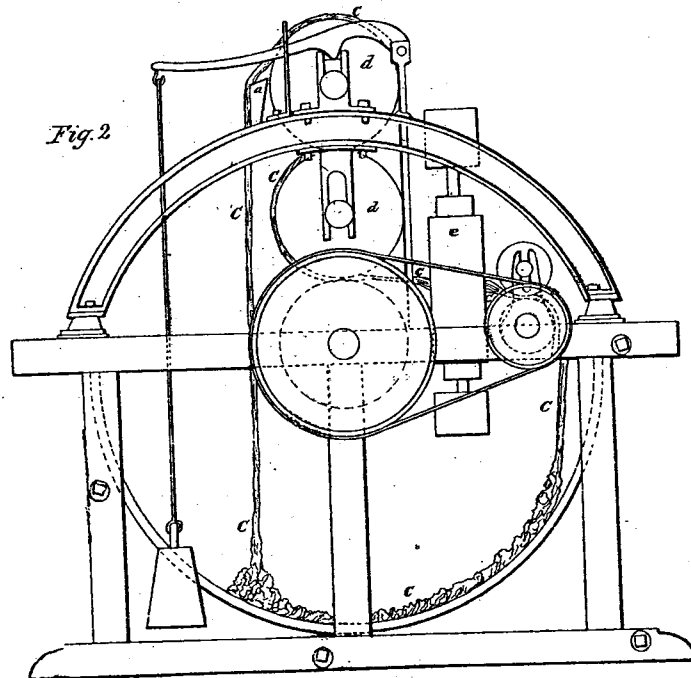
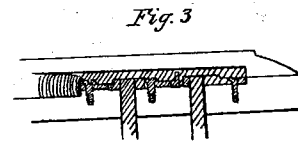
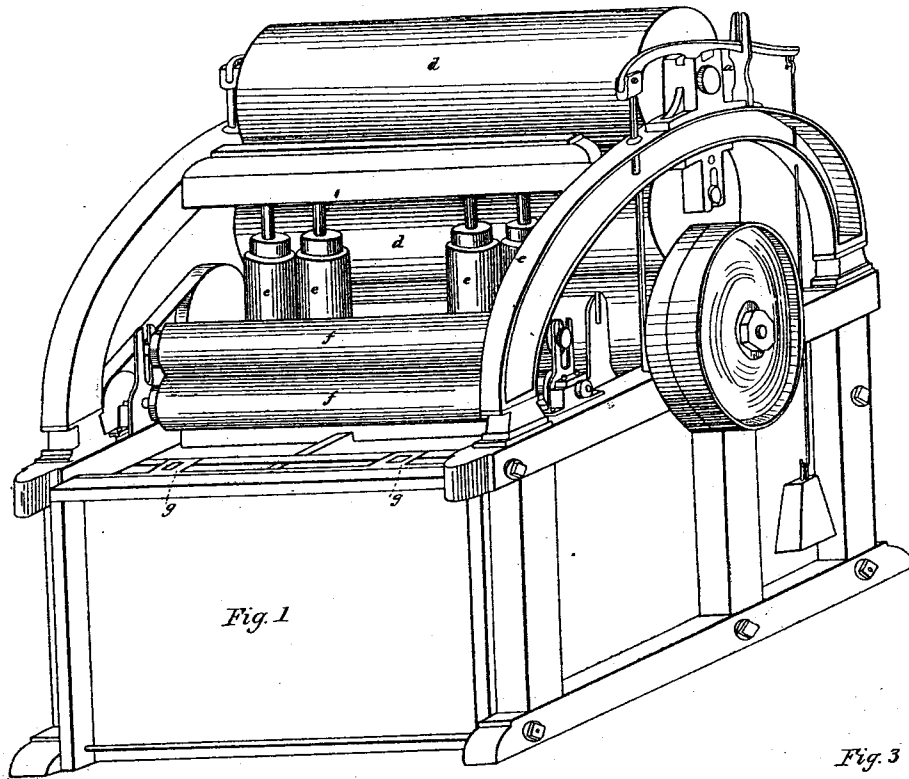


Jennnings & Brierly.

Fulling Machine.

N^o 10453

Patented Jan. 24, 1854.



UNITED STATES PATENT OFFICE.

JAMES H. JENNINGS AND THOMAS BRIERLEY, OF CLAYVILLE, NEW YORK.

MACHINERY FOR FULLING CLOTH.

Specification of Letters Patent No. 10,453, dated January 24, 1854.

To all whom it may concern:

Be it known that we, JAMES H. JENNINGS and THOMAS BRIERLEY, of Clayville, in the county of Oneida and State of New York, have invented a new and useful Improvement on the Means of Fulling, Overhauling, and Washing Cloth by One Process.

In the annexed drawings Figure 1, is a perspective view of our machine, having the cover removed to show the interior parts. Fig. 2, is a view of a side of the machine showing the interior parts, and Fig. 3, is a section of the machine showing the self adjusting springs to the vertical rollers or fold breakers.

The machine is composed of a series of rollers or fold breakers, flat surface rollers, gatherers, and guides, as shown in the drawings aforesaid. We provide a proper frame and encase all the rollers, gatherers, guides, &c. The several cylinders or rollers are provided with proper journals running in boxes, and any or all of them may be used with weights or springs to give pressure as required. These to be constructed in any of the well known modes which suggest themselves to a mechanic.

We provide gatherers *g, g*, in drawing, through which the cloth must pass. They may be plain openings, or constructed with rollers between which the cloth is passed to and between the horizontal lifting rollers of fold breakers *f, f*, thence to and between the vertical rollers or fold breakers *e, e, e, e*, thence to and between the flat surface rollers in the line as indicated by the direction of the cloth in Fig. 2, of the drawing where the cloth is shown as *C*, and the flat rollers *d, d, d*, which are made with flat surfaces instead of one being made with a groove formed by a flanch on each side, and the other made or fitted to work within the groove. We also provide a guide *a*, as shown in the drawing, over which the cloth passes after it leaves the pressure rollers.

The whole is set in motion within the case, by suitable gearing or belts, from the outside of the case, as may be clearly seen by reference to the drawing making a part of this specification.

In fulling cloth with a machine having a roller or wheel made with a groove formed by a flange on each side to confine the cloth in a rope like state and another roller or wheel fitted and working within the groove, the cloth in passing through the machine in

such rope like state will not full or felt in the body, nor will a machine thus constructed overhaul the cloth when in the process of fulling; nor will it wash out the cloth after it is fulled. It is therefore necessary to remove the cloth from the machine several times during the process of fulling for the purpose of overhauling it by hand, the same as when the fulling is done by the fuller stocks, and also to use a separate machine to wash out the cloth after the fulling process is finished. Nor can the cloth be flocked when fulled by the grooved roller rotary fulling mill, for the reason that the cloth in passing through the machine is not allowed to spread out sufficiently to take up a supply of the flocks when passing through the box or trough of the machine. Whereas by our improvement herein described the fulling, flocking, overhauling and washing out of the cloth after being fulled is effected by the continuous passing of the cloth through our machine constructed and operated as herein described.

The flat surface rollers in our machine allow the cloth to spread out in its passages between them, which they at the same time press the folds out of the cloth and cause the cloth to full more rapidly and more perfectly than it is done by the grooved roller rotary fulling mill, for the reason that the body of the cloth is more directly and more uniformly acted upon in its passage through the machine and particularly in its passage between the flat surface rollers. The cloth is so pressed out in passing between the flat surface rollers as to entirely supersede the taking of the cloth from the machine and overturning it by hand which is required when fulled by any other machine. And in flocking cloth—the cloth being thus spread out in passing between the flat surface rollers into the box it fills itself with flocks when at the bottom of the box, and is then gathered together again at the opposite side of the machine by the gatherers *g, g*, and lifting rollers *f, f*.

The cloth for fulling is prepared, in the usual way, with soap and water and then put through the gatherers *g, g*, thence to and between the horizontal lifting rollers or fold breakers *f, f*, thence to and between the vertical rollers or fold breakers *e, e, e, e*, then to and between the horizontal flat surface rollers *d, d, d*, and over the up-

per one thereof and then down over the guide pice *a*. The two ends of the cloth are then to be sewed together forming an endless belt of cloth. The doors of the machine being then closed, it may be set in motion, when all of the rollers or cylinders will revolve and cause the cloth to be taken with the motion onward, the surplus part falling to the bottom of the box or trough, and being then again drawn up by the lifting rollers through the gatherers and so on until the cloth is properly fulled. The rapidity of the motion, together with the pressure, being such as to generate the requisite degree of heat and the lifting rollers and fold breakers and flat surface rollers, alternating breaking and changing the folds of the cloth in its passage through the several sets thereof cause the fulling or felting of the cloth. When the cloth is sufficiently fulled, water is to be let into the box or trough, by means of a faucet or otherwise, and the machine being continued in operation the cloth will be speedily washed out and clenched. The water during this process should be allowed to flow freely into and out of the box or trough.

Having thus fully described the construc-

tion and operation of our improved machine for fulling or felting cloth and washing the same out by one process, we hereby declare that we do not claim either of the individual parts thereof when taken alone, nor do we claim the combination of the gatherer and horizontal and vertical rollers or fold breakers with a cylinder or wheel or cylinders or wheels having a groove therein or flanges on each side and a cylinder or wheel fitting and working in such groove or between such flanges, nor the weights and springs to be used upon any or all of such rollers of fold breakers and pressure rollers, but

What we do claim as new is—

The application of the above named rollers *d, d, d*, formed with flat surfaces in combination with the gatherer *g*, the horizontal and vertical rollers or fold breakers *e, e, e, e*, and *f, f*, and guide *a*, substantially in the manner herein set forth.

JAMES H. JENNINGS.
THOMAS BRIERLEY.

Witnesses:

TIMOTHY COLYUN,
AARON E. PETTIE.