front and rear lower upwardly and outwardly inclined walls terminating in reinforced upper edges, a vertical central longitudinally extending partition forming a common back for the front and rear bins, transverse partitions having their lower front edges conforming to the lower inclined

walls of said bin, and fastening means passing through the bottom and front walls of the bins for adjustably securing said partitions in place. 30

7. In a device of the character stated, a bin structure composed of central vertical partitions, a series of horizontally disposed shelves on either side of said vertical partitions and secured thereto, each of said shelves having an outwardly inclined front member, movable partitions having their lower front walls outwardly inclined to conform to the outward inclination of said front members and their upper front walls converging inwardly, and means for adjustably securing said partitions at intervals along the length of said shelves. 35 40 45

8. In a device of the character stated, a shelf comprising a base portion and an inclined front wall terminating in a reinforced inwardly turned upper edge, a rear, stationary, vertical partition secured to said shelf, movable vertical partitions at right angles thereto, there being apertures in said base portion and inclined front wall, and means coacting with said apertures for adjustably securing said movable, vertical partitions. 50

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