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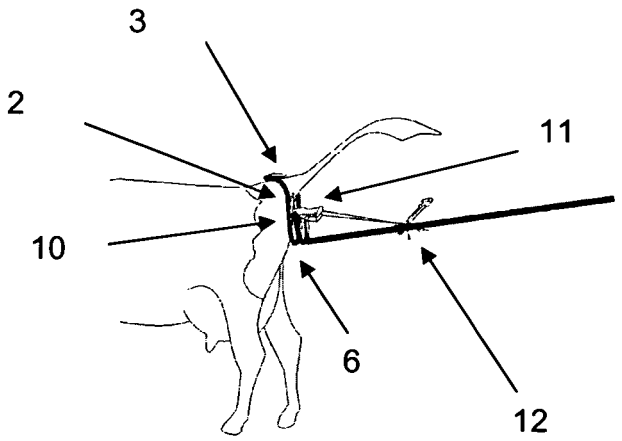
(54) **Device acting as an aid during the birth of calves**

(57) Construction acting as an aid during the birth of calves, in which the support that rests against the hindquarters of the animal consists of a U-shaped tube that is placed around the birth canal and in the same plane as the rear of the cow, with the ends of the support being bent backwards. The position of the connecting pin between fork and bar makes an angle of between 75 and 105 degrees with the plane so that the fork never blocks the birth canal.

Fig. 3



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Description

[0001] The invention relates to a device that can be used to assist the cow during calving.

[0002] It is necessary to give help to the animal when delivery is difficult. This is done by attaching ropes to the legs of the calf. During the cow's contractions, traction is applied to the calf's legs. The force that needs to be exerted often exceeds the strength of one person, so the assistance of several people is often required when helping the cow during calving. Since this is not always possible, there are calving aids on the market. An appliance of this sort often consists of a support that is placed against the animal's rear and a traction bar along which a lever mechanism moves.

[0003] In order to carry out the right actions in all cases during a delivery, a calving aid should satisfy the following conditions: at all stages of the birth, it must be possible to apply traction in a controlled manner and it must be possible to pull in the right direction during the different stages of the birth and in the different types of birth (forwards or backwards presentation). In addition, since births often occur at night and the farmer is therefore usually alone, it must be possible for deliveries to be carried out by a single person. It is also important that the appliance does not need to be held in place continuously, so that the farmer has his hands free to carry out other actions that are necessary during a delivery. This is not possible with existing calving aids. The calving aid that comes closest to satisfying these requirements is described in patent application EP0221101. With this appliance, however, it is not possible to exert a sideways force, because the support not only rests against the rear of the cow but also encloses this. In this way, it is so completely fixed that traction to the left or right is not a possibility. The impossibility of moving the traction bar to the left or right of the cow also has the disadvantage that if the cow is in a small area, there is a safety risk for the cow or the farmer, since if the cow moves or falls over, the bar can make a striking movement that cannot be halted. Besides this, although the support is constructed in such a way that, as described in the patent document mentioned above, the appliance cannot slide away downwards or sideways, the fact that the point at which the fork hinges on the support is positioned below the birth canal and the support point, the traction point (the legs) and the traction mechanism are therefore not in one line means that the traction bar moves upwards as soon as it is released. On the other hand, the support has the tendency to slide upwards, so that the birth canal is blocked by the forked section of the support because in the case of a pulling movement directly backwards or upwards, the calf is pulled against the fork.

[0004] The purpose of the invention is to provide a construction of the type described above that does not have the disadvantages mentioned above.

[0005] In the calving aid according to the invention, a fork is attached to the traction bar along which the pulling mechanism can move backwards. This fork is attached to the support by two hinges, so that the bar can be moved upwards or downwards and the traction direction can therefore be adjusted upwards or downwards.

[0006] The support consists of a U-shaped bent tube that rests against the body of the cow, against the rear and closely surrounding the birth canal of the animal. The top two ends of the U-shape are bent back so that they rest on top of the cow's back at the rear. They prevent the support from sliding downwards. The calf moving down the birth canal causes the canal to bulge slightly and the traction exerted on this pushes the curve of the U-shape to some extent into the soft areas around the birth canal, the support is therefore fixed firmly against the rear of the cow and cannot slide away. Because the support rests against the hindquarters of the animal in the same plane and unlike the existing constructions as described in the patent document mentioned above, does not enclose the cow's hindquarters, the bar can also be moved sideways so that if necessary because of the position of the calf, traction can also be exerted to some extent in a sideways direction. Moreover, damage is less likely to be caused to the cow, the assisting operator or the appliance itself if the cow makes an unexpected movement or suddenly falls down while calving, while because of the tension on the traction mechanism, as soon as the bar is released, it will automatically return to the middle position.

[0007] The position of the round pin that forms the rotatable connection between the fork and the traction bar is such that it forms an angle of about 90 degrees with the plane of the support if the fork rests against the base of the support while traction is being exerted. In this way, the birth canal is never completely or partially blocked by the fork, independent of the position of the bar and therefore of the traction direction, while the support does not have the tendency to slide upwards because the support point (the place where the fork hinges on the support), the point where traction is exerted (the legs) and the traction mechanism are in line with each other.

[0008] Further information is given in the drawings which show a model version of the construction.

[0009] Fig.1 shows the calving aid according to the invention with traction bar (1), the bent-back ends (3), the vertical support sections (4) the fork (5) and the connecting pin (6).

[0010] Fig. 2 shows the calving aid as described in patent application EP0221101 with the hinge where the fork joins the support point (7) below the birth canal and in which the support point (7), the traction point (8) and the traction mechanism (9) are not located in the same line.

[0011] Fig. 3 shows the position of the calving aid on the cow during a normal forwards presentation in which the front legs of the calf emerge first. The U-shaped support (2) rests against the hindquarters of the cow and in the same plane, with the bent-back ends (3) resting on the animal's back. The traction direction is straight back-

wards, and the connecting pin (6) forms an angle of 90 degrees with the fork (5) so that the birth canal remains entirely free and the hinge where the fork joins the support point (10), the traction point (11) and the traction mechanism (12) are located in the same line.

[0012] Fig. 4 shows the position of the calving aid on the cow for a backwards presentation in which the back legs of the calf emerge first. In that case, traction is required in an upwards direction, and the position of the connecting pin (6) ensures that here, too, the hinge where the fork joins the support point (10), the traction point (11) and the traction mechanism (12) are located in the same line and the birth canal is not blocked.

[0013] Fig. 5 shows three views from above, demonstrating that the construction according to the invention allows traction directions both directly backwards (2) and sideways in both directions (1 and 3), in which if the appliance is released, it returns to the straight position.

Claims

1. A calving aid for cows in which the support is placed against the rear of the cow while the traction bar hinges on this by means of a fork, so that traction can take place towards the tail and towards the udder, **characterised in that** the support (2) on which the traction bar (1) hinges by means of the fork (5) is supported on three sides closely surrounding the birth canal against the rear of the cow, while the upper side of the support remains open and the two ends of the support pointing upwards are bent forwards (3) and therefore rest on the top of the hindquarters of the animal, so that the support (2) cannot slide downwards, while because the vertical sections of the support (4) are supported close to the birth canal and in the same plane as this, the traction bar (1) can also be moved to the left and the right.

2. A calving aid in accordance with claim 1 **characterised in that** the round connecting pin (6) that forms the rotatable connection between the fork (5) and the traction bar (1) forms an angle of about 90 degrees with the plane of the rear of the cow when the appliance is in place and the fork (5) rests against the base of the support (2), so that irrespective of the position of the traction bar (1), the birth canal is not blocked and the hinge where the fork joins the support point (10), traction point (11) and the traction mechanism (12) are always in the same line, so that the traction bar behaves neutrally and the support does not slide upwards.

Fig.1

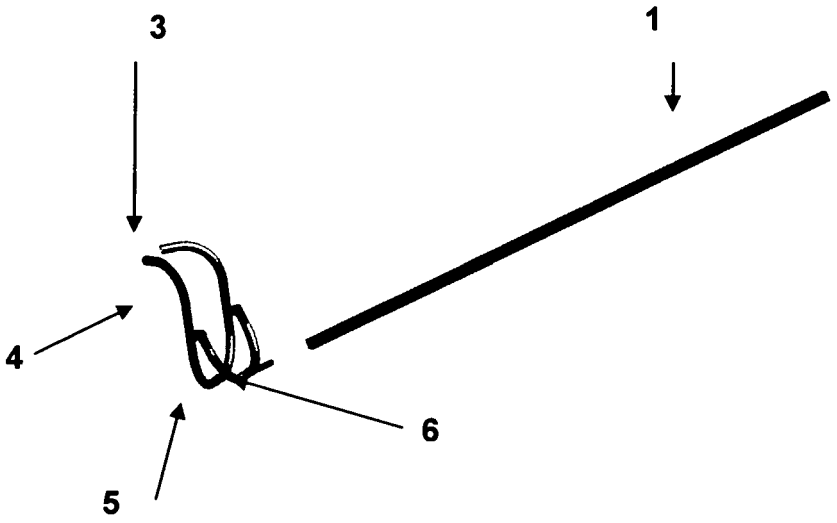


Fig.2

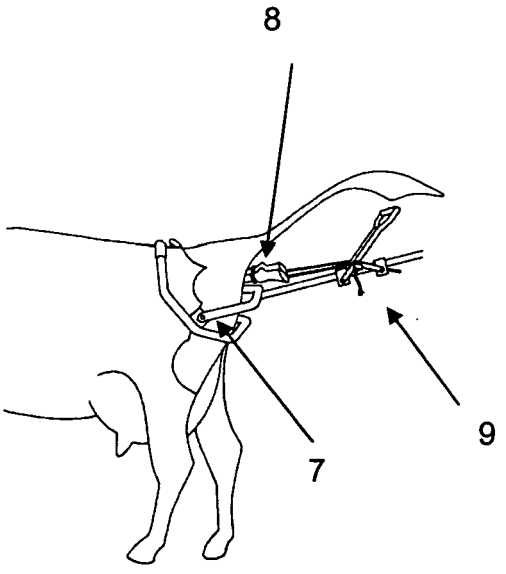


Fig. 3

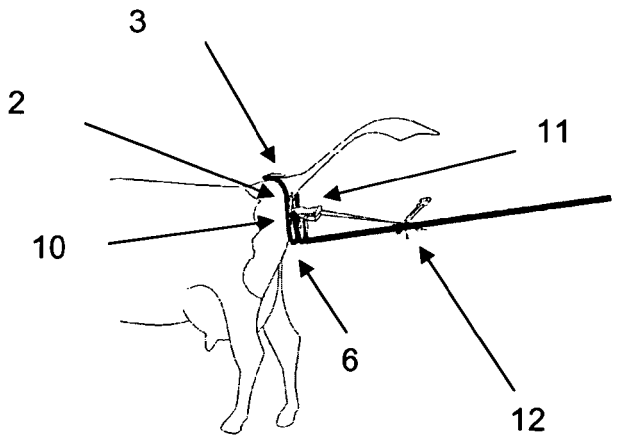


Fig.4

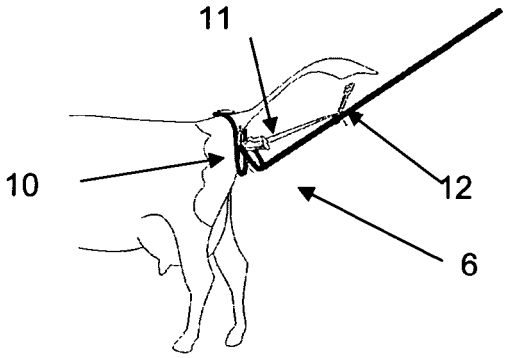
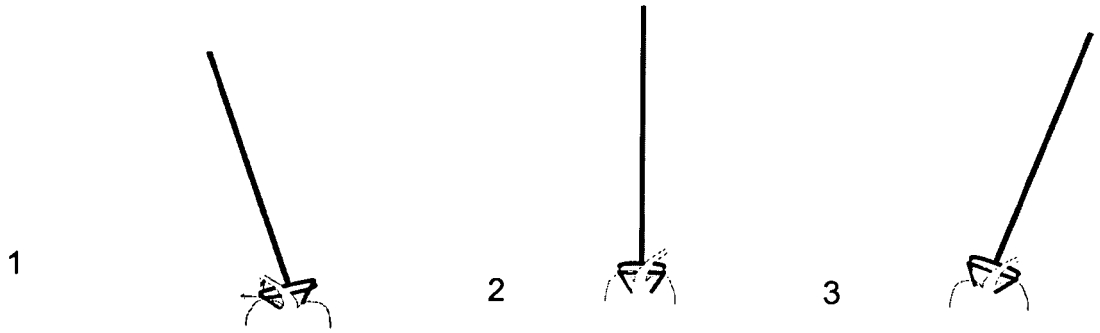


Fig.5



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EUROPEAN SEARCH REPORT

Application Number
EP 07 07 5012

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 0 221 101 B2 (VINK GERRIT JAN) 9 December 1992 (1992-12-09) * the whole document * -----	1	INV. A61D1/08
Y	FR 635 021 A (M. AUGUEUX) 5 March 1928 (1928-03-05) * page 1, line 37 - line 64; figure 1 * -----	1	

TECHNICAL FIELDS SEARCHED (IPC)

A61D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	17 April 2007	Vanrunxt, Joseph

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 07 5012

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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17-04-2007

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 0221101 A **[0003] [0010]**