Sept. 4, 1951 E. W. VAN PATTEN 2,566,385

PACKAGED UNIT FOR ARTICLE HANDLING

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Fig. 1.

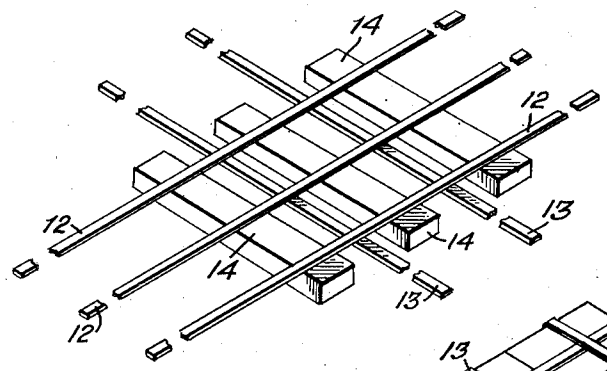
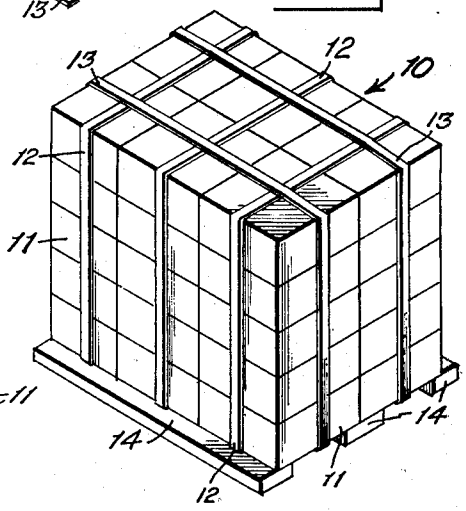


Fig. 2.



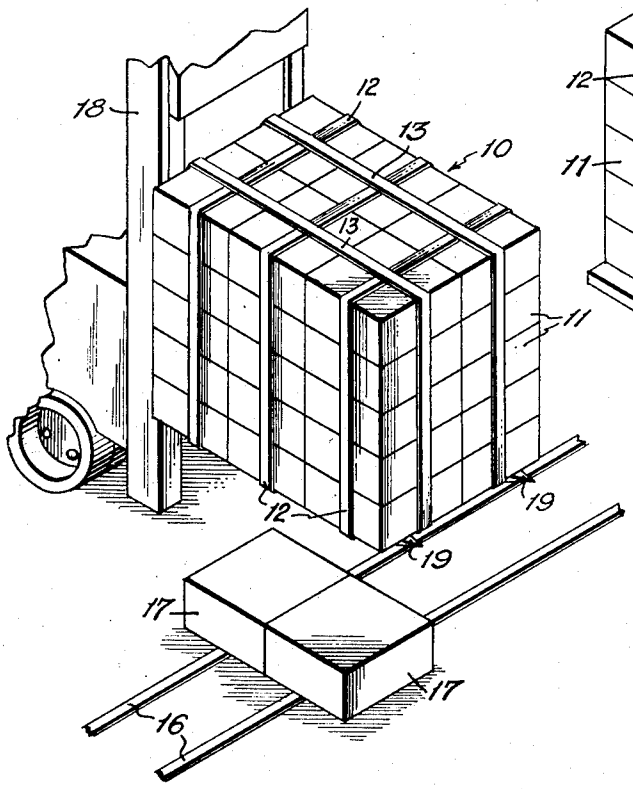


Fig. 3.

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Fig. 4.

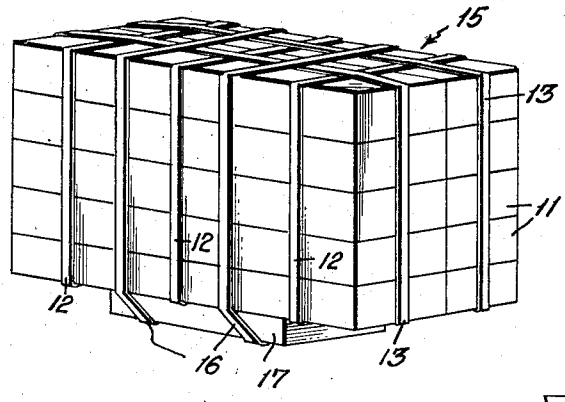
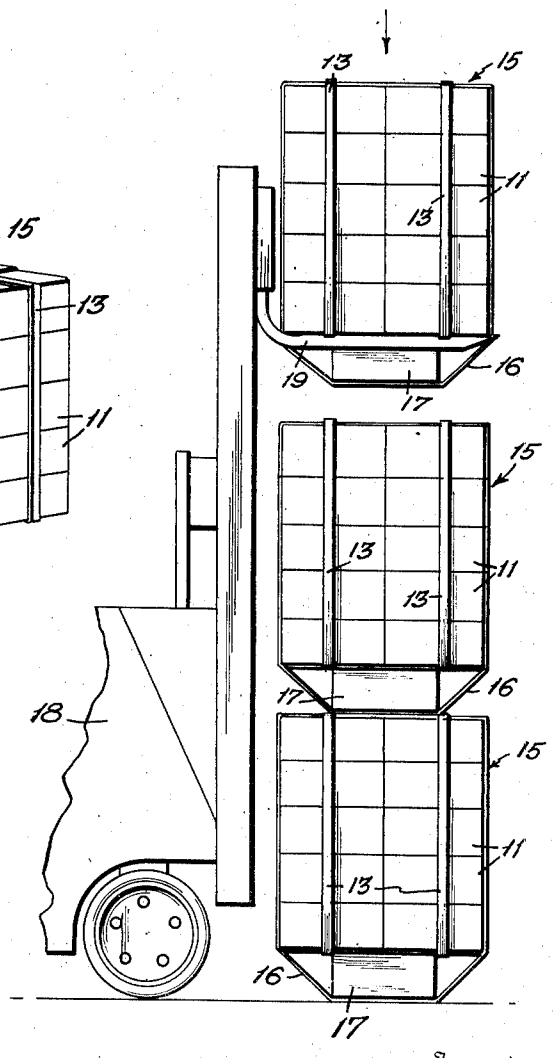


Fig. 5.



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UNITED STATES PATENT OFFICE

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PACKAGED UNIT FOR ARTICLE HANDLING

Ernest W. Van Patten, McLean, Va.

Application January 22, 1947, Serial No. 723,471

2 Claims. (Cl. 206—65)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described in the following specification and claims may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

My invention relates to a method of combining weighty units, such as boxed ammunition, into a package which may be lifted and transported from place to place by means of a lifting device without the necessity of securing the load upon a pallet.

In the prior art, it has been necessary to place the load upon a pallet which was bound to the package, to allow the lifting forks to engage under the load. This was expensive, not only because of the cost of the labor and material used in making the pallet, but also because the pallet was rarely salvageable for reuse.

A principal object of my invention is to disclose a method of forming a bound package which may be mechanically lifted and transported without the use of a pallet.

An important object of my invention is to provide a method of combining a plurality of boxes into a package secured together by means of steel bands or wire without use of a pallet or similar element, and which may be handled and stacked by mechanical means.

Another important object of my invention is to provide a banded package having a tied body portion supported and secured on a lower layer of smaller cross-sectional area than the layers of said body portion, said lower layer being adapted to pass between the tines of the fork of a lifting device.

A further object of my invention is to provide a method of forming a banded package which may be mechanically lifted and transferred without the use of a pallet, and which is simple and efficient in operation, and economical of material.

Other objects and advantages of my invention will become apparent during the following specification, and accompanying drawings, forming part of the specification, wherein like numerals are used to designate like parts throughout the specification and drawings.

In the drawings:

Figure 1 is a perspective view illustrating my method of placing loose dunnage and strap members for assembly of the body portion thereon,

Figure 2 is a perspective view of the body portion of the load assembled and tied,

Figure 3 shows the assembled and tied body

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portion of Figure 2 resting on the forks of the lifting truck and about to be placed upon the separate bottom layer, shown in perspective with binding straps,

Figure 4 is a perspective view of the assembled and tied body portion of Figure 2 secured upon the separate body layer, and,

Figure 5 shows a complete package embodying my invention being placed upon a stack of two other complete packages.

Referring now to the drawings, the numeral 10 designates generally a body portion made up of a plurality of boxes 11 laid in juxtaposition and in superimposed layers to form a right prism. The boxes 11, when assembled, are tied together by steel straps or wires 12 and 13 which surround said body, the said straps 12 and 13 crossing each other at right angles at the top and bottom, respectively, of said body portion, and lie in vertical planes normal to each other passing through said body.

To form my body portion, I lay the boxes 11 upon a base structure composed of a plurality of spaced-apart and parallel stringers 14, with straps 13 of suitable lengths resting upon the floor or other surface upon which the stringers may be placed in axial alignment with said stringers. I next lay the similar bands 12 across the tops of said stringers at right angles thereto. I form the bottom layer of my said body portion of the contour desired upon said stringers, and superimpose thereon successive similar layers of boxes until the desired height of my package is reached, whereupon the straps 12 and 13 are tightened and secured.

To complete the package 15 as shown in Figure 4, I lay two spaced and parallel steel or wire straps 16 upon said floor, and place thereon two other boxes 17, similar to the boxes 11, the longitudinal axes of said boxes 17 being in alignment and normal to the axes of straps 16. Using a lifting device 18, I superimpose the body 10 upon said boxes 17 as shown, and secure said boxes 17 to the said body 10 by means of the straps 16, to form the complete package 15. The package 15 may be moved from place to place, or stacked upon other like packages as shown in Figure 5, by engaging the forks 19 of the lifting device 18 under such package to exert lifting pressure against the bottom of the body 10, the attached boxes 17 being arranged and adapted to pass between the tines of the fork 19.

I have herein disclosed my method of forming weighty packages for transporting from place to place by mechanical means without using a pal-

let in the construction of the package, and wherein the lowermost layer of said package is arranged and adapted to pass between the tines of the fork of the lifting device. It is to be understood, however, that the illustrated embodiment is only exemplary, and that other arrangements of the component units of the package may be made in which the lowermost layer of boxes is used to support the entire package and in which the area of said lowermost layer is smaller than the area of the superimposed layers of the body of the package and is adapted to pass between the engaging elements of a lifting device, without departing from the spirit of the appended claims.

Having thus described my invention, I claim:

1. A weighty package for economical shipment without the use of a pallet consisting of, a plurality of boxes arranged in juxtaposition to form a right prism, a first set of spaced apart steel bands intimately disposed in parallel vertical planes about said prism to tie the boxes together in one direction, a second set of spaced apart steel bands surrounding said prism in respective spaced vertical planes normal to the planes formed by said first set of steel bands to tie the boxes together in a second direction, a supporting layer of other boxes of similar shape subjacent to and underlying said right prism, said supporting layer having a horizontal dimension in one direction less than the corresponding horizontal dimension of said right prism thereby forming projecting portions, and a plurality of spaced apart steel bands intimately encircling said right prism and said supporting layer in parallel vertical planes parallel to that one of the said sets of steel bands perpendicular to said lesser dimension to secure the supporting layer and right prism together into a unitary package, whereby

the fork tines of a lifting device may be placed under the projecting portions of said right prism to lift and transport said package.

2. A weighty package for economical shipment without the use of a pallet consisting of, a plurality of boxes arranged in juxtaposition to form a right prism, a first set of spaced apart steel bands intimately disposed in parallel vertical planes about said prism to tie the boxes together in one direction, a supporting layer of other boxes of similar shape subjacent to and underlying said right prism, said supporting layer having a horizontal dimension in said one direction less than the corresponding horizontal dimension of said prism thereby forming projecting portions, and a second set of spaced apart steel bands encircling said right prism and said supporting layer in parallel vertical planes perpendicular to the planes of said first set of bands to secure the supporting layer and prism together into a unitary package, whereby the fork tines of a lifting device may be placed under the opposite projecting portions of said prism to lift and transport said package.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,005,013	Francis	Oct. 3, 1911
1,873,780	Moon	Aug. 23, 1932
2,005,117	Tamplin	June 18, 1935
2,287,056	Owens	June 23, 1942
2,403,356	Francis	July 2, 1946
2,489,054	Sprolle	Nov. 22, 1949