March 15, 1932. A. W. BURKS 1,849,659

SUPPORT AND SPACER FOR STACKING BOXES

Filed July 17, 1930

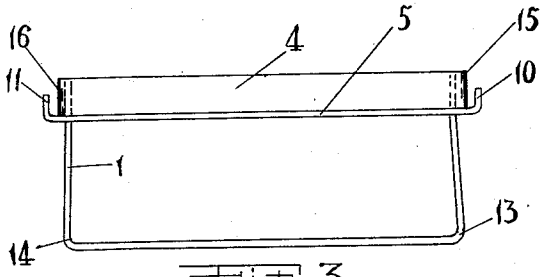


Fig. 3.

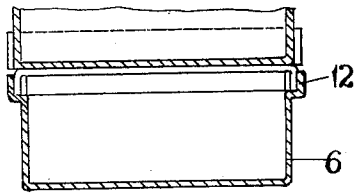


Fig. 7.

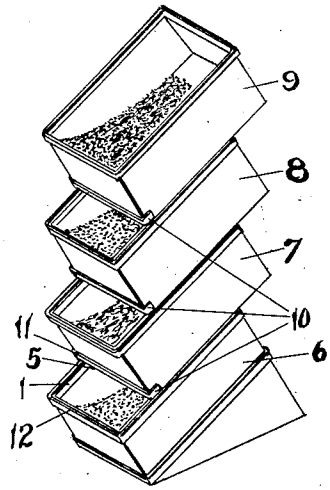


Fig. 2.

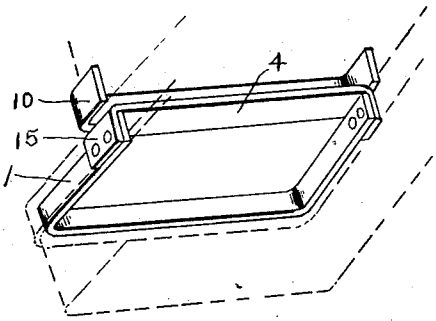


Fig. 6.

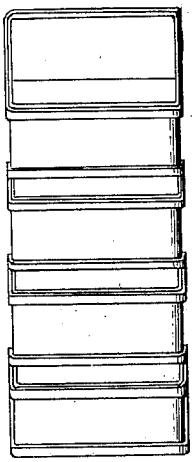


Fig. 4.

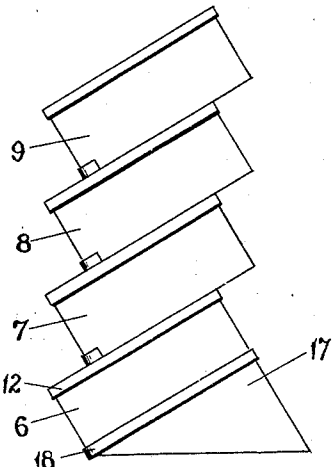


Fig. 5.

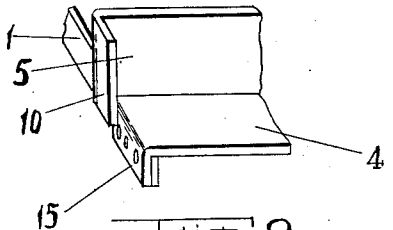


Fig. 8.

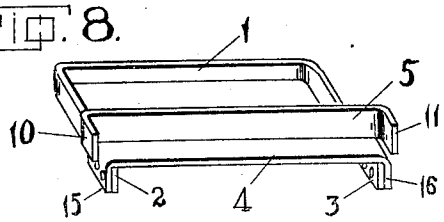


Fig.

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Patented Mar. 15, 1932

1,849,659

UNITED STATES PATENT OFFICE

ARTHUR W. BURKS, OF DECATUR, ILLINOIS

SUPPORT AND SPACER FOR STACKING BOXES

Application filed July 17, 1930. Serial No. 468,540.

My invention relates to stacking boxes commonly used in conveniently storing merchandise where it is desired to have the supplies of such merchandise conveniently accessible at all times.

A particular object of my invention is to provide an arrangement which will make it possible to stack one storage box upon another in a manner permitting the boxes to be substantially secured in the position most easily accessible to the contents thereof and yet economical in the space occupied thereby.

A further object of my invention is to provide a support and spacer for stacking boxes adapted to contain merchandise and the like, which will permit the boxes to be stacked one upon another at any desired angle sloping toward the front so that each box will have an open top at the forward end through which the contents of the box may be easily observed and easily reached by the hand; while at the same time the slope of the box will cause the contents to slide forward to the front of the box making it easy to get to so long as there is any materials left in the box.

A further object of my invention is to provide in connection with stacking boxes for accessibly storing merchandise and the like, a detachable support and spacer for each box individually as mounted one upon the other at a suitable angle so that any desired number of stacking boxes may be placed in use, while the number may be varied from time to time as conditions may require without inconvenience in making the change.

I attain the objects of my invention by the device described in the annexed specification, recited in the claims and illustrated in the accompanying drawings in which like reference numerals indicate like parts in the several figures.

Fig. 1 is a perspective of my support and spacer for stacking boxes showing details of construction thereof.

Fig. 2 is a perspective of a series of stacking boxes, stacked one upon the other as when in normal use with merchandise contained therein. In this figure my support and spacer for stacking boxes is observed to be placed in its normally used position resting on the peripheral flange about the top of the box in each case.

Fig. 3 is a top view of my support and spacer device.

Fig. 4 is a front view of the stacking boxes shown in Figure 2.

Fig. 5 is a side view of the stacking boxes shown in Figures 2 and 4.

Fig. 6 is a detail perspective of the normally fitting position of my support and spacer.

Fig. 7 is a cross section disclosing the manner in which one stacking box fits upon another when spaced and supported by my device. In this figure the view is taken from a position back of the support looking toward the front.

Fig. 8 is a detail of one corner of my support and spacer showing the box supporting members in their integral bracketed position.

Referring in detail to the construction and intended manner of using my support and spacer, I provide a U shaped member —1— having its ends —2— and —3— engaged and saddled by a saddle member —4— and a U shaped stop or support member —5— integral with the saddle member —4—.

A stop member —5— extends the length of and is positioned as an upright plate forming an approximate right angle with integral saddle member —4— and is adapted to firmly and substantially hold in position the forward end of stacking boxes such as —6—, —7—, —8— and —9— in their mounted position as shown in Figs. 2, 4 and 5.

These boxes are stacked at a suitable angle one upon the other for holding mechandise in an easily accessible position.

In a detail study of my support and spacer it will be observed that saddle member —4— not only serves to connect the ends of U-shaped member —1— but it also serves as a supporting bridge for the forward end of the stacking boxes.

Integral stop member —5— not only serves as a bumper or holding member for holding the boxes in place in their slanted mounting but integral hook members —10— and —11— thereof very effectively serve to

prevent the stacking boxes from slipping sidewise.

With the integral construction thus provided between U-shaped member —1—, supporting bridge —4— and stop member —5— I thus effectively provide a support and spacer, since within the outline of U-shaped member —1— there is a space for the hand to reach into the box upon which the device is resting when it is desired to withdraw merchandise therefrom.

Boxes —6—, —7—, —8— and —9— are each provided with an integral flange —12—, into the forward end of which U-shaped member —1— is seated. Thus a substantial support is provided for my device by the peripheral top flange —12— of each succeeding box.

In this normally used position it will be observed that corners —13— and —14— of U-shaped member —1— and the terminals —15— and —16— of saddle member —4— all snugly fit up against the inner face of the side flanges about the top of each box.

It will be observed in the study of the manufacturing operations for my device that saddle member —4— and integral stop member —5— as well as U-shaped member —1— are produced by a bending operation. U-shaped member —1— is a simple bend forming its ends at an approximate right angle; while members —4— and —5— require a compound bending operation wherein a longitudinal angle is formed between them of approximately 90°. The opposite ends are bent to form hooks after the original straight plate is sheered at the ends down the approximate center of the plate. These hooks are then bent at each end so that, for instance, hook member —11— is bent in an opposite direction to hook member —16— and hook member —10— in an opposite direction to hook member —15—. When the longitudinal bend is made in the plate from which members —4— and —5— are formed, then hook members —15— and —16— point in a direction approximately 90° from the direction assumed by hook members —10— and —11—.

Hook members —15— and —16— engage the ends —2— and —3— of U-shaped member —1— and are substantially welded thereto or riveted.

When stacking the boxes, for instance, the first box —6— is placed on a substantial sloping foundation —17— where it is held by a suitable retaining member —18—.

Then my support and spacer device is placed into the top flange at the forward end of box —6—, after which box —7— is placed on top of box —6— in a position to have its forward end resting upon saddle member —4— and slide down against stop member —5— where it is held from side slipping by hook members —10— and —11—. Thus member —1— serves as a spacing device for leaving an opening to get into the box on whose flange it rests, as well as to serve as a holding member for preventing the boxes from sliding down toward the front.

Boxes —8— and —9— or any suitable number may be stacked one upon the other in the same manner that box —7— is mounted upon box —6— while in each case the top peripheral flange supports my device which supports and stabilizes the next succeeding box above, resting thereon.

It is conceivable that the form of my device may be varied to some extent and yet stay within the scope of my invention; where for instance, members —4— and —5— may not necessarily be integral since they could be made of separate parts secured together; but in the form shown it is thought to be economy in manufacture, both in the cost of materials and the labor required to produce it.

Having thus described the salient features of my invention and the preferred manner of using the same what I claim is:

1. A support and spacer for boxes comprising a rectangular band, a supporting bracket along one side of the band; said band defining an opening through which to move materials adapted to be stored in said boxes; said bracket of said band providing a stop and holding means for detachably holding said boxes into predetermined fitting relation when mounted at a uniform slant one upon the other.

2. A support and spacer for stacking boxes comprising: a rectangular band, and a supporting bracket on one side of the band; said rectangular band defining a passage for moving articles therethrough with the hand and said bracket with said band providing a spacer and stop member support for spacing and supporting stacking boxes when slantingly stacked one upon the other.

3. A support and spacer for containers comprising a loop, a stop member supporting bracket integral with and disposed along one side of the loop; said support and spacer adapted to be detachably mounted upon a portion of a top periphery of said container; said loop defining a passage through which materials may be moved in and out of said containers; said bracket and said loop providing a spacer and support means for spacing and supporting said containers when stacked at a uniform slant one upon the other.

4. In combination with a plurality of stacking boxes adapted to be mounted at a uniform slant one upon the other a support and spacer for said boxes adapted to be seated one upon the forward top periphery of each box for supporting and spacing, in each case, the next succeeding box above; whereby access may be gained to the contents of each box.

5. In combination with a plurality of stacking boxes for storing merchandise and the like, each box provided with a top peripheral flange and adapted to be stacked at an angle with the horizontal, one upon the other, a support and spacer for said boxes comprising an integral loop and supporting bracket; said bracket with said loop defining a spacer and support for holding the forward ends of said boxes in uniform predetermined spaced relation and said loop defining an opening through which said merchandise may be moved in and out of said boxes; said boxes normally disposed at an angle to cause the contents thereof to move forward to a position more easily accessible through said opening in said loop.

6. A support and spacer for flanged stacking boxes comprising in combination a U-shaped metallic spacing member, a U-shaped bridge member bridging the ends of said spacing members, a U-shaped bracket and support integral with said bridge member aligned therewith and forming an approximate right angle therewith; said bracket member provided with terminal hook members projecting away from said loop member; said stacking boxes provided with a slanting base support, and adapted to be stacked one upon the other at a uniform angle with the horizontal; said support and spacer adapted to be seated one in the forward end of the top flange of each of said boxes and said bracket member and bridge member adapted to provide suitable means for supporting and holding said boxes with their forward ends in predetermined spaced relation and said loop defining a passage through which to move materials in and out of said boxes when thus mounted for accessible storage purposes.

In witness whereof I hereunto set my hand this 16th day of June, A. D. 1930.

ARTHUR W. BURKS.