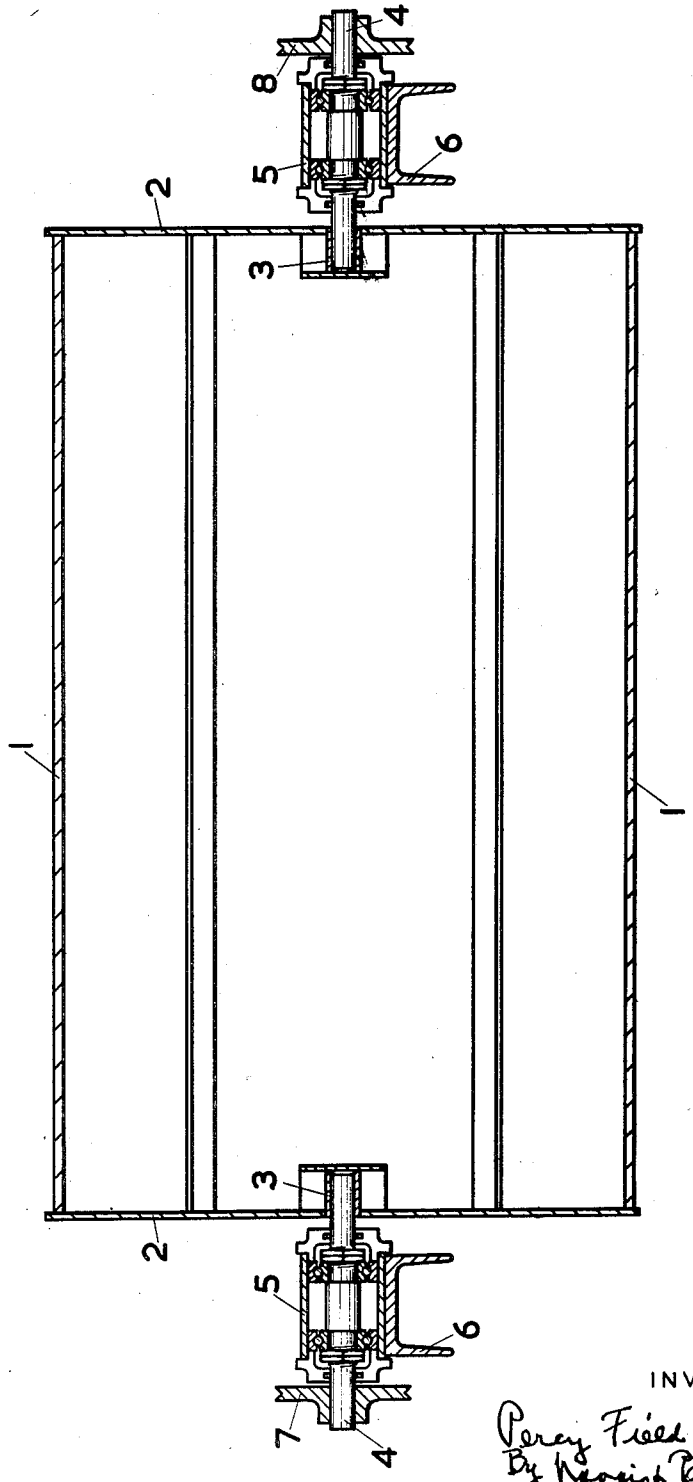
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PROCESSING OF CLOTH

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PROCESSING OF CLOTH

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2 Claims. (Cl. 308—18)

1

This invention relates to an improved method of and means for supporting the rotatably mounted members in cloth processing apparatus such as warping, dyeing and printing machines of the type in which the cloth passes over the rotatably mounted members.

The object of the invention is to provide bearings for the said members which will impose little restraint on the cloth, and the cloth will be free to assume any dimensional change resulting from the particular process to which it is being subjected.

As a particular example, when a fabric is dried in a conventional roller or winch drying machine, it is passed over a series of rollers, and hot air is directed onto one or both sides of the cloth. During the drying process, the cloth may shrink, and it is desirable that the rollers shall not restrict the freedom of the cloth to shrink. In the past, various methods of driving the rollers have been used, but in all cases the changes in the dimensions of the cloth have been controlled entirely or in part by the speed of the rollers.

According to the present invention each rotatably mounted member over which the cloth passes is mounted at each end on a short shaft or axle carried in bearings supported by the frame of the machine, one short shaft or axle being rotated in one direction and the other in the opposite direction, the speed of rotation of the two shafts being equal speeds which are greater than the speed of rotation of the member caused by the passage of the cloth over it thereby causing the member to "float" and assume the speed of the cloth passing over it with a minimum of restraint to dimensional change in the cloth.

The invention is illustrated in and will be described with reference to the accompanying drawing which shows a sectional elevation of one roller or winch of a roller or winch drying machine.

The roller or winch is formed of a number of light tubes or slots 1 fixed at their end at or near the periphery of two pressed aluminium end discs 2. At the centre of each disc 2 a boss is arranged to house an axle bearing 3 which may be of the oil filled sintered bronze type, or a roller bearing. The reel is supported on stub axles 4 the ends of which enter the bearings 3. The stub axles 4 are mounted in double ball races 5 which are fixed to the framework 6 of the machine.

2

A V rope pulley 7 or 8 of convenient diameter is mounted on each stub axle 4. The pulley 7 is rotated clockwise at a number of revolutions per minute which must be several times greater than the number of revolutions per minute assumed by the winch when cloth is passing over it. The clockwise rotation of the stub axle by the pulley tends to set up an anticlockwise frictional torque. The pulley 8 is rotated at the same speed as the pulley 7 but in the opposite direction viz, anticlockwise. The frictional forces set up by the rotation of the pulley 8 balance those set up by the pulley 7 with the result that the rotating winch "floats" and assumes the surface speed of the cloth passing over it with little or no restraint to dimensional change in the cloth.

I claim:

1. The method of supporting a rotatably mounted member over which cloth passes in a cloth processing apparatus, consisting in mounting said member on two short shafts, one at each end, and rotating the shafts at the same speed but in opposite directions, the speed of rotation of the shafts being greater than the speed imparted to said member by the cloth whereby said member is caused to "float" and assume the speed of the cloth passing over it with a minimum of restraint to dimensional changes in the cloth.

2. A cloth processing machine of the type having a member over which the cloth passes, and means for rotatably mounting said member comprising a bearing at each end of said member, two short shafts arranged one in each of said bearings, bearings for said shafts and means carried by said shafts by which they can be rotated at the same speed but in opposite directions and at a speed greater than the speed of rotation of the member caused by the passage of the cloth over it thereby causing the member to "float" and assume the speed of the cloth passing over it with a minimum of restraint to dimensional change in the cloth.

PERCY FIELD CROSLAND.

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The following references are of record in the file of this patent:

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