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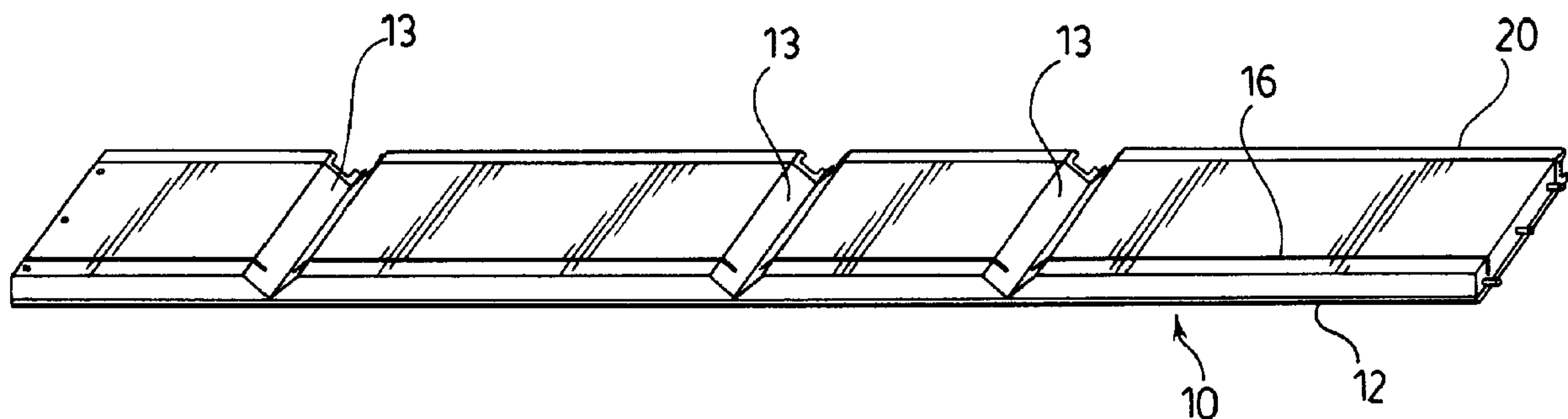
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(54) Title: METHOD OF MANUFACTURING A DRAWER BOX WITH A FILE HANGING SYSTEM



(57) **Abrégé/Abstract:**

A method of manufacturing a drawer box having an integrated file hanging system. A hanger track is provided with a barbed mounting rib for engagement into a groove cut into the long edge of a blank. A vinyl laminate is applied to the blank over the top edge and the face that will become the exterior face of the drawer box and the hanger track is pressed into the groove. The drawer blank is processed through the V-groover with the hanger track already in position along the top edge, to mitre the drawer track at the same time as the drawer sides. In the preferred embodiment a bead is formed along the top edge of the mounting track and the cross bar is provided with a complementary hook structure, so that it can be positively engaged to the mounting track.

ABSTRACT

A method of manufacturing a drawer box having an integrated file hanging system. A hanger track is provided with a barbed mounting rib for engagement into a groove cut into the long edge of a blank. A vinyl laminate is applied to the blank over the top edge and the face that will become the exterior face of the drawer box and the hanger track is pressed into the groove. The drawer blank is processed through the V-groover with the hanger track already in position along the top edge, to mitre the drawer track at the same time as the drawer sides. In the preferred embodiment a bead is formed along the top edge of the mounting track and the cross bar is provided with a complementary hook structure, so that it can be positively engaged to the mounting track.

METHOD OF MANUFACTURING A DRAWER BOX WITH A FILE HANGING SYSTEM

Field of the Invention

This invention relates to furniture. In particular, this invention relates to a
5 method of manufacturing a drawer box having an integrated file hanging system.

Background of the Invention

File hanging systems are commonly used in desks and similar articles of
furniture. A conventional file hanging system is designed to support a so-called
“hanging folder,” which is typically a cardboard folder having upper edges provided
10 with hooks for suspending the folder. The upper edge of a drawer is fitted with a
mountable track, on which the hanging folder hooks can be mounted width-wise
across the drawer, to suspend a folder having a length corresponding to the width of
the drawer (typically an 11 inch folder). Moreover, to accommodate different sizes of
folders, a cross rail can be mounted to the track across the top of the drawer, and
15 positioned to receive hooks from a folder that is too large to hang width-wise across
the drawer (for example, a 14 inch folder). A number of hanging folders are thus
suspended in the drawer from the track, to create a convenient filing system.

One known method of manufacturing drawer boxes for such a filing
system is to cut a flat blank of wood having a width equal to the intended height of the
20 drawer, a length that is the sum of the lengths of the four sides of the drawer box, and
a floor groove adjacent to the long side running along the length of the blank. The side
of the blank opposite the floor groove is laminated with a flexible plastic (e.g. vinyl)
sheet. The blank is positioned with the laminated side down, and processed through a
“V-groover” which cuts a series of three 90° V-grooves through the blank, without
25 damaging the vinyl laminate, corresponding to the positions of three of the four
drawer box corners, and the end edges of the blank (which will be joined together to
form the fourth corner) can be left squared to form a butt joint using drilled holes and
dowels, or optionally mitred.

The drawer can thus be readily assembled by inserting a floor panel into
30 the floor groove and folding the blank around the floor panel to form the drawer box.

The joint along the abutting end edges is stapled, glued or otherwise secured to complete the drawer box. The plastic sheet holds the drawer box sides in place, and a hanger track is applied around the top edge of the drawer. A cross rail is typically taped to the bottom of the drawer for storage and shipping to the distributor or
5 customer, so that the purchaser has the option of hanging folders larger than the width of the drawer.

This conventional manufacturing method involves a number of additional steps to assemble and mount the file hanger track, including cutting the hanger track to length, carefully mitring the end of each length of hanger track (where aesthetic
10 appearance is important), and affixing the hanger track to the upper edges of the drawer box. This method also requires the extra step of taping the cross bar to the inside of the drawer. As these steps are typically carried out manually, over the manufacture of hundreds or thousands of drawers these extra steps can involve a considerable amount of labour and associated cost to the manufacturer. Further, the
15 cross bars can be lost or stolen, or become dislodged in the drawer during shipping so that it scratches or mars the inside of the drawer box. Also, because the cross bar merely sits loosely on the hanger track when mounted, when in use there is a tendency for the cross bar to shift under the momentum of the hanging files as the drawer suddenly comes to a stop when closed, which can cause the hanging folders to
20 become dislodged from the cross bar and fall into the drawer, potentially spilling out the contents of the files.

Summary of the Invention

The present invention addresses these disadvantages by providing a method of manufacturing a drawer box having an integrated hanger track, and a
25 drawer box according to the method. In accordance with a preferred embodiment of the invention, the hanger track is provided with a longitudinal mounting rib, preferably barbed, for engagement into a track mounting groove cut into the long edge of the blank that will become the top edge of the drawer box. The vinyl laminate is applied to the blank over the face that will become the exterior face of the drawer box
30 and the top edge, and the hanger track is pressed into the groove in one piece. The

drawer blank is then processed through the V-groover, with the hanger track already in position along the top edge, so that the V-groover mitres the drawer track at the same time as the drawer sides, to thus provide an exact matching mitred finish to the assembled drawer box. At the same time this avoids the extra steps of mitring and
5 installing the hanger track.

Moreover, using the method of the invention the hanger track is more firmly mounted to the drawer, because as the mounting rib tears through the vinyl laminate, it folds the vinyl laminate back against the sides of the mounting groove. The vinyl flap intruding into the track groove both cooperates with the barbed
10 mounting rib to more securely affix the mounting track to the drawer, and augments the integrity of the mounting groove (particularly in a material such as particle board) because the vinyl sheet buttresses the sides of the grooves to resist disintegration and provide a spline-like seal between the mounting rib and the mounting groove.

In the preferred embodiment a bead is formed along the top edge of the
15 mounting track and the cross bar is provided with a complementary hook structure, so that it can be positively engaged to the mounting track, as opposed to merely resting on the mounting track as in the prior art, to resist dislodgement and shifting during use.

The present invention thus provides a method of manufacturing a drawer
20 box from a drawer box blank and a track having at least one side wall for suspending a folder and at least one mounting rib for engaging the drawer box blank, comprising the steps of: a. providing a groove along an edge of the drawer box blank, for receiving the mounting rib, b. applying a flexible sheet to a face of the drawer box blank to produce a laminated face and to the edge, c. inserting the mounting rib into
25 the groove, d. forming right angled V-grooves through a face of the drawer blank opposite the laminated face, leaving the flexible sheet intact, and through the track, at positions corresponding to three corners of the drawer box, and e. assembling the drawer box by affixing a floor panel to the blank, folding the blank along the V-grooves and affixing the outer ends of the blank together.

In a further aspect of the method, the flexible sheet tears along the groove and folds into the groove and is engaged by the mounting rib.

The present invention further provides a drawer box assembled from a track having at least one side wall for suspending a folder and at least one mounting
5 rib, and a drawer box blank having a groove along an edge for receiving the mounting rib and a flexible sheet applied over a face of the drawer box blank to produce a laminated face and over the edge, and a series of right angled V-grooves formed through a face of the drawer blank opposite the laminated face, leaving the flexible
10 sheet intact, and through the track, at positions corresponding to three corners of the drawer box, whereby the drawer box is assembled by affixing a floor panel to the blank, folding the blank along the V-grooves and affixing the outer ends of the blank together.

In a further aspect of the drawer box the flexible sheet intrudes into the groove and is engaged by the mounting rib.

15 Brief Description of the Drawings

In drawings which illustrate by way of example only a preferred embodiment of the invention,

Figure 1 is a schematic side elevation of a drawer box blank being mitred by a V-groover;

20 Figure 2 is a perspective view of the drawer box blank of Figure 1 after mitring;

Figure 3 is an end elevation of the hanger track;

Figure 4 is a schematic top plan view showing the hanger track being applied to the mounting groove

25 Figure 5 is an enlarged cross-sectional elevation of the hanger track lodged in the mounting groove;

Figure 6 is a perspective view of the partially assembled drawer box.

Detailed Description of the Invention

According to a preferred embodiment of the invention, a drawer box blank 10, shown in Figures 1 and 2, is provided with a floor groove 16 extending along one face parallel and adjacent to the edge that will become the bottom edges of the drawer box walls. A mounting groove is cut along the edge that will become the top edge of the drawer box. A laminate 12, for example a plastic sheet such as vinyl, is applied by any suitable means to the face of the drawer box blank 10 opposite the face containing the floor groove 16. The laminate 12 may be applied over the entire blank 10, but need only be applied over a substantial portion of the face of the blank 10 that will become the exterior of the drawer box and the edge of the blank 10 that will become the top edge of the drawer box (best seen in Figure 5). The drawer box blank 10 may be composed of any suitable material, typically particle board or the like.

A preferred embodiment of the hanger track 20, illustrated in Figures 3 and 5, comprises a base 22 from which projects at least one sidewall 24 (two sidewalls 24 are provided in the embodiment shown, for convenient installation, but only one sidewall 24 is required to support the hanging folders). The sidewall 24 preferably has a return lip or flange 26, for reasons that are described below. Projecting from the bottom surface of the base 22, preferably centrally, is a mounting rib 30. The mounting rib 30 preferably has a ribbed or barbed profile, to facilitate engagement with the mounting groove 14 in a manner that will resist dislodgement. The rib 30 is preferably continuous along the length of the track 20, but does not need to be.

The track 20 may be installed into the track mounting groove 14 as illustrated in Figure 4, by inserting one end of the rib 30 into one end of the groove 14 at an angle, and running the blank 10 and track 20 through a gate 50 which presses the track 20 against the edge of the blank 10 to force the rib 30 into the groove 14. As the mounting rib 30 is inserted into the mounting groove 14, the rib 30 tears through the plastic laminate layer 12, folding down a flap 13 of plastic laminate down each side along the length of the mounting groove 14, as shown in Figure 5. This plastic laminate provides a secure base against which the barbs of the mounting rib 30 can

lodge, and at the same time protects the sides of the mounting groove 14 from disintegration (especially at the top edge surface, which is particularly weak) both during insertion of the mounting rib 30 and during use of the hanger track 20.

After the track 20 has been engaged to the drawer box blank 10, the blank 10 is positioned with the laminated face down and processed through a V-groover 2, as illustrated in Figure 1, which cuts 90° V-grooves 13 substantially through the drawer box blank 10 at the positions of three of the drawer box corners, while leaving the plastic laminate layer 12 intact. The 90° V-grooves 13 extend transversely across the entire blank and through the hanger track 20. By processing the drawer box blank 10 through the V-groover 2 with the hanger track 20 already mounted, the manufacturer can ensure an exact correspondence between the lengths of the hanger track pieces 20 and the lengths of the drawer box sides, and cleanly matching mitred corners.

The processed drawer blank 10 is then assembled as shown in Figure 6. The floor panel 18 is inserted into the floor groove 16 of one drawer box side, and the other drawer box sides are folded up and wrapped around the floor panel 18 until the ends of the drawer box blank 10 meet. Preferably the ends of the drawer box blank 10 are drilled and affixed together using dowels and glue, as shown in Figures 2 and 6. The plastic laminate layer 12 retains the other three drawer box corners against separation in the assembled drawer box.

A typical drawer is longer than the files that will be suspended in the drawer. Thus, in the preferred embodiment a cross rail 40 is provided, which allows the user to hang folders lengthwise in the drawer. The cross rail 30, illustrated in Figure 6, may be provided with a hook structure 42 complementary to the side wall 24 and return flange 26 of the mounting track 20. The cross bar 40 can accordingly engage the mounting track 20 in a snap fit relation, which both facilitates the storage and shipping of drawer boxes by allowing the cross bar 40 to be used as a handle to pick up the drawer, and prevents shifting of the cross bar 40 when the drawer is in use so as to resist dislodgement of the hanging folders 1 (shown in phantom in Figure 6).

Various embodiments of the present invention having been thus described in detail by way of example, it will be apparent to those skilled in the art that variations and modifications may be made without departing from the invention. The invention includes all such variations and modifications as fall within the scope of the
5 appended claims.

WHAT IS CLAIMED IS:

1. A method of manufacturing a drawer box from a drawer box blank and a track having at least one side wall for suspending a folder and at least one mounting rib for engaging the drawer box blank, comprising the steps of:
 - a. providing a groove along an edge of the drawer box blank, for receiving the mounting rib,
 - b. applying a flexible sheet to a face of the drawer box blank to produce a laminated face and to the edge,
 - c. inserting the mounting rib into the groove,
 - d. forming right angled V-grooves through a face of the drawer blank opposite the laminated face, leaving the flexible sheet intact, and through the track, at positions corresponding to three corners of the drawer box, and
 - e. assembling the drawer box by affixing a floor panel to the blank, folding the blank along the V-grooves and affixing the outer ends of the blank together.
2. The method of claim 1 in which, during step c., the flexible sheet tears along the groove and folds into the groove.
3. The method of claim 2 in which the flexible sheet folds into the groove along both sides of the groove.
4. The method of claim 3 in which step c. comprises the sub-steps of inserting one end of the rib into one end of the groove, and running the blank and track through a gate which presses the track against the edge of the blank to force the rib into the groove.
5. The method of claim 3 in which the outer ends of the blank are affixed together using dowels and glue.

6. The method of claim 3 in which, in step d., the V-grooves are formed simultaneously.
7. A drawer box assembled from a track having at least one side wall for suspending a folder and at least one mounting rib, and a drawer box blank having a groove along an edge for receiving the mounting rib and a flexible sheet applied over a face of the drawer box blank to produce a laminated face and over the edge, and a series of right angled V-grooves formed through a face of the drawer blank opposite the laminated face, leaving the flexible sheet intact, and through the track, at positions corresponding to three corners of the drawer box, whereby the drawer box is assembled by affixing a floor panel to the blank, folding the blank along the V-grooves and affixing the outer ends of the blank together.
8. The drawer box of claim 7 wherein the flexible sheet intrudes into the groove and is engaged by the mounting rib.
9. The drawer box of claim 8 wherein the mounting rib is barbed.
10. The drawer box of claim 8 wherein the track comprises a bead along a top edge of the side wall, whereby a cross bar having a complementary hook structure can be engaged to the mounting track to resist dislodgement and shifting during use.
11. The drawer box of claim 10 wherein the track comprises a pair of side walls.
12. The drawer box of claim 8 wherein the flexible sheet is composed of vinyl.
13. The drawer box of claim 8 wherein the drawer blank is composed of particle board.
14. The drawer box of claim 8 wherein the ends of the assembled drawer box are affixed together using dowels and glue.

FIG. 1.

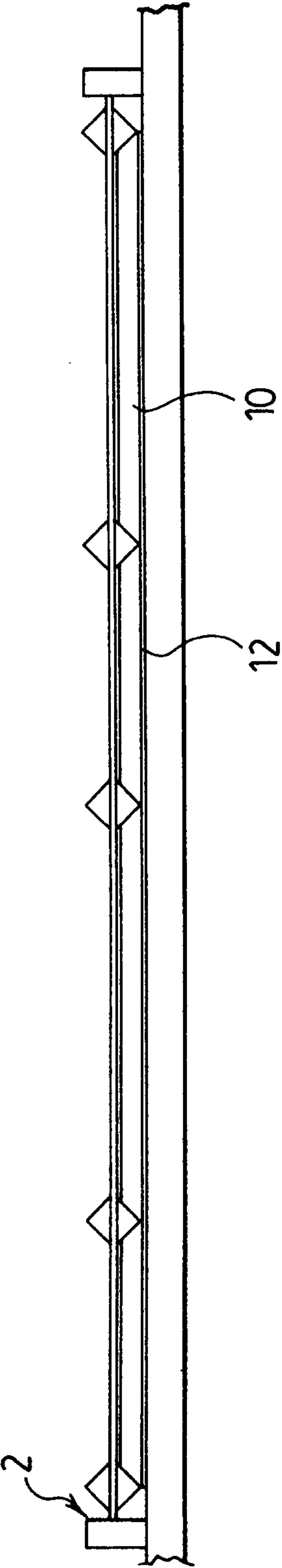


FIG. 2.

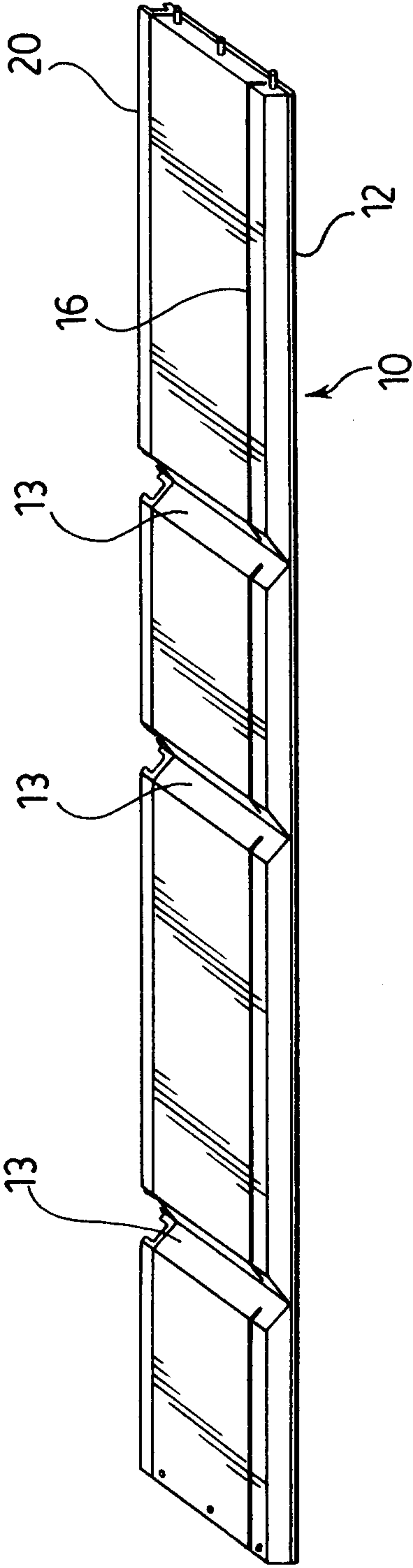


FIG. 3.

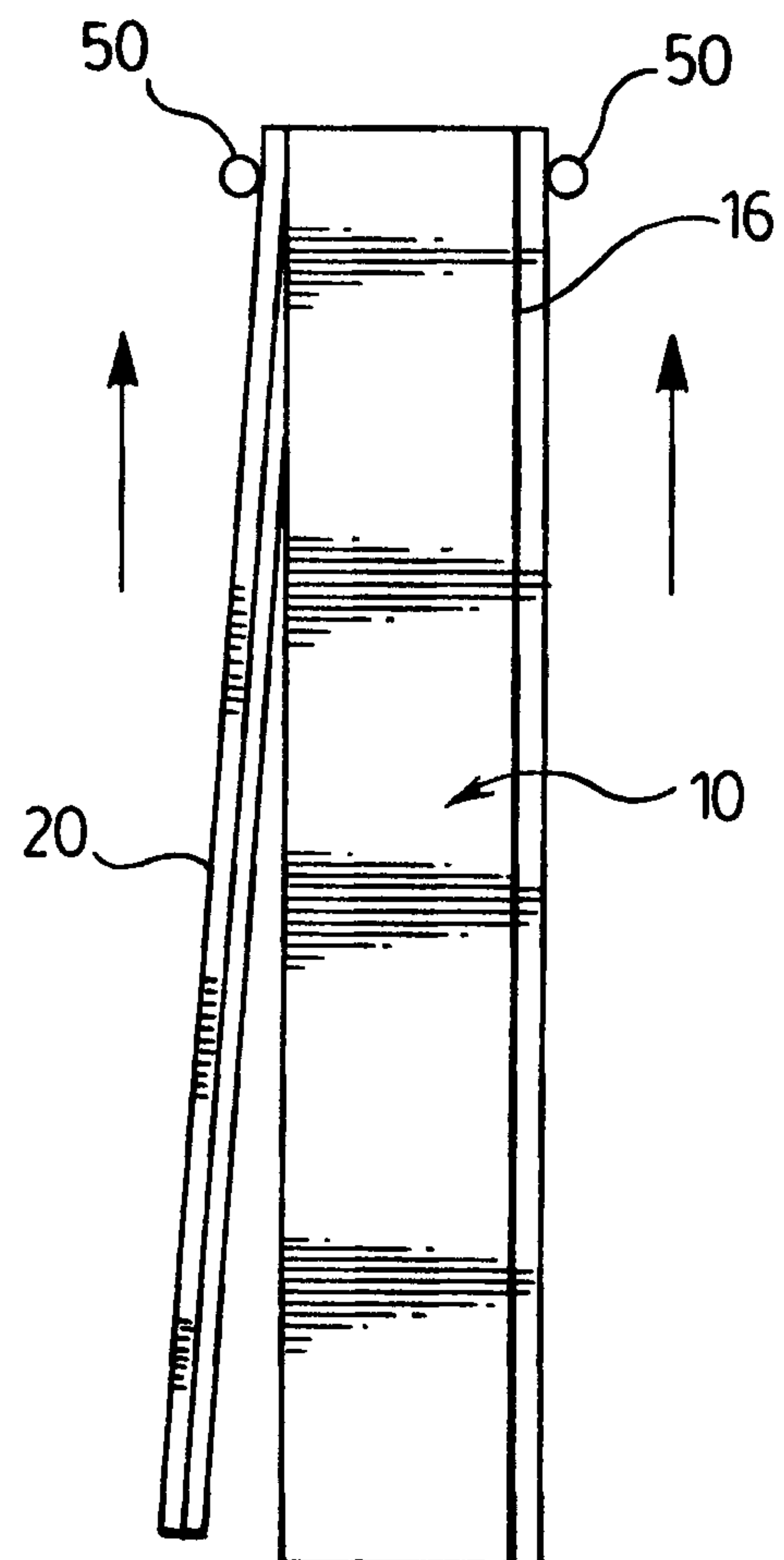
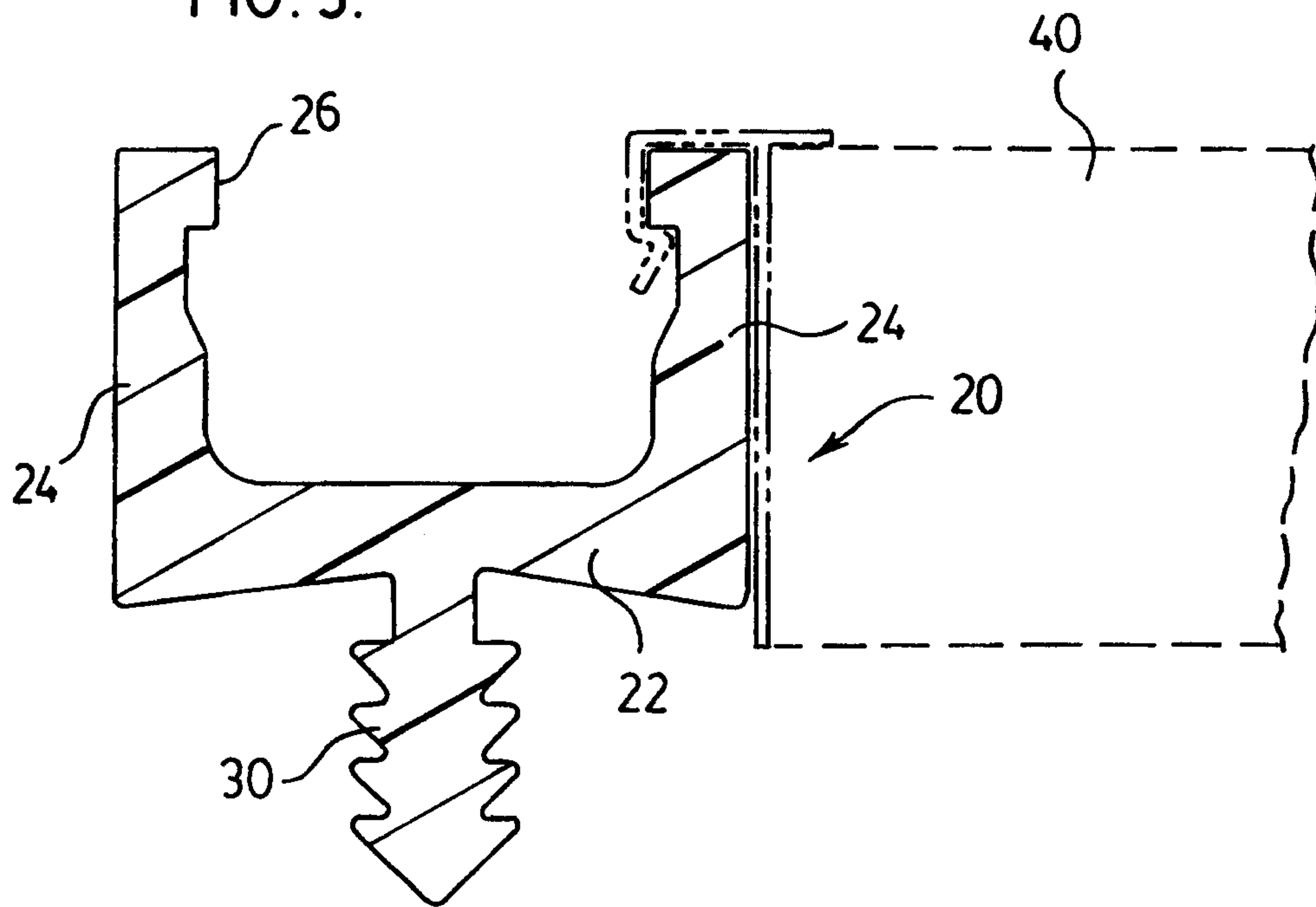


FIG. 4.

