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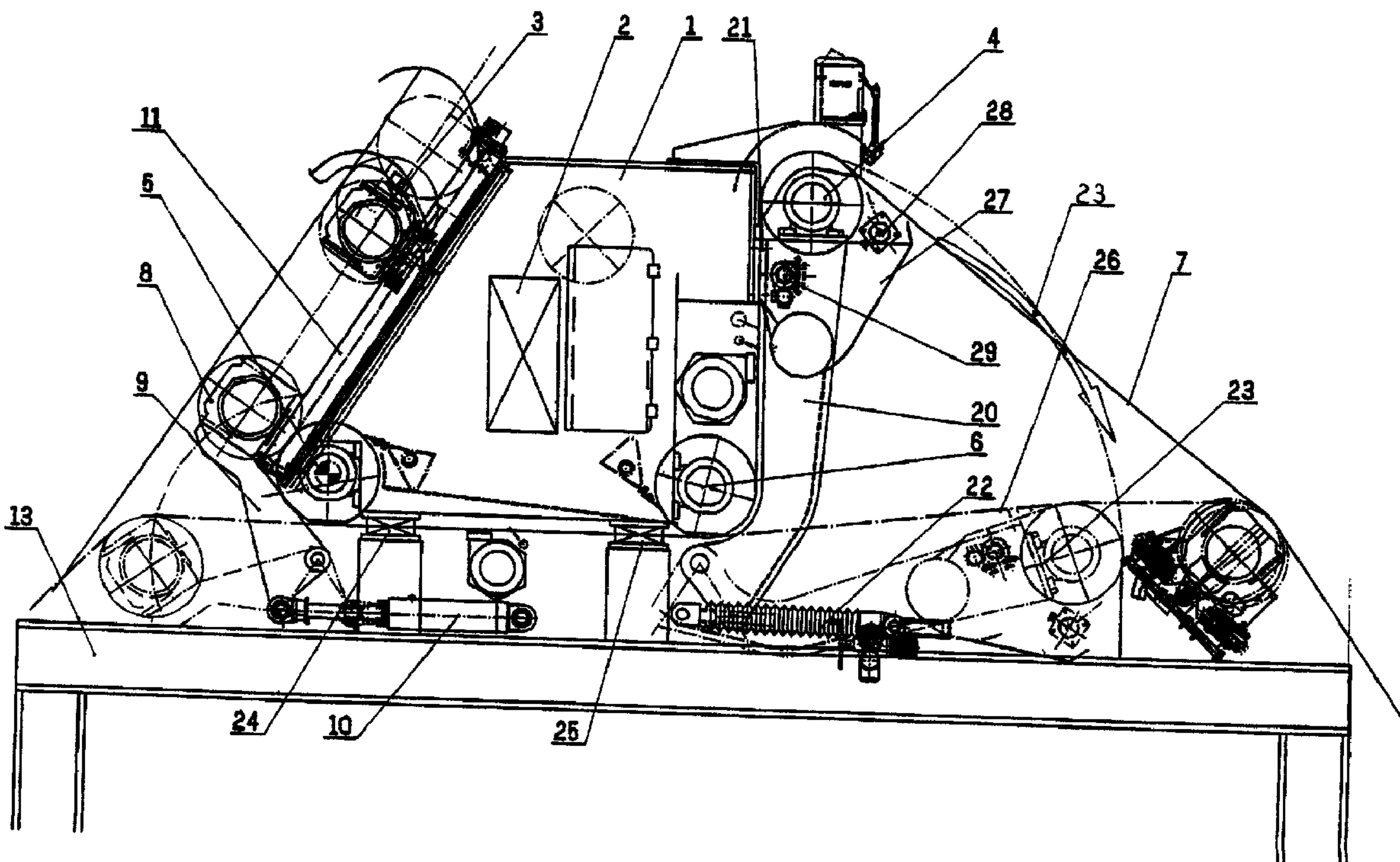
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(54) Titre : CHANGEUR D'HABILLAGE DE MACHINE A PAPIER
(54) Title: DEVICE FOR CHANGING THE CLOTHING OF A PAPER MACHINE



(57) Abrégé/Abstract:

The invention relates to a device for changing the clothing of a paper machine, particularly a tissue machine, for example a TAD (through-air drying) machine, with a number of deflection rolls 3, 4, 5, 6 and at least one cleaning device 27, 28, 29 for the machine clothing. Levers 9, 20 are provided on either side of the machine clothing 7, where these levers hold at least one deflection roll 3, 4 and can be pivoted from an operating position to a machine clothing changing position. Thus, the time and the number of personnel required to change the machine clothing are reduced substantially.

Abstract

The invention relates to a device for changing the clothing of a paper machine, particularly a tissue machine, for example a TAD (through-air drying) machine, with a number of deflection rolls 3, 4, 5, 6 and at least one cleaning device 27, 28, 29 for the machine clothing. Levers 9, 20 are provided on either side of the machine clothing 7, where these levers hold at least one deflection roll 3, 4 and can be pivoted from an operating position to a machine clothing changing position. Thus, the time and the number of personnel required to change the machine clothing are reduced substantially.

10

(Fig. 1)

DEVICE FOR CHANGING THE CLOTHING OF A PAPER MACHINE

The invention relates to a device for changing the clothing of a paper machine, particularly a tissue machine, for example a TAD (through-air drying) machine, with a number of deflection rolls and at least one cleaning device for the machine clothing.

5 The equipment currently used has the disadvantage that changing of the machine clothing takes a long time, is labour-intensive, and requires additional resources, e.g. machine room cranes, which thus are not available for other maintenance work, such as roll changing, routine headbox maintenance, etc., during changing of machine clothing. The
10 machine clothing mentioned here relates to wires, felts, or similar clothing elements.

15 The aim of the invention is thus to simplify changing of machine clothing in such a way that the changing time is shortened, the number of persons required is reduced, and no auxiliary equipment is needed that is not integrated into the machine design.

20 The invention is thus characterised by levers being provided, mounted on either side of the machine clothing, where these levers hold at least one deflection roll and can be pivoted from an operating position to a machine clothing changing position. As a result, external lifting gear, such as machine cranes, are no longer needed and can be used for other purposes. In addition, there is no longer any need for the complicated procedure to remove the deflection roll(s), nor to store them outside the machine. This substantially reduces the time required for changing the machine clothing. In addition, the invention considerably improves safety
25 of the operating personnel (no rolls swinging out of the machine).

30 If the position of the deflection roll(s) for changing machine clothing is such that the clothing can be inserted into the paper machine virtually horizontally, less personnel are required because the clothing no longer has to be pre-folded. This is a particular advantage with the stiff TAD wires.

The invention is used to advantage if the deflection roll is a tensioning roll, where the tensioning roll can be suitable for connecting via the bearing housing to the levers arranged on either side of the machine clothing when the tensioning device is in the final position at zero tension. Using the 5 tensioning roll, the machine clothing can be reduced to zero tension and the lever then used to move the tensioning roll into the machine clothing changing position, at which the machine clothing can be inserted virtually horizontally.

A favourable further development of the invention is characterised by at 10 least two levers mounted on either side of the machine clothing being connected to one another via a splash protection tray, where the splash protection tray and any cleaning showers mounted in it can be pivoted into the machine clothing changing position together with the deflection roll using the levers mounted on either side of the machine clothing. Thus, 15 such machine parts as the splash protection tray and cleaning showers can be lowered together at the same time and need not be dismantled separately for this purpose.

A favourable embodiment of the invention is characterised by the levers being connected to the lifting elements, where the lifting elements can be 20 operated hydraulically, e.g. hydraulic cylinders or electro-mechanical lifting elements, i.e. electrically driven lifting spindles.

In one aspect, the invention provides a device for changing a clothing of a paper machine, with a number of deflection rolls and at least one cleaning device for the machine clothing, comprising first levers and second levers 25 being provided on either side of the machine clothing wherein the first and second levers hold at least one deflection roll and can be pivoted from an operating position to a machine clothing changing position, with the machine clothing cleaning device comprising showers.

30 The invention will now be described in examples and referring to the drawings, where the Figure shows one variant of the invention.

The invention is used in the vicinity of the machine clothing cleaning

device 1 in a paper machine, which essentially comprises a cantilevering support structure 2, a tensioning roll for the machine clothing 3, a deflection roll 4, as well as two further guide rolls 5, 6 for the machine clothing, and various cleaning devices, i.e. showers, suction boxes and cleaning doctors.

When threading in new machine clothing 7 with endless woven design, the tensioning roll 3 is run into the shortest tensioning position 8. In this position, two levers 9 on the operating and drive sides of the paper machine are moved up against the roll bearing at roll 3 using an hydraulic cylinder or worm gear screw jacks 10 and bolted to the bearing. After this, the connection between the roll bearing and the guide blocks 11 of the tensioning device is detached. The tensioning roll 3 can now be placed on the machine frame 13.

Then, the levers 20 that support the deflection roll 4 are detached from the supporting structure 2 on the operating and drive sides by undoing the connections 21 (e.g. bolted connections). After disconnecting all of the showers and suction devices on the drive side, the levers 20 are lowered with the aid of lifting elements 22 in the direction indicated by the arrow 23 onto the machine frame 13 together with the roll 4 and all of the showers and water collecting trays 27 secured to the roll.

After placing the two rolls 3 and 4 onto the machine frame 13, the intermediate pieces 24 and 25 in the frame are removed from the supporting structure 2 using a cantilever device. The new machine clothing 26 can now be inserted easily, in a virtually horizontal position and without counter-bending, through the openings thus created on the operating side of the machine. The type of roll positioning according to the invention also creates much more excess length in the clothing element, which makes it easier to insert it into the remaining part of the machine. This too causes a reduction in the time required for changing endless woven machine clothings.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A device for changing a clothing of a paper machine, with a number of deflection rolls and at least one cleaning device for the machine clothing, comprising first levers and second levers being provided on either side of the machine clothing, wherein the first and second levers hold at least one deflection roll and can be pivoted from an operating position to a machine clothing changing position, with the machine clothing cleaning device comprising showers.
2. The device according to claim 1, wherein the position of the deflection roll or roll(s) for changing machine clothing is such that the clothing can be inserted into the paper machine virtually horizontally.
3. The device according to claim 1 or 2, wherein the deflection roll is a tensioning roll.
4. The device according to claim 3, wherein the tensioning roll is suitable for connecting via a bearing housing to the levers arranged on either side of the machine clothing when the tensioning device is in a final position at zero tension.
5. The device according to claim 1 or 2, wherein at least two levers mounted on either side of the machine clothing being connected to one another via a splash protection tray.
6. The device according to claim 5, wherein the splash protection tray and cleaning showers mounted in it being suitable for pivoting into the machine clothing changing position together with the deflection roll using the levers mounted on either side of the clothing.
7. The device according to any one of claims 1 to 6, wherein the first levers and the second levers are connected to lifting elements.

8. The device according to claim 7, wherein the lifting elements are hydraulic lifting elements.
9. The device according to claim 7, wherein the lifting elements are electro-mechanical lifting elements.

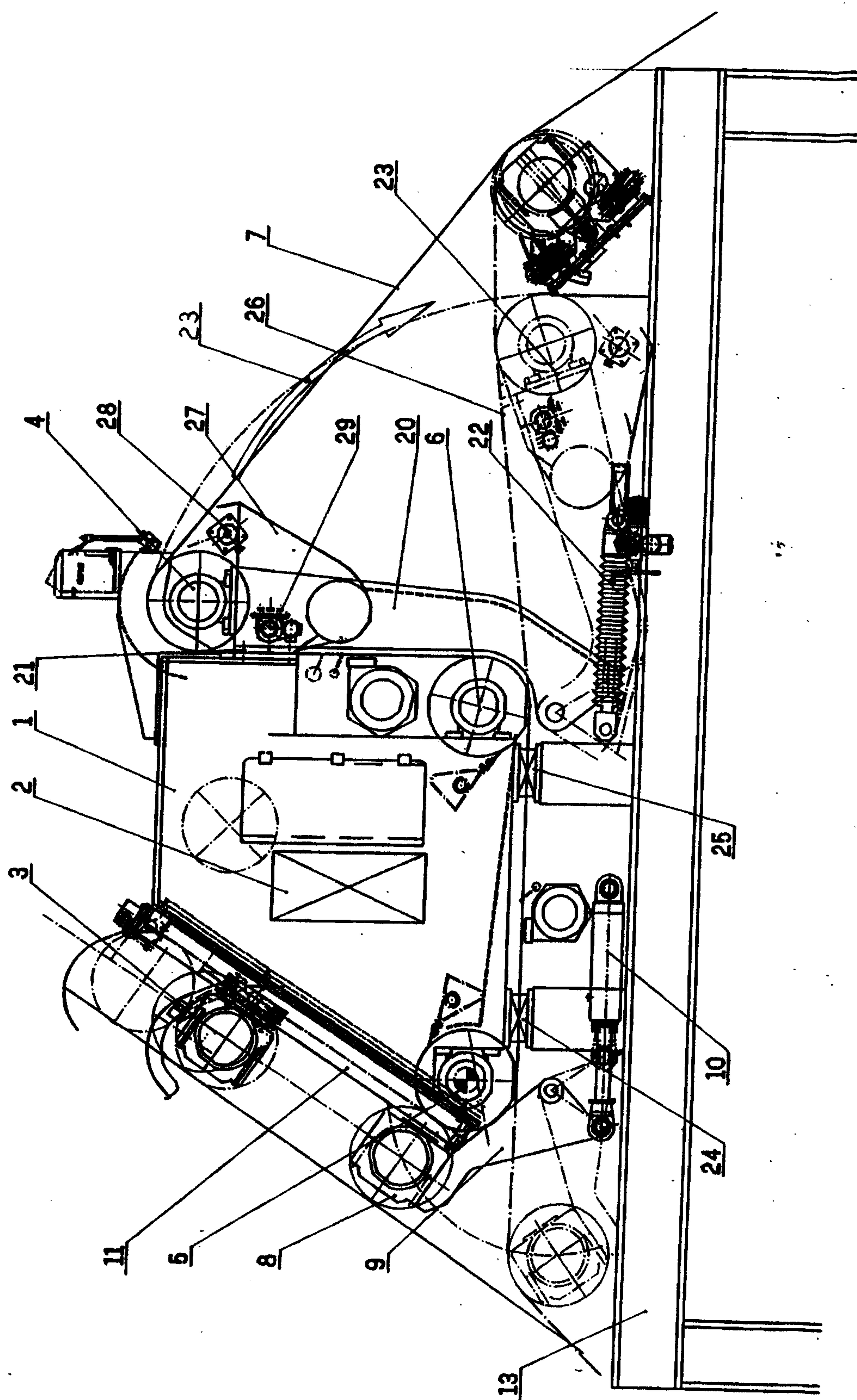


Fig. 1

