No. 878,815. PATENTED FEB. 11, 1908.

F. MARTIN.

CONVEYER BELT EVENER.

APPLICATION FILED FEB. 15, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

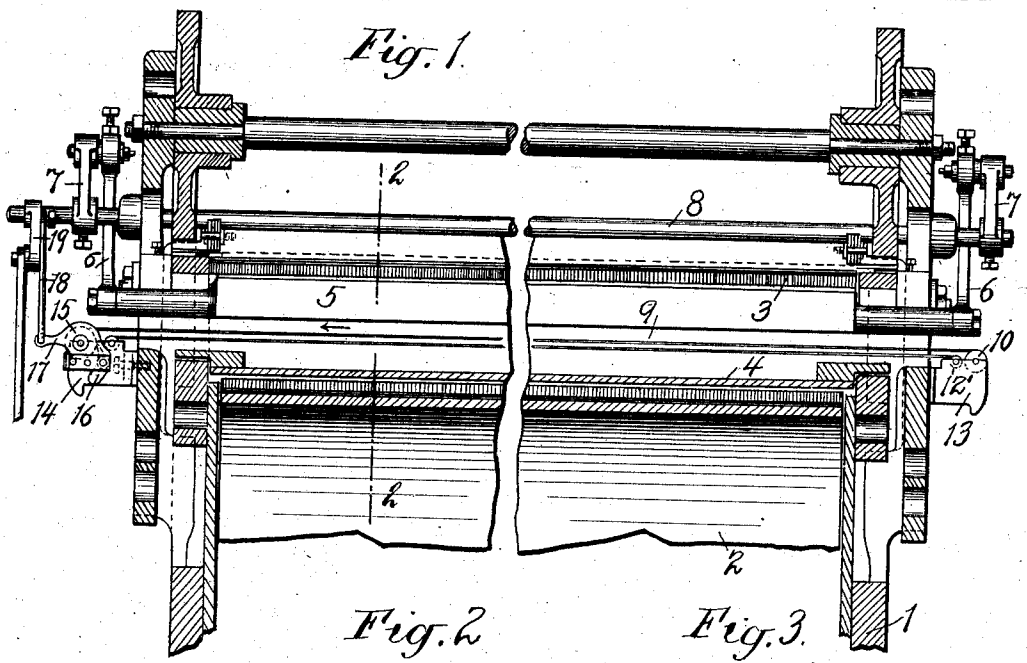


Fig. 2.

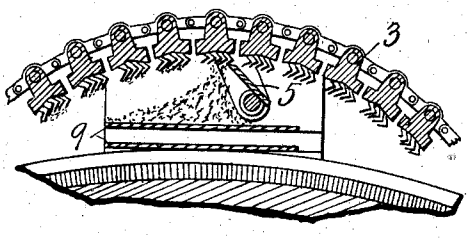


Fig. 3.

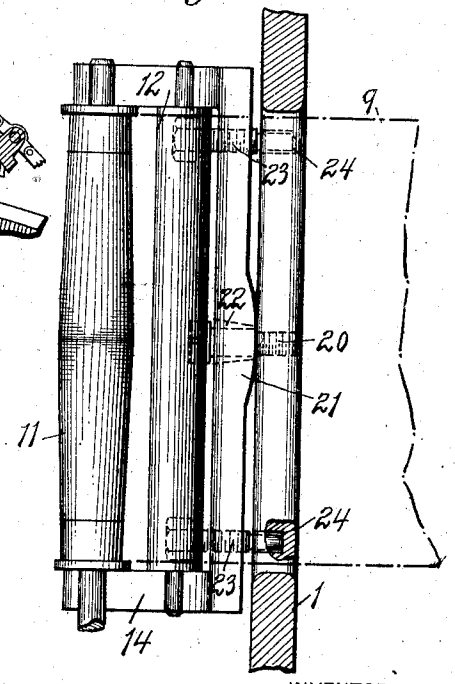
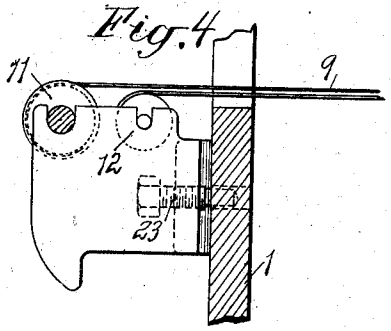


Fig. 4.



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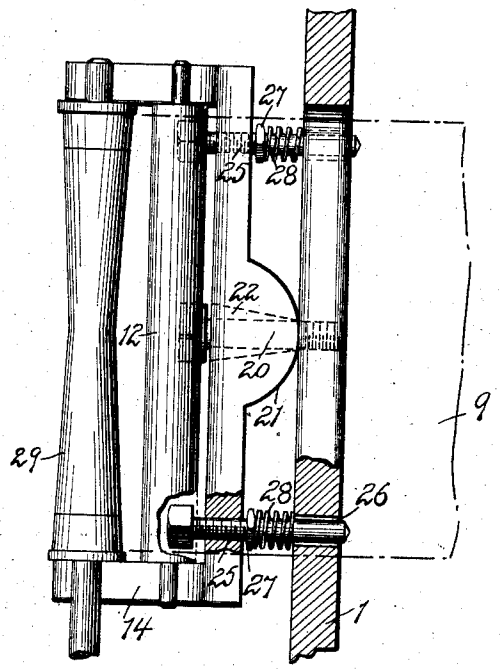
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2 SHEETS—SHEET 2.

Fig. 5.



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CONVEYER-BELT EVENER.

No. 878,815. Specification of Letters Patent. Patented Feb. 11, 1908.

Application filed February 15, 1907. Serial No. 357,439.

To all whom it may concern:

Be it known that I, FERDINAND MARTIN, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented a certain new and useful Conveyer-Belt Evener, of which the following is a specification.

In a type of carding engine with which I am familiar a belt or apron is employed to receive the strippings from the cards and convey them away from and out of the engine. A certain difficulty has been experienced in controlling the travel of the conveyer belt, due to the fact that it is practically impossible to so splice a plurality of belts of the character employed that each shall be exactly like all the others. A woven fabric has been used as the material for these belts, and such a belt is not always straight on its edges; one edge is liable to be of slightly different length from the other, and there is liable to be different degrees of stretch in different belts, as well as in different parts of the same belt. For these reasons, such a belt does not always travel evenly, but creeps laterally, and each belt requires a particular setting of its driving roll to insure straightness of travel for that particular belt.

My invention provides for such individual adjustment, and further, for a degree of self adjustment to accommodate varying conditions in an individual belt. While I have illustrated my invention in connection with a belt conveyer as used on a carding engine, it is not limited thereto as it is capable of application generally to all belt conveyers and will be so claimed.

The invention will be understood by reference to the accompanying drawings in which Figure 1 is a vertical central section of a portion of a carding engine for the purpose of illustrating one adaptation of my invention; Fig. 2 a transverse section on the plane of the line 2—2 of Fig. 1; Fig. 3 a top view of my invention; Fig. 4 an end view thereof; and Fig. 5 a top view of another form of the invention.

Similar reference numerals indicate similar parts in the several views.

Before making detailed reference to the present invention I will describe briefly the parts of the carding engine illustrated. Referring to the drawings the numeral 1 designates the frame of the engine, and 2 the main cylinder the surface of which is covered with the usual clothing. Traveling in working relation with the card clothed periphery of the main cylinder is a set of flats 3. In the particular type of carding engine to which reference has been made bends or bridges are provided at an intermediate point in the travel of the flats so that the latter are raised away from the cylinder, as indicated in Fig. 2. A cover plate 4 extends over the periphery of the main cylinder between the point at which the flats are raised and the point at which they are returned into working relation therewith. The flats are cleaned at this intermediate point in their travel by a stripping comb 5 carried by arm 6 and actuated in a well known manner through links 7 mounted on a rock shaft 8.

The strippings from the flats fall upon a conveyer in the form of an endless belt or apron 9 which extends across the main cylinder in the space above the cover plate 4, and between said plate and the uplifted portion of the flats. The belt 9 is stretched between and passes around two rolls 10 and11, and over intermediate guide rolls 12 and 12′. The roll 10 is supported in a bracket 13 at one side of the engine and the roll 11 in a bracket 14 at the opposite side of the engine. Fixed to the side of roll 11, or keyed on its shaft, is a ratchet wheel 15 adapted to be intermittently rotated by a pawl 16 pivoted on an arm 17 which has a loose bearing on the shaft of said roll. The arm 17 is connected by link 18 with a bell crank lever 19. The latter is actuated through a connection to a suitable shaft to impart an intermittent feeding movement in the direction of the arrow to the belt. The strippings may be removed from the belt by a suitable blade, the strippings falling into a trough or chute by which they are carried to a can.

To accomplish the object of my invention I support the roll 11 in such manner that it is capable of adjustment in a plane substantially in line with the travel of the belt. In the embodiment of the invention illustrated in Figs. 3 and 4 this is effected by mounting bracket 14 on a stud 20 fixed to frame 1. Said bracket is of general U- or yoke-shape, the base of which is formed with a raised bearing surface 21 resting against frame 1. The stud 20 passes through an opening 22 in the base of the bracket and substantially

midway thereof, said opening being of sufficient diameter to allow the play of the stud therein to permit of the desired adjustment by a tilting movement.

Secured to bracket 14 are adjusting screws 23 having reduced outer ends which project into openings 24 in frame 1 and can be made to bear against the bottoms of said openings. Said screws are so positioned as to prevent any torsional or rotary movement of said bracket about the stud 20.

From the foregoing it will be readily understood that, by means of the adjusting screws 23 and 24, the bracket 14 and driving roll 11 can be adjusted to the general condition of the belt; *i. e.*, if the belt is a little shorter on one side, or otherwise subjected to more tension on one side than on the other, the roll 11 can be tilted or inclined slightly. The two screws 23 and 24, after adjustment to a mean or normal position of the roll, can be so set that the roll and its bracket can rock slightly on the projecting base of the roll 21. This permits a slight, automatic change of position to accommodate changes in condition of the belt.

In Fig. 5 the adjusting screws 25 have free play longitudinally in openings 26 in the frame 1. Surrounding said screws and bearing against the nut 27 thereon and the frame 1 are springs 28. By adjusting the screws 25 the bracket and roll 29 carried thereby may be adjusted to the general conditions of the belt. After being set for a mean or normal position of the roll 29 any disturbance of the latter is automatically corrected by the springs 28, it being noted that the rocking movement of the bracket is permissible without changing the adjustment or set of the screws. In this particular form I have shown a concaved roll 29, as the invention may be used in connection with any form of driven roll.

The reference made herein to a carding engine I wish to be taken as merely by way of illustrating one use of the invention. Other adaptations will readily suggest themselves inasmuch as the invention may be applied with equal facility to other forms of belt or chain conveyers.

What I claim and desire to secure by Letters Patent is:—

1. The combination of a pulley or roll around which a belt is adapted to travel, a bracket supported by a fixed stud on a suitable frame, said roll having a bearing in said bracket, and adjusting screws carried by said bracket and engaging openings in said frame.

2. The combination of a pulley or roll around which a belt is adapted to travel, a bracket supported by a fixed stud on a suitable frame, said roll having a bearing in said bracket, adjusting screws carried by said bracket and passing through openings in said frame, and springs surrounding said screws and bearing between the bracket and frame.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FERDINAND MARTIN.

Witnesses:
WILBER T. REYNOLDS,
FREDERICK M. ARMSTRONG.