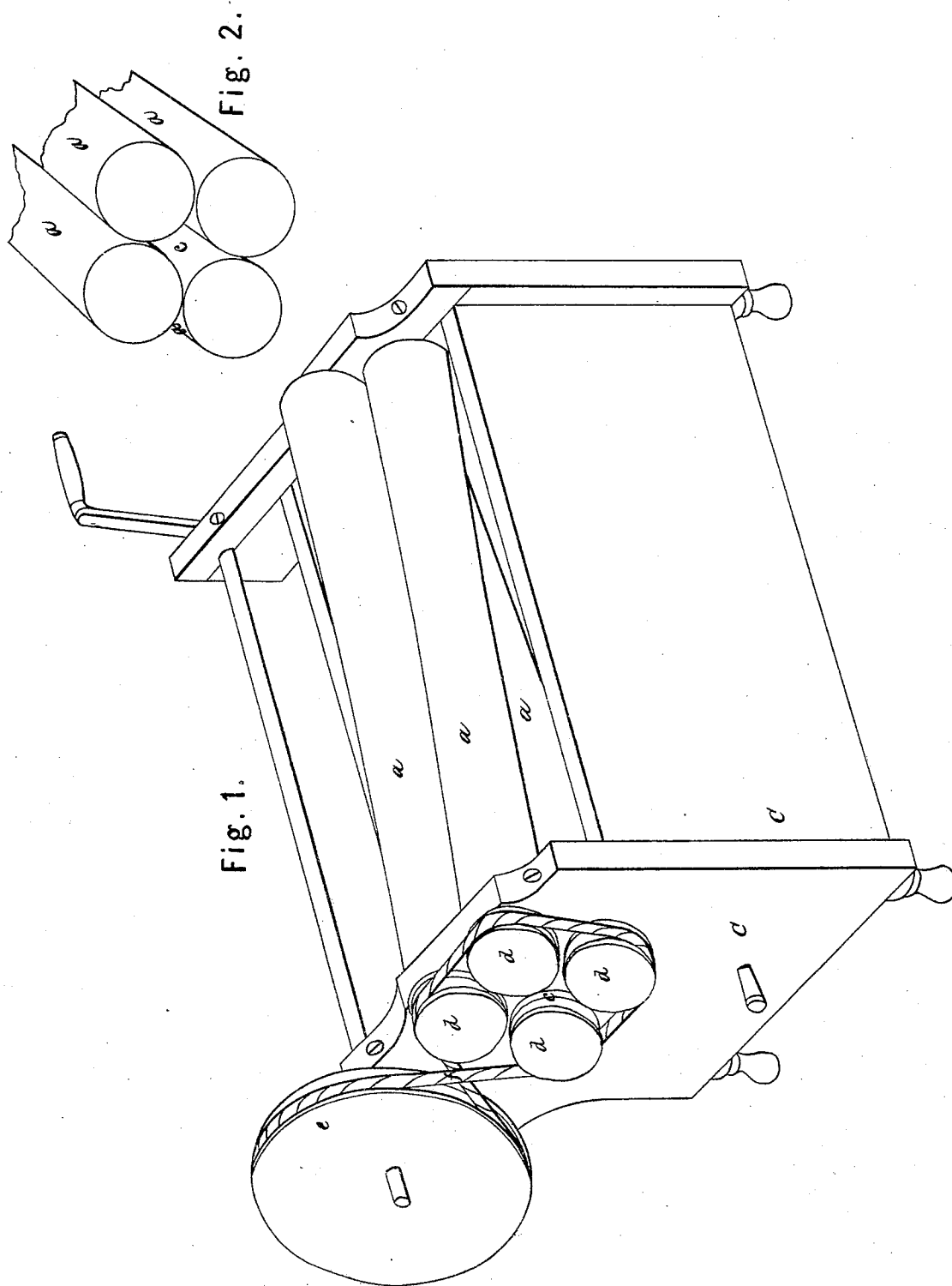


J. S. Taylor.
Felting Machine.

N^o 9700

Patented May 3, 1853.



UNITED STATES PATENT OFFICE.

JAMES S. TAYLOR, OF DANBURY, CONNECTICUT.

MACHINE FOR SHRINKING HAT-BODIES.

Specification of Letters Patent No. 9,700, dated May 3, 1853.

To all whom it may concern:

Be it known that I, JAMES S. TAYLOR, of Danbury, in the county of Fairfield and State of Connecticut, have invented a new and useful Machine to be Used in the Manufacture of Hats; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the whole machine; and Fig. 2, a sectional view of the rollers of the machine.

The purpose of my machine is to facilitate the manufacturing of hats; during the process of felting or shrinking.

The machine consists of any suitable number of rollers, placed nearly horizontally on a frame or vat; and so arranged, as to form a cavity or chamber between them, of sufficient size to receive the hat when rolled up after having been partially felted. *a, a, a,* the rollers, *b, b,* the vat, and *c,* the cavity or chamber. See both figures of the drawing. The rollers are each provided with a pulley at one end, and driven with a cross band from a driving wheel. *d, d, d, d,* the pulleys. *e,* the driving wheel and *f,* the band. The band surrounds all the rollers and thus drives them all one way. The vat is intended to contain hot water or other liquids used in the manufacturing of hats; so that the hat may be partially immersed if desirable during its passage through the chamber between the rollers. I generally use concave rollers for the above purpose, about four feet long and three inches in diameter at each end; and two and one half inches in the middle. These rollers are placed diagonally to each other. Or in other words, the line of the axis of any one roller, if continued, would cross the line of the axis of any other roller in the series. This is in order to make the

chamber between the rollers, of nearly equal size from end to end.

By this device, I secure not only a rotary motion to the hat when in the cavity; but also a longitudinal motion. The machine when in use is propelled by hand or other power; and the operator rolls up the hat, after having been partially felted; and inserts it into the chamber at the ends of the rollers. It immediately receives a rotary motion, and also advances endwise of the rollers; and comes out of the opposite end of the chamber. The hat is then unrolled, and rolled up in a different direction, and put through the machine again. This process is repeated, as often as is necessary to felt, or shrink, the hat sufficiently.

Rollers of equal size from end to end, and placed parallel to each other around a chamber, may be used. But in this case the longitudinal motion would be lost; and it would be necessary to displace one or more of the rollers, to insert the hat into the chamber.

The rollers and vat may be made of wood or metal or both combined. They may also be propelled by gearing or bands to suit the convenience of the operator. The vat should be made of a size suitable to receive the rollers as described herein and the area of the driving wheel should be as large as all of the pulleys combined.

What I claim is—

The process of shrinking or sizing the hat bodies by passing them longitudinally into or through a chamber formed by placing several cylinders or rollers (having concave or other denomination of surfaces) in such a proximity as to form the said chamber as hereinbefore substantially set forth.

Witnesses:

JAMES S. TAYLOR.

A. H. WILDMAN,
JOEL TAYLOR.