E. DAMS.

FULLING MILL.

No. 95,094. Patented Sept. 21, 1869.

Fig. 1.

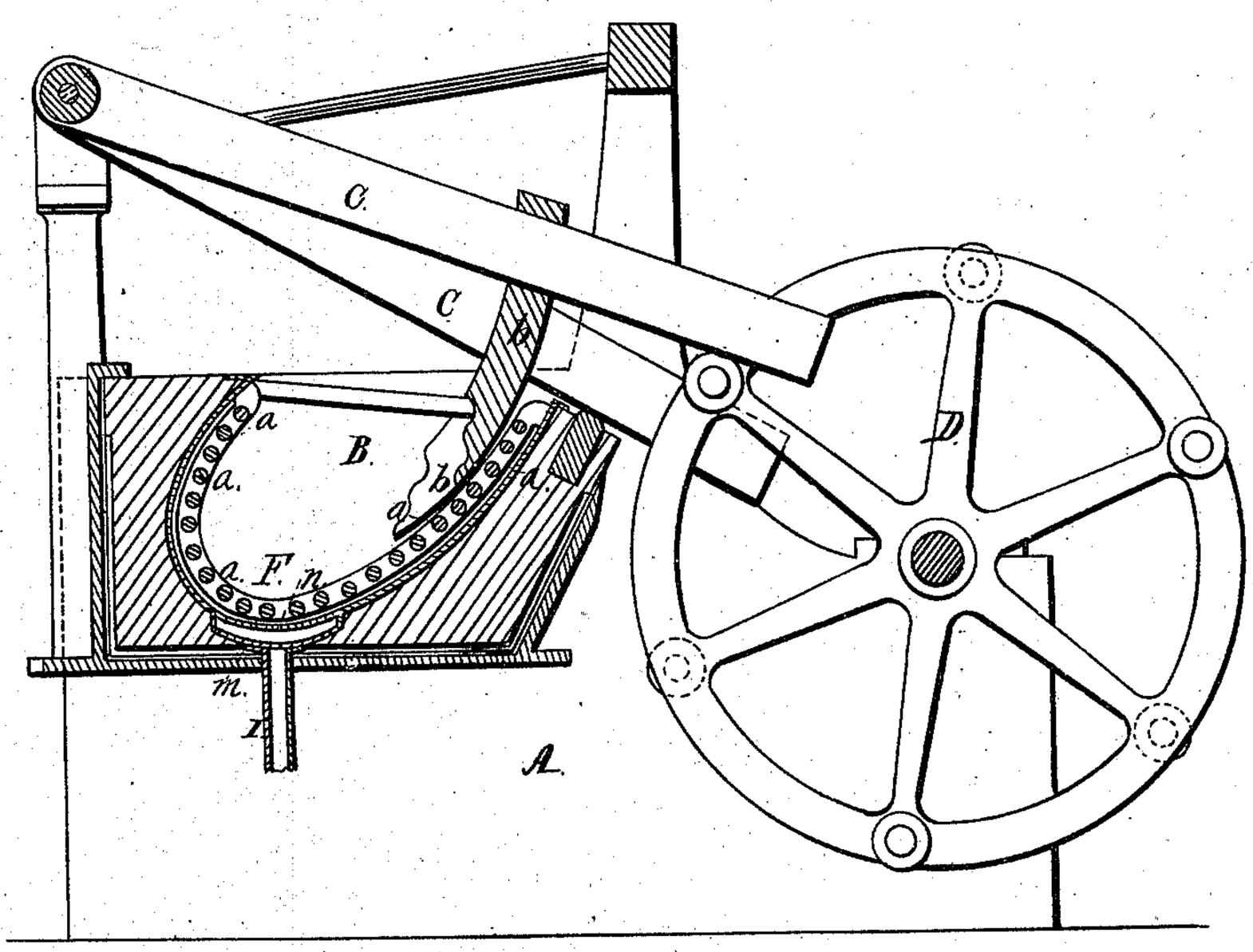
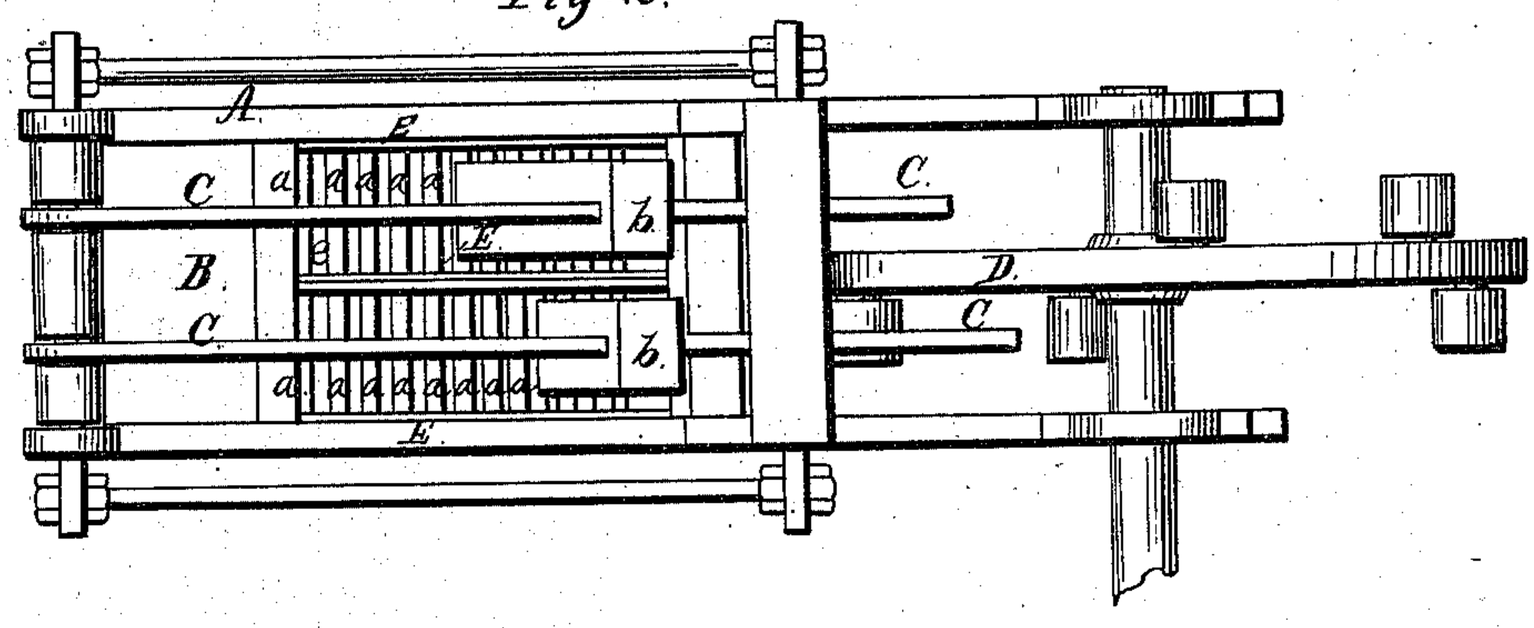


Fig. 2.



Witnesses:

A. Lellere

A. Kinnier.

Inventor:

Ernest Dams

United States Patent Office.

ERNEST DAMS, OF NEWARK, NEW JERSEY.

Letters Patent No. 95,094, *dated September* 21, 1869; *antedated September* 17, 1869.

IMPROVEMENT IN FULLING-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ERNEST DAMS, of Newark, in the county of Essex, and State of New Jersey, have invented a new and useful Improvement in Fulling-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a sectional elevation of a fulling-machine constructed according to my improvement, and

Figure 2 is a plan view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates more especially to machines for fulling felt hats, but is also applicable to machines for other fulling purposes; and

It consists—

First, in the arrangement of rollers within removable frames, whereby the same may be removed from the trough, when desirable, for cleaning or other purposes.

Second, in the arrangement of a steam-chamber in connection with the steam-pipe, and communicating with the space behind the rolls, by means of a perforated plate or covering, whereby the steam being admitted into the space behind the rolls, and through the interstices of the rolls at the bottom and sides of the trough into the interior thereof, is more generally diffused through the trough and the articles therein contained, thereby maintaining a more uniform temperature at all points therein.

In order that others may understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

The accompanying drawing represents the ordinary fulling-machine, consisting principally of a frame, A, fulling-trough B, mallets *b*, pivoted levers C, driving-wheel D, and steam-pipe I.

Near the inner curvated surface of the trough B are arranged one or more removable frames E, of suitable shape for conforming to the curvature of said inner surface of the trough, but so as to leave a space, *e*, behind them and the inner surface of the trough, for a purpose hereinafter explained.

The frames E are detached from the trough, so that they may be removed, when desirable, for cleaning and other purposes.

Transversely arranged within these frames E, and parallel to each other, are rollers *a*. These rollers *a* form an inner lining or false bottom to the trough, against which the pieces of felt or other articles placed within the trough B are continually brought in a rolling or sliding manner, by the beating-action of the mallets *b*, during the fulling-operation, in such manner as that, by causing the turning of the said rolls *a* on their axles, a yielding corrugated surface is obtained, thereby effecting a more perfect fulling of the material than can be effected by a plain or a fixed corrugated surface.

Furthermore, by the yielding nature of the surface, caused by the said turning of the rolls *a*, less friction is offered to the revolving or moving around of the pieces of felt or other articles, whereby more rapid revolutions of said material are gained, thereby causing the more speedy fulling of the same, while the said articles are also less liable to damage than when brought against an unyielding surface within the trough.

At or near the lower extremity of the cavity of the trough B, and connecting with the upper extremity of the steam-pipe I, is a steam-chamber, *m*. Said chamber *m* communicates with the space *e*, by means of a perforated upper plate or covering, *n*, through which the steam is admitted in a diffused manner into said space *e* behind the rolls, and from thence through the interstices or spaces between the said rolls into the cavity of the trough, at all points of its curvated surface, and through the articles contained therein, thereby maintaining the temperature of the interior of the trough more uniformly, at all points therein, and also serving by percolation to separate and prevent the packing together of the said articles while undergoing the fulling-operation.

The invention is operated in the same manner as the ordinary fulling-machine.

What I claim as my invention, and desire to have secured by Letters Patent, is—

1. The arrangement, within the trough B, of removable frames E, for carrying the rollers *a*, substantially as and for the purpose herein set forth.

2. The steam-chamber *m*, covered by a perforated plate, *n*, arranged with relation to, and in combination with the rolls *a*, substantially as shown and described.

ERNEST DAMS.

Witnesses:

A. LE CLERC,

A. KINNIER.