April 20, 1943. C. DOERING ET AL 2,317,036

COLLAPSIBLE DISPLAY STAND

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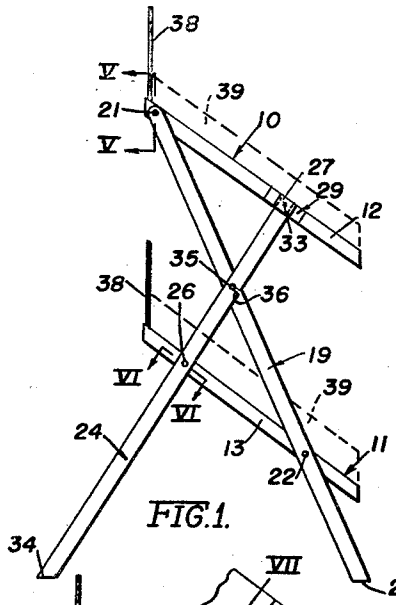


FIG. 1.

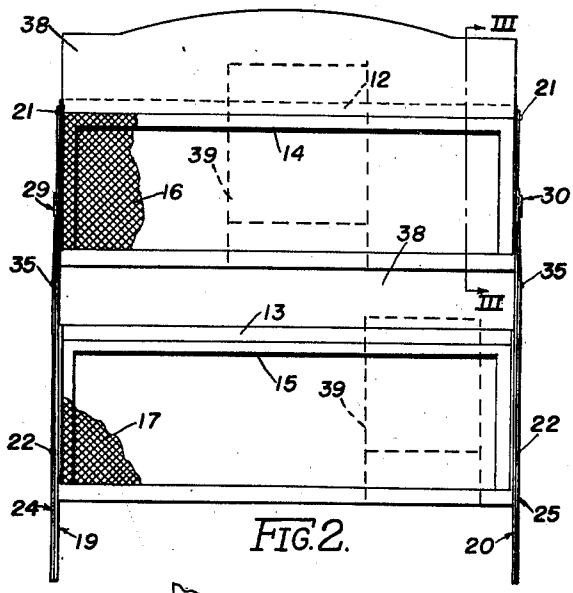


FIG. 2.

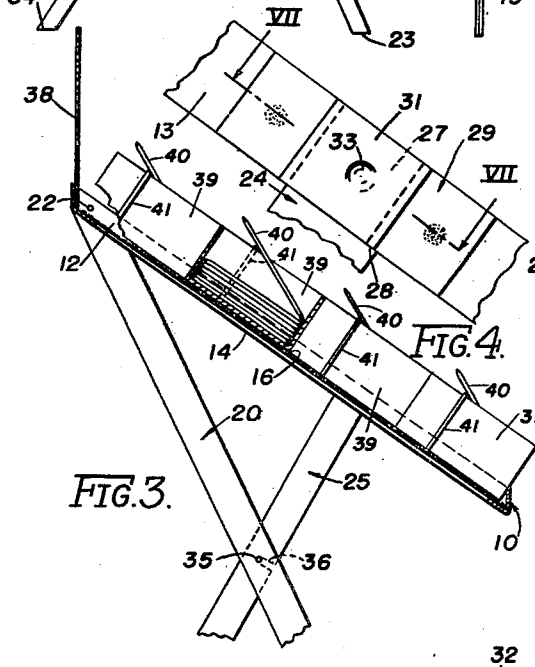


FIG. 3.

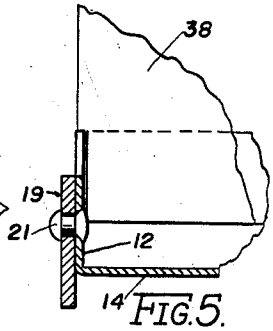


FIG. 4.

FIG. 5.

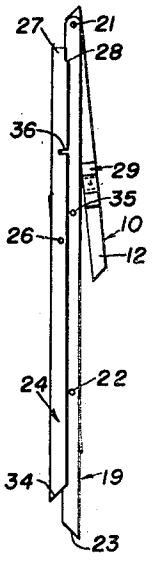


FIG. 9.

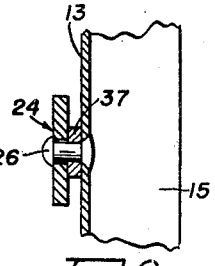


FIG. 6.

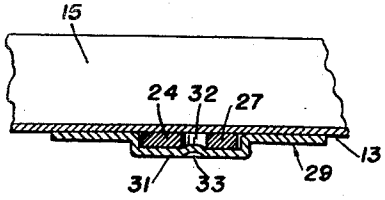


FIG. 7.

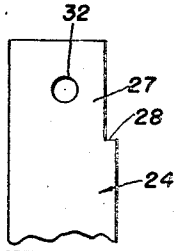


FIG. 8.

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COLLAPSIBLE DISPLAY STAND

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Chicago, Ill.

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7 Claims. (Cl. 211—132)

This invention relates to display devices and more particularly to merchandise display racks, although certain features thereof may be employed with equal advantage for other purposes.

It contemplates more especially the provision of a simple and inexpensive display device which fully and orderly sustains merchandise in its operative adjusted position and is collapsible to minimize the space requirements for convenient storage and shipment at minimum expense.

Numerous types of display devices have heretofore been proposed, but these have not proven especially advantageous from the standpoint of expense and display characteristics, it being their purpose to primarily and emphatically support merchandise for a complete exposure thereof to the purchasing public rather than emphasize the uniqueness of the supporting structure. Most display devices are expensive in construction and are not collapsible for convenient storage and shipment. This is very important in seasonal merchandise display racks for packaged seeds and the like which are displayed for short intervals of time during the season.

One object of the present invention is to provide a display device of improved and inexpensive construction.

Another object is to provide a device of the character mentioned which will properly and orderly sustain merchandise within view of the purchasing public in its operative assembled position and is collapsible to assume an inoperative substantially flat compact unit requiring little space for storage and shipment.

Still another object is to provide a simple, compact and collapsible display device of inexpensive construction.

A further object is to provide a simple collapsible display device which will support merchandise in successive stepped relation.

An additional object is to provide a collapsible display rack having a superposed series of stepped merchandise supporting frames maintained in spaced relation by interconnected standards that are adjustably associated with each other to enable the collapsing thereof.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a side view in elevation of a collapsible display stand embodying features of the present invention, it being shown in its operative assembled relation to support merchandise.

Figure 2 is a front view in elevation of the display stand shown in Figure 1.

Figure 3 is a fragmentary sectional view taken substantially along line III—III of Figure 2.

Figure 4 is a fragmentary side view of a locking mechanism embodied with the supporting elements to maintain the parts in operative assembled relation without any possible accidental collapsing.

Figure 5 is a fragmentary sectional view taken substantially along line V—V of Figure 1.

Figure 6 is a fragmentary sectional view taken substantially along line VI—VI of Figure 1.

Figure 7 is a fragmentary sectional view of the locking mechanism taken substantially along line VII—VII of Figure 4.

Figure 8 is a fragmentary front view of the upper extremity of the standard that is complemental to the locking mechanism shown in Figure 4.

Figure 9 is a side view in elevation of the display stand shown in Figure 1, with the parts thereof collapsed to assume an operative compact unit for storage and shipment purposes.

The structure selected for illustration comprises a plurality of merchandise supporting frames 10 and 11, in this instance two, which are preferably though not essentially constructed from linear angle plates. The linear angle plates are, in this instance, joined by soldering or welding to define the rectangular frames 10 and 11 serving to retain packaged merchandise in the confines of upstanding peripheral flanges 12 and 13 constituting a part of angle plate construction of the frames 10 and 11. The transversely disposed flanges 14 and 15 of the frames 10 and 11, respectively, constitute an integral part of the upstanding flanges 12 and 13, respectively, to serve as a vertical support for merchandise such as cartons (shown in dotted outline in Figure 2) of packaged seeds that are sized in length to be disposed thereon and arranged adjacently to each other to occupy the entire space within the confines of the upstanding flanges 12 and 13. The transverse flanges 14 and 15 defining the frames 10 and 11 preferably are bridged by wire mesh sheets 16 and 17 sized to conform therewith and to be anchored thereto by soldering or any other suitable attaching expedient as commercial practice may dictate.

In order to sustain the carton supporting frames 10—11 in superposed stepped relation, a pair of confronting side standards or elongated metallic bar legs 19 and 20 are pivotally anchored on pins 21 and 22 to each of the side flanges

12—13 of the frames 10—11, respectively. In this particular instance, the upper extremity of the metallic bar legs 19 are anchored to the top portion of the upper frame 10 that pivotally connects therewith, and similarly the lower frame 11 is pivotally connected proximate to the lower end thereof as at 22 for pivotal connection to the side flanges 13 thereof, thereby maintaining a predetermined spaced inclined parallel relation between the superposed frames 10—11, and the extent of inclination of the frames 10—11 as well as the standards or bar legs 19 will be determined by the bias at which the lower supporting edges 23 are disposed to engage the horizontal surface such as the floor of the vendor's store.

In order to maintain the frames 10—11 in their desired inclined spaced parallel relation, another pair of standards or metallic bar legs 24 and 25 are pivotally anchored on pins 26 proximate to the upper ends of the lower frame 11 at a distance therefrom corresponding substantially with the spaced relation of the pin 22 from the lower end of the frame 11 to extend through the standards 19—20. The upper ends 27 of the standards or bar legs 24—25 (Figure 8) are somewhat reduced in width to present a shoulder 28 to engage straps 29 and 30 welded or otherwise joined to the side flanges 12 of the upper frame 10. To this end, the straps 29—30 are provided with an intermediate offset portion 31 that is spaced from the side flanges 12 to define a rectangular sleeve having a depth corresponding to the thickness of the bar extremities 27 for telescopic reception therein.

The interior of the offset sleeve 31 on the straps 29—30 is of a width corresponding to the bar extremities 27 so that the shoulder 28 will engage the laterally offset edge of the sleeve 31 to sustain the upper frame 10 in predetermined spaced parallel inclined relation with respect to the lower frame 11 so that the bars 24—25 will not be accidentally removed from the sleeves 31 and their respective straps 29—30, the upper extremities 27 of the standards or bar legs 24—25 are provided with apertures 32 to confront an inwardly depressed detent 33 provided in each of the sleeves 31 for resilient lodgement in and frictional engagement with the apertures 32, thereby precluding accidental separation therebetween and providing a simple and effective locking expedient.

It is to be noted that the lower sustaining edges 34 of the bars 24—25 are cut on the bias similarly to the edges 23 of the cooperating bar legs 19—20, thereby maintaining the angularly disposed standards or bar legs 19—24 and 20—25 in rigid relation to support the merchandise receiving frames 10—11. To further rigidify the cooperating standards or leg bars 19—24 and 20—25 operatively connected to both sides of the superposed frames 10—11, the cooperating bars 19—24 and 20—25 are provided with complemental means at their intersecting overlapping region, the complemental means comprising in this instance rivets 35 effectively mounted in the bar legs 19—20 to cooperate with transverse slots 36 provided in the bars 24—25 to communicate with one edge thereof to enable slidable association and separation therebetween. This provides a more rigid collapsible standard defined by the cooperating angular bar legs 19—24 and 20—25.

To enable the bar legs 24—25 to be offset from the plane of the cooperating bar legs 19—20, respectively, for a distance corresponding to the thickness thereof, spacer collars or washers 37 are provided on the rivet pins 26 to outwardly space the bar legs 24—25 from the side flanges 12—13 (Figure 6), thereby providing for the slots 36 to engage and dis-engage the rivet head pins 35 (Figure 1) and maintain the parts in rigid angular relation to support the frames 10—11 in their operative positions.

It will thus be apparent that the upper supporting frames can readily be displaced in a counterclockwise direction (viewed from Figure 1) to disengage the extremities of the bar legs 24—25, and then remove the slots 36 from the pins 35 to afford the collapsing of the entire unit into a rigid compact body (Figure 9) which can be stored in minimum space and conveniently transported at little expense. Suitable placards 38 having advertising and descriptive matter thereon can be disposed adjacent the side flanges 12—13 along the upper edges of the frames 10 and 11 so that the merchandise confining cartons 39 therein will abut against the placards 38 to maintain them in the desired vertical position. While a plurality of individual cartons 39 are disposed adjacently to each other to occupy frames 10—11 shown in adjacent contacting relation to fully occupy the frames 10—11 (shown in dotted outline in Figure 1), it should be noted that the single unitary carton of corresponding size can be substituted therefor as commercial practice may dictate.

It is to be noted that the contents or merchandise can take the form of a plurality of longitudinally and transversely arranged individual cartons 39 (Figure 3) which individually do not extend for support directly on the lateral flanges 14—15, but require the wire mesh 16—17 to serve as an intermediate support therefor. Consequently, individual cartons are supported directly in a uniform plane parallel to the wire mesh bottom 16—17 of the frames 10—11. In the present embodiment, the cartons 39 serve as containers for a plurality of individual seed packages 40 that are stacked therein in either flat or vertically upright position depending upon the dictates of commercial practice.

As the individual seed packages 40 are removed by the purchaser, they are still maintained in a position for effective display by means of rubber bands 41 that envelop the side walls of the cartons 39 after the closure (not shown) has been removed therefrom. The rubber bands 41 may be moved to any desirable position along the length of the cartons 39 so as to support the uppermost seed package 40 in an effective display position. By varying the position of the rubber bands 40 along the length of the cartons 39 angularly of the individual seed carton 40, it may be varied to present the best and most effective display irrespective of the extent to which the carton interiors are occupied by the varying number of seed packages 40.

In other words, irrespective of the number of seed packages that are sold from each carton 39, the seed packages 40 may be maintained in stacked and effective display position. While the cartons 39 with their content packages 40 are confined by the carton closure (not shown) during storage and shipment, the rubber bands 41 serve to envelop the cartons 39 with their closures to avoid accidental re-arrangement or displacement of the contents from any of the cartons 39. This affords an effective display of carton confining arrangement for seed packages 40

or any other merchandise desired to be displayed in an effective position for increasing the sales thereon.

Various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the features of the invention or any of the advantages thereof, and nothing herein shall be construed as limitations of the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

We claim:

1. In a merchandise display stand, the combination with a plurality of merchandise supporting frames, of detachably interconnected standards for supporting said frames, certain of said standards detachably engaging and disengaging certain of said merchandise supporting frames, and other of said standards being permanently connected to certain of said merchandise supporting frames to support said merchandise supporting frames in operative position, said last named permanently connected standards involving pivotal attachment with said merchandise supporting frames to permit the collapsing of said frames and standards to inoperative position.

2. In a merchandise display stand, the combination with a pluraltiy of merchandise supporting frames, of detachably interconnected standards detachably engaging and disengaging certain of said merchandise supporting frames and other of said standards being pivotally connected to certain of said merchandise supporting frames to support said merchandise supporting frames in operative position and permit the collapsing thereof to inoperative position, and means for resiliently locking said standards in operative supporting position.

3. In a device of the character described, the combination with a pair of superposed upper and lower merchandise supporting frames, of a pair of standards pivotally connected to each side of said lower supporting frame, the upper end of one of each pair of said standards pivotally connected to the upper of said supporting frames on each side thereof, and the upper end of the other of each pair of said standards detachably connected for rigid attachment with the upper supporting frame on each side thereof in spaced relation with the pivotal connection of said first named upper end of the other of said standards, said last named detachably connected pair of standards being readily separated from attachment with the upper frame to permit the collapsing of all of said frames and standards to inoperative position.

4. In a device of the character described, the combination with a pair of superposed upper and lower merchandise supporting frames, of a pair of standards pivotally connected to each side of said lower supporting frame, the upper end of one of said standards pivotally connected to the upper of said supporting frames on each side thereof, the upper end of the other of said standards detachably connected with the upper supporting frame on each side thereof in spaced relation with the pivotal connection of said first named upper end of the other of said standards, and means for locking the standards to each other.

5. In a device of the character described, the combination with a pair of superposed upper and lower merchandise supporting frames, of a pair of standards pivotally connected to each side of said lower supporting frame, the upper end of one of each pair of said standards pivotally connected to the upper of said supporting frames on each side thereof, the upper end of the other of each pair of said standards detachably connected with the upper supporting frame on each side thereof in spaced relation with the pivotal connection of said first named upper end of the other of said standards, and complemental means on intersecting positions of each pair of standards to preclude the accidental collapsing thereof.

6. In a device of the character described, the combination with a pair of superposed upper and lower merchandise supporting frames, of a pair of standards pivotally connected to each side of said lower supporting frame, the upper end of one of each pair of said standards pivotally connected to the upper of said supporting frames on each side thereof, the upper end of the other of each pair of said standards detachably connected with the upper supporting frame on each side thereof in spaced relation with the pivotal connection of said first named upper end of the other of said standards, means for resiliently locking said last named standards to said upper frame in operative supporting positions, and complemental pin and slot means on intersecting positions of each pair of standards to preclude the accidental collapsing thereof.

7. In a device of the character described, the combination with a pair of superposed upper and lower merchandise supporting frames, of a pair of standards pivotally connected to each side of said lower supporting frame, the upper end of one of each pair of said standards pivotally connected to the upper of said supporting frames on each side thereof, the upper end of each pair of the other of said standards detachably connected with the upper supporting frame on each side thereof in spaced relation with the pivotal connection of said first named upper end of the other of said standards, complemental means on intersecting positions of each pair of standards to preclude the accidental collapsing thereof, and means for resiliently locking said second named standards to said upper frame in operative supporting positions.

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