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Newman

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[54] **FLEXIBLE CLOSURE FOR LOG STEAMING VAT**

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[73] Assignee: **Yakima Tent and Awning, Co., Ltd.**, Yokima, Wash.

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[52] **U.S. Cl.** **160/354**, 160/243, 160/264

[51] **Int. Cl.** **A47h 23/00**

[58] **Field of Search** 160/DIG. 8, 354, 160/264, 243

[56] **References Cited**

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Primary Examiner—Peter M. Caun

Attorney—B. P. Fishburne, Jr.

[57] **ABSTRACT**

A free-hanging flexible closure for the discharge end of a log steaming vat retains steam in the vat while permitting logs to roll from the vat without damage to the closure. The closure is constructed to resist the corrosive effects of steam, petroleum and acids and is also highly resistant to scuffing and chafing caused by contact with the rolling logs. It is weighted so that it will normally and automatically assume a vat-sealing position.

1 Claim, 5 Drawing Figures

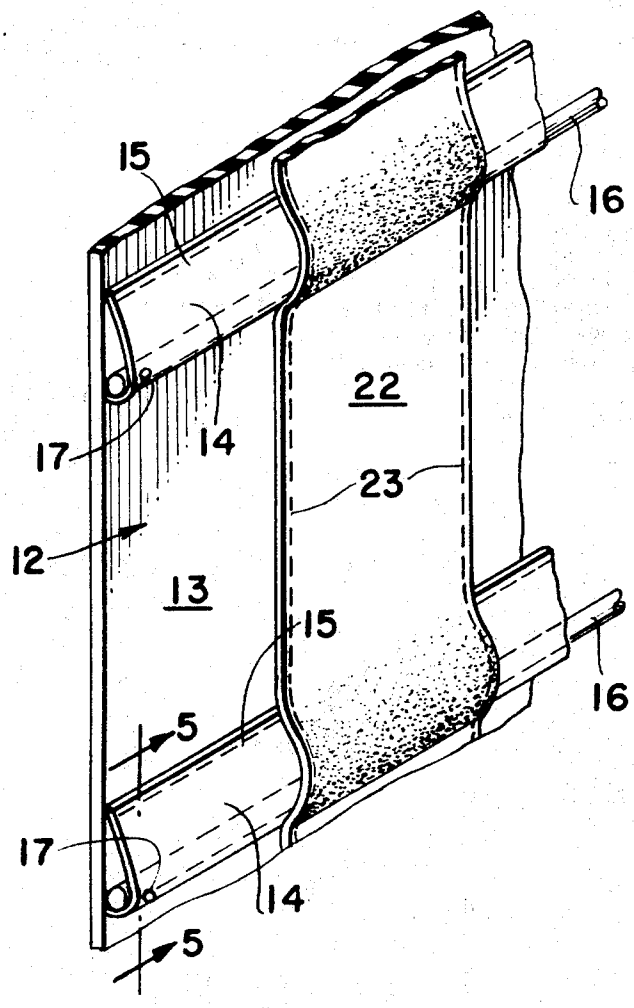


FIG. 1.

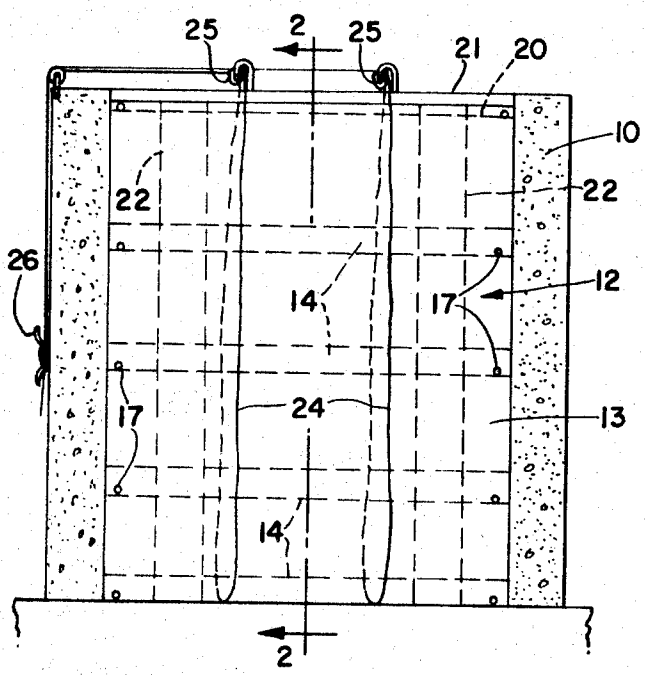


FIG. 2.

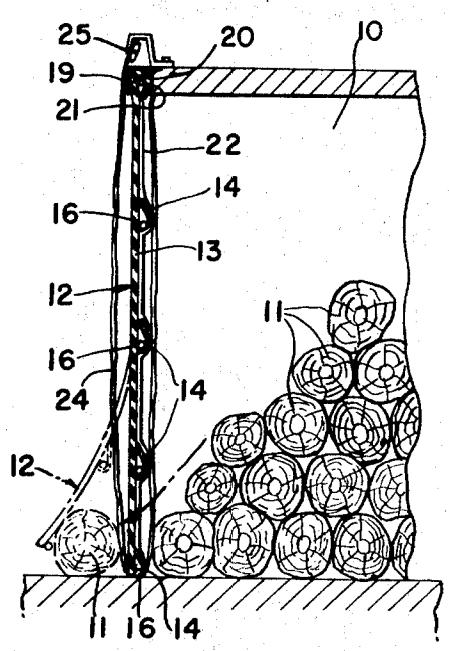


FIG. 3.

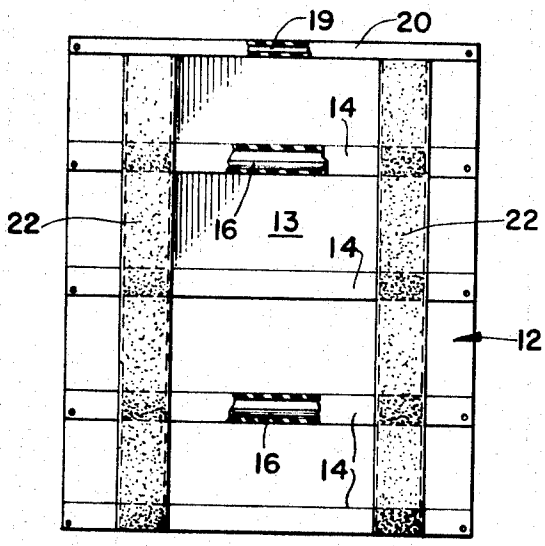


FIG. 4.

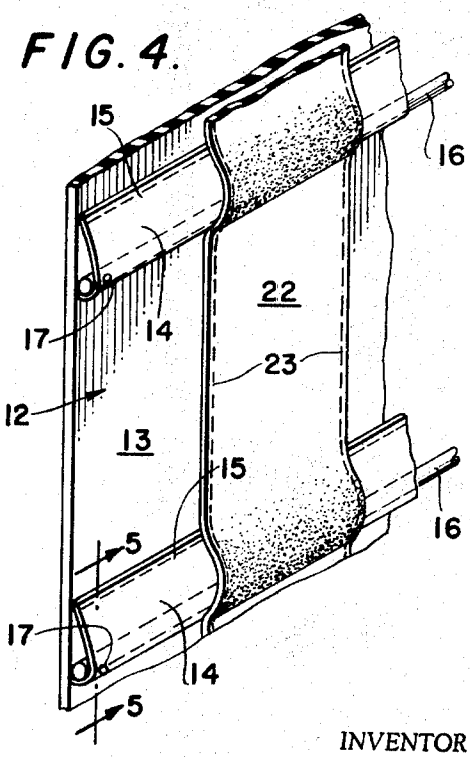
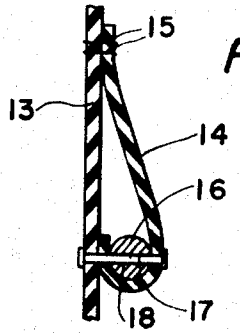


FIG. 5.



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FLEXIBLE CLOSURE FOR LOG STEAMING VAT

In the lumber industry, it is necessary to subject logs to a deep steaming process prior to milling or peeling for plywood. The logs are fed into one end of a steaming vat or kiln and are gradually forced to roll out of the discharge end of the vat at the end of the steaming process. A problem arises in providing an effective steam retaining closure for the open discharge end of the vat while at the same time allowing the free discharge of the steamed logs. Without an effective closure, the loss of steam will render the steaming process ineffective and uneconomical. At the same time, a closure must be devised that will not interfere with the free discharge of logs at the exit end of the vat after steaming and the closure must have the capability of withstanding repeated contact with the rolling logs without damage. The above need of the art has given rise to the present invention which successfully meets all of the above requirements in terms of an efficient and economical flexible closure having the necessary corrosion and abrasion resistant characteristics and being capable of opening in response to contact with a rolling log, followed by automatic return to a steam sealing closed position.

Other features and advantages of the invention will be apparent during the course of the following detailed description.

BRIEF DESCRIPTION OF DRAWING FIGURES

FIG. 1 is an exterior side elevation of a closure for log steaming vats embodying the invention.

FIG. 2 is a fragmentary vertical section taken on line 2—2 of FIG. 1.

FIG. 3 is an interior side elevation of the closure partly in section.

FIG. 4 is an enlarged fragmentary perspective view of the closure.

FIG. 5 is an enlarged fragmentary vertical section taken on line 5—5 of FIG. 4.

DETAILED DESCRIPTION

Referring to the drawings in detail, wherein like numerals of reference designate like parts, the numeral 10 designates a steaming vat, kiln or tunnel in which logs 11 are steamed prior to milling or peeling for plywood. After steaming, the logs individually tumble and roll from the discharge end of the vat 10 as depicted in FIG. 2 of the drawings.

The invention proper comprises a flexible corrosion and abrasion or scuff resistant closure 12 for the discharge end of the vat 10, the closure essentially being free-hanging and unattached at its lower end so as to open and close automatically in response to contact with the rolling logs 11.

The closure 12 comprises a flexible rectangular sheet body portion 13 of rubberized nylon which is resistant to the corrosive action of steam, moisture, acids and petroleum or the like. It is also resistant to abrasion, chafe or scuffing due to contact with the rolling logs. The body portion 13 is highly resistant to tearing and is generally very strong and tough.

The body portion 13 of the closure carries on its interior side a plurality of equidistantly vertically spaced parallel horizontal pocket-forming strips 14, with one such pocket-forming strip arranged at the bottom of the closure and the others arranged thereabove, as shown. The number of pockets may be varied depending upon the height of the vat 10. Four pockets 14 is a typical number, as illustrated. The strips 14 forming the pockets are preferably formed of the same material used to produce the body portion 13 and are secured to the body portion by a combination of stitching 15 and vulcanizing.

Each pocket 14 receives a weight element in the form of a plated steel bar 16, such as a one inch diameter bar, which extends for the entire length of the pocket and is secured therein at the opposite ends of the pocket by a retainer pin 17 received by openings 18 in each bar and by registering openings in the body portion 13 and pocket-forming strip 14, FIG. 5.

A closure suspension bar or rod 19, preferably of lesser diameter than the bars 16, is secured within a top hem 20 of the closure 12 and this hem with the suspension bar 19 is firmly clamped within a sturdy channel member 21 extending horizontally across the frontal edge of the top wall of the vat. The flexible closure 12 is of sufficient length to allow the lowermost pocket 14 and bar 16 to substantially contact the ground when in a free-hanging condition, FIG. 2. At this time, the side edges of the closure will be substantially taut and the discharge end of the vat 10 will be effectively sealed around its entire rectangular margin by the weighted closure.

In order to render the closure further strong and resistant to damage caused by contact repeatedly with the rolling logs 11, at least a pair of chafe or scuff resistant parallel vertical strips 22 of the same material used for the elements 13 and 14 are secured to the interior side of the closure. The strips 22 may be attached to the body portion 13 with stitching 23 and also by vulcanizing. All thread to stitch the pockets 14 and wear-resistant strips 22 are formed of nylon or the like. The strips 22 extend over the pockets 14 transversely on the interior side of the closure in the manner shown most clearly in FIG. 4. The pockets 14 themselves also help to reinforce the flexible closure on its interior face.

As shown in FIGS. 1 and 2, any conventional means may be employed to facilitate raising and lowering of the flexible closure 12 at desirable times. Such means may be mechanical or manual. As illustrated, the means may comprise lifting and lowering cords 24 looped about the lower end of the closure 12 and trained over guide sheaves 25 at the top of the structure and extending to a suitable cord anchoring device 26 at a convenient location.

In use, the heavily weighted free-hanging flexible closure will remain normally closed so as to seal steam in the vat 10. When each log 11 rolls from the exit end of the vat 10, it will strike the closure 12 and the same will yield and automatically open to permit the discharge of the log, this operation being shown in broken lines in FIG. 2. After the passage of the log, the closure will return automatically to the sealing position under the influence of gravity. The materials employed for the closure, namely rubberized nylon or equivalent materials and synthetic thread, are highly resistant to corrosion and deterioration in the required environment and the mechanical construction of the closure is extremely strong, tear-resistant, and scuff or abrasion resistant, as explained. The closure is extremely effective in meeting the needs of a particularly troublesome situation in the industry and the advantages of the device should now be readily apparent to those skilled in the art.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or scope of the subjoined claims.

I claim:

1. A closure for a log steaming vat comprising a free-hanging flexible sheet body portion formed of rubberized nylon, plural vertically spaced horizontal pocket-forming strips secured to the interior side only of said sheet body portion and forming therewith open-ended pockets which extend for the full width of the sheet body portion, weight bars disposed in the bottoms of said pockets, retainer pins for the weight bars extending transversely through said bars, pockets and sheet body portion near opposite ends of the pockets, said pocket-forming strips being of substantial width and extending considerably above the weight bars and forming reinforcements on the interior side of said sheet body portion, and plural vertically extending laterally spaced parallel wide wear-resistant strips on the interior side of said sheet body portion and extending continuously from top-to-bottom thereof and crossing over said pocket-forming strips and being secured thereto in right angular relationship forming therewith a wear-resistant gridwork of wide strips on the interior side of the sheet body portion, said reinforcing gridwork including double thickness regions at the crossing areas of the pocket-forming and wear-resistant strips.

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