

R. Hunt.
Fulling Hats.
Nº 105,082. Patented Jul. 5, 1870.
Fig: 2.

Fig: 1.

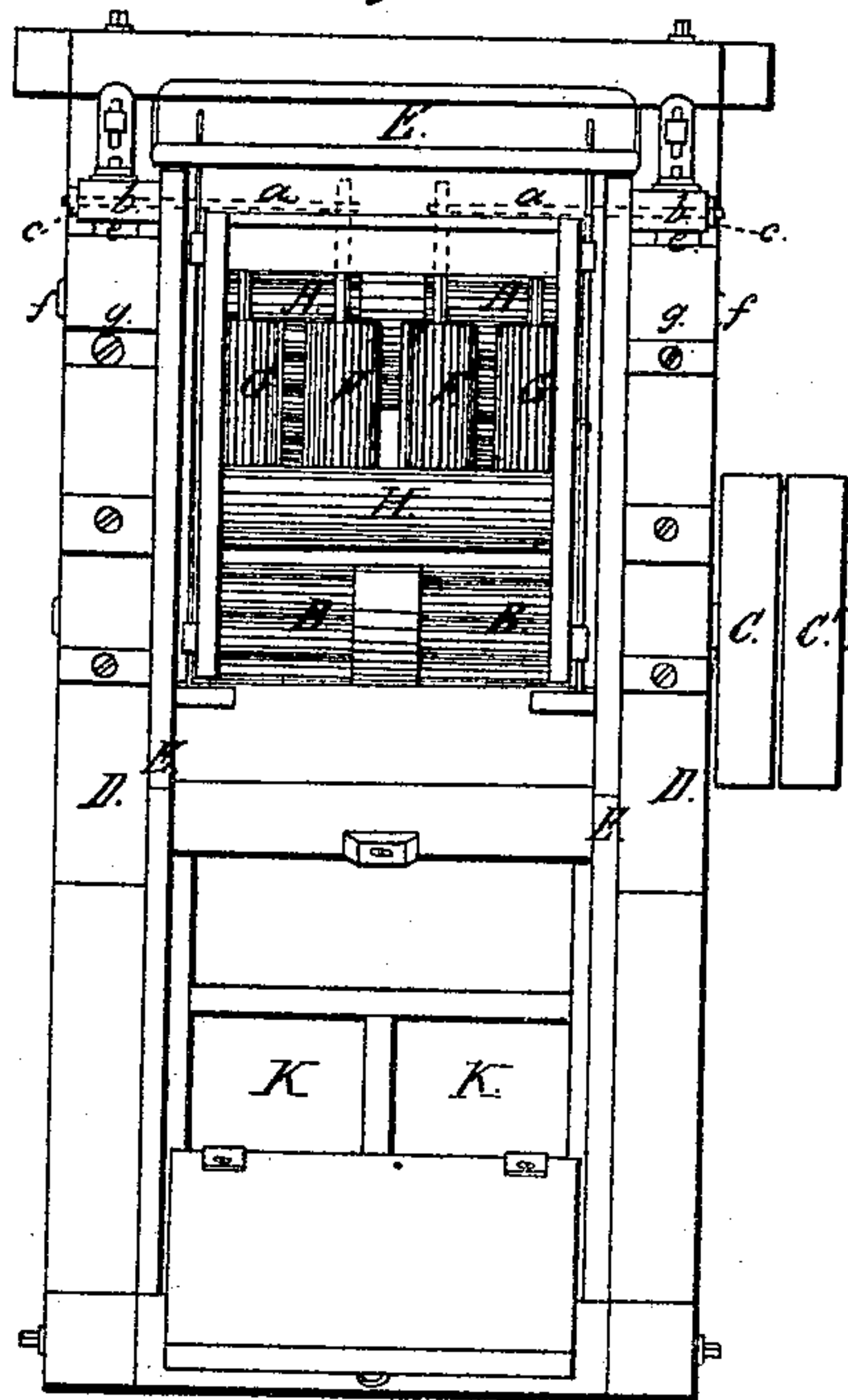
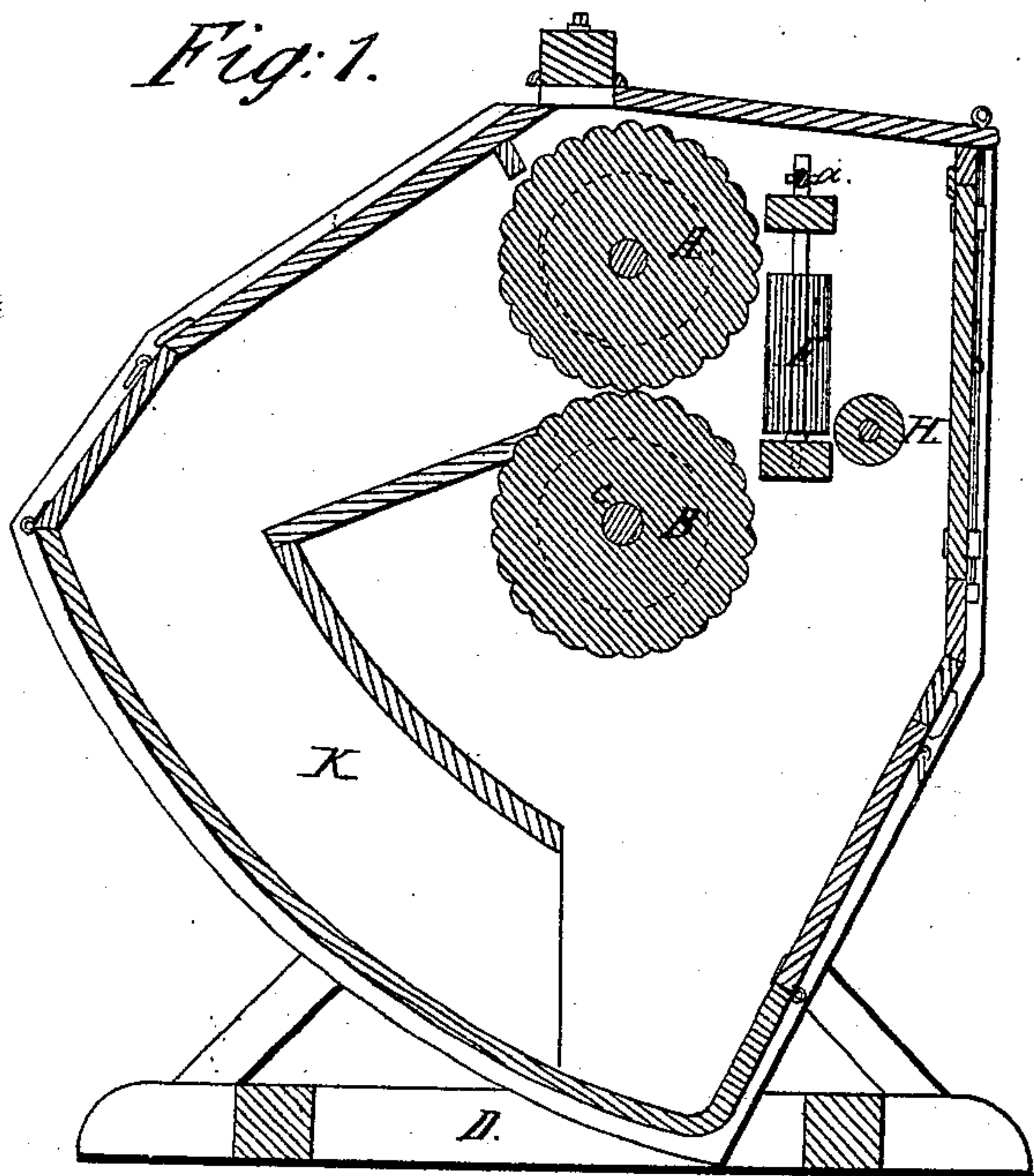
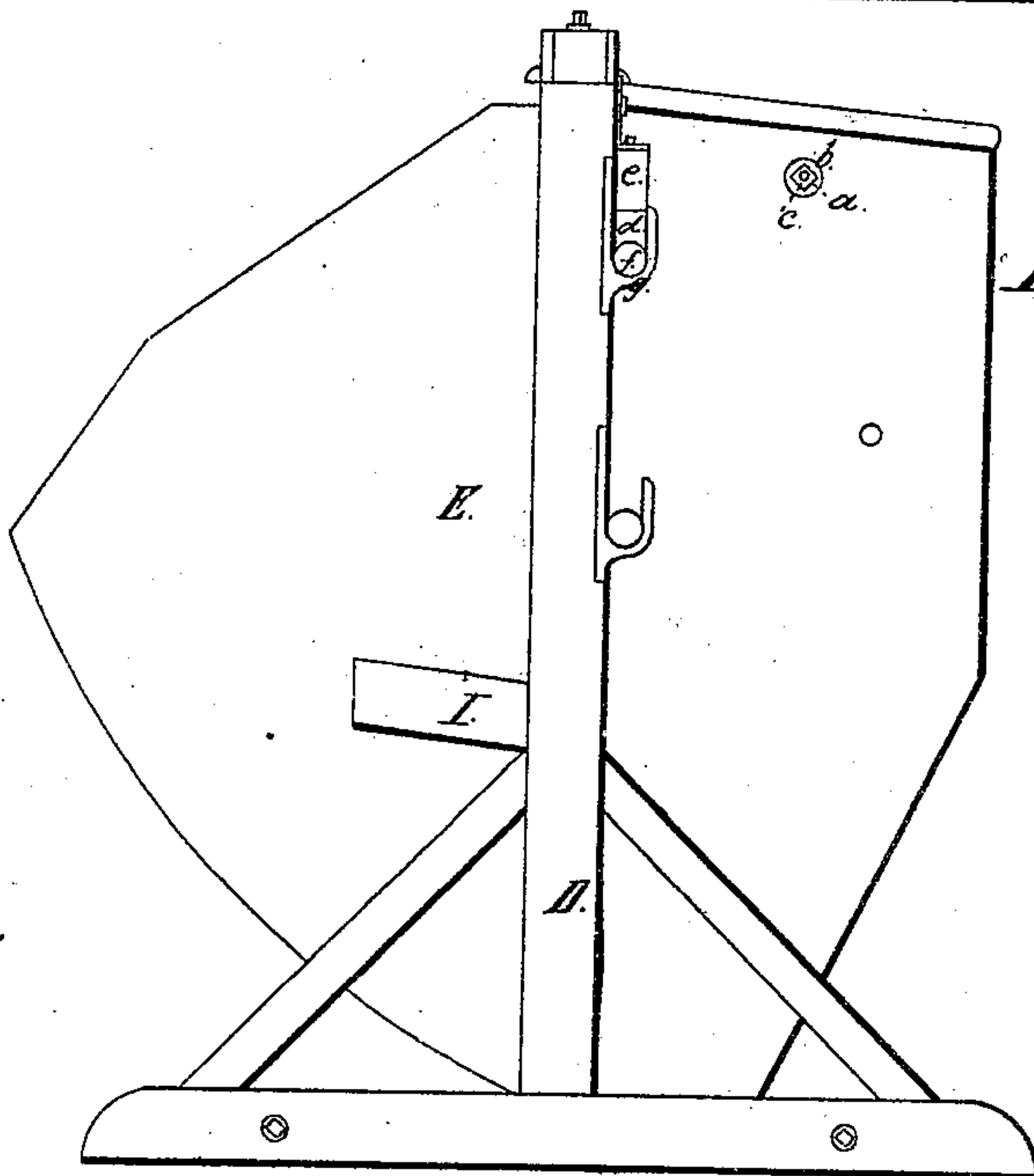


Fig: 3.



Witnesses.
S. A. Piper
J. R. Snow.

Inventor.
Rodney Hunt.
by his attorney
H. W. Eddy.

United States Patent Office.

RODNEY HUNT, OF ORANGE, MASSACHUSETTS, ASSIGNOR TO HUNT, WAITE
& FLINT, OF SAME PLACE.

Letters Patent No. 105,082, dated July 5, 1870.

IMPROVEMENT IN MACHINES FOR FULLING CLOTH.

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

To all persons to whom these presents may come:

Be it known that I, RODNEY HUNT, of Orange, of the county of Franklin, of the State of Massachusetts, have invented a new and useful Improvement in Machinery for Fulling Cloth; and do hereby declare the same to be fully described as follows, reference being had to the accompanying drawing, of which—

Figure 1 is a vertical and longitudinal section of a fulling-machine containing my improvement, the said section being taken between a pair of its vertical rollers.

Figure 2 is a rear elevation of the machine, with its doors open.

Figure 3 is a side view of it.

The machine is somewhat analogous to those described in the United States Letters Patent, 3,605 and 87,806. In this machine the packing-conduit or conduits, used in machines covered by such patents, are dispensed with, as the improvement which I have hereinafter described enables this to be done, the said improvement consisting in the substitution of horizontal fluted rollers in the place of plain or non-fluted rollers, in combination with one or more pairs of plain or vertical fluted main rollers.

In the machine represented in the patent No. 87,806 vertical crimping-rollers or gears are used, with plain main horizontal or squeeze-rollers and a packing-conduit, it having been found that the employment of vertical crimping-rollers instead of plain ones, with the packing-conduit, was productive of advantages. By such rollers the cloth, while passing between them, was corrugated or crimped, and, consequently, was not only packed to better advantage in the conduit, but was better or quicker fulled.

I have discovered that, by fluting the main or horizontal rollers, and employing, in connection with them, one or more pairs of vertical rollers, either plain or fluted, and especially when they are fluted, the packing-conduit or conduits may be dispensed with, and the fulling of the cloth be effected to great advantage by the conjoint operations of such rollers.

In the drawing—

A and B denote the main squeeze-rollers, whose peripheries are fluted, the flutes running transversely thereof, or parallel to their axes. These rollers are arranged within the case E, one of them being disposed directly over the other, and both having their axes horizontal.

A driving-pulley, C, as well as a loose pulley, C', is arranged on the shaft of the lower roller B, where such shaft projects beyond the case E. The supporting-frame of the case is shown at D.

Directly in rear of the fluted rollers A B are one or two sets of crimping-gears or rollers, F G, whose axes are disposed vertically. The shaft of one roller of each vertical pair is sustained at its upper end in a rod, a, which is led through one side of the case, and through

a spring, or prism, or cylinder, b, of India rubber, arranged against the outer side of the case. The rod a terminates in a head or nut, c, to bear against the outer end of the spring.

Furthermore, each journal of the upper main or horizontal fluted roller rests against a saddle, d, forced against the journal by a spring or mass of India rubber, e, (see fig 3,) in which the journal is shown at f as resting on its box g, and having the saddle and spring arranged as therein shown.

In rear of the two sets of crimping-rollers F G is a horizontal guide-roller, H.

In advance of the two rollers A B are one or more curved passages K, as in the patented machines hereinbefore mentioned.

In using my machine, a piece of cloth to be fullled is first led over the guide-roller H, and between a pair of the vertical rollers F G, and thence between the pair of fluted horizontal rollers A B, thence into and down the passage K. Finally, the two ends of the piece are to be sewed or connected together.

This having been accomplished, and the soap-cisterns I, at the sides of the machine, having been supplied with liquid soap, such as usually employed in fulling-mills, the lower main roller should be put in revolution, in which case each of the pieces of cloth will be drawn forward between its pair of vertical rollers, and, after having been crimped by the conjoint action of the horizontal rollers, or such and the vertical ones, will be forced into and down the passage K. The continued operations of the roller, and the running of the piece of cloth the necessary number of times between them will effect the fulling of it.

When the vertical and horizontal sets of rollers are fluted, the piece of cloth will be crimped or corrugated in two directions, at right angles, and will be much better and sooner fullled than would be the case were the rear or vertical rollers plain or non-fluted.

It has been found, when the main or horizontal rollers are fluted, that they cause the cloth not only to full better, but to fold, or lay in folds, to greater advantage in the passage K.

When the packing-conduit, as described in the aforesaid patents, is used with fluted vertical rollers and plain main rollers, the latter operate to remove the corrugations produced by the rear vertical rollers, and also to crowd the cloth into and through the packing-conduit, out of which it falls much compacted, and, in this state, enters and goes through the liquor.

With the main rollers fluted, the cloth will be delivered corrugated transversely, whereas it will readily fold so as to enable the liquor to penetrate it to the best advantage. Thus, it will be seen that the employment of fluted main rollers, in connection with the upright rollers, either plain or fluted, has positive advantages, or is productive of new or better results.

I herein make no claim to any thing, arrangement, or combination of parts, as described, in either of the patents hereinbefore mentioned.

I am aware of the British patent No. 3,149, for 1863, in which a machine having a pair of corrugated rollers, and a pair of plain rollers, is described, all of such rollers being elastic, or made of India rubber or gutta percha, and used with a trough, and having all of their axes parallel, whereby the cloth, in passing through the two pairs, is first crimped by the corrugated rollers, and afterward has its crimps or corrugations removed by the plain rollers, it thus being squeezed in one direction only.

In my machine, the axes of the crimping or corrugated squeeze-rollers are disposed at right angles with those of the plain or fluted rollers, and the cloth, after being crimped by the rollers A B, descends into the trough or conduit K, going through the liquor thereof, and, finally, passes upward over the roller H, and between the vertical rollers F G.

Thus, it will be seen that, by my machine, the cloth will not only be crimped and squeezed in one direction, but, next, will descend into and pass through the liquid, and next be squeezed in a direction at right angles to

the first, whereby a much better and more speedy fulling of it will be effected.

By fluting the main squeeze-rollers A B, and by arranging their axes at or about at right angles with those of the pairs of contractile rollers F G, I am not only enabled to dispense with the packing-conduit or conduits, as used in the machines, as described, in the United States patents, Nos. 36,005 and 87,806, and thereby much simplify the machine, but operate it with less power, and avoid difficulties incident to the operations of the said patented machines, and, besides, preserve all the advantages incident to them.

I, therefore, claim as my present invention—

The new or improved machine, as set forth, that is, as constructed, with its main squeeze-rollers A B corrugated or fluted, as described, and with one or more pairs of rollers, F G, arranged with their axes at or about at right angles with those of the rollers A B, the whole being as represented and described.

RODNEY HUNT.

Witnesses:

H. WOODWARD,
LYMAN BENNY.