(Model.)

A. T. CLARK.

HAT SIZING MACHINE.

No. 278,509. Patented May 29, 1883.

Fig. 1.

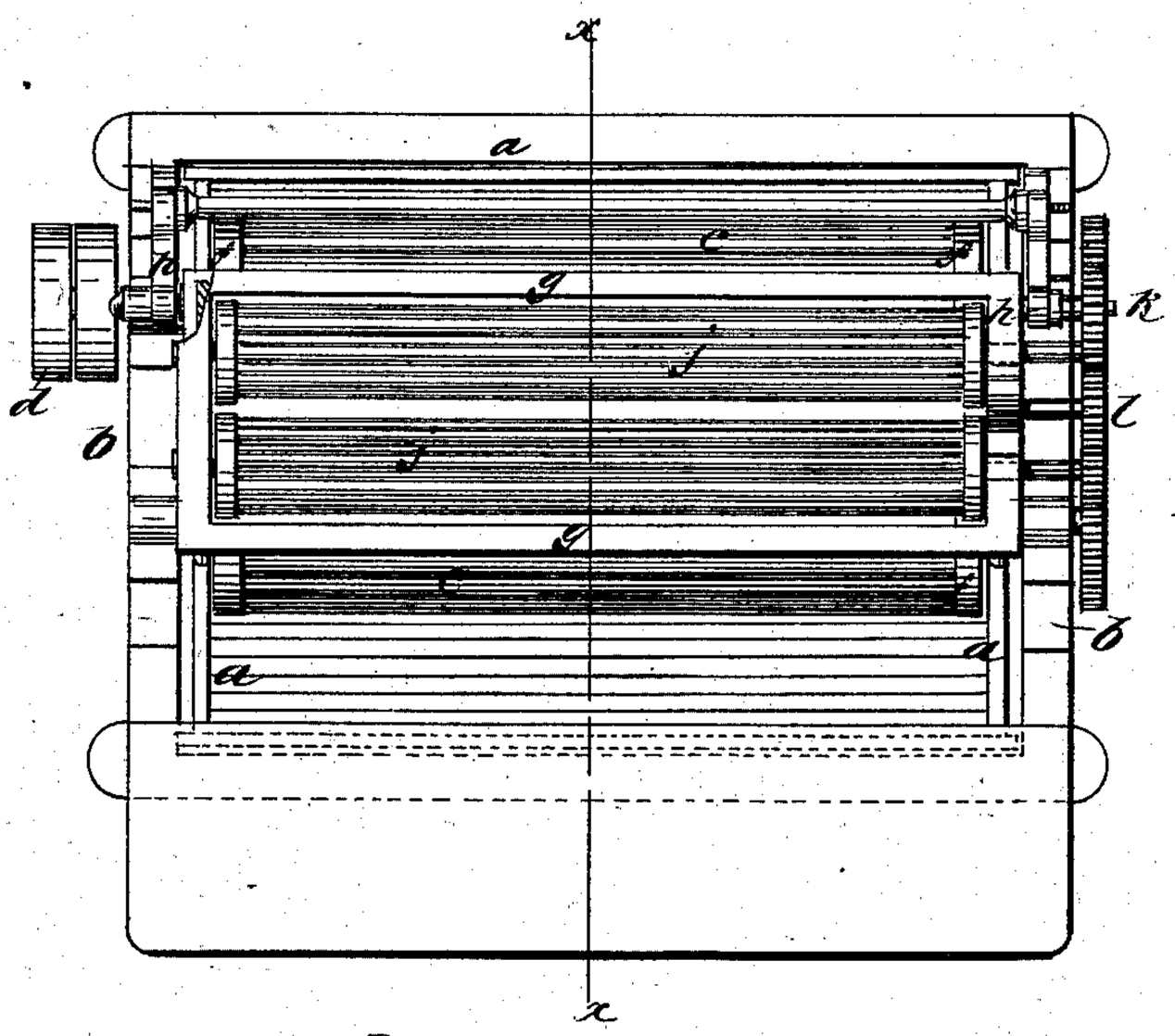


Fig. 2.

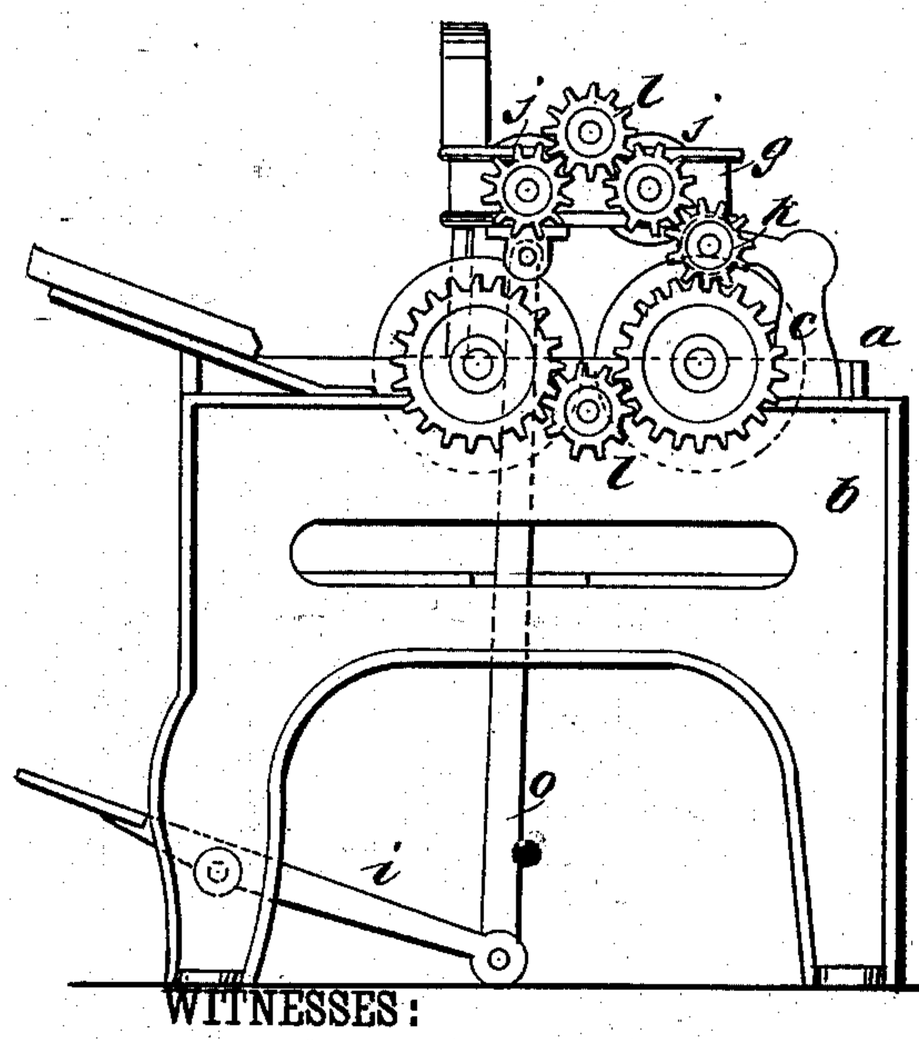
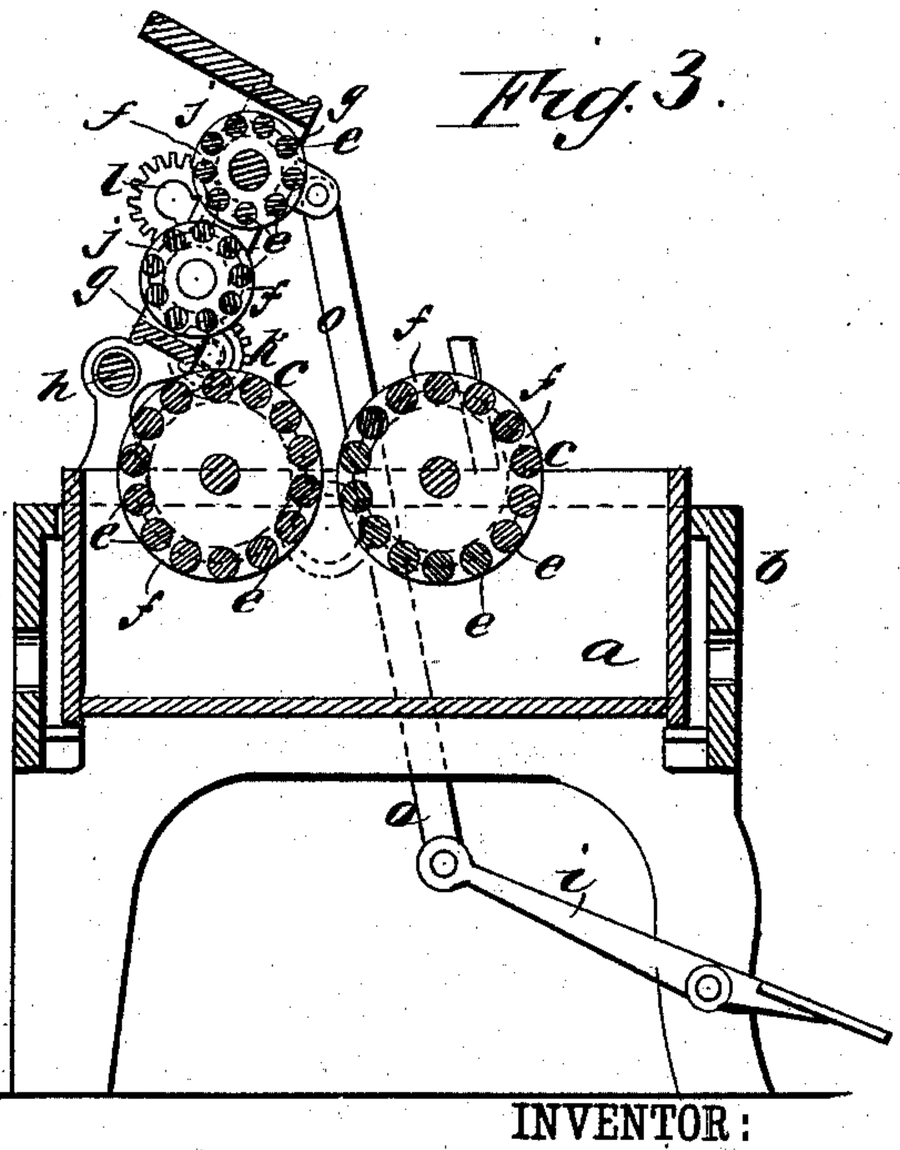


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

AARON T. CLARK, OF DANNEMORA, NEW YORK.

HAT-SIZING MACHINE.

SPECIFICATION forming part of Letters Patent No. 278,509, dated May 29, 1883.

Application filed January 24, 1883. (Model.)

To all whom it may concern:

Be it known that I, AARON T. CLARK, of Dannemora, in the county of Clinton and State of New York, have invented a new and Improved Hat-Sizing Machine, of which the following is a full, clear, and exact description.

My invention consists, essentially, of sizing-rollers, the operating-surfaces of which are made of flexible rollers, the action of which is more even and the quality of the work done is more like hand-work than other sizing-machines are capable of.

My invention also consists of an improved contrivance of the sizing-rollers for efficient action, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved hat-sizing machine. Fig. 2 is an end elevation, and Fig. 3 is a sectional elevation on the line *x x* of Fig. 1.

The machine is designed for sizing fur and wool hats, and consists of a water-tank, *a*, of suitable material, size, and form, suitably mounted in a frame, *b*, for supporting it at the height for the convenience of the workman, in which tank two rollers, *c*, are placed side by side, extending from end to end of the tank, and arranged thereat in bearings for their journals, allowing them to be rotated by power applied to a driving-pulley, *d*, with which they are suitably geared. The peripheral operating-surfaces of these rollers are formed of flexible rods *e*, which are journaled side by side in the circular heads *f*. Besides these rollers *c*, I have one or two (or more, if desired) similarly-constructed rollers, *j*, mounted in a frame, *g*, so as to work over rollers *c* to act upon the hat-bodies, which are to be placed between said rollers. The frame *g* is also to be so arranged that said rollers *j* may move toward and from rollers *c*, and is for this purpose jointed at *h* to suitable supports of the frame *b* to swing up and down thereon, and a foot-lever, *i*, is connected to the opposite side of said frame by connecting-rod *o*, for enabling the operator to raise up rollers *j* whenever it may be required in the progress of the work. The lever *i* may be weighted or have a spring connected with it for pressing down rollers *j* on the work, if required. The rollers *j* are geared together with each other, and also with the rollers *c*, for being rotated thereby. The pinion *k*, by which the upper and lower rollers are geared together, is mounted in the axis of the joint *h* of frame *g*, allowing said frame to swing without interfering with the connection.

In practice the tank *a* is to contain water in sufficient quantity for the rollers *c* to run, when necessary, an inch or more in the water. Both the upper and lower sets of rollers are geared together by intermediate pinions, *e*, for causing the rollers of each pair to turn in the same direction. Likewise the rollers of both pairs are made to turn in the same direction, so that the motions of the contiguous parts of the rollers are opposed to each other for the purpose of confining the hat-bodies between them for continuous action upon the bodies. It will be seen that the elastic rods forming the operative surfaces of the rollers are calculated to have more even and superior effect on the goods than rollers of unyielding surfaces can.

I am aware that the rolls of a hat-felting machine have heretofore been constructed with yielding surfaces between their heads by means of inclined rods, each hinged at one end in one head of the roll, the opposite end of the rod working in a groove in the other head of the roll and supported by a spring; and I am also aware that in a hat-felting machine a ribbed roll with small rigid rolls mounted between the ribs and projecting between them has heretofore been employed, and I therefore lay no claim to such invention.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a hat-sizing machine, a sizing-roll, *c*, provided with circular heads *f*, having a series of holes arranged on their inner faces, near their circumferences, adjacent to each other,

in which holes are journaled side by side a series of horizontal flexible rods, *e*, substantially as shown and described.

2. In a hat-sizing machine, the combination, with the lower roll, *c*, tank *a*, and upper rolls, *j*, arranged in a hinged frame, *g*, said rolls *c* and *j* being constructed as set forth, of the treadle *i*, weighted at its inner end, connecting-rod *o*, and gearing for operating said rolls, substantially as shown and described.

AARON T. CLARK.

Witnesses:
PETER BROWN,
CHAS. MOON.