Jan. 27, 1948. H. B. BOURLAND 2,434,985

DISPLAY BIN CONSTRUCTION

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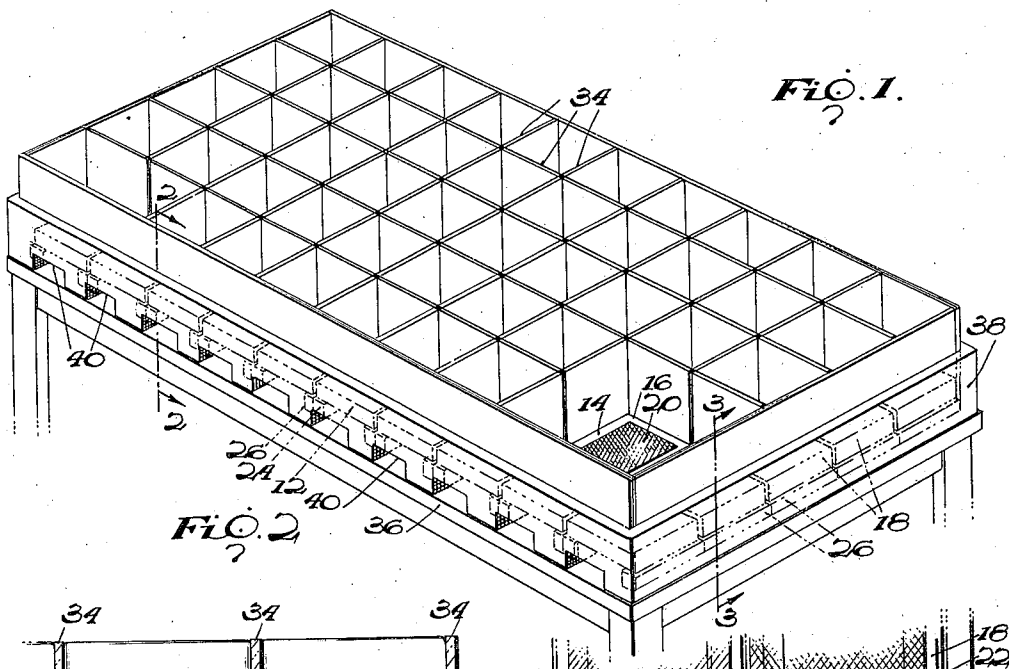


FIG. 1.

FIG. 2.

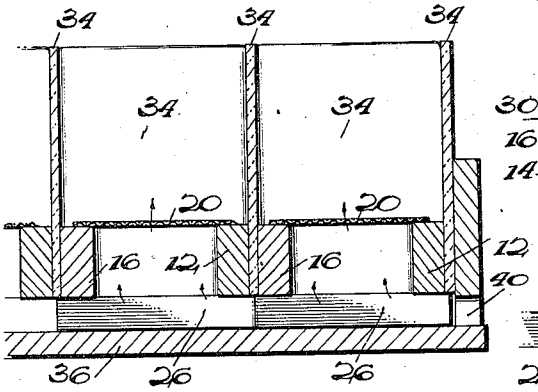


FIG. 3.

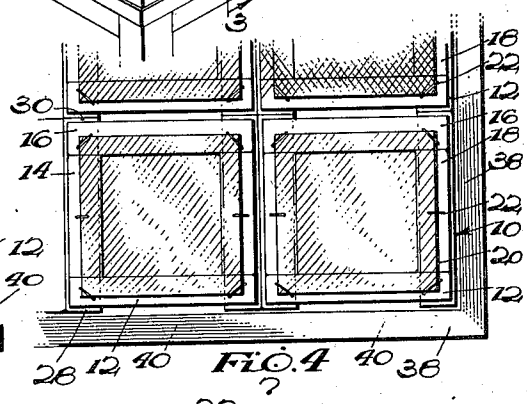
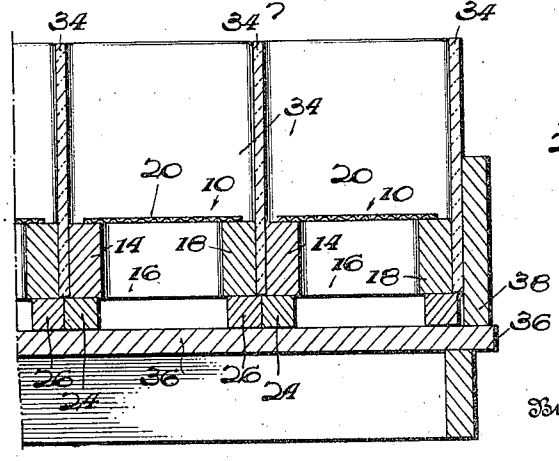


FIG. 4.



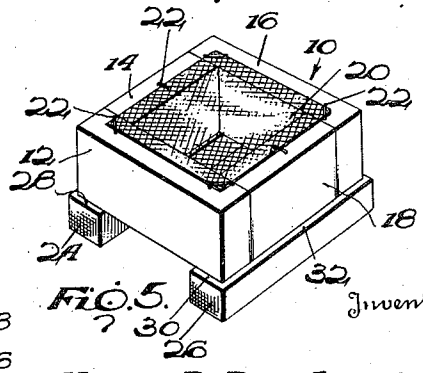


FIG. 5.

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DISPLAY BIN CONSTRUCTION

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6 Claims. (Cl. 312—140.3)

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This invention relates to bin constructions for the storage and display of merchandise. Among the objects of the invention are to so construct and arrange a series of component identical units that bins of various sizes and capacities may be arranged adjacent one another to form a composite whole, each unit being cooperable with any adjacent unit to firmly position a separator element.

Another object of the invention is to so construct each component bin unit that its material or stock supporting surface is elevated with reference to the main composite bin supporting surface, whereby the use of a perforated or reticulated stock supporting surface permits dust and foreign material of any sort to drop from each bin by gravity onto the main supporting surface. This greatly facilitates maintenance of a clean and orderly display of variegated stock.

Still another object of the invention is to so construct the base of each component bin unit that it will not only facilitate the positioning of bin separators, as described above, but that said base structures may be arranged to cooperate with one another and, if desired, with the wall of a marginal frame enclosing the composite assembly, to permit ready access to the main supporting surface. This facilitates removal therefrom of all dust, dirt and other foreign material which may drop through the reticulated stock supporting surfaces of the component bin units. Thus the display may be kept spotless in fact as well as in surface appearance.

An important feature of the invention resides in the various simplified and correlated structural features of the bin units, the main frame, and the bin supporting surfaces whereby the various objects and advantages heretofore enumerated may be attained at minimum cost, together with the resultant rugged construction which necessitates substantially no repair or replacement.

Various other objects and meritorious features will be apparent from the following description taken in conjunction with the drawings, wherein like numerals refer to like parts throughout the several figures, and wherein:

Figure 1 is a perspective of a composite display assembly embodying the features of my invention;

Fig. 2 is a section along 2—2 of Fig. 1;

Fig. 3 is a section along 3—3 of Fig. 1;

Fig. 4 is a plan view of adjacent bin units, and

Fig. 5 is a perspective of one of my improved bin units.

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Referring now more particularly to Fig. 5, each bin unit comprises a frame broadly indicated by the numeral 10 which is preferably rectangular and embodies frame members 12, 14, 16 and 18. The particular manner in which the frame is constructed and the particular material utilized are of no great importance. However, I have found that ordinary wood frame members secured in any desirable simple fashion, such as by nailing, are eminently suitable and particularly desirable because of their rugged nature and the ease with which a frame so constructed may be assembled.

Over one open face of the frame is secured a perforated or reticulated sheet 20. This may constitute wire netting of any suitable gauge and I have found it convenient to secure such sheet, which forms a supporting surface for the stock to be displayed, by means of staples 22.

To the opposite face of frame 10 are secured elongated supporting members 24 and 26 which are of sufficient vertical dimension to support the frame in elevated position. These supporting members, which may likewise be of wood, are secured to the frame in parallelism with one another. Each supporting member extends continuously along the full length of one side of the frame and is so dimensioned and positioned with reference thereto that it projects beyond the frame an equal distance at each end as indicated at 28 and 30, and projects the same distance beyond that side of the frame which it immediately supports, as indicated at 32. Thus it will be seen that a passage or tunnel is formed beneath the frame 10 between elongated supporting members 24 and 26 and that such members project outwardly beyond the frame an equal distance on all sides thereof.

In forming a display bin assembly such as that illustrated in Fig. 1 from these component bin units, a number of them are placed adjacent one another with elongated supporting members 24 and 26 in abutting relation. The abutting supporting members, regardless of whether placed in parallelism or transversely to one another, will together form a supporting surface or seat equal to twice the width of the projecting portion of the elongated members. Partition elements 34 are supported upon these seats when inserted in the slots formed between the sides of adjacent frame members.

Any number of units can be assembled in adjacent relation to provide a composite bin assembly of any desired formation, regardless of whether or not the elongated supporting members

24 and 26 are placed in parallelism. Bins may be varied in size to the extent that any multiple of a single unit may constitute a single bin. In Fig. 1 a quadruple-sized bin is shown in the right forward corner of the assembly and a double bin is shown in the left forward corner of the assembly. Eliminating the usual partitions, which are preferably of glass, to provide these multiple-sized bins makes it desirable to insert fillers or shims of some sort within the slots between frame walls to prevent ingress of dust and dirt. All foreign material which finds its way to the stock in any one of the bins, whether it is deposited in the bin when the materials to be displayed are dumped therein or whether it gathers during the course of time, ultimately settles down and drops through the openings in the stock supporting base formed by the reticulated covering 20.

To further aid in maintaining absolute cleanliness of displays which are susceptible to gathering dust and dirt, such as nails, nuts and bolts, screws, etc., and make it possible to easily remove such foreign particles after they have dropped down through the reticulated stock supporting base 20, I propose to assemble the bin units 10 in such manner that all of the dust deposited below each unit of an assembly may be readily and quickly removed.

For purposes of illustration I have shown a suitable form of assembly in Fig. 1 comprising a composite arrangement five bin units wide and ten bin units long. Any suitable support such as the table or counter 36 may be used as a base or main supporting surface. A marginal frame 38 having spaced openings 40 along the lower margins of opposite side walls encompasses the composite assembly. Preferably the width of each opening 40 is substantially equal to the space between supporting members 24 and 26 of each bin unit and the space between adjacent openings is substantially twice the width of each such supporting member. Thus when the component bin units 10 are assembled within the frame 38 a tunnel is formed along each transverse line of bin units, providing only that the base members 24 and 26 of each transverse line are positioned in end to end relation to one another. If a tunnel extending longitudinally of the assembly should for some reason prove preferable, openings would be provided in the end walls of frame 38 rather than in the side walls as shown and the supporting bases 24 and 26 would be aligned longitudinally with one another across each longitudinal line of bin units.

It will therefore be apparent that whatever foreign material passes through the reticulated stock supporting surfaces 20 will be deposited upon the main supporting surface or table 36 within the tunnel associated with that particular bin unit. All that is necessary to eliminate dust and dirt from the entire assembly is, therefore, a stream of air directed through each of the openings 40 successively for the entire length of the composite assembly illustrated.

It is preferable that the dimensions of frame 38 be somewhat in excess, in each direction, of the total of the unit bins to be positioned therein. I have found that an allowance of $\frac{1}{16}$ of an inch play per bin unit is satisfactory and enables one to easily fit the bin units together within the frame and insert the partitions without forcing. Due to variations in standard partition units, of whatever material composed, there is at times some clearance or play in the grooves

after the partition units have been seated therein. For this purpose it is necessary only to insert a shim of cardboard or other suitable material in order to tighten the assembly.

Preferably the bin units are relatively small to permit as great flexibility as possible in assembling the component elements to provide adjacent bins of various and unequal capacities. The use of small-unit bins likewise permits the use of standard partitions or glass divisions, which may be modified very readily to suit the particular assembly constructed in this manner.

A further advantage deriving from this construction resides in the fact that an air stream directed through any one of the tunnel openings 40 will have a slight tendency to pass upwardly through the reticulated stock supporting surfaces 20 of each bin positioned along that particular tunnel. This tends to loosen any foreign material which still remains upon the stock and has not fallen through to the bottom of the tunnel or main supporting surface provided, in the form illustrated, by the table or counter 36.

Various other modifications of the basic concept will be apparent to those skilled in the art from the foregoing description and for that reason I wish to limit myself only within the scope of the appended claims.

What I claim is:

1. A composite display bin assembly comprising a main supporting member, a plurality of component rectangular bin block units each having a reticulated stock supporting surface and arranged in juxtaposition upon said member, means secured to each unit for supporting the same in elevated position, said means forming a tunnel under the reticulations of aligned units, and a frame including opposite side walls encompassing the assembled units, said frame including spaced aligned openings at the bases of said side walls so dimensioned and positioned as to align, respectively, with said tunnels.

2. A composite display bin assembly comprising a main supporting member, a plurality of component rectangular bin block units each having a reticulated stock supporting surface and arranged in juxtaposition upon said member, means secured to each unit for supporting the same in elevated position and forming a tunnel under the reticulations of aligned units, said means projecting an equal distance beyond each side of each unit whereby abutting supporting means form the base of a slot adapted to receive separator elements, and a frame including opposite side walls encompassing the assembled units, said frame including spaced aligned openings at the bases of said side walls so dimensioned and positioned as to align, respectively, with said tunnels.

3. A composite display bin assembly comprising a plurality of component rectangular bin block units each having a reticulated stock supporting surface arranged in aligned juxtaposition upon a supporting surface, means forming a part of each unit supporting the same in elevated position, said means forming a continuous passage under the stock supporting surfaces of aligned units, and wall members encompassing the assembled units, opposite wall members having openings providing access, respectively, to said passages.

4. A composite display bin assembly comprising a plurality of component rectangular bin block units each having a reticulated stock supporting surface arranged in aligned juxtaposition

upon a supporting surface, means forming a part of each unit supporting the same in elevated position, said means forming a continuous passage under the stock supporting surfaces of aligned units, wall members encompassing the assembled units, opposite wall members having openings providing access, respectively, to said passages, and partitions between adjacent block units seated between adjacent units upon said block elevating support means.

5. The arrangement described in claim 3 wherein each block unit-supporting and elevating means projects an equal distance beyond each side of its respective unit to abut the next adjacent elevating and supporting means to thereby form a continuous slot adapted to receive a separator.

6. A display bin comprising a plurality of bin units, each unit comprising a rectangular open-faced frame of substantial depth, a reticulated covering across one face of said frame, elongated elevating and supporting members secured to non-adjacent sides of said frame on the opposite face thereof, each of said supporting members being continuous and projecting at its ends and outer side an equal distance outwardly from the frame, said units being disposed with their supporting members in abutting relation with the supporting members of adjacent units at one end and one side, at least, of each unit, and partitions resting upon the projecting end and side portions of adjacent supporting members.

HARRY B. BOURLAND.

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