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(54) **Title**: APPARATUS FOR SECURING A CURTAIN TO A CURTAIN RAIL

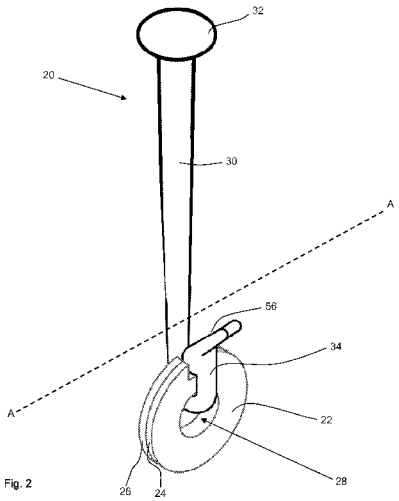

Fig. 2

(57) **Abstract**: Disclosed is a curtain, such as a pleated hospital cubicle curtain, having a plurality of glider retaining formations positioned at or near an edge of the curtain, and a plurality of gliders for securing the curtain to a curtain rail, each said glider comprising engaging means for releasably securing each said glider to a said glider retaining formation at a predetermined position in relation to the curtain edge. Motion of the gliders with respect to each said glider retaining formation, and thus to the edge of the curtain, is restricted. Accordingly, the gliders may be readily aligned so as to facilitate rapid engagement with a curtain rail, for example, by folding of a pleated curtain. Subsequently, the curtain may be removed from the curtain rail for cleaning or replacement without the requirement to demount the gliders from the curtain rail, by releasing the gliders from the glider retaining formations. Furthermore, a single type of curtain is compatible with gliders adapted for use with any type of curtain rail and, in some embodiments of the invention, the curtain is eyeleted (the glider retaining formations being generally in the form of an eyelet) and is suitable for use with conventional hooks and gliders.

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Apparatus for Securing a Curtain to a Curtain Rail

Field of the invention

The invention relates to apparatus for attaching a curtain to a curtain rail and in particular to the field of apparatus for hanging disposable curtains for use in healthcare.

Background to the invention

Curtains are typically suspended from curtain rails (or tracks) by apparatus comprising a glider adapted to slide or roll along the curtain rail, and some means of hanging the curtain from the glider, which may be a glider in the form of loop or eyelet suspended from (or integral to) the glider, through which hooks attached to the curtain are passed, or eyelets attached to or through the curtain through which hooks attached to the glider are passed.

The position of the gliders in relation to the curtains of conventional apparatus for securing a curtain to a curtain rail is not fixed or limited, for example, the gliders may be loosely secured to the eyelets and able to move in relation to, and rotate about, the eyelets. Therefore, the gliders of conventional apparatus must be individually secured to curtain rails, by a manual process that is typically time consuming.

In environments where curtains are repeatedly attached and removed from a curtain rail for cleaning or replacement, such as in the healthcare environment, a number of adaptations have been proposed in order to decrease the time taken to attach and remove a curtain, such as a hospital cubicle curtain (which, in order to maintain hygiene, are typically disposable and thus replaced frequently), from a curtain rail.

For example, as shown in Figure 1a, curtains 1 are in common use which are provided with a plurality of eyelets 2 through the curtain, spaced at regular intervals along an upper edge of the curtain. Double ended hooks 4 pass through the curtain eyelets at one end, and eyelets 6 at the underside of gliders 8 (having, in the example shown, which can be seen more clearly the expanded view of Figure 1b, a head 10 sized to be retained within a channel 11 of a curtain rail 12) at the other end, thereby connecting the curtain to the gliders.

Attachment and removal of the curtain from the hooks may be achieved more rapidly than, for example, curtains typically found in domestic environments, however such systems are still time consuming to use. In order to initially attach a curtain to a curtain rail, the gliders must be individually introduced to the curtain rail. Since the eyelet/hook/glider assembly is not mechanically rigid or restrained and the gliders are free to move (typically in all directions or orientations) with respect to the eyelets, connecting the parts together and to the curtain prior to attaching to a curtain rail is also fiddly and time consuming.

In order to facilitate rapid attachment of a curtain to a curtain rail, and subsequent rapid removal, a number of integrated solutions have been proposed wherein the gliders are permanently and rigidly fixed to a curtain, for example the Marlux system, (Marlux is a registered trade mark of Summit Medical Limited, Cheltenham, UK) and the EasyFit system (EasyFit is a trade mark of Disposable Cubicle Curtains Limited). The fixed position of the gliders in relation to the curtain of such system enables the gliders of pleated curtains to be easily aligned for rapid installation to a curtain rail, by holding the upper part of the curtain towards the curtain rail so as to secure the gliders to the curtain rail in one, or a small number, of steps (as compared to individually securing each of the gliders to a curtain rail).

However, a number of types of curtain rail are in common use, each requiring a different configuration of glider to be inserted into, onto, or around a curtain rail in order to install a curtain. Thus, such one-piece systems are necessarily restricted to

use with a single type of curtain rail and therefore lack the adaptability and serviceability of conventional hook and eyelet systems.

For example, a given hospital may be equipped with several types of curtain rail and may be required to stock several types of such curtains having integrated gliders, which typically adds to costs. Furthermore, in order to remove such curtains from a curtain rail, the gliders must be demounted from the rail entirely, as it is not possible (as with conventional hook and eyelet systems) to simply unhook the curtain leaving the gliders in place. In some applications, several curtains are installed in series on a curtain rail and thus replacement of one curtain may necessitate removal and reinstallation of others. Additionally, in the event that a glider breaks, such integrated designs require that the entire curtain either be replaced or use continued (if possible) with a portion of the curtain not suspended.

Accordingly, there remains a need for a means of securing a curtain to a curtain rail having the adaptability and serviceability of conventional hook and eyelet systems, but enabling a curtain to be rapidly secured to a curtain rail.

Summary of the invention

According to a first aspect of the invention there is provided a curtain having a plurality of glider retaining formations positioned at or near an edge of the curtain, and a plurality of gliders for securing the curtain to a curtain rail, each said glider comprising engaging means for releasably securing each said glider to a said glider retaining formation at a predetermined position in relation to the curtain edge.

When the gliders are each releasably secured to a glider retaining formation at a predetermined position in relation to the curtain edge, movement of the position or orientation of the gliders with respect to each said glider retaining formation, and thus to the edge of the curtain, is restricted. Accordingly, the gliders, which preferably each extend to the same extent from the substantially straight edge of the curtain (typically each extending generally perpendicular to the edge of the curtain), may be readily aligned so as to facilitate rapid engagement of a plurality of gliders with a curtain rail, thereby hanging the curtain. In use, the edge of the curtain may be folded or bunched up so as to bring a plurality of gliders together (for example by folding along the pleats of pleated curtains), which may together be engaged with a curtain rail. Thus, a curtain may be rapidly secured to a curtain rail by presenting the edge of

the curtain rail, usually the upper edge, such that the gliders are positioned to be secured to the curtain rail in one, or a small number, of steps (as compared to individually securing each of the gliders to a curtain rail, comprising a considerably larger number of steps). Accordingly, in use, the user of a curtain of the present invention may secure the curtain to a curtain rail by gripping the folded (optionally pleated) or bunched curtain by the curtain fabric, so as to align the glider retaining formations and thus the gliders, so that the gliders may be rapidly secured to the curtain rail, typically by sliding the gliders onto, around or into the curtain rail.

Subsequently, the curtain may be removed from the curtain rail (for cleaning or replacement) without the requirement to demount the gliders from the curtain rail, by releasing the gliders from the glider retaining formations. In addition, in some embodiments, the gliders are releasable from the glider retaining formations by application of sufficient downward force (exceeding the weight of the curtain or the forces applied during normal use). Thus, in the event of an accident in which the curtain is dragged or pulled, the gliders are safely released from the glider members without tearing the curtain, pulling the gliders from the curtain rail, or causing the curtain rail itself to become damaged, or to fall and cause injury.

Preferably, each said glider retaining formation is releasably secured to a said glider.

Preferred and optional features of each said glider retaining formation and each said glider shall now be described by reference to a single glider retaining formation and single glider.

In some embodiments, the glider retaining formation comprises a cooperating formation, and/or an abutment or abutments, which function or functions to limit or fix the position of a glider releasably secured thereto in relation to the glider retaining formation, and thus to the curtain edge. For example, a portion of a glider, such as a part of the engaging means, may abut one or more abutments, or be cooperatively received by a cooperating formation, of the glider retaining formation, when the glider is releasably secured to the glider.

In some embodiments, the glider (or the engaging means) comprises a cooperating formation, and/or an abutment or abutments, which function or functions to limit or fix the position of the glider in relation to a glider retaining formation, when the glider is releasably secured thereto. For example, the one or more abutments of the glider (or

engaging means) may abut a portion of the glider retaining formation, or the cooperating formation of the glider (or engaging means) may cooperatively engage with the glider retaining formation, when the glider is releasably secured to the glider.

Cooperating formations of the glider and the glider retaining formation may together function to limit or fix the position of the glider in relation to the glider retaining formation, when the glider is releasably secured to the glider retaining formation. One or more abutments of each of the glider and the glider retaining formation may together function to limit or fix the position of the glider in relation to the glider retaining formation, when the glider is releasably secured to the glider retaining formation.

The glider retaining formation may be integral to the curtain, or may be immovably secured to the curtain, typically during manufacture. The glider retaining formation may be immovably secured to a curtain by any suitable means. In some embodiments, the glider retaining formation is glued to the curtain. The glider retaining formation may be mechanically secured to the curtain, or may be ultrasonically welded to the curtain.

In some embodiments, the glider retaining formation comprises a first part, a second part fastened to the first part, the curtain extending between at least a portion of the first and second parts. The first and/or second parts may comprise curtain engaging formations, such as an array of hooks or spikes. The first and/or second parts may extend through the curtain. For example, an array of hooks or spikes may extend between the first and second parts through the curtain. The first and second parts may cooperatively engage, and trap the curtain therebetween. The first and second parts may be fixed, with glue, or ultrasonic welding, to together and/or to the curtain.

In some embodiments, the glider retaining formation is formed generally in the shape of an eyelet. Thus, the curtain may comprise a plurality of eyelets, each said eyelet operable to function as, or comprising, a glider retaining formation. The glider retaining formation may be associated with an aperture extending through the curtain, and may in some embodiments define an aperture extending through the curtain, which may be generally in the form of an eyelet.

The eyelet may comprise first and second parts and, in some embodiments, the first part extends through a hole in the curtain and is in cooperative engagement with the second part.

The glider retaining formation may be defined by the first and second parts, or may be defined by the first or the second part.

The eyelet may comprise a notch, operable to limit or fix the position of a glider in relation to the eyelet, when the glider is releasably secured to the eyelet. The notch may abut, or cooperatively receive a part of the glider (or the engaging means of the glider) when the glider is releasably secured to the eyelet. The notch may be on an outer edge of the eyelet, and/or the notch may be on an internal circumferential surface of the eyelet. The notch may be on a lower part of the eyelet, or on an upper part of the eyelet (wherein, upper and lower are defined in relation to the curtain when hung from a curtain rail, in use).

The engaging means of the glider may comprise a hook, which may be a resilient hook. In some embodiments (wherein the notch is on an upper part of an internal circumferential surface of the eyelet) the bend of the hook is sized to be received in the notch, to thereby limit or fix the position of the glider in relation to the eyelet, when the glider is releasably secured thereto.

In some embodiments (wherein the glider retaining formation is generally in the form of an eyelet and comprises a notch on an upper part of an outer edge of the eyelet) the hook is a resilient hook having a gape which is less (and preferably much less) than the depth of the eyelet. For example, the hook may be provided with a shank-facing tab at or near the point of the hook, the tab sized to be received within the notch. Thus, the tab thus is cooperatively received by, or abuts the inner surfaces of the notch to thereby limit or fix the position of the glider in relation to the eyelet, when the glider is releasably secured to the eyelet. In use, the resilient hook may be passed through the eyelet such that the shank facing tab is received within the notch.

In some embodiments, for example having a notch on a lower part of the eyelet, the hook is provided with an outward facing formation sized to be cooperatively received by, or abut, the notch when the hook is inserted into the eyelet.

Preferably, the bite of the hook has a dimension which corresponds to the minimum distance between the notch and the internal circumferential surface of the eyelet. Thus, in use, the hook is sized to clip around the eyelet such that radial motion of the hook with respect to the eyelet is restricted or prevented, and the position (and orientation) of the glider in relation to the glider retaining formation is restricted or prevented.

Advantageously, a glider retaining formation generally in the form of an eyelet (or an eyelet comprising or operable to function as a glider retaining formation) having a notch on the upper edge, or on a lower part of the eyelet, has an internal circumferential surface compatible with conventional curtain hooks, yet is adapted to restrict the motion of a glider with a resilient hook which cooperatively engages, or abuts, the notch (which may, for example, comprise a shank facing tab) when the glider is releasably secured thereto.

The resilient hook may further comprise an outward facing lip, operable to increase the gape of the resilient hook and thereby facilitate or permit release the glider from the eyelet.

In some embodiments, the internal circumferential surface of the eyelet is non-circular (for example, oval, or polyhedral) and the engaging means is formed and arranged to engage with the internal surface of the eyelet in only one orientation. The engaging means may have a shape keyed to fit within the non-circular internal surface of the eyelet. For example, the eyelet may have an internal circumferential surface with an oval cross section, and the engaging means may comprise a corresponding oval formation sized to cooperatively engage in only one orientation with the eyelet.

In some embodiments, an outer surface (for example a surface generally parallel to the surface of the curtain) of the glider retaining formation (or the eyelet, as the case may be) is provided with a keyed indentation and the engaging means comprises a formation sized to be cooperatively received within the keyed indentation (or received in only one orientation, or only one orientation suitable to facilitate securing the gliders to a curtain rail).

The glider retaining formation may comprise a tubular member having open ends. The tubular member may have a circular cross section, or a semi-circular cross

section, or any suitable cross section. A non-circular cross section is particularly suitable for gliders which must be secured to a curtain rail in a particular orientation.

The engaging means may comprise a spring clip, for example at least two resilient rods extending from the glider, the rods operable to be compressed together to vary the distance therebetween, the rods together defining a narrow portion with a length at least as long as the tubular member and sized to fit within the tubular member when the rods are compressed or uncompressed in relation to one another, and together defining a wide portion extending further from the glider than the narrow portion and sized to fit within the tubular member when the rods are compressed, but unable to fit within the tubular member when the rods are uncompressed. In some embodiments, the rods further comprise tapered ends, to facilitate insertion into the tubular member.

Thus the resilient rods may be compressed together (for example by inserting tapered ends into the upper end of the tubular member) in order for the wide portion to pass through the tubular member, and then permitted to uncompress from one another such that the wide portion is unable to pass back through the tubular member. One or more of the rods may comprise an abutment formed between the narrow portion and the wide portion, which abuts the lower end of the tubular member, when the rods are inserted into the tubular member sufficiently for the wide portion to extend beyond the lower end, and uncompressed, and prevents the rods from being extracted from the tubular member unless they are again compressed.

The glider may be released from the glider retaining formation by compressing resilient rods together, thus allowing the wide portion to pass back through the tubular member.

Other fixings, suitable to releasably secure the glider to the glider retaining formation and function as engaging means, fall within the scope of the invention herein disclosed.

The glider may be adapted to be secured to any known type of curtain rail. Preferably, the glider is adapted to be slideably secured within a channel of a curtain rail. The glider may be adapted to be slideably secured around, or over, a curtain rail.

In some embodiments the glider comprises a neck (which may be elongate) extending to a curtain rail engaging formation. The glider may comprise a neck having an engaging means at or near a first end, and a curtain rail engaging formation at or near a second end.

In some embodiments, the glider comprises a head, at least one dimension of the head being larger than the neck, and sized to be slideably retained within a channel of a curtain rail, the head thus operable to function as a curtain rail engaging formation. In some embodiments, the glider comprises one or more wheels sized to roll within a channel of, or on, a curtain rail. In some embodiments the glider comprises an open clasp sized to fit around a curtain rail (for example a curtain rail comprising a T-shaped cross section).

The curtain may be made of any suitable sheet or sheets of material, arrange in one or more layers. The curtain is typically a fabric curtain and, for example may be a hospital cubicle curtain. In some embodiments, the curtain is treated with a biocidal composition (which may be any or all of; antibacterial, antimicrobial, anti-fungal, sporicidal or endosporicidal). The curtain may be composed of a plastics material, which may be in the form of a sheet of plastics material, or may be in the form of woven fibres of plastics material. The curtain may be disposable.

The curtain may comprise a woven or non-woven textile. The curtain may comprise made of synthetic fibres such as polyester, or polypropylene, or natural fibres such as cotton, or wool, or be a mixtures of these fibres. In a preferred embodiment, the textile is non-woven polypropylene.

Curtains comprising sheets or fibres of plastics materials, such as polypropylene, are particularly suitable to be secured to the or each glider retaining formation, or to be formed integral to the or each glider retaining formation. For example, a curtain comprising (of composed of) a plastics material such as polypropylene may be ultrasonically welded to a glider retaining formation during manufacture and thus become particularly strongly bonded to the glider retaining formation.

Preferably the said glider retaining formations are positioned at regular intervals at or near the upper edge of the curtain.

Typically, the curtain is substantially rectangular or square, having a substantially straight upper edge and a lower edge substantially parallel to the upper edge.

The terms upper and lower are used herein to describe the relative positions or orientations of various features of the invention in relation to the orientation of the curtain when hung from a curtain rail in use and it will be understood that the relative positions and orientations of the features will be maintained regardless of the orientation of the curtain, or the constituent parts thereof.

Preferably the curtain is pleated. Preferably, the said glider retaining formations are each positioned at a predetermined distance from a respective pleat and, in some embodiments a glider retaining formation is positioned at each pleat or at regular intervals of integer numbers of pleats (for example every two pleats or every three pleats).

A pleated curtain may be folded and thus more easily packaged and, more easily drawn back along a curtain rail, in use. Glider retaining formations at regular, predetermined positions with respect to the pleats are thus also aligned when the pleats are folded. Thus, the gliders releasably secured to the glider retaining formations of pleated curtains may be readily aligned, by folding of the pleats, for ease of mounting to a curtain rail.

By a pleated curtain we mean a curtain having a plurality of folds in alternating directions, regularly positioned along at least the upper edge. In some embodiments, the folds extend parallel to one another and may extend some or all of the distance from the upper edge towards, or to, the lower edge.

The invention extends in a second aspect to apparatus for securing curtain to a curtain rail, comprising a glider retaining formation for immovably fixing to a curtain, and releasably securable to a glider comprising engaging means, at a predetermined position in relation to a glider releasably secured thereto.

Preferably the apparatus further comprises a glider, comprising engaging means for releasably securing the glider to the glider retaining formation at a predetermined position in relation to the glider formation.

Thus, the invention extends in a third aspect to a glider, comprising engaging means for releasably securing the glider to a glider retaining formation at a predetermined position in relation to the glider formation.

According to a fourth aspect of the invention, there is provided a curtain having a plurality of glider retaining formations positioned at or near an edge of the curtain, each said glider retaining formation releasably securable to a glider having engaging means, at a predetermined position in relation to a said glider and in a fifth aspect to a kit comprising the curtain of the fourth aspect and a plurality of gliders of the third aspect.

Advantageously, the curtain is suitable for use any type of glider, or gliders adapted to be secured to any type of curtain rail. Thus a single type of curtain may be adapted for use with any type of curtain rail, and a given curtain may be detached from gliders secured to a first type of curtain rail (and thus having a first type of glider), and secured to a plurality of a different type of glider (which may be secured to a curtain rail). Manufacturing costs for a single type of curtain and gliders of the various types (compatible with the various types of curtain rail) are also reduced in comparison to manufacturing costs for several types of curtain, each compatible with a single type of curtain rail.

In embodiments wherein each of the said glider retaining formations are generally in the form of an eyelet, such curtains are also compatible with conventional hooks and are may therefore be used to replace conventional eyeleted curtains which are still in common use.

Preferred and optional features of the apparatus of the second aspect, the glider of the third aspect, the curtain of the fourth aspect and the kit of the fifth aspect, correspond to preferred and optional features of the curtain of the first aspect.

Description of the Drawings

An example embodiment of the present invention will now be illustrated with reference to the following Figures in which:

Figure 1a shows a known arrangement for hanging curtains;

Figure 1b shows an expanded view of a known arrangement for hanging curtains;

Figure 2 shows a perspective view of a glider and an eyelet;

Figure 3 shows a side view of a glider;

Figure 4a shows a perspective view of an eyelet;

Figure 4b shows a perspective view of the rear section of an eyelet;

Figure 4c shows a perspective view of the front section of an eyelet;

Figure 5 shows front and side views of a further embodiment of the invention; and

Figure 6 shows (a) a front view and (b) a side view of the glider of figure 5.

Detailed Description of an Example Embodiment

Figure 2 shows a perspective view of a glider 20 and eyelet 22 of the present invention, for use with disposable hospital cubicle curtains. In normal use, a plurality of the eyelets would be affixed to a curtain along the upper edge of the curtain.

Front section 24 and rear section 26 of the eyelet may be affixed to respective sides of a curtain having an array of apertures therethrough, such that the aperture 28 through the eyelet aligns with an aperture of the curtain. Dotted line A shows the position of the top of the curtain to which the front section 24 and rear section 26 of the eyelet is affixed in normal use. For clarity, the curtain is not shown.

The glider comprises an elongate neck portion 30 having a circularly symmetric head 32 sized to be received within the channel of a curtain rail of the type shown in Figure 1b at the upper end and a hook 34 at a lower end. In alternative embodiments, the glider is provided with a head adapted to be secured to other types of curtain rail.

Figure 3 shows a side view of the glider 20. The distal end of the hook 34 is provided with a lip 36 and a rounded tab 38 facing the shank portion 40 of the hook, which provides the hook with a narrowed gape B and defines the bite C of the hook. The generally u-shaped inner surface of the hook has substantially parallel sides defining

a depth D. The hook is composed of a resilient material and, in a preferred embodiment, the glider is extruded from a plastics material such as polypropylene, polyethylene or polyvinyl chloride.

Figure 4 shows the eyelet 22. The eyelet comprises a smooth inner circumferential surface 42, which describes a cylinder of depth G (although embodiments having a non-circular cross sections are also envisaged) and a notch 44 at the upper part of the outer surface of the eyelet. The notch has substantially parallel straight sides 46 and a straight base 48 perpendicular thereto. The width E of the notch (defined by the parallel sides) is the same or slightly greater than the width of the tab 38 of the glider. The distance F between the base of the notch and the inner circumferential surface is the same or slightly less than the bite C of the hook. The depth G of the eyelet is the same or slightly less than the depth D of the inner surface of the hook, but greater than the gape B of the hook.

The rear section 26 (shown in Figure 4b) and the front section 24 (shown in Figure 4c) sandwich the material of a curtain (as described above) and, during manufacture are ultrasonically welded together and to the material of the curtain (which is preferably also composed a plastics material such as polypropylene) at curtain facing surfaces 50 and 52 (or, in alternative embodiments, are glued or clipped together).

Both the front and rear sections of the eyelet are provided with a notch.

Thus, the eyelet and the notch thereof, are sized to receive the hook of the glider, as shown in Figure 2. In use, the hook may be readily introduced into the eyelet by applying pressure to the angled upper surface 56 of the lip (for example by applying force in opposing directions to each of the eyelet and the hook) so as to temporarily increase the gape of the hook and allow it to pass through the eyelet. The resilience of the hook then causes the tab to be forced into the notch (when the glider and the eyelet are suitably aligned). The hook, the tab and the notch are sized to cooperatively engage so as to fix the relative positions of the glider and the eyelet (and thus to a curtain to which the eyelet is immovably attached). Thus the eyelet and notch formations function to retain the glider.

A curtain of the present invention is typically comprises a plurality of eyelets spaced at regular intervals along its upper edge, each the same distance from the upper edge of the curtain. Typically, curtains are provided with gliders installed in each

eyelet, although may be provided without gliders, or in kit form with gliders or with a selection of gliders having heads adapted for various types of curtain rail. The curtains are advantageously pleated, each pleat being the same distance from an eyelet, to facilitate folding of the curtain and alignment of the eyelets (and thus to the gliders and, in particular the heads of the gliders). A pleated curtain may be provided with gliders installed and folded such that the gliders are aligned, within (for healthcare applications) a plastic sheath for hygiene.

Thus, the plastic packaging may be partly removed, the curtain held up to the curtain rail, optionally by gripping the material of the curtain, and the gliders presented to a curtain rail and rapidly introduced to the channel of a curtain rail (usually at an open end of the channel, but in some cases through a portion of the channel of a curtain rail having an opening larger than the diameter of the glider heads).

Some or all of the eyelets of a curtain may be readily released from their gliders (for example to replace a glider, or to remove the curtain leaving the gliders in place) by application of force to the tab of the hook, so as to again widen the gape of the hook.

A single type of curtain is compatible with gliders having any type of head, and thus curtains may be manufactured more cost effectively.

In addition, a curtain having eyelets of the present invention are compatible with known hook and glider member apparatus for hanging a curtain, such as the type shown in Figure 1b.

A further embodiment of the invention is shown in Figure 5. As previously described, a front section 60 and rear section 62 of a curtain supporting formation 64 is ultrasonically welded to a curtain 1. A glider 66 is releasably retained within open ended cylinder 68 having a semi-circular cross section (the curved surface of which is directed away from the curtain), which functions to retain the glider in a predetermined axial orientation in relation to the top edge of the curtain. The glider has an elongate neck 70 and a head 72 sized to be secured within the channel of a curtain rail. The curtain supporting formation is compatible with gliders having other types of head. A curtain having a plurality of such apparatus along an upper edge may be secured to a curtain rail by alignment of the glider members in the manner as discussed in relation to the embodiment of Figures 2-4c, above.

Front and side views of the glider are shown in Figures 6a and 6b, respectively. The glider further comprises two resilient rods 74, each having a narrow portion 76 and a wide portion 78, the wide portion 78 having a tapered end 80 and an abutting surface 82 between the wide and narrow portions. The rods are sized so that the wide portion may pass through the open ended cylinder when the rods are compressed together. In use, the rods may be compressed together by introducing the tapered ends thereof into the top of an open ended cylinder and applying opposing force to the glider retaining formation and the glider.

The narrow portions of the rods are sized to fit within the cylinder when the rods are uncompressed, and the outer surfaces of the narrow portions 84 are shaped so as to cooperatively engage with the inner surface of the open ended cylinder.

Thus, the rods of a glider member may be inserted into an open ended cylinder sufficient for the wide portions to pass through the lower end 88 of the cylinder, whereupon the rods become uncompressed and the external surfaces of the narrow portions of the rods cooperatively engage with the inside of the open ended cylinder. The abutting surface abuts the lower end of the cylinder and prevents the rods from being removed from the cylinder, and the glider is thereby retained.

The glider may be released be manually compressing the wide portions of the rod, which protrude from the lower end of the cylinder.

Further variations and modifications may be made within the scope of the invention herein disclosed.

Claims

1. A curtain having a plurality of glider retaining formations positioned at or near an edge of the curtain, and a plurality of gliders for securing the curtain to a curtain rail, each said glider comprising engaging means for releasably securing each said glider to a said glider retaining formation at a predetermined position in relation to the curtain edge.

2. A curtain according to claim 1, wherein each said glider retaining formation comprises a cooperating formation and each said engaging means comprises a cooperating formation, wherein the cooperating formations of the glider retaining formation and the engaging means cooperatively engage when the glider is releasably secured to the glider retaining formation.

3. A curtain according to claim 1 or claim 2, wherein each said glider retaining formation is immovably secured to the curtain.

4. A curtain according to any one preceding claim, wherein the glider retaining formation comprises a first part a second part fastened to the first part, the curtain extending between at least a portion of the first and second parts.

5. A curtain according to claim 4, wherein the first and second parts of each said glider retaining formation are ultrasonically welded together and/or to the curtain.

6. A curtain according to any one preceding claim, comprising a plurality of eyelets, each said eyelet associated with an aperture extending through the curtain and comprising a glider retaining formation.

7. A curtain according to claim 6, each said eyelet comprising a notch operable to limit or fix the position of a said glider in relation to the eyelet, when the glider is releasably secured to the eyelet.

8. A curtain according to claims 6 or 7, where each said engaging means comprises a resilient hook, sized to be received in the notch, to thereby limit or fix the position of the said glider in relation to an eyelet, when the glider is releasably secured thereto.

9. A curtain according to claim 8, wherein each said hook is provided with a shank-facing tab at or near the point of the hook, the tab sized to be cooperatively received within the notch, to thereby limit or fix the position of the said glider in relation to the an eyelet, when the glider is releasably secured to the eyelet.

10. A curtain according to claim 8 or claim 9, wherein the bite of each said hook has a dimension which corresponds to the minimum distance between the notch and the internal circumferential surface of the eyelet such that radial motion of the hook with respect to the eyelet is restricted or prevented, when the glider is releasably secured to the eyelet.

11. A curtain according to claims 8 to 10, wherein each said resilient hook comprises an outward facing lip, operable to increase the gape the resilient hook and thereby facilitate release the said glider from the eyelet.

12. A curtain according to any one preceding claim, wherein each said glider comprises a neck having engaging means at or near a first end, and a curtain rail engaging formation at or near a second end.

13. A hospital cubicle curtain according to any one preceding claim.

14. A curtain according to any one preceding claim treated with a biocidal composition.

15. A pleated curtain according to any one preceding claim, wherein the said glider retaining formations are each positioned at a predetermined distance from a respective pleat.

16. Apparatus for securing a curtain to a curtain rail, comprising a glider retaining formation for immovably fixing to a curtain, and releasably securable to a glider comprising engaging means, at a predetermined position in relation to a glider releasably secured thereto.

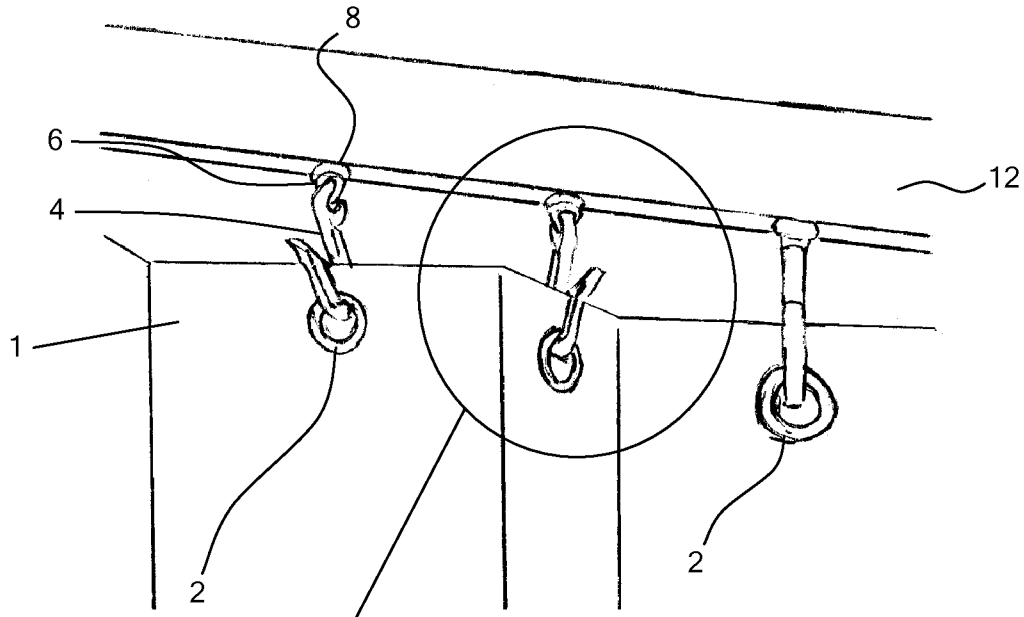
17. Apparatus according to claim 16, further comprising a glider, the glider comprising engaging means for releasably securing the glider to the glider

retaining formation at a predetermined position in relation to the glider formation.

18. A glider, comprising engaging means for releasably securing the glider to a glider retaining formation at a predetermined position in relation to the glider formation.

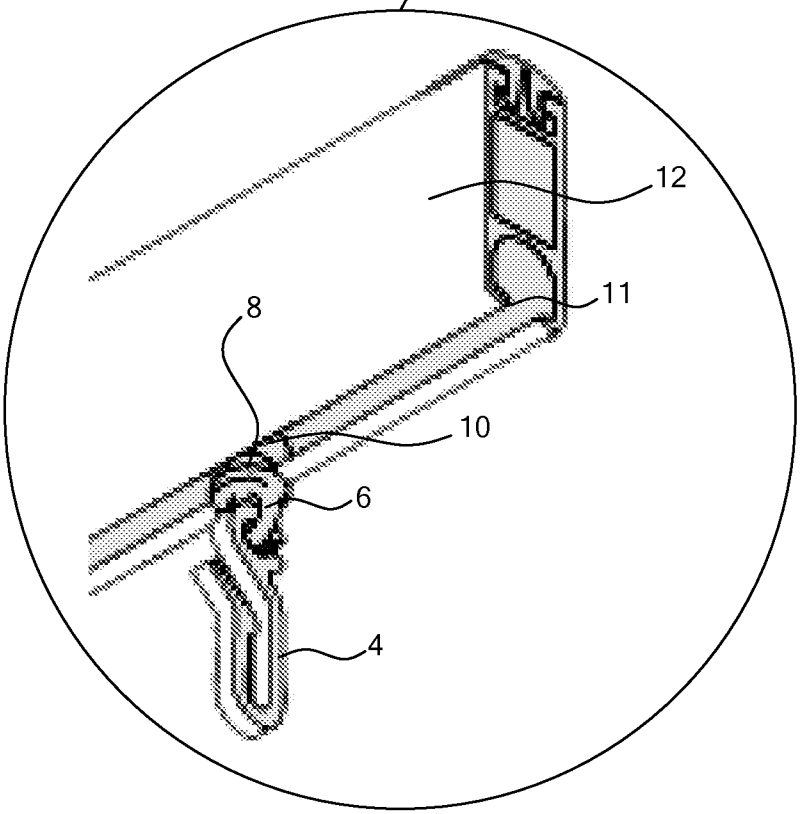
19. A curtain having a plurality of glider retaining formations positioned at or near an edge of the curtain, each said glider retaining formation releasably securable to a glider having engaging means, at a predetermined position in relation to a said glider.

20. A kit comprising the curtain according to claim 19 and a plurality of gliders of according to claim 18.



PRIOR ART

Fig. 1a



PRIOR ART

Fig. 1b

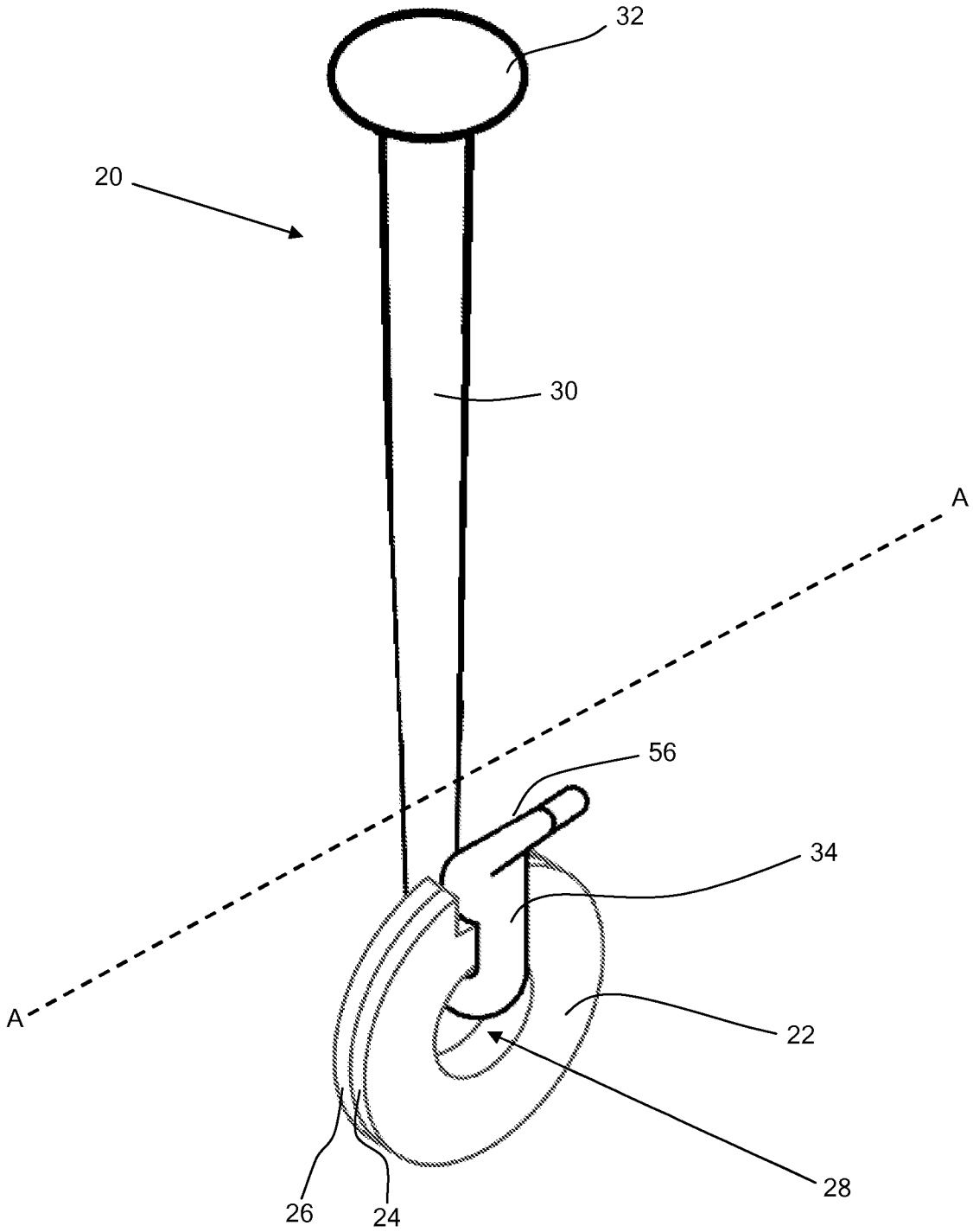


Fig. 2

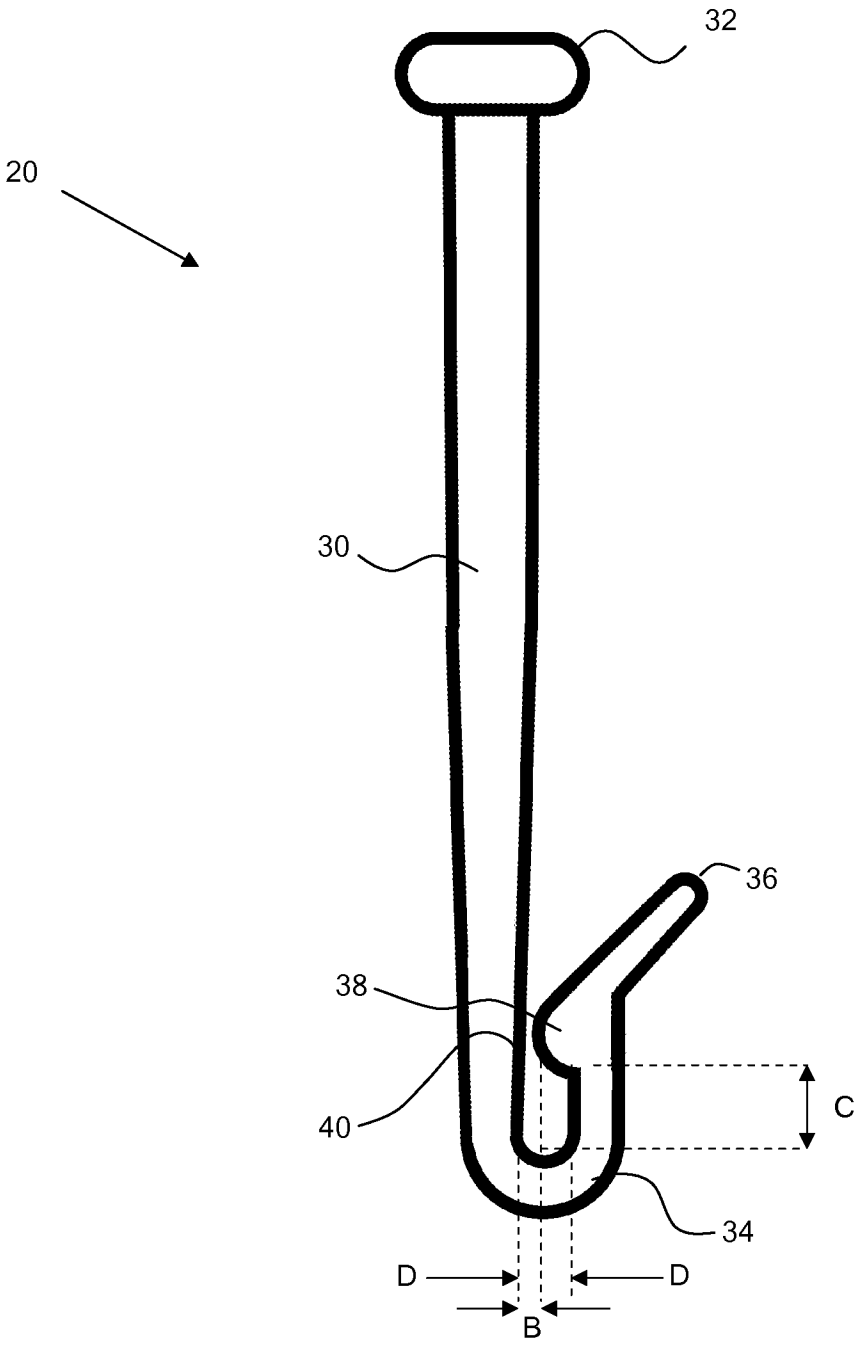


Fig. 3

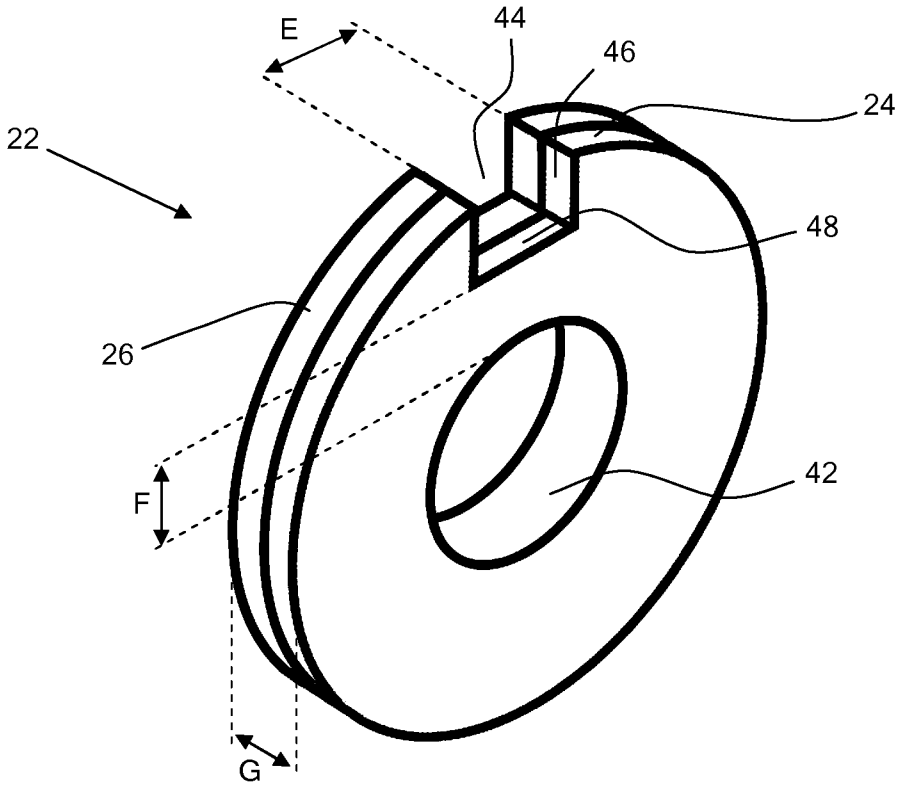


Fig. 4a

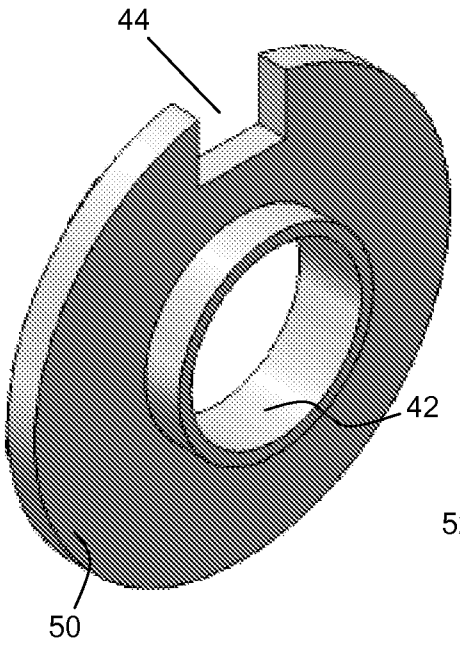


Fig. 4b

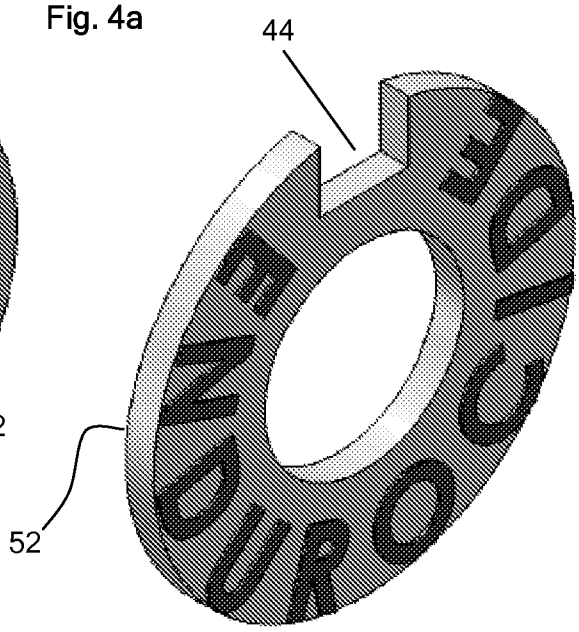


Fig 4c

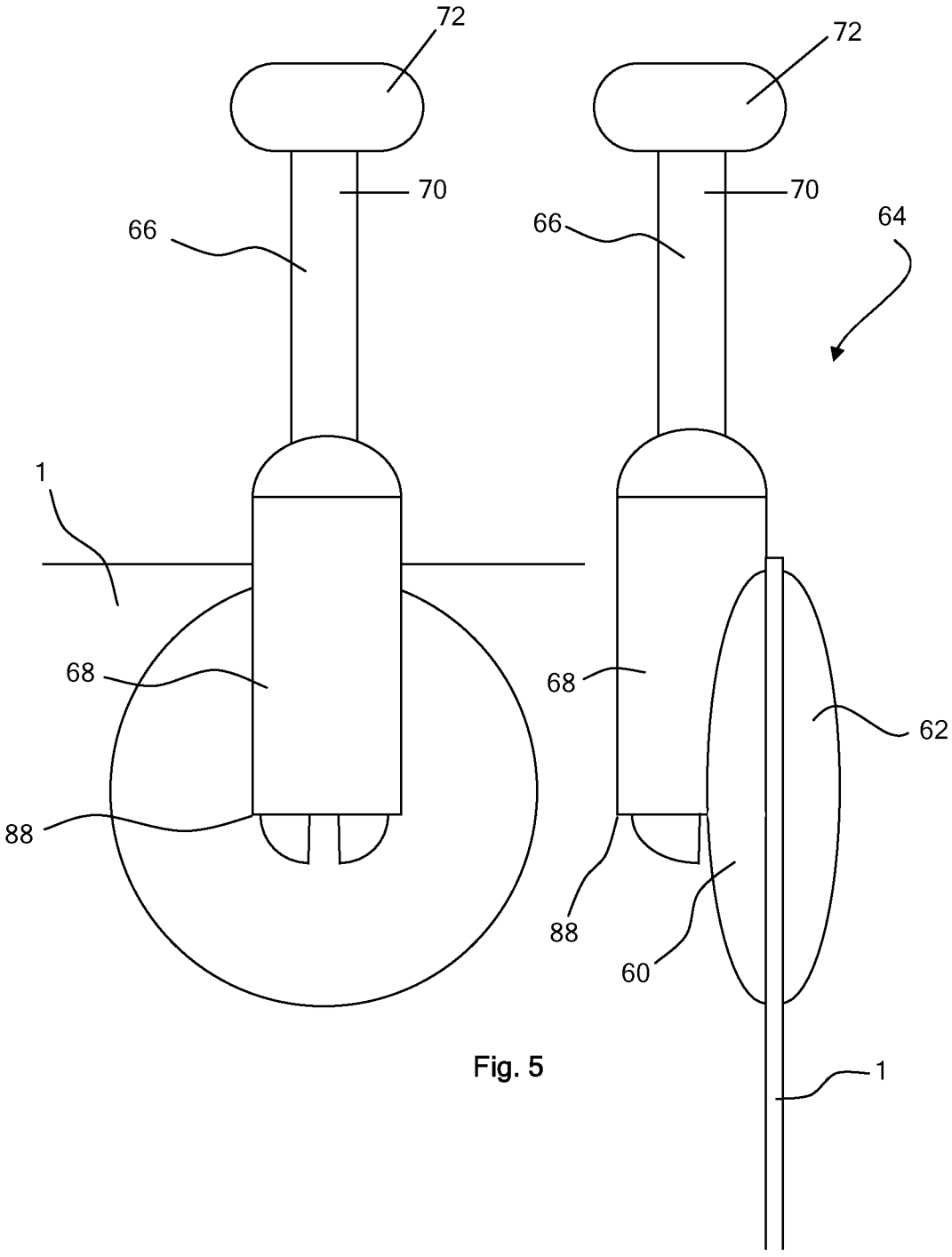


Fig. 5

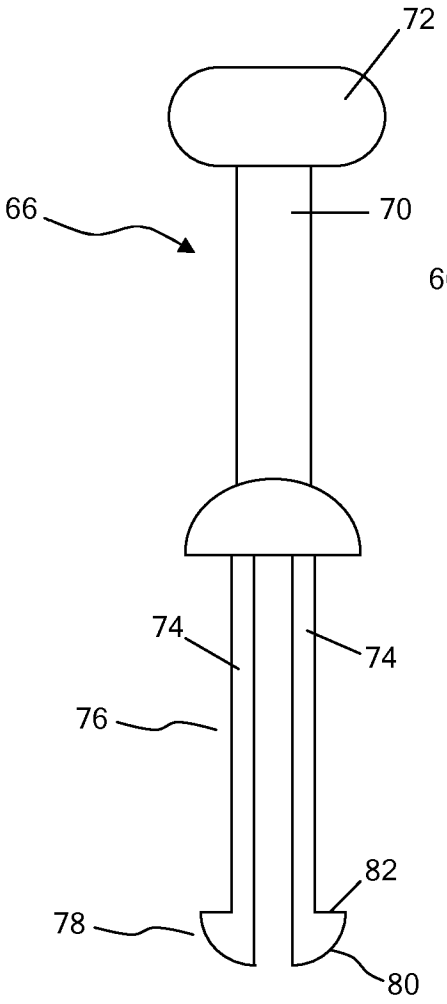


Fig. 6a

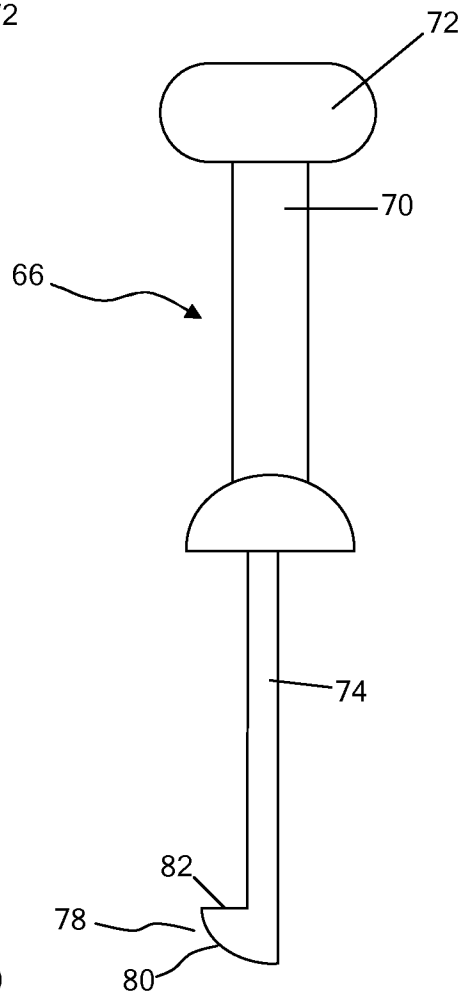


Fig. 6b