B. W. BROCKETT.

APRON CONTROL.

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1,432,832. Patented Oct. 24, 1922.

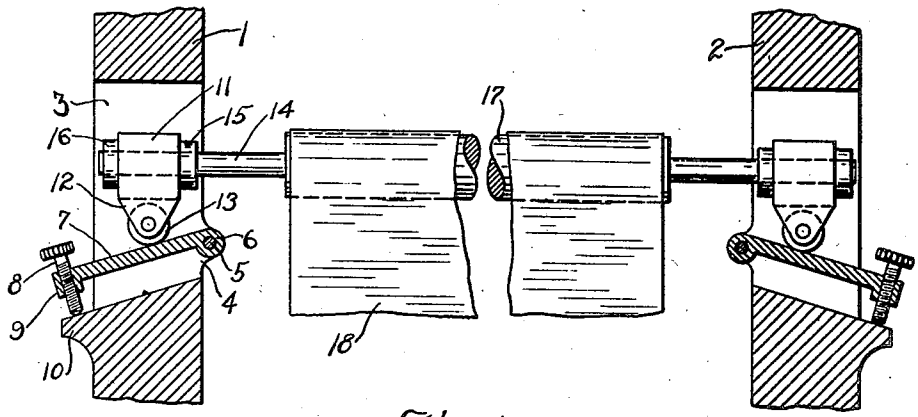


Fig. 1

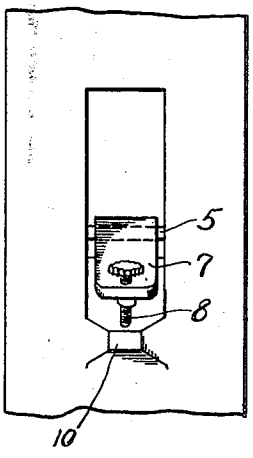


Fig. 2

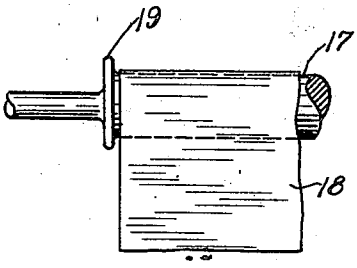


Fig. 3

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APRON CONTROL.

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To all whom it may concern:

Be it known that I, BLUFORD W. BROCKETT, a citizen of the United States, residing at Cleveland Heights, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Apron Controls, of which the following is a specification.

This invention relates to a control for aprons and specifically to means for returning the apron as it creeps from one side to the other, to normal running position.

In the control of aprons utilized in various types of machines, it has been the practice to provide means adapted to be engaged by one or the other of the edges of the apron as it creeps, and to provide mechanism operated by such means for manipulating one of the supporting rolls of the apron in a manner to return it to normal running position. These devices tend to impair the edges of the aprons in view of the fact that the mechanism employed for shifting the roll constitutes more or less of a load on the device engaging the edge of the apron, and requires considerable force to produce a result, and this force distorts the edge of the apron and tends to chafe or wear it at this point. Furthermore, with devices of this character the returning operation of the apron is not accomplished immediately upon the initial tendency to creep but occurs after considerable creeping has taken place. This necessitates large clearances throughout the machine beyond the edges of the rolls in order to accommodate the edges of the apron.

With the present device the creeping of the apron immediately results in one or more of its rolls being shifted to an askew position which causes the apron to return to normal running position.

This invention may be further briefly summarized as consisting in the construction and combination of parts hereinafter set forth in the following description, drawings and claims.

Referring to the drawings, Fig. 1 is a view showing the roll and its bearing blocks, with the side frame members shown partly in section; Fig. 2 is an end elevation of the frame showing one of the bearing blocks and the recess in which it is mounted; and Fig. 3 shows a modified form of roll with an edge flange.

In the arrangement shown in the drawings, 1 and 2 represent the side frame members of a machine of any type employing an apron. Each of these side members is provided with a rectangular shaped cavity 3. This cavity preferably extends through the frame member. At one end of the cavity there are suitable ears 4 for supporting a pin 5 upon which is mounted a hinge member 6 forming a part of a cam plate 7. The outer end of this cam plate is provided with an adjusting screw 8 threaded into the plate and provided with a check nut 9 for holding it in any adjusted position. The adjusting screw is adapted to engage a lug 10 carried by the frame so as to hold it in any adjusted inclined position. A similar arrangement is provided on the frame member 2, the cam plate being inclined oppositely to the one first described. Mounted in each of the cavities 3 is a bearing block 11 adapted to loosely fit the cavity in its transverse dimension and to be freely movable in the plane of the longitudinal dimension of the cavity. Each block is provided with a pair of ears 12 supporting a roller 13 adapted to engage the surface of the supporting cam plate 7. Rotatably mounted in these bearing blocks is a roller shaft 14 held against longitudinal movement in the bearing blocks by collars 15 and 16 secured to the shaft in any suitable manner. The shaft 14 is provided with a roll 17 adapted to receive and support the apron 18. All of the rolls over which the apron passes may be provided with this mechanism, or one may be used as described.

In operation the apron 18 moves over the roll 17 and if there be any tendency toward creeping toward one side or the other, the left, as shown in Fig. 1 for example, the apron carries with it the roll and its bearing blocks 11, the left bearing block tending to move down the inclined cam surface 7, and the opposite bearing block tending to move up its inclined cam surface. The result is that the apron is tightened on the right hand side, or, to put it another way, the support, which includes all the rolls, is effectively increased in dimension with the result that the apron tends to move toward the part having the greatest dimension and returns to normal position. If it tends to creep toward the opposite side the reverse operation takes place.

From the foregoing it will be seen that the first tendency of the apron or belt to

shift or creep from one side to the other tends to operate the mechanism and return it to normal running position.

Should the apron be of a character such that it creeps upon the roll without moving it, the roll 17, as shown in Fig. 3, may be provided with a flange 19 adapted to be engaged by the apron 18 and produce a more ready shifting of the roll and its bearing parts. Even if this flange is utilized there will be very little wear or friction upon the edge of the apron or belt, due to the fact that the flange is moving with the apron or belt in the first place and in the second place due to the fact that a roll or other member when rotated is readily moved sidewise.

Having described my invention, I claim:

1. In an apron control, an apron, an apron supporting roll, means for supporting said roll whereby it may move laterally with the creeping of the apron, and means affected by such movement for returning said apron to normal running position.

2. In an apron control, an apron, an apron supporting roll, means for supporting said roll whereby it may move laterally with the creeping of the apron, and means affected by such movement for shifting the position of said roll to return the apron to normal running position.

3. In an apron control, a frame, bearing blocks provided in said frame for movement in a direction opposing the pull of the apron, a roll, an apron, and means for guiding said bearing blocks in their movement to produce an askew position of the roll as the apron creeps or moves laterally.

4. In an apron control, a frame, bearing openings in said frame, an apron roll, an apron thereon, and means actuated by the lateral movement of said roll for returning the apron to normal running position.

5. In an apron control, a frame having opposed bearing openings arranged therein, a roll, an apron mounted thereon, bearings in said openings for supporting said roll and being movable with said roll in said openings, and means engaging said bearings for moving said roll into an askew position.

6. In an apron control, a frame having opposed bearing openings arranged therein, bearings movable in said openings, a roll mounted in said bearings, means for preventing relative endwise movement of the roll and its bearings, and cam members engaging said bearings for guiding them and causing said roll to move into an askew position when moved laterally from normal position.

In testimony whereof I affix my signature.

BLUFORD W. BROCKETT.