Oct. 13, 1959 W. H. ALLEN 2,908,122

METHOD OF PROCESSING AND PACKAGING

Original Filed June 13, 1957

Fig. 1.

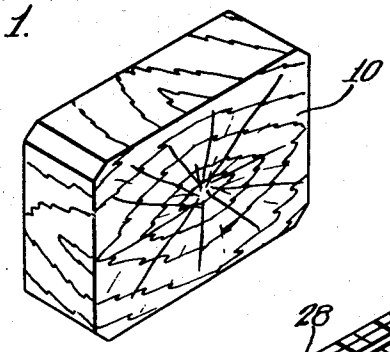


Fig. 2.

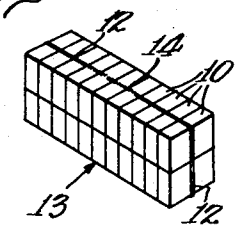
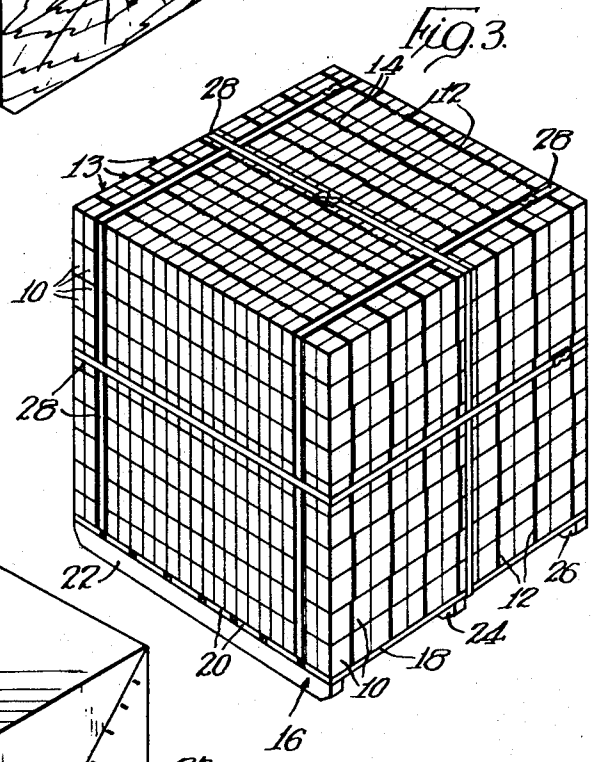


Fig. 3.



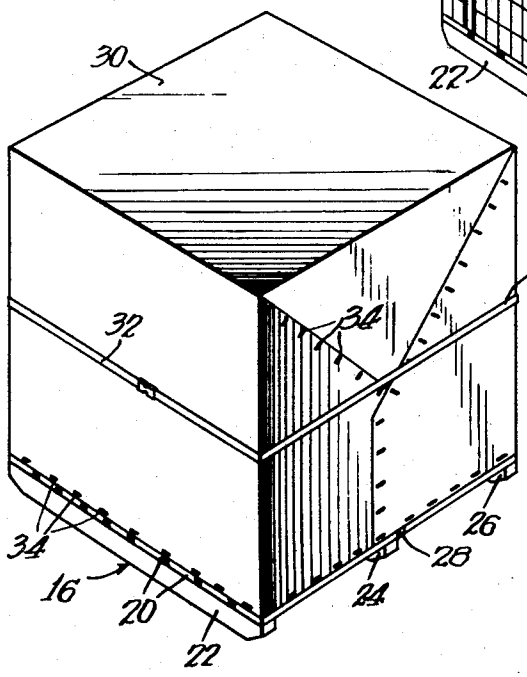


Fig. 4.

INVENTOR

WILLIAM H. ALLEN

BY

Mason, Kolehmainen, Rathburn and Wyss

ATTORNEYS.

United States Patent Office 2,908,122
Patented Oct. 13, 1959

2,908,122

METHOD OF PROCESSING AND PACKAGING

William H. Allen, Hinsdale, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois

Original application June 13, 1957, Serial No. 665,500. Divided and this application May 26, 1958, Serial No. 737,846

4 Claims. (Cl. 53—21)

The present invention relates to a method of processing and packaging substantially rectangularly-shaped wooden blocks, such, for example, as blocks of the type commonly used for factory flooring and the like, and the invention also relates to a new and improved package of such blocks. Specifically, this application is a division of a prior application, Serial No. 665,500, filed June 13, 1957, and assigned to the same assignee as the present application.

Wooden blocks of this type are generally cut from pine or oak logs on multiple saws and are treated with a preservative such, for example, as creosote or pentachlorophenol, so that they are free from attack by termites, damp rot, and the like. The blocks are then shipped to the location at which they are to be assembled into floors or in many instances they are shipped to points of disbursement such as lumber yards where they are stored until required for use. Until recently, all such blocks were sold in bulk, i.e., they were sold and delivered in much the same manner as is coal or crushed stone. However, for a number of reasons the trend has been for more and more users to demand packaged blocks so that at the present time the vast majority of blocks are sold in packaged form.

Various types of packages and methods of packaging have been and are in use at the present time but for one reason or another these packages have all proven to be unsatisfactory. For example, one such package comprises a fiber or cardboard carton in which the blocks are handpacked. The cost of such a package is relatively high, the size is necessarily small because of the low strength of the fiber or cardboard, and when the package is opened the blocks must be handled loosely as with pitchforks and wheelbarrows, thus resulting in relatively high breakage. Another prior art form of package comprises burlap bags which are filled with blocks. Obviously, such a package is only slightly removed from bulk or loose blocks and has nearly all of the disadvantages of loose blocks such, for example, as a high percentage of breakage, and difficulty of handling with the resulting high cost.

Since the type of wooden block with which the present invention is primarily concerned is a relatively low cost item, from a standpoint of economy it is usually desirable to store these blocks outside. Under such circumstances it is important that the blocks be protected from the elements since they tend to absorb water and swell up. If laid in a floor while in this enlarged state, when they dry out and shrink, the blocks in the floor will be quite loose.

Another disadvantage of the above methods of packaging is that in accordance with these prior art techniques the blocks are first cut and then subjected to a chemical treatment with a preservative before being placed in the shipping containers. This technique has a great many drawbacks of which the principal ones are that the blocks are individually handled during the treating process and are usually packaged in the containers while they are still sticky, thus making the handling thereof both difficult and expensive.

An object of the present invention is, therefore, to provide a new and improved method of processing and packaging wooden blocks of the general type heretofore described.

Another object of the present invention is to provide a new and improved package for wooden blocks.

Another object of the present invention is to provide a new and improved method of packaging blocks such that large numbers of these blocks may be provided in a single package which may easily be handled without damage thereto.

Still another object of the present invention is to provide a new and improved method of packaging and processing wooden blocks of the type described whereby both the processing and packaging operations are so related as to be each performed at a minimum cost to effect a final package which is free from the above-described disadvantages of the packages of the prior art.

Yet another object of the present invention is to provide a new and improved method of packaging wooden blocks in order to produce a package which contains a large number of blocks and yet which is readily maneuverable and easily transportable.

A further object of the present invention is to provide a new and improved package of wooden blocks of the type described which may be stored outside for long periods of time without incurring damage to the blocks.

A still further object of the present invention is to provide an improved method of packaging which is relatively inexpensive and yet results in the production of a package which is sturdier than any known in the prior art.

Further objects and advantages of the present invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

Briefly, in accordance with the present invention, after being cut on multiple saws the rectangular wooden blocks are baled end grain to end grain into a plurality of subunits which in turn are baled onto a slidable skid. The bale of subunits is then treated with a chemical preservative, and finally, where necessary, a cover material is placed over the bale of blocks and secured thereto to complete the package.

For a better understanding of the present invention reference may be had to the accompanying drawing in which:

Fig. 1 is a perspective view of a single wooden block of the type with which the method of processing and packaging of the present invention finds particular application;

Fig. 2 is a perspective view of a single subunit comprising a plurality of the blocks of Fig. 1 baled together;

Fig. 3 is a perspective view of a package in which a multiplicity of the subunits of Fig. 2 are baled together and to a support skid; and

Fig. 4 is a perspective view of the completed package of the processed blocks.

Referring to the drawing, and particularly to Fig. 1, there is shown a generally rectangular block **10**, constructed of wood and particularly adapted for use as factory flooring and the like. A plurality of the blocks **10** may conveniently be cut from larger pieces of lumber, such as logs, on multiple saws so that a larger number of these blocks may be cut in a minimum amount of time and with relatively few operations and, consequently, the blocks can be produced at a minimum cost. It will be understood, however, that the blocks **10** may be cut

or formed in any other desired manner and may, in fact, be constructed of materials other than wood if desired.

Referring particularly to Fig. 2, a plurality of the blocks **10**, namely, twenty-two, are contiguously arranged, as shown, in two adjacent rows with the end grain of adjacent blocks in mutual abutment and secured together by a baling strip of flexible material **12** to form a subunit **13**. It has been found that by providing two rows in each subunit rather than one or three or more, the degree of tightness of the strip **12** required to prevent disassembly of the subunits during shipment does not result in damage to the end blocks in each subunit and, furthermore, that disassembly of the subunits when the blocks are to be used may be readily accomplished without cutting the strip **12**. The strip **12** may conveniently be wired, cord, metal strapping, etc. In the illustrated embodiment of the invention, baling wire is employed, with the ends thereof being attached together as indicated at **14** by twisting. Whereas, a single length of strip **12** is shown in Fig. 2, additional pieces may be employed where necessary to hold the blocks **10** together in a subunit. It has been found, however, that a single strand of baling wire suitably wrapped once around the subunit **13** and twisted together at its ends in the manner shown in Fig. 2 is sufficient to maintain the subunit **13** inact without requiring the baling wire **12** to the taut.

Referring to Fig. 3, wherein there is shown a plurality of subunits **13** stacked on a skid **16**, the skid **16** includes a flat support member **18** including a plurality of boards **20** arranged in parallel relationship and secured to a set of parallel runners **22**, **24** and **26**. The runners thus facilitate sliding or skidding of the package of blocks along the ground or other surface, assist in maintaining the support member **18** in place, and maintain the support member **18** about five inches off the ground so as to enable handling of the package by means of the conventional fork type lift trucks (not shown).

The subunits **13** are baled to one another and to the skid **16** by means of a plurality of flexible metallic bands **28**, which are wrapped over the subunits, under the boards **20**, and have their ends secured together by any suitable means such, for example, as by stapling. As best shown in Fig. 3, the subunits **13** are so disposed on the pallet **16** that the vertical planes defined by the baling strips **12** are all parallel and in addition the straps **28** are perpendicular to the adjacent baling strips **12** of the subunits **13** which are disposed at the upper four corners of the overall package. There is thus provided a package of the blocks **10** which may be readily transported with standard equipment without danger of breakage. Whereas, flexible metallic straps may conveniently be employed to secure the subunits **13** to the skid **16**, the bands **28** may be constructed of other materials such, for example, as baling wire, cord, rope, and the like.

After the subunits **13** of the blocks **10** have been baled to the skid **16**, the entire unit is chemically treated with a preservative as by moving the package into a suitable treating area where it may be subjected to a pressurized treatment with a liquid preservative. Because certain commonly used types of preservatives such, for example, as creosote, at first leave the blocks somewhat sticky, it is especially desirable that they need not be manually handled until they have dried. It will thus be appreciated that an important feature of the invention is that the blocks **10** are partially packaged prior to the chemical treatment thereof and need not be individually or manually handled thereafter since the blocks **10** may be facilely transported while still wet and sticky by means of conventional lift trucks which have fork-lifting portions for inserting beneath the support surface **18** of the skid **16** for the lifting and subsequent transporting of the blocks **10**.

Preferably, the individual blocks are arranged so that the end grain surfaces thereof lie in vertical planes and the baling strips **12** are also disposed in vertical planes whereby the blocks in adjacent subunits are spaced apart by at least a predetermined distance by the strips **12**. This space between the subunits as well as the channels which are defined by the adjacent beveled corners of the blocks provides a sufficient number of transverse passageways through the unit to insure satisfactory distribution through the unit of the preservative during the chemical treating process.

In order to protect the blocks **10** from the elements and also to maintain the package intact during transit, a flexible cover **30**, conveniently formed of a treated paper material, is wrapped over the stack of blocks. As shown, the cover **30** may conveniently be attached to the bale of subunits by one or more flexible metal straps **32** and a plurality of staples **34**. The cover **30** is thus securely held in place whereby the package may be stored outside in inclement weather without damage to the blocks **10** or to the package. Moreover, the individual blocks cannot creep out of the package as a result of vibration of the package during transit. Although flexible metal straps and staples may conveniently be employed in attaching the cover **30** to the package, other means, such, for example, as adhesive tape, string, cord, etc. may suitably be used. However, because of the rough handling to which such packages are subjected, a metallic band appears to be the most desirable way to hold the cover **30** on the package of blocks.

It has further been found desirable to wrap the cover **30** over the stack of blocks so that the runners **22**, **24** and **26** of the skid **16** are left exposed. In this way the cover **30** is not readily torn or otherwise scarred during handling and transporting of the package by means of forked lift trucks and the like.

Although the chemical treatment of the blocks **10** has been described as being done after the subunits **13** are baled to the skid **16**, it will be understood that this is by way of explanation and not by way of limitation, since the treating operation may be performed after the blocks **10** have been baled into the subunits **13** prior to their being baled onto the skid **16**, or it may be performed before the blocks **10** are baled into the subunits **13**, or even before the blocks **10** have been cut. However, it has been found that it is most expedient to chemically treat the blocks **10** after they have been baled into the subunits **13** and secured to the skid **16**.

Also, while a cover **30** has been employed to protect the package of the blocks **10** from the weather, etc., it will be understood that for certain applications a cover is unnecessary, and in such instances it may be left off the package of the present invention. For example, where the blocks are to be used a short time after cutting, and ample, relatively dust-free space is available for the drying of the blocks **10** after the treatment thereof, it may be expedient to dispense with the cover **30**. Generally, however, the blocks are not to be used a short time after packaging, but must be shipped great distances and usually stored for long periods of time. In such cases, the use of a cover **30** is most desirable, if not altogether necessary. It will also be appreciated, as indicated above, that the cover **30** gives additional structural support to the package in addition to protecting the blocks **10** from the elements, and, as a result, the rough handling to which the package of blocks is likely to be subjected should be considered before a final decision is reached with respect to elimination of the cover **30**.

Although the many advantages of the present invention will be apparent to those skilled in the art, some of the more important ones will become apparent from a consideration of the manner in which the package is shipped and used in the laying of a floor. After the package has been completed in the manner described above, it and a number of similar packages will be placed in box cars for shipment to lumber yards or to their points of final destination. These packages are, of course, ordinarily handled by conventional lift trucks and may

be stacked one upon the other in tiers in the freight cars. Obviously, the use of mechanized transportation equipment such as fork lift trucks greatly reduces the cost of loading the packages in the box cars as well as unloading the packages when the cars reach their final destination. When the packages of blocks have been transported to their place of destination, inasmuch as the relative cost of the blocks as compared to other equipment and materials present at that location is usually very low, the blocks are frequently stored in the open but because of the cover material thereon, the blocks are fully protected from the elements. Moreover, since the flat portion of the skid **16**, as shown in Figs. 3 and 4, comprises a plurality of spaced apart boards **20**, and the spaces between the boards **20** are not covered by the cover **30**, the blocks in the completed package are vented to the atmosphere so that any moisture which may get into the unit is evaporated when the humidity of the atmosphere decreases.

In using the blocks in the laying of a floor, the packages are transported by fork lift trucks to the laying area and the outer bales **28** are open and the individual subunits are then placed on hand trucks and distributed throughout the laying area. Because the exact number of blocks and subunits are known, rapid and accurate distribution of the blocks may be effected, thereby reducing the cost of laying the floor. Moreover, because the blocks are handled in groups, the speed of handling is increased and, more importantly, they are not damaged as is the case when the blocks must be handled loosely and transported in wheelbarrows. Because of the manner in which the blocks are arranged in subunits, i.e., a single baling strip being used to hold them in place, the baling strip **12** need not be broken in order to remove the blocks from the subunits since it has been found that by merely grasping the baling strip on opposite sides thereof the blocks can be readily shaken loose by a single snap of the subunit. Because the blocks may be equally distributed in a laying area, the speed with which they can be assembled into a floor is, of course, increased, thus lowering the overall cost of the floor. Therefore, it may be seen that the package of the present invention provides a new method and means of handling the type of blocks which are used for factory flooring and the like.

While a particular embodiment of the invention has been shown, it will be understood, of course, that the invention is not limited thereto, since many modifications may be made, and it is, therefore, contemplated by the appended claims to cover any such modifications as fall within the true spirit and scope of the invention.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A method of packaging and processing wooden blocks which are substantially rectangular, have a relatively short dimension in the direction of the grain of the wood and have bevels along the edges thereof which extend in the direction of the grain, said method comprising the steps of baling a plurality of said blocks in a row to form a subunit in which the end grain faces of adjacent blocks are juxtaposed, baling a plurality of said subunits on a flat, perforated platform so that the grains of all of the blocks on the platform are substantially parallel to the plane of said platform and to one another whereby the beveled edges of the blocks in adjacent subunits form continuous passageways through the bale of subunits, and then chemically treating the bale of subunits with a pressurized preservative.

2. A method of packaging and processing wooden blocks which are substantially rectangular, have a relatively short dimension in the direction of the grain of the wood and have bevels along the edges thereof which extend in the direction of the grain, said method comprising the steps of baling a plurality of said blocks in a row to form a subunit in which the end grain faces of adjacent blocks are juxtaposed, baling a plurality of said subunits on a flat, perforate platform so that the grains of all of the blocks on the platform are substantially parallel to the plane of said platform and to one another whereby the beveled edges of the blocks in adjacent subunits form continuous passageways through the bale of subunits, then chemically treating the bale of subunits with a pressurized preservative, and thereafter enclosing the bale of said blocks within a protective laminar so as to leave the lower portion of said platform exposed.

3. A method of packaging and processing wooden blocks which are substantially rectangular, have a relatively short dimension in the direction of the grain of the wood and have bevels along the corners thereof which extend in the direction of the grain, said method comprising the steps of baling a plurality of said blocks in a row to form a subunit in which the end grain faces of adjacent blocks are juxtaposed, the blocks in said subunit being held together by a single length of wire wrapped around said blocks and lying substantially in a single plane, baling a plurality of said subunits on a flat platform so that said wire in each subunit lies in a vertical plane and so that the grains of the blocks in adjacent subunits are parallel whereby the beveled edges on adjacent blocks form passageways into the bale of subunits, and then chemically treating the bale of subunits with a pressurized preservative.

4. A method of packaging and processing blocks of the type described, comprising the steps of wrapping a length of wire around a small number of said blocks to form a subunit, said blocks being arranged with the end grain faces thereof juxtaposed to permit the passage of a fluid between said blocks, baling a plurality of said subunits on a flat supporting member so that said wire is interposed between the adjacent blocks in vertically adjacent subunits to space said subunits apart and thereby provide passageways into the bale of subunits, and thereafter treating said bale of subunits with a preservatives.

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