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L. H. ZIMMERMAN

2,272,884

PROTECTIVE PAD

Filed Oct. 27, 1938

Fig. 1.

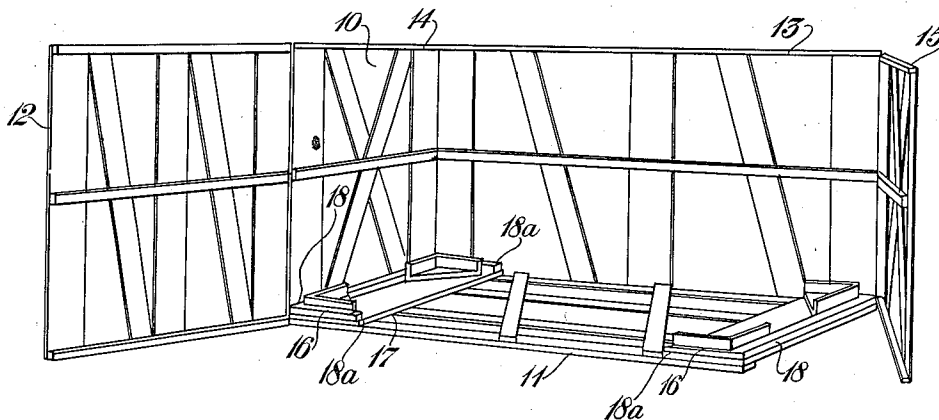


Fig. 2.

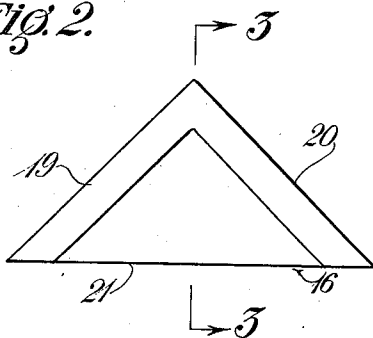


Fig. 3.

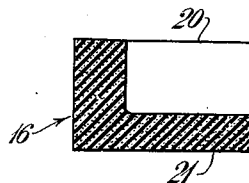
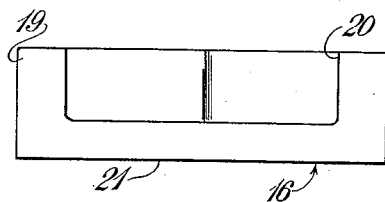


Fig. 4.



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UNITED STATES PATENT OFFICE

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PROTECTIVE PAD

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Company, Akron, Ohio, a corporation of Ohio

Application October 27, 1938, Serial No. 237,283

1 Claim. (Cl. 217—53)

This invention relates to cushioning, or protective pads, more especially to such pads used in crating articles for shipment.

Heretofore various cushioning pads made from excelsior, or corrugated paper, have been used in crating articles for shipment. These pads have not afforded sufficient protection to the crated object, so that damage frequently occurs in transit. Thus, the transportation companies are forced to charge relatively high rates for shipping crated articles in order to protect themselves. In shipping heavy objects, such as gas ranges, in the past, sufficient damage has occurred to necessitate bolting the ranges in position in the crate. These crates are piled on each other in railway cars for shipment and ranges still would be damaged frequently when the cars jerked in starting or stopping. The upper portion of the crated range may even be pushed through an arc relative to the bolted bottom portions by sudden movements occurring in transit and by the bolts pulling through the wood forming the crate.

The general object of the invention is to overcome the foregoing and other difficulties attendant known methods of protecting crated objects in transit and to provide resilient, easily applied cushioning means for crated objects.

Another object is to simplify the removal of crated objects from their crates and to provide pads which are adapted to engage with the three surfaces forming a corner of a crated object.

Other objects of the invention are to crate articles in less time than that previously required; to reduce the likelihood of damage to crated objects in transit; and to reduce the total crating and uncrating costs.

The foregoing and other objects will be manifest from the following specification.

Attention is now directed to the accompanying drawing, of which:

Figure 1 is a perspective view of a crate having the cushioning pads of the invention positioned therein, portions of the crate being swung back, and the top removed, for clearness;

Figure 2 is a plan of the cushioning pad of the invention;

Figure 3 is a vertical section on line 3—3 of Figure 2; and

Figure 4 is an elevation of the pad of Figure 2.

Referring more specifically to the accompanying drawing, a crate 10 is shown which is adapted to receive an article, such as an electric, or gas stove, for shipment. The crate 10 has a bottom 11, sides 12 and 13, and end portions 14 and

15. Obviously the crate 10 may be constructed in any suitable manner, it being advisable to reinforce the members of the frame as shown. Protective rubber pads, indicated generally by 16, are positioned in each lower corner of the crate 10. These pads 16 are removably carried by transversely extending members 17 on the bottom 11, adjacent the ends of the members 17, and about a side piece 18 carried by the member 17. End pieces 18a on the members 17 space the pads from the sides of the crate. After positioning the pads, the article to be shipped should be placed in the crate 10 with the legs, or lower corners thereof in engagement with the pads 16. Then the side portion 13 and the end portion 15 are moved into, and secured in their final position to retain the pads 16 against the corner of the article to be shipped. Next, further protective pads 16 should be placed on the upper corners of the article and retained in position by securing a top to the crate 10, the top being constructed similarly to the bottom 11 so that the pads are held in position thereby.

Figure 2 shows a plan view of the cushioning pad 16 of the invention, which pad comprises two side portions 19 and 20 carried on a right angle triangular base 21. The sides 19 are molded integral with the base 21 in the embodiment of the invention shown and extend the length of the sides of the base 21. Sometimes it may be desirable to build up, or form, the pad from separate pieces of material. Figure 3 indicates that the pad 16 is made from dense sponge rubber, although other suitable cushioning materials, such as felt, or rubber-like cushioning substances generally, may be substituted therefor.

It will be seen that the cushioning pad 16 extends in three planes and that it is adapted to cover and protect the surfaces forming the end of a corner of a crated object. This is where the stresses are concentrated in shipping a crated object. The triplanar protection offered by the protective pad 16 is a distinct feature of the invention and differs it from all other protective pads known to me. Of course, the pads can be formed to fit over rounded, or angular corners as well as the square cornered pad shown and the size of the pads can be varied generally, as desired.

A dense sponge rubber pad having 4" sides, about 1½" height, and about ⅝" thickness has satisfactorily protected stoves weighing around 350 pounds. The pads are placed around the corners and, being resilient and slightly compressible, they permit about a quarter of an

inch movement, or vibration, of the crated article within the crate without setting up any strains in the article shipped. It will be observed that the pads 16 are spaced from the sides and end of the crate by the side and end pieces 18 and 18a whereby the article shipped is resiliently mounted in spaced relation to the crate. This also protects the crated article from articles in contact with the crate.

Note that the cushioning pads 16 are not positively secured to the frame 10 but merely held in position by the frame 10 and the weight of the article placed in the crate. Obviously this reduces the time required and expense involved in creating an article and facilitates reuse of the crate and of the pads 16, when desired. Also, possibility of damage by nails used to fix the pads in the crate is eliminated. Since the article crated only rests upon the pad 16 and is not positively secured to the crate, such article is readily and rapidly removable from the crate, in contrast to the formerly tedious operation of unbolting the article from the crate.

Protective pads made in accordance with the invention have successfully been used in crating stoves which have been shipped long distances without damage. The pads are well

adapted to protect either fragile, sturdy, light, or heavy articles in transit, it sometimes being desirable to vary the density of the pad for various weight articles shipped. Practice of the invention has resulted in lower shipping charges for certain articles.

In accordance with the patent statutes, a description and illustration of one embodiment of my invention is contained herein, but it will be understood that various modifications can be made without departing from the scope of the invention as defined in the appended claim.

What is claimed is:

A crating combination for use in transferring a heavy article having a relatively easily broken coating material on its surface and having tri-planar substantially right angular corners, said combination comprising a substantially rectangular crate, and tri-planar substantially right angular dense sponge rubber cushioning pads removably positioned in the corners of said crate, said pads being adapted to engage with the corners of an article placed in said crate and protect the entire surface of the articles against rupture.

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