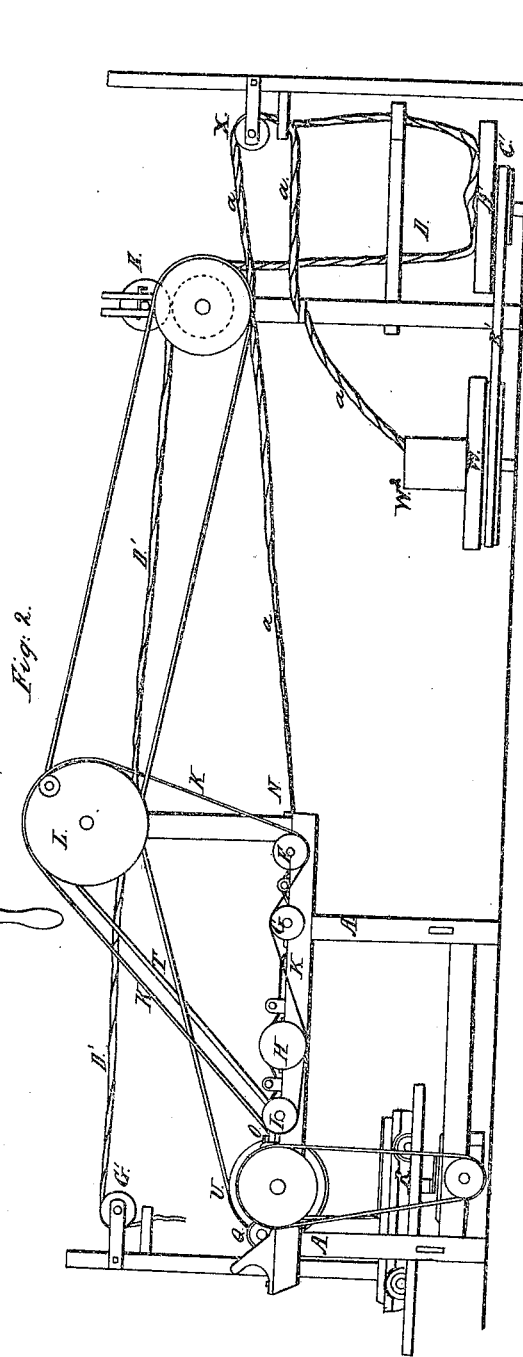
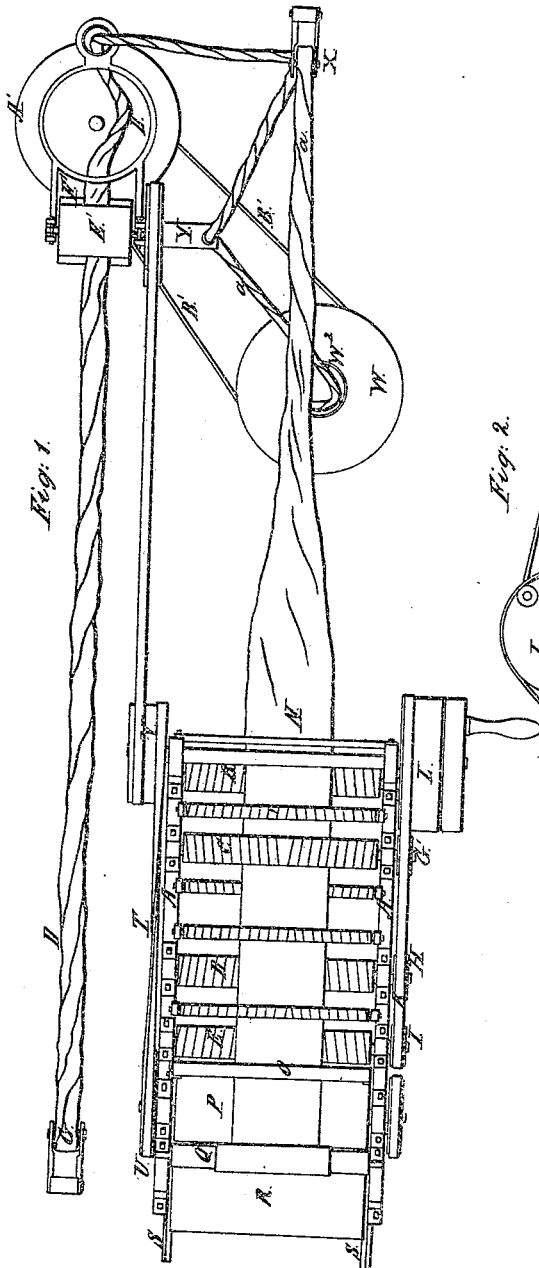


J. BUTCHER.

MACHINERY FOR REMOVING THE TWIST FROM CLOTH AFTER DYEING, &c.

No. 7,764.

Patented Nov. 5, 1850.

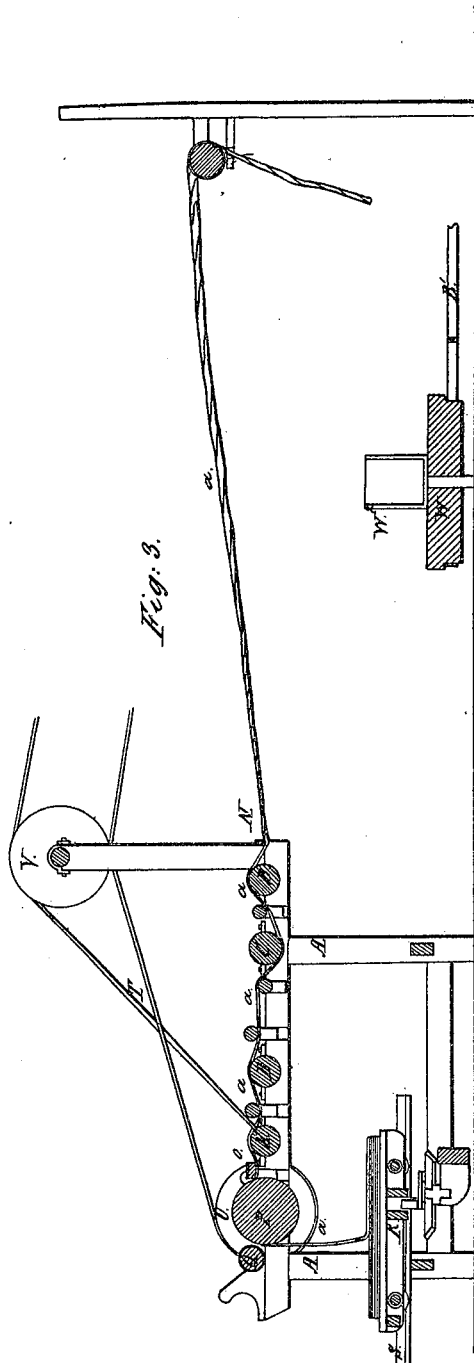
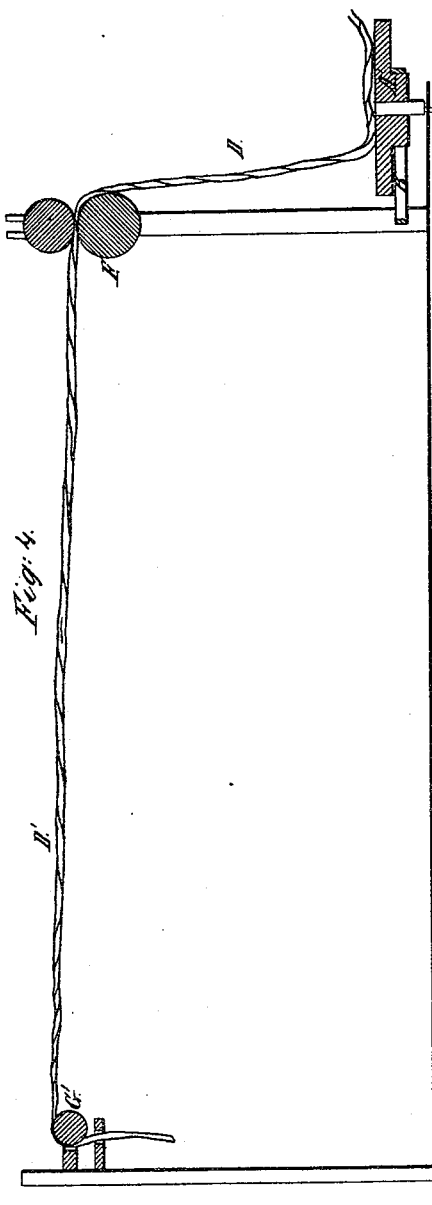


J. BUTCHER.

MACHINERY FOR REMOVING THE TWIST FROM CLOTH AFTER DYEING, &c.

No 7,764.

Patented Nov. 5, 1850.



UNITED STATES PATENT OFFICE.

JOHN BUTCHER, OF LOWELL, MASSACHUSETTS.

APPARATUS FOR STRETCHING AND SMOOTHING CLOTH.

Specification of Letters Patent No. 7,764, dated November 5, 1850.

To all whom it may concern:

Be it known that I, JOHN BUTCHER, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Removing the Twist from Pieces or Strips of Calico or other Materials; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a top view of my machine. Fig. 2 is a front side elevation of it. Fig. 3 is a longitudinal and vertical section of it. Fig. 4 is a vertical section of the band supports and the second rotative platform to be hereinafter described.

In either bleaching or cotton printing works it is customary to sew together the ends of the pieces of cloth to be either bleached or dyed, and thus to connect many pieces into one long band or strip; such band or strip after undergoing the processes of the bleaching or dyeing work, is usually taken therefrom, by means of suitable drawing and guide rollers, and removed by them into another building or department, where it has been customary to separate the band into pieces of suitable length, to untwist such pieces and to fold them up in a suitable manner for further operations; the whole process of untwisting and folding, generally speaking, having been carried on by the hands of a workman. By my machinery the process of removing the twist from the cloth, stretching the cloth lengthwise as well as widthwise and either folding or beaming it, as the case may require, is not only very different from that heretofore practiced, but is attended with much more dispatch and a consequent saving of labor.

In the drawings above mentioned A represents the main frame for supporting the operative parts of the stretching and either beaming or folding mechanism. The stretching machinery consists of a series of any suitable number of cylindric rollers B, C, D, E, arranged with respect to one another, and on the top of the frame A, as seen in the drawings; each of the said rollers having a helical screw thread projected from its external surface, and made to extend in opposite directions from the middle part of the roller toward the two ends of the said roller. The principal rollers B, C, D, E, are provided, respectively, with driving pulleys

F, G, H, I, about which a driving beam or belt K is carried, and made to extend from a suitable driving drum or pulley L, the same being arranged as seen in the drawings, or in any other suitable manner. The first roller B has a horizontal guide bar N disposed in front of it as seen in Figs. 1, 2, and 3; while in rear of the series of stretching rollers, is a grooved stretching bar O, and a drawing roller P; the said drawing roller having its surface fluted or roughened in any proper way, so as to cause the cloth to adhere to it (the surface of the roller) and to be drawn in the direction toward the roller by the roller when it is revolved. A beam or drum Q, for beaming or winding the cloth may be made to rest in contact with the drawing roller P, and to operate with respect to the same substantially as the cloth beam of an ordinary loom operates with respect to the draft beam or roller against which it rests. Or instead of beaming the cloth, it may be folded by means of a folding carriage R, placed underneath the drawing roller and on rails or ways s, s, and made to have, by suitable machinery, a reciprocating horizontal movement such as will lay the cloth or cause it to be laid in folds upon it after the said cloth has passed over and beyond the drawing roller P. Such drawing roller P may be put in operation or rotation by a crossed endless band T made to work around a pulley W, fixed upon one end of the shaft of the roller P, the said band being also carried around a driving pulley or drum V. The next portion of my invention is the untwisting contrivance. It consists simply of a rotative platform W and a suitable guide pulley or guide apparatus X, arranged with respect to the stretching rollers as seen in Figs. 1 and 2. The rotative platform is made so as to be capable of being freely rotated by the attendant of the machine who accomplishes the same by placing his foot against the table and pushing the table thereby around either in one direction or the other as the case may require. The said attendant takes his position directly in front of the guide bar, in front of the roller B, and while with two hands he takes hold of the selvages of the cloth, and stretches the cloth widthwise, and directs it underneath the said guide bar, he watches with his eye that part of the cloth extending directly between the said guide bar and the roller X, and when he sees the said part of said cloth twisted up,

when approaching him, he applies his foot to the rotary platform, W, and pushes the platform around in such direction as will remove the twist. The cloth in the state of a long
5 band or strip (which is composed of several pieces of cloth connected together at their ends) is laid in a pile of folds or in a barrel upon the rotary platform or table W; from thence one end of it is carried toward, underneath and partially around a horizontal
10 guide roller X, also through suitable guides Y, Z, if required previous to its passage around the said guide roller. The said cloth, denoted at a, is carried from the said guide
15 roller directly toward the series of stretching rollers between which it is carried, as seen in Fig. 3. Thence after passing underneath the stretching bar O, it is carried over the drawing roller P, and either wound on the
20 beam or folded on the folding carriage substantially as hereinbefore mentioned.

It will be seen that in order to enable the workman or attendant to rotate the platform W, it must be placed within reach of
25 his foot, when he takes his proper position near the series of straining rollers. Now sometimes it may be desirable to bring the cloth directly from the bleachery, by means of the guide rollers and apparatus, and allow it to fall in a fold upon the revolving
30 table, thus doing away with the attendant who is usually employed to gather up the cloth as it comes from the bleachery or dye house, and carry and place it on the rotary
35 platform. And as the rotary platform, under such circumstances, will have to be placed a considerable distance from the machine, or out of the reach of the foot of the operative, I make use of a secondary rotative
40 platform placed in the position of the rotative platform W, before mentioned, while the receiving platform may be supposed to be placed at a distance from the secondary platform and connected to it by
45 means of a pulley, an endless band in such manner that when the workman rotates the secondary platform in either direction, the endless band will cause the primary platform to rotate in the same direction.

50 A', (Figs. 1, 2, and 4) of the drawings may represent the primary platform. W

the secondary platform. B', their connecting belt. C' the belt pulley of the primary platform. D' the strip of cloth, and E' and F', drawing rollers by which it is drawn
55 from the bleachery. G is one of the rollers for supporting the band of cloth in its passage from the bleachery or dye house. The drawing rollers E', F', should be also so placed in respect to the primary revolving
60 table A', as to cause the cloth, after passing from between said rollers, to drop down upon the table. From the said table the cloth is carried under and over or radially around the roller X, and thence to the
65 stretching machinery, essentially as herein before described. If desirable the operator may remove the revolving table A', and put a barrel or small piece of bagging in its place, for the reception of the cloth. When
70 three or four hundred yards as may suit the operator are in the barrel or on the bagging, he separates the cloth at one of the sewed ends, and puts the barrel with the cloth onto
75 the revolving table W, then taking the end of the cloth and passing it through the guides Y, Z, to the roller X, thence to the machine. As the machine takes the contents of the first barrel, another barrel may
80 be filling at the drawing rollers E', F'.

I do not intend to confine my invention to the precise form or construction of its several parts herein before mentioned, but I intend to vary the same in such manner and to such extent as may be necessary, while I
85 do not change the principal or novel feature or features thereof.

What I claim as my invention is—

The combination of the revolving platform, or table W, and the guide rollers or
90 apparatus X, with the series of stretching rollers; the whole being substantially in the manner and for the purpose as herein before specified.

In testimony whereof I have hereto set
95 my signature this thirty-first day of August, A. D. 1850.

JOHN BUTCHER.

Witnesses:

FRANCIS GOULD,
W. H. WHITELEY.