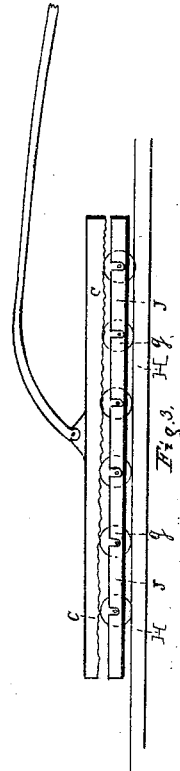
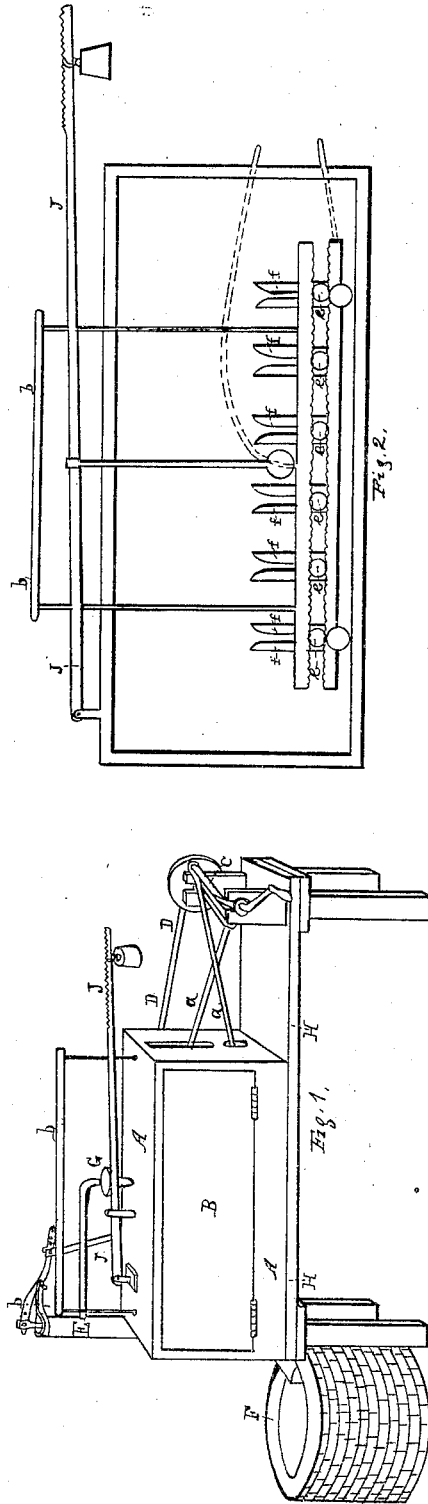


A. Rankin, Feltng Machine.

No. 1328.

Patented, Sept. 20, 1839.



UNITED STATES PATENT OFFICE.

ANDREW RANKIN, OF NEWARK, NEW JERSEY.

MACHINE FOR NAPPING HATS.

Specification of Letters Patent No. 1,328, dated September 20, 1839.

To all whom it may concern:

Be it known that I, ANDREW RANKIN, of the city of Newark, in the State of New Jersey, have invented a new and useful Machine for the Purpose of Napping Hats; and I do hereby declare that the following is a full and exact description thereof.

In this machine the hats to be napped are put upon rollers between hair or other suitable cloths, which rollers are then to be placed in a box or case, within which they are subjected to a reciprocating rolling motion between fluted friction boards, while they are at the same time supplied with boiling water, which is pumped up from a kettle containing it, and thereby conducted into the machine during the continuance of the operation.

Within the machine I sometimes employ two rubbing boards, one above and the other below the rollers, said rubbing boards being moved in reversed directions by means of two cranks upon the crank shaft, from which motion is given to them.

The rollers, in this case, are furnished with gudgeons, upon which they revolve, as their axes do not change their stations by this operation. When but one rubbing or friction board is used, the rollers are placed on a carriage, within the sides of which their gudgeons are received. The rollers, in this case, rest upon the bottom of the machine, which may be fluted or formed of slats, in such manner as to cause it to act advantageously upon the rollers which traverse back and forth upon it, they being caused so to do by the action of the friction or rubbing board, which is placed above them.

Figure 1 in the accompanying drawing is a perspective view of the exterior of the machine, A, A, being the case, or box, which for the working of twelve hats should be about three feet eight inches long in the clear, twenty inches wide, and sixteen inches deep. B is a door on one side, affording access to the interior. C is a crank shaft, having two cranks in reversed directions, for working two rubbing, or friction boards, a, a, being shackle bars leading thereto. From another crank on the shaft C a rod D, D, extends, which works a pump E, supplied with boiling water from the kettle F, which water is conducted through the tunnel G into the body of the machine, falling upon the rubbing boards and rollers. The bottom H, of the machine has an inclination

toward the kettle F, into which the waste water is returned through an opening left in the end for that purpose. T, T, is a weighted lever by means of which pressure is to be made on the upper friction board. b, b, is a rod with cords attached to it for the purpose of raising said board.

Fig. 2 is a vertical section through the machine longitudinally, e being the upper and d the lower fluted friction board. The lower board is sustained upon four friction wheels, which run upon ways on the bottom of the machine. e, e, e, are the rollers with the cloth and hats lapped around them, there being two hat bodies to each roller. f, f, f, are cleats placed on each side of the box of the machine so as to receive the gudgeons of the rollers between them, allowing them vertical play, and admitting of their being lifted out at pleasure.

Fig. 3 is a section exhibiting the manner of arranging the machine when one rubbing board only, and a carriage beneath it, are employed. The hot water pump and the other appendages thereto being used in the manner already described. J, J, is one side of a carriage within notches g, g, in which the gudgeons of the rollers around which the cloth and bodies are lapped, are received. e, is the friction board worked by a single crank on the crank shaft. The under sides of the rollers e, e, bear upon the bottom of the case H, H, which operates like the lower friction board in the first modification, the carriage being made to traverse back and forth upon it by the action of the friction board. In either of these modes of procedure the action of the hand is perfectly imitated, and the operation is performed with equal perfection, and in a much shorter period of time.

The machine may be made much larger than the size herein designated, so as to operate upon a larger number of hats at the same time, and I sometimes introduce steam into it through suitable tubes, but this does not vary the nature of the operation or render any alteration in its structure necessary.

Having thus fully described the nature of my machine, and shown the manner in which I use the same, what I claim therein as of my invention, and desire to secure by Letters Patent is—

1. The operating upon the hat bodies, in the process of napping, by double friction boards between which they are placed upon

rollers furnished with suitable cloths lapped around them, as set forth.

2. I also claim the employment of a single friction board, in combination with a
5 traversing carriage beneath which the rollers play, the bottom of the box operating as a second, or lower friction or rubbing board; and I do hereby declare that I do not intend to limit myself to the precise

form or disposition of the respective parts 10 as herein set forth, but to vary them as I may think proper while I attain the same end by means substantially the same.

ANDREW RANKIN.

Witnesses:

JAMES BIRBECK,
BENJN. C. MILLER.