No. 870,134. PATENTED NOV. 5, 1907.

F. G. SARGENT.

APRON GUIDE.

APPLICATION FILED MAY 22, 1907.

Fig. 1.

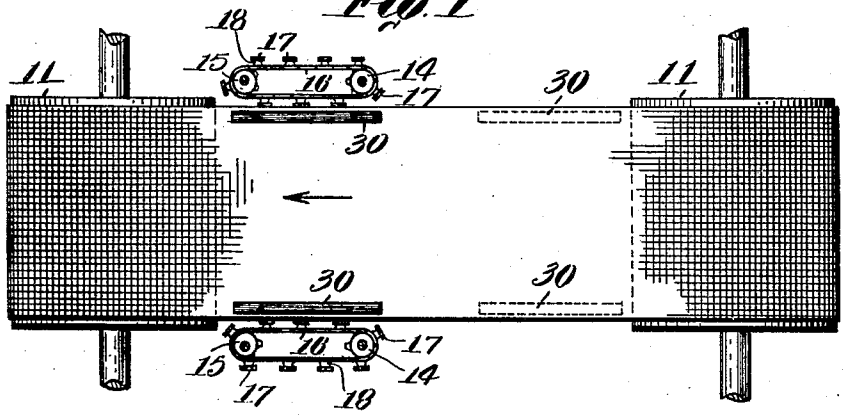



Fig. 2.

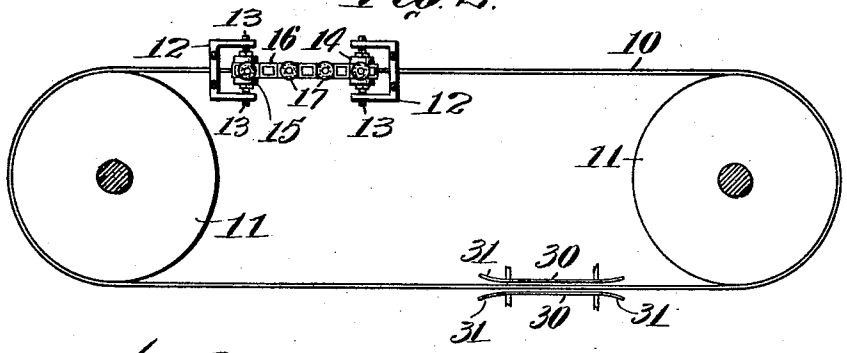



Fig. 3.

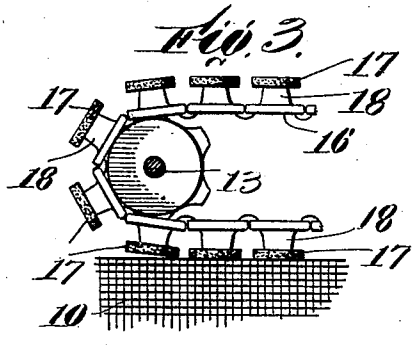
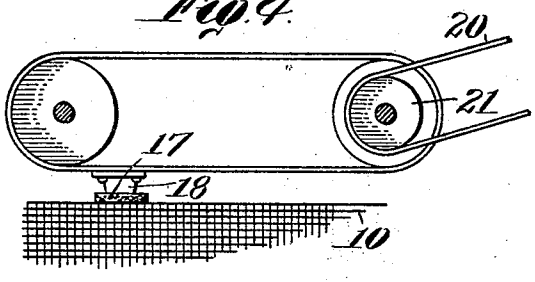



Fig. 4.



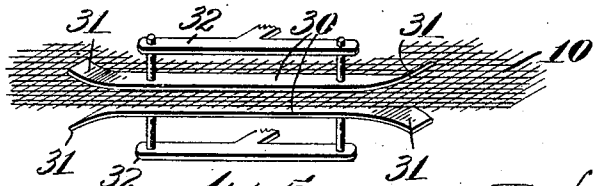




Fig. 5.

Witnesses:

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# UNITED STATES PATENT OFFICE.

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## APRON-GUIDE.

No. 870,134. Specification of Letters Patent. Patented Nov. 5, 1907.

Application filed May 22, 1907. Serial No. 375,122.

*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-Guide, of which the following is a specification.

This invention relates to a device for guiding aprons which is adapted for general use, but which is particularly adapted for guiding the wire-cloth aprons used in machines for drying wools and similar materials. I have found in practice that such aprons cannot be effectively guided by a stationary guide or by a rotating pulley or wheel, because in both cases the wire cloth is caused to curl up when such guides are used, which soon destroys it on account of the well-known nature of the wire of which it is made. The same difficulty is encountered when the apron is guided by flanges located on the drums over which the apron travels. I find that in order to properly guide these aprons without injuring them it is necessary to have a device moving with them, and at the same speed for some distance.

The principal objects of this invention are to provide means for accomplishing this result in a simple and efficient manner.

Reference is to be had to the accompanying drawings which show certain forms in which this invention may be carried out, and in which

Figure 1 is a plan of a wire cloth apron passing over two drums, and showing one form of guide therefor. Fig. 2 is an elevation of the same. Fig. 3 is a fragmentary plan on an enlarged scale showing slight modifications. Fig. 4 is a similar view showing further modifications, and Fig. 5 is a perspective view showing a stationary running strip for assisting the main guide.

In Figs. 1 and 2 the apron 10 to be guided is in the form of an endless band of wire cloth passing over a pair of drums 11. To guide the apron onto each drum, a pair of brackets 12 is mounted on the frame of the machine, not shown, and each one of them is provided with a pair of adjustable screw-points 13. These points engage sprocket wheels 14 and 15 about which passes an endless carrier 16 preferably in the form of a sprocket chain. This carrier supports one of more devices 17 for engaging the edge of the apron and guiding it. These preferably consist of leather or wooden disks mounted on projections 18 extending from the several links of the chain. On account of these guiding devices being of leather or wood, or some similar soft material, they will not injure the edge of the apron, and as they are intended to move forward with the apron there will be very little wear upon them. The screw points are so adjusted that there is very little friction, and as the apron travels it operates the endless belt to cause the same to travel in the direction in which the apron travels. The number of guiding devices on the endless carrier may be varied to suit the existing conditions. In the form shown in Figs. 1 and 2 every alternate link is provided with one of them, while in Fig. 3 there is one for each link, and in Fig. 4, there is only one on the entire carrier. In the latter figure it will be observed that the carrier is in the form of an endless belt instead of a chain. This is one of the ways in which the device can be constructed. When there is only one of these devices on the endless carrier it will be obvious that the apron itself will not operate to cause the carrier to make a complete revolution, and consequently, it is necessary to provide positive means for driving it. This is done in the form shown in Fig. 4 by means of a belt 20 passing over a pulley 21 on the shaft of one of the wheels supporting the endless carrier, although it may be accomplished in any desired way.

The sprocket wheels may if desired be supported at their centers by the screw points 13, and in this case the guiding devices will bear equally throughout their length on the edges of the apron provided the centers of the two wheels are at the same distance from the edge of the apron, but in some cases I prefer to provide means whereby the guiding devices will move laterally so as to bear on the edge of the apron with greater force at times. For this purpose, I have shown sprocket wheels 15 in Figs. 1 and 2, as being somewhat eccentric, while the sprocket wheels 14 are mounted to turn on their centers. This it will be observed causes a lateral motion of the guiding devices when they approach the end of the travel in contact with the edge of the apron, but as the other sprocket wheel is concentric, no positive driving means is necessary. If both of the sprocket wheels were made eccentric however, it would be necessary to provide a guiding means similar, for example, to that shown in Fig. 4. I prefer to mount two of these apron guides at the point where the belt approaches each one of the drums; that is, one on the upper strand of the apron, and the other on the lower strand.

On account of the vertical vibrating motion of the apron it is preferable to add a couple of running strips to the guiding device in order to keep the edge of the apron in the proper plane to engage the guiding devices. This is shown in Figs. 1, 2 and 5 in the form of a pair of strips 30, one above and the other below the apron, each having upturned ends 31 and located adjacent to the edge of the apron. These running strips are supported in any desired way from the frame of the machine by means of brackets 32 or the like.

It will be seen that by the construction of a device

in accordance with any of the modifications as shown herein, or any other way within the scope of this invention as expressed in the claims, a positive guiding device is secured which will act as efficiently as any now known for the purpose of guiding the apron without bending the edge back and forth so as to injure the same. Moreover, this is secured by a simple and inexpensive construction, and one which has no parts likely to get out of order.

Having thus fully described my invention, what I claim is:—

1. An apron guide comprising a device for engaging the edge of an apron, said device being bodily movable as a whole for a material distance parallel with the apron while in contact therewith.

2. An apron guide comprising an endless carrier mounted at the side of the apron to be guided, and having means thereon for engaging the apron.

3. The combination with a traveling apron, of a guide located at the side thereof and comprising an endless carrier having a plurality of devices for engaging the edges of the apron.

4. The combination with a traveling apron, of a pair of guides therefor located on opposite sides thereof, each of said guides comprising an endless carrier having devices thereon for engaging the edge of the apron and adapted to travel parallel with the edge of the apron through a certain distance.

5. The combination with a traveling apron, of a guide therefor comprising an endless carrier having guiding devices mounted thereon for engaging the edge of the apron and traveling therewith, and running strips located above and below the apron and near the edge thereof for holding the apron in position to engage said guiding devices.

6. The combination with a traveling apron, of a guide for the edge thereof, and running strips located above and below the apron near its edges for holding the same in proper plane to engage said guiding device.

7. The combination with a traveling apron and supports therefor, of running strips independent of said supports located near the edge of said apron and above and below the same to hold the edge thereof from vibration.

8. The combination with a pair of drums, and an endless apron traveling thereon, of running strips supported independently of said apron and drums and located near the edge of said apron, one above and one below the same to guide said edge.

9. The combination with a traveling apron, of running strips having outwardly turned ends located near the edge of said apron, one above and one below the same to hold the edge from vibration.

10. An apron guide comprising a pair of wheels, an endless carrier supported thereby, and a series of guiding devices supported by said endless carrier.

11. An apron guide comprising a pair of sprocket wheels, a chain supported thereby, said chain comprising links having projections thereon extending outwardly, and disks mounted on said projections.

12. An apron guide comprising a pair of brackets, adjustable screw points supported thereby, a pair of wheels supported by said screw points, an endless carrier carried by said wheels, and guiding devices located on said carrier.

13. An apron guide comprising a pair of brackets, adjustable screw-points supported thereby, a pair of wheels supported by said screw-points, an endless carrier carried by said wheels, and guiding devices located on said carrier, one of said wheels being mounted concentrically and the other eccentrically.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

FREDERICK G. SARGENT.

Witnesses:
OSBORN H. CILLEY,
WM. F. SARGENT.