

F. G. SARGENT.
 APRON FOR DRIERS AND THE LIKE.
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Patented Nov. 2, 1920.

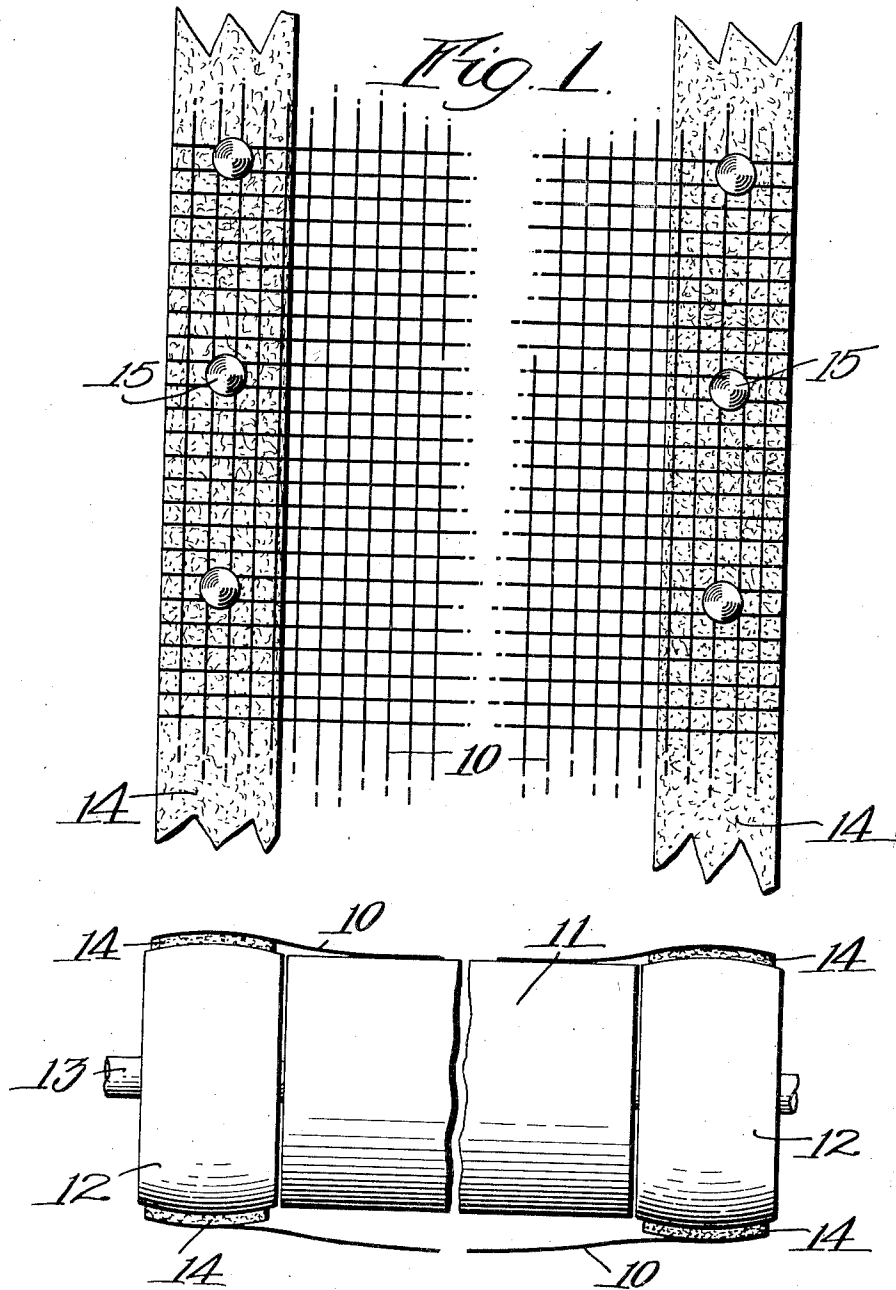


Fig. 2. *Inventor*
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UNITED STATES PATENT OFFICE.

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APRON FOR DRIERS AND THE LIKE.

1,357,256.

Specification of Letters Patent.

Patented Nov. 2, 1920.

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To all whom it may concern:

Be it known that I, FREDERICK G. SARGENT, a citizen of the United States, residing at Westford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Apron for Driers and the like, of which the following is a specification.

This invention relates to a conveyer of the endless apron type, capable of general use, but especially adapted for carrying wool and other fibrous material in driers. The chief objects of the invention are to provide means applicable to a wire cloth apron of this type for preventing its creeping to one side, in other words keeping it centered; to provide driving means which will hold the cloth apron in central position and, yet prevent crumpling of the wire cloth or other distortion of its shape; and to secure these objects in a very simple and inexpensive manner.

One of the difficulties that is ordinarily experienced in the operation of these endless wire cloth aprons is that they have a tendency to run off to one side and thus bring the edge into engagement with the side of the drier to the injury of the apron and the drier. In view of the length of some of these aprons, some being two hundred feet long, it is obvious that a very small angle of variation will result in the apron running off to a considerable distance. When an apron is put on the rolls to drive it there is no way of telling whether it will run straight except to try it and with such long aprons as have been mentioned this involves the loss of considerable time because it has to run all the way around once before the amount of variation can be determined. It is for these reasons that it is desirable to provide an apron that will run true without resorting to expensive mechanism for keeping it in track.

Reference is to be had to the accompanying drawing in which—

Figure 1 is a fragmentary plan of a drier apron showing a preferred embodiment of this invention; and

Fig. 2 is a sectional view taken near the driving roll.

In order to overcome the above mentioned difficulties and secure the above mentioned

advantages I provide an endless wire cloth apron 10 with means movable therewith for keeping it in alinement and coöperating with the driving pulleys in such a way as to prevent the apron from running to one side. For this purpose I provide at each end, in addition to the main supporting drum 10, pulleys 12. Any desired number of pulleys can be used according to the width of the apron, but for ordinary aprons there will be only two, one at each edge. These pulleys are fixed to the respective driving shafts 13 while the drums 11 are loose upon them. It is to be noted that the pulleys are crowned. The wire apron 10 is provided with a number of belts 14 corresponding with the number of pulleys at each end and similarly located. In the drawings I have shown a pair of these belts, one upon each edge of the apron, secured to the apron by rivets 15 or the like.

In the operation of the device, the belts being placed on the pulleys and the shafts started to rotate, the pulleys will hold the belts in the proper position on account of their crowning. If the two pulleys which receive the belt are properly alined and the shafts parallel with each other, the belts will not run off to either side. Consequently the apron is forced to travel straight and the common difficulty due to the creeping over of the apron is entirely avoided.

It is to be noted that the drums 11 are a little smaller in diameter than the pulleys at their centers. They are provided to receive the part of the apron between the pulleys where the apron passes over the pulleys to prevent the apron from sagging or crumpling. They can conveniently be left loose on the shaft, because they are not employed in driving the apron.

It is also evident that these drums may be tight on the shafts and lagging put on the same where the belts run, to take the place of the pulleys.

Some other support can be used between the pulleys if desired. It is to be understood, of course, that such pulleys and drum can be located intermediate between the ends of the conveyer if desired. The tendency of the crowned pulleys to keep the belts in proper alinement is so strong that even the expansion and contraction of the wire cloth

apron due to changes in temperature are not sufficient to cause the apron to move to one side.

Although I have illustrated and described only a single form of the invention and shown it as applied only to a fiber drying carrier of a specific type, I am aware of the fact that changes can be made in the details of construction and that it can be applied to other types of carriers and driers without departing from the scope of the invention as expressed in the claims, therefore I do not wish to be limited in these respects but what I do claim is:—

1. In a conveyer, the combination of an endless apron with belts attached to it near the edges, of crowned pulleys for supporting and driving said belts to keep the belts and apron from creeping from side to side, and a loose drum located between the pulleys at each end of the apron of substantially the same diameter as the smallest diameter of said pulleys for supporting the apron between the pulleys.

2. In a conveyer, the combination of an endless wire cloth apron with belts on the inner side thereof securely attached to it near the edges, of a crowned pulley at each end for supporting and driving each belt to keep the belts and apron from creeping from side to side, and loose non-driving means for supporting the apron of substantially the same diameter as the smallest diameter of said pulleys between the pulleys at each side of the apron.

3. In an endless carrier, the combination with an endless apron, of means carried throughout its length within the area of the apron for preventing it from creeping from side to side, means for driving the apron thereby and loose non-driving means separate from the driving means but located at the side thereof for supporting the apron in a substantially flat condition.

In testimony whereof I have hereunto affixed my signature.

FREDERICK G. SARGENT.