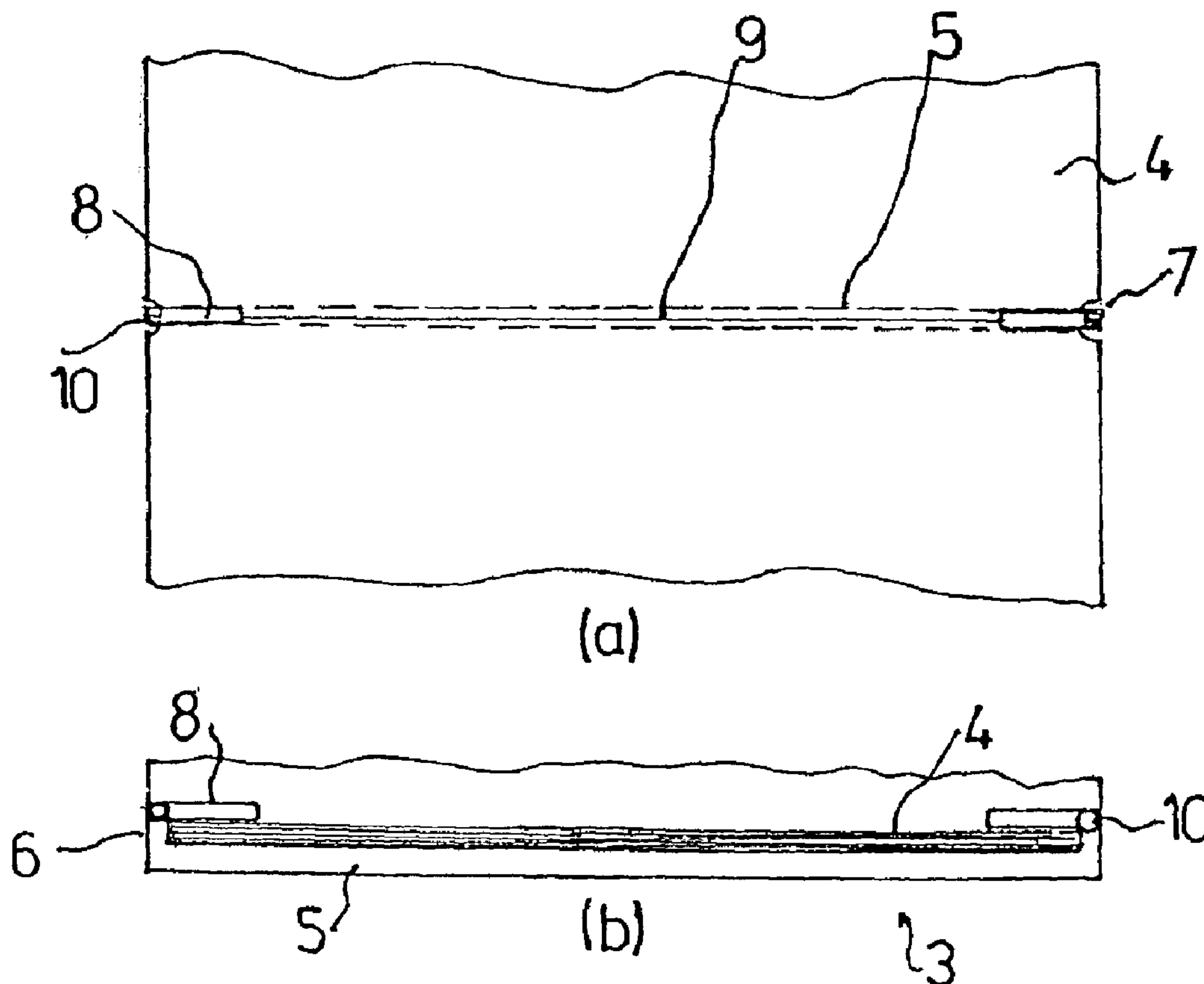




(86) Date de dépôt PCT/PCT Filing Date: 2006/08/10
 (87) Date publication PCT/PCT Publication Date: 2007/03/01
 (85) Entrée phase nationale/National Entry: 2008/02/21
 (86) N° demande PCT/PCT Application No.: EP 2006/007912
 (87) N° publication PCT/PCT Publication No.: 2007/022870
 (30) Priorité/Priority: 2005/08/22 (DE10 2005 039 547.3)

(51) Cl.Int./Int.Cl. *B42F 11/02* (2006.01)
 (71) Demandeur/Applicant:
X7 G.M.B.H., LU
 (72) Inventeur/Inventor:
BUETTNER, MATTHIAS, FR
 (74) Agent: RICHES, MCKENZIE & HERBERT LLP

(54) Titre : DISPOSITIF POUR MAINTENIR DES FEUILLES PLIEES ET EMPILEES DANS UNE CHEMISE
 (54) Title: DEVICE FOR HOLDING SHEETS WHICH FORM A FOLDED STACK IN A BINDER



(57) Abrégé/Abstract:

The invention relates to a device for holding sheets in a binder which form a folded stack, comprising a holding element (3) connected to the spine (2) of the binder (1). According to the invention, the holding element (3) engages behind the innermost sheet of the stack (4) at its fold (9).

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum
Internationales Büro(43) Internationales Veröffentlichungsdatum
1. März 2007 (01.03.2007)

PCT

(10) Internationale Veröffentlichungsnummer
WO 2007/022870 A1(51) Internationale Patentklassifikation:
B42F 11/02 (2006.01)

(21) Internationales Aktenzeichen: PCT/EP2006/007912

(22) Internationales Anmeldedatum:
10. August 2006 (10.08.2006)

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:
10 2005 039 547.3 22. August 2005 (22.08.2005) DE

(71) Anmelder (für alle Bestimmungsstaaten mit Ausnahme von US): X7 G.M.B.H. [LU/LU]; 55, rue de Luxembourg, L-8077 Bertrange (LU).

(72) Erfinder; und

(75) Erfinder/Anmelder (nur für US): BÜTTNER, Matthias [DE/FR]; 143, rue de Simbach, F-57515 Alsting (FR).

(74) Anwälte: BERNHARDT, Rheinhold usw.; Kobenhüttenweg 43, 66123 Saarbrücken (DE).

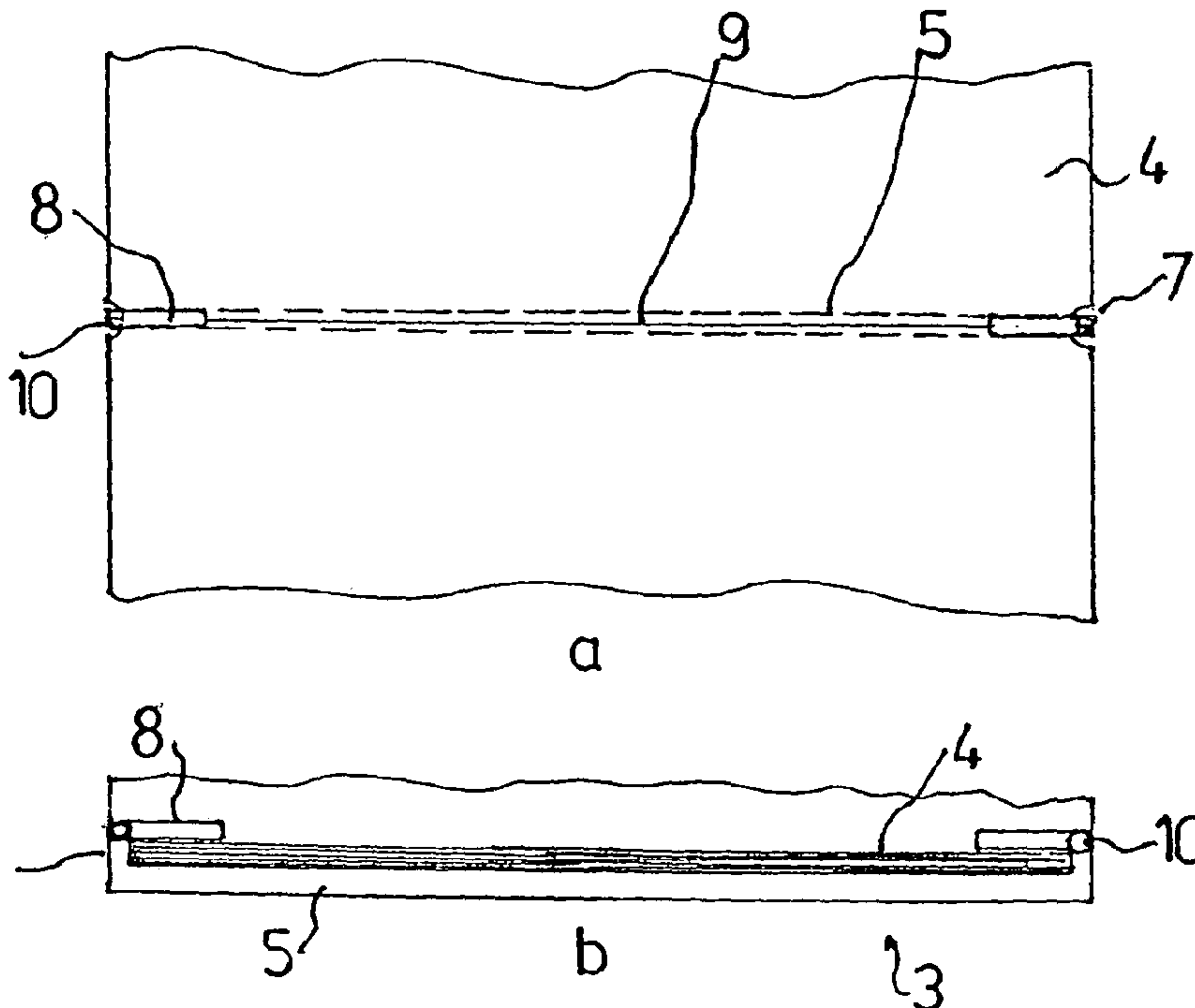
(81) Bestimmungsstaaten (soweit nicht anders angegeben, für jede verfügbare nationale Schutzrechtsart): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Bestimmungsstaaten (soweit nicht anders angegeben, für jede verfügbare regionale Schutzrechtsart): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), eurasisches (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), europäisches (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).

[Fortsetzung auf der nächsten Seite]

(54) Title: DEVICE FOR HOLDING SHEETS IN A BINDER WHICH FORM A FOLDED STACK

(54) Bezeichnung: VORRICHTUNG ZUM HALTEN EINEN GEFALTETEN STOSS BILDENDER BLÄTTER IN EINEM EINBAND



(57) Abstract: The invention relates to a device for holding sheets in a binder which form a folded stack, comprising a holding element (3) connected to the spine (2) of the binder (1). According to the invention, the holding element (3) engages behind the innermost sheet of the stack (4) at its fold (9).

[Fortsetzung auf der nächsten Seite]

WO 2007/022870 A1

WO 2007/022870 A1



Erklärungen gemäß Regel 4.17:

- hinsichtlich der Identität des Erfinders (Regel 4.17 Ziffer i)
- hinsichtlich der Berechtigung des Anmelders, ein Patent zu beantragen und zu erhalten (Regel 4.17 Ziffer ii)
- Erfindererklärung (Regel 4.17 Ziffer iv)

Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

Veröffentlicht:

- mit internationalem Recherchenbericht

(57) Zusammenfassung: Die Erfindung betrifft eine Vorrichtung zum Halten eines gefalteten Stoß bildender Blätter in einem Einband, mit einem mit dem Einband (1) an dessen Rücken (2) verbundenen Halteelement (3). Gemäß der Erfindung hintergreift das Halteelement (3) das innerste Blatt des Stoßes (4) an dessen Falte (9).

WO 2007/022870

PCT/EP2006/007912

Description

“Device for holding sheets which form a folded stack in a binder“

The invention relates to a device for holding sheets which form a folded stack in a binder, comprising a holding element connected to the spine of the binder.

A sheet holding system is known from WO 01/89859A1 in which a folded stack of sheets is connected with a holding rod which extends along the exterior fold in the stack. This holding rod on its part can be connected with the aforesaid holding element so that it can be detached, several holding elements, each to hold one stack of sheets, being provided in the binder. The holding rod stabilizes the stack of sheets so that the latter can also be detached from the binder, e.g. can be used as a notebook or calendar.

The invention is based on the problem of creating a new holding device of the type discussed above which is designed more simply than the sheet-holding system known from WO 01/89859A1.

Consequently, the inventive device solving this problem is characterized by the holding element engaging the innermost sheet in the stack from behind at the fold.

In accordance with the invention the holding element, preferably directly connected with the binder, grips the folded stack directly. In order to stabilize the stack, these sheets can be stapled in the area of the folds adjacent to one another.

Preferably, the section of the holding element engaging the innermost sheet from behind is string-shaped and adjoins the fold along its length in one holding position. This string, designed for example as a thin wire or thin band, sits internally against the fold of the innermost sheet and holds the stack in the binder.

The holding element can grip the edge of the stack from behind and enclose it.

In a preferred embodiment of the invention, the stack has at least one through-opening or, especially preferred, one edge notch in which a section of the holding element extending vertically in regard to the fold engages. The holding element grips the stack of sheets from behind, thus either on the edge or engages a through-opening in the stack from behind. The engagement of the aforesaid section in the edge notch or through-opening stops the stack from moving vertically, which is especially advantageous if the stack is opened together with the binder and the opened stack could be moved laterally against the binder without this engagement.

Preferably, the opening or edge notch is symmetrical to the fold, i.e. to a plane which cuts the opened stack vertically on the fold line.

In a further embodiment of the invention, the holding element comprises a support bar connected to the spine of the binder which can also be integrated into the binder.

The aforesaid vertical section of the holding element can be connected to this support bar or/and be designed as an elbow of the aforesaid string-shaped section.

Preferably, in order to remove the stack of sheets from the binder the string-shaped section can be removed from its holding position, in which it extends parallel to and adjacent to the fold by, for example, the section being swiveled in a position vertical to the fold or being slid parallel to the fold.

Preferably, the string-shaped section can be removed from its holding position against the effect of a spring force, in which case the string-shaped section itself can be elastically malleable and, e.g. can be a rubber band.

The invention is explained further below on the basis of embodiments and the enclosed drawings related to these embodiment. The drawings illustrate as follows:

- Fig.1 a folded block which is held in a leather binder by an device based on the invention,
- Fig. 2 details of the holding device in Fig. 1,
- Figs. 3 to 9 further embodiments of devices based on the invention illustrated schematically,
- Fig. 10 a partial illustration of a further embodiment of a holding device based on the invention, and
- Figs. 11 and 12 further embodiments of holding devices based on the invention.

A leather binder 1 illustrated in Fig. 1 has holding elements 3 attached internally to the spine 2 of the binder to hold within the leather binder a stack of sheets 4 folded at 9.

In the embodiment in question, two holding elements 3 are provided in the leather binder 1, one of the holding elements holding the illustrated stack of sheets 4. The other holding element could hold another such stack. In deviation from this embodiment, further holding elements could be provided.

The holding elements each consist of a support bar 5 which is sewed into the spine 2 of the leather binder 1, an elbow 6 being located at the end of each holding element. The elbows extend through the edge notches 7 in the stack of sheets 4. Each elbow 6 has an end piece 8 on its free end which can be swiveled around a hinge 10 and which lies over its entire length against the stack of sheets 4 along the fold 9 and which holds the stack of sheets on the support bar. The hinge 10 can be designed so that it is hard to move or locks into the swivel position shown in Fig. 2.

The elbows 6 which extend vertically to the fold 9 and which engage in the edge notches 7 lock the stack of sheets 4 in the direction vertical to the fold, which prevents any undesired lateral shifting of the stack of sheets 4, especially when opened.

In the embodiment shown, the edge notch 7 has a semicircular shape. It could also be triangular or adapted to the cross-section of the edge elbow which engages in it.

By placing end pieces 8 in a position vertical to the fold 9 of the stack of sheets 4, the stack of sheets can be removed from the holding device 3 to be used outside of the binder 1. In this position of the end pieces 8, the stack of sheets can also be reinserted and attached to the support bar 6 in the position shown in Fig. 2 by swiveling the end pieces 8.

In the following figures, identical or identically operating parts are identified with the same reference numbers as in Figures 1 and 2, the letters a, b, c ... etc. being attached to the relevant reference numbers.

A holding element 3a shown in Fig. 3 has a support bar 5a which, for example, can be connected to a leather binder. The support bar 5a is designed as a pipe with openings at the ends and is connected to a retaining clip 11 made of spring wire, a folded stack of sheets 4a being enclosed between the retaining clip 11 and the support bar 5a.

The spring-wire retaining clip 11 has a section 8a which lies against the stack of sheets 4a along its fold. The elbows 6 a and 6a' which extend vertically to the fold of the stack of sheets 4a connect to this section and engage in the edge notches corresponding to the edge notches 9 of the stack of sheets 4a.

An end piece 12, bent at 90° to the elbow, connects to the elbow 6a and engages in an end opening in the pipe-shaped bar 5a. The elbow 6a' is connected to a loop 13 which merges into an end piece 12' which like the end piece 12 engages in an end opening of the pipe-shaped bar 5a.

In order to loosen the connection between the stack of sheets 4a and the bar 5a, the user grips the loop 13 and pulls the end piece 12', which is significantly shorter than the end piece 12, out of the end opening of the pipe-shaped support bar 5a. The retaining clip 11 can now, with release of the stack of sheets 4a, bend from the support bar 5a and slide in the opposite direction, the end piece 12 exiting from the bar 5a.

Fig. 4 shows a holding element 3b similar to the holding element in Fig. 3 with which a clip 11b made of spring wire with elbows 6b and 6b' in the longitudinal middle of a section 8b lying against the stack of sheets 4b has a loop 14 which allows the section 8b to expand in the direction of the arrow 15.

To detach the retaining clip 11b from the support bar 5b, the user can pull on a small band 16 connected to the retaining clip 11b in the direction of the arrow 15.

A holding element 3c shown in Fig. 5 has a holding wire 17 made of spring steel which runs for the largest part of its length through a pipe-shaped support bar 5c and which is wound to form a spring section 18 within the support bar. End pieces 8c, once again bent 90° from the elbows 6c, hold a stack of sheets 4c on the support bar 5c. Using a small pull band 16c, the clamping of the stack of sheets 4c by the relevant end piece 8c can be released and the stack of sheets removed.

A holding element 3d shown in Fig. 6 to hold a stack of sheets 4d has a support bar 5d, which is designed as one piece with a retaining clip 11d made of spring steel wire, in which case the retaining clip 11d can be attached at 19 to an end elbow 6d of the support bar 5d like a safety pin.

A holding element 3e shown in Fig. 7 has a support bar 5e with an end elbow 6e whose free end is connected to an elastically expandable band 8e, for example made of rubber. A plug pin 21 is attached to the end of the rubber band 8e opposite to the elbow 6e, it

being possible to push this plug pin into an end opening of the pipe-shaped support bar 5e by tightening the rubber band 8e and laying the rubber band against the internal fold of a stack of sheets 4e.

A holding element 3f shown in Fig. 8 to hold a stack of sheets 4f is one piece made of spring wire forming a support bar 5f with elbows 6f and end pieces 8f bent from the elbows 6f.

Reference is now made to Fig. 9 in which an embodiment of a holding element 3g to hold a folded stack of sheets 4g is shown in which instead of edge notches, as was the case with the preceding embodiments, the stack of sheets 4g has two through-openings 23. A pin 6g which is connected to a support bar 5g and which extends vertically to the fold 9g engages in each of the through-openings 23. An end piece 8g can be swiveled around a hinge 10g so that it lies against the fold 9g of the stack of sheets 4g and grips the stack of sheets from behind while connecting with the bar 5g.

It goes without saying that instead of swivellable end pieces 8g, a band (possibly elastic) connecting the aforesaid pins 6g, could be used in order to hold the stack of sheets 4g on the support bar 5g.

Reference is now made to Fig. 10. A partially illustrated support bar 5h has a pin 6h with a ball head 24. Another such pin (not shown) is placed at a distance from the pin 6h. A tightened rubber band 8h between the ball heads 24 of the pins holds a stack of sheets 4h against the support bar 5h.

The stack of sheets 4h has through-holes 23h with an inside diameter corresponding to the diameter of the ball heads 24.

Some of the sheets in the stack of sheets 4h have solely the opening 23h visible in Fig. 10c, in which case it is a matter of sheets facing the spine of the binder. The sheets in the stack following the former have openings 26 symmetrical to the fold 9h with an inside diameter increasing sheet by sheet.

When opened 90°, the ball head 24 fills the cavity formed by the openings 26 in the stack of sheets 4h. When opened, following removal of the rubber band 8h, the stack of sheets 4h can be removed from the support bar 5h by the ball heads 24h being guided through the openings 23h.

Another holding element 3i shown in Fig. 11 has a support bar 5i with elbows 6i. These elbows are followed by two further elbows from which end elbows form an eye 27. An elastically expandable band 8i can be attached to the eyes 27 with ball-shaped end pieces 28 gripping the eyes 27 from behind. The eyes form a centering seat for the end pieces.

Fig. 12 shows a holding element 3j comprised exclusively of an expandable closed band 29. This band engages in edge notches 7j on a stack of sheets 4j. A spine 2j of a binder 1j also has corresponding edge notches 30, in which the band 29 sits. When the binder 1j and the stack of sheets 4j are opened, the edge notches 7j and 30 secure both the band 29 and the stack of sheets 4j against lateral shifting on the binder 1j. As Fig 12b shows, the spine of the binder has several edge notches 30 corresponding to the number of stacks of sheets to be held in the binder.

The band 29 can be enclosed between two layers of the spine of the binder so that it cannot be seen from outside.

In particular, the inner layer of the two layers could be attached to the other layer so that it can be removed, e.g. by means of snap fasteners.

The band 29 does not need to be closed. The ends of an open band can be connected firmly to the spine of the binder.

Patent claims:

1. Device to hold a folded stack (4) of sheets in a binder (1) with a holding element (3) connected to the spine (2) of the binder (1) characterized by the holding element (3) engaging the innermost sheet of the stack (4) from behind at its fold (9).
2. Device in accordance with Claim 1 characterized by the section (8) of the holding element (3) engaging the innermost sheet of the stack (4) from behind being string-shaped and bordering the fold (9) along its length in one holding position.
3. Device in accordance with Claim 1 or 2 characterized by the stack (4) having at least one through-opening (23) or edge notch (7) in which a section (6) of the holding element (3) which extends vertically to the fold (9) engages.
4. Device in accordance with Claim 3 characterized by the opening (23) or edge notch being symmetrical to the fold (9).

5. Device in accordance with one of Claims 1 to 4
characterized by
the holding element (3) comprising a support bar (5) connected to the spine (2) of
the binder (1).
6. Device in accordance with one of Claims 3 to 5
characterized by
the section (6) of the holding element (3) extending vertically to the fold (9) being
connected to the support bar (5) or/and being designed as an elbow of the string-
shaped section (8).
7. Device in accordance with one of Claims 2 to 6
characterized by
it being possible to remove the string-shaped section (8) from the aforesaid
holding position, if necessary by swiveling or sliding, in order to detach the stack
(4) from the binder (1).
8. Device in accordance with Claim 7
characterized by
it being possible to remove the string-shaped section (8a – 8f) from the holding
position against the effect of a spring force.
9. Device in accordance with one of Claims 2 to 8
characterized by
the string-shaped section (8a – 8f) being elastically malleable.

10. Device in accordance with one of Claims 1 to 9
characterized by
expanding pins (6) which are connected to the string-shaped section (8h)
projecting from the support bar (5) and the sheets having expanding openings
(26) such that a space to receive the expanded pins (6h) is produced in the stack
folded 90° .
11. Device in accordance with one of Claims 1 to 4 as well as 8 and 9
characterized by
the holding element (3s) being comprised solely of an elastic band (29).
12. Device in accordance with Claim 11
characterized by
the band (29) being closed and enclosing at least one inner layer of the spine (2j)
of the binder in addition to the stack of sheets (4j).
13. Device in accordance with one of Claims 1 to 12
characterized by
the holding element (3j) being secured to the binder (1j) to prevent displacements
perpendicular to the spine (2j).
14. Device in accordance with Claim 13
characterized by
that the holding element (3j) engages in an edge notch (30) provided in the spine
(2j) of the binder (1j).

1/4

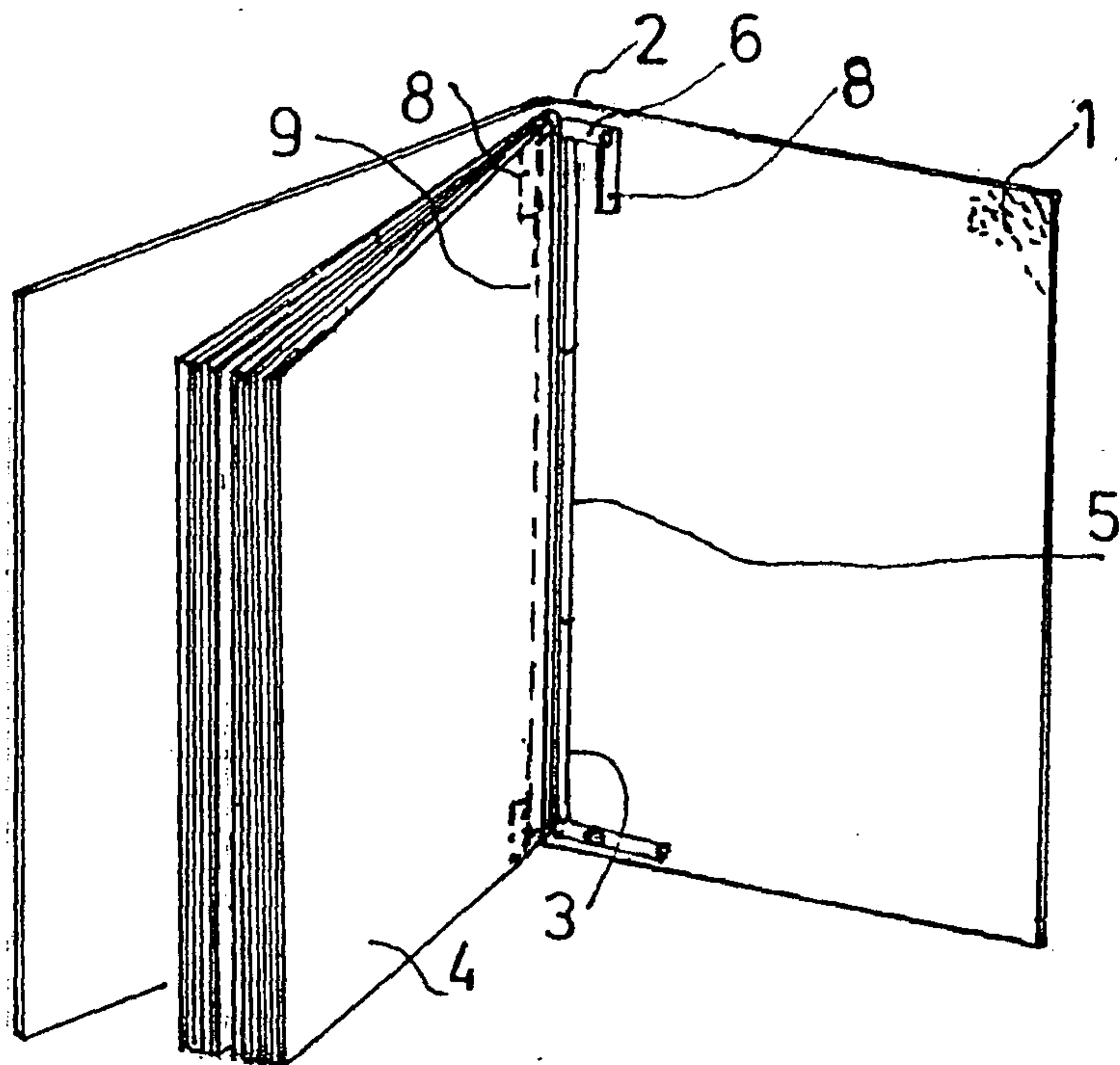


FIG. 1

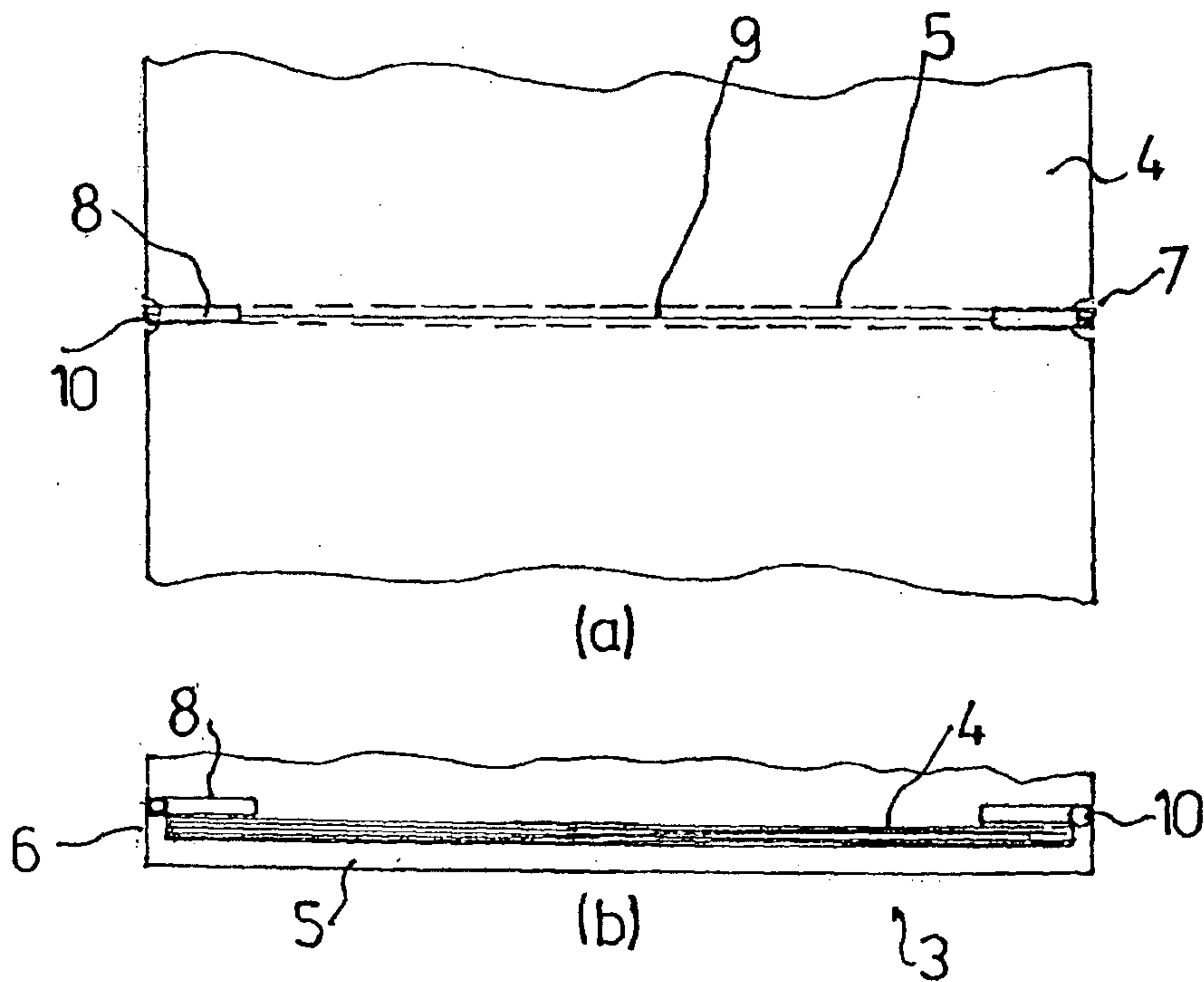
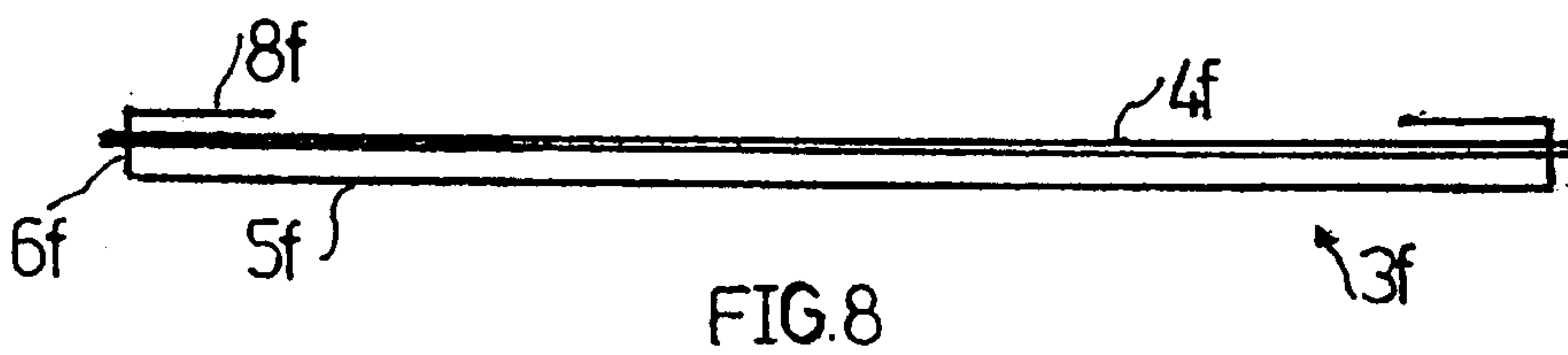
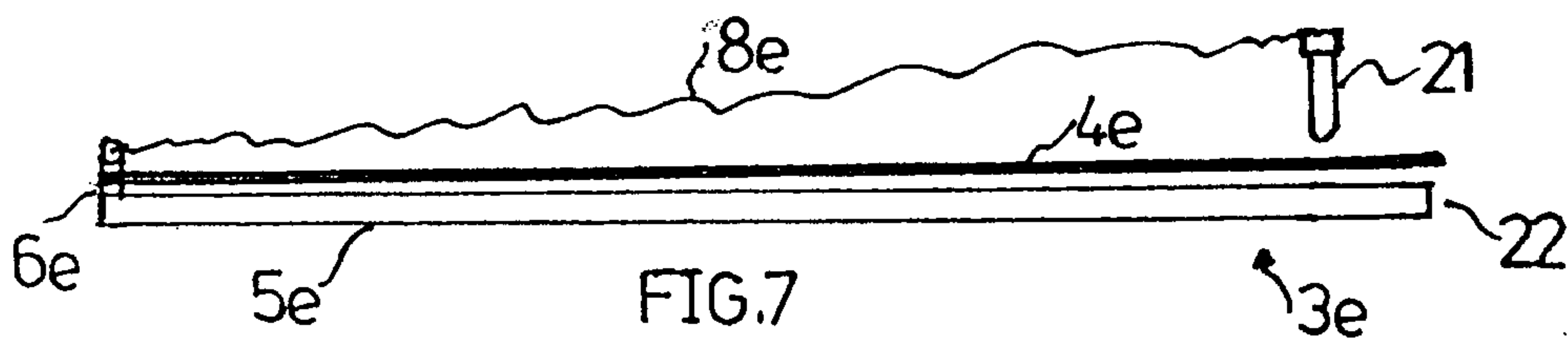
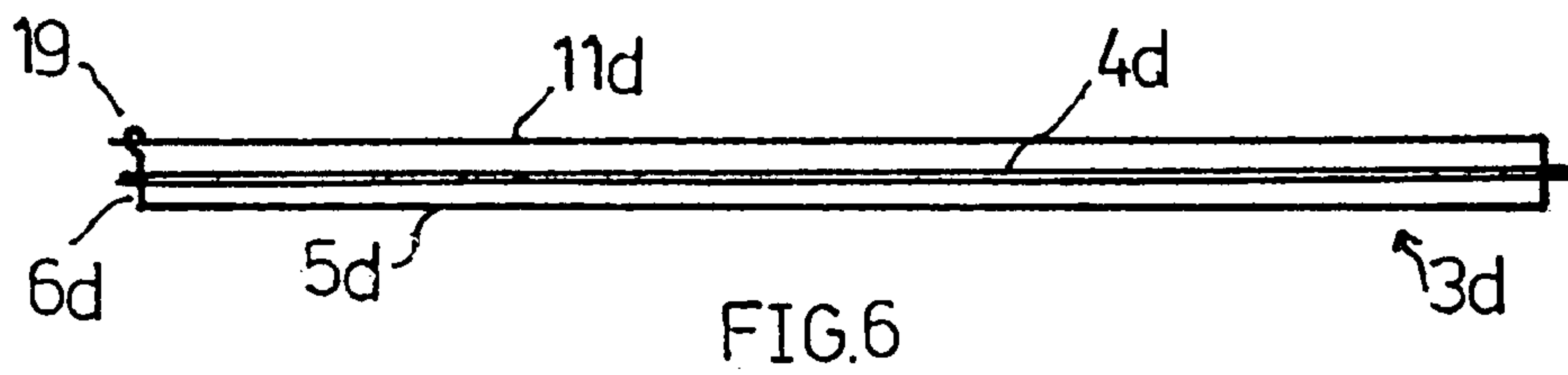
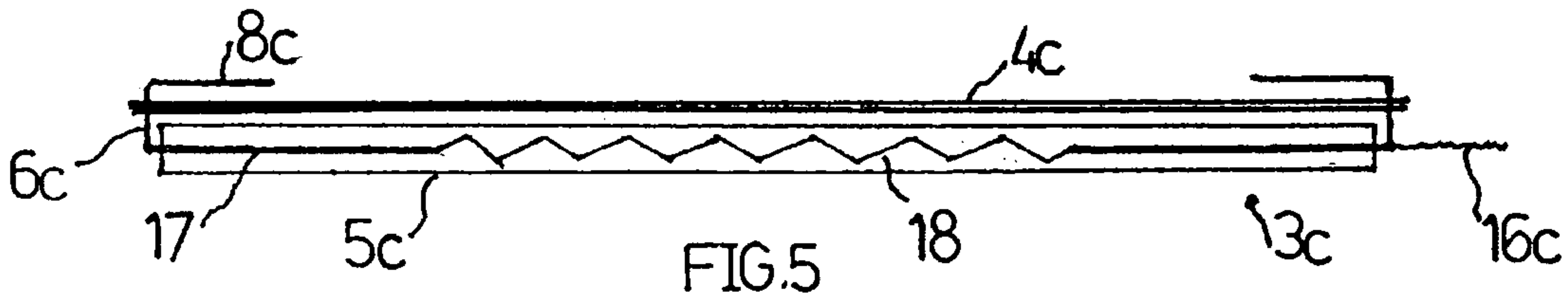
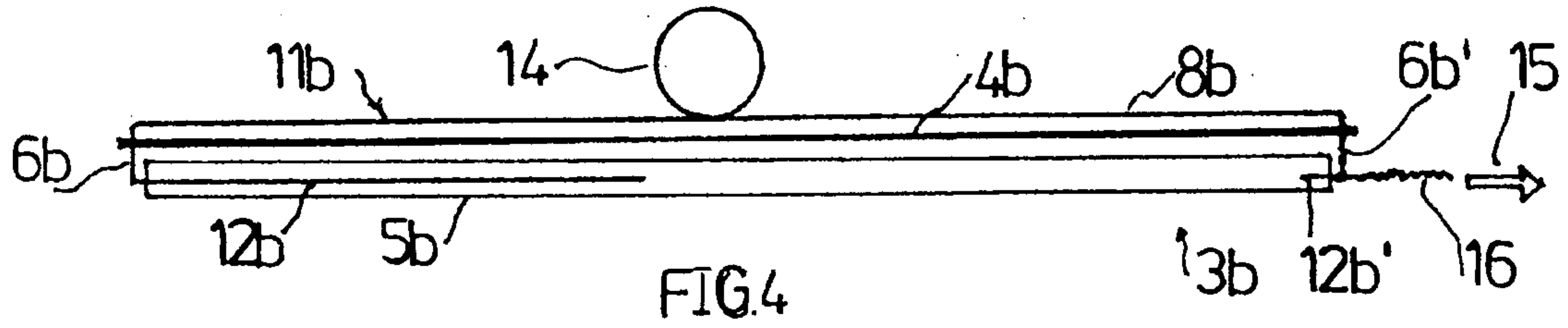
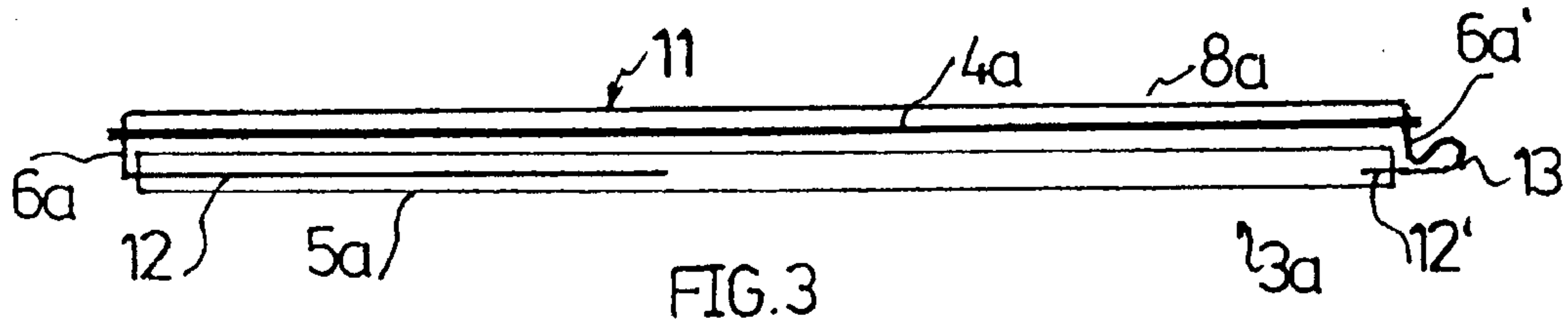


FIG. 2

2/4



3/4

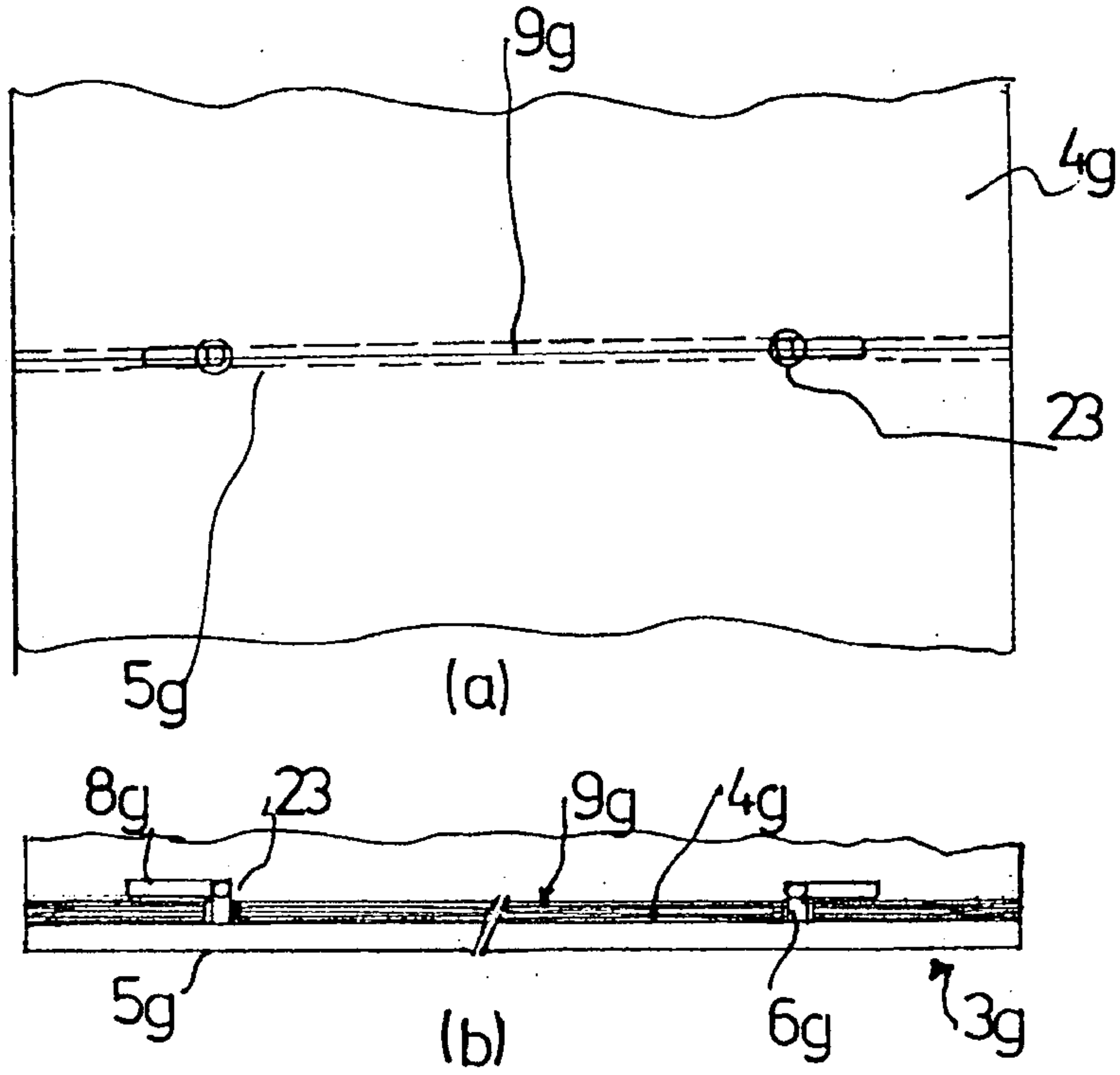


FIG.9

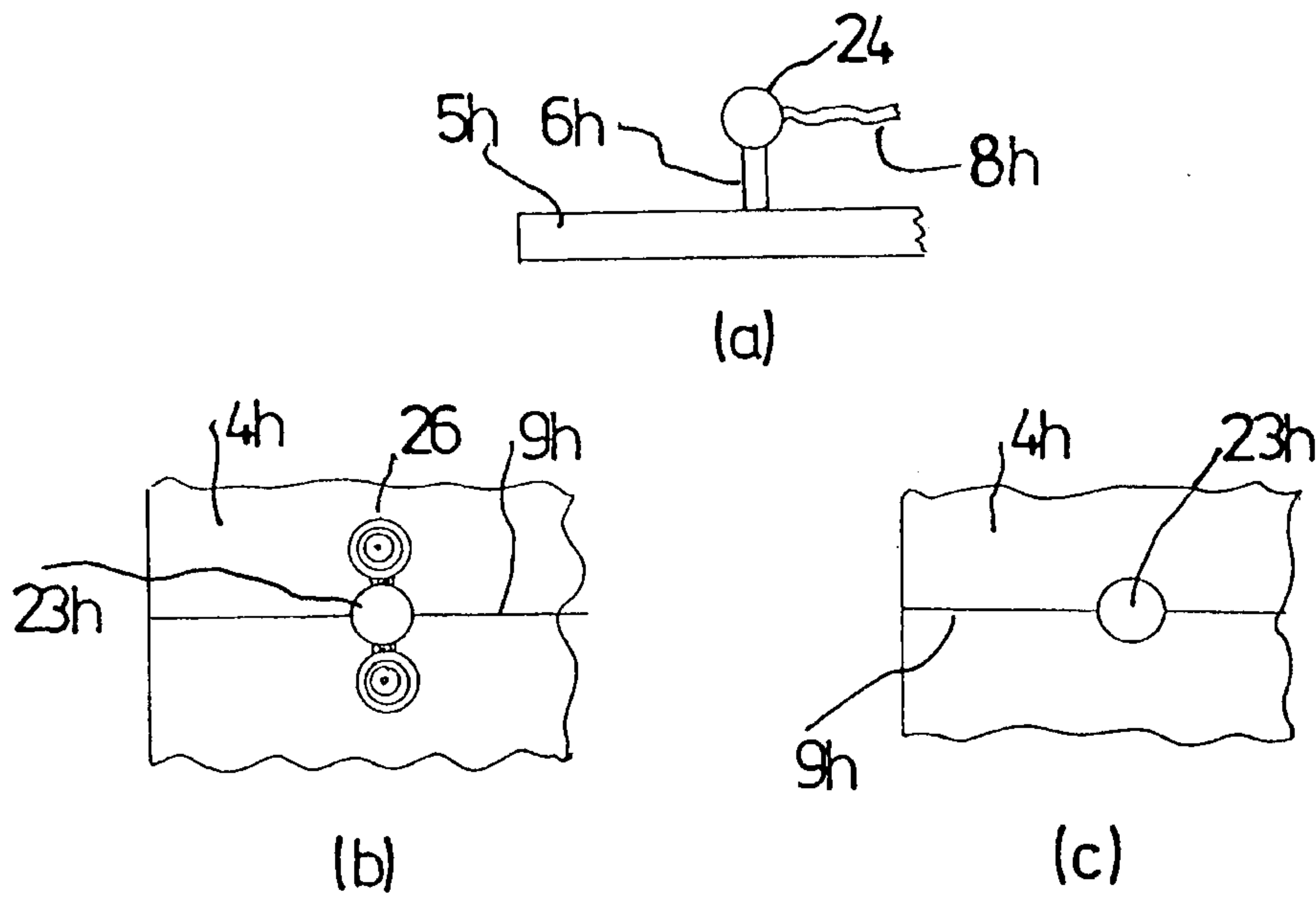


FIG.10

4/4

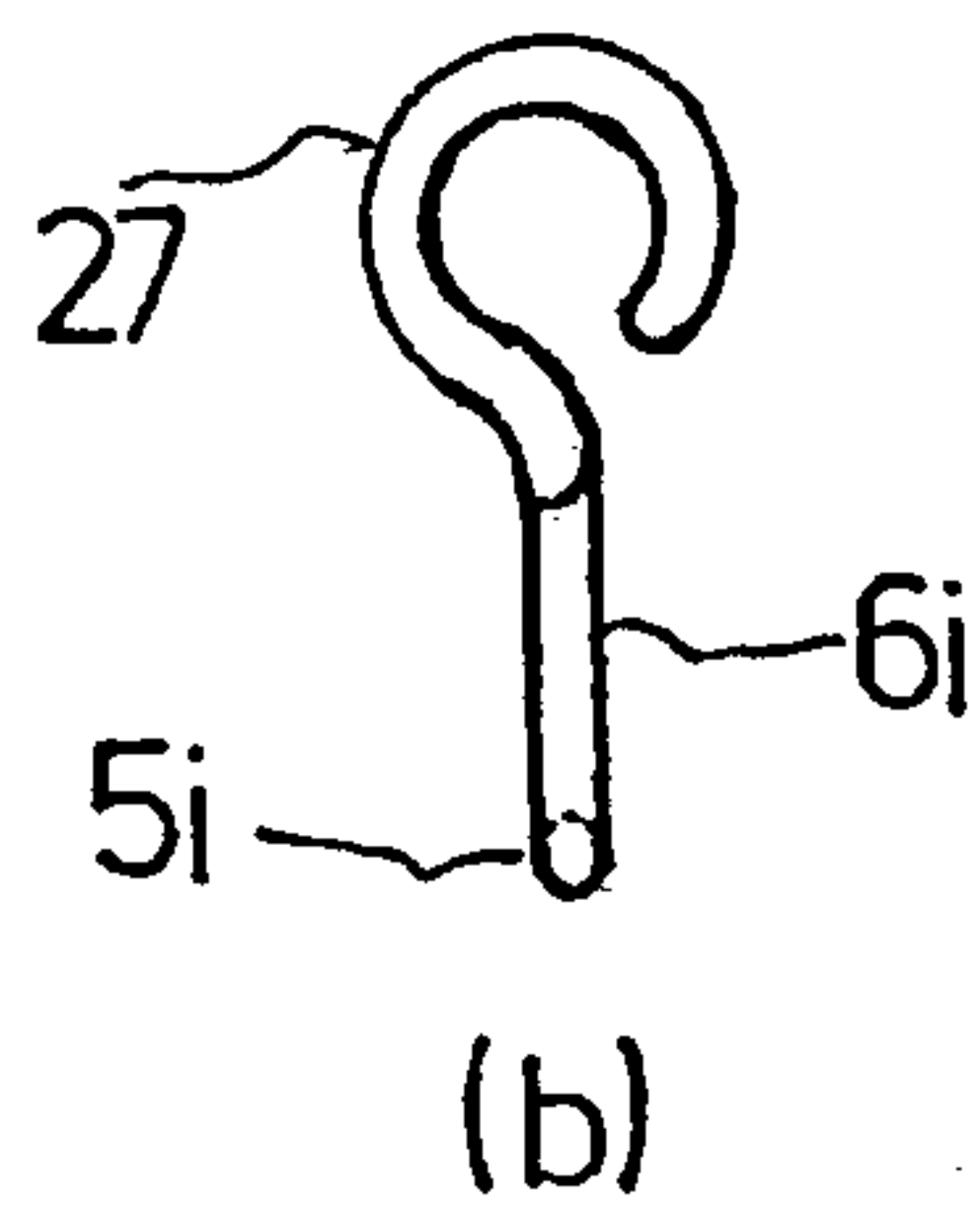
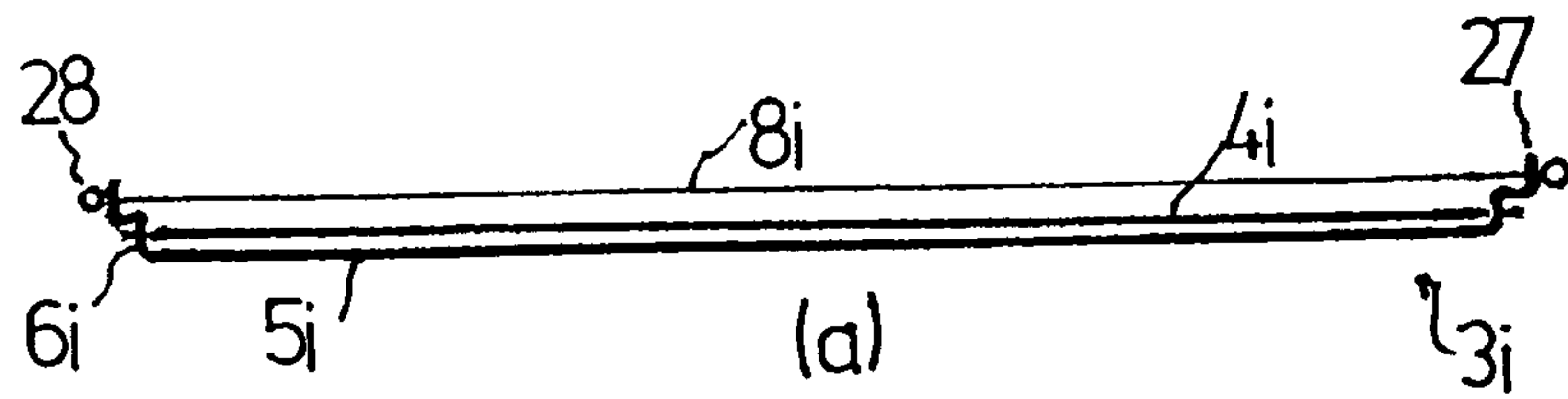


FIG.11

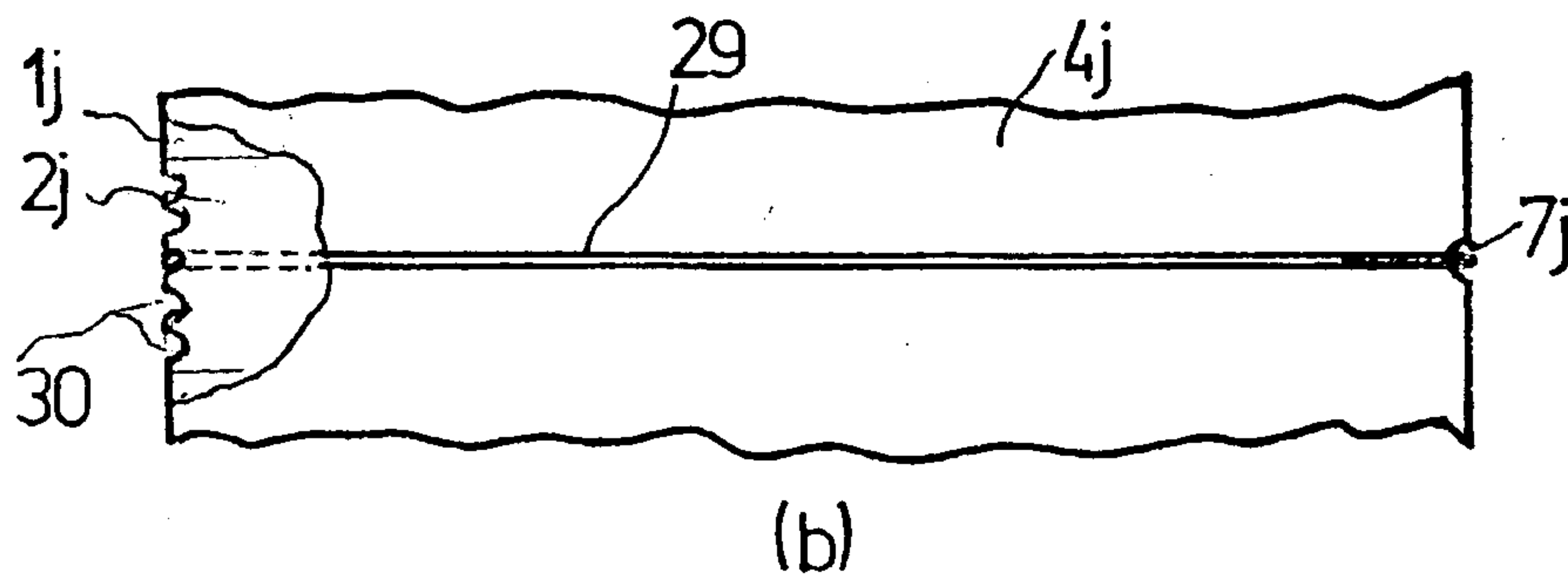
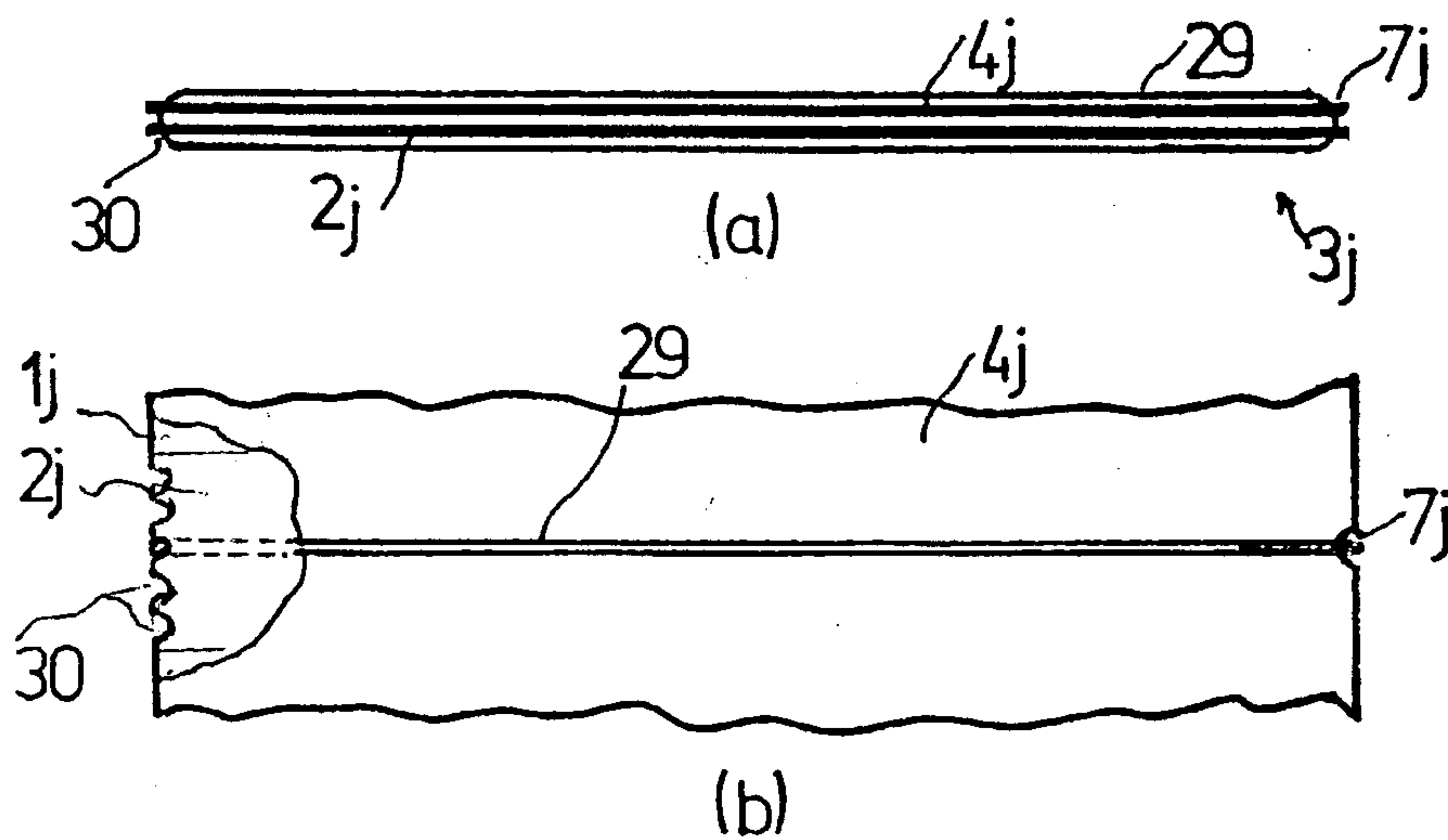
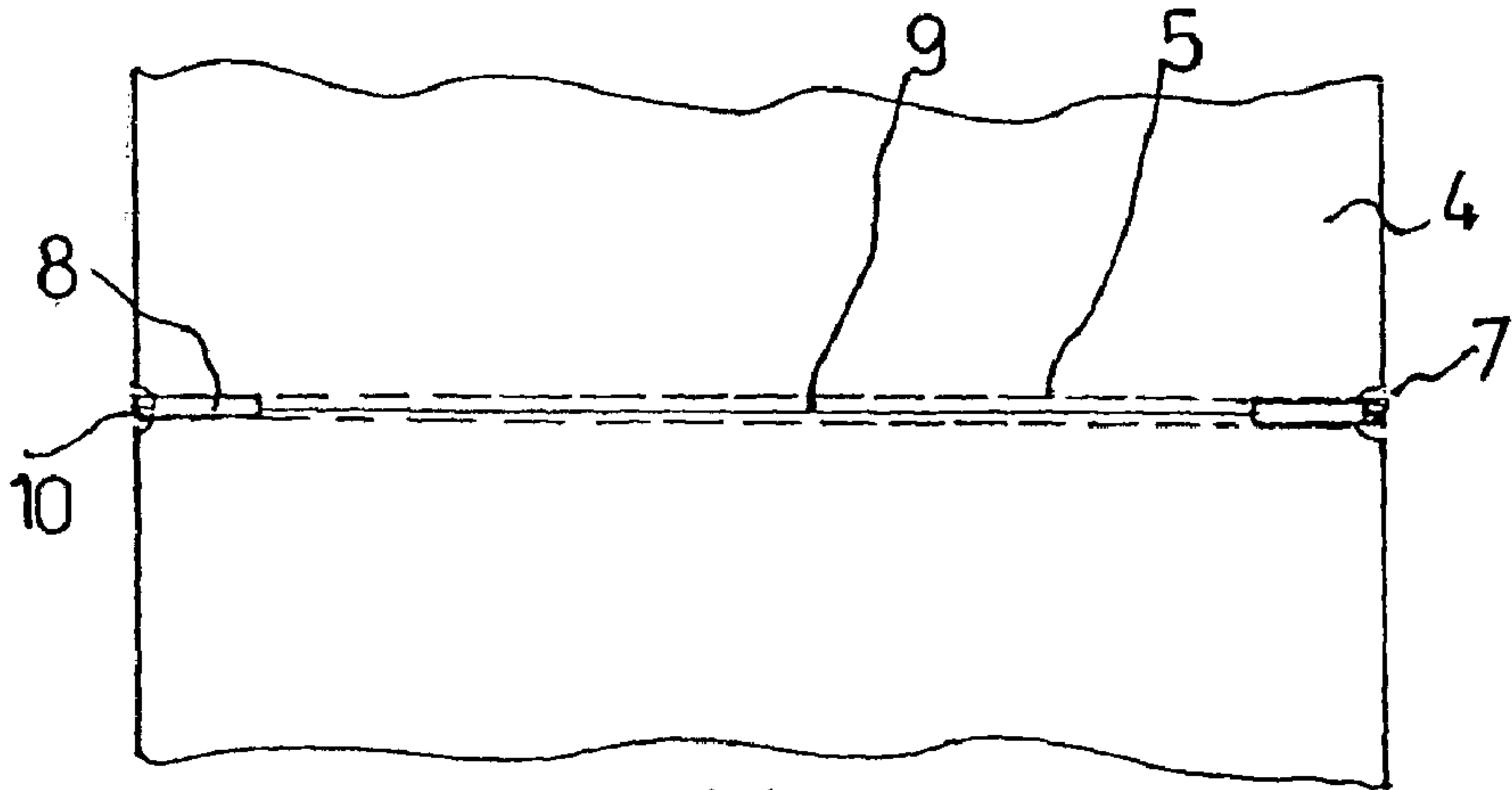
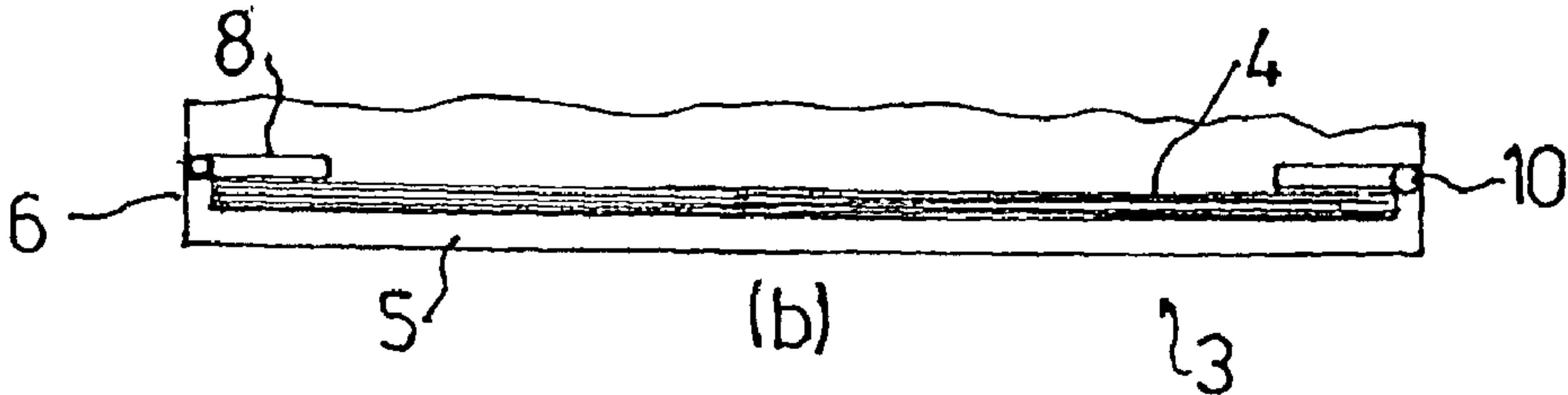


FIG.12



(a)



(b)