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A. N. ANDERSEN & A. B. WALLEM.

GUIDING DEVICE.

APPLICATION FILED JULY 13, 1904.

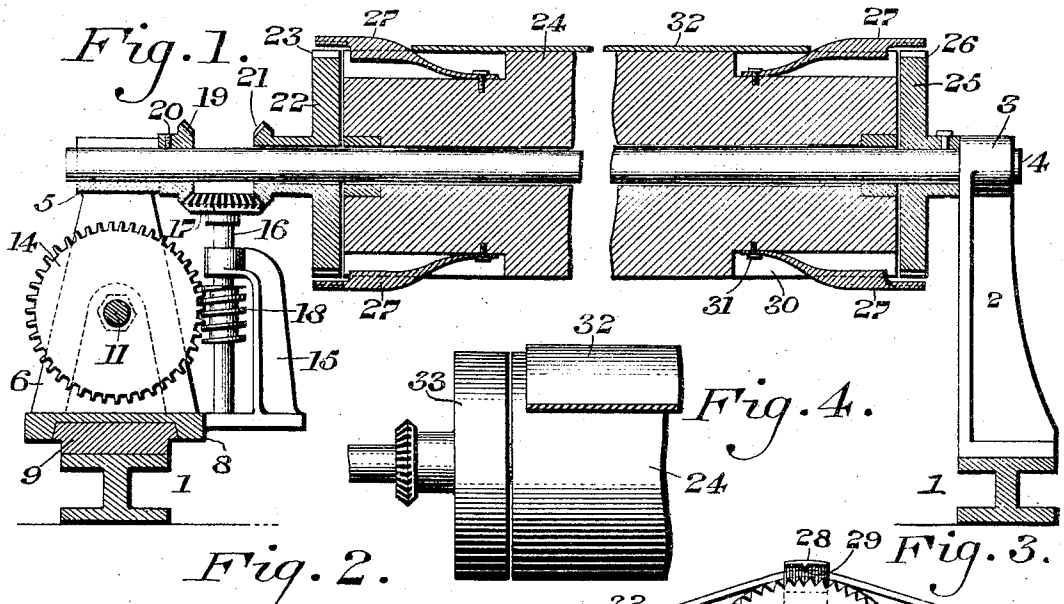


Fig. 1.

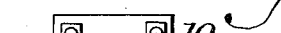


Fig. 2.

Fig. 4.

Fig. 3.

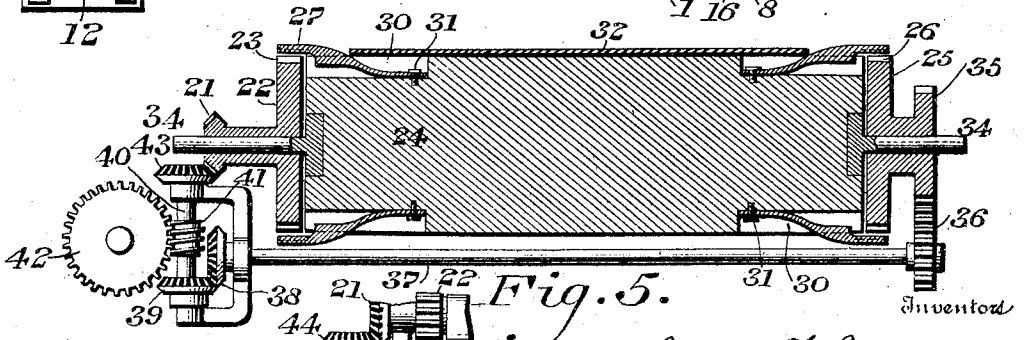


Fig. 5.

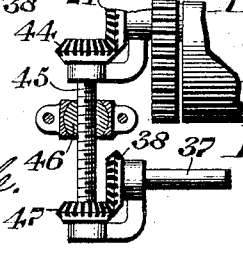


Fig. 6.

Witnesses

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No. 783,166. Patented February 21, 1905.

UNITED STATES PATENT OFFICE.

ANDERS N. ANDERSEN, OF CAMDEN, NEW JERSEY, AND AXEL B. WALLEM, OF PHILADELPHIA, PENNSYLVANIA.

GUIDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 783,166, dated February 21, 1905.

Application filed July 13, 1904. Serial No. 216,383.

To all whom it may concern:

Be it known that we, ANDERS N. ANDERSEN, a subject of the King of Sweden and Norway, residing at Camden, county of Camden, State of New Jersey, and AXEL B. WALLEM, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Guiding Devices, of which the following is a specification.

Our invention consists of an improvement in guiding devices having means for automatically guiding and keeping the stock true.

It further consists of novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a partial side elevation and partial vertical sectional view of a device embodying our invention. Fig. 2 represents a plan view of a portion thereof. Fig. 3 represents an end elevation. Fig. 4 represents a side elevation of a portion of a roll that may be employed. Fig. 5 represents a partial elevation and partial sectional view of a guide or roll, showing a different manner of mounting the roll and of imparting the power. Fig. 6 represents a plan view of a portion of a modified form.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the frame or support for the feeding devices, on one of which is the standard 2, having the bearing 3, in which is mounted one end of a shaft 4, the opposite end of which is mounted in the bearing 5, which latter is secured to or forms part of the standards 6 and 7, which are carried by the plate or base 8, movable on the track or guide 9, supported by the frame. Mounted on the guide 9 are the standards 10, which support the threaded rod 11 and which may be secured to said standards in any suitable manner, as by nuts 12.

13 designates an interiorly-threaded sleeve carried by the rod 11, and 14 designates a gear secured to said sleeve 13, through which latter passes the threaded rod 11 and which is in engagement therewith.

15 designates a support carried by the base 8, which serves to retain in proper position the rod 16, the upper end of which carries the bevel-gear 17, and said rod 16 also carrying the worm 18, which is in mesh with the gear 14.

19 designates a bevel-gear which is in mesh with the gear 17 and is secured to the shaft 4 in any suitable manner, as by the screw 20.

21 designates a second gear, which is also in mesh with the gear 17 and is loose on the shaft 4, said gear 21 being suitably connected with a wheel 22, the periphery of which may be provided with the teeth 23.

24 designates a guide-roll freely mounted on the shaft 4 and which is adapted to carry or support the stock, said roll 24 being adjacent to the wheel 22 at one end and the other end being adjacent to a second wheel 25, the periphery of which may be provided with the teeth 26, said wheel 25 being mounted on and secured to the shaft 4.

The roll 24 is provided with spring-arms 27, which have the faces 28 and the lug or dog 29, which latter is adapted to engage with the teeth on the wheels 22 and 25 at the proper time. In the drawings the said arms 27 are secured to the roll 24 in the cut-away parts 30 by the screws 31.

32 designates the stock or felt in position on the roll 24.

The operation is as follows: As long as the sheet of stock or felt runs true over the roller 24 the shaft 4 is set in correct line transverse of the machine; but should for any reason the stock not run true the device is automatically operated to force back stock to the proper alinement on the roll 24—for example, if the stock runs to the left, as shown in Fig. 1, it will force down the arms 27 and cause the dog 29 to engage with the teeth 23 on the wheel 22, whereby the same will be rotated, it being understood, of course, that the roll 24 and the wheels 22 and 25 are normally not in engagement or in connection with each other. When the wheel 22 is caused to revolve, it turns with it the gear 21, which meshing with the gear 17 rotates the same and with it the rod 16, which rotates the worm and turns the gear 14,

in mesh therewith. The sleeve carrying said gear 14 being in threaded engagement with the rod 11 and being rotated causes the said wheel 14 and sleeve 13 to be moved laterally, and as the said sleeve and gear are supported between the standards 6 and 7 on the plate 8 the same are also moved laterally on the track 9, which shifts the shaft 4 a little out of line, so as to force back the stock onto the roll 24. Should the stock 32 move in the opposite direction—that is, to the right as shown in Fig. 1—the dog on the arms 27 is caused to engage with the teeth 26 on the wheel 25, and as the latter is secured to the shaft 4 it will cause the same to rotate, and with it the gear 19, which is in mesh with the gear 17, will cause the various parts to again move and will operate to shift the shaft 4 in the opposite direction from that previously described and so that the stock is again forced back into the proper position on the roll 24. In place of using the wheels 22 and 25 with the teeth therein we may dispense with the same and also with the arms 27, in which event we employ a construction (shown in Fig. 4) wherein a pulley 33 is held adjacent to the roll 24 and a similar pulley being situated at the opposite end of the roll, the operation and construction of the remaining parts being the same as heretofore, it being understood that the stock 32 when contacting with the pulley will rotate the same. In the construction seen in Fig. 5 we have shown parts similar to that shown in Fig. 1, excepting that instead of mounting the roll 24 on a shaft 4 we have mounted the rolls with pin or journals 34, which are suitably supported and which carry the wheels 22 and 25, and on the wheel 25 we mount a gear 35, which is in mesh with a gear 36, carried on a shaft 37, which is suitably supported, the opposite end of said shaft having a gear 38 meshing with a gear 39, carried on a shaft 40, which is provided with a worm 41, meshing with a gear 42, similar to the gear 14 previously described, a gear 43, carried on the rod 40, being in mesh with the gear 21 on the wheel 22, the operation being similar to that already described.

In Fig. 6 we have shown a plan view of a portion of the feeding device wherein we may dispense with the worm 41 and the gear-wheel 42. In this construction the roll 24 is suitably mounted, having a wheel 22 adjacent thereto provided with a gear 21. The said gear 21 meshes with a gear 44, which is carried by the shaft 45, the same being screw-threaded and in engagement with the laterally-stationary universal bearing 46, the opposite end of the shaft 45 being provided with a gear 47, which meshes with the gear 38, carried by the shaft 37, which is in operative relation with the wheel at the opposite side of the roll 24. In this construction motion is imparted to either the gear 44 or 47, and the shaft 45, and with it both the gears and roll 24, is moved laterally in either direction.

It will be evident that various changes may be made by those skilled in the art which will come within the scope of our invention, and we do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, a roll, rotating means situated adjacent each end of said roll and suitable mechanism operated by said rotating means for moving one end of said roll.

2. In a device of the character described, a roll, rotating means at each end thereof adapted to engage the material or stock and means suitably connected with each of said first-mentioned means for moving one end of said roll.

3. In a device of the character described, a roll, a wheel at each end thereof suitably mounted and disconnected from said roll and means for operatively connecting either of said wheels with said rolls.

4. In a device of the character described, a roll, a wheel at each end of said roll, gears operatively connected with each of said wheels and a shaft in suitable connection with said gears whereby the same is adapted to be rotated in either direction by said gears.

5. In a device of the character described, a roll, wheels adjacent each end of said roll, a gear operatively connected with each of said wheels, a gear meshing with each of said first-mentioned gears, a shaft carrying said last-mentioned gears and means operatively connected with said shaft for moving one end of said roll in either direction.

6. In a device of the character described, a roll, suitably-supported wheels adjacent each end of said roll, teeth on the periphery of said wheels and a dog carried at each end of said roll adapted to be thrown into contact with said teeth by the action of the stock.

7. In a device of the character described, a roll, suitably-supported wheels adjacent each end of said roll, means for locking one or the other of said wheels with respect to said roll, a threaded shaft in suitable engagement with said wheels and adapted to move one end of said roll.

8. In a device of the character described, a roll, a shaft upon which said roll is freely mounted, a wheel at one end of said roll freely mounted on said shaft, a wheel at the opposite end of said roll locked to said shaft, a bearing for said shaft movably supported, a gear locked to said shaft, a gear operatively connected with said loosely-mounted wheel, a gear meshing with each of the first two men-

tioned gears, a shaft carrying said last-mentioned gear and means intermediate said shaft and said movable bearing whereby the latter is caused to be moved in either direction.

9. In a device of the character described, a roll, means adjacent each end of said roll and normally free therefrom and adapted to be rotated by the material passing over said roll, said mechanism controlled by said means for moving one end of said roll.

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