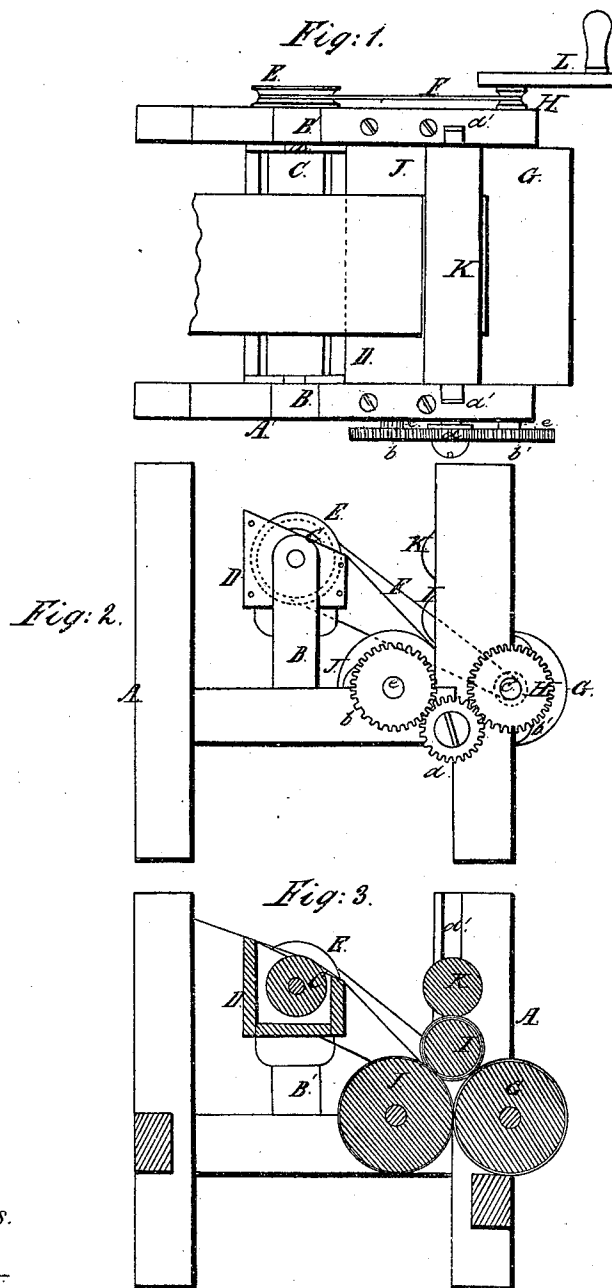


*D. Hussey.*  
*Smoothing or Finishing Fabrics.*  
*N<sup>o</sup> 89,048*      *Patented Apr. 20, 1869.*



Witnesses.  
*S. N. Piper*  
*J. R. Snow*

Inventor:  
*Daniel Hussey*  
 by his attorney  
*R. H. Eddy.*

# UNITED STATES PATENT OFFICE.

DANIEL HUSSEY, OF NASHUA, NEW HAMPSHIRE.

## IMPROVEMENT IN MACHINES FOR FINISHING CLOTH.

Specification forming part of Letters Patent No. 89,648, dated April 20, 1869.

*To all whom it may concern:*

Be it known that I, DANIEL HUSSEY, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented a new and useful or improved machine for smoothing or finishing cotton cloth or other fabric or yarn therefor; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a top view, Fig. 2 a side elevation, and Fig. 3 a vertical and longitudinal section, of my said machine.

My invention consists of a machine, such as hereinafter described, for dampening yarn, cloth, and other fabric. In this machine the cloth or yarn is made to move faster than the surface of the dampening-roller. While the cloth or yarn, as the case may be, is moved with a uniform velocity over the dampening-roller, the latter, by means of its mechanism for revolving it, is to be run at a much slower speed, which is to be varied from time to time as more or less moisture may be required. On light goods, or cloth of two ounces weight to the yard, the surface of the dampening-roller is to run only about one-fifteenth the velocity of the cloth, while with cloth weighing three times as much per yard the roller should run about one-seventh as fast as the cloth. Thus it will be seen that the fabric cannot take up or wipe off the water any faster than it is taken up by the roller, the quantity of water so taken up being somewhat in proportion to the speed of the roller. Consequently the water, as fast as taken up by the roller and delivered to the cloth, will be absorbed by it. By varying the speed of the cloth I can thus gain just the amount of dampening of it that may be desirable and far better than I can by running the cloth between rollers, one of which receives water from a trough or roller to wallow therein, and the other is forced down upon the cloth by the pressure of weights or springs. I have no pressure-roller over my dampening-roller, the cloth being bent a little at the place of contact therewith, and made to run lightly against it. My machine contains two rollers for supporting the cloth-receiving roller, it being arranged between and so as to rest on them, and made without journals. It is held in place by another or heavy roller, whose

journals rest in grooves in posts. The advantage of this will be hereinafter set forth.

In the drawings, A denotes the frame for supporting the operative parts of the machine. From the two horizontal side bars two standards, B B', are jointed and extend upward. These standards serve to support the roller or cylinder C, and a trough or reservoir, D, which partially surrounds the roller C. The said reservoir is to contain a sufficient amount of water to keep the surface of the cylinder wet when it is in revolution. The said roller may be made of wood or any other suitable substance, and, if desirable, may have its surface covered with cloth or other absorbent material. One of the journals—viz., *a*—of the roller C extends through the standard B', and has a grooved pulley, E, arranged on its outer end, as shown in Fig. 1. An endless belt, F, extending around the periphery of this pulley, and the journal H, (or a pulley disposed in the journal) of the driving drum or cylinder G, serves to impart rotary motion to the roller C when the driving-cylinder G may be put in revolution. The said cylinder may be revolved by means of the crank L, or by any suitable motor. For the purpose of supporting the cloth-beam I, I employ the said cylinder G and another cylinder, J, each of which has a like diameter, is arranged parallel to the other, and has its journals properly supported in the frame-work of the machine. Each of the cylinders or drums G J has a spur-wheel or pinion, *b* or *b'*, disposed on its rear journal, *c* or *c'*, such pinions engaging with an intermediate gear, *d*, by which means the two drums, when in movement, are caused to revolve with a little speed. The said cloth-beam I, I usually form without journals, and dispose it in the bite of the drums G J, the pressure or weight of the roller K serving to keep it in place. The object of so forming the cloth beam or roller is to enable it to be readily removed from the machine when the desired amount of cloth has been wound upon it. This may be done by raising the smoothing-roller, when the cloth-beam, with the cloth, can be easily removed.

K is the smoothing or ironing roller. This roller I usually construct of iron and of any desirable diameter and weight. This roller is disposed directly over the cloth-beam and rests

upon the cloth on the beam. This roller has its journals arranged in two vertical grooves, *d' d'*, which allow the said journals to play freely upward and downward in them, in accordance with the amount of cloth wound on the cloth-beam.

Having described the construction of my said machine, I will now describe its operation.

If we suppose the reservoir D to be supplied with water, we first take one end of the roll or piece of cloth to be heated, and pass the same into the machine and over the moistening or dampening roller C, thence over the cylinders or drums G and J, thence to the cloth-beam I, and carry it once around the same. If, now, power be applied to the driving-shaft, so as to cause the same to revolve, all the rollers of the machine will be put in rotation, the cloth, passing first over the moistening-roller C, will be evenly moistened, and in passing from thence over the drums J and G will be partially smoothed or freed of wrinkles or ridges, while the roller K, adjusting itself to the increasing thickness of the cloth on the cloth-beam, serves to iron out and give to the surface of the cloth an even and a uniform surface.

I am aware of the subjects of the United States Patent No. 32,759, and make no claim thereto.

In carrying out my invention I support my

cloth-roller I upon and between the two rollers J G, and thereby save the necessity of forming my journals to project from the ends of the roller I into the grooves *d'*. This, besides saving the necessity of first removing the roller K from the grooves *d'*, in order to remove the roller I, enables the latter roller to be moved out from underneath the roller K or placed underneath it with great facility. The arrangement and combination, therefore, of the pair of rollers J G with the trough D and its roller E and the pressing-roller K are productive of new effects or economical results not incident to the employment of a single bed-roller for the roller I to rest on, as is the case in the machine represented in the said patent.

I claim—

The combination and arrangement of two supporting-rollers, G J, with the dampening-roller C and trough D, the pressure-roller K, provided with journals, arranged in grooves *d'*, and with the cloth-roller I, unprovided with journals, the whole being operated, substantially as specified, so that the cloth shall travel faster than the surface of the said dampening-roller on which it runs.

DANIEL HUSSEY.

Witnesses:

J. A. BALDWIN,  
W. P. HUSSEY.