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(54) **CLOTHES HANGER**

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CINTRE

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Description

[0001] This invention relates to a clothes hanger having a central piece, a suspension hook connected to the central piece, two end pieces which are displaceable in the central piece and whose respective outer ends have a grip portion for engaging an article of clothing, a spring so arranged in the central piece that a first end thereof is applied against a first abutment connected to the central piece and that a second end thereof is applied against a second abutment connected to one end piece, cooperating first stop lugs provided on the central piece and on said one end piece for restricting the degree of projection of the end piece from the central piece, and a motion-transmitting means which, when said one end piece is displaced, brings about a corresponding displacement of the other end piece. The invention further concerns a clothes hanger equipped with one spring for each end piece, as defined in preamble of claim 3.

[0002] Such clothes hangers are often used for hanging up skirts, in which case the end pieces are pressed against the waistband by the action of the spring. Since the end pieces can be displaced in the central piece, the hanger may be adapted to different-sized skirts. Such a hanger, which is equipped with one spring for each end piece, is known from WO-A-86/04797. However, such a hanger may actually be used for only a few skirt sizes, and the manufacturer is thus compelled to produce hangers of many different sizes in order to meet the demand of the ready-made clothing industry, as well as of wholesalers and shops. Thus, there is a demand for a skirt hanger that can be adjusted to different ranges of skirt sizes. A range of sizes is meant to encompass a few neighbouring sizes.

[0003] Efforts have previously been made to meet this demand. Thus, WO 90/10408 teaches a hanger that can be used for the whole range of sizes from 8 to 20. In this hanger, the one end piece has a sawtooth portion engaging a spring-loaded locking means. When the hanger is to be adjusted to a certain size, the end piece is pulled outwards without being affected by the locking means or the spring. However, the degree of insertion of the end piece is restricted by the locking means to the distance of displacement thereof in the central piece. Also, this hanger has the disadvantage that the user may alter the hanger setting by pulling the end piece. Furthermore, the hanger is disadvantageous in providing a fairly small distance of displacement of the end piece when setting the hanger, and in having the locking means arranged on the upper side of the central piece so as to increase the risk of inadvertently changing the setting.

[0004] The effective range of the hanger is determined by the length of the central piece and the maximum degree of projection of the end pieces. Within this range, the spring or springs operate along essentially the entire spring curve. When the spring or springs are

compressed, the spring force is so considerable that the cloth of the article of clothing may be stretched, which of course is undesirable. When the spring or springs are extended, the spring force is less considerable, and there is even a risk that the article of clothing may fall off the hanger. Even though the conventional skirt hanger in theory should be adaptable to a plurality of skirt sizes, it is actually restricted to but a few.

[0005] The basic object of the invention is to provide a hanger that can be adjusted to different size ranges for articles of clothing, there being no risk of resetting as a result of careless handling.

[0006] Another object of the invention is to use the spring in such a manner that the spring force is the same for all size ranges.

[0007] This object is obtained through the arrangement according to claims 1 and 3. Preferred embodiments of the clothes hangers are set out in dependent claims 2 and 4.

[0008] The invention will be described in more detail below with the aid of an embodiment, reference being made to the accompanying drawings, in which

Fig. 1 is a partly sectional side view, taken along line I-I in Fig. 2, of an inventive skirt hanger which is so set as to be suited for the largest skirt sizes, Fig. 2 is a bottom view of the skirt hanger in Fig. 1, Fig. 3 is a view of the skirt hanger in Fig. 1, but shows the hanger so set as to be suited for smaller sizes, the end pieces being pressed against the central piece against the action of the spring, and Figs 4a, b and c are views from different sides of a first abutment intended for the spring and displaceable in the central piece.

[0009] Fig. 1 shows a clothes hanger 1 having a box-like central piece 2 with a top 37, side walls 38, 39 (Fig. 2) and a bottom 40. The central piece is composed of two identical halves which, after mounting of the components described below, such as end pieces, gear wheels, springs and abutments, are joined by gluing or ultrasonic welding at the top 37 and the bottom 40. Alternatively, the two halves may be screwed together. A suspension hook 3, by means of which the clothes hanger is to be suspended from the clothes rack (not shown), is fixedly connected to the top 37 of the central piece. Guide strips 22, 23 and 24, which extend perpendicularly from the side walls 39 and 40, are arranged inside the central piece. These guide strips are intended to guide the end pieces 4 and 5 in the central piece. A gear wheel 19 is rotatably mounted in the middle of the central piece and adapted to engage the end pieces, as will be described in more detail below.

[0010] As appears from Fig. 2, the bottom of the central piece has a guide slot 29 extending from the middle of the central piece 2 a distance towards the opening where the end piece projects from the central piece. The length of the guide slot determines the number of

skirt sizes for which the hanger may be used. The guide slot has five broad portions or recesses 13-17 constituting the setting positions of a first abutment 9, which will be described further below.

[0011] The end pieces 4 and 5 consist of an inner part 27 and 28, respectively, and an outer part 25 and 26, respectively. The outer parts 25 and 26 are each connected to a grip portion 6 and 7, respectively, as appears from Fig. 3. Each end piece has a rack portion 20 and 21, respectively, on its inner part. The rack portions are adapted to engage the gear wheel 19 in such a manner that a displacement of one of the end pieces, either inwards or outwards, will result in a corresponding displacement of the other end piece through the transmission composed of the rack portions 20 and 21 and the gear wheel 19.

[0012] The first abutment 9 can be displaced in the guide slot 29 for adjusting the skirt hanger to different size ranges. The structure of the first abutment is illustrated most clearly in Fig. 4. Thus, the first abutment 9 consists of an abutment portion 30 constituting the one abutment for a compression spring 8 arranged in the central piece. A guide portion 31 of the abutment is formed with guide grooves 33 which are adapted to accommodate the bottom 40 on both sides of the guide slot 29 in order to enable the displacement of the abutment in the longitudinal direction of the central piece. The abutment is locked by means of a locking portion 32 with an elastic tongue 34 and a locking lug 35, as well as an operative means 36. When the locking lug 35 is located opposite to any one of the recesses 13-17, the elastic tongue 34 presses the locking lug down into this recess, and the abutment can no longer be displaced in the guide slot 29. By pressing the operative means 36 inwards towards the bottom 40, the locking lug 35 is pushed upwards to a level above the bottom and thus releases the abutment 9, which then can be moved to another setting position.

[0013] A second abutment 10 is arranged on the inner part 27 of the end piece 4. The second abutment consists of a plate which projects perpendicularly from the inner part 27 and which, when the end piece is inserted into the central piece 2, is located opposite to the abutment portion 30 of the first abutment 9. The plate 10 constitutes the second abutment of the spring 8. A first stop lug 12 on the end piece projects from the inner part 27 in order to engage a stop lug 11 on the abutment portion 30 of the first abutment when the end piece 4 is in an outer end position. The cooperation of the two stop lugs 11 and 12 prevents further projection of the end piece.

[0014] In order that the spring 8 be operative along the flat part of its spring curve, a second stop lug 18 is arranged on the inner part of the end piece between the second abutment 10 and the first stop lug 12. When the end piece 4 is inserted into the central piece and the spring 8 thus is compressed, the compression of the spring is restricted by the engagement of the stop lug 18

with the stop lug 11 on the first abutment.

[0015] The fairly small effective range of the end piece is compensated for by the fact that the first abutment can be displaced in the central piece. Figs 1 and 3 show, respectively, the outer limit and the inner limit of the effective range of the skirt hanger. In the illustrated embodiment, the distance between these two limits is 105 mm. In a conventional hanger with a fixed abutment in the central piece, the distance between the outer and the inner limit is 80 mm at the most. By displacing the first abutment between the setting positions 13-17, five different size ranges can be set. Each range is 35 mm broad, and neighbouring ranges overlap by approximately half the range width.

[0016] As mentioned in the foregoing, the end piece 5 is synchronised with the end piece 4 via the transmission 19, 20 and 21. Consequently, the end piece 5 does not require any spring and stop lug arrangement.

[0017] By simply operating the first abutment 9, the hanger can be adjusted to different size ranges without any risk of the setting being subsequently altered by mistake as a result of tampering with the end pieces, as is the case in the hanger according to WO 90/10408 described by way of introduction.

Claims

1. A clothes hanger having a central piece (2), a suspension hook (3) connected to the central piece, two end pieces (4, 5) which are displaceable in the central piece and whose respective outer ends have a grip portion (6, 7) for engaging an article of clothing, a spring (8) so arranged in the central piece that a first end thereof is applied against a first abutment (9) connected to the central piece and a second end thereof is applied against a second abutment (10) connected to one end piece, cooperating first stop lugs (11, 12) provided on the central piece and on said one end piece for restricting the degree of projection of the end piece from the central piece, and a motion-transmitting means (19, 20, 21) which, when said one end piece is displaced, brings about a corresponding displacement of the other end piece, **characterised** in that the first abutment (9) is displaceable in the longitudinal direction of the central piece (2) and lockable in a plurality of positions (13-17) along the longitudinal direction of the central piece (2), and that the stop lug (11) on the central piece is provided on the first abutment such that said spring (8) and said one end piece (4), upon displacement of the first abutment between said positions, also are displaced in the central piece, thereby enabling the clothes hanger to be adapted to different-sized articles of clothing.
2. A clothes hanger as set forth in claim 1, **characterised** in that a second stop lug (18) is

arranged on said one end piece (4) between the first stop lug (12) and the second abutment (10) to restrict the degree of insertion of the end piece into the central piece (2).

3. A clothes hanger having a central piece, a suspension hook connected to the central piece, two end pieces which are displaceable in the central piece and whose respective outer ends have a grip portion for engaging an article of clothing, two springs so arranged in the central piece that each spring is applied with a first end against a first abutment connected to the central piece and with a second end against a second abutment connected to a respective end piece, and cooperating first stop lugs provided on the central piece and on the end pieces for restricting the degree of projection of the end pieces from the central piece, **characterised** in that each of said first abutments is displaceable in the longitudinal direction of the central piece and lockable in a plurality of positions along the longitudinal direction of the central piece (2), and that the stop lugs on the central piece are arranged on the respective first abutments such that said springs and said end pieces, upon displacement of the first abutments between said positions, being also displaced in the central piece, thereby enabling the clothes hanger to be adapted to different-sized articles of clothing.
4. The clothes hanger as set forth in claim 3, **characterised** in that a second stop lug is arranged on each end piece between the first stop lug and the second abutment to restrict the degree of insertion of the end pieces into the central piece.

Patentansprüche

1. Kleiderbügel mit einem Mittelstück (2), einem Aufhängehaken (3), der mit dem Mittelstück verbunden ist, zwei Endstücken (4, 5), die in dem Mittelstück verschiebbar sind und deren jeweilige äußere Enden einen Griffteil (6, 7) zum Aufnehmen eines Kleidungsstücks aufweisen, einer Feder (8), die so in dem Mittelstück angeordnet ist, daß ein erstes Ende davon gegen ein erstes Widerlager (9), das mit dem Mittelstück verbunden ist, angelegt wird, und ein zweites Ende davon gegen ein zweites Widerlager (10), das mit einem Endstück verbunden ist, angelegt wird, zusammenwirkenden ersten Anschlagzapfen (11, 12), die an dem Mittelstück und an dem einen Endstück vorgesehen sind, um den Grad des Herausragens des Endstücks aus dem Mittelstück zu beschränken, und einer Bewegungsübertragungsvorrichtung (19, 20, 21), die, wenn das eine Endstück verschoben wird, eine entsprechende Verschiebung des anderen Endstücks bewirkt,
- dadurch gekennzeichnet, daß das erste Widerlager (9) in Längsrichtung des Mittelstücks (2) verschiebbar ist und an einer Vielzahl von Positionen (13-17) entlang der Längsrichtung des Mittelstücks (2) arretierbar ist, und daß der Anschlagzapfen (11) am Mittelstück am ersten Widerlager derart vorgesehen ist, daß die Feder (8) und das eine Endstück (4) durch eine Verschiebung des ersten Widerlagers zwischen den Positionen ebenfalls in dem Mittelstück verschoben werden, wodurch ermöglicht wird, daß der Kleiderbügel an Kleidungsstücke mit unterschiedlicher Größe angepaßt wird.
2. Kleiderbügel nach Anspruch 1, dadurch gekennzeichnet, daß ein zweiter Anschlagzapfen (18) an dem einen Endstück (4) zwischen dem ersten Anschlagzapfen (12) und dem zweiten Widerlager (10) angeordnet ist, um den Grad des Einschubs des Endstücks in das Mittelstück (2) zu beschränken.
3. Kleiderbügel mit einem Mittelstück, einem Aufhängehaken, der mit dem Mittelstück verbunden ist, zwei Endstücken, die in dem Mittelstück verschiebbar sind und deren jeweilige äußere Enden einen Griffteil zum Aufnehmen eines Kleidungsstücks aufweisen, zwei Federn, die so in dem Mittelstück angeordnet sind, daß jede Feder mit einem ersten Ende gegen ein erstes Widerlager, das mit dem Mittelstück verbunden ist, und mit einem zweiten Ende gegen ein zweites Widerlager, das mit einem jeweiligen Endstück verbunden ist, angelegt wird, und zusammenwirkenden ersten Anschlagzapfen, die an dem Mittelstück und an den Endstücken vorgesehen sind, um den Grad des Herausragens der Endstücke aus dem Mittelstück zu beschränken, dadurch gekennzeichnet, daß jedes der ersten Widerlager in Längsrichtung des Mittelstücks verschiebbar ist und an einer Vielzahl von Positionen entlang der Längsrichtung des Mittelstücks (2) arretierbar ist, und daß die Anschlagzapfen am Mittelstück an den jeweiligen ersten Widerlagern derart angeordnet sind, daß die Federn und die Endstücke durch eine Verschiebung der ersten Widerlager zwischen den Positionen ebenfalls in dem Mittelstück verschoben werden, wodurch ermöglicht wird, daß der Kleiderbügel an Kleidungsstücke mit unterschiedlicher Größe angepaßt wird.
4. Kleiderbügel nach Anspruch 3, dadurch gekennzeichnet, daß ein zweiter Anschlagzapfen an jedem Endstück zwischen dem ersten Anschlagzapfen und dem zweiten Widerlager angeordnet ist, um den Grad des Einschubs der Endstücke in das Mittelstück zu beschränken.

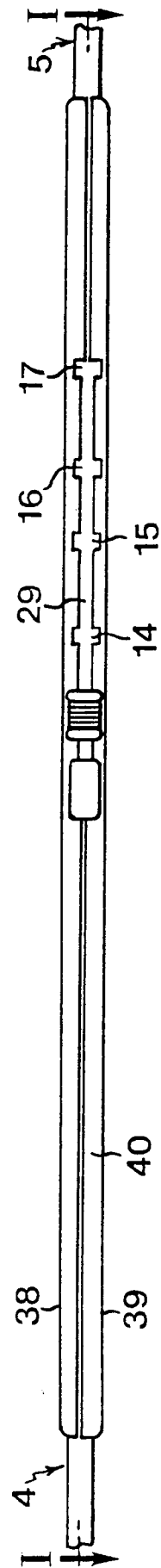
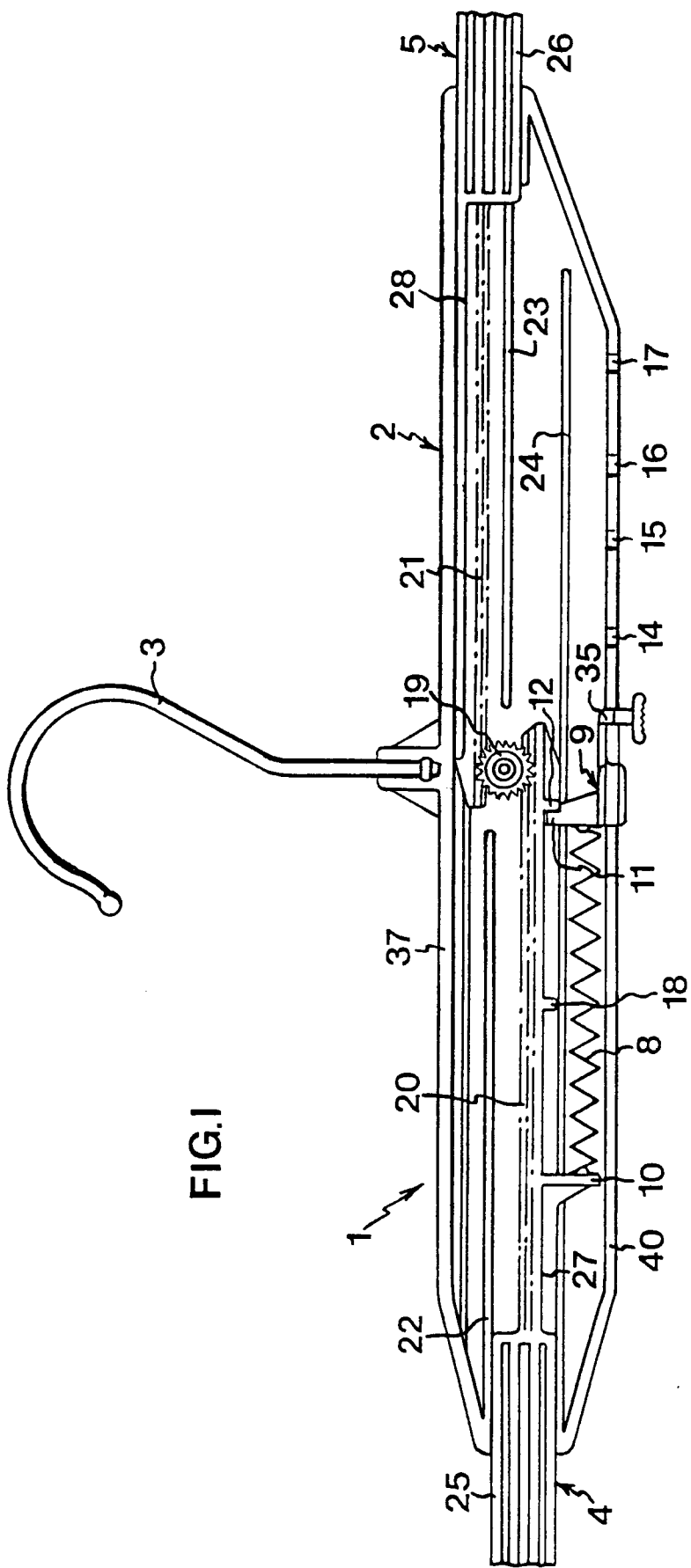
Revendications

1. Cintre ayant une pièce centrale (2), un crochet de suspension (3) relié à la pièce centrale, deux pièces d'extrémité (4, 5) qui peuvent être déplacées dans la pièce centrale et dont les extrémités extérieures respectives ont une partie de saisie (6, 7) afin d'engager un article vestimentaire, un ressort (8) disposé dans la pièce centrale de telle sorte qu'une première extrémité de celui-ci est appliquée contre une première butée (9) reliée à la pièce centrale et qu'une deuxième extrémité de celui-ci est appliquée contre une deuxième butée (10) reliée à une pièce d'extrémité, des premières pattes d'arrêt qui coopèrent (11, 12) prévues sur la pièce centrale et sur ladite première pièce d'extrémité afin de limiter le degré de dépassement de la pièce d'extrémité de la pièce centrale, et des moyens de transmission de mouvement (19, 20, 21) qui, lorsque ladite première pièce d'extrémité est déplacée, provoque un déplacement correspondant de l'autre pièce d'extrémité, caractérisé en ce que la première butée (9) peut être déplacée dans la direction longitudinale de la pièce centrale (2) et peut être bloquée dans une multiplicité de positions (13-17) le long de la direction longitudinale de la pièce centrale (2), et en ce que la patte d'arrêt (11) sur la pièce centrale est prévue sur la première butée de telle sorte que ledit ressort (8) et ladite première pièce d'extrémité (4), lors du déplacement de la première butée entre lesdites positions, sont également déplacés dans la pièce centrale, permettant ainsi au cintre d'être adapté à des articles vestimentaires de différentes tailles.

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 2. Cintre selon la revendication 1, caractérisé en ce qu'une deuxième patte d'arrêt (18) est prévue sur ladite première pièce d'extrémité (4) entre la première patte d'arrêt (12) et la deuxième butée (10) afin de limiter le degré d'insertion de la pièce d'extrémité dans la pièce centrale (2).

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 3. Cintre ayant une pièce centrale, un crochet de suspension relié à la pièce centrale, deux pièces d'extrémité qui peuvent être déplacées dans la pièce centrale et dont les extrémités extérieures respectives ont une partie de saisie afin d'engager un article vestimentaire, deux ressorts disposés dans la pièce centrale de telle sorte que chaque ressort est appliqué avec une première extrémité contre une première butée reliée à la pièce centrale et avec une deuxième extrémité contre une deuxième butée reliée à une pièce d'extrémité respective, et des premières pattes d'arrêt qui coopèrent prévues sur la pièce centrale et sur les pièces d'extrémité afin de limiter le degré de dépassement des pièces d'extrémité de la pièce centrale, caractérisé en ce que chacune desdites premières

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- butées peut être déplacée dans la direction longitudinale de la pièce centrale et peut être bloquée dans une multiplicité de positions le long de la direction longitudinale de la pièce centrale (2), et en ce que les pattes d'arrêt sur la pièce centrale sont prévues sur les premières butées respectives de telle sorte que lesdits ressorts et lesdites pièces d'extrémité, lors du déplacement des premières butées entre lesdites positions, sont également déplacés dans la pièce centrale, permettant ainsi au cintre d'être adapté à des articles vestimentaires de différentes tailles.
4. Cintre selon la revendication 3, caractérisé en ce qu'une deuxième patte d'arrêt est prévue sur chaque pièce d'extrémité entre la première patte d'arrêt et la deuxième butée afin de limiter le degré d'insertion des pièces d'extrémité dans la pièce centrale.



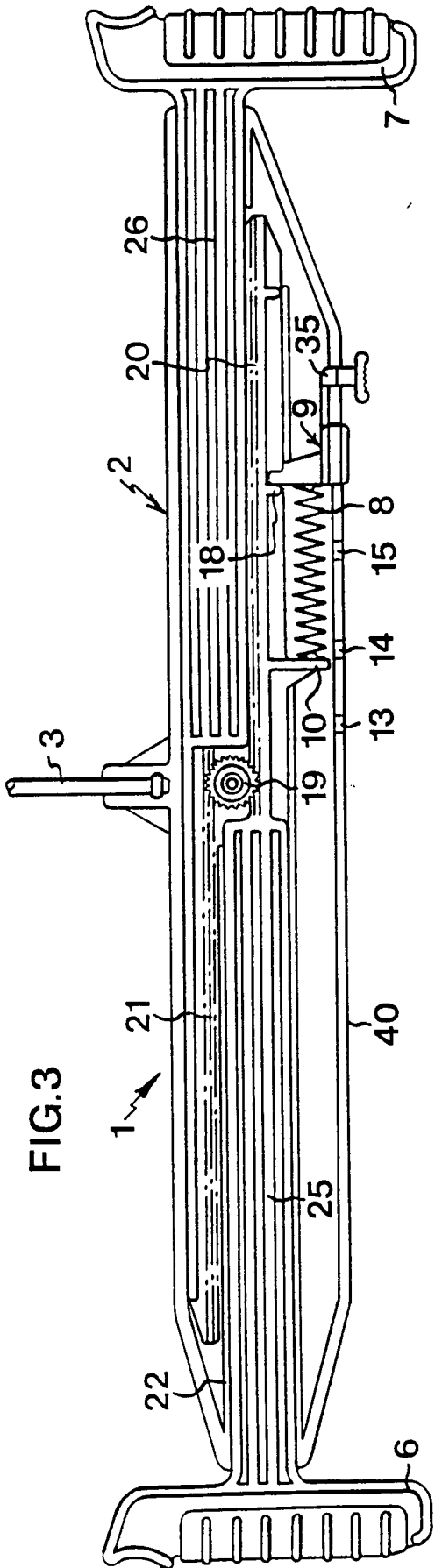


FIG. 3

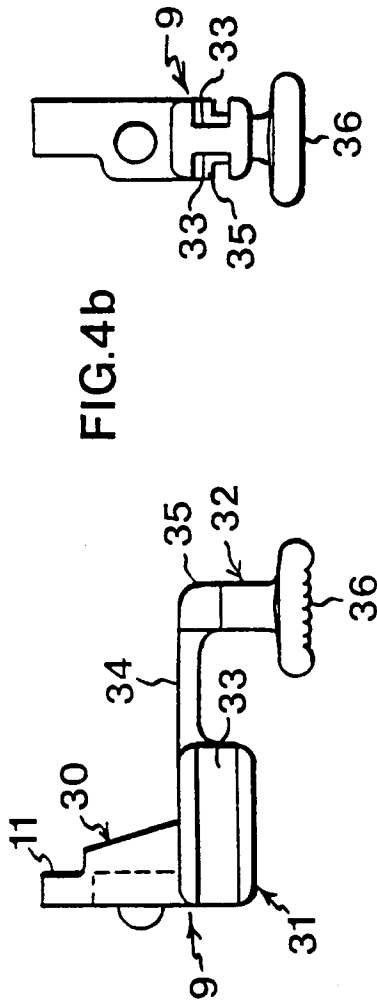


FIG. 4a

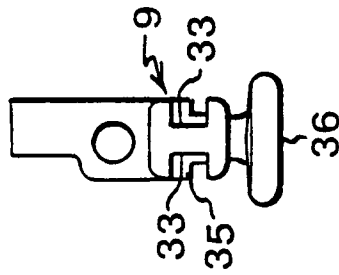


FIG. 4b

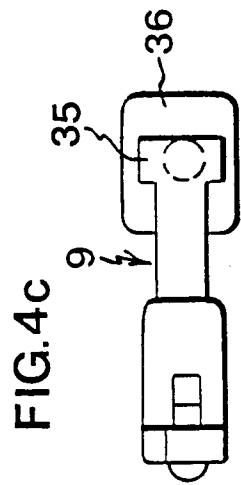


FIG. 4c