

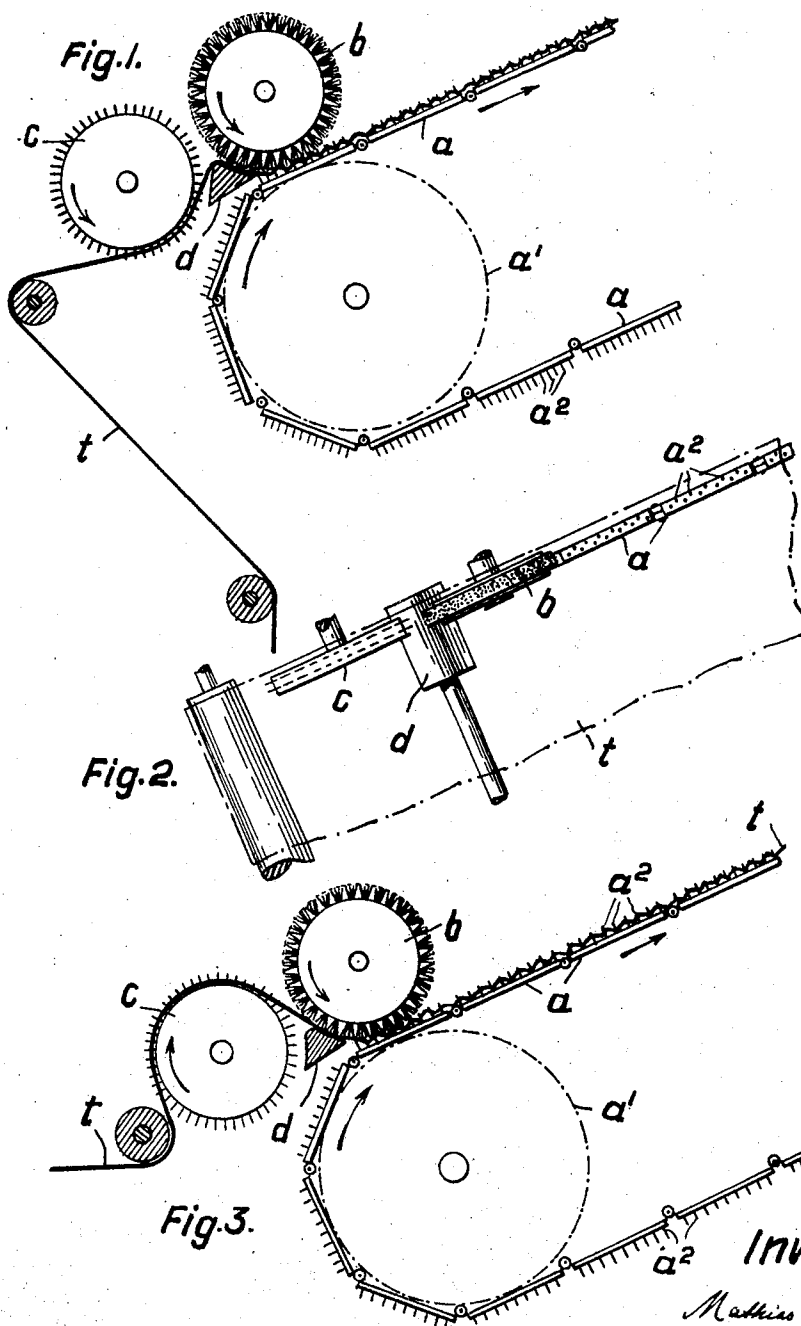
Aug. 19, 1930.

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1,773,232

FABRIC STRETCHING MACHINE

Filed Nov. 25, 1929



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FABRIC-STRETCHING MACHINE

Application filed November 25, 1929, Serial No. 409,666, and in Germany May 28, 1927.

This invention relates to a device for fabric stretching and drying machines for loosely and foldedly introducing the fabric into the holding and stretching elements in which the fabric feeding elements are driven quicker than the guiding chains.

The loose fold producing spiking on of the fabric has for its object to permit of shrinking of the fabric warp during the width stretching which is stretched and extended in all the more important working stages during the manufacture and dressing of the fabric and to obtain the correct stretching proportion in the formation of the warp and weft and therefore to produce a fabric which meets the most exigent requirements with regard to elasticity and freedom from crushing.

A device of the above kind is already known, in which the feeding device, working at high speed consisting of two rollers pressed against one another, grips the fabric inside the selvedge.

By this means the material is however pressed, this being not permissible with a number of fabrics. Moreover the material can slide between the rollers. As further with the known arrangements the material is gripped by the feeding rollers, not on the selvedge but inside same, this selvedge, owing to the formation of folds, is loose, whereby the feeler of the automatic material feed cannot work perfectly, especially, if the selvedge, owing to the formation of folds, folds inwards.

According to the invention the feeding arrangement is composed of a spike wheel gripping only the selvedge of the fabric as the spikes engage with the selvedge. Consequently the material is not pressed, it cannot slip and the selvedge is held taut up to the point at which the spikes of the stretching chain engage so that the working of the automatic feeding device is not affected.

Further a cam-shaped guide is arranged in the angular space between the accelerated spike wheel and the following pressing brush so that the fabric moving between the spike wheel and the brush is led to the point at which spikes of the chain engage. By this

means the distribution of the folds will be more uniform than in the known apparatus, as the distribution of the folds is the more uniform, the smaller the distance between the point at which the spike wheel delivers the material and the point at which the material is gripped by the pressing brush.

The fabric stretching device, according to the invention, may also be used in conjunction with steaming devices, boiling devices, cylinder presses and the like and with all other other machines in which a width stretching with shrinkage of the warp is desirable or advantageous, in order to compensate for the stretching of the fabric warp, caused by the pull in the direction of the length of the fabric at every working operation, which in the machines mentioned was effected hitherto at the introduction into the machine by pulling out the material by hand.

Two embodiments of the invention are illustrated by way of example in the accompanying drawing in which:

Fig. 1 shows diagrammatically a fabric feeding device,

Fig. 2 is a top plan view of one of the guiding chains.

Fig. 3 shows another form of construction of the fabric feeding device.

The lower part of the guiding chain *a*, which runs over a lower chain wheel *a'*, has spikes *a²* by means of which the chain conveys the material. Two such chains are arranged in the same inclined plane and at a distance apart corresponding to the width of the fabric. The spiking of the selvages of the fabric *t* is effected in both guiding chains by a pressure brush *b*.

In front of the brush *b* a guide wheel *c* having carrying spikes is arranged, which rotates in the direction indicated by the arrow. The spike wheel *c* and the pressing brush *b* are arranged in the same vertical plane as the feeding chain *a*, but they are, in the weft direction of the fabric, of slightly greater width than the chains. The wheel *c* is moving slightly ahead of the guide chain *a*, the upper part of which, carrying the fabric, moves in an inclined upward direction from the sprocket wheel *a'* in the direction of the

arrow. Owing to the moving ahead of the feeding wheel *c* with regard to the guiding chain *a*, a fine folding of the fabric takes place which enables a shrinking of the fabric warp during the width stretching. The distribution of the folds in the longitudinal direction of the fabric is the more uniform, the less the distance is between the point at which the spike wheel *c* delivers the fabric and the point at which the fabric is gripped by the brush *b* rotating in the same direction as the wheel *c*. In order to make this distance as small as possible, a cam-shaped guide *d* is provided, which fills the lower angular gap between the spike wheel *c* and the brush *b* and brings the fabric to the point of the shortest distance between the wheel *c* and the brush *b*. The guide *d* projects on both sides in the direction of the weft of the fabric beyond the guiding chain or the spike wheel and the brush, and is therefore wider than these, so as to offer a good support for the fabric.

Instead of the arrangement shown in Fig. 1, in which the fabric is fed to the guide *d* from below, the fabric may also be led round the moving ahead spike wheel, as shown in Fig. 3, in such a manner that it is in engagement with this wheel along a longer stretch and runs off from above onto the guide *d*.

On machines, in which the displacement of the stretching chains is effected automatically through the known material feeding device with feeler disengagement, the removing ahead feed wheels are arranged directly behind the feelers, as the section of fabric must be stretched in front of the feelers in order to ensure a proper working of the feelers.

For the cam-shaped guide piece for example two bolts running in ball bearings might be substituted, and the pressing brush may be provided with a carding cover instead of with bristles so as to produce an absolutely uniform folding of the selvages.

I claim:

A device for fabric stretching and drying machines for feeding the fabric into the holding and stretching element in which the feeding of the cloth is effected more quickly than that of the guiding chains so as to form folds, comprising in combination with said chains provided with spikes, a spike wheel, adapted to grip the fabric only on the selvages, a pressing brush adapted to press the fabric onto the spikes of the guiding chains, and a cam-shaped guide arranged in the angular gap between said spike wheel and said brush adapted to feed the fabric from said spike wheel to said brush.

In testimony whereof I affix my signature.

MATHIAS LENDERS.