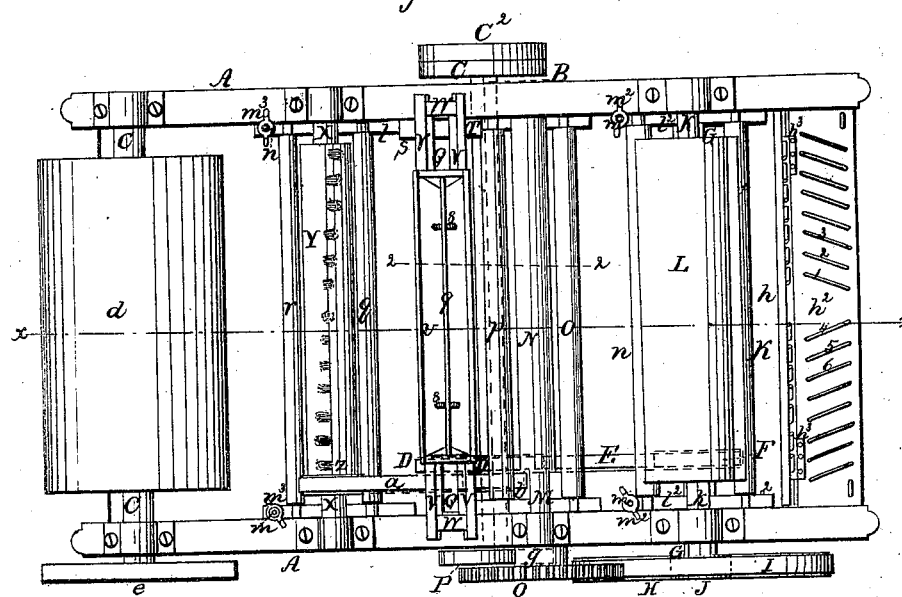
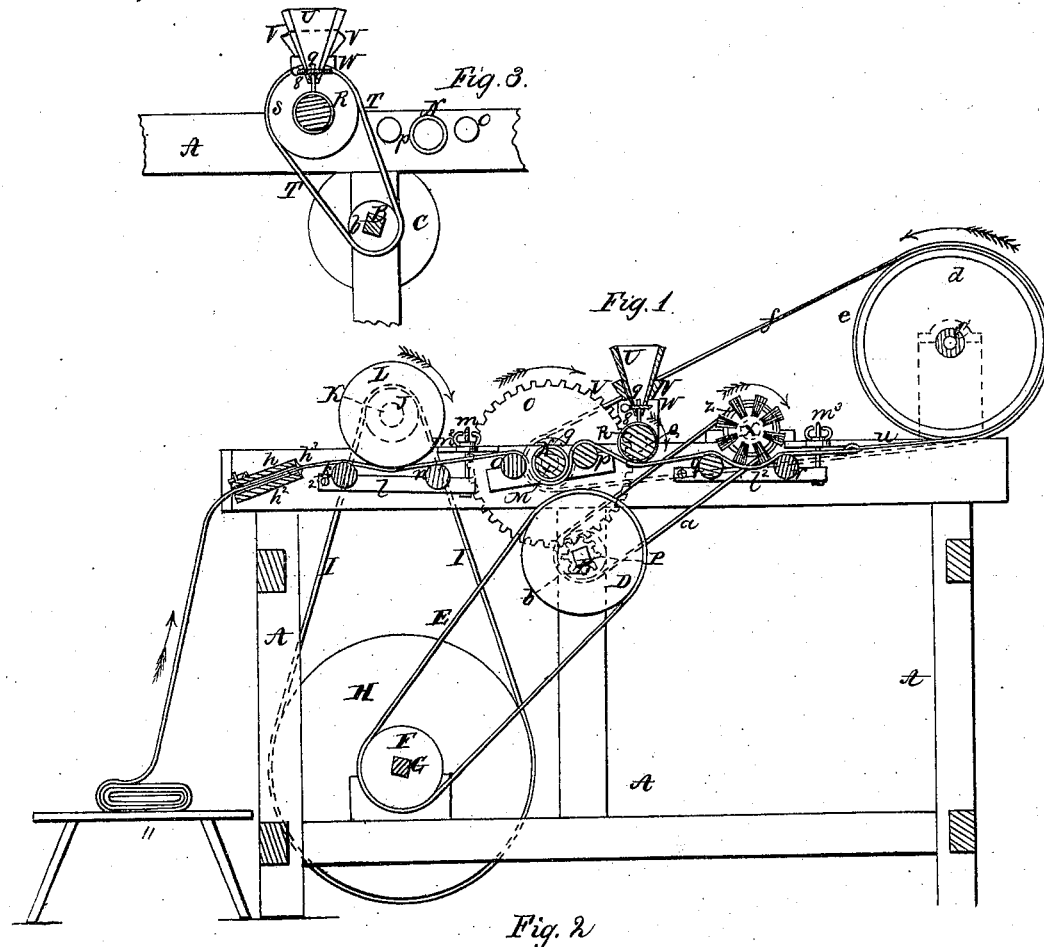


J. C. Carlisle.
Cloth Dressing Mach.

N^o 4,821.

Patented Oct. 21, 1846.



UNITED STATES PATENT OFFICE.

JOSIAH C. CARLISLE, OF ARMAGH, PENNSYLVANIA.

MACHINERY FOR DRESSING CLOTH.

Specification of Letters Patent No. 4,821, dated October 21, 1846.

To all whom it may concern:

Be it known that I, JOSIAH C. CARLISLE, of Armagh, in the county of Indiana and State of Pennsylvania, have invented a new and useful Improvement in Machines for Polishing and Finishing Cloth, called Carlisle's Double - Polishing Cloth - Finisher, which is described as follows, reference being had to the annexed drawings of the same making part of this specification.

Figure 1 is a vertical longitudinal section of the machine drawn at the line *x x* of Fig. 2. Fig. 2 is a top view or plan. Fig. 3 is a vertical sectional view through the hopper showing pulley *c* & *c* drawn on the dotted line 2, 2 of Fig. 2.

The nature of this improvement consists in a certain combination of cylinders, rollers &c by which the cloth after it has been subjected to the operation of the shearing machine is polished and finished by being subjected to the operation of a revolving emery cylinder for grinding down the burls of the nap and to a moistening cylinder for moistening the nap with a composition of water, isinglass, &c., received from a hopper and feeder, and to a cylinder brush for smoothing or laying the nap; and to a hollow revolving heated cylinder for pressing, smoothing, and polishing the cloth.

A represents the frame of this machine. It is made of any suitable size, strength and material to contain and support the several parts hereafter described.

B is the horizontal main iron shaft turning in suitable boxes in the middle uprights of the frame. C is a pulley on the right hand end of said shaft which receives the main band from the driving power. C² is a loose pulley. D is a pulley on the left hand end of said shaft B, around which pulley a band E passes leading around a pulley F on a transverse iron shaft G carrying a large pulley H, around which passes a band I leading around a pulley J placed on the left end of a shaft K carrying a revolving cylinder L covered with emery for polishing the cloth as it passes under it in the manner represented in the drawing, the shaft of said cylinder turning in suitable boxes on the frame. A few inches in the rear of the emery cylinder is arranged a regulating cylinder N covered with cloth, whose shaft M turns in suitable boxes in the frame, on which shaft there is a cog wheel *o* geared with a pinion P on the left end of the main

shaft B. A few inches in the rear of the regulating cylinder N; and directly under the water box U is arranged a moistening cylinder R on a transverse horizontal shaft Q having on one of its extremities a pulley S connected to the main shaft by a band T Fig. 3. Over this moistening or dampening cylinder R is placed a water box V shaped in its cross section like a hollow inverted frustum of a pyramid being closed at its lower or smaller end by a cloth conductor *g* through which the water percolates to the surface of the moistening cylinder R said cloth acting as a conductor and moistener being regulated by screws *s* which pass through the sides of the box and cloth and which act on the sides of the box causing them to close toward each other and compress the cloth. This water box is supported by and between two parallel rails V on the tops of two posts W. A horizontal transverse iron shaft X is placed a few inches in the rear of the moistening cylinder turning in suitable boxes on the frame having formed on a portion thereof a cylinder brush Y and on another portion thereof a pulley Z by which it is turned by a band *a* leading around a pulley *b* (represented by dotted lines) on the main shaft. At the rear end of the frame there is another horizontal transverse cylindrical shaft *c* on which there is formed of wood or metal a hollow finishing cylinder *d* (which may be heated by hot air or steam introduced through a hollow shaft) turned by a pulley *e* on said shaft, around which passes a strap *f* leading to a pulley *g* on the shaft M of the regulating cylinder N. At the head end of the machine is arranged a clamp spreading board *h* *h*² made in the form of a desk with a closing lid arranged at an angle of about 35 degrees with a horizontal plane. The upper lid *h* is connected to the under board *h*² by hinges *h*³. On the underside of the upper lid *h* when closed or shut down upon the under lid *h*² as seen in Fig. 1 is arranged 18 or more oblique parallel wires bent at each end and inserted into each board so as to lay flat and in the following manner. Commencing on the bottom board *h*² one-half inch from the center and inserting them 1½ inches apart those on the right of the center inclining in one direction and those on the left in an opposite direction as represented at 1, 2, 3—4 5 6.

The wires in the upper clamp board *h* are

of the same dimensions and of corresponding arrangement and are so placed upon it that they will be intermediate between each series of wires of the lower board when
 5 folded down upon it. It is fastened down by means of a staple and key at each end. In Fig. 2, the last named part of the clamp is represented as raised to a vertical position in order to insert the cloth, or pass it be-
 10 tween the two parts of the clamp. When inserted the part *h* is brought down upon the part *h*² and grips the cloth between them in the manner represented in Fig. 1 wherein the parts *h h*² are in their required position
 15 when the machine is in operation—the holding key or wedge being inserted into the staple. The gripping of the cloth extends no farther than is sufficient to produce that degree of friction that is requisite to spread
 20 the cloth evenly as it is drawn through between the boards *h h*² the oblique parallel wires or ribs on the surfaces of the boards next each other inclining from the center toward the sides being designed to spread
 25 the cloth each way or to the right and left from the center toward the sides by its friction against said oblique ribs as it is drawn through between the aforesaid obliquely placed wires.
 30 Beneath the emery cylinder *L* the regulating cylinder *N*—the cylinder brush *Y* there are arranged pairs of small rollers for supporting the cloth and for bringing it nearer to, or farther from, the aforesaid cylinders
 35 and brush. The pair of rollers *k n* nearest the front end of the machine have their gudgeons turning in an adjustable vibrating bar *l* turning or moving on a bolt 2 at one end while the other end is raised or lowered
 40 by a screw *m* and nut *m*². The middle pair of rollers *o, p* have their gudgeons turning in permanent bars of wood fastened to the insides of the top rails of the frame. The pair of rollers *g, r* under the cylinder brush
 45 are also arranged with their gudgeons turning in adjustable bars of wood raised or lowered by screws applied at their ends for raising and lowering them while their other ends move on bolts inserted horizontally
 50 into the frame. To the periphery of the cylinder *d* is fastened an apron *u* of linen about two yards long and as wide as the length of the cylinder. The cloth to be finished is attached, by one of its ends to this apron

being first placed upon a table. The ma- 55
 chine is then in a position which draws the cloth through and between the clamps *h h*², or spreading boards; it then passes over the two first named small rollers *k, n* and under the emery cylinder *L* which can be 60
 made to bear harder, or lighter, as may be desired, by the screws *m* before mentioned bearing up or letting down the said rollers *k n*—thence over the small rollers *o, p*, and under the regulating cylinder *N*—and over 65
 the third pair of rollers *g r* and under the cylinder brush *Y* and moistening cylinder *R* having a moderate bearing thereto imparted by said small rollers and thence to the receiving cylinder *d* upon which it is 70
 wound—the cylinder *L* covered with emery performing the office of grinding down the burls of the nap and rendering them even and sharp;—and the regulating cylinder *N*, covered with cloth drawing the cloth for- 75
 ward at a regular speed and preventing it from being wound upon the finishing cylinder in an irregular manner, and the moistening cylinder *R* receiving the moistening substance from the box *U* through the cloth 80
 conductor *W* and conveying it to the outer surface of the nap of the cloth over which it is spread evenly; and the revolving brush laying the nap evenly and regularly—and the warm finishing cylinder *d* imparting to 85
 the cloth a beautiful gloss, similar to that which is given to cloth by sponging and pressing it between hot plates.

What I claim as my invention and desire to secure by Letters Patent is— 90

1. The before described machine for polishing and finishing cloth—that is to say I claim the combination of the emery cylinder *L*, regulating cylinder *N*, moistening cylinder *R*, and cylinder brush *Y* and rollers 95
k n o p g r with their vibrating bars *l l*² and screws *m* and *m*² for pressing the cloth against the above named cylinders and brush.

2. Likewise the water box as constructed 100
 with a cloth moistener between its lower edges and screws for pressing one side of the box toward the other in combination with the moistening cylinder covered with cloth.

JOSIAH C. CARLISLE.

Witnesses:

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 A. E. H. JOHNSON.