



(11) **EP 1 865 125 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
12.12.2007 Bulletin 2007/50

(51) Int Cl.:
E04G 21/24 (2006.01)

(21) Application number: **07396004.9**

(22) Date of filing: **06.06.2007**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE
SI SK TR**
Designated Extension States:
AL BA HR MK YU

(30) Priority: **06.06.2006 FI 20060556**

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(54) **Mount for a plastic sheet partition**

(57) Mount (10) for raising and supporting a plastic sheet partition (11), comprising a locking element (20) for locking the plastic sheet, an adjusting element (33) for adjusting the mount to a suitable length between the floor (31) and the ceiling (24), and a compression element (30, 33) for bracing the mount in place. The bottom piece (21) and top piece (22) of the mount's locking element can be interlocked by friction and/or the magnetic force

between the pieces. In addition, it may have at least one spike (27), which penetrates through the plastic sheet. The parts (21, 22) of the locking element have been connected to each other with a string or a line. The compression element is a flexible or tightenable compression element (33).

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Description

OBJECT OF THE INVENTION

[0001] The object of the invention is a mount for raising and supporting a plastic sheet partition or a similar sheet-like lightweight partition, comprising

- a locking element located at the upper end of the mount, having a bottom piece and a top piece, between which the plastic sheet forming the partition can be locked,
- at least one adjusting element for adjusting the mount to a suitable length so that the ends of the mount rest on the floor and the ceiling, and
- a compression element, which allows the ends of the mount to be braced against the floor and the ceiling so that the mount supporting the plastic sheet partition stays in place between the floor and the ceiling.

PRIOR ART

[0002] A plastic sheet partition mount is used for installing a temporary partition in a room or other indoor space, usually a plastic sheet partition of light-construction, for example, during construction or repair work. The temporary plastic sheet partition separates the other portions of the room and protects them from dust during repair work, among other things. The plastic sheet partition also serves as a visual and noise barrier between the separated portions of the room.

[0003] When installing the plastic sheet partition, the edge of the plastic sheet is fastened to the upper end of the mount and the mount is raised to an upright position. Then the edge of the plastic sheet can be raised against the ceiling. After this, the opposite edge of the plastic sheet is tucked under the mount so that it stays between the mount and the floor. After this, the mount is adjusted to a suitable length using, for example, the telescopic adjusting mechanism of the mount and secured between the floor and the ceiling. When the mount has been secured between the floor and the ceiling, the upper end of the mount holds the top edge of the protective plastic sheet in place and the lower end of the mount holds the bottom edge of the plastic sheet in place. Alternatively, the bottom edge of the plastic sheet may be left hanging freely against the floor.

[0004] Patent publication US-6,321,823 B1 describes a known plastic sheet partition mount. The mount used is an extension pole which can be locked at the desired length using a locking element and adjusted to a suitable length according to the room height between the floor and the ceiling. The compression element according to the publication is a helical spring which can be used to brace the extension pole between the floor and the ceiling. In this case, the spring load is exerted on the floor and the ceiling so that the extension pole stays in place.

However, a helical spring is not a reliable compression element, as the helical spring is loaded by the whole weight of the plastic sheet partition. The helical spring may thereby be compressed to such an extent that the plastic sheet comes off the locking element at the upper end of the mount.

[0005] The simplest way to fasten the top edge of the plastic sheet is to leave it simply between the mount and the ceiling. However, this manner of locking the plastic sheet is not very reliable. In addition, installation is complicated by the fact that the mount cannot be used to raise the plastic sheet against the ceiling. Patents US-6,209,615 and US-6,321,823 therefore describe another solution.

[0006] In publication US-6,321,823 B1 the plastic sheet is locked into place at the upper end of the mount with locking elements having a velcro tape, hooks or specially-shaped pins that are pressed against the plastic sheet hydraulically, and corresponding holes. The velcro tape attached to the plastic sheet according to the first solution is neither reliable nor practical, as plastic sheets do not usually have ready-attached velcro tapes. Plastic sheet used as a lightweight partition is usually unwound directly from a plastic sheet roll. In addition, the velcro tapes would have to be attached beforehand in exactly the right places for the mounts.

[0007] In another solution, the plastic sheet is placed between two plate-like pieces located at the upper end of the extension pole provided with a spring. The plastic is secured in place by turning hooks around the plastic sheet. This solution is insecure and difficult to use in practice.

[0008] In a third solution, the specially-shaped pins of the plate-like locking element and at the same time the plastic sheet are pushed through the longitudinal holes of a counter-plate. After this, the plastic sheet is locked into place by moving the pins along the longitudinal holes sideways into the locking position. Such a procedure is very difficult, especially if the plastic sheet is thick and rigid. The publication therefore presents a hydraulic clamp that has been attached to the mount for this procedure. Such an equipment arrangement and its functioning are in practice not feasible at an ordinary construction site.

PURPOSE OF THE INVENTION

[0009] As it is, however, desirable to use a sufficiently sturdy and thick plastic sheet, a reliable mount design is needed for this kind of material as well. The purpose of this invention is to provide a mount that does not have the above-mentioned disadvantages and that allows the use of thicker plastic sheeting to form the protective partition. Furthermore, the purpose of the invention is to provide a new mount for installing and supporting a plastic sheet partition or similar sheet-like lightweight partition, in which mount the locking element for locking the plastic sheet and the compression element for generating a

compressive force against the floor and the ceiling are essentially more efficient.

CHARACTERISTICS OF THE INVENTION

[0010] The plastic sheet mount according to the invention is characterised in that

- the bottom piece and the top piece of the locking element located at the upper end of the mount can be interlocked by friction and/or magnetic force between the pieces so that the plastic sheet stays between the interlocked bottom piece and top piece, and
- that the compression element of the mount is a passive, flexible compression element or an active manually tightenable compression element.

EMBODIMENTS OF THE INVENTION

[0011] A preferred embodiment of the mount according to the invention is characterised in that

- one of the parts of the locking element for locking the plastic sheet at the upper end of the mount has a magnet and the opposite part has a metal piece, such as an iron or a steel piece, which is attracted by the magnet.
- and that the plastic sheet can be inserted between the parts of the locking element so that the plastic sheet stays between the magnet and the metal piece, such as an iron or steel piece.

[0012] A second preferred embodiment of the mount according to the invention is characterised in that one part of the locking element located at the upper end of the mount for locking the plastic sheet has a round magnet, which has a preferably round recess in its centre. Naturally, the magnet may also have a shape other than round.

[0013] A third preferred embodiment of the mount according to the invention is characterised in that

- the upper end of the mount has a two-part locking element for locking the plastic sheet, one part having a protrusion and the opposite part having a recess to accommodate the protrusion;
- that the plastic sheet can be inserted between the parts of the locking element so that the protrusion in one of the parts pushes the plastic sheet into the recess in the opposite part.

[0014] A fourth preferred embodiment of the mount according to the invention is characterised in that the opposite part of the locking element has a round metal piece, such as an iron or a steel piece having a preferably round protrusion in its centre. Also in this case the protrusion may have a shape other than round.

[0015] A fifth preferred embodiment of the mount according to the invention is characterised in that the locking element for locking the plastic sheet has at least one spike, which penetrates through the plastic sheet when the plastic sheet is being locked into place.

[0016] A sixth preferred embodiment of the mount according to the invention is characterised in that the mount has a flexible compression element made of rubber or plastic, the deformation of which produces a spring force that is exerted on the floor and the ceiling.

[0017] A seventh preferred embodiment of the mount according to the invention is characterised in that the surface that comes into contact with the ceiling of the locking element located at the upper end of the mount for locking the plastic sheet has a tacky padding sheet, such as a foam plastic sheet, which prevents the upper end of the mount from sliding sideways. At the same time the padding sheet ensures that the use of the plastic sheet partition does not damage the ceiling.

[0018] An eighth preferred embodiment of the mount according to the invention is characterised in that the parts of the locking element at the upper end of the mount have been fastened to each other with a flexible connecting element, such as a string, line or the like.

EXAMPLES OF EMBODIMENTS

[0019] In the following, the invention is described using an example with reference to the appended drawings, wherein

- Fig. 1 is a side view of the mount according to the invention and a plastic sheet partition installed in place;
- Fig. 2 is a vertical sectional side view of the mount according to the second embodiment of the invention;
- Fig. 3 is a cutaway side view of the upper portion of the mount;
- Fig. 4 corresponds to Fig. 3 and shows the upper portion of the mount according to the second embodiment;
- Fig. 5 corresponds to Fig. 3 and shows the upper portion of the mount according to the third embodiment.

DESCRIPTION OF THE FIGURES

[0020] Fig. 1 shows a mount 10 according to the invention, installed in place so that it has been secured between the floor 31 and the ceiling 24 of the room to be protected. The mount 10 holds the plastic sheet partition 11 in place both at its upper portion on the ceiling 24 and at the lower portion on the floor 31. The main parts of the mount 10 are a locking element 20, an adjusting element 32 and compression element 33, which have been attached to a pole 29. The locking element 20 locks the upper portion of the plastic sheet 11 into the upper portion

of the mount 10. The adjusting element 32 in this embodiment is a telescopic adjuster known as such, which enables two nested poles to be quick-locked in relation to each other in such a position that the length of the mount 10 corresponds to the height of the working space, i.e. the distance of the ceiling 24 from the floor 31. The compression element 33 in this embodiment is a securing element known as such, which has been attached to two nested poles. The handle of this securing element has a lever 34, which can be moved to cause the telescopically inserted poles to move in small steps in relation to each other. When the lever 34 of the mount 10 of Fig. 1 is pulled, the length of the mount 10 increases in small steps and secures the mount 10 between the ceiling 24 and the floor 31. In this embodiment, the lower end of the mount 10 of Fig. 1 has a hard-rubber support piece 30.

[0021] Fig. 2 shows a mount 10 according to the second embodiment, whose upper end has a locking element 20 for locking the plastic sheet 11. The bottom piece of the locking element 20 has a round magnet 21, which is pressed against a round steel piece 22 located in the top piece of the locking element 20, when the plastic sheet 11 is locked between the pieces 21 and 22. The top surface of the locking element 20 has a foam plastic sheet 23, which rests on the ceiling 24. The top piece 22 of the locking element 20 has a protrusion 25, which pushes the plastic sheet 11 into the recess 26, whereby a fold is created in the plastic sheet 11, keeping it in place. This kind of locking of the plastic sheet 11 is sufficient in many cases. Alternatively, an even more efficient locking is provided when the piece 25 has one or several spikes 27 which penetrate through the plastic sheet 11. The spikes 27 ensure the locking. Thereby the piece 25 does not necessarily have to be a protrusion, but the most efficient locking is provided by a protruding piece 25 to which spikes 27 have been fixed. The top piece 22 and the bottom piece 21 of the locking element 20 have been connected to each other with a string 28 or a line, which ensures that the loose top piece 22 of the locking element 20 cannot be lost by accident.

[0022] A compression element has been attached to the lower end of the pole 29 of the mount 10, which compression element in this embodiment is a round, flexible ball 30. The ball 30 is, for example, a squash ball, which, when compressed, acts as a compression element so that the mount 10 is securely locked into place between the ceiling 24 and the floor 31. The ball 30 can be placed directly on the end of the pole 29 forming the mount 10 or alternatively in a nest 35 arranged for the ball 30 and attached to the end of the pole 29.

[0023] Figs. 3-5 show alternative embodiments of the locking element 20 located at the upper end of the mount 10. Fig. 3 shows the locking element 20 of the mount 10, locked so that the plastic sheet 11 is locked between the bottom piece 21 and top piece 22 of the locking element 20. Thereby the protrusion 25 pushes the plastic sheet 11 into the recess 26, forming a bend so that the plastic sheet 11 cannot slip out of the gap between the bottom

piece 21 and the top piece 22 of the locking element 20. The spikes 27 that have penetrated through the plastic sheet 11 also ensure the locking.

[0024] In the embodiment of Fig. 3, the locking between the bottom piece 21 and top piece 22 of the locking element 20 is preferably accomplished by the magnetic force between a magnet 21 and a steel piece 22. Alternatively, instead of or in addition to the magnetic force, friction can be used for locking the bottom piece 21 and top piece 22 of the locking element 20 to each other. In this case the protrusion 25 is dimensioned so that, together with the plastic sheet 11, it forms such a tight fit with the recess 26 that the locking is sufficiently effective.

[0025] In Fig. 4, the locking between the bottom piece 21 and top piece 22 of the locking element 20 is provided either by magnetic force and/or by the tight fit of the protrusion 25 and the recess 26.

[0026] Fig. 5 presents a further embodiment wherein the locking between the bottom piece 21 and top piece 22 of the locking element 20 is provided either by magnetic force and/or by the tight fit between the spikes 27 of the top piece 22 and the openings of the bottom piece 21.

25 LIST OF REFERENCE NUMBERS

[0027]

10	mount
30	11 plastic sheet
20	locking element
21	bottom piece, magnet
22	top piece, steel piece
23	foam plastic sheet
35	24 ceiling
25	protrusion
26	recess
27	spike
28	string
40	29 pole
30	support piece, flexible ball
31	floor
32	adjusting element
33	compression element
45	34 lever
35	nest

Claims

1. Mount (10) for raising and supporting a plastic sheet partition (11) or a similar sheet-like lightweight partition wall, comprising
 - a locking element (20) located at the upper end of the mount (10) and having a bottom piece (21) and a top piece (22), between which the plastic sheet (11) forming the partition can be locked,

- at least one adjusting element (33) for adjusting the mount (10) to a suitable length so that the ends of the mount rest on the floor (31) and the ceiling (24), and
- a compression element (30, 33), which can be used to brace the mount (10) against the floor (31) and the ceiling (24) so that the mount supporting the plastic sheet partition (11) stays in place between the floor and the ceiling.

characterised in that

- the bottom piece (21) and the top piece (22) of the locking element (20) for locking the plastic sheet (11) at the upper end of the mount (10) can be interlocked by friction and/or the magnetic force between the pieces so that the plastic sheet stays between the interlocked bottom piece and top piece, and
- that the compression element of the mount (10) is a passive, flexible compression element (30) or an active manually tightenable compression element (33).

2. A mount (10) according to claim 1, characterised in that

- one part (21) of the locking element (20) located at the upper end of the mount (10) for locking the plastic sheet (11) has a magnet and the opposite part (22) has a metal piece, such as an iron or a steel piece, which is attracted by the magnet.
- and that the plastic sheet (11) can be inserted between the parts of the locking element (20) so that the plastic sheet stays between the magnet (21) and the metal piece (22), such as an iron or steel piece.

3. A mount (10) according to claim 1 or 2, characterised in that one part (21) of the locking element (20) located at the upper end of the mount (10) for locking the plastic sheet (11) has a round magnet, which has a preferably round recess (26) in its centre.

4. A mount (10) according to claim 1, 2 or 3 characterised in that

- the upper end of the mount (10) has a two-part locking element (20) for locking the plastic sheet (11), one part (22) having a protrusion (25) and the opposite part (21) having a recess (26) to accommodate the protrusion, and
- that the plastic sheet (11) can be inserted between the parts (21, 22) of the locking element (20) so that the protrusion (25) of one part (22) pushes the plastic sheet into the recess (26) of the opposite part (21).

5. A mount (10) according to any one of claims 1-4, characterised in that the opposite part (22) of the locking element (20) has a round metal piece, such as an iron or a steel piece having a preferably round protrusion (25) in its centre.

6. A mount (10) according to any one of claims 1-5, characterised in that the locking element (20) for locking the plastic sheet (11) has at least one spike (27), which penetrates through the plastic sheet when the plastic sheet is being locked into place.

7. A mount (10) according to any one of claims 1-6, characterised in that the mount (10) has a flexible compression element (30) made of rubber or plastic, the deformation of which produces a spring force that is exerted on the floor (31) and the ceiling (24).

8. A mount (10) according to any one of claims 1-7, characterised in that the surface that comes into contact with the ceiling (24) of the locking element (20) located at the upper end of the mount (10) for locking the plastic sheet has a tacky padding sheet (23), such as a foam plastic sheet, which prevents the upper end of the mount from sliding sideways.

9. A mount (10) according to any one of claims 1-8, characterised in that the parts (21, 22) of the locking element (20) at the upper end of the mount (10) have been fastened to each other with a flexible connecting element (28), such as a string, a line or the like.

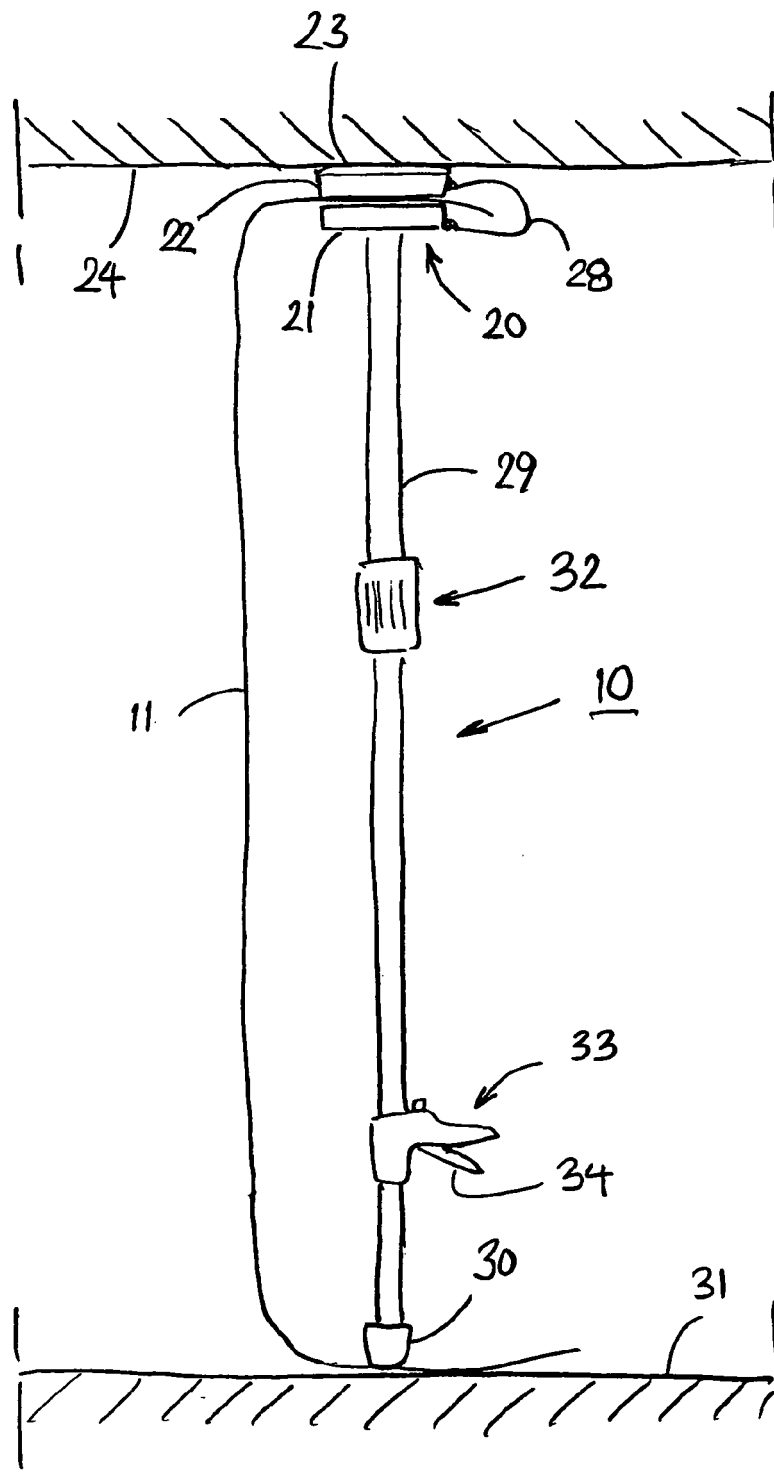


FIG. 1

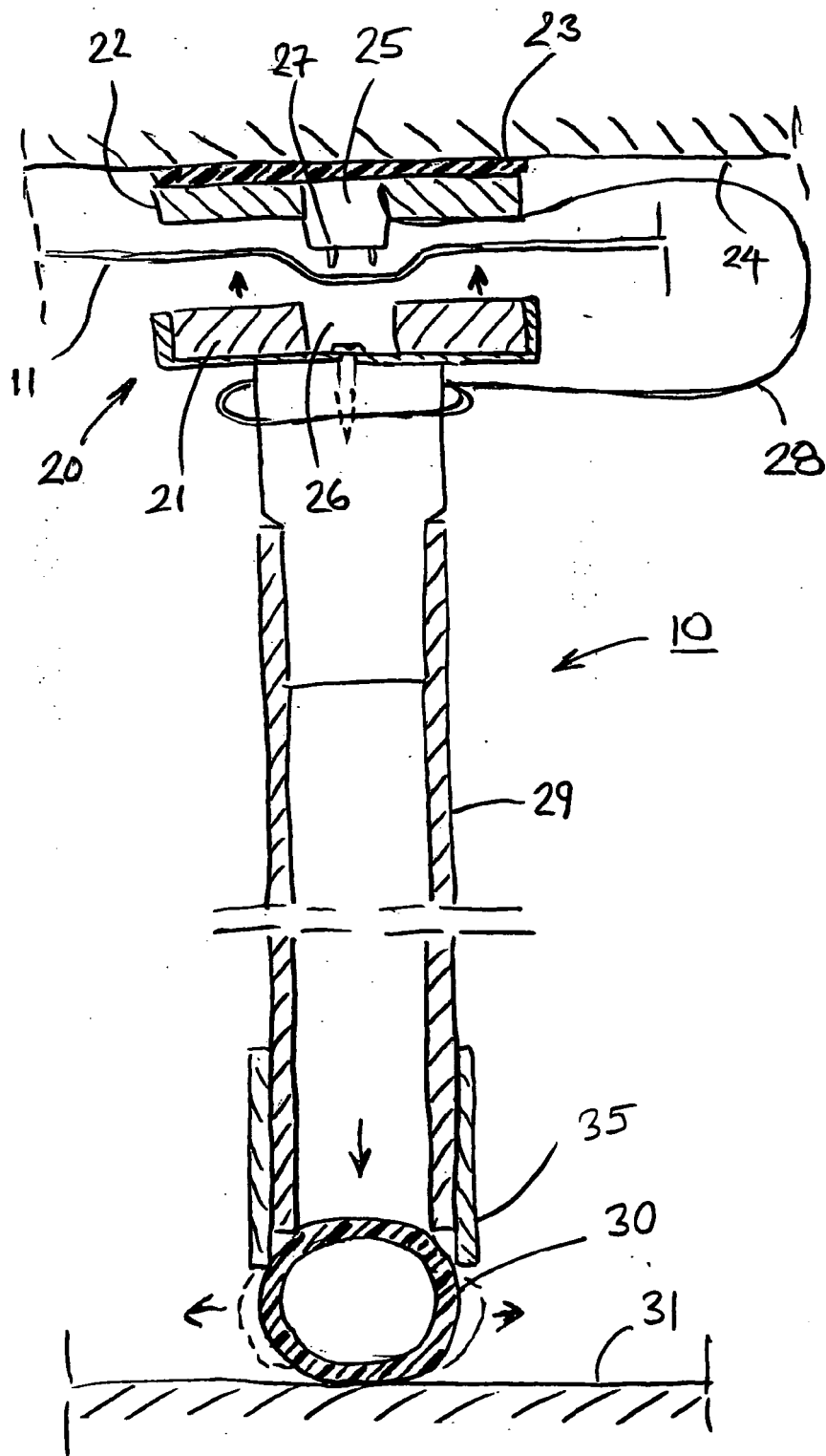


FIG. 2

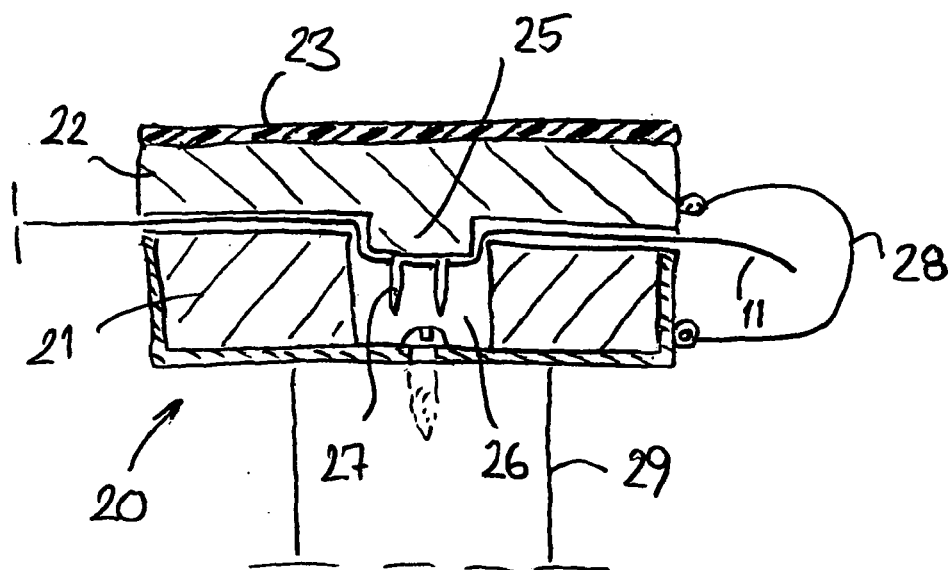


FIG. 3

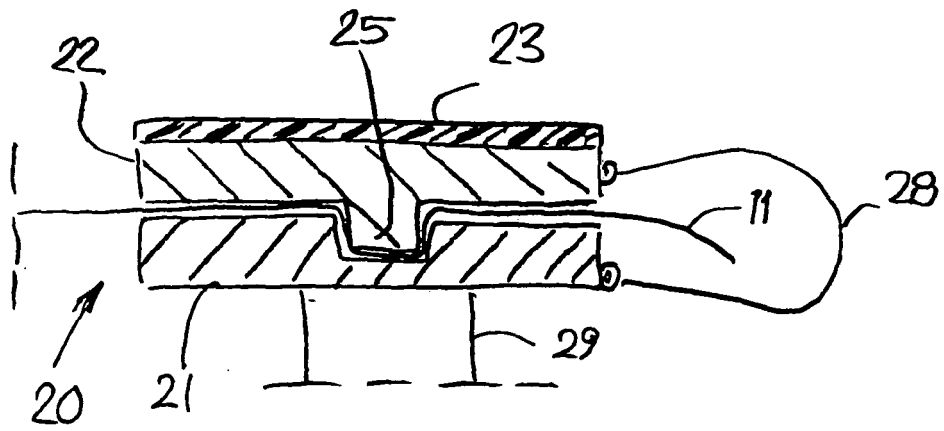


FIG. 4

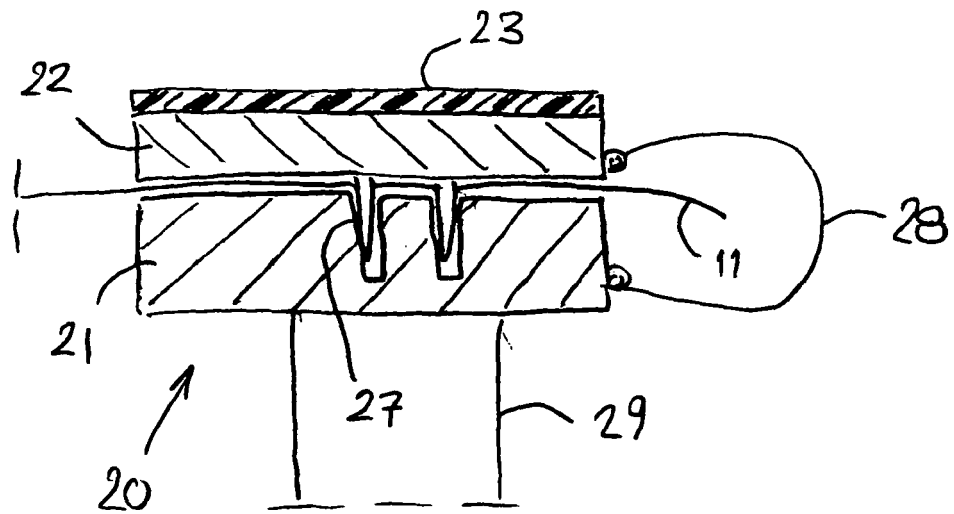


FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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