

# UNITED STATES PATENT OFFICE.

AUGUSTUS PELISSE, OF NEWARK, NEW JERSEY.

## HAT-SIZING MACHINE.

SPECIFICATION forming part of Letters Patent No. 279,664, dated June 19, 1883.

Application filed April 21, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS PELISSE, a citizen of the United States; residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Hat-Sizing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates, in part, to certain improvements in a device described in a prior application.

The object of the invention is to facilitate the operation of felting, to do so more effectually and perfectly, and to enable the hats to be manipulated at a very early stage after they have left the former, thus saving a certain amount of hand-labor.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 is a side elevation of a portion of a hat sizing or felting machine. Fig. 2 is a front view of one of the felting-rolls which I prefer to use. Fig. 3 is a side view, and Fig. 4 is a vertical longitudinal section, of the same. Fig. 5 is a view of one end of an adjustable bar, the other end being like unto it, said bar being arranged to tie certain rolls or drums together and cause the latter to revolve with the shaft that carries them; and Fig. 6 illustrates certain slots in the felting-drums, with and without the said adjustable bar therein.

In carrying out my invention I form a bed-plate, *a*, of a felting-machine, and within the same are arranged felting-rollers *b b'*, substantially as shown in Fig. 1 of the drawings, the under rolls, *b'*, being arranged to operate in a horizontal plane, or approximately a horizontal plane, and also arranged to be worked by suitable mechanism (not shown herein) in a slot, *c*, which is curved down-

wardly and backwardly from the operator. Above the depression between said rolls *b' b''* is arranged the roll *b*, which works in horizontally-sliding boxes *d*. Said boxes are actuated by adjusting-screws *e*, having fixed bearings on the bed-plate, whereby the said boxes are thrown backward or forward, as may be desired. The roll *b* is thus adapted to be adjusted to a co-operative relation with the roll *b''* when the latter is raised or lowered in the slot *c*. The rollers *b b' b''*, or either of them, are preferably formed as indicated in Fig. 2, in which *g* is a shaft upon which the roll revolves. *h* are independent sectional drums loosely adjusted thereon. *i* are supports—preferably radial arms—arranged between the drums, and at the ends of the rolls secured to the shaft and adapted to work therewith; and *k* are lags secured upon said supports and working with them over and around the before-mentioned drums *h*. Said drums may be either solid or hollow, of wood, metal, or other appropriate material. The lags may be also of wood or metal, or of hard rubber or other suitable material.

The operation and effect of the roll thus constructed is as follows: The lags are arranged to strike the hat-rolls to felt or size the same; but the drums or body portions of the felting-rolls, not being secured to the shaft, but being free to work independently thereof, are influenced by engagement with the hat-rolls to revolve in the opposite direction, as will be understood, so that the peculiarly harsh tightening effect is overcome or greatly diminished, the rolls remaining in a soft and pliable condition, so that the influence of the lags will be more effective. The drums may have a positive independent motion driven by a system of gearing. It will be thus observed that the lags and drums work in opposite directions with an independent action, as before intimated. This, however, is in the earlier stages of the felting process. In the later stages I may lock the drums and lags together, so that the felting-roll in all its parts may revolve together. To effect this I may employ any locking device. That which I prefer, however, is the one illustrated, *m* being slots in the peripheries of the drums, which, being brought

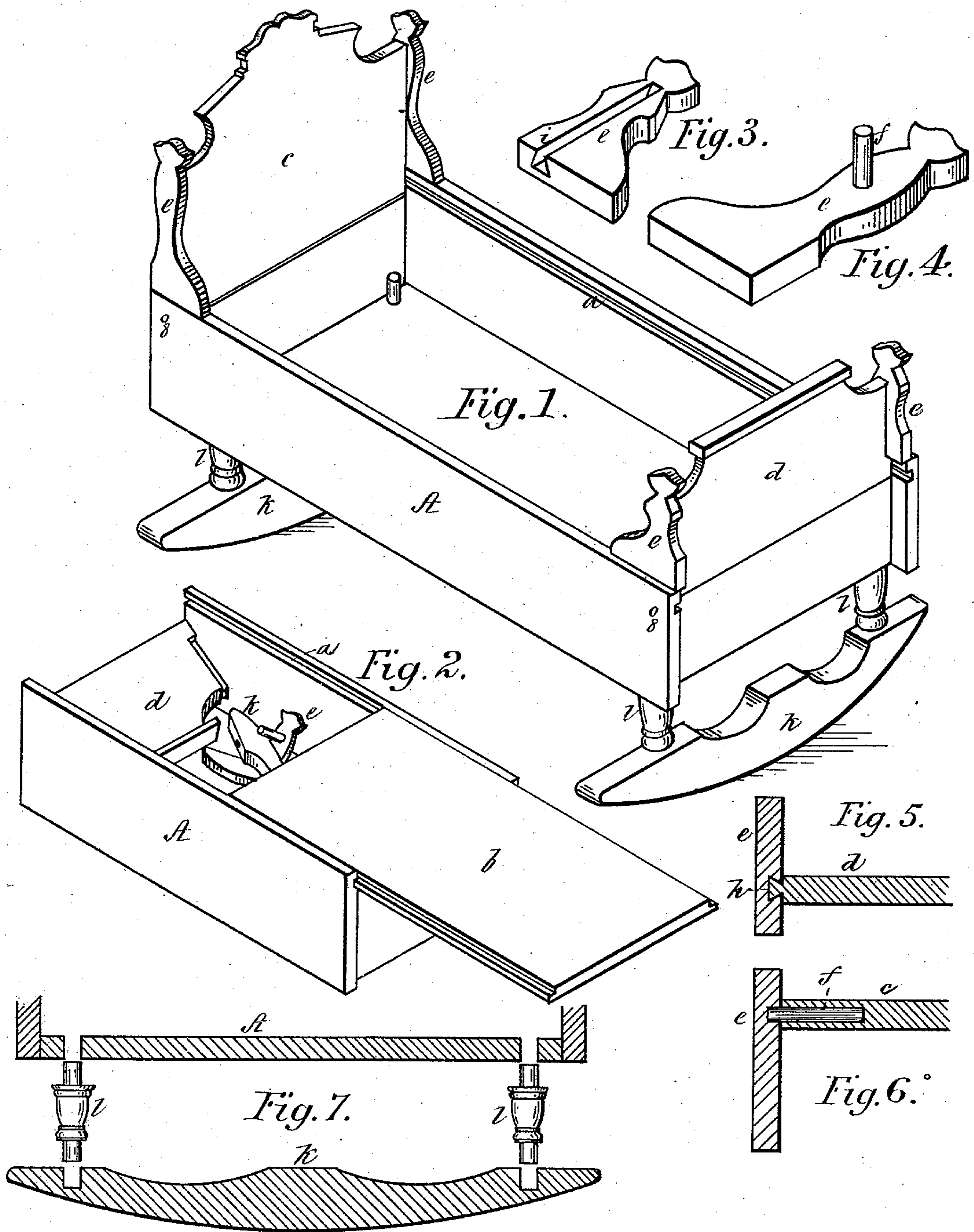


(No Model.)

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No. 279,665.

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