March 25, 1952 B. D. WILLIAMS 2,590,358

PACKAGING OF NAILS AND THE LIKE

Filed July 7, 1950

Fig. 2.

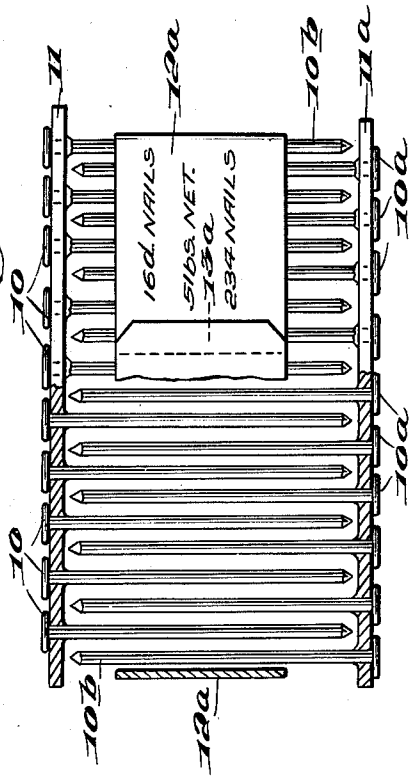


Fig. 4.

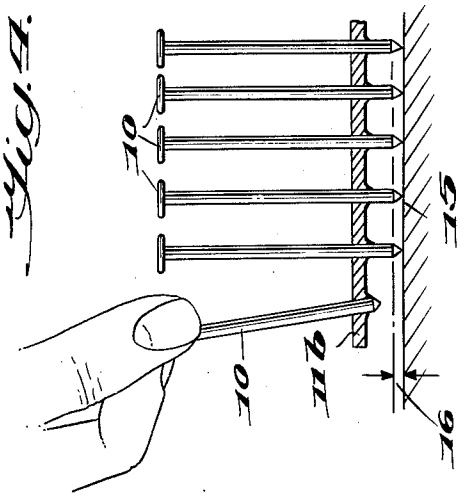


Fig. 1.

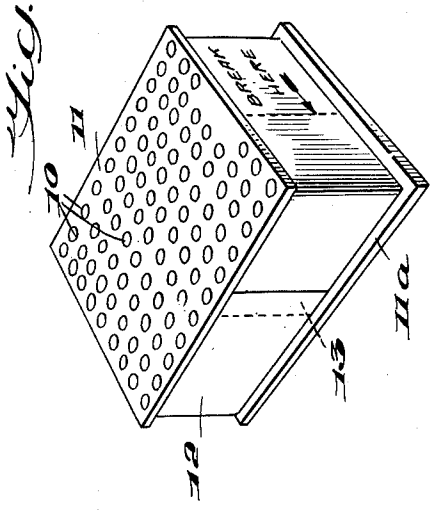
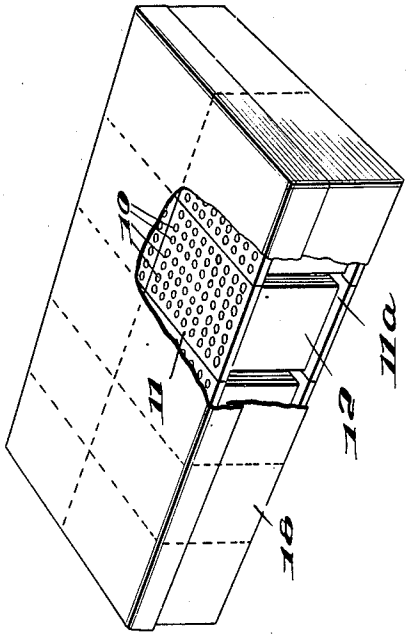


Fig. 3.



INVENTOR

BILL D. WILLIAMS

BY Hall & Houghton

ATTORNEYS

Patented Mar. 25, 1952

2,590,358

UNITED STATES PATENT OFFICE

2,590,358

PACKAGING OF NAILS AND THE LIKE

Bill D. Williams, Evansville, Ind.

Application July 7, 1950, Serial No. 172,431

6 Claims. (Cl. 206—46)

1

This invention relates to packaging of nails and the like, and aims generally to improve the same.

Heretofore nails have customarily been handled in kegs, and for their sale by the pound it has been customary for hardware stores to open the kegs, transfer the nails to bins, weigh out the desired quantity for each customer, and deliver it to him in a paper sack. This results in much loss of time to the hardware clerk and customer; in inaccuracy of weighing; in the giving of overweight to avoid chance that a customer will argue he has been shortweighted; in use of at least one sack, and sometimes more, for each size of nails sold; in mixing of stock in the bins; in breakage of the paper bags and loss of nails therefrom; and in many other inconveniences to the dealer and customer. In addition, the shipping and storage of nails in kegs is space-consuming, kegs add considerably to the shipping and handling weight and cost of nails, and the bulk of a given weight of nails dumped into a keg or bin or into a paper or other bulk container is excessive.

Principal objects of the present invention, severally and interdependently, are to provide a new and improved nail package and method of packaging nails, which obviates various ones of the foregoing disadvantages. Other objects and advantages of the invention will be apparent from the following description of preferred embodiments thereof. The invention resides in the novel nail package and in the new method of packaging nails, hereinafter described, and is defined in the appended claims.

In the accompanying drawing of an illustrative embodiment of the invention:

Fig. 1 is a perspective view of a package unit in accordance with the invention.

Fig. 2 is an elevation partly in section of a similar package with a narrower band and with the sub-assemblies partly withdrawn from their most closely assembled position for clarity.

Fig. 3 is a perspective, partially broken away, of a carton of nail packages embodying the invention.

Fig. 4 is a fragmentary detail showing one manner of using the packaged nails.

Referring generally to the drawings, by the present method two sub-assemblies of nails are provided for each package. The first sub-assembly is produced by assembling a group of nails 10 in generally parallel array, as shown in Fig. 2, with their shanks passing through a supporting sheet 11 so that the sheet 11 is juxtaposed to the undersides of their heads.

2

The second sub-assembly is produced in the same manner, by assembling a group of nails 10*a* in generally parallel array with their shanks passing through a supporting sheet 11*a* so that the sheet 11*a* is juxtaposed to the undersides of the heads of nails 10*a*.

The two sub-assemblies in turn are assembled to form the full assembly shown in Figs. 1 and 2 by pushing the nail shanks of the first sub-assembly into the spaces between the nail shanks of the second sub-assembly to interposition the shanks of the two sub-assemblies so that the tips of the nails of each sub-assembly are juxtaposed to the supporting sheet of the other sub-assembly, as shown in Fig. 2, in which for clarity of illustration, the two sub-assemblies are drawn slightly apart as hereinafter described so that the tips of the nails 10, 10*a* lie just short of abutment with the sheets 11*a*, 11 of their companion sub-assemblies, which they may contact in actual transportation and handling of the assembled pair of sub-assemblies.

Following the assembling operation just described, a suitable binder strip may be, and preferably is, applied to the package to retain the same in the assembled relation. This binder strip may be of any suitable form. As shown in Fig. 1, it may consist of a paper strip 12 substantially equal in height to the space between the supporting sheets 11 and 11*a* of the assembly, wrapped about the nail shanks, and having its ends overlapped and secured by adhesive, as at 13. Again, as shown in Fig. 2, it may be, and preferably is, in the form of a relatively narrow band 12*a* having its ends overlapped and adhesively secured as at 13*a*, to expose to view the ends of the nails within the package and enable a customer to see at a glance the exact height of nail contained in the package.

In the forms shown in Figs. 1 and 2 the supporting sheets 11 and 11*a*, preferably of cardboard or the like, extend marginally beyond the area occupied by the nail heads of each sub-assembly. Thus the marginal nails 10*b* of each of the associated sub-assemblies have their tips juxtaposed to the marginally extending portions of the supporting sheet of the other, and retained thereunder by the binder strips, in the forms shown. In addition such marginal extension of the supporting sheets protects the binder strips 12, 12*a* from being accidentally torn off the packages, since the cardboard overlaps the same and affords a protruding edge which may be engaged by the finger for lifting the package from a carton (as hereinafter described) and which also bears

the brunt of any rough handling of the package.

When the supporting sheets are formed of cardboard or the like, they may be pre-punched to receive the nails or the nails may simply be driven, as a group or progressively, through the sheet, which may be supported, if desired, on a perforated jig or fixture to prevent its tearing. Whatever method of assembly is employed, the supporting sheet preferably has a relatively tight frictional fit with the associated nail shanks, so that when the two sub-assemblies of the package are separated, each may be handled as a unit.

For clarity of illustration, in the forms shown in the drawings, the nails of each sub-assembly are relatively widely spaced, but it will be appreciated that in practice the nails are preferably assembled in the supporting sheet with their heads touching, or virtually touching, one another, and that with thin-headed nails the heads thereof may actually overlap in part.

By virtue of the relatively tight frictional engagement of the nails with the supporting sheet of each sub-assembly, it is possible, on opening the package or separating the sub-assemblies, to place one sub-assembly, with the nail points down, on any surface **15** (Fig. 4) and to push the supporting sheet down along the shanks of the nails to a position more or less close to the tips of the nails, as shown at **11***b* (Fig. 4). The nails may then be progressively extracted from the sub-assembly manually as needed for use, in the manner shown in Fig. 4. Since one sub-assembly of nails may weigh two and one-half pounds or more, it will be apparent that until nearly all the nails are extracted, the weight of the sub-assembly will allow individual nails to be lifted therefrom without disturbing its position. When only a few nails remain in the sub-assembly the heel of the hand may bear down on those not being extracted while the fingers extract nails as shown, or the remaining few nails may be removed from the supporting sheet as a group and be held in the hand until used.

This last-named operation, removal of part or all of the nails from a sub-assembly, is facilitated in accordance with this invention by forming the supporting sheet **11**, **11***a*, or **11***b*, of a thickness substantially no greater than the reduced-section depth of the tips or points of the nails, indicated at **16** in Fig. 4. With such thickness the supporting sheet may be pressed clear to the tips of one or more rows of nails, or of the entire sub-assembly of nails, while such tips are resting on a smooth surface **15**, and the entire group of nails concerned may thus be released from the sheet into the hand of the user, with their heads all facing one way, ready to be used, or to be put into the user's pocket in a predetermined direction most convenient for such use. The work of the carpenter is thus considerably expedited as compared to the use of loose nails from a keg or the like; aside from the fact that a carpenter has to return to the keg for a new supply of nails therefrom, whereas the present packaged nails may be thrown to him, or to a platform near him, without danger of loss of the nails.

As shown in the illustrative embodiment of Fig. 2, the binding strips, **12***a* therein, may, and preferably do, carry thereon legends indicating the type and quantity of nails contained in the package.

The invention may be applied to various sizes and styles of nails, and these may be packaged in various-sized packages. A very convenient size, in the case of "16-penny" nails, is a five-pound package, containing about 234 nails. For such a package, I may employ two supporting sheets of cardboard, each about four inches square and about one-eighth of an inch thick. Assuming 117 nails of the particular brand to weigh two and one-half pounds, for a square package these nails may be assembled in ten rows of eleven nails each and one marginal row of seven nails, the latter row preferably having its nails at its ends and having a space free of nails near its center.

While it is contemplated that the package may be opened simply by drawing the two sub-assemblies apart without breaking the band **12**, the use of a broken marginal row, as indicated in Fig. 1, is particularly useful. Its marginal arrangement shows the customer that the vacancy is intentional. It facilitates breaking of the band, as may be desirable when the nails are adhesive-coated or when part or all of the inner surface of the band is coated with drying or non-drying adhesive that adheres to the nails.

When the incomplete marginal row is employed, either in a square or a rectangular package, a like marginal row is preferably placed at the corresponding edge of the companion sub-assembly, thus leaving a fully vacant space near the center of one side of the pack, which is bridged by the binder strip **12**. With this arrangement mere pressure on this bridging portion of the binder strip, indicated by the legend "Break Here" in Fig. 1, serves quickly to break the strip even though it extends all the way from one supporting sheet **11** to the other sheet **11***a*.

In assembling the nail packages of Figs. 1 and 2 in cartons (Fig. 3) the packages are preferably placed with the individual nails **10** vertical, as shown, as this relieves strain on the carton and on the supporting sheets of each package. In the case of "16-penny" nails, mounted in five-pound 4'' x 4''-packages, a fifty-pound carton, as illustrated in Fig. 3, may measure a little over eight by twenty inches by the height of the nail pack. The points of all nails in the carton are protected by the supporting sheets of the companion sub-assemblies from punching through the carton, so relatively inexpensive carton material **18** may be employed.

In the sale of the nails in packages according to this invention, several packages of different-sized nails may be placed in a single paper sack without danger of puncture thereof, or falling of loose nails therefrom. Weighing of nails is eliminated, as is mixing of different sizes in the bins. The customer is assured of correct weight and is not given overweight.

In use of the packaged nails, the various sizes may each be retained in its own supporting sheet, and even if several sizes of half packages, or partly used subassemblies, are placed in a common storage box at the end of the day, the individual nails do not become mixed, particularly if they have been used in the manner illustrated in Fig. 4, and if the sheet **11***b* is pressed back to the heads of the nails on stopping of the work.

It is to be understood that the exemplary embodiments herein described are illustrative and not restrictive of the invention, the scope of which is defined in the appended claims. All modifications which come within the meaning and range of equivalency of the claims are therefore intended to be included therein.

I claim:

1. A nail package comprising two separate sub-assemblies, each sub-assembly comprising a supporting sheet and a group of nails having their shanks projecting in generally parallel relation through said supporting sheet and having their heads juxtaposed to one side of the sheet, the nail shanks of each sub-assembly being interpositioned with those of the other so that the tips of the nails of each sub-assembly are juxtaposed to the supporting sheet of the other sub-assembly, and a strip extending about the interpositioned nail shanks of the assembly between the said sheets and releasably binding the sub-assemblies together as a unit.

2. A nail package according to claim 1 in which the supporting sheets extend marginally outwardly beyond the strip-bound body of nails and protect the binder-strip from accidental breakage.

3. A nail package according to claim 1 in which the nails in each sub-assembly are arranged in rows and in which corresponding marginal rows of each sub-assembly are intermediately incomplete forming a gap into which the binder strip may be pressed to break the same.

4. A nail package according to claim 1 in which the strip extending about the interposition nail shanks of the assembly and releasably binding the sub-assemblies together as a unit is in the form of a relatively narrow band, the edges of which are spaced from the supporting sheets of the assembly to expose to view the ends of the nails within the package.

5. A nail package consisting of two separate sub-assemblies, each sub-assembly consisting of a supporting sheet and a group of nails having their shanks projecting in generally parallel relation through said supporting sheet and having their heads juxtaposed to one side of the sheet, the nail shanks of each sub-assembly being interpositioned with those of the other so that the tips of the nails of each sub-assembly are juxtaposed to the supporting sheet of the other sub-assembly, and a strip extending about the assembly and releasably binding the two sub-assemblies together as a unit.

6. A method of packaging nails which consists in sub-assembling a first group of nails in generally parallel array with their shanks passing through a supporting sheet juxtaposed to the under sides of their heads, sub-assembling a second group of nails in similar manner in a second supporting sheet separate from the first, pushing the nail shanks of the first sub-assembly into the spaces between the shanks of the second sub-assembly to interposition the shanks of the two sub-assemblies so that the tips of the nails of each sub-assembly are juxtaposed to the supporting sheet of the other sub-assembly, and applying a binder strip about the interpositioned nail shanks of the assembly between the said sheets to releasably bind the two sub-assemblies together as a unit.

BILL D. WILLIAMS.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
15,874	Atwood	Oct. 14, 1856
90,608	Timby	May 25, 1869
212,642	Allen	Feb. 25, 1879
1,888,855	Fuller	Nov. 22, 1932