Aug. 13, 1929. C. W. UTZMAN 1,724,740

PLASTER WALL BOARD SHIPPING PACKAGE OR HOLDER

Filed Jan. 14, 1924 5 Sheets-Sheet 1

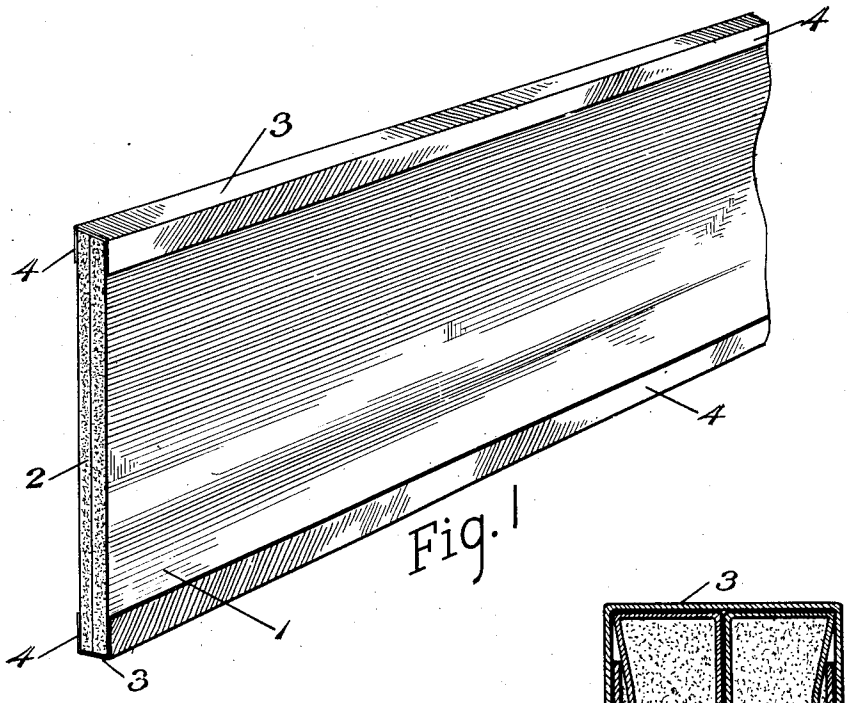


Fig. 1

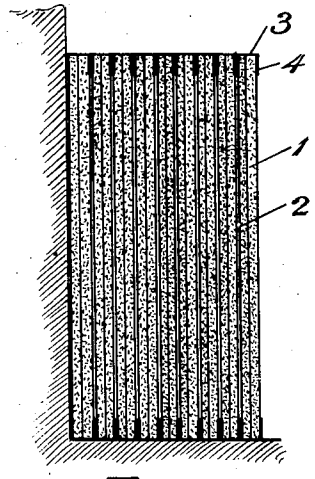


Fig. 2

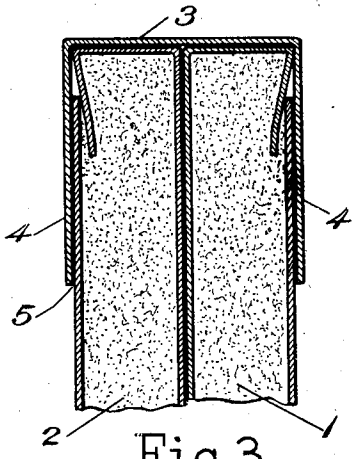


Fig. 3

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PLASTER WALL BOARD SHIPPING PACKAGE OR HOLDER

Filed Jan. 14, 1924 5 Sheets-Sheet 2

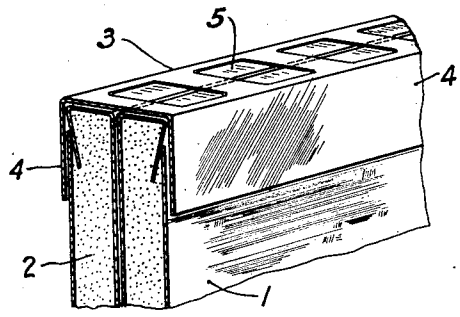


Fig. 4

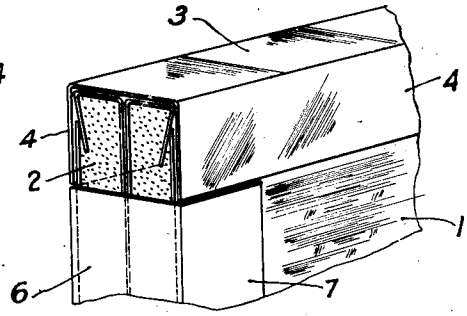


Fig. 5

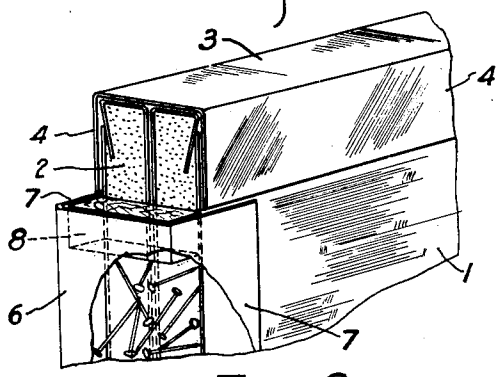


Fig. 6

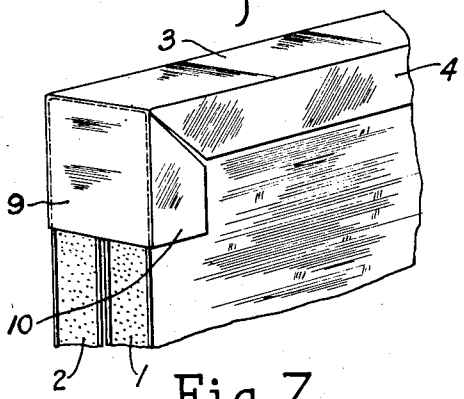


Fig. 7

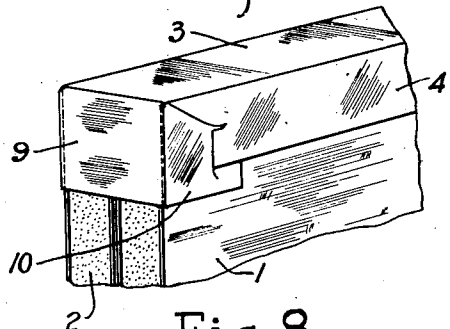


Fig. 8

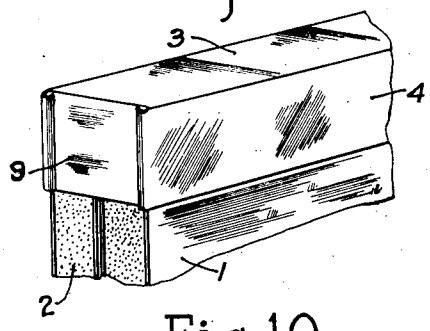


Fig. 10

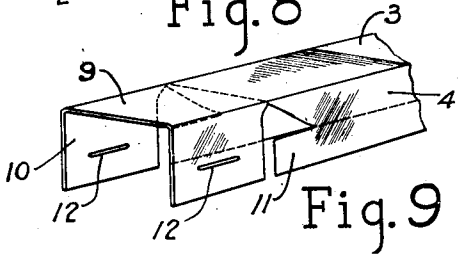


Fig. 9

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PLASTER WALL BOARD SHIPPING PACKAGE OR HOLDER

Filed Jan. 14, 1924 5 Sheets-Sheet 3

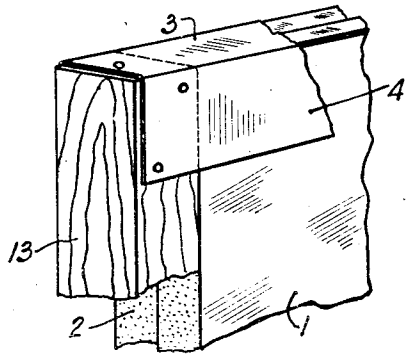


Fig. 11

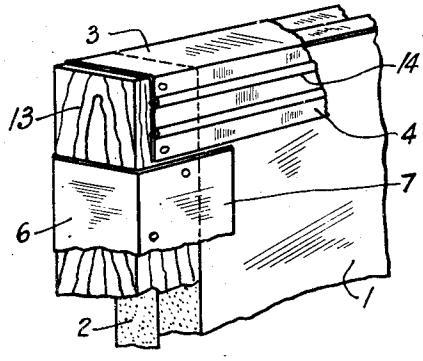


Fig. 12

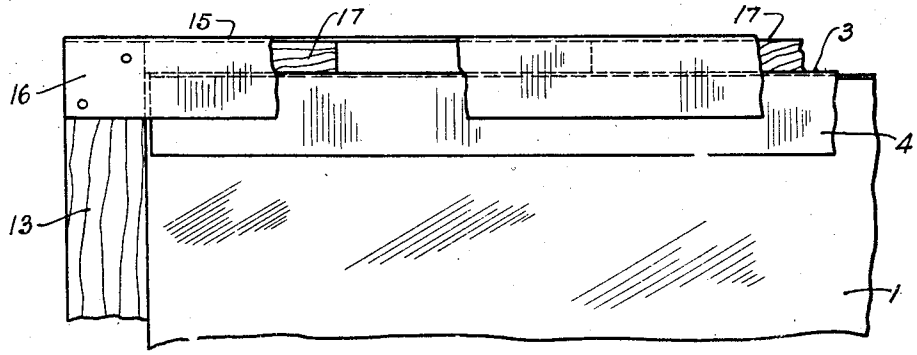


Fig. 13

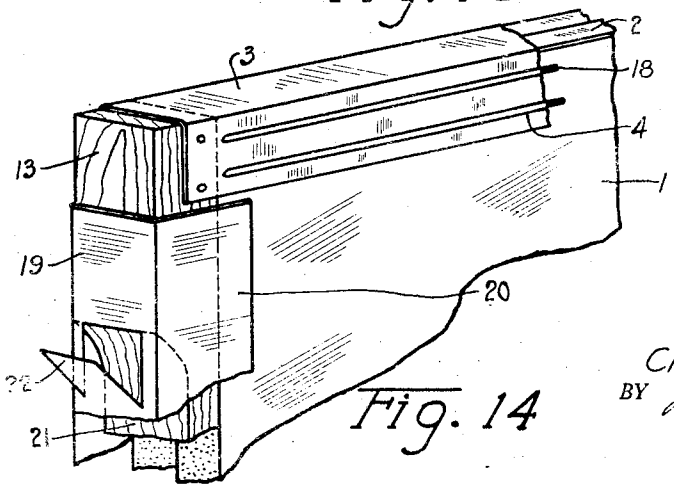


Fig. 14

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PLASTER WALL BOARD SHIPPING PACKAGE OR HOLDER

Filed Jan. 14, 1924 5 Sheets-Sheet 4

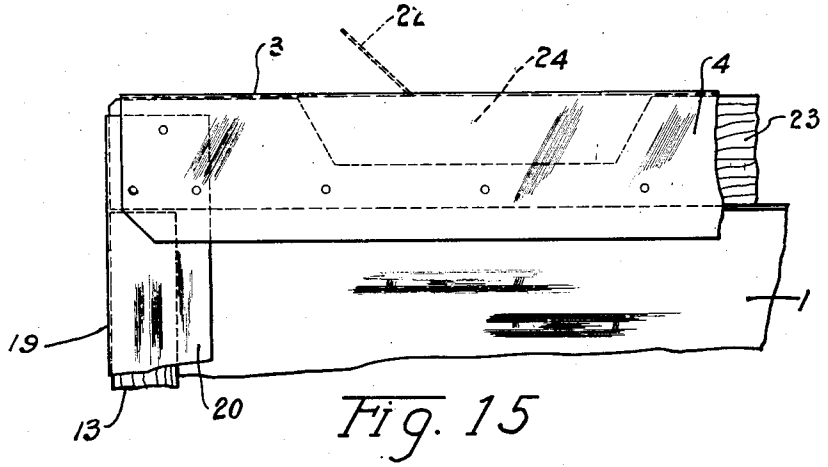


Fig. 15

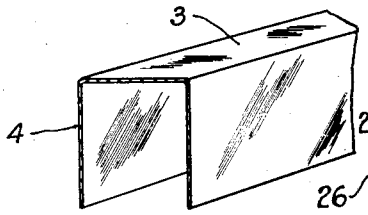


Fig. 16

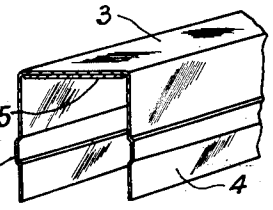


Fig. 17

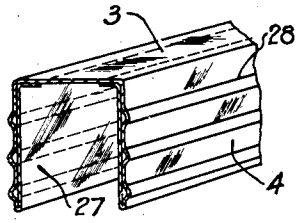


Fig. 18

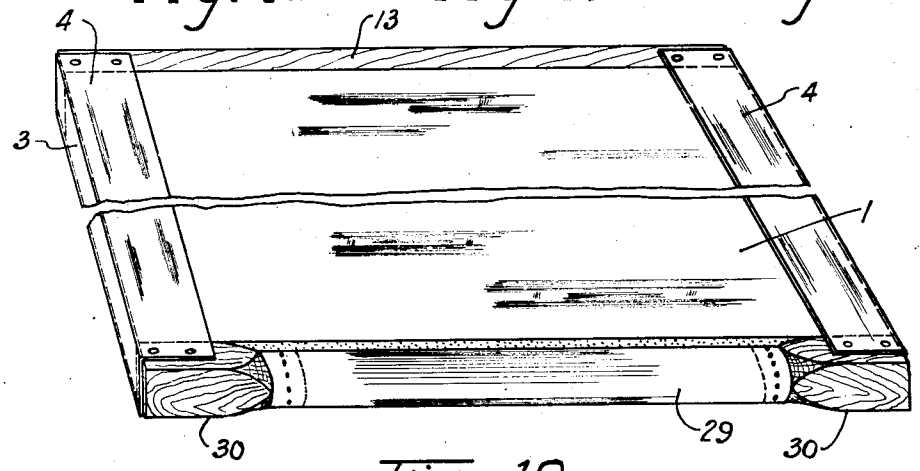


Fig. 19

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PLASTER WALL BOARD SHIPPING PACKAGE OR HOLDER

Filed Jan. 14, 1924 5 Sheets-Sheet 5

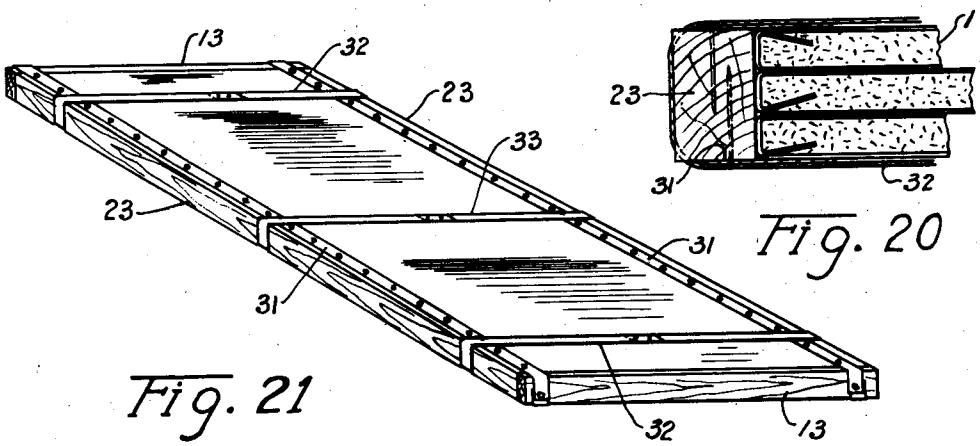


Fig. 21

Fig. 20

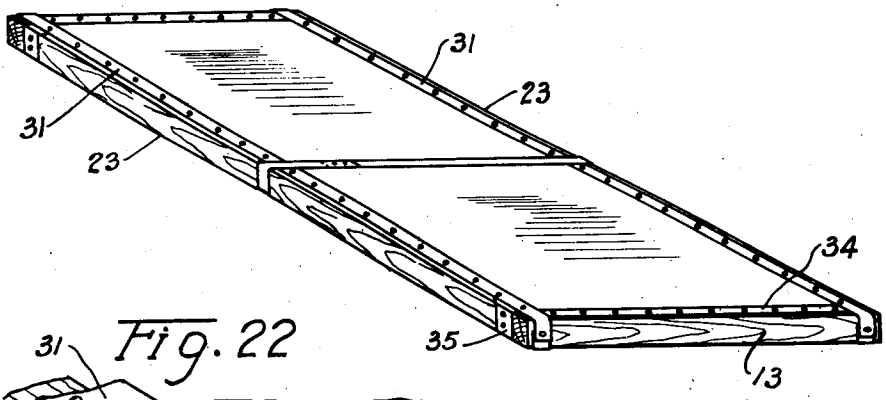


Fig. 22

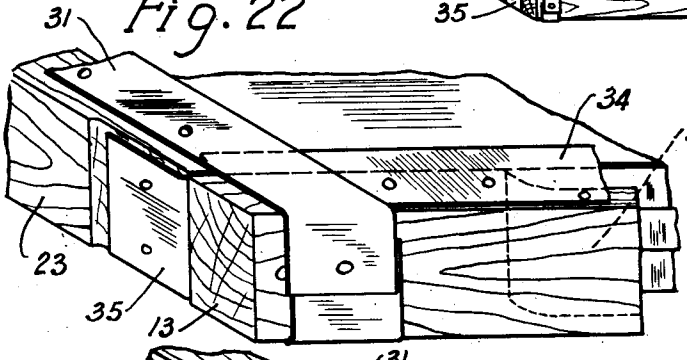


Fig. 23

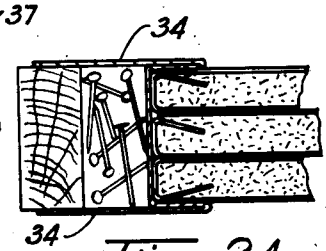


Fig. 24

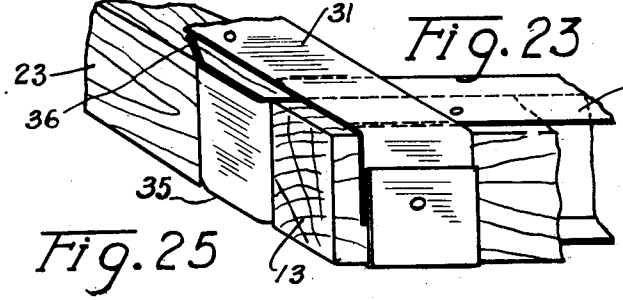


Fig. 25

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Patented Aug. 13, 1929. 1,724,740

UNITED STATES PATENT OFFICE.

CLARENCE W. UTZMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNITED STATES GYPSUM COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PLASTER-WALL-BOARD SHIPPING PACKAGE OR HOLDER.

Application filed January 14, 1924. Serial No. 685,938.

This invention relates to improvement in preparing articles for shipment and more particularly to a plaster wallboard package.

Plaster wallboard is a fabric covered sheet of plaster usually 3/8 of an inch thick, 32 to 48 inches wide and cut in lengths up to 10 feet depending upon its use. It is not always possible in local freight shipments to secure sufficient space in freight cars to lay the boards flat, one on top of another, on the car floor, and to be assured that the boards are delivered in perfect condition it becomes necessary to crate the boards so they may then be set on edge to save space and the edges and surfaces be protected in transportation. There are two disadvantages to such a package. The material making up the crate is expensive and the usual types now in use take up 50 to 150% more space than the board uncrated would occupy.

It is an object of this invention to provide a simple and inexpensive shipping package and holder for wallboard that will give the protection desired to the board; that a unit so constructed be sufficiently light for one person to handle or manage in transporting it; that will serve equally well the party buying a small quantity of board as the one who buys by the carload; that will take up little or no additional room in storage or in shipping, over that used in carload bulk shipments, that can be readily attached or assembled about the wallboard by machine operation; that utilizes the basic physical property of the wallboard, its rigidity and adaptability, to form the skeleton for the attachment of the holder thereto; that the weight of said container, due to utilizing the physical properties of the wallboard, is reduced to a minor fraction of the weights heretofore found necessary in securing the same service results in shipping crated or packaged wallboard; that by a novel arrangement, the nails necessary for the erection of the board are contained in the holder when shipped and take up no outwardly visible space in said package. The feature of supplying the nails in the same package with the wallboard insures that the proper size, quality and quantity of nails are always on hand at the place where the board is actually erected. This is an important feature as it prevents errors and mistakes, reduces complaints therefrom and renders a more satisfactory performance of the product. With the packaging of two boards it is possible to have the face sides (the ones desired to be kept free of marks, stains, scuffing or injury) held together and thus completely protected till ready to erect on the building. When desirable more than two boards may be packed in the same way to reduce handling and cost of material for packing. The delivery to the purchaser with the edges as true and the face sides as smooth and clean as when made at the factory is one of the main objects of this invention which at the same time contemplates a package in which cost of material, manual operation, weight, handling, and space occupied in transportation are all reduced to a minimum.

With these and other objects in view reference is made to the accompanying sheets of drawing illustrating the preferred forms of this invention, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

In the drawings:

Figure 1 is a perspective view of an embodiment of this invention showing the shipping package in an upright position.

Figure 2 is a view in end elevation of a plurality of these shipping packages standing in upright position as they would appear against a storehouse wall or freight car side.

Figure 3 is an enlarged detail view in transverse section illustrating the edges of the wallboards composing the packages and the holding strip therefore.

Figure 4 is a fragmentary view in perspective showing another form of holding strip.

Figure 5 is a similar view showing a shipping package as constructed for express shipments and with a separate binding strip on the end.

Figure 6 is a similar view of another form of construction for carrying the nails within the package.

Figure 7 is a similar view of another form showing the holding strip extended beyond the end of the wallboard and having the extended end bent around and fastened to the exterior end margins of the wallboard.

Figure 8 is a similar view of a similar construction in which the extended end is bent around and fastened to the side portions of the holding strip.

Figure 9 is a view in perspective of the end of such holding strip before application.

Figure 10 is a fragmentary view in perspective of another form in which the holding strip is extended beyond the end of the wallboards, the central portion bent down over the end and and the side portions crimped back thereon.

Figure 11 is a fragmentary view of a corner in perspective of another form of this invention.

Figure 12 is a similar corner view of another form.

Figure 13 is a view in side elevation of one end of a form of improved package, with parts broken away to show another means for containing nails.

Figure 14 is a fragmentary view in perspective of a corner of another form of package illustrating another manner in carrying nails.

Figure 15 is a fragmentary view in side elevation of a corner of a form of package, showing a different method of carrying nails.

Figures 16, 17 and 18 are fragmentary perspective views of different forms of package holding strips.

Figure 19 is perspective view, with parts broken away, of another form of package including another form of nail holding means.

Figure 20 is a view in transverse section through a longitudinal edge of the package illustrated in Figure 21 showing the tie band.

Figure 21 is a view in perspective of another form of package.

Figure 22 is a similar view of a modification of Figure 21.

Figure 23 is an enlarged detail view in perspective of a corner of Figure 22, with parts broken away.

Figure 24 is a transverse sectional view through a form of end holder shown in Figure 22 including nail pocket.

Figure 25 is an enlarged fragmentary view in perspective of a corner similar to Figure 23 illustrating a modification thereof.

Plaster board of the dimensions of wallboard is somewhat flexible and when a single board is lifted at one end it will sag considerably in the middle and therefore several boards are combined face to face in this improved package. In the embodiment of this invention, illustrated in Figures 1, 2, and 3, two plaster wallboards 1 and 2 are placed together with the faces, which will ultimately form the wall or decorated surface when erected, against each other. The opposite longitudinal edges of the boards are covered and held together by a holding strip 3 of thin metal bent in the form of a channel with the side flanges 4 engaging the outer margins of the boards. The channels are of sufficient width to slip over the edges when the boards are held together and to secure the holding strip in place during transportation and insure the flanges 4 remaining in contact with the outer surfaces of the boards, these outer marginal surfaces are treated with a thin layer of any desirable adhesive 5, such as silicate of soda, before the holding strips are applied.

It has been found that a holding strip of this character may be made of very thin metal and will make a shipping package protecting the longitudinal edges and taking up hardly any more room in transportation when stood on edge, as shown in Figure 2, than if the holding strips were not present. The holders 3 are readily removed when it is desired to separate the boards by inserting a dull knife blade or other thin edged instrument under the flanges 4 and detaching them from the board surfaces by prying outwardly. It has been found that this can be accomplished with little or no damage to the board surfaces when the adhesive has been properly applied and it is to be noted that these outer marginal surfaces will ultimately be on the side of the wall next to the studding when erected, so that as long as the longitudinal edges are perfect and unbroken, a slight defacing of the paper covering the sheet here and there on the back of the board will not affect the properties and appearance of the erected board.

On account of the size and weight of plaster wallboards, a shipping package made up of two or three boards is much more convenient to handle especially by one person and forms a rigid package for transportation. Heretofore it has been customary to form a package of five or more wallboards to save cost of material in crating; and in the endeavor to compensate for the space between crates in shipping, as the strips of wood employed along the sides in the customary crates are approximately as thick as a wallboard in order that the crates have sufficient strength to protect the contents during transportation.

To reduce the weight of the holder and also to make it more flexible in application, the web joining the flanges 4 may be provided with perforations 5, as shown in Figure 4.

It is readily seen from Figure 2 that this invention provides a shipping package that conserves the space between the side surfaces of the wallboards of adjacent packages and there is virtually no lost space between them when stacked for transportation thereby allowing full utilization of the available load-

ing space in the freight car, truck or other vehicle.

Should it be desirable to protect the transverse edges of the wallboards at the ends of the package as shown in Fig. 5 similar holders 6 may be applied, in the same manner as the longitudinal holders 3, with the flanges 7 thereof contacting with the end margins of the outer boards and attached by adhesive thereto if desired. Figure 6 illustrates such an end holder spaced apart from the end edges of the boards by a plurality of wooden spacing blocks 8 which provide vacant spaces between the holder 6 and the said edges which space may be utilized for carrying nails of the proper size and quality for erecting the boards. It is immaterial how many spacing blocks are so employed and the length of these blocks are preferably such that the space or spaces between them is sufficient to contain enough nails for the proper application of the boards. It is preferable after the nails have been placed in the space between blocks to retain them in place by placing a strip of tough paper thereover and pasting the ends to the blocks.

When it is desirable to protect the corners where the longitudinal and end edges meet, the holder 3 may be of greater length than the board and the side flanges notched at each corner, as shown in Figure 7, so that the extending portion 9 may be bent down over the end with the flanges 10 thereof engaging the end margins of the outer boards and held thereagainst by an adhesive if desired, or the flanges 4 so notched and cut away to provide a tongue 11, adapted when the extending portion 9 is bent over the end to engage in a slit 12 in the flanges 10, as shown in Figures 8 and 9, or the flanges 4 may be separated from the extension 9 and when the extension is bent down over the end the extensions of the flanges 4 crimped back to engage the end covering extension, as shown in Figure 10.

The forms of holders so far illustrated and described are particularly designed for short hauls with little handling but where rough usage may be expected as in long hauls with many reshipments this invention contemplates further protection to both the longitudinal and transverse edges and corners of the board, as illustrated in the following figures in the drawings.

In Figure 11, a strip of wood 13 is applied at each end of the package with the holder 3 extending thereover and nailed thereto with the flanges 4 extending likewise and also nailed or fastened to the strip 13.

A more rigid form of holder 3 is shown in Figure 12 in which the side flanges 4 are each provided with two spaced apart corrugations 14 extending throughout their length and this figure also shows an end holder 6, applied in the same manner as in Figure 5, over the wooden end strip 13 and the flanges 7 thereof nailed to the strip.

Figure 13 illustrates a package in which the holder 3 with flanges 4 is applied over the longitudinal edges of the boards, as previously described, and a second similarly shaped holder 15 with flanges 16 is applied thereover and spaced apart therefrom by a plurality of spacing blocks 17, as shown. The ends of the boards are provided end strips 13 over which the holder 15 extends with its flanges 16 nailed thereto. The spaces between the holders 3 and 15 between the blocks 17 are provided for the purpose of carrying the proper quantity and quality of nails or other material for the erection of the boards, and the portion of the holder 3 forming the lower wall of the nail holding space is slitted to form a tongue, preferably adjacent one of the blocks, which tongue may be pulled out therefrom for the admission and removal of the nails and be normally closed to retain the nails.

Figure 14 illustrates another form of package employing end pieces of wood adapted to hold nails for erecting the boards contained in the package. This package comprises the longitudinal edge metal holders 3 and wooden end pieces 13, the ends of which are embraced by the ends of the metal holder 3 and are secured thereto. In this case the side flanges 4 of the holder 3 are each provided with equally spaced parallel corrugations struck up from the body of the metal of each flange, beginning at the ends of the contained boards so that the portions of the flanges embracing the wooden end pieces are flat, and as an additional strengthening means for maintaining the flanges rigid metal wires 18 are secured within the corrugated portions. The end strips are embraced by thin metal holders 19, similar to holder 3, having side flanges 20 extending beyond the wood to engage the margins of the ends of the outside boards, as shown. To adapt the end pieces to carry nails a portion, or portions, is cut away from the outer surface of the strip 13 in such a manner that the wall 21 is curved upward at each end into the outer surface of the main body of the strip. The web of the holder 19 joining the flanges 20 is slitted at one end of the space between the interior of the holder and cut out portion of the wooden member 13 to form a tongue 22 which may be bent out for the insertion and removal of nails from the space within, which tongue normally lays flat with the holder and may be retained in place by a paper sticker, not shown.

Another form of package is illustrated in Figure 15 in which a strip of wood 23 is laid over the longitudinal edges of the boards under the metal holder 3 with the flanges 4 thereof extending therebeyond to

engage the margins of the outside boards, the ends of the package are constructed similarly to Figure 14, except that no nail carrier is provided therein, and the wooden strips 23 extend between the flanges 20 of the end holder 19 and are secured thereto, as shown. In this case the outer surface of the strip 23 is cut away to form a nail pocket 24, as shown, and the outer covering portion of the holder is slitted, as described in relating to Figure 14, for the purpose of forming a tongue 22 for the insertion and removal of nails.

Figures 16, 17 and 19 illustrate different forms of holders that may be employed in securing the longitudinal edges or transverse ends of the packages herein described. Figure 16 is the plain thin metal holder 3 with side flanges 4, in Figure 17 this holder is strengthened by the additional strip 25 secured on the under side of the web between the side flanges 4 and each side flange is given more rigidity by the struck out portion or flat corrugation 26, while in Figure 18 the side flanges are strengthened by angular strips 27 secured on the interior thereof and by a plurality of equally spaced apart outwardly projecting corrugations 28.

Another form of package is shown in Figure 19 in which the longitudinal edges are contained in a metal holder 3 with side flanges 4 embracing the margin of the outer boards 1 with one end protected by the wooden end strip 13 and the other end covered by a metal tube 29 adapted to hold nails or other material with its ends closed by plugs 30 which are extended to the corners of the package and enter between and are secured to extensions of the holder 3, as shown.

A very satisfactory package to meet all requirements is that shown in Figures 21 to 25, inclusive, and in which both longitudinal edges and transverse ends are protected by wooden strips. In these figures the wooden longitudinal edge strips 23 are corresponding in width to the number of wallboards contained in the package and are of the same length as the boards. One each side of the strips 23 thin metal strips 31, reinforced if desired, are secured so as to project therebelow to engage the outer margins of the edges of the outside boards in the same manner as the flanges 4 of the holders 3 herebefore described. The wooden end pieces 13 are of the same width as the longitudinal strips 23 and extend over the ends of the contained boards. The metal strips 31 are brought over the ends of the end pieces, preferably lapping each other, and are secured thereto, as shown. In the form shown in Figure 21 it is preferable to pass the metal bands 32 about the package adjacent each end and a similar band 33 about the middle, which bands are drawn tight with the ends secured preferably by spot welding. In Figure 22, the end strips 13 are each provided with thin metal members 34 attached thereto and extending therebeyond to engage the outer end margins of the outside boards of the package. In this form it is preferable to form the board engaging members 34 of a single strip of metal bent so as to provide a flat portion of the width of the boards to be engaged with flanges depending therefrom to engage the outer surface of the boards which flanges are bent back upon themselves to extend beyond the flat portion and embrace the wooden end members 13 and be secured thereto as shown in Figure 24. The corner formed at the meeting of the ends of the longitudinal and transverse end members is shown in Figures 23 and 25 which illustrate the flat portions of the metal end engaging member 34 extending beyond the end of its woden strip 13, bent back upon the outer surface of the end of the longitudinal strip 23 and secured thereto, the ends of the longitudinal metal strips 31 are overlapped and secured about the ends of the end member 13. With this connection at the corners the end bands 32 may be omitted. Figure 22 illustrates the end of the wooden longitudinal member 23 rabetted out to allow the heavier additional piece 35 of the metal member 34 to lay flat thereon and below the surface of the remainder of these members. Figure 25 shows an angular slit 36 cut in the end of the wooden longitudinal strip 23 adjacent the corner into which the end of the extension 35 is inserted and held. In this form the portion 35 rests upon the outer surface of the wooden longitudinal member 23 and as this portion is flat metal with both ends fixed to the member 23 it will act as a shoe for the end of the side member so that one man may place the package on a longitudinal edge and slide it about upon the shoe over the warehouse or car floor in moving the crate. In this latter type a space 37 may be provided between the metal member 34 and woden end piece 13 by cutting out a sufficient amount of the wood from the under side of the end piece 13, as shown in dotted lines in Figure 23, and by slitting the flat metal portion over the ends of the boards adjacent one end of the space 37 to form a tongue similar to the tongue 22 shown in Figure 14 for the insertion and removal of nails. It is to be understood that such spaces as heretofore described for the carrying of nails may be also used to carry sufficient crack filler or joint finisher or other material for the erected boards contained in the crate, it being contemplated to provide one or more spaces for nails and one or more similar spaces for the filler or finisher when so desired.

It is also contemplated, when desirable, to encase or wrap the boards making up the package with a paper or other covering be-

fore the holding frame is attached. The covering may be of any desired material and may be attached or folded about the boards and free edges received in any desirable manner without departing from the scope of the invention.

What I claim is:

1. A wallboard package comprising a plurality of boards, protecting members arranged along the edges of said boards, holding members embracing the protecting members and margins of the boards, one of said protecting members being provided with a pocket on the side under its holding member, said holding member being provided with a closable means of entrance into said pocket.

2. A wallboard package comprising a plurality of boards, holding members embracing the longitudinal and end edges of the boards and protecting members extending along the edges of the holding members, the holding members overlapping the adjacent ends of the protecting members transverse thereto.

3. In a shipping package for a bundle of wall boards placed face to face, channel-shaped metallic holders having flanges embracing the transverse and longitudinal edges of said bundle, a wooden frame strip embraced within the flanges of one of said holders and attached to the end of an adjacent holder at the corner of said bundle, stiffening members formed in the flanges of a holder, the flanges of a holder being removably secured to the outer boards of said bundle, and a pocket formed adjacent said frame strip, said pocket having a closable means of entrance.

4. A wallboard package comprising a plurality of boards, holding strips having metallic members embracing the longitudinal edges of said boards, and end members having metallic strips, said holding strips and end members being overlapping so as to protect the corners of the boards at the intersection of the longitudinal and transverse edges thereof.

5. A wallboard package comprising a plurality of boards, holding members embracing the longitudinal edges thereof, protecting members extending along the transverse edges of the boards, said holding members and protecting members comprising portions which overlap and are secured together at the corners of the boards to protect the corners of said boards during shipment.

6. A wallboard package comprising a plurality of boards, holding members embracing the longitudinal edges thereof, protecting members engaging the transverse edges and secured at the corners to the longitudinal holding members, said holding members embracing the protecting members and the edges of the board, said protecting members being provided with a pocket having a closure which may be readily opened.

7. A package of substantially flat sheets of gypsum boards or the like of similar size and shape, comprising a plurality of such sheets placed in face-to-face relation with corresponding edges in substantial alignment to form a stack, and means for securing said sheets in such aligned relation to form such package, said means consisting of binding members embracing edge portions of the stack and secured to the outwardly presented flat surfaces of said stack, said binding members being of such thinness that the presence thereof does not appreciably increase the thickness of the package at the places of application of said members, said sheets and binding means constituting a finished commercial package.

8. A package of substantially flat sheets of gypsum boards or the like of similar size and shape, comprising a plurality of such sheets placed in face-to-face relation with corresponding edges in substantial alignment to form a stack, and means for securing said sheets in such aligned relation to form such package, said means consisting of binding members embracing edge portions of the stack and adhesively secured to the outwardly presented flat surfaces of said stack, said binding members being of such thinness that the presence thereof does not appreciably increase the thickness of the package at the places of application of said members, said sheets and binding means constituting a finished commercial package.

9. A package of substantially flat sheets of gypsum boards or the like of similar size and shape, comprising a plurality of such sheets placed in face-to-face relation with corresponding edges in substantial alignment to form a stack, and means for securing said sheets in such aligned relation to form such package, said means consisting of binding members embracing edge portions of the stack and adhesively secured to marginal portions of the outwardly presented flat surfaces of said stack, said binding members being of such thinness that the presence thereof does not appreciably increase the thickness of the package at the places of application of said members, said sheets and binding means constituting a finished commercial package.

10. A package of substantially flat sheets of gypsum board or the like of similar size and shape, comprising a plurality of such sheets placed in face-to-face relation with corresponding edges in substantial alignment to form a stack, and means for securing said sheets in such aligned relation to form such package, said means consisting of binding members of flexible material, of such thinness that the presence thereof does not

appreciably increase the thickness of the package at the places of application of said members, said binding members embracing certain edges of said stack, and having portions overlapping portions of opposite outwardly presented flat surfaces of the stack and secured by adhesive directly to said outwardly presented surfaces, whereby the portions of said binding members overlying the edges of the stack form the only binding for said edges, said binding members being of sufficient strength to retain said sheets in packaged relation against relative displacement in a direction at right angles to the flat surfaces thereof, and constituting with said sheets, a finished commercial package.

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