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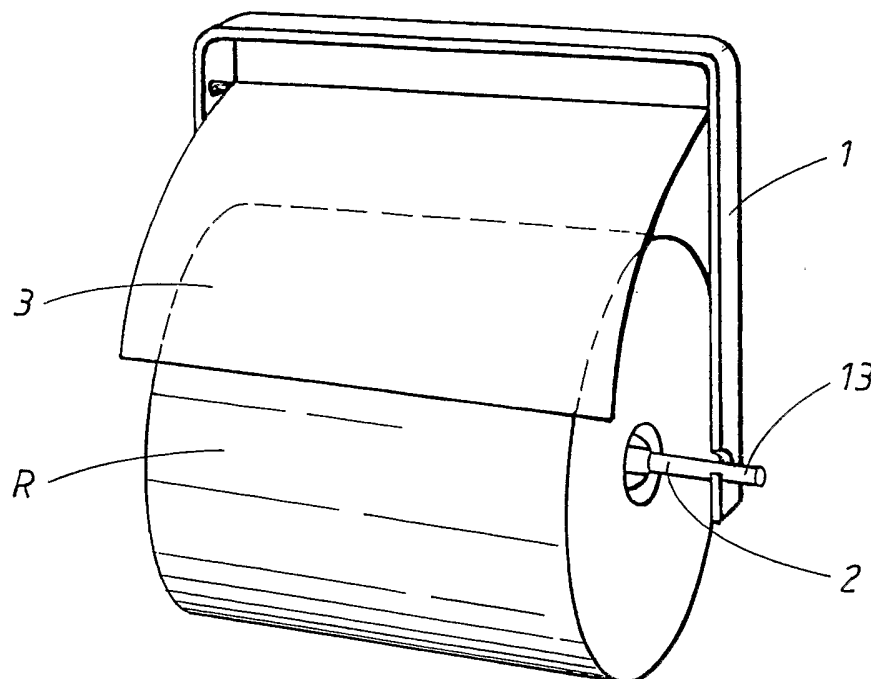
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(54) Title: DISPENSER FOR HYGIENE PAPER ROLLS



(57) Abstract: The present invention relates to a dispenser for hygiene paper rolls intended for attachment beneath a bench or the like. In accordance with the invention, the dispenser comprises a frame (1) and a shaft (2) supported by the frame for supporting a roll (R) of hygiene paper so that it is capable of rotating in a position ready for use, which shaft is capable of being pivoted outwards from a vertical plane passing through the bearing points for the shaft in its position ready for use.

WO 2006/088397 A1

DISPENSER FOR HYGIENE PAPER ROLLS

TECHNICAL FIELD

The present invention relates to a dispenser for hygiene paper rolls intended
5 for attachment beneath a bench or the like.

BACKGROUND ART

Hygiene paper is often used in workshops, catering establishments and the
like for wiping up spillages of oil or other liquids on work surfaces or on the
10 hands, for cleaning of surfaces or for polishing. This paper is supplied in
large rolls, which can have a diameter and a width of ca. 400 mm. The paper
rolls are supported by floor-mounted or wall-mounted stands. It has been
found that there is often a lack of space in the environments in which such
hygiene paper rolls are to be used, with the consequence that floor stands
15 with paper rolls cannot always be positioned close to the workplace at which
they will be used. There is also often a wish to keep the work surface as free
from obstructions as possible, as a result of which it is not always possible
for wall-mounted stands to be positioned close to a work surface. The
replacement of paper rolls usually takes place by lifting a shaft intended for
20 carrying paper rolls up from the stand, by placing a new paper roll on the
shaft, and by then lifting the shaft back into its position in the stand. Since
the rolls of paper can have a weight of ca. ten kilograms, the replacement of
such rolls can be experienced as heavy and laborious work, especially if the
positioning of the dispenser carrying the roll does not permit an ergonomic
25 lifting movement for the person whose job it is to replace the roll.

The object of the present invention is to solve these problems by making
available a dispenser, which can be placed close to a work surface without
impinging on the floor space around the work surface and which leaves the
30 work surface free from obstructions. The purpose of the invention is also to

- 2 -

make available a dispenser, in which a roll can be replaced without having to remove the shaft which carries the paper roll from the rest of the dispenser.

DISCLOSURE OF INVENTION

5 These objects are achieved in accordance with the invention by means of a dispenser for hygiene paper rolls intended for attachment beneath a bench or the like, characterized by a frame, a shaft supported by the frame for supporting a roll of hygiene paper so that it is capable of rotating in a position ready for use, which shaft is capable of being pivoted outwards
10 from a vertical plane passing through the bearing points for the shaft in its position ready for use. By arranging the dispenser beneath a bench, it does not encroach on the available floor area or bench area, and by arranging the shaft so that it is capable of being pivoted outwards from the plane of the frame, a roll of hygiene paper can be placed on the outward-pivoted shaft
15 without the latter having to be removed from the dispenser.

In a preferred embodiment, the frame comprises a U-shaped yoke, between the legs of which the shaft is supported. The ends of the shaft are mounted with advantage in recesses in the frame, and the frame comprises locking
20 devices to prevent the shaft from pivoting outwards unintentionally from a vertical plane passing through the bearing points for the shaft in its position ready for use. The locking devices can be effected by executing at least one of the recesses in the frame in such a way as to prevent purely horizontal movement of the shaft outwards from the recess, but as to permit lifting of
25 the shaft in the recess in order thereby to enable the shaft to be pivoted outwards from a vertical plane passing through the bearing points for the shaft in its position ready for use; for example, the recess in question can contain a ramp.

30 The shaft supporting the roll of paper preferably comprises a central tube section and first and second tubular shaft journals, each of which projects

- 3 -

into the central tube section, in conjunction with which the central tube section is capable of rotating relative to the shaft journals, and in conjunction with which the first shaft journal has a sleeve-shaped end with a shaft, which extends perpendicularly to the shaft for the central tube section, which sleeve-shaped end is supported in such a way as to be capable of being pivoted on a spindle, which extends into one of the recesses of the frame. The other shaft journal extends preferably in a direction away from the central tube section and past the recess in the frame, and the part of this shaft journal that extends beyond the frame forms a handle to facilitate pivoting of the shaft from a vertical plane passing through the bearing points for the shaft. This central tubular section may with advantage comprise a tubular body and three axially facing fins, which project out from the periphery of the tubular body and are uniformly distributed around its circumference.

In a variant, the first shaft journal is rigidly attached to the frame, and the first shaft journal comprises a hinged articulation between the fixed end and the pushed-on end of the central tube section.

BRIEF DESCRIPTION OF DRAWINGS

The invention is described below with reference to the accompanying Figures, in which:

Fig. 1 illustrates a schematic perspective view of a first preferred embodiment of a dispenser in accordance with the invention with a hygiene paper roll installed;

Fig. 2 illustrates a schematic perspective view of the dispenser in Figure 1 with the knife removed and with the shaft for receiving a hygiene paper roll in the outward-pivoted position;

- 4 -

Fig. 3 illustrates a schematic perspective view of a part of the frame in the dispenser in accordance with a Figure 1;

Fig. 4 illustrates schematically an end section of the shaft for receiving a
5 hygiene paper roll in the dispenser in Figure 1;

Fig. 5 illustrates a schematic plan view from the side of a part of the frame in the dispenser in Figure 1;

10 Fig. 6 illustrates a schematic view from the side of a part of the frame in the dispenser in Figure 1; and

Fig. 7 illustrates a schematic perspective view of a part supporting the knife in a dispenser in accordance with a second embodiment.

15

MODES FOR CARRYING OUT THE INVENTION

The dispenser shown in Figures 1-6 comprises a frame 1 which supports a shaft 2 for receiving a hygiene paper roll R and a knife 3.

20 The frame 1 is U-shaped with an upper central section 4 and two downward-facing legs 5, 6. The upper central section is intended for attachment to the under side of a bench top and contains holes for this purpose, not shown here, which permit the frame to be screwed securely in position. The knife 3 consists of a plane curved piece of material, for example made of sheet
25 metal, which is pivotally attached to a transverse rod 7, which extends between the legs 5,6 of the frame, and the ends of which are supported by the legs. Alternatively, the knife can be securely attached to the rod 7, which in this case is rotatably supported in the legs. The free edge of the knife 3 is provided with serrations, not shown in the Figures, to facilitate the
30 separation of paper as it is fed out from the roll R of hygiene paper. The knife 3 is not shown in Figure 2 in the interests of clarity.

The legs 5,6 comprise recesses 8,9 on their lower sections for supporting the shaft 2 with the dispenser in the position in which it is ready for use shown in Figure 1. As can be appreciated from Figure 2, the shaft 2 is pivotally mounted in the leg 5 of the frame 1, so that it is capable of being pivoted outwards from the plane of the frame. In the embodiment illustrated in Figures 1-6, a spindle 10 extends vertically in the recess 8, as can be appreciated from Figure 3. The spindle can consist of a bolt, which is introduced from the lower edge of the leg 5 in through a lower hole in the leg, which extends from the lower side of the leg to the lower part of the recess 8, and which is screwed securely into a threaded upper hole in the leg, which extends coaxially with the lower hole from the upper part of the recess.

The shaft 2 is constructed from a central tube section 11 and two shaft journals 12,13, which are essentially tubular and with an external diameter which matches the internal diameter of the central tube section 11. These shaft journals 12,13 are inserted into the central tube section 11 with their inner end sections, while the outer end sections of the shaft journals interact with the recesses 8,9 in the legs 5,6 of the frame 1. In order to be able to interact with the spindle 10 in the recess 8, the outer end section of the shaft journal 12 is terminated by a sleeve 14, which extends perpendicularly to the axial direction of the tubular section of the shaft journal 12 that is capable of interacting with the central tube section 11. In conjunction with assembly of the shaft 2 in the frame, the sleeve 14 is introduced into the recess 8, after which the spindle 10 is introduced into the recess and through the sleeve 14 and is screwed securely into the aforementioned upper threaded hole in the upper part of the recess. The shaft 2 in this case is pivotally attached to the leg 5 of the frame 1. The shaft journal 13 is tubular in its entirety and rests, in the position in which it is ready for use, in the recess 9, which possesses a form which interacts with the shaft journal. In order to prevent the shaft 2

- 6 -

from being caused to pivot outwards unintentionally, the recess 9 exhibits at its front end a ramp 15 (see Figure 5), which retains this shaft in position. In order to cause the shaft 2 to pivot outwards from the plane of the frame 1, the shaft 2 must be lifted over this ramp. The ramp 15 in the embodiment
5 illustrated here exhibits the cross-sectional form of an inverted V with slightly concave shanks. Such a design of the ramp means that the shaft 2 can be guided easily out of the recess 9 by the application of an oblique force directed upwards and forwards, and into the recess by the application of an oblique force directed upwards and backwards, at the same time as the
10 shaft is held securely in place under the loadings that are normally encountered when using the dispenser. As can be appreciated from Figure 5, the recess 9 exhibits dimensions such that an upward displacement of the shaft journal 13 is permitted. It should also be pointed out in this context that the recess 8 exhibits dimensions such that the sleeve 14 is capable of moving
15 up and down on the spindle 10. In order to facilitate control of the pivoting movement of the shaft 2, the shaft journal 13 is extended so that it projects for a distance beyond the leg 6 of the frame 1, in conjunction with which the part of the shaft journal which extends laterally beyond the frame 1 constitutes a handle.

20

The central tube section 11 consists of an elongated tube 19 and three axially facing identical fins 16,17,18, which project radially outwards from the tube 19 and are uniformly distributed around the circumference of the tube. These fins are dimensioned in such a way that a roll of hygiene paper with the
25 intended internal diameter can be readily passed onto the shaft 2, in order subsequently to be secured to the shaft 2 through friction between the edges of the fins and the inside of the roll. In order to increase the frictional force, the fins can be provided with projections. The advantage of having fins instead of a cylindrical surface is that rolls of hygiene paper can be pushed
30 onto the shaft more easily. The rolls are easy to apply even if the rolls have become slightly deformed through handling so that they no longer have a

circular central opening. In order further to facilitate the introduction of a hygiene paper roll onto the shaft 2, the fins 16-18 are tapered at their ends.

The knife 3 is in contact through the effect of gravity with a roll R of hygiene paper placed on the shaft 2, as can be appreciated from Figure 1. In order to facilitate the pivoting inwards of an outward-pivoted shaft 2 carrying a full roll of hygiene paper, it may be advantageous if the knife 3 can be retained in a position in which it is folded up out of the way of the roll during such an inward-pivoting sequence. In the embodiment illustrated in Figures 1-6, the knife 3, in addition to being capable of pivoting about the transverse rod 7, is also capable of lateral displacement on the rod. In this way the knife is capable, in the position in which it is folded up, of being pushed laterally by its edge into a slot 20 made in the leg 5 of the frame 1. The slot 20 is illustrated in plan view from the side in Figure 6, which shows an upper section of the leg 5. When a new roll is to be placed on the shaft 2, the knife 3 is first moved to a position in which it is folded up so that its side edge comes into alignment with the slot 20, after which the knife 3 is displaced laterally so that its edge engages in this slot. The knife 3 will then be retained in the position in which it is folded up during the outward pivoting of the shaft, the application of a new roll and the pivoting of the shaft 2 back to the position in which it is ready for use. The knife 3 is then displaced out from the slot 20 and is brought into contact with the outside of the applied roll.

If the knife 3 were to be rigidly attached to the transverse rod 7, retention of the knife 3 in the position in which it is folded up can be effected simply by some other means, for example a curved leaf spring 21 can be attached at its one end to the leg 5, as illustrated schematically in Figure 7. The other end of the spring 21 is arranged in such a way as to be capable of displacement on the leg so that the curved part of the spring 21 can be pushed in by the edge of the knife 3 in conjunction with the folding up of the latter. Once the

knife has passed over the curved part of the spring, the latter springs back and will retain the knife in the position in which it is folded up until the latter is moved to the position in which it is folded down against the effect of the spring force. In such a design, a leaf spring corresponding to the spring
5 21 is also placed on the leg 6. It is naturally also possible to utilize such a spring or springs even if the knife 3 were to be attached to the transverse rod 7 in such a way as to be capable of displacement.

The component parts of the dispenser described here can be made of metal,
10 plastic or wood.

The embodiment described here can naturally be modified in a variety of ways within the scope of the invention. For example, the frame can be of a different design, for example the legs do not need to be vertical. The axis of
15 pivoting for the shaft which supports the roll does not necessarily have to be vertical, although the outward pivoting of this shaft in a horizontal plane is preferred. Also, the shaft which supports the roll does not have to be capable of pivoting to a position perpendicular to a vertical plane passing through its bearing points on the frame, but it is sufficient for it to be capable of
20 pivoting outwards from the plane of the frame to such an extent that the roll can be applied to the shaft without the frame part or the leg which, in the position in which it is ready for use, supports the end of the shaft provided with a handle, getting in the way when applying a new roll of paper to the shaft, that is to say this end of the shaft must be situated at a distance from
25 this part of the frame or leg that is identical to or greater than the radius of the roll of paper. It may also be appropriate to arrange stop heels or similar on the sleeve of the first shaft journal and on the leg which interacts with the sleeve, so that the pivoting movement outwards from the plane of the frame is limited to 90 degrees. The form of the ramp in the recess, which, in the
30 position in which it is ready for use, retains the shaft which supports the roll, can exhibit a form other than that illustrated in Figure 5. It is also possible to

execute interacting stop heels or shoulders in the recess and at the ends of the shaft, so that a purely vertical lifting movement is required in order to permit outward pivoting. Such interacting stop heels and shoulders can be executed in the recess which contains the pivot articulation, either instead of
5 or in conjunction with stop heels or shoulders in the recess on the opposite leg of the frame. Instead of being capable of pivoting about a transverse shaft, the knife can be provided with shaft journals projecting from its lateral edges, which journals are capable of rotating in recesses in the legs of the frame.

10

The pivot articulation for the shaft which supports the roll of hygiene paper can also be executed in some other way, for example the first shaft journal can be rigidly attached to the leg and can comprise a hinged articulation between the point of attachment and the tubular section that is capable of
15 being inserted into the central tube section. There is also no need for the shaft which supports the roll of hygiene paper to consist of three separate parts, but the second shaft journal can consist of a part of the first shaft journal so that the tubular part of the first shaft journal that is capable of being inserted into the central tube section extends all the way through and
20 past the central tube section, in conjunction with which its free end section forms the second shaft journal. The shaft journals can also comprise projections or beads to prevent lateral movements between the shaft journals and the central tube section in the position in which it is ready for use. Such projections or beads can be so arranged as to interact with the ends of the
25 central tube section or with notches or recesses on the inside of the tube body. The scope of the invention must accordingly be restricted only by the content of the accompanying Patent Claims.

- 10 -

Claims

1. A dispenser for hygiene paper rolls intended for attachment beneath a bench or the like, ***characterized by*** a frame (1), a shaft (2) supported
5 by the frame for supporting a roll (R) of hygiene paper so that it is capable of rotating in a position ready for use, which shaft is capable of being pivoted outwards from a vertical plane via the bearing points for the shaft in its position ready for use.
- 10 2. A dispenser as claimed in claim 1, ***characterized in that*** the frame (1) comprises a U-shaped yoke, between the legs (5, 6) of which the shaft (2) is supported.
- 15 3. A dispenser as claimed in claims 1 or 2, ***characterized in that*** the ends of the shaft (2) are mounted in recesses (8,9) in the frame (1).
4. A dispenser as claimed in claim 3, ***characterized in that*** the frame (1) comprises locking devices (15) to prevent the shaft (2) from pivoting
20 outwards unintentionally from a vertical plane passing through the bearing points for the shaft in its position ready for use.
5. A dispenser as claimed in claim 4, ***characterized in that*** at least one of the recesses (9) in the frame (1) is executed in such a way as to prevent purely horizontal movement of the shaft (2) outwards from
25 the recess, but as to permit lifting of the shaft in the recess in order thereby to enable the shaft to be pivoted outwards from a vertical plane passing through the bearing points for the shaft in its position ready for use.
- 30 6. A dispenser as claimed in claim 5, ***characterized in that*** at least one of the recesses (9) contains a ramp (15).

7. A dispenser as claimed in claim 6, *characterized in that* the shaft (2) comprises a central tube section (11) and first (12) and second (13) tubular shaft journals, each of which projects into the central tube section, in conjunction with which the central tube section is capable of rotating relative to the shaft journals, and in that the first shaft journal (12) has a sleeve-formed end (14) with a shaft which extends perpendicularly to the shaft for the central tube section, which sleeve-formed end is pivotally supported on a spindle (10), which extends into one of the recesses (8) of the frame.
8. A dispenser as claimed in claim 7, *characterized in that* the second shaft journal (13) extends in a direction away from the central tube section (11) past the recess (9) in the frame (1), and in that the part of this shaft journal which extends beyond the frame (1) forms a handle to facilitate pivoting of the shaft outwards from a vertical plane passing through the bearing points for the shaft.
9. A dispenser as claimed in claim 7, *characterized in that* the central tube section (11) comprises a tube body (19) and three axially facing fins (16,17,18), which project outwards from the periphery of the tube body and are uniformly distributed around its circumference.
10. A dispenser as claimed in claim 7, *characterized in that* the first shaft journal is rigidly attached to the frame, and in that the first shaft journal comprises a hinged articulation between the fixed end and the pushed-on end of the central tube section.

1/3

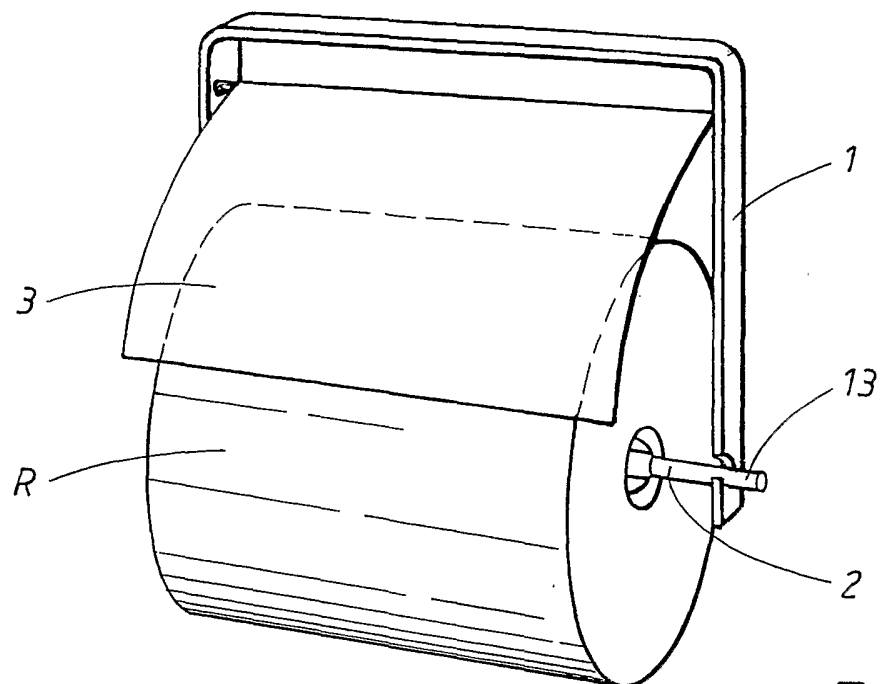


FIG. 1

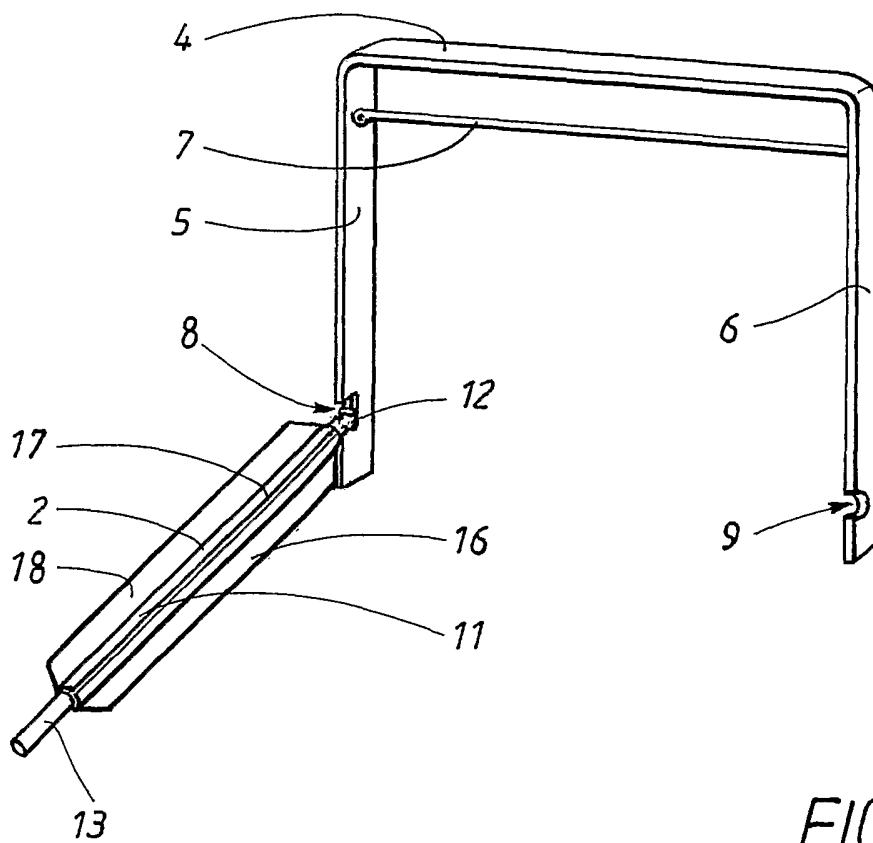


FIG. 2

2/3

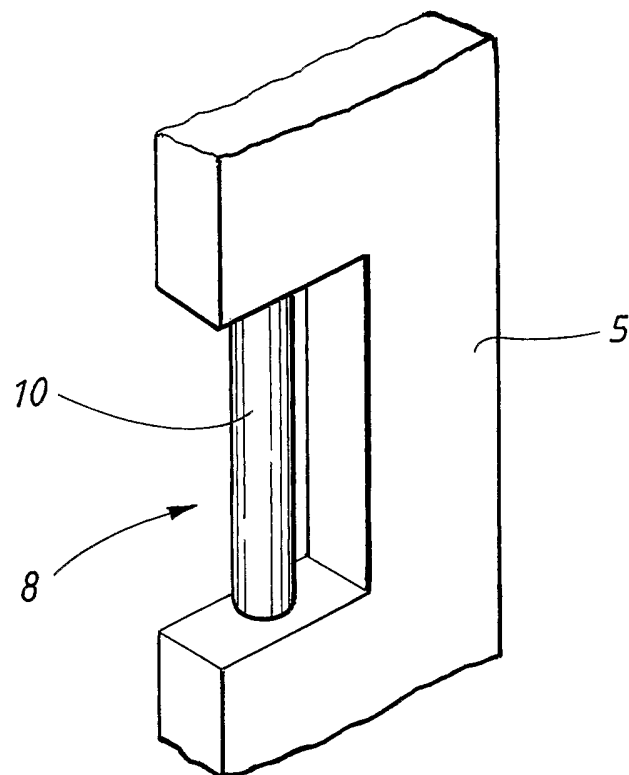


FIG. 3

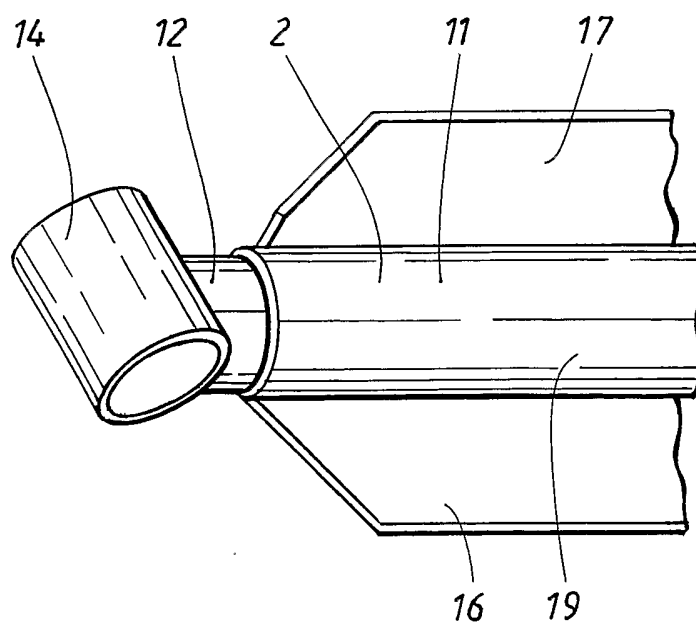
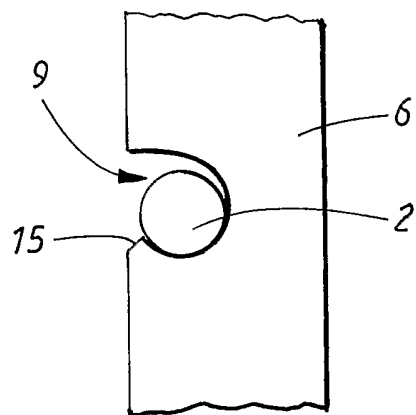
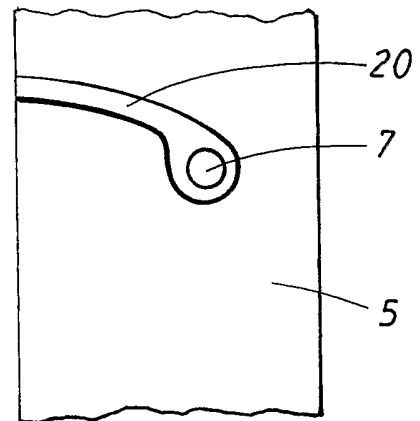
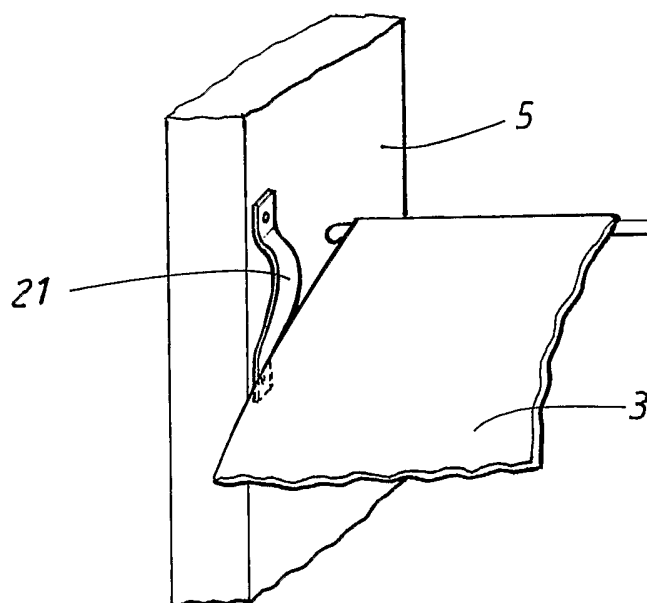


FIG. 4

3/3

FIG. 5FIG. 6FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A47K 10/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A47K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 338448 A (TOM JENNINGS), 20 November 1980 (20.11.1980), page 3, line 36 - line 62, figures --	1-6
A	US 1665738 A (J.A. HOEGGER), 10 April 1928 (10.04.1928) --	1-10
A	US 4416425 A (PAUL KISH), 22 November 1983 (22.11.1983) -- -----	1-10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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GB	338448	A	20/11/1980	NONE
US	1665738	A	10/04/1928	NONE
US	4416425	A	22/11/1983	NONE