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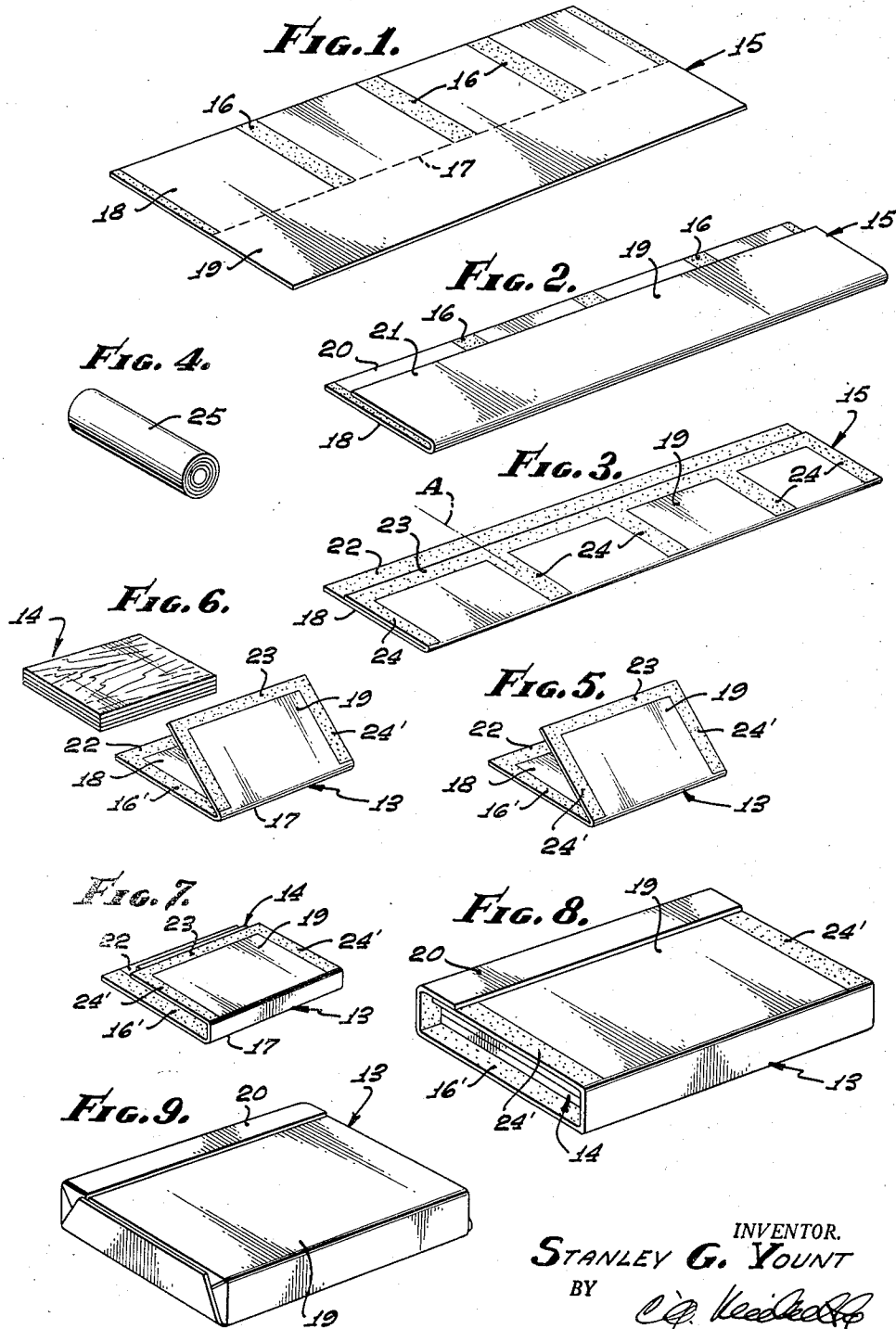
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2,846,060

WRAPPING MEANS FOR ARTICLES OF SHEET FORM

Filed Nov. 15, 1954

2 Sheets-Sheet 1



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Fig. 10.

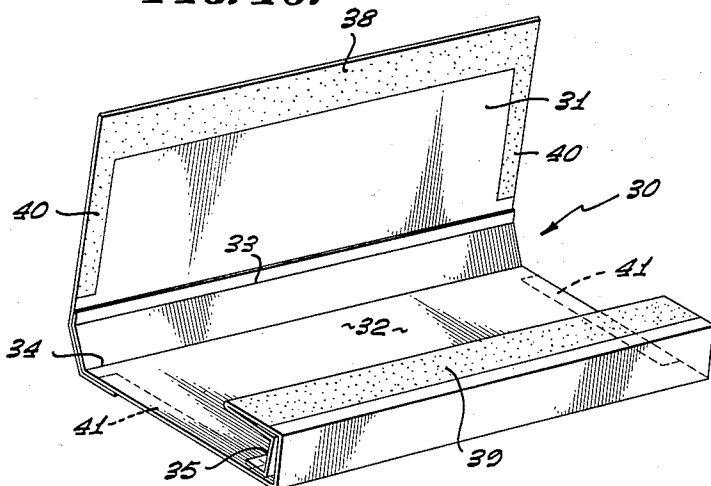


Fig. 11.

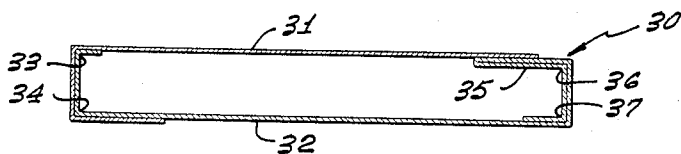
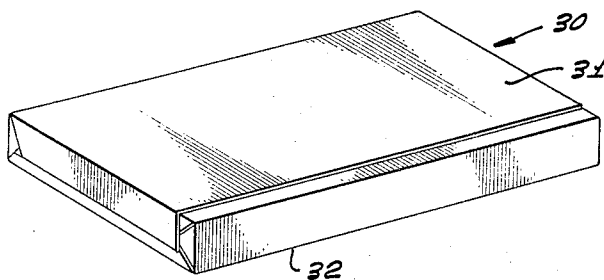


Fig. 12.



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WRAPPING MEANS FOR ARTICLES OF SHEET FORM

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9 Claims. (Cl. 206—58)

This invention relates to a wrapping means and protective covering for one or more pieces of relatively flat, thin articles of sheet form, such as plywood, sheet rock, masonite and the like.

Shipment of rigid and semirigid articles of sheet form having great lateral and longitudinal dimensions as compared to thickness and of relatively rigid material presents difficult problems in handling and protection. Such articles are of relatively large size, for example, 4' x 8', 4' x 12', 4' x 16', and may have thicknesses of from approximately 1/4" to 1" or more. Usually shipment of such large rectangular sheet-like articles is accomplished by vertically stacking four or more sheets and securing the stacked sheets together by bands passed therearound or by other means. To secure one or more of such sheets in a stack is awkward and cumbersome, and handling of the sheet material is difficult. Such prior proposed methods of shipping such sheet-like articles have not satisfactorily and adequately protected edge faces and external surfaces of the stack.

This invention contemplates a simple, effective means for wrapping one or more sheets of plywood or the like in such a manner that the sheets and wrapping therefor may be conveniently handled and accomplished. The invention contemplates providing a wrapping means which entirely encloses a vertical stack of such sheet-like articles so that the exterior large flat surfaces and the edge faces of the stack may be protected against marring, scratching, staining and any other types of damage to which such material may be subjected during shipment.

It is therefore the primary object of this invention to disclose and provide a novel wrapping means and protective covering for use with large, difficult to handle, rigid and semirigid, flat, thin sheet-like articles such as plywood, sheet rock, and the like.

An object of this invention is to disclose and provide a wrapping means and protective covering for large rectangular, relatively rigid sheet-like articles and wherein the supply of wrapping may be provided in roll form, from which selected lengths of wrapping may be withdrawn and cut.

Another object of this invention is to disclose and provide a novel wrapping means for large sheets of relatively rigid, thin material wherein the wrapping operation may be conveniently accomplished and wherein exterior surfaces of the sheet material are effectively protected.

A still further object of this invention is to disclose and provide a novel wrapping means and protective covering for a vertical stack of large sheet-like articles wherein the wrapping means also serve to maintain the stack in assembled relation and prevents relative displacement of one sheet with respect to another sheet.

A more specific object of this invention is to disclose and provide a wrapping means for large sheet-like articles wherein a folded strip of compliant material such as paper stock is provided with bands of self-sealing adhesive means arranged on surfaces thereof so as to facilitate

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sealing of the wrapping means about a stack of assembled sheets.

A further object of this invention is to disclose and provide a wrapping means as above described wherein the bands of self-sealing adhesive means are provided on surfaces of the folded wrapping means which face in the same direction and which permit the wrapping means to be supplied in roll form.

Generally speaking, this invention contemplates a wrapping means and protective covering for large, rectangular, thin, rigid, articles or sheets of building and construction materials wherein the wrapping means includes a strip of compliant sheet material of selected paper stock folded along a longitudinal line so as to provide a bottom panel of greater width than the width of the article to be wrapped and a top panel overlying the bottom panel and having a width approximately the same as the width of the article to be wrapped. Along free longitudinal and transverse edge margins of the top and bottom panels are provided bands of self-sealing, adhesive means, said bands being applied to upwardly facing surfaces of the panels. The article to be wrapped is inserted between the top and bottom panels until one longitudinal edge of the article coincides approximately with the longitudinal fold line of the wrapping means. The free longitudinal and transverse edge margins with the self-sealing bands of adhesive material thereon are then folded in a manner to be described in respective cooperable sealing contact adjacent the edge faces of the article to completely seal the article within the wrapping means.

Other objects and advantages of this invention will be readily apparent from the following description of the drawings in which an exemplary embodiment of this invention is shown.

In the drawings:

Fig. 1 is a perspective view of a strip of paper stock used in the making of the wrapping means of this invention and showing transverse bands of adhesive material on one portion thereof.

Fig. 2 is a perspective view of the strip shown in Fig. 1 folded about a longitudinal fold line.

Fig. 3 is a perspective view of the folded strip showing additional bands of adhesive applied to upwardly facing surfaces thereof.

Fig. 4 is a perspective view of the strip shown in Fig. 3 formed into a supply roll.

Fig. 5 is a perspective view of a wrapping means of this invention cut from the supply roll.

Fig. 6 is a perspective view of said wrapping means opened and ready to receive a stack of articles of sheet form.

Fig. 7 is a perspective view showing the articles inserted within the wrapping means.

Fig. 8 is a perspective view showing longitudinal free edge margins of the wrapping means folded into cooperable sealing relation.

Fig. 9 shows transverse end margins of the wrapping means folded in cooperable sealing relation to complete the wrapping of the stack of articles.

Fig. 10 is a perspective view of a modification of the wrapping means of this invention.

Fig. 11 is a transverse sectional view of the wrapping means of Fig. 10.

Fig. 12 is a perspective view of the wrapping means of Fig. 10 wrapped about an article.

The drawings show the method by which the wrapping means 13 of this invention is made and also show the manner in which the wrapping means is applied to a vertical stack 14 of articles of sheet form. It is understood that one or more articles of sheet form may be wrapped for shipment.

The material from which the wrapping means is made

may be of any suitable compliant, flexible paper stock, laminated or nonlaminated, reinforced or nonreinforced, depending upon the desired protection required for the articles to be wrapped. The paper stock may be waterproofed if desired. Other compliant materials may be used.

In Figs. 1 to 4, the method of making the wrapping means 13 of this invention is illustrated. In Fig. 1 an elongated strip 15 compliant paper stock material of selected width may be provided with transverse sealing bands 16 applied to that portion of the paper strip lying to one side of a selected longitudinal fold line 17. The sealing bands 16 may be longitudinally spaced a selected distance depending upon the length of the articles of sheet form to be wrapped, the spacing being slightly greater than the length of the articles to extend therebeyond at both ends. The bands 16 are provided a sufficient width so that when they are later cut through the center line thereof transversely of the paper strip, a sufficient quantity and width of adhesive will be afforded on transverse edges of the wrapping means 13 as shown in Figs. 7 and 8.

After bands 16 have been applied to the paper strip 15, the strip is folded longitudinally about fold line 17 so as to provide a bottom panel 18 and an overlying top panel 19. The top panel 19 is of less width than the bottom panel 18 and may be of a width having approximately the transverse dimension of the sheet-like article to be wrapped. The bottom panel 18 has a width greater than the width of the article to be wrapped, such difference in width depending upon the number and thickness of the sheets to be wrapped.

After the folding operation, the folded strip of wrapping material may be provided with additional bands of adhesive sealing material applied to the upwardly facing surfaces thereof. In the example shown (Fig. 3), the free longitudinal adjacent edge margins 20 and 21 of the bottom and top panels respectively may be coated with longitudinally extending sealing bands 22 and 23 of adhesive material. The upwardly facing transverse edge marginal surfaces of top panel 19 are also provided with transverse sealing bands 24 of adhesive material which coincide with and directly overlie the transverse bands 16 on the bottom panel and which may have approximately the same width.

The sealing bands 16, 22, 23 and 24 are preferably made with an adhesive compound or material which has pressure-type, self-sealing characteristics, and which does not adhere to or seal against surfaces which do not carry the adhesive material. Such a self-sealing adhesive material is well known and may be a rubber latex compound.

After the sealing bands of adhesive have been applied to the folded strip, the folded strip may be formed into a roll 25 of suitable length to provide a supply of wrapping material which may be conveniently mounted on a wrapping table and from which individual wrapping means 13 may be cut. It will be noted that since the sealing bands are self-sealing and do not adhere to material other than itself, the turns in the supply roll will not adhere to each other so that wrappings may be readily unrolled from the supply roll.

In Figs. 6 and 7, the method of wrapping a vertical stack 14 of relatively large sheet material with the wrapping means 13 and protective covering of this invention is shown. A wrapping means 13 is withdrawn from the roll 25 and severed from the roll along the cutting line A (Fig. 3). The cutting line A passes through the center of the transverse sealing bands 16 and 24 so that each wrapping means 13 is provided with sealing bands 16' and 24' at transverse free end margins of the top and bottom panels. A supply of articles of sheet form to be wrapped may be located nearby so that a stack of a plurality of sheets may be moved upon the bottom panel after the top panel has been lifted upwardly (Fig. 6) to permit such insertion of the sheet material between

the panels. The stack of sheets may be positioned with one longitudinal edge approximately in alignment with fold line 17 of the wrapping means. In this position it will be noted that when the top panel is drawn tightly over the vertical stack 14 of sheets, the free longitudinal edge margin of the top panel is adjacent to the opposite longitudinal edge of the vertical stack. The longitudinal edge margin 20 of the bottom panel is then folded upwardly (Fig. 8) so as to bring sealing band 22 thereon into face-to-face sealing contact with band 23 on the top panel. Application of pressure to the contacting sealing bands will cause the bands to adhere tightly to each other and to maintain the wrapping means 13 tightly against the stack.

It will be noted that the free transverse edge margins of the top and bottom panels extend beyond the edge faces of the vertical stack. The transverse edge margin 24' at each end of the top panel may be folded downwardly against the edge face of the stack (Fig. 9). The transverse edge margin of the bottom panel may then be folded upwardly so as to bring the sealing bands 16' and 24' of adhesive material into sealing contact. Any suitable tuck or fold may be provided at the end corners of the stack.

It will thus be readily apparent that the vertical stack 14 of articles of sheet form is now completely enclosed and wrapped within a wrapping which protects all external surfaces thereof. Since the wrapping may be easily drawn tightly about the stack both laterally and longitudinally, the vertical stack is held in assembly by the wrapping means and may be readily handled as a unit. It will thus be readily apparent that simple, effective and easily handled wrapping for large sheet-like articles of rigid, semirigid, rectangular, flat, thin material has been provided by the wrapping means and protective covering of this invention.

In the modification of this invention shown in Figs. 10 and following, a wrapping means 30 is provided with reinforced, longitudinal edge margins of multiply section of material so as to protect edges of an article to be wrapped by providing additional thickness of material.

The wrapping means 30 may comprise an elongated strip of suitable paper stock material providing a top panel 31 and a bottom panel 32. In this example, the top panel 31 is joined along one longitudinal edge portion to a longitudinal edge portion of bottom panel 32 by any suitable adhesive means. A multiply section is provided by overlapping the longitudinal edge portions sufficiently to extend over and beyond the edge thickness of an article to be wrapped. To facilitate wrapping, the overlapping edge portions may be prescored as at 33 and 34.

The bottom panel 32 may be of substantially greater width than the width of the article to be wrapped. Longitudinal edge portion 35 may be overfolded about a longitudinal line to provide a multiply section of material likewise having a width greater than the depth of the sheet article to be wrapped. This multiply section of material may be longitudinally prescored as at 36 and 37 to facilitate wrapping. The overfolded edge portion 35 may be adhesively secured to the bottom panel 32 if so desired.

Wrapping means 30 so folded and prescored may be provided with longitudinally extending bands of adhesive material 38 and 39 at free edge margins of the top and bottom panels, respectively, said adhesive bands being applied in any suitable manner. Transverse adhesive bands 40 and 41 may be applied respectively to the top and bottom panels in longitudinally spaced relation as in the prior embodiment. In folded relation of panels 31 and 32, all of the adhesive bands face in the same direction.

In this modification a sheet article to be wrapped may be positioned on top of bottom panel 32 with one edge thereof against the score line 33. The free longitudinal

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edge margin of bottom panel 32 may then be folded over the article so that adhesive band 39 lies on top of the article and score lines 36 and 37 are disposed at corners of the edge face of the article to be wrapped. The top panel 31 may then be drawn directly over the article until the adhesive band 38 lies over adhesive band 39. The two adhesive bands 38 and 39 may then be pressed together for securing the wrapper.

The end faces of the article to be wrapped may be enclosed by first upwardly folding the transverse end margins of the bottom panel so as to present in outwardly facing relation the transverse adhesive bands 41 provided thereon. The transverse end margins of the top panel bearing transverse adhesive bands 40 may then be folded downwardly into self-sealing contact with the bands 41 in a manner similar to that described in the prior modification.

It will thus be readily apparent that the wrapping means 30 thus provides reinforced multiply peripheral edges enclosing the article wrapped. It is understood that various other arrangements of wrapping means may be employed whereby multiply sections of paper stock material may be employed for reinforcing the peripheral of the article.

It will be understood that the wrapping means 13 and 30 described above may be made with the transverse bands of adhesive omitted and with only the longitudinally extending bands on free marginal edge portions of the top and bottom panels. Such a wrapping means may be desirable when it is not necessary to completely enclose the ends of the article to be wrapped. Such a wrapping means may be placed around an article in the manner described above and the bands of self-sealing adhesive means brought into face-to-face contact in order to secure the wrapping means.

All changes and modifications coming within the scope of the appended claims are embraced thereby.

I claim:

1. A wrapping means for an article of sheet form having a thickness greater than the thickness of the wrapping means comprising: a strip of compliant wrapping material longitudinally folded to provide a bottom panel and an overlying top panel of less width than the bottom panel, both panels being coextensive in length, said top panel defining a longitudinal margin on the bottom panel lying in side by side relation with a free longitudinal margin on said top panel; and sealing bands of self-sealing adhesive material on upwardly facing free longitudinal and transverse edge margins of each panel whereby said bands may be brought into cooperative sealing contact by folding of the edge margins when an article is inserted between said panels.

2. A wrapping means for a flat, rectangular article comprising: an elongated strip of compliant wrapping material having a thickness less than the thickness of the article longitudinally folded to provide a pair of panels lying in face-to-face relation and being coextensive in length; one panel being of less width than the other panel; said panels having free longitudinal marginal surfaces in adjacent side by side relation; bands of self-sealing adhesive means on longitudinal marginal surfaces of the panels and on transverse edge margins of the panels, said sealing bands being on surfaces of the panels facing in the same direction.

3. A supply roll of wrapping means of preselected lengths for protectively covering rigid, flat, articles of sheet form having a selected thickness comprising: a strip of elongated, compliant wrapping material longitudinally folded along a line and providing panels of unequal width in overlying relation with longitudinal marginal surfaces thereon in adjacent side by side relation; both panels being coextensive in length; longitudinally extending bands of self-sealing adhesive material on longitudinal marginal surfaces of said panels; longitudinally spaced

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transverse bands of self-sealing adhesive material on each panel joined with the longitudinal bands, said bands of self-sealing adhesive material being on the same corresponding faces of said panels whereby the supply roll is formed without adherence of said bands to said strip and whereby a wrapping means may be cut from said supply roll by cutting transversely along the center of a transverse band of adhesive material.

4. A wrapping means and protective covering for articles of sheet form having a thickness greater than the thickness of the wrapping means comprising: a longitudinally folded strip of compliant wrapping material providing top and bottom panels coextensive in length, said panels being of unequal width and provided with free longitudinal marginal surfaces in adjacent side by side relation; and bands of self-sealing adhesive means on said free longitudinal surfaces and transverse marginal surfaces of both panels, said sealing bands being arranged for face to face sealing contact when articles are wrapped and said marginal surfaces in wrapping position are faced in opposite directions.

5. A wrapping means comprising a rectangular strip of compliant wrapping material having parallel longitudinal and transverse edges, said strip being folded about a line parallel to one of said edges to form at least two panels in face to face relation with one panel of less width than the other panel and defining on said other panel an exposed longitudinal marginal surface of predetermined width, both panels being coextensive in length, said panels in folded relation presenting adjacent side by side longitudinal edge marginal surfaces facing in the same direction; longitudinal bands of self-sealing adhesive material on said longitudinal marginal surfaces; and transverse aligned bands of self-sealing adhesive material at transverse marginal surfaces facing the same direction; whereby the wrapping means may be folded at said longitudinal and transverse margins about an article to be wrapped to bring the bands of self-sealing adhesive material into face to face pressure sealing contact.

6. A wrapping means as stated in claim 5 wherein said strip of wrapping material at the longitudinal fold line includes a multiply section of material which extends transversely a distance greater than the thickness of the article to be wrapped; and a multiply section of wrapping material at the longitudinal edge marginal surface of one of said panels and extending laterally for a distance greater than the thickness of the article to be wrapped, said multiply sections being transversely spaced approximately the width of the article to be wrapped whereby peripheral edges of the wrapped article are enclosed in multiply wrapping material.

7. A wrapping means as stated in claim 6 wherein the multiply section at the longitudinal edge marginal surface of one panel comprises an overfolded longitudinal edge portion of said panel.

8. A wrapping means as stated in claim 6 wherein the multiply section at the longitudinal fold line includes overlapped edge portions of said panels.

9. A wrapping means for articles of sheet form having an aggregate thickness greater than the thickness of the wrapping means comprising: a longitudinally folded strip of compliant wrapping material providing top and bottom panels coextensive in length and provided with free longitudinal marginal surfaces terminating in free longitudinal edges, said top and bottom panels being of unequal width and having said free longitudinal edges disposed in lateral parallel spaced relation; and sealing bands of adhesive material adherent to like adhesive material on said free longitudinal marginal surfaces and on transverse marginal surfaces of both panels, said sealing bands having face-to-face sealing contact when articles are wrapped.

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