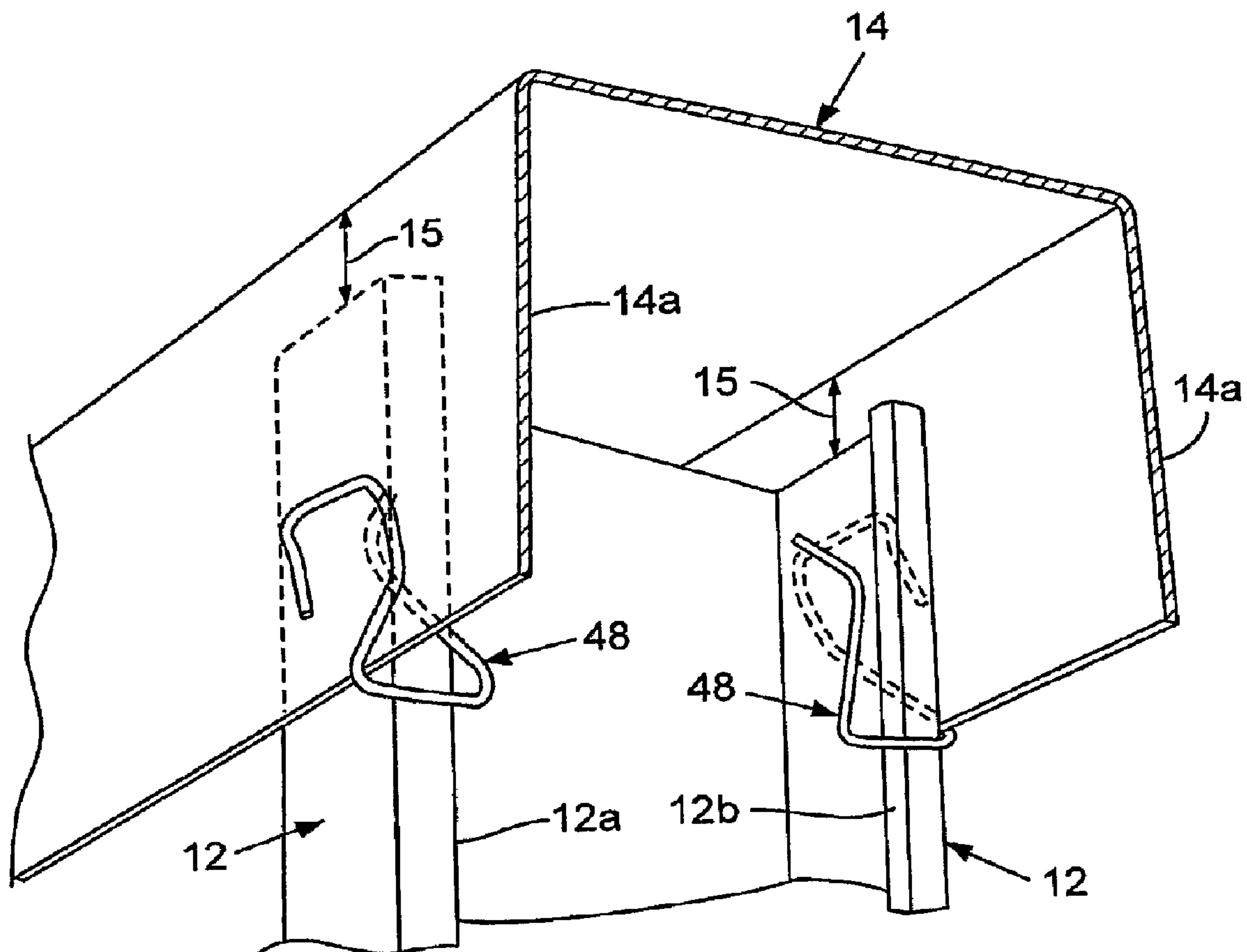




(86) Date de dépôt PCT/PCT Filing Date: 2007/02/16
(87) Date publication PCT/PCT Publication Date: 2007/08/30
(85) Entrée phase nationale/National Entry: 2008/08/01
(86) N° demande PCT/PCT Application No.: US 2007/004226
(87) N° publication PCT/PCT Publication No.: 2007/098072
(30) Priorités/Priorities: 2006/02/17 (US60/774,335);
2006/04/20 (US60/794,225); 2007/02/15 (US11/707,629)

(51) Cl.Int./Int.Cl. *E04C 5/16* (2006.01),
E04B 1/38 (2006.01), *E04C 5/00* (2006.01)
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(54) Titre : SYSTÈME DE CHASSIS MURAUX, PROCÉDE ET PRODUIT
(54) Title: WALL FRAMING SYSTEM, METHOD AND PRODUCT



(57) Abrégé/Abstract:

An improved system, method and product are disclosed for attaching non load-bearing metal wall studs to an overhead metal track in metal stud framing systems used for wall partitioning, in a manner that allows the overhead track to deflect under load without



(57) **Abrégé(suite)/Abstract(continued):**

transferring the load to the studs and any attached wall partitions. The system features compression spring attachment products that frictionally engage overlapping flange portions of the track and studs so that any overhead load-induced movements of the track are not transferred from the track to the studs, or to any wall partitions attached to the studs.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 August 2007 (30.08.2007)

PCT

(10) International Publication Number
WO 2007/098072 A3

(51) International Patent Classification:

E04B 1/38 (2006.01) **E04C 5/00** (2006.01)

(21) International Application Number:

PCT/US2007/004226

(22) International Filing Date:

16 February 2007 (16.02.2007)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/774,335	17 February 2006 (17.02.2006)	US
60/794,225	20 April 2006 (20.04.2006)	US
11/707,629	15 February 2007 (15.02.2007)	US

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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

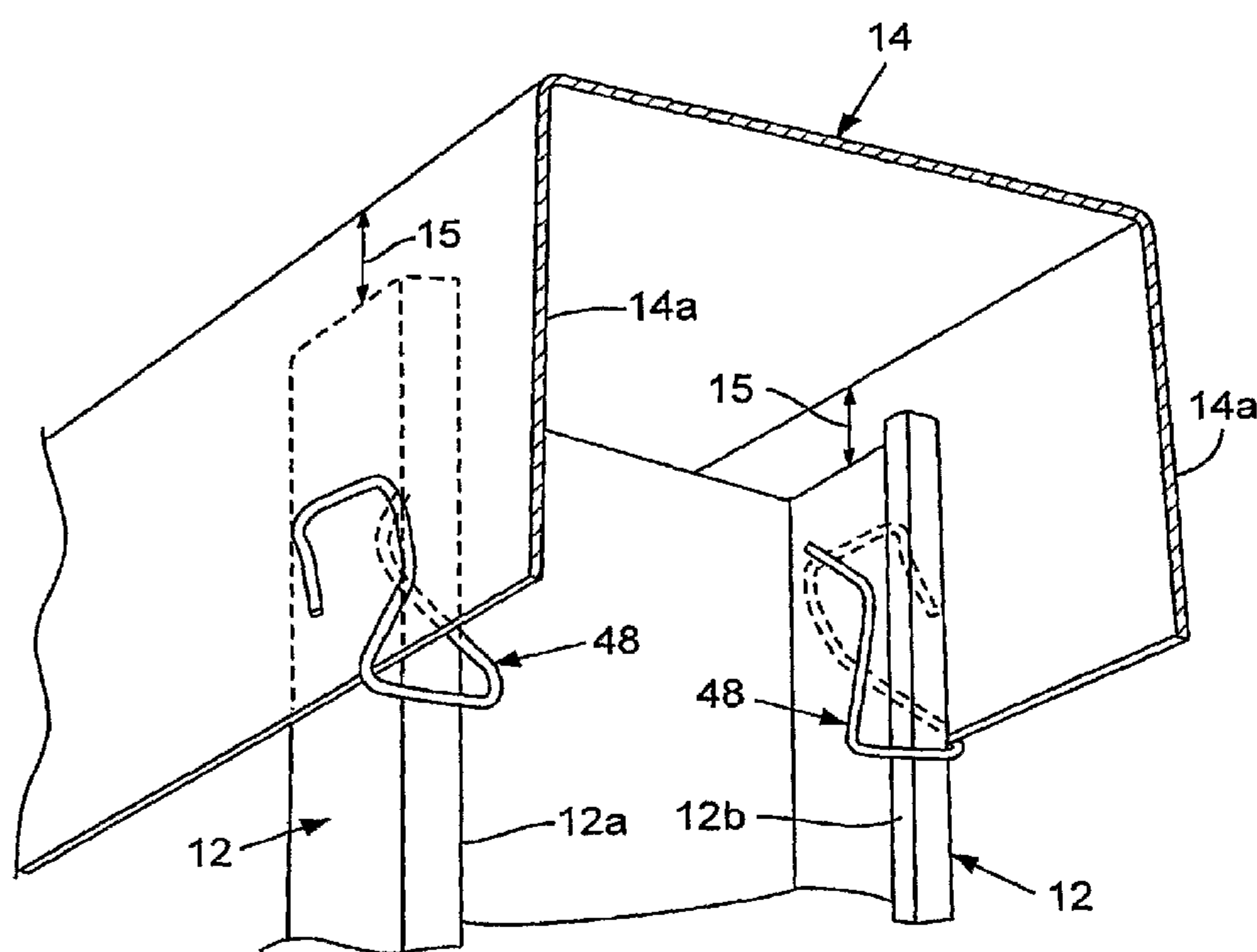
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

6 December 2007

[Continued on next page]

(54) Title: WALL FRAMING SYSTEM, METHOD AND PRODUCT



(57) Abstract: An improved system, method and product are disclosed for attaching non load-bearing metal wall studs to an overhead metal track in metal stud framing systems used for wall partitioning, in a manner that allows the overhead track to deflect under load without transferring the load to the studs and any attached wall partitions. The system features compression spring attachment products that frictionally engage overlapping flange portions of the track and studs so that any overhead load-induced movements of the track are not transferred from the track to the studs, or to any wall partitions attached to the studs.

WO 2007/098072 A3

WO 2007/098072 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WALL FRAMING SYSTEM, METHOD AND PRODUCT

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application
5 No. 60/774,335, filed February 17, 2006, and U.S. Provisional Patent Application
No. 60/794,225, filed April 20, 2006, and the U.S. Utility Application entitled
WALL FRAMING SYSTEM, METHOD AND PRODUCT, filed February 15, 2007
(Attorney Reference No. 7500-72795-05), all of which are incorporated herein by
reference.

10

FIELD

The present invention relates to wall framing, and more particularly, to an
improved attachment product, method, and system for attaching non-load-bearing
metal studs to overhead tracks of a wall framing system so that the overhead tracks
15 may deflect under load without transferring such load to their attached wall studs
and their connected wall partitions, thereby preventing damage to the partitions.
The present invention also includes a hand tool for facilitating interconnection of the
studs and tracks with the attachment product.

20

BACKGROUND

When metal studs are used to frame non-load-bearing walls, primarily in
multi-story commercial construction, often there is a code of engineering
requirement to allow for the deck above, as shown at 10 in Fig. 1, to be able to
deflect under load. Currently this is typically accomplished in one of two ways. In
25 both ways, the flanged metal studs 12, as shown in Figs. 1 and 2, are deliberately cut
short so that their upper ends do not abut the overlying load-bearing, deep-legged,
flanged metal track 14 by at least the required deflection distance 15. In one way,
the top track flanges, or deep legs, are vertically slotted to allow the screws that
attach the stud flanges to the track flanges to slide up and down to facilitate the
30 deflection of the track and its overlying attached deck when the deck is loaded. The
other way is to temporarily attach the shortened studs to the flanges of the deep leg
top track with sheet metal screws to hold the studs in place until just before the wall

finish material, i.e., the wall partitions, are installed. The screws should be removed before such partitions are installed.

The problem with the first-described method of attachment, using a slotted top track, is that such slotted top tracks are expensive to manufacture. On the other hand, the problem with using sheet metal screws to attach the studs to the track until just before the wall finish material is installed is that the hanging crews will often forget to remove the temporary screws, resulting in a code violation. This also potentially results in cracking or other damage to the wall partitions or other finish materials attached to the studs when loading of the connected overhead tracks is ultimately transferred from the overhead decking and tracks to the studs and their connected partitions or other wall finish materials.

SUMMARY OF THE INVENTION

The foregoing problems with prior wall track and stud attaching systems, methods, and products are overcome by the present invention, which eliminates the need for slotted tracks and eliminates the problem of forgetting to remove temporary screws. The present invention also saves the cost of labor in having to go back to the job site to remove screws that attach the wall studs to the overhead tracks after the wall partitions are installed. The present invention also eliminates the high cost of manufacturing slotted, deep leg flanged metal tracks, which may cost anywhere from three to ten times that of a normal, unslotted deep leg metal track.

In accordance with the present invention, a system, method and attachment product are provided whereby conventional deep leg metal tracks are connected to conventional foreshortened flanged metal studs using novel spring clip connectors. These spring clips permanently interconnect flanged wall portions of the foreshortened studs with a downwardly extending flange portion, or leg, of the overlying track in a manner that allows the track to deflect relative to the connected studs under load and then return to its normal unloaded position when relieved of such load. The clips of the invention are also designed to avoid conflict with the flange and return portions of typical metal wall studs.

Two principal illustrative embodiments of the invention are disclosed. In one embodiment, a so-called "deflection spring clip" (also referred to hereinafter as

a "deflection clip") has opposite end portions that pinch, or compress together, overlapping flange portions of an interconnected track and stud to interconnect the track and stud while allowing the track to deflect relative to the stud. The clip allows such deflection by allowing relative sliding movement of the overlapping flange portions of the track and connected stud while maintaining the interconnection of such flange portions.

According to a second principal embodiment, the spring clip features a coil spring that urges a clamp arm of the clip toward an opposed metal clamp plate. A lever arm of the clip is used to pivot the clamp arm of the clip away from such plate to allow overlapping flange portions of a track and stud to be inserted between the plate and clamp arm. When the coil spring urges the clamp arm against the overlapping flange portions of an interconnected track and stud, relative sliding movement to the flange portions is permitted to enable track deflection while the track and stud remain interconnected. This embodiment is referred to hereinafter as a "coil spring clip."

Both embodiments save time and money, with the deflection flat spring clip being the least expensive to produce.

With either embodiment, the clip will permanently interconnect the track and stud while allowing relative sliding movement between their overlapping flange portions when the track is under load.

Two illustrative embodiments of the deflection spring clip embodiment are disclosed herein. Both the deflection clips and the coil spring clips can be manufactured in various sizes to accommodate stud-and-track assemblies of various dimensions.

A primary object of the invention, therefore, is to provide a new and improved product, method and system for attaching conventional non-load-bearing flanged metal wall studs to conventional overhead tracks of a drywall framing system, without the need for modifying the studs or tracks to accommodate the attachment product, such that loads applied to the track will not be transferred to the studs and their connected wall partitions.

The primary object includes the goal of accomplishing the foregoing more efficiently, at a lower cost, and with more certainty than with prior such products, methods and systems.

5 **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a side elevational view of a portion of a track and stud assembly for a drywall framing system in accordance with the invention, the studs being interconnected to an overhead track by wire deflection spring clips, also in accordance with the invention, and as shown in detail in Figs. 5-9;

10 Fig. 2 is a vertical sectional view of the track and stud assembly of Fig. 1 taken along the line 2-2 of Fig. 1;

Fig. 3 is a sectional view taken along the line 3-3 of Fig. 2 showing one of the deflection spring clips of Fig. 2 interconnecting a portion of the track and stud shown in Fig. 2;

15 Fig. 4 is a perspective view of a portion of the track and stud assembly shown in Figs. 1-3 as viewed looking toward the upper inside of the overhead track and one of the connected studs, and showing the stud connected to the track by a pair of the deflection spring clips as shown in Fig. 2;

20 Fig. 5 is an enlarged side elevational view of a wire spring clip embodiment of deflection clip as shown in Figs. 1-4;

Fig. 6 is an elevational view of the spring clip shown in Fig. 5, but with the clip rotated counter-clockwise approximately 45 degrees from its Fig. 5 position;

Fig. 7 is a top view of the spring clip shown in Figs. 5 and 6, as rotated approximately 45 degrees clockwise from its position shown in Fig. 6;

25 Fig. 8 is an elevational view of the spring clip shown in Figs. 5-7 but rotated approximately 45 degrees clockwise from its position shown in Fig. 6;

Fig. 9 is a bottom view of the spring clip shown in Figs. 5-8 and as viewed looking upward toward the clip as positioned in Fig. 8;

30 Fig. 10 is an elevational view of a portion of a track and stud assembly in accordance with the invention using a flat deflection spring clip embodiment of the invention as shown Figs. 11-14 interconnecting the top track and a stud of the assembly in accordance with the invention;

Fig. 11 is a perspective view of the flat deflection spring clip shown in Fig. 10;

Fig. 12 is a bottom view of the deflection spring clip of Fig. 11;

Fig. 13 is a side elevational view of the deflection spring clip of Fig. 11;

5 Fig. 14 is an end view of the deflection spring clip of Figs. 11-13 as viewed from the left end of the clip as shown in Figs. 11 and 13;

Fig. 15 is a top view of a coil spring embodiment of spring clip in accordance with the invention, with the clip being shown in various positions of adjustment in dashed lines;

10 Fig. 16 is a side elevational view of the coil spring clip embodiment of Fig. 15 shown clamping a flange portion of a metal stud to the leg portion of an overhead track;

Fig. 17 is a perspective view of a hand tool for facilitating the installation of deflection spring clips of the invention on the wall studs and overhead track of a drywall framing system;

15 Fig. 17A is an enlarged side view of the working end portion of the hand tool of Fig. 17.

Fig. 17B is an elevational view of a wall stud and overhead track illustrating the process of applying a deflection clip of the type shown in Figs. 1-9 to the stud and track using the hand tool shown in Figs. 7 and 17A.

DETAILED DESCRIPTION OF ILLUSTRATED EMBODIMENTS

Introduction

25 Figs. 1-4 illustrate portions of a conventional drywall framing system employing the method, system and products of the present invention. The system includes spaced-apart vertical flanged metal wall studs 12 attached to a horizontal deep-flanged metal base track 2 by metal screw fasteners 3. Overlying studs 12 is an overhead, or top, track 14. Both the top track and base track are provided with deep legs, or flanges, 14a and 2a, respectively.

30 Studs 12, as shown best in Fig. 3, are also provided with deep flanges 12a terminating at their edges with returns 12b. The studs are foreshortened so that their upper ends do not abut and support the upper base wall of the top track, so as to

provide gaps or spacing 15 therebetween. Such gaps allow the top track, which is attached to overlying flooring 10 supported by load-bearing columns (not shown), to deflect when an overhead loading of the flooring occurs, as indicated by the arrow 6 in Fig. 1. For example, when flooring 10 is subject to loading from above, any
5 deflection of the flooring is transferred therefrom to top tracks, including track 14, causing deflection of such tracks. Spacing 15 between the top track 14 and wall studs 12 prevents such loading from being transferred from the top tracks to the wall studs, thereby protecting such studs from stresses and movement that would damage drywall and other wall partitions connected to the wall studs.

10 With the wall framing system as described, it is desirable to provide means for maintaining the wall studs 12 in their upright positions, both during construction of the framing system and thereafter, to prevent transferring any damaging stresses or movements from the studs to their connected wall partitions.

According to the present invention, spring clips, such as the flat deflection
15 clips 18 of Figs. 10-14, wire deflection clips 50 of Figs. 1-9, and coil spring clips of Figs. 15 and 16, are used to interconnect the overlapping flange portions of foreshortened wall studs 12 and top track 14. Such interconnections support and maintain the studs in their upright positions while allowing the connected top tracks to deflect under load relative to the studs without transferring any such load to the
20 studs. Deflection of the top tracks is permitted because the spring clips interconnecting the foreshortened studs and top track flanges allow vertical sliding movement of the overlapping track flanges relative to their connected stud flanges while maintaining the studs in their upright positions.

25 Flat Deflection Clip Embodiment

According to one illustrative embodiment of the spring clip of the invention, best shown with reference to Figs. 10-14, the spring clip comprises a one-piece flat deflection spring clip 18 made of a springy material such as, for example, a steel strip. This spring clip includes a first, generally curved clamping end portion 20 and
30 an opposed, relatively straight clamping end portion 22 interconnected by a looped body portion 24. Clamping end portions 20 and 22 overlap one another and are spring biased toward one another in a clamping relationship by the looped body

portion 24. The ends of the clamping end portions 20, 22, as shown at 20a, and 22a in Fig. 13, are upturned slightly away from one another to facilitate spreading the opposite ends away from one another when applying the clip to a wall stud flange, and then to an overlying flange of a top track 14 as shown in Fig. 10. The opposing end portions 20 and 22 lie generally in the same plane, while the looped body portion extends in a plane generally perpendicular to the plane of the clamping end portions so as to circumvent the flange and flange return of a connected wall stud, as shown in Fig. 10.

As will be best understood from Fig. 13, and also from Figs. 2 and 3, the opposed clamping end portions 20 and 22 must be spread apart to insert therebetween the overlapping flange portions of a connected track and wall stud as shown, for example, in Fig. 10, and as also illustrated with respect to the wire embodiment of deflection spring clip 50, in Figs. 1-4. As shown in Figs. 10-14, body portion 24 is looped so that the spring clip will clear the return portion 12b of the flange 12a of stud 12 (see Figs. 2-4) when the clamp end portions engage the overlapped portions of the track and stud.

Although the spring clip 18 is shown applied to one side flange 14a of the track 14 and one stud flange 12a as viewed in Fig. 10, the clip is shaped so that it may be applied to a stud flange and track flange on either side of the track, or to stud and track flanges on both sides of the track, as shown, for example, with respect to the other deflection clip embodiment in Figs. 2 and 4.

Depending on the clamping force of the clip, it may be possible to apply the clip 18 by hand to overlapping flange portions of a track and stud where free ends of such flange portions overlap as shown, for example, in Figs. 2 and 3. If the clamping force of the clip is not too great, this might be done by simply pulling apart the upturned clamp end portions 20b and 22a, as shown in Fig. 13, and then pushing the clip over the free end portions of the overlapping flange portions of the stud and track.

However, a more effective way is to first apply the clip to the stud flange below the lower edge of the track flange. Thereafter, the clip can be pushed up the stud flange and over the track flange to interconnect the stud and track.

The foregoing clip application process can be facilitated even further by using the application tool 26 shown in Figs. 17, 17A, and 17B, as will be described further with reference to application of the wire deflection clip shown in Figs. 2-9.

5 *Coil Spring Clip Embodiment*

Figs. 15 and 16 illustrate another embodiment of a spring clip in accordance with the invention. This embodiment, referred to hereinafter as a "coil spring clip" shown generally at 30, includes a clamp arm 32 connected by a pivoting rivet 34 to one end of a looped body portion 36. Body portion 36 is connected at its opposite
10 end to a coil spring 38.

Coil spring 38 urges the body portion and connected clamp arm 32 in a counterclockwise direction as viewed in Fig. 16 toward an opposing clamping plate 40. The coil spring is mounted on a mounting plate 42 which, in turn, is pivotally mounted to the clamp plate 40 by a pivoting rivet 44. Thus, the clamp arm 32 may
15 be pivoted relative to body portion 36. Also, body portion 36 and its attached clamp arm 32 may be pivoted relative to the clamp plate 40 by pivoting mounting plate 42 on the base plate 40.

As will be noted in Fig. 16, body portion 36 of the coil spring clip has a looped configuration in a plane generally perpendicular to clamping plate 40 and
20 clamp arm 32, enabling the coil spring clip, like the previously described deflection spring clip, to clear any flange and flange return of a wall stud.

The looped body portion 36 of the coil spring clamp 30 is also provided with a lift handle 46 connected to coil spring 38. By manually pushing down on handle 46, as shown in Fig. 16, body portion 36 and its connected clamp arm 32 may be
25 rotated via coil spring 38 away from clamp plate 40 so that clamp arm 32 may be passed over stud return 12b of stud flange 12a as clamp plate 40 is applied to track flange 14a of track 14. Then, when the handle 46 is released, the coil spring 38 will move clamp arm 32 into clamping engagement with the adjacent stud flange 12a, as shown in Fig. 16.

30

Wire Deflection Clip Embodiment

Figs. 5-9 illustrate another version, or embodiment, of the deflection spring clip shown in Figs. 10-14. The deflection spring clip of Figs. 5-9 functions to interconnect metal wall studs to an overlying track in a manner similar to the deflection spring clip of Figs. 10-14. That is, the clip 48 of Figs. 5-9 applies a clamping force to overlapping flange portions of a stud and track using opposed clamping end portions 50, 52 of a one-piece springy wire material at a pinch point of the overlapping stud and track. This is shown, for example, in Figs. 10, 11, and 13 with respect to the version of Figs. 10-14, and in Figs. 1-4 with respect to the versions of Figs. 5-9.

The principal difference between the deflection clip of Figs. 10-14 and the clip of Figs. 5-9 is the springy metal or other material from which they are formed. As previously noted, the deflection clip of Figs. 10-14 is formed from a strip of flat metal or other springy material by curving the clamping end portions 20, 22 from the main body portion 24, providing the clip with a generally curvilinear shape.

In contrast, the deflection clip of Figs. 5-9 is formed of a springy metal wire or other springy wire material of generally circular cross-section. In addition it will be noted that the wire deflection clips of Figs. 5-9 are generally more angular in shape than the more curvilinear clips of Figs. 11-14.

However, as shown best in Figs. 8 and 3, both types of deflection clips are similar in that their respective opposed clamping end portions apply clamping pressure to overlapping track and stud portions inserted between such opposed clamping end portions. In fact, comparing the clip of Figs. 5-9 with the clip of Figs. 11-14, their overall configurations are quite similar.

With reference to Figs. 5-9, the wire deflection clip 48 includes a generally looped clamping end portion 50 and an opposed, generally straight clamping end portion 52, interconnected by an angular and generally looped body portion 53.

As will be apparent from Fig. 8, each clamping end portion 50, 52 has oppositely upturned lip ends 50b, 52a for facilitating insertion of the clip in clamping relationship to overlapping flange portions of a track and wall stud as shown, for example, in Figs. 1-4.

The wire deflection clip 48 has its looped clamping end portion 50 terminating at a free end 50a. Similarly, the single-arm clamping end portion 52 terminates at a free end 52a adjacent to the looped end 50b of clamping end portion 50.

5 The looped clamping end portion 50 is joined to the single-arm clamping end portion 52 by a connecting wire section 54 that lies generally in the same plane as clamping portion 50 and the looped body portion 53.

10 The looped body portion 53, like the looped body portion 24 of the flat deflection clip 18, lies in a plane generally perpendicular to the plane of the looped clamping portion 50, as shown in Figs. 8 and 9. The purpose of the looped body portion 53 is to circumvent the return portions of the flanged wall studs, as shown in Figs. 2 and 3.

Fig. 23 shows the wire deflection clips of Fig. 16 interconnecting a series of wall studs to an overhead track in accordance with the invention.

15

Application Tool

The application tool 26 of Figs. 17 and 17A is a hand tool to facilitate installation of the wire deflection clip 48, or possibly with the need for a slightly different-shaped working end, the flat deflection clip 18.

20 Tool 26 includes a handle 27, attached shaft 28, and hook-type working end 29. Working end 29 includes a round-nosed hook end 29a separated from a rearward flat blade-like section 29b by a rounded recess 29c. Recess 29c is sized and shaped to receive an outermost lip portion 50b of clip portion 52 as shown in Fig. 8.

25 Referring to Fig. 17B, the clip 48 is first applied to the flange portion 12a of stud 12 below the lower edge of track flange 14a by snapping the clip around the flange by hand as shown in the lower portions of Fig. 17B. Then, using the working end 29 of tool 26, the rounded point 29a is slipped under lip 50b of clip 48, into recess 29c. With the clip end portion 50a caught in tool recess 29c, the tool is used
30 to pull such end portion up and out over the lower edge of track flange 14a, thereby joining the track and stud in a friction fit under the spring tension applied by the opposing compression portions 50a and 52 of the clip. With the clip installed, the

tool is released from the clip by rotating the tool upward as shown in the upper view of the clip in Fig. 17B.

Conclusion

5 Both the deflection spring clips and the coil spring clip are relatively easy to apply to interconnect stud flanges to the flanges of an overhead track. Both types of clips may be permanently attached to their connected studs and tracks since they allow for deflection of the track relative to its connected studs. Both types of clips provide for an attachment method and system that should be substantially less
10 expensive than prior attachment methods and systems.

Both types of spring clips of the invention are safe to apply. With the deflection spring clips, all edges and ends may be rounded, providing a very safe attachment process.

The following features are unique to the deflection spring clips and improve
15 their performance: The return loop of the clip body to the backside of the stud, whether of the wire or strip version, maximizes the spring force while avoiding the return leg of the stud flange (see Figs. 2-4, 10, and 17B). Also, the bent edges 20a, 20b on the rounded face plate portion of clamp portion 20 simplify installation of the clip onto a stud and track (see Fig. 4). Having the two bent edges 20a, 20b (see
20 Figs. 13 and 14) on the rounded face plate portion of clamp portion 20 allows clip 18 to be installed on studs facing in either direction, with a single clip embodiment, thereby avoiding the need for both right-handed and left-handed embodiments and simplifying installation even further (see Figs. 3 and 4). The curved lips 52a, 50b at the clamping portions of the clips of Figs. 5-9 provide similar advantages.

25 The tool 26 has also been created to facilitate installation of the deflection spring clips, even further simplifying installation of the clips.

In view of the many possible embodiments to which the principles of my invention may be applied, it is to be understood that the illustrated embodiments are only currently preferred examples thereof. Such embodiments should not be taken
30 as limiting the scope of the invention. I claim as my invention all attachment products, methods, systems, and tools therefor, coming within the true spirit and scope of the following claims.

I claim:

1. A method of attaching flanged metal studs used in framing non load-bearing walls to an overlying flanged metal track to allow the track to deflect under load without transmitting the load to the studs, said method comprising:
 - sizing the studs so that they are somewhat shorter than the distance between a floor surface supporting the studs and a parallel surface of the overlying track adjacent to the upper ends of the studs;
 - connecting an upper flange portion of each stud to an adjacent overlapping flange portion of the track using spring clips biased to clip together each stud to the track by compressing together an overlapping flange portion of each stud and the track while allowing said track flange portions to move vertically relative to said stud flange portions when said track is under load such that said load is not transmitted to said studs.
2. The method of claim 1 wherein the spring clips comprise deflection spring clips.
3. The method of claim 2 wherein the deflection spring clips comprise one-piece deflection clips with opposed compression end portions biased inwardly toward one another but deflectable outwardly under pressure.
4. The method of claim 1 wherein each said spring clip comprises a pair of opposed and interconnected clamping members, one of said members being movable by a coil spring into a clamping relationship with the other said members.
5. A spring clip for use in interconnecting a flange portion of a metal stud and an overlapping flange portion of an adjacent overhead track, the spring clip comprising:
 - a pair of opposed clamping end portions for applying a clamping force to overlapping flange portions of the stud and track,
 - a clip body portion interconnecting said opposed clamping end portions,

said body portion including spring means spring biasing said opposed clamping portions toward one another for applying clamping force to said overlapping flange portions sufficient to clip said flange portions together while allowing relative sliding movement between said flange portions.

5

6. A spring clip according to claim 5 wherein said clamping end portions and said body portion comprise a single unitary clip member composed of a springy material comprising said spring means.

10

7. A spring clip according to claim 6 wherein said springy material comprises a flat strip of springy material.

8. A spring clip according to claim 7 wherein said springy material is a metal material.

15

9. A spring clip according to claim 7 wherein the strip is configured such that the pair of opposed clamping end portions are interconnected by a body portion that forms a loop separating said clamping end portions, the loop being in a plane generally perpendicular to the planes of the clamping end portions.

20

10. A spring clip according to claim 5 including means for separating the opposed clamping end portions to facilitate insertion of overlapping flange portions of a track and stud between said clamping portions.

25

11. A spring clip according to claim 5 wherein said body portion includes a coil spring urging one of said clamping end portions toward the other of said clamping end portions.

30

12. A spring clip according to claim 11 including means on the body portion operable to manually separate the clamping end portions from one another to facilitate application of the clip to overlapping flange portions of a stud and track.

13. A non load-bearing wall structure comprising:
an overhead, generally horizontally extending flanged metal track having its
flanges directed downwardly from a generally horizontal body portion thereof,
a generally vertically extending flanged metal wall stud supported on an
underlying floor surface and extending vertically to an upper end terminating inside
5 flange portions of said track, and spaced from said body portion,
said stud including opposed flange portions extending from opposite sides of
a main body portion thereof,
the stud being sized such that its flange portions extend inside and in
10 overlapping relationship to the flange portions of said track, and
a spring clip interconnecting a free edge portion of said stud with an
overlapping free edge portion of the track while enabling limited vertical deflective
movement of the track relative to the stud.
14. A wall structure according to claim 13 wherein each flange portion of
15 the stud includes a return portion at its free outer edge, and said spring clip includes
a pair of opposed clamping portions in clamping engagement with the overlapping
flange portions of the track and stud, and a body portion interconnecting the opposed
clamping portions and extending in a configuration to circumvent the return portion
20 of the connected stud flange portion.
15. A spring clip according to claim 6 wherein said springy material
comprises a springy metal material operable to provide an accentuated friction fit of
metal studs to said track.
25
16. A spring clip according to claim 6 wherein said springy material
comprises a springy wire material.
17. A spring clip according to claim 6 wherein said springy wire material
30 is a metal material.

18. A spring clip according to claim 6 wherein said opposed clamping portions each includes an upturned lip end portion, with the lip end portions of the opposed clamping portions being upturned in directions opposite one another.

5 19. A system for attaching flanged metal studs to an overlying flanged metal track with the upper ends of the studs spaced vertically from the track, so as to enable the track to deflect under load without transferring the load to the studs, said system comprising:

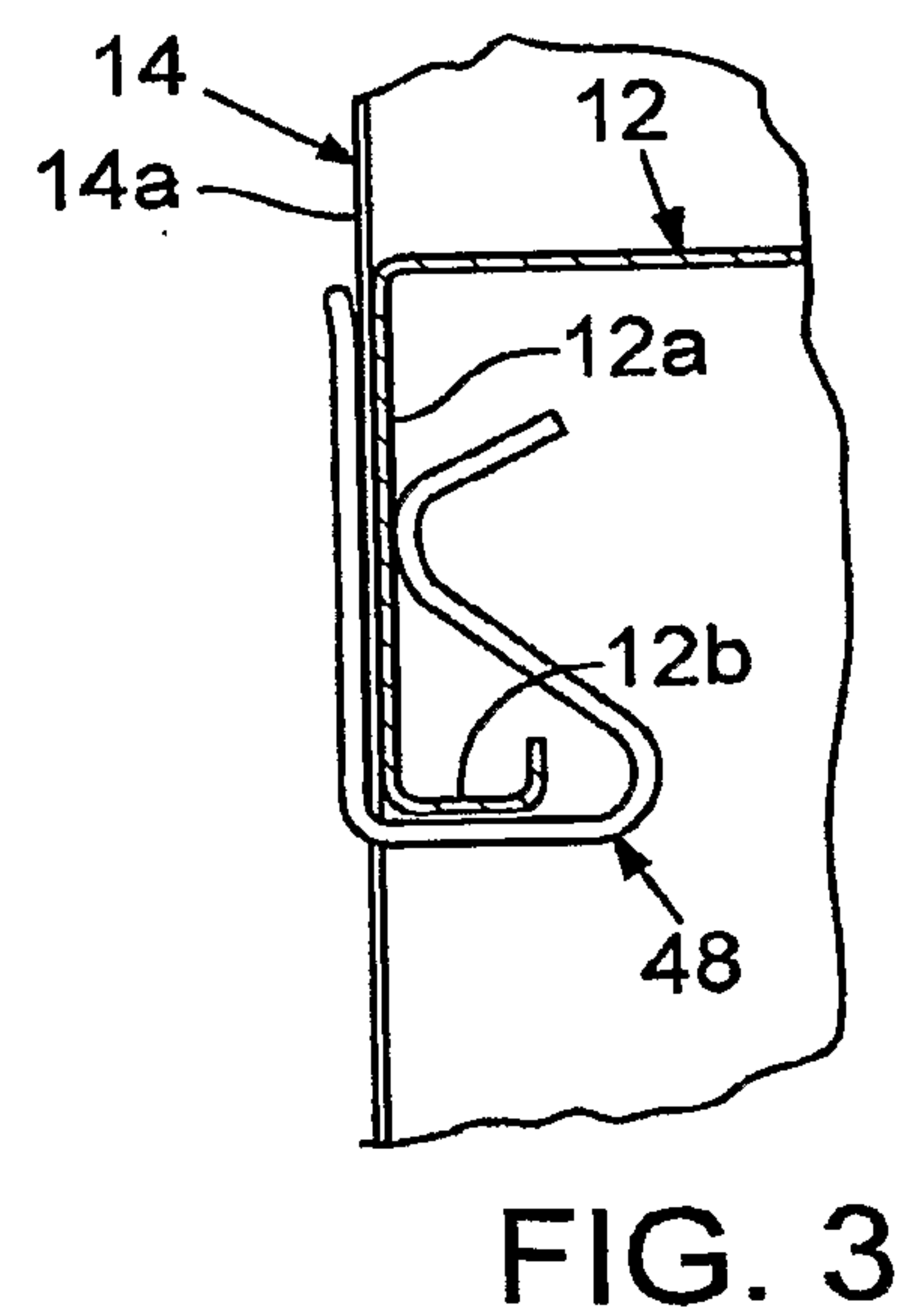
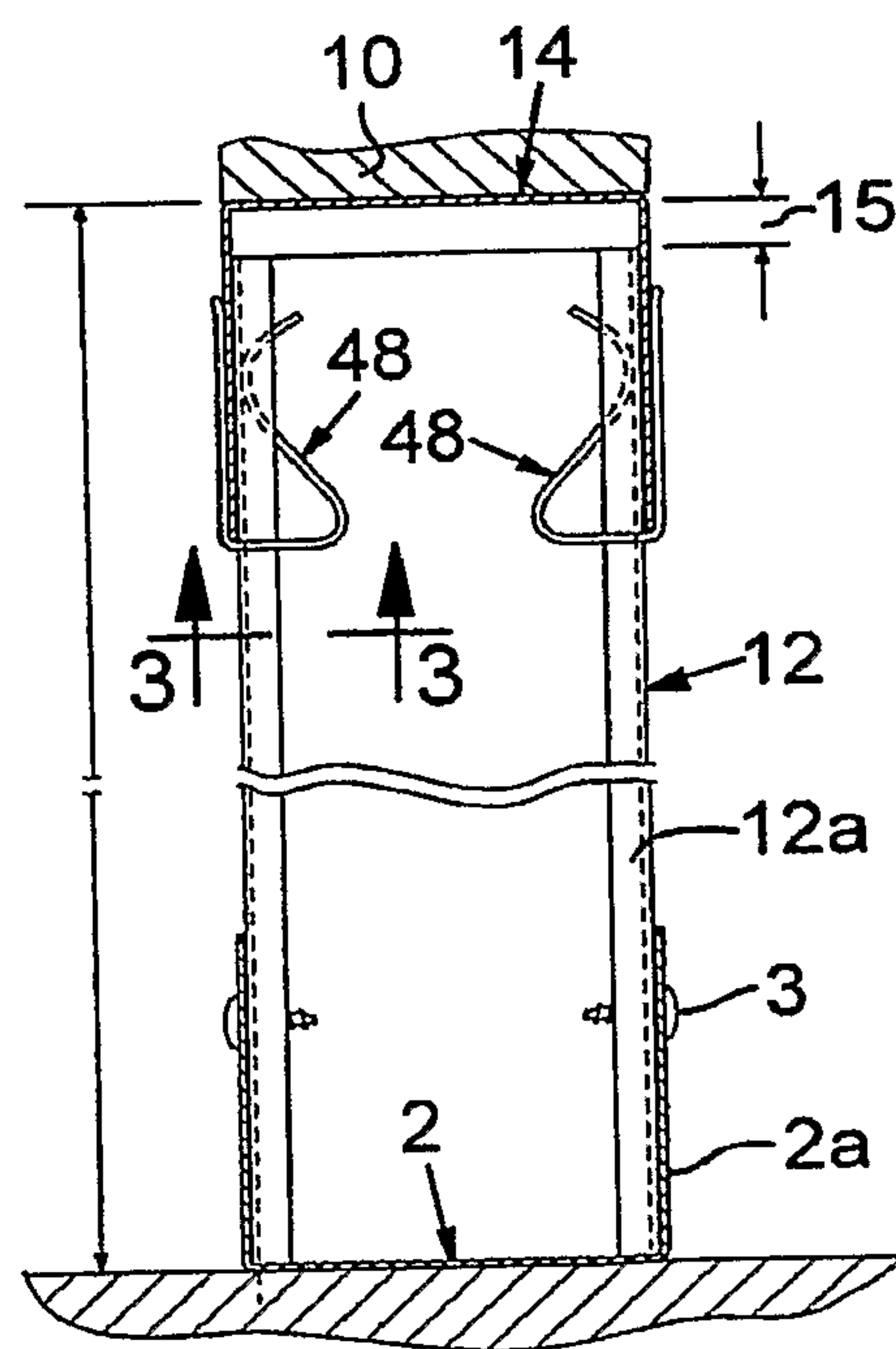
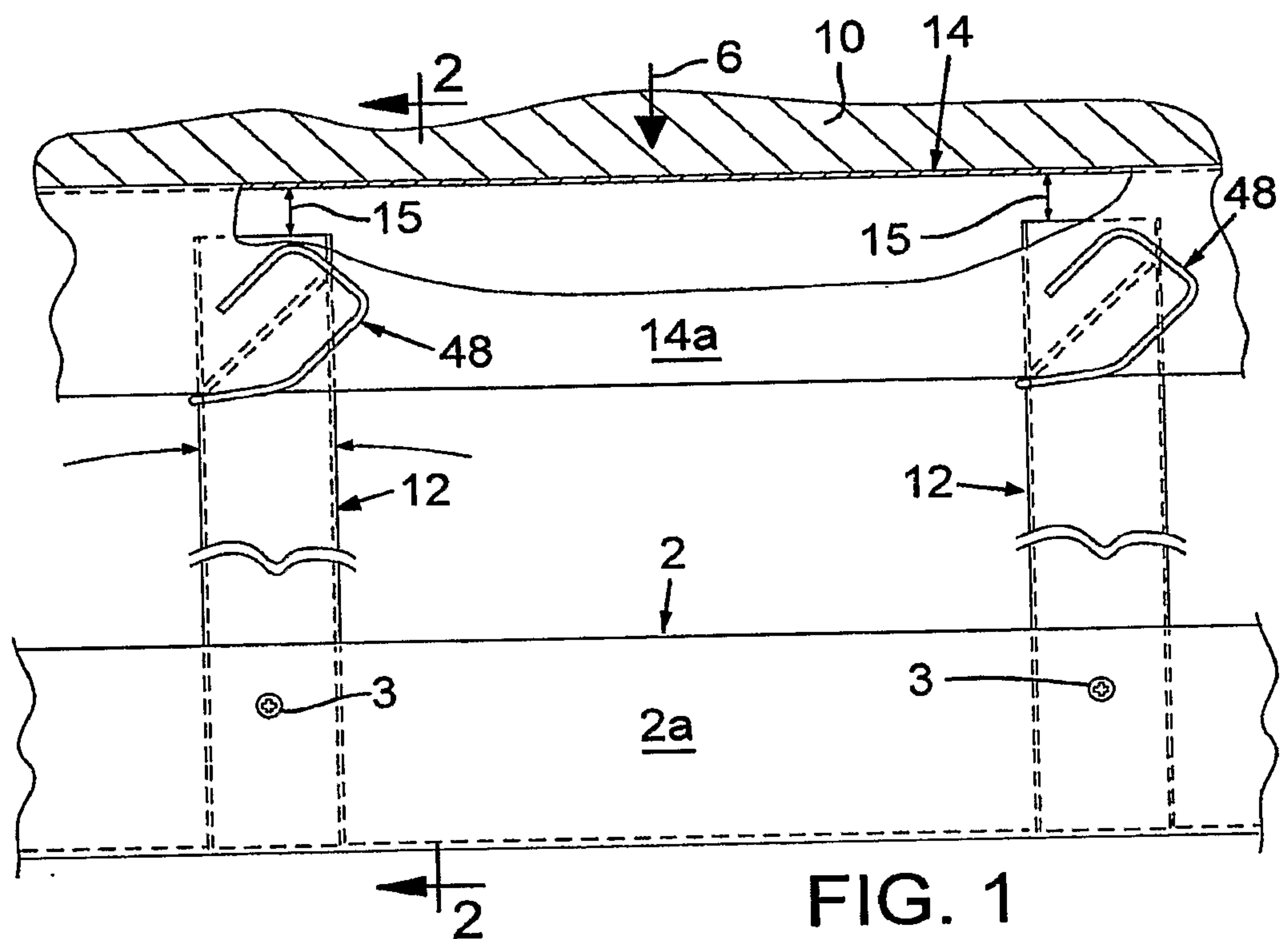
10 a spring clip for compressing a flange portion of a stud to an overlapping flange portion of the track while allowing the track to deflect vertically relative to the stud;

and a manually operated tool for applying the clip to the overlapping flange portion, said tool including a generally hook-shaped working end portion for engaging and pulling a clamping portion of the clip on the flange portion of the stud
15 upwardly and outwardly over the overlapping track flange portion to frictionally interconnect the overlapping flange portions, and thereafter release itself from the clip.

20 20. A non load-bearing wall structure according to claim 14 wherein said wall structure includes multiple horizontally spaced-apart said studs, each being separately interconnected to said track by a said spring clip in a manner enabling limited movement of said track relative to its connected stud.

25 21. A wall structure according to claim 20 including a bottom flanged metal track positioned vertically below and parallel to said overhead track, said bottom track including upwardly extending flanged portions overlapping the flanged portions of said studs, and fastening means fixedly interconnecting a flanged portion of each stud to an overlapping flange portion of said bottom track.

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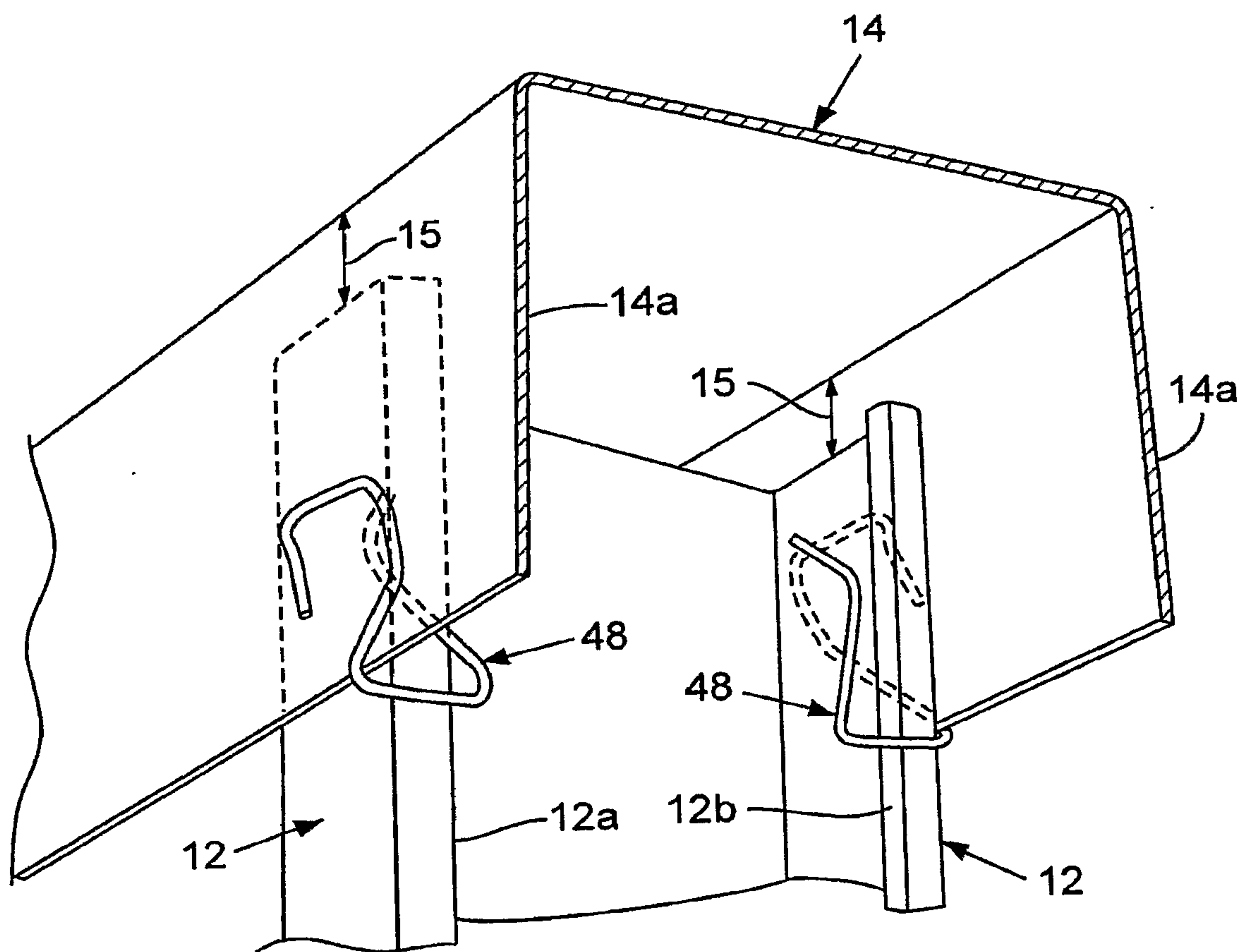
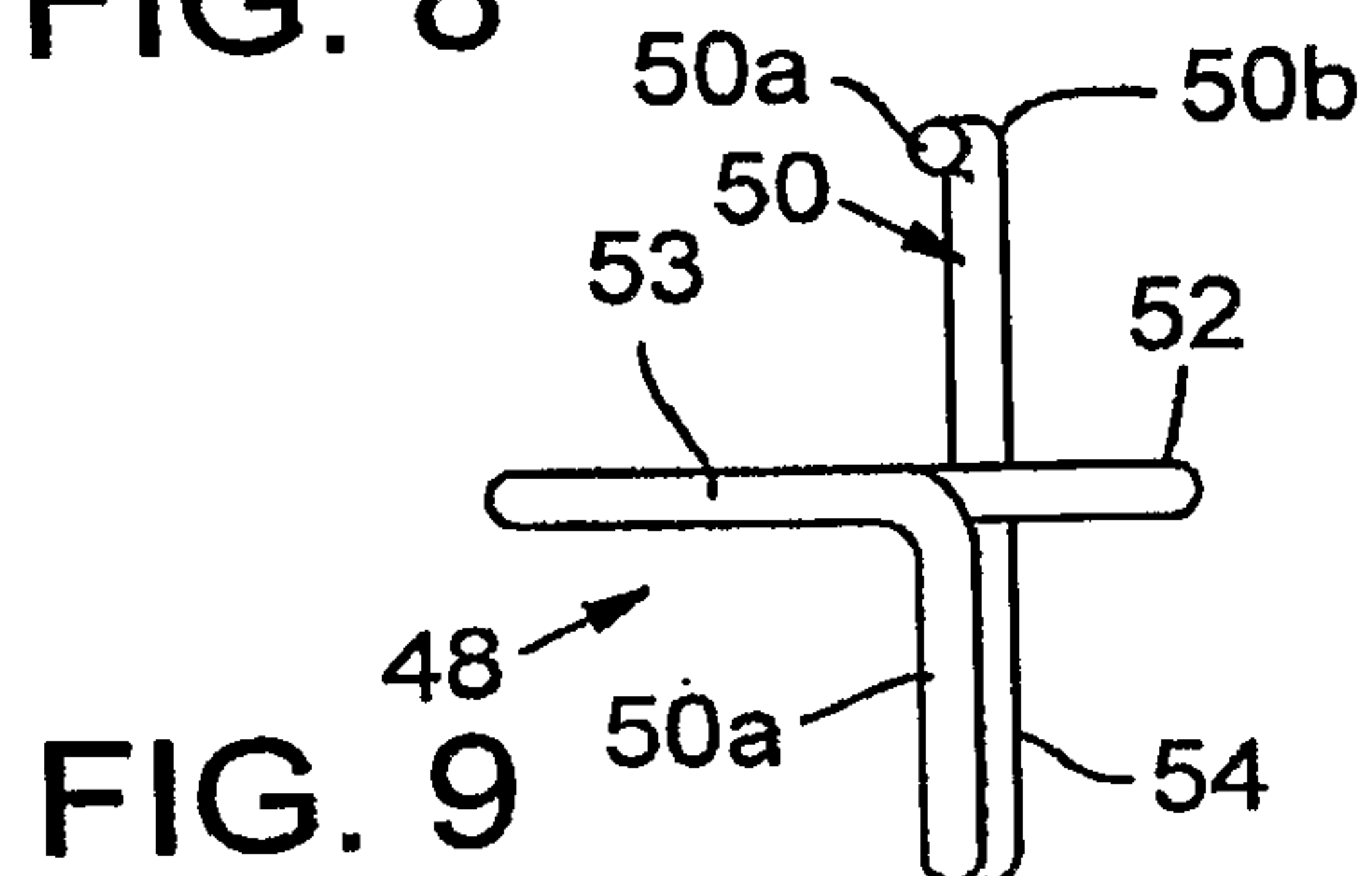
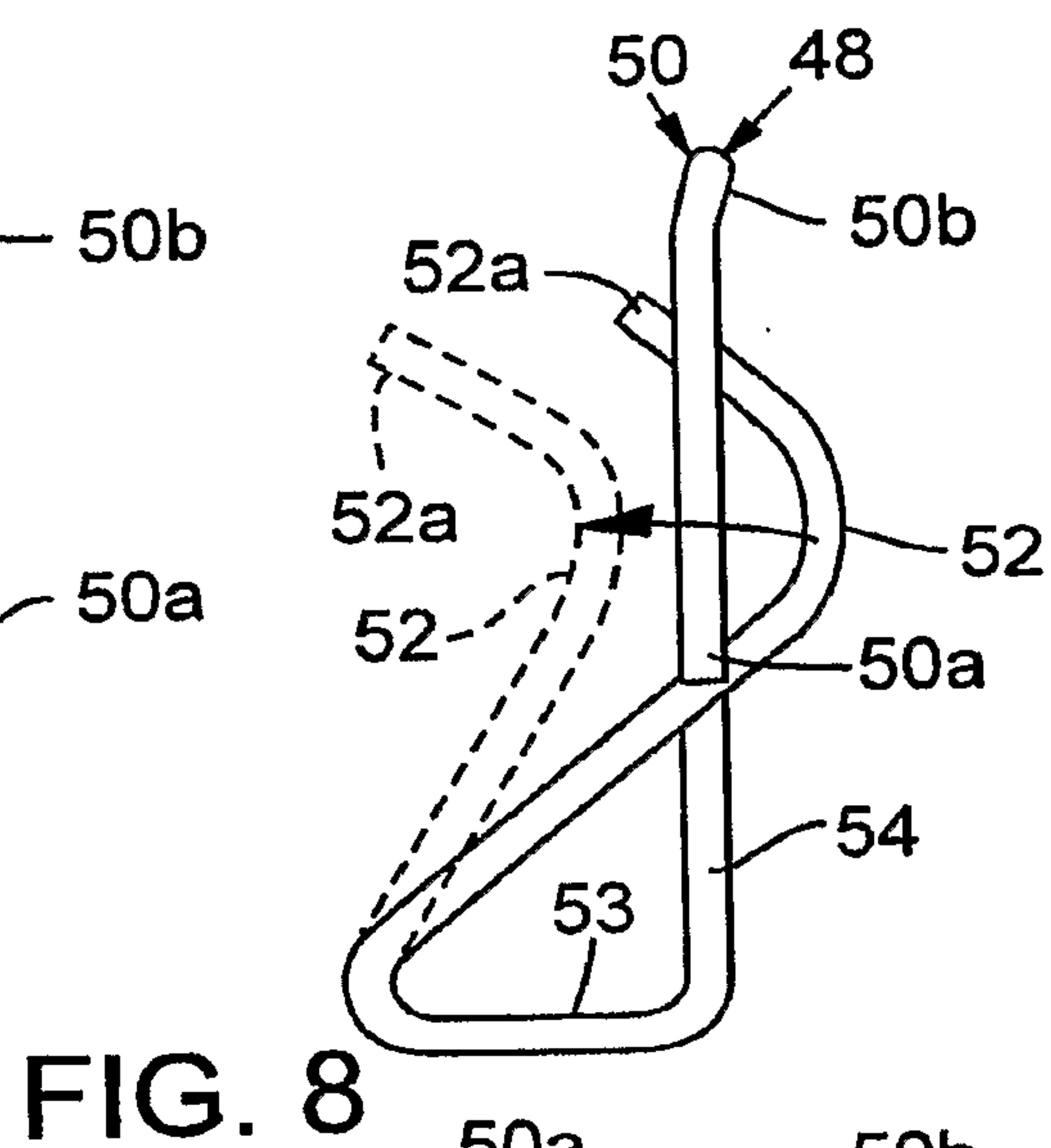
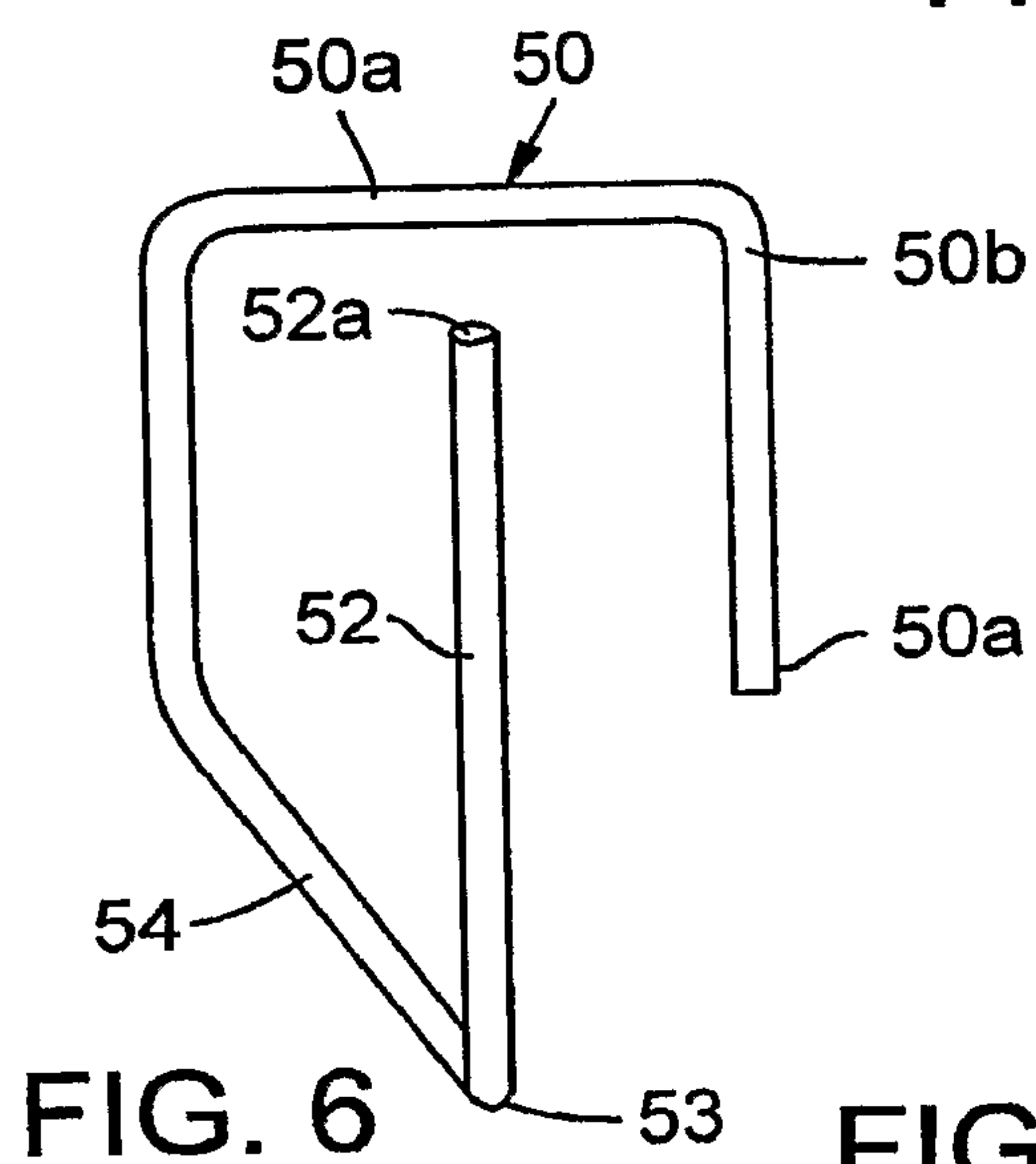
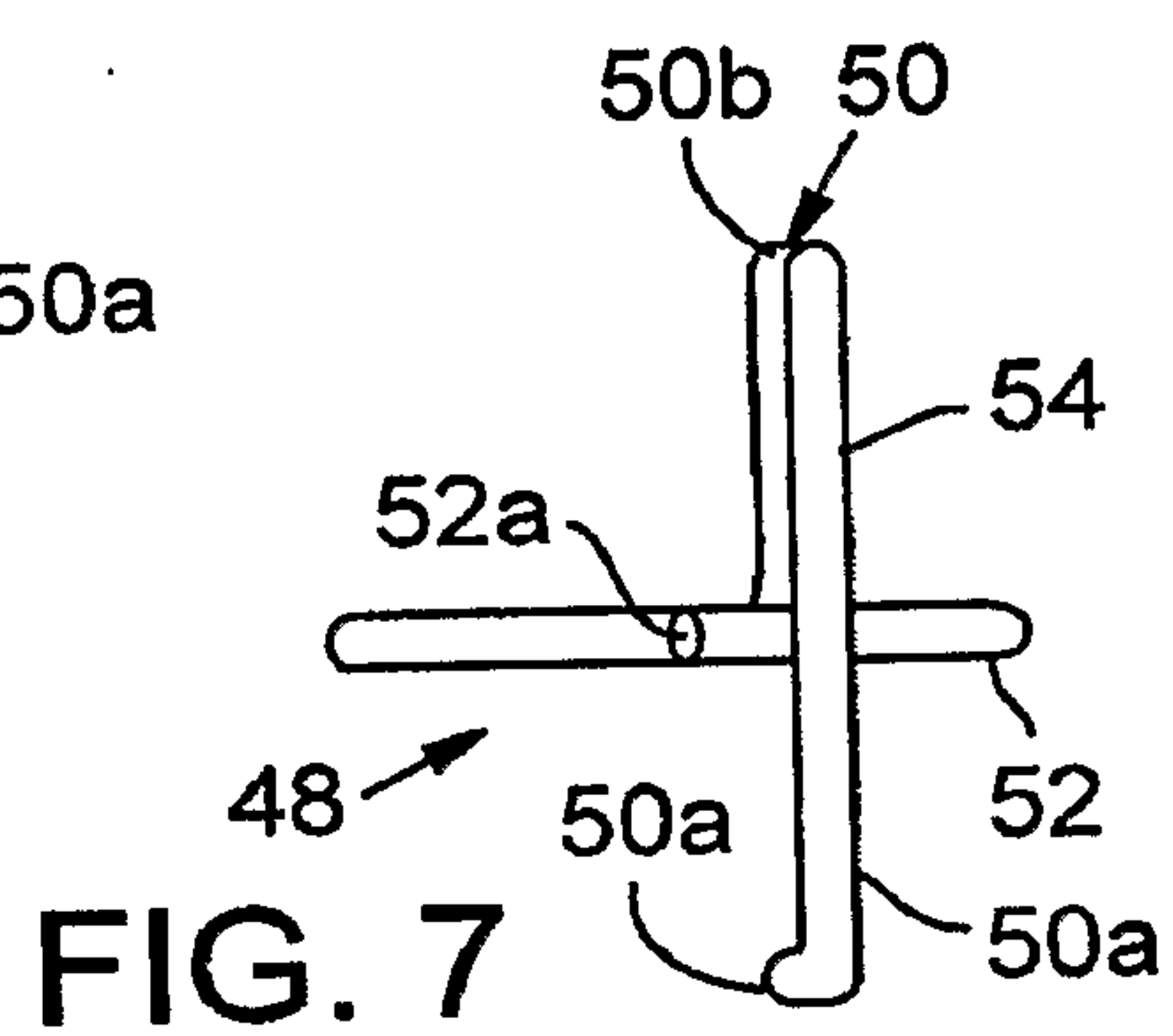
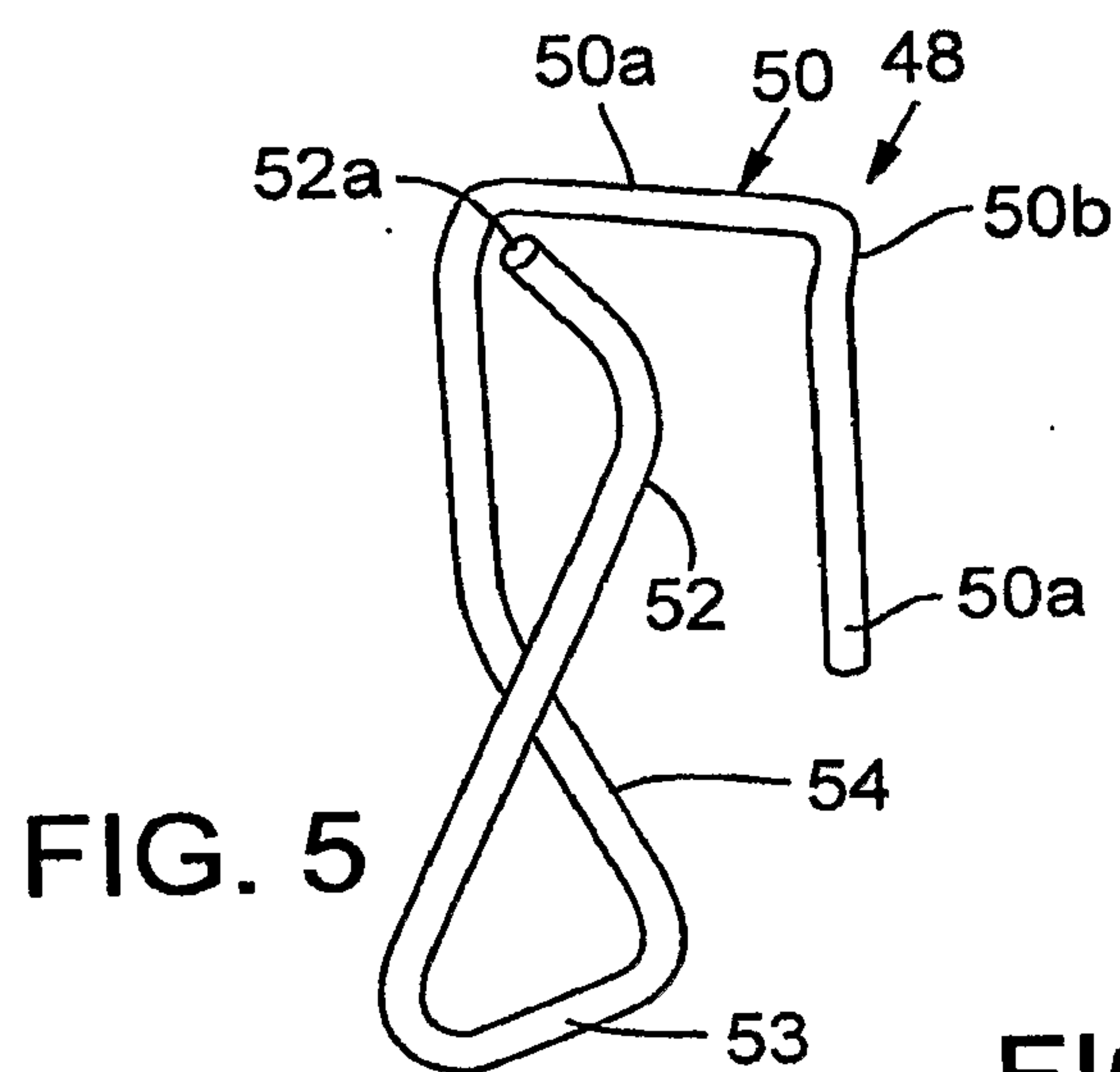


FIG. 4

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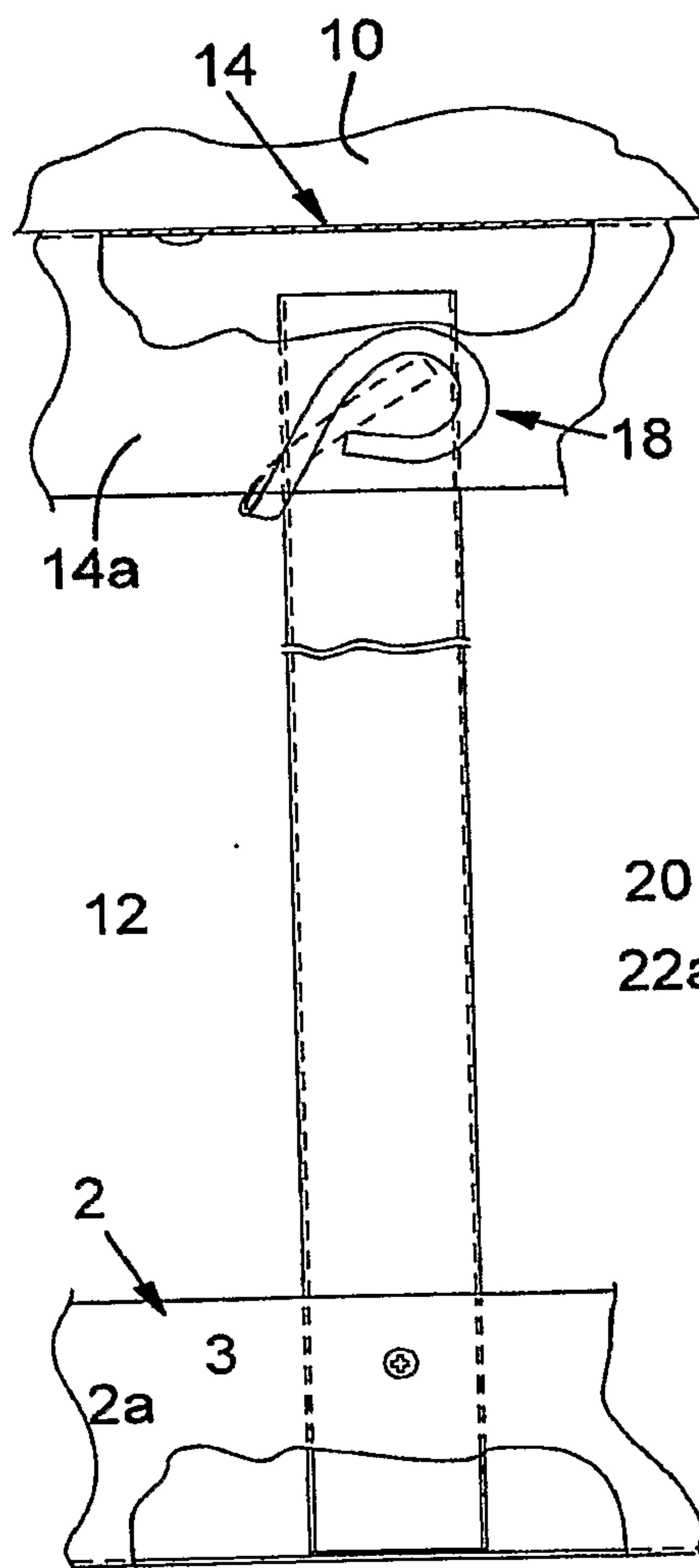


FIG. 10

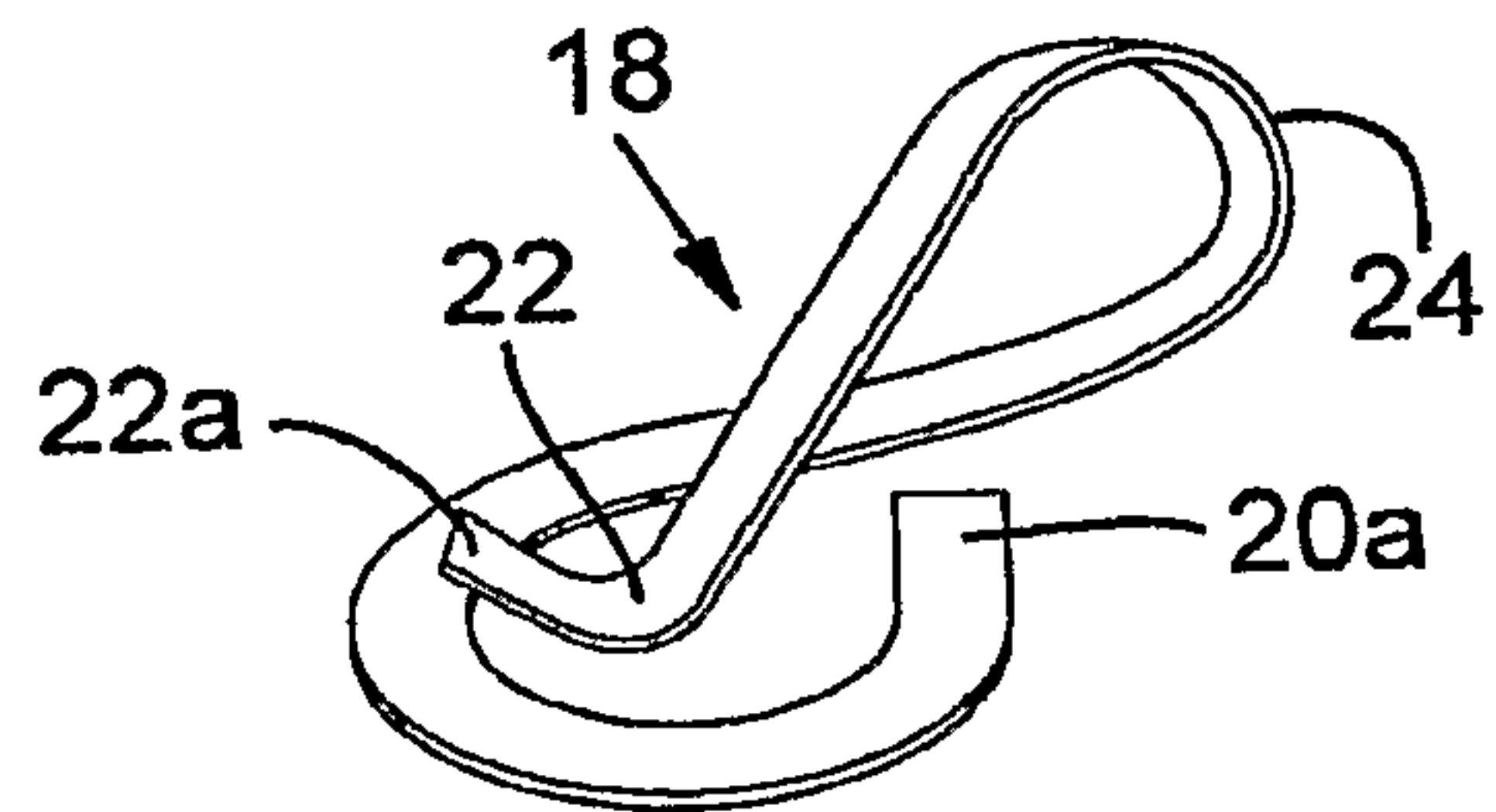


FIG. 11

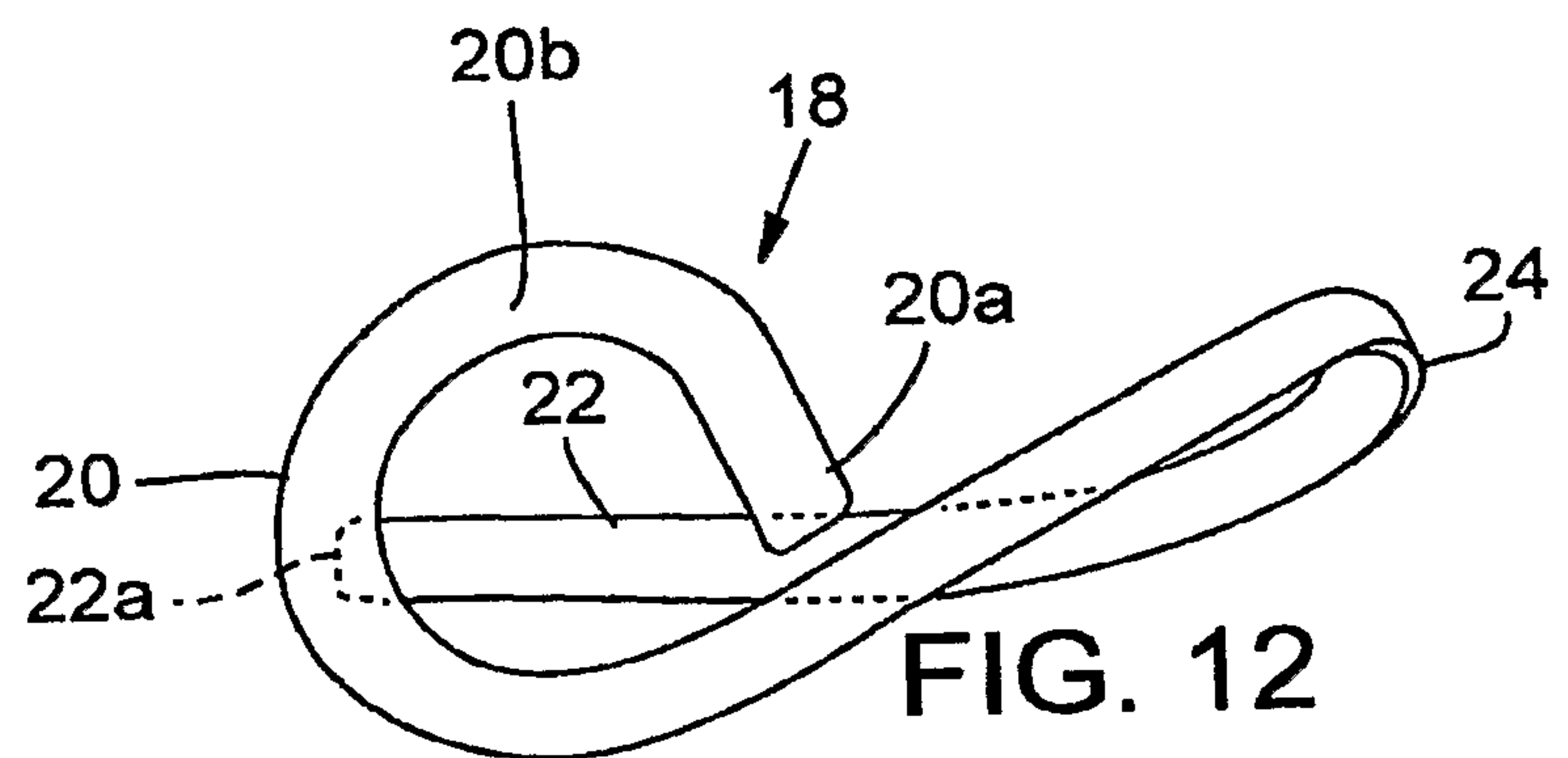


FIG. 12

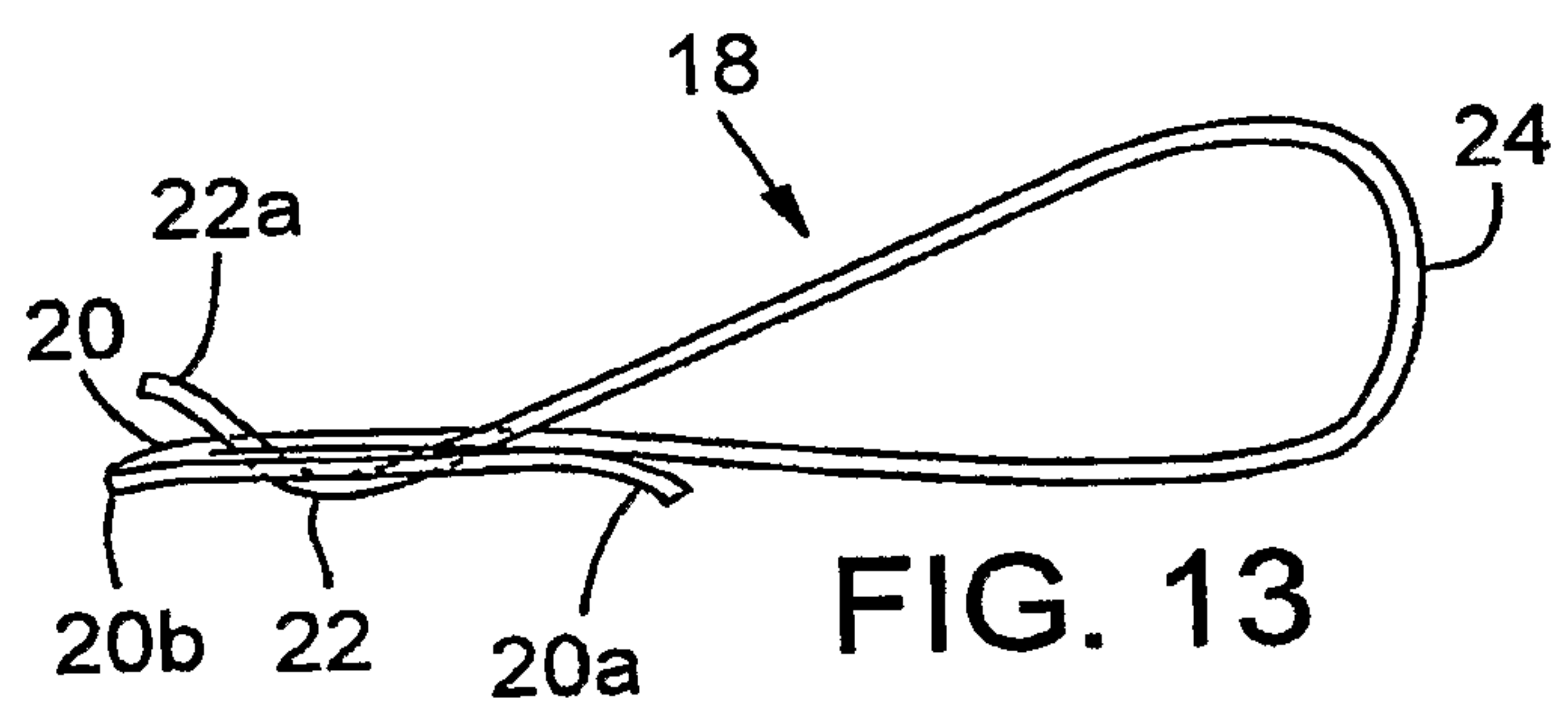


FIG. 13

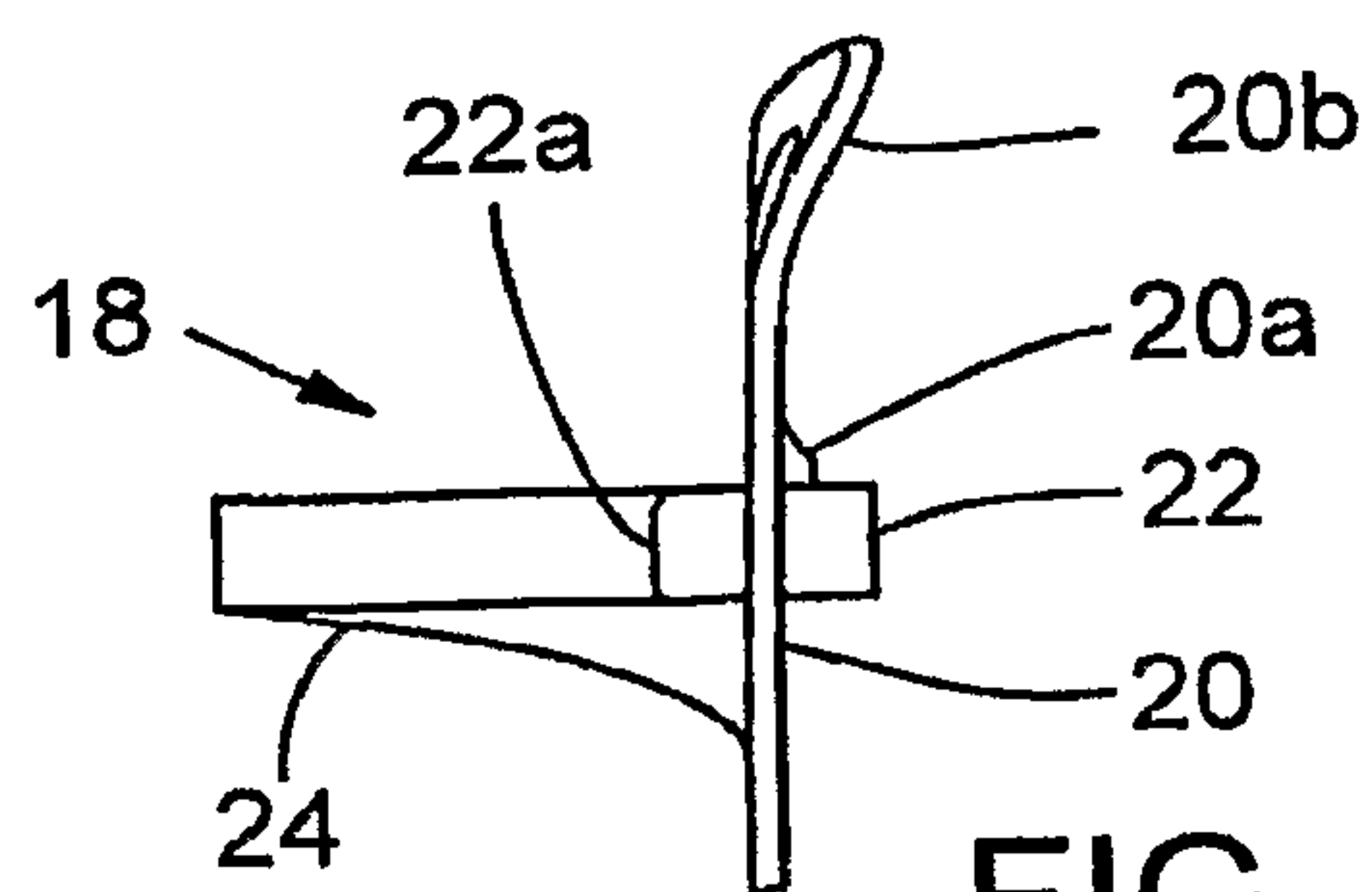
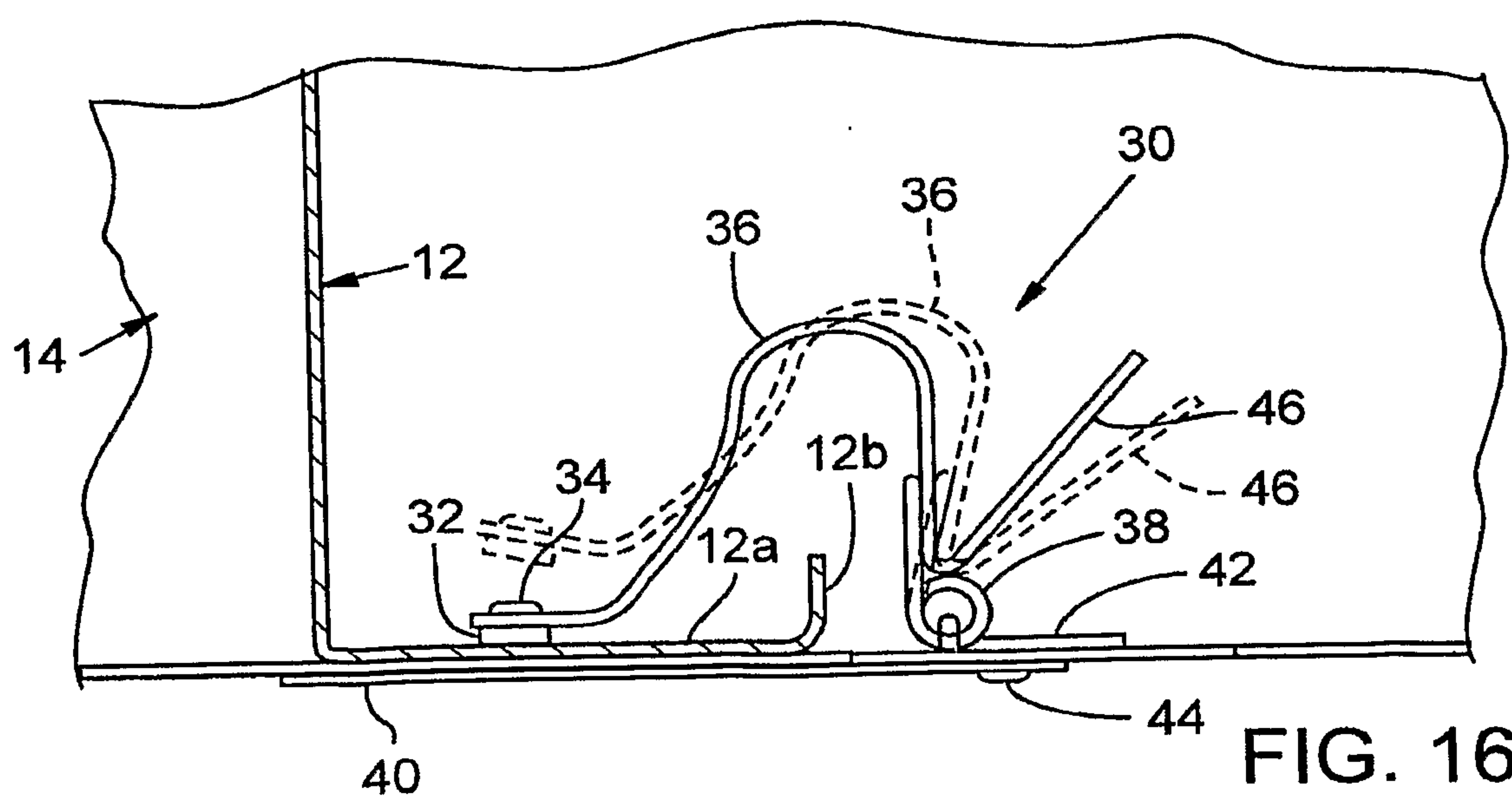
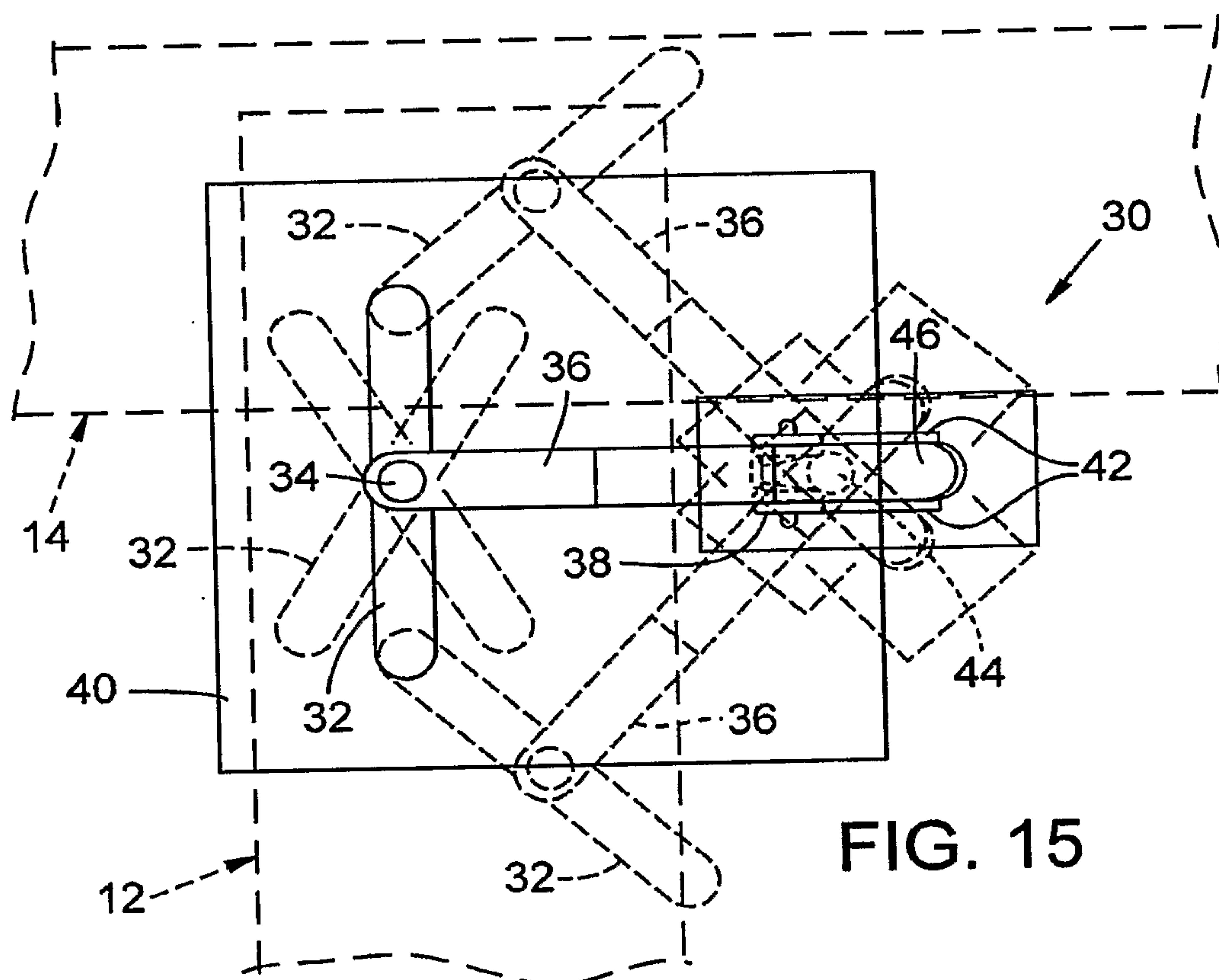


FIG. 14

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