

W. A. AINSWORTH.
METHOD OF CLEANING KNITTED OR LIKE FABRICS.
APPLICATION FILED AUG. 9, 1919.

1,375,663.

Patented Apr. 26, 1921.

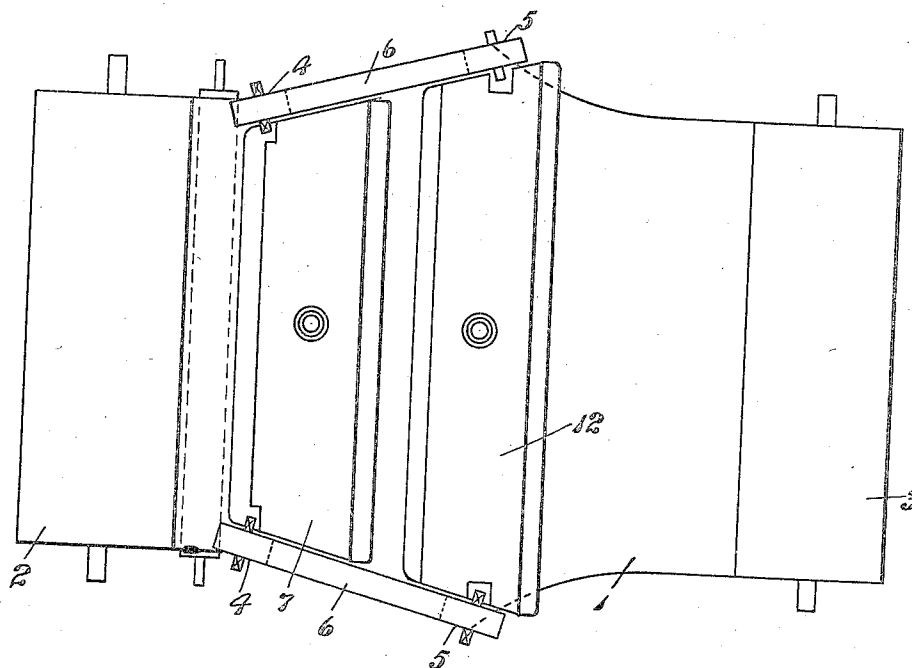


Fig. 1.

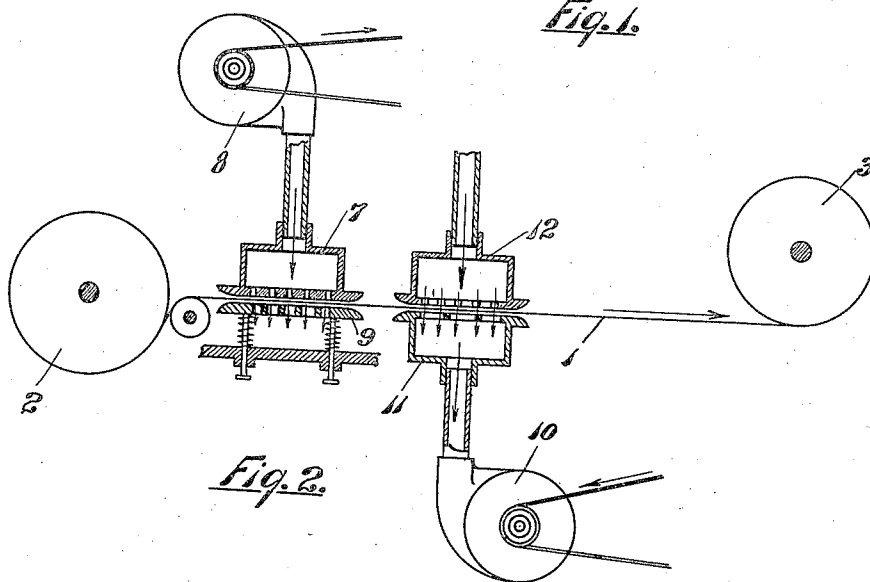


Fig. 2.

Inventor
William A. Ainsworth
By *Woolton & Lawrence*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM A. AINSWORTH, OF UTICA, NEW YORK.

METHOD OF CLEANING KNITTED OR LIKE FABRICS.

1,375,663.

Specification of Letters Patent.

Patented Apr. 26, 1921.

Application filed August 9, 1919. Serial No. 316,313.

To all whom it may concern:

Be it known that I, WILLIAM A. AINSWORTH, a citizen of the United States of America, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Methods of Cleaning Knitted or like Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a method of cleaning knitted or like fabrics. Yarn used in the production of knitted fabrics, particularly cotton yarn, has portions of seeds, seed hulls and the like adhering thereto, and it is usually the practice to make use of a picker appliance on the winding machines used in knitting mills to disengage and pick such undesired particles from the yarn. This picker appliance may be used in other places, of course, so long as the yarn is passed from one point to another by the picker. In this process of picking the yarn is more or less rasped and frayed with a resultant loss in weight of the yarn and injury thereto which reduces the strength of the yarn.

With my invention, the yarn as it comes from the yarn mill may be knitted into a fabric and the seeds, hulls and parts thereof removed from the fabric without injury thereto or to the strands of yarn in the fabric. I have found that these foreign matters may be forced from the fabric by passing a strong current of air therethrough, particularly if, at the same time, the fabric is stretched in a transverse direction to separate the wales thereof. Furthermore, as a completion of the method, the use of a vacuum suction apparatus on the side of the fabric opposite to that at which the current of air is applied and blown through the fabric, and positioned to come into play against the fabric after the blowing step of the process has been completed, is made, serving to remove any particles which may have been partly separated from the fabric but still adhere slightly, the fabric also being stretched during this step.

For an understanding of the invention, reference may be had to the following description taken in connection with the accompanying drawing which shows one way

in which the method may be carried out, and in which,

Figure 1 is a plan view showing only enough of the fabric and apparatus used to illustrate the steps of the method, and

Fig. 2 is a partial side elevation and sectional view of the same.

Like reference characters refer to like parts in the different views of the drawing.

The fabric 1 may be wound on a drum or reel 2 and passed therefrom to a similar reel or drum 3. Any other suitable manner of moving the fabric from one point to another may be used. As it leaves the drum 2 it is passed between rollers 4 and 5 located at each side of the fabric and around which belts 6 pass which are driven in any suitable manner, the axes of the rollers being located at an angle to the length of the fabric and rollers 5 being farther separated than rollers 4 so that the fabric is stretched during the period of its passage between the rollers 4 and 5. A hollow head or nozzle 7 is placed above the fabric over the stretched portion thereof and a current of air is forced through the fabric through the nozzle, any suitable form of blowing apparatus indicated at 8 being used. The fabric is shown as passing over a perforated table 9 directly under the nozzle 7 which supports the fabric and holds it closely against the nozzle. The fabric then passes over a suction nozzle 11 with which any suitable suction apparatus 10 is connected to draw air through the fabric into the suction nozzle. Both the current of air blown through the fabric and that drawn through the same pass through when the fabric is stretched transversely of its length and the wales separated to allow greater freedom of passage. It is to be understood that this method will be used largely with tubular knitted fabrics made on circular knitting machines in which the wales run lengthwise of the tube, though it is applicable for use directly to garments made from knitted fabrics as well.

The strong current of air passed through the garment made from knitted fabric, or through the fabric before made up, blows out the dirt, adhering pieces of seeds, seed hulls and the like, this being facilitated by stretching the fabric as described. Furthermore if any of such dirt and other undesirable matter is not entirely removed by

the blowing, it is loosened and partly blown through the fabric so as to be readily removed by the suction apparatus. This makes a very practical and efficient process of cleaning the fabric and one which does not in any way injure the goods or the strands of yarn making the same, and without the objectionable lint which covers a winding machine most of the time that it is in operation in conjunction with picker appliances.

I claim:

1. The herein described method of cleaning knitted or like fabrics which consists in passing the fabric from one point to another and in stretching the fabric laterally

between said points and passing a current of air therethrough at such stretched portions as the fabric passes, substantially as described.

2. The method of cleaning knitted or like fabrics which consists in passing a length of fabric from one point to another, in stretching it transversely between said points and in blowing a current of air there- through followed by the drawing of a current of air therethrough, substantially as described.

In testimony whereof I affix my signature.

WILLIAM A. AINSWORTH.