

June 12, 1928.

J. D. FENSTERMACHER

1,673,109

BOX

Filed June 16, 1925

FIG. 1.

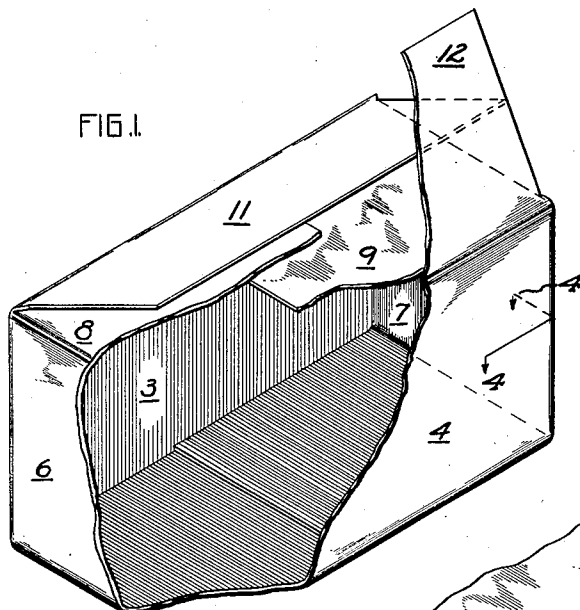


FIG. 2.

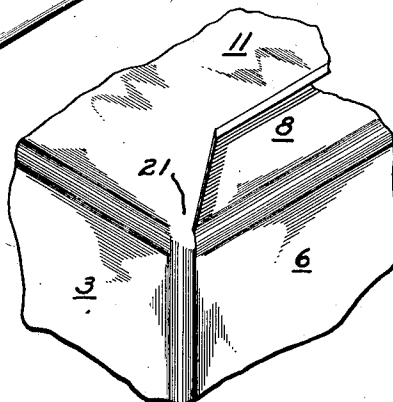


FIG. 3.

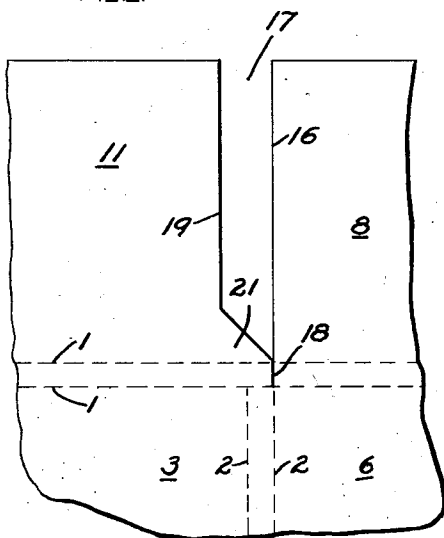
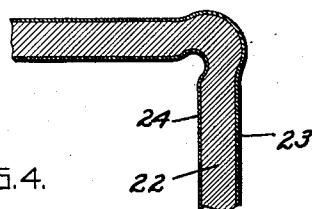


FIG. 4.



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BOX.

Application filed June 16, 1925. Serial No. 37,507.

My invention relates to boxes and particular boxes made from a single sheet of paper- or fiber-board.

One of the objects of the invention is the provision of a box for packaging heavy products, such as nails, in such a manner that the integrity of the box is maintained during handling.

Another object of the invention is to provide a box of the general character described, in which provision is made for reinforcing the corners which in boxes made of heavy fiberboard folded into shape, usually have apertures thru which a product such as a nail readily works.

Another object of the invention is the provision of a box of such character that a product like nails may be packed therein at the factory in unit lots, such as five, ten or twenty-five pounds, and reach the ultimate consumer without being repacked into another container.

Another object of the invention is the provision of a box of the character described made from a fiber-board embodying or faced on the inside with a lining of absorbent character so that moisture penetrating the package is retained in the liner without damage to the contents.

My invention possesses other objects which with the foregoing will be set forth in the following description of the preferred embodiment of means for practicing the invention, and which is illustrated in the drawings accompanying and forming part of the specification. It is understood that I do not limit myself to the showing may by the said description and drawings as I may adopt variations of my preferred form within the scope of my invention as set forth in the claim.

It has been the universal custom to pack nails, in the first instance, in kegs which are sold to the jobber and retailed by him either in the original keg, or by the pound in small quantities which the purchaser carries away in a sack. When nails are bought by the keg, the head of the keg is knocked in on the job, and the nails used by the workman as required. Frequently nails are left over and these are seldom taken away to a new job, but usually are wasted. In the case of small-sized nails which the workmen fre-

quently hold in the mouth immediately prior to their use, an open keg collecting dust and dirt means a dirty nail, and with all kinds of nails, especially in wet weather, delays in using the nails promptly after opening the keg permit the nails to become rusted which makes them not only objectionable to the workmen but frequently unsuitable for use.

It is my purpose to provide a package of such size that the exact requirements of a given job can be more closely approximated and packages holding relatively small quantities of nails opened successively as the work progresses so that always there is a clean product when it is to be used, and prior to use it is protected from deterioration and contamination.

To the ordinary householder who buys nails in small quantities it is always a problem to properly store the nails until they are used. My package solves this problem since the householder may buy his nails in the small quantity which he contemplates using, in a relatively small rectangular package, which either alone or in combination with other packages holding different sizes of nails, fits readily on any available shelf room. After using a few nails the package may be again closed thus keeping the contents in good condition. By the use of a relatively absorbent liner embodied in the material of which my boxes are made, moisture which would otherwise tend to rust the nails is taken into the liner.

Of late years a heavy fiber-board has come into wide use in place of the former wooden boxes and to fold this material from a blank sheet it is necessary to shape the blank, especially around the corners of the contemplated box, so that the various layers will assume a proper relative position. This is done by cutting the material away around the corners and folding the various component panels and flaps on suitably impressed crease lines. This common and well-known box structure is not entirely suitable for packaging such products as nails, a small bulk of which are heavy and individual units of which have a way of working thru the corners. In the box of my invention I provide a blank of such form that a portion of the sheet extends over the

corners closing any aperture and insuring that no nail can protrude. I also avail myself of the closure flaps to give rigidity and strength to the box structure so that it will stand rough handling without damage or loss of contents.

Referring to the drawings:

Figure 1 is a perspective view of the box, a portion being broken away to disclose the structure.

Fig. 2 is a perspective view of a corner of the box showing the flaps in closed position.

Fig. 3 is a plan view of a portion of the blank out of which the box is made, showing the configuration of the end and side flaps at the corners of the box.

Fig. 4 is a sectional view thru the material out of which the box is made, the plane of section being indicated by the lines 4—4 of Fig. 1.

My box comprises a sheet of fiber- or paper-board divided by suitably impressed pairs of crease lines 1 and 2 into side panels 3 and 4; end panels 6 and 7, end flaps 8 and 9 on the upper and lower edges of the end panels; and side flaps 11 and 12 on the upper and lower edges of the side panels. Each of the flaps is integrally connected to its associated panel, along a hinge or foldable portion defined by the twin crease lines 1 and the panels are similarly connected by a portion defined by the twin crease lines 2. When the box is made up the folded edges assume the appearance indicated by the sectional view, Fig. 4.

The end flaps 8 and 9 are each of the same length as the side flaps 11, and in a box of the contemplated proportions, as shown in Fig. 1, this permits a short overlapping of these flaps when the box is formed.

As indicated in Fig. 3 the end flaps on the side are defined by a line 16 starting at the inner crease line 1 separating the flaps from the panels, and in continuation of the outer crease line 2 between the end 6 and side 3 and nearest to the end 6. A slot 17 is formed between the end and side flaps which narrows adjacent the hinge lines 1 to a single severing cut 18 forming part of the edge 16. In other words the edge 19 of the flap 11 is of such form as to provide a tab 21 which may be considered to fill the inner end of the slot 17, and when the parts are folded into box form this tab 21 is found to extend past the corner as indicated in Fig. 2, forming a tight closure at this point and one which effectually prevents any nail from working thru the cor-

ner to become a menace to everyone handling the box.

I proportion the box in such manner that the flaps 11 are substantially as long as the box is wide, so that when the blank is folded, the flaps 11 and 12 fold together over the inner end flaps 8 and 9, and lie substantially coincident with each other, each extending over substantially the entire width and length of the box. Since the box bears on its sides and ends the desired label referring to contents and manufacture, the two opposite sides of the box comprising the folded flaps will be the top and bottom in the position in which the box is normally handled and shipped. Because of the unusual weight of the contents, the bottom and tops of the boxes are subjected to the greatest stress and these as pointed out above comprise three thicknesses of material thruout their extent. The overlapping flaps as described also provide a bracing for the structure which effectually prevents racking or distortion of the box.

The material out of which such boxes are customarily made is waterproofed not only because this quality is desired but because the waterproofing very materially increases the strength of the material. I prefer to make the material for my boxes with a chip board foundation 22, having a liner 23, such as leather colored jute, on the outer surface, and a liner 24 of blue jute on the inner surface. The inner liner is manufactured with less waterproofing material, so that relatively, it is somewhat absorbent. The absorbent inner liner will prevent moisture from attacking and adversely affecting the appearance of the nails in the box. I prefer to use the blue jute liner because of its appearance in connection with the nails, and I find that such a liner very definitely increases the salability of the product.

I claim:

A box blank comprising side and flap portion, each flap being integrally connected to the associated side along a hinge line formed by parallel spaced creases, adjacent sides being also connected along a hinge line formed by parallel spaced creases, and two adjacent flaps being separated by a slot which narrows adjacent the hinge line between a flap and side to a single severing cut starting at an inner crease line and in continuation of one of the crease lines between the sides.

In testimony whereof, I have hereunto set my hand.

JOHN D. FENSTERMACHER.