

W. HENDERSON.
Machines for Stretching and Drying Woven
or other Fabrics.

No. 148,121.

Patented March 3, 1874.

Fig. 1.

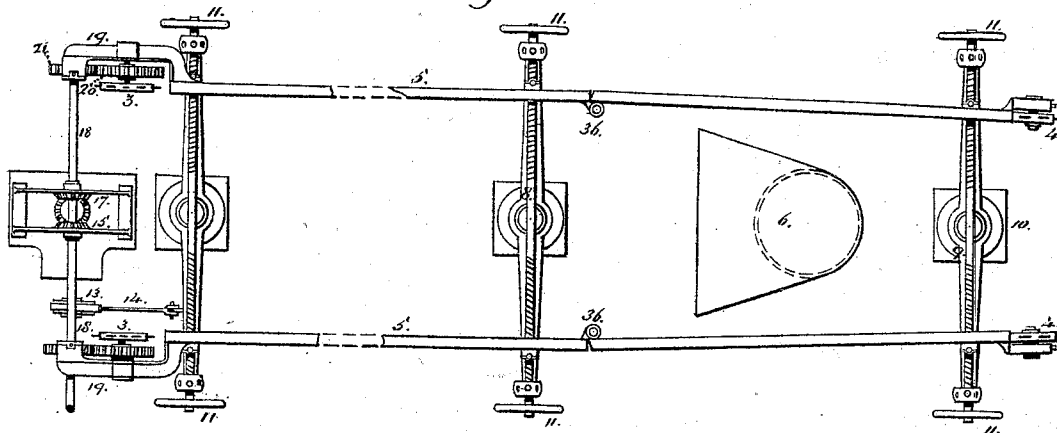


Fig. 2.

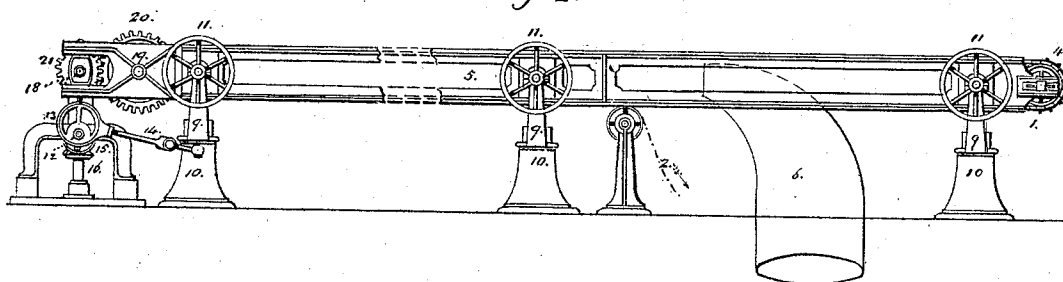
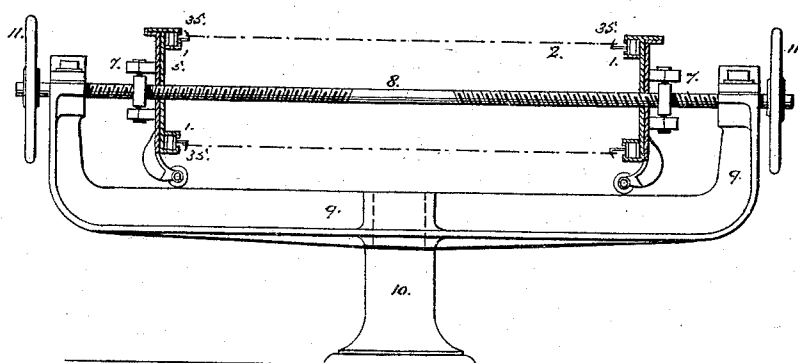


Fig. 3.



Witnesses:

*W. R. Odell
 J. S. Lyon*

Inventor:

*William Henderson
 By his Atty. J. Dennis Jr*

UNITED STATES PATENT OFFICE

WILLIAM HENDERSON, OF GLASGOW, NORTH BRITAIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY SAMPSON, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR STRETCHING AND DRYING WOVEN AND OTHER FABRICS.

Specification forming part of Letters Patent No. 148,121, dated March 3, 1874; application filed November 25, 1872.

To all whom it may concern:

Be it known that I, WILLIAM HENDERSON, of Glasgow, Lanark county, in North Britain, have invented a new, useful, and Improved Progressive Return Stentering or Drying Machine; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings forming part of this specification.

My invention consists in certain improvements in machines for stretching and drying cloth or knit fabrics, and at the same time stretching such fabrics diagonally to the warp and woof, making it soft and pliable, and imparting a finish to the same, as hereinafter described.

Figure 1 shows a plan view of my invention; Fig. 2, a side elevation, and Fig. 3 a cross-section.

The two endless chains 1 1, used for holding the selvage of the fabric by means of tenter or stenter pins, are passed around pitch-wheels 3 3 and 4 4, arranged at each end of the machine. These chains pass along grooved guides formed in the top and bottom edges of the vertical sides 5 5 of the machine, which extend horizontally from end to end of the machine, and are about as broad vertically as the diameter of the pitch-wheels 3 and 4.

The fabric 2, indicated by broken or dotted lines, enters at the right-hand end, as shown by the arrows, then passes along the top to the other end, and returns along the bottom to within a short distance of the entering end, being thence led away in a downward direction. An inclosed space is thus formed, having the fabric 2 for its top, end, and bottom, while the vertical plates 5 form its sides, and cold or heated air may be blown into this space by some proper blowing apparatus, through the pipe 6, to dry the fabric.

The side plates 5 are carried and supported by means of swivel-joints 7 on transverse horizontal spindles 8, held in bearers 9, arranged to oscillate horizontally on central pivot-pedestals 10, and the spindles 8 are formed with right and left hand screw-threads, for the purpose of adjusting the side plates 5 to different widths of fabric.

The swivel-joint blocks 7 are screw-tapped

to suit the spindles 8, which are provided with hand-wheels 11 at the ends to turn the screws and adjust the width.

The side plates 5 are carried by the oscillating bearers 9, which receive their motion from the connecting-rod 14 and eccentric 13 on the horizontal shaft 12, arranged in proper bearings at the end of the machine for that purpose.

The horizontal shaft 12 carries a bevel-gear to turn the central vertical shaft 16, and a bevel-gear on 16 turns the gear 17 on the transverse horizontal shaft 18, which turns in brackets 19, extending from the side plates 5, and consequently oscillate with the bearers 9.

The pitch-wheels 3, which carry the endless chains, turn on studs fixed in the end frames 19, which wheels are fastened to gears 20, which are turned by pinions 21 on the transverse horizontal shaft 18, to give a progressive motion to the endless chains and the fabric.

If preferred, the oscillating motion may be imparted to the chains only, and the side plates 5 remain stationary.

The endless chains 1 have a portion or all of their links provided with stenter-pins or tenter-hooks 35, (shown in Fig. 3 of the drawings,) to which the selvages of the fabric are attached as it enters the machine.

A portion of the side plates 5, or the grooved guides for the endless chains 1, may be made to incline toward each other at the receiving end, as shown in Fig. 1, so as to spread the chains and stretch the fabric widthwise as it passes along after being hitched on the tenter-hooks of the chains. These side plates may be made rigidly bent or inclined toward each other at the receiving end, or hinged as shown at 36, so that they may be adjusted and made more or less inclined by the adjusting-screw 8.

Having described my invention, I claim—

The adjustable side plates and endless chains, provided with tenter-pins and running or pitch wheels, screw-spindles 8, swivel-joints 7, and pivoted bearers 9, in combination with connecting-rod 14, eccentrics, and horizontal shafts 12 and 18, when connected and operating substantially as described.

WM. HENDERSON.

Witnesses:

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I. S. ANDERSON.