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(54) **Device for adjusting the width of saddles**

(57) The saddle has a deformable structure that permits its lateral sides to be opened or closed. The device consists of a horizontal base (1) attached to a vertical beam (2), provided horizontally in the upper part of which are two parallel rollers (5); while in the base (1) there is a vertical rod (10) with means of elevation (3, 9) and whose upper end remains below the rollers (5) and between them, being able to be brought closer together depending on the actuation on those means, with a widening head (11) being able to be coupled in the upper end with a concave termination facing upwards (11a) or a narrowing head (13) with a convex termination facing upwards (13a).

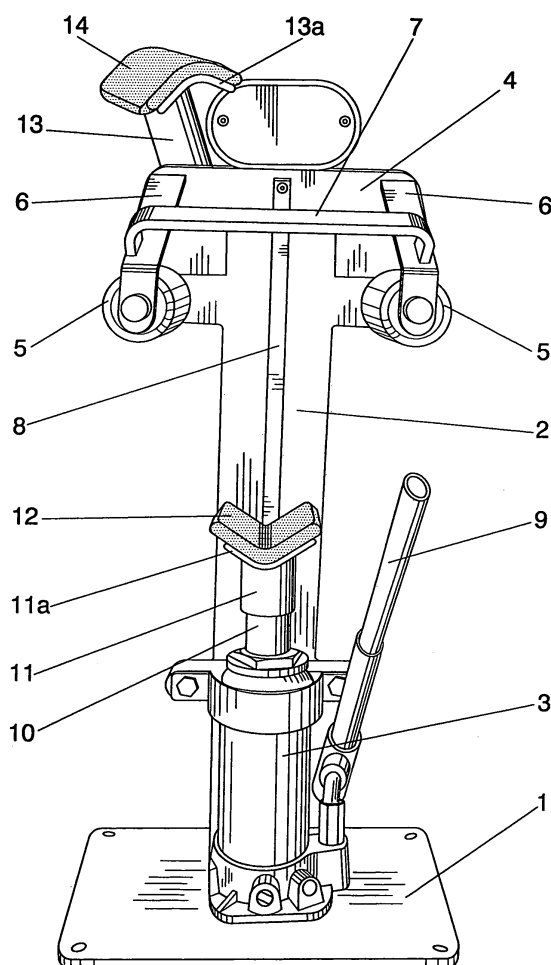


FIG. 1

Description

OBJECT OF THE INVENTION

[0001] As stated in the title of this descriptive specification, the present invention relates to a device for adjusting the width of saddles, the aim of which is to provide a robust apparatus, with a structure that is simple and easy to handle which permits the width of a saddle to be adjusted properly, the device of the invention permitting its use both for narrowing and for widening already manufactured saddles (for example, when it is wished to adapt a saddle to the dimensions of a new horse or when a horse becomes substantially slimmer or fatter), and for its use in the corresponding frames for the saddle prior to its manufacture (for example, in the case of saddles made to measure). The device of the invention can in general be applied to any deformable structure that it is wished to widen or make narrower and which presents a shape and dimensions similar to those of a saddle.

BACKGROUND OF THE INVENTION

[0002] One of the fundamental pieces of equipment in horse-riding is the saddle. The saddle normally consists of a frame, usually covered with leather and provided with padded parts such as the pommel, cantle and seat, along with other elements such as flaps, stirrup leathers or others.

[0003] The frame of the saddle, also known as the saddletree, usually consists of a front pommel and a rear cantle joined by an intermediate part between those pommels and which corresponds to the saddle seat, and which can be a single piece or it can consist of two longitudinal arms joined together by the front pommel and the rear cantle. As seen in the transverse direction, the front pommel habitually displays a pronounced curvature whose aim is to prevent the withers of the horse from being touched or rested on excessively.

[0004] The saddle has to fulfill two basic objectives consisting of permitting a comfortable and correct position for the rider and that the rider should sit on the back of the horse in such a way that the rider's weight is distributed and is correctly adapted to the shape and dimensions of the horse so that the rider can be secured safely on the animal's back, avoiding contact with the horse's backbone and also avoiding any friction that could cause chafing.

[0005] In many saddles, the frame is manufactured from deformable materials, such as for example metals (aluminum, iron) or thermoplastic materials. The use of this type of material permits various widths of the frame to be adapted both at the manufacturing level and when it comes to being able to modify the width of a frame or of a saddle that has already been manufactured.

[0006] In order to adjust the width of an already manufactured saddle, one usually acts on its front part and particularly on its front pommel or bow, and on the front

sides, so that the saddle can acquire a greater or less degree of openness depending on whether it is wished to widen the saddle or make it narrower.

[0007] The devices existing in the state of the art for adjusting the width of saddles display drawbacks relating to the fact that they are excessively complex, both at the level of their structure and in terms of the handling.

DESCRIPTION OF THE INVENTION

[0008] In order to achieve the objectives and avoid the drawbacks stated above, the invention consists of a device for adjusting the width in saddles where the saddle presents a deformable structure which permits its lateral sides to be opened or closed.

[0009] As a novelty, according to the invention, the device thereof consists of a horizontal base attached to a vertical beam, provided horizontally in the upper part of which are two parallel rollers, while in the base there is a vertical rod with means of elevation and whose upper end remains below the rollers and between them, being able to be brought closer together depending on the actuation on those means, with a widening head being able to be coupled in the upper end with a concave termination facing upwards or a narrowing head with a convex termination facing upwards; in such a way that when the saddle is placed in the inverted position on the concave termination of the widening head fitted on the vertical rod the said lateral sides of the saddle remain outside the aforementioned rollers and in contact with them, with which, when the vertical rod is raised with the corresponding means, the widening takes place of the saddle to the desired degree; while if the saddle is placed in its position of use or non-inverted position on the convex termination of the narrowing head mounted on the vertical rod, the upper central part of the saddle penetrates between the rollers and remains in contact with them, with which, when the vertical rod is raised with the corresponding means, the side zones of the saddle are brought closer together and it becomes narrower to the desired degree.

[0010] According to a preferred embodiment of the invention, the said means of elevation of the vertical rod consist of a hydraulic jack with a lever for manual operation. In other embodiments, these means of elevation can consist of automated hydraulic or pneumatic means of actuation.

[0011] In the preferred embodiment of the invention, the said concave and convex terminations include respective elastic pads which help the coupling of the saddle and make it gentler.

[0012] Moreover, in the preferred embodiment of the invention, the vertical beam has an upper widening from which the two rollers start, along with two front strips which provide support for the respective shafts of the rollers via their front ends; said front strips being joined transversely via a stiffening strip.

[0013] The preferred embodiment of the invention includes means of securing of the head that is not coupled

in the upper end of the vertical rod, these means of securing consisting of a ring integral with an upper rear zone of the vertical beam, which permits the introduction and support of either of the heads.

[0014] Moreover, the preferred embodiment of the invention includes means of measuring the degree of elevation of the vertical rod and consequently the degree of widening or narrowing of the saddle; these means of measurement consisting of a graduated scale that is provided vertically in a front and central zone of the vertical beam.

[0015] With the structure that has been described, the device of the invention presents the main advantages of its great robustness and simplicity of handling, permitting an easy and controlled narrowing or widening of an already manufactured saddle or of a structure of a saddle prior to the manufacture of the complete saddle.

[0016] Below, in order to facilitate a better understanding of this descriptive specification and forming an integral part thereof, some figures are attached in which the object of the invention has been represented by way of illustration and non-limiting.

BRIEF DESCRIPTION OF THE FIGURES

[0017]

Figure 1.- Represents a front perspective view of a device for adjusting the width of saddles according to the present invention.

Figure 2.- Represents a semi-sideways perspective view of a detail of the upper part of the device of the previous figure 1.

Figure 3.- Represents a full semi-sideways perspective view of the device of the previous figure 1.

Figures 4A and 4B.- Schematically represent the operation of widening a saddle using the device of figures 1 to 3.

Figures 5A and 5B.- Schematically represent the operation of narrowing a saddle using the device of the above figures 1 to 3.

DESCRIPTION OF AN EXAMPLE OF EMBODIMENT OF THE INVENTION

[0018] A description is given forthwith of an example of the invention making reference to the numbering adopted in the figures.

[0019] So, the device of this embodiment consists of a base 1 on which is mounted a vertical beam 2 and a hydraulic jack 3 which is also attached to the beam 2 and which is actuated by means of a lever 9.

[0020] In the upper part of the beam 2 is a widening 4 at the front of which, and arranged perpendicularly, is a pair of rollers 5 which are to be found in the same horizontal plane and which are spaced between each other. These rollers 5 turn on respective shafts 5a each of which is coupled via its rear end to the widening 4 and via its

front end to a front strip 6 which emerges from the upper part of the widening 4. The two front strips 6 are joined together by a stiffening strip 7. In the front face of the beam 2 is a vertical measuring scale 8.

[0021] The hydraulic jack 3 is arranged in such a way that its rod 10 is displaced vertically and parallel to the beam 2. Coupled at the free end of the rod 10 is, as the case might be, a widening head 11 or a narrowing head 13. In the figures the device is shown with the widening head 11 mounted on the rod 10, while the narrowing head 13 is inserted in a securing ring 15 which emerges horizontally from the upper rear surface of the widening 4 of the beam 2; though it could just as well be the head 13 that is mounted on the rod 10 and the head 11 is fitted in the ring 15.

[0022] The degree of vertical displacement of the head 11 or 13 is related to the widening or narrowing that can be achieved in the saddle, therefore, when the characteristics of the saddle or of a frame are known the desired widening or narrowing can be achieved with a certain vertical displacement, which is checked by using the scale 8.

[0023] The upper end of the widening head 11 presents a concave termination 11a on which a pad 12 is provided made of an elastic material which has the same shape as the termination 11a and which facilitates the adaptation to the saddle 16.

[0024] Moreover, the top of the narrowing head ends in a convex termination 13a on which analogously another pad 14 is provided made of an elastic material and having the same purpose as the previous one. The narrowing head 13 presents a more elongated main body than the widening head 11, as shown in the figures, owing to its different functionalities.

[0025] The heads 11 and 13 can be mounted on the rod 10 in such a way that the concave termination 11a or convex termination 13a is left parallel with the plane in which the rollers 5 are arranged.

[0026] Figures 4A and 4B show the operation of widening a saddle 16 that includes a frame 17, with a saddle-pad 18, with a flap 19, with a front pommel 20 and with a channel between the saddle-pads 21, as can be seen in figures 4A, 4B, 5A and 5B.

[0027] In order to widen a saddle 16 or a frame thereof, one proceeds as follows: the widening head 11 is mounted on the rod 10, with the saddle 16 being placed in the inverted position in such a way that its upper front part is on the widening piece or termination 11a with the front pommel 20 resting on this termination 11a and the lateral sides of the saddle 16 being in contact via their internal part with the outside of the rollers 5, as shown in figure 4A. Next, the hydraulic jack 3 is operated with the lever 9 so that the head 11 rises up and pushes the saddle upwards, with which its sides that are in contact with the rollers 5 become separated until the desired degree is reached, as illustrated in figure 4B.

[0028] The operation of narrowing a saddle 16 is shown in figures 5A and 5B, where a saddle 16 has been

used the same as in the previous figures 4A and 4B. In order to narrow a saddle, one proceeds as follows: the narrowing head 13 is mounted on the rod 10 and the saddle 16 is placed in on that head 13 in its position of use or non-inverted position, with its front part facing the beam 2. Next, the hydraulic jack 3 is operated so that the saddle 16 is pushed upwards, and, as it rises up, the upper part of the saddle is introduced into the space defined by the rollers 5 and, as the sides of the saddle, and therefore its frame, continue to rise they find themselves progressively pressed against the rollers, and so the saddle becomes progressively squashed until the desired degree of narrowing is reached.

Claims

1. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, the saddle (16) having a deformable structure that permits its lateral sides to be opened or closed; characterized in that the device consists of

- a horizontal base (1) attached to a vertical beam (2);
- two parallel rollers (5) provided horizontally coupled to the upper part of the vertical beam (2);
- a vertical rod (10) coupled to the base (1); with means of elevation (3, 9) and whose upper end remains below and between the rollers (5); the rollers (5) being able to be brought closer together depending on the actuation on said means of elevation; with a widening head (11) being able to be coupled in the upper end with a concave termination facing upwards (11a) or a narrowing head (13) with a convex termination facing upwards (13a);

such that when the saddle (16) is placed in the inverted position on the concave termination (11a) of the widening head (11) fitted on the vertical rod (10) the lateral sides of the saddle (16) remain outside the rollers (5) and in contact with them, with which, when the vertical rod (10) is raised with the corresponding means (3, 9), the widening takes place of the saddle (16) to the desired degree; while if the saddle (16) is placed in its position of use or non-inverted position on the convex termination (13a) of the narrowing head (13) mounted on the vertical rod (10), the upper central part of the saddle (16) penetrates between the rollers (5) remaining in contact with them, with which, when the vertical rod (10) is raised with the corresponding means (3, 9), the lateral sides of the saddle (16) are brought closer together and it becomes narrower to the desired degree.

2. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that

said means of elevation of the vertical rod (10) consist of a hydraulic jack (3) with a lever for manual operation (9).

3. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that said means of elevation of the vertical rod (10) are selected from the group consisting of automated hydraulic and pneumatic means of actuation.

4. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that said concave (11a) and convex (13a) terminations of the widening (11) and narrowing (13) heads include respective elastic pads (12 and 14) which help the coupling to the saddle (16) and make it gentler.

5. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that the vertical beam (2) has an upper widening (4) from where the two rollers (5) start, along with two front strips (6) which provide support for respective shafts (5a) of the rollers (5) via their front ends; said front strips (6) being joined transversely via a stiffening strip (7).

6. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that it includes means of securing (15) of the head (11 or 13) which is not coupled in the upper end of the vertical rod (10).

7. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 6, characterized in that said means of securing consist of a ring (15) integral with an upper rear zone of the vertical beam (2), which permits the introduction and support of either of the heads (11 or 13).

8. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 1, characterized in that it includes means of measurement (8) of the degree of elevation of the vertical rod (10) and consequently of the degree of widening or narrowing of the saddle (16).

9. DEVICE FOR ADJUSTING THE WIDTH OF SADDLES, according to claim 8, characterized in that said means of measurement consist of a graduated scale (8) provided vertically in a front and central zone of the vertical beam (2).

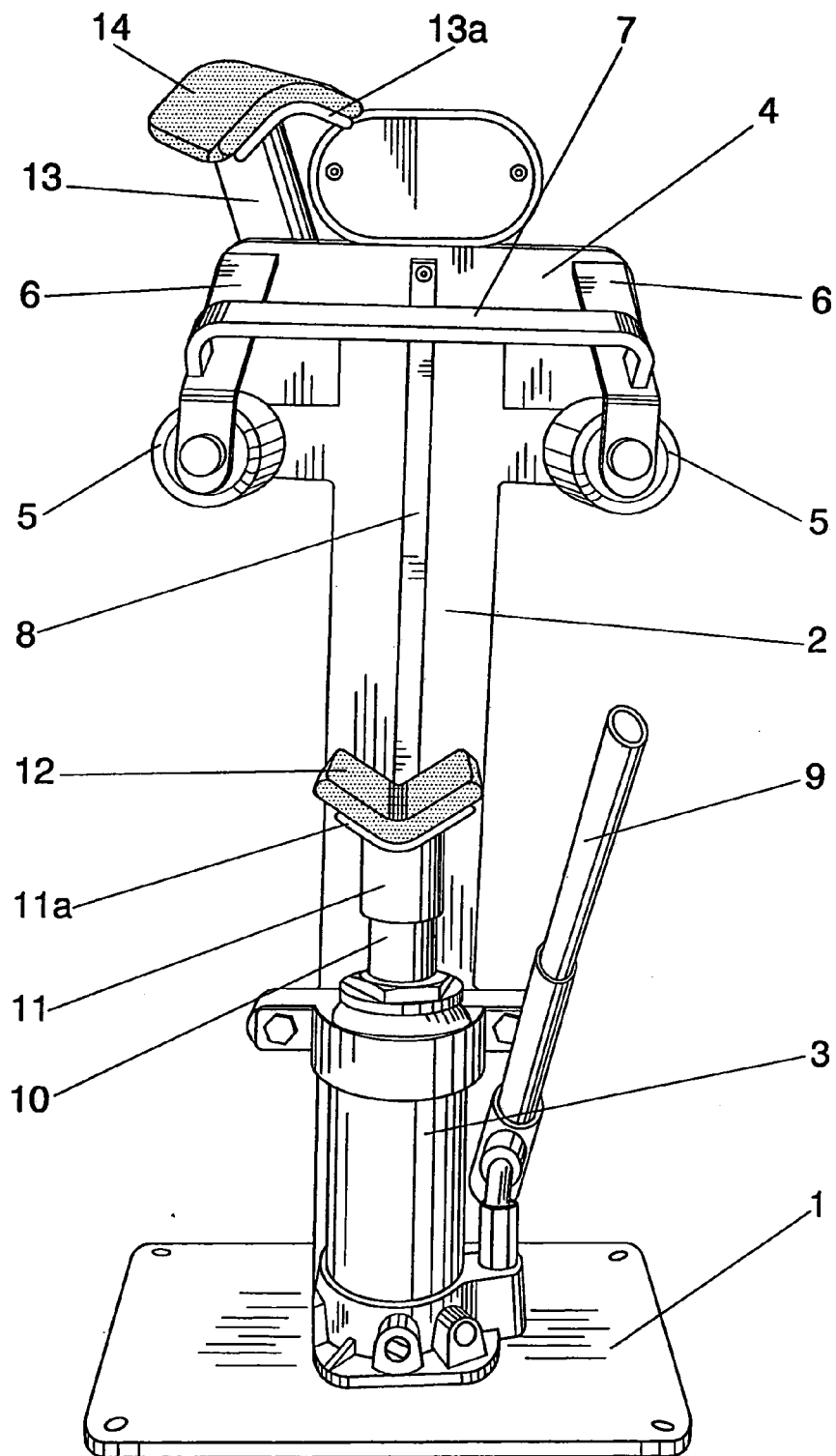


FIG. 1

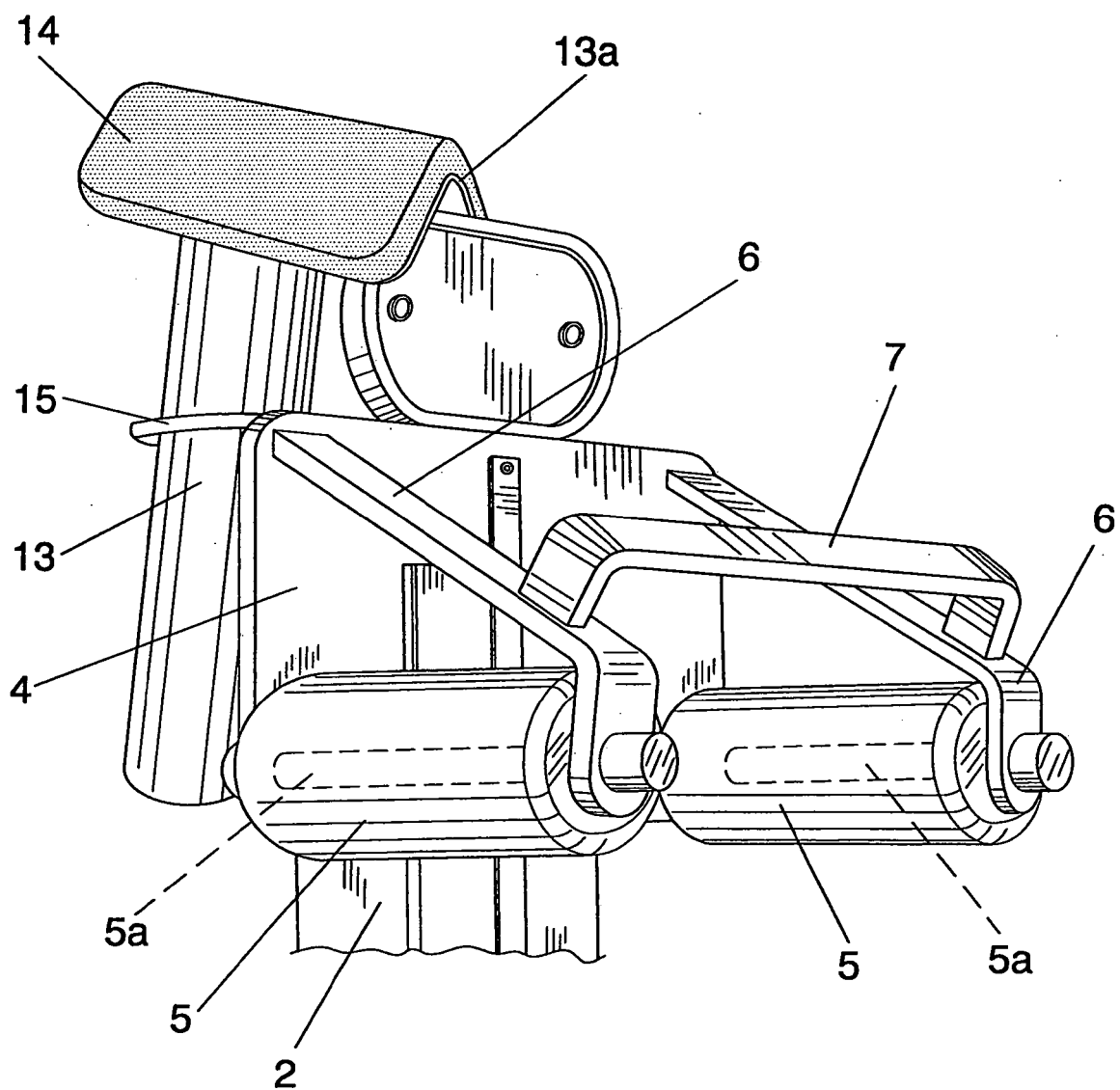


FIG. 2

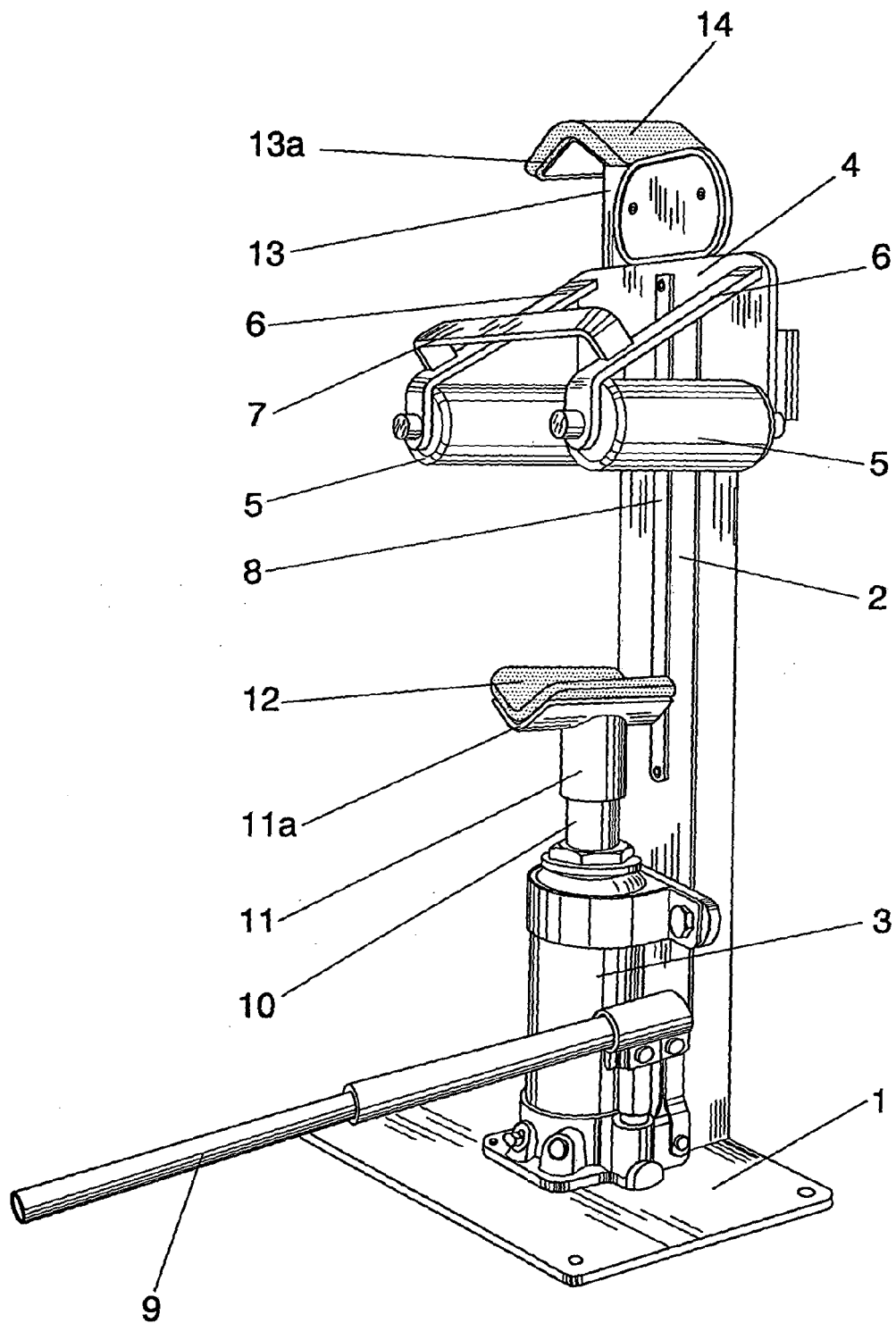


FIG. 3

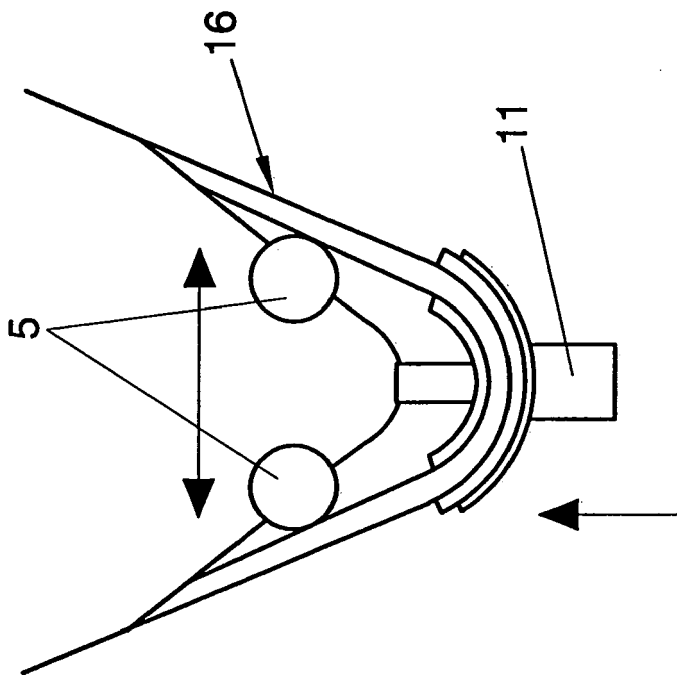


FIG. 4B

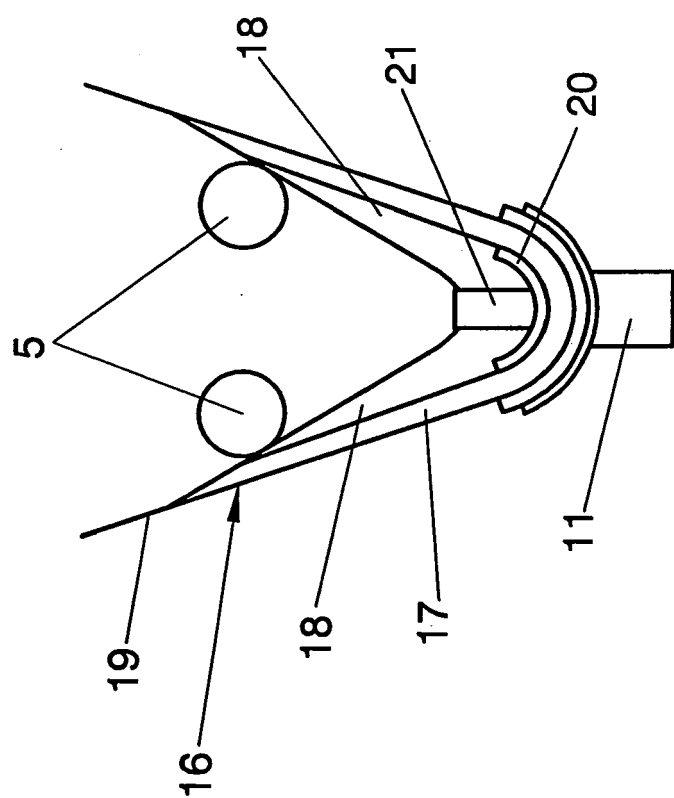


FIG. 4A

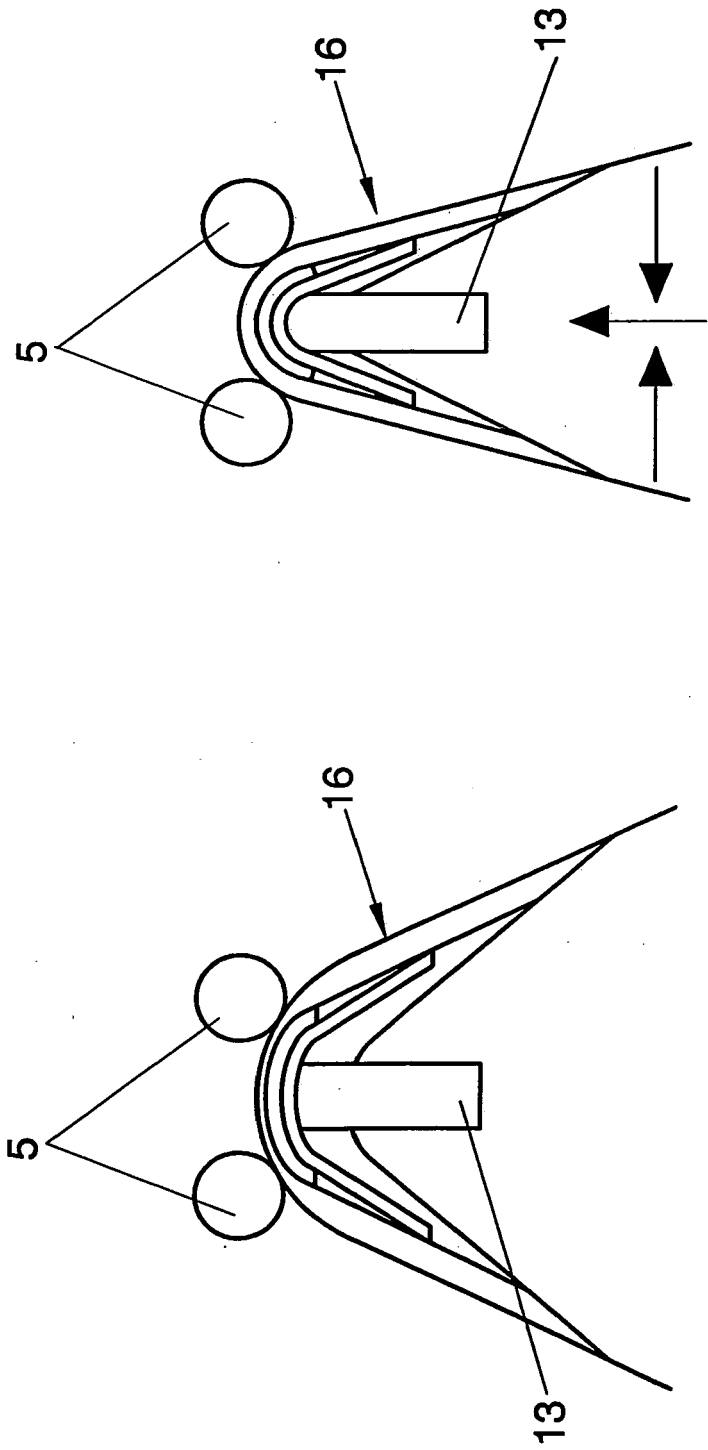


FIG. 5A

FIG. 5B



EUROPEAN SEARCH REPORT

Application Number
EP 08 38 0307

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 3 147 606 A (HOLMBERG MELVIN R) 8 September 1964 (1964-09-08) * the whole document * -----	1-9	INV. B68C1/00 B68F3/02
			TECHNICAL FIELDS SEARCHED (IPC)
			B68F B68C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 26 February 2009	Examiner Espeel, Els
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3147606	A	08-09-1964	NONE

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11