F. W. Mallett,

Scouring Needles.

No. 113182. Patented Mar. 28. 1871.

fig. 1

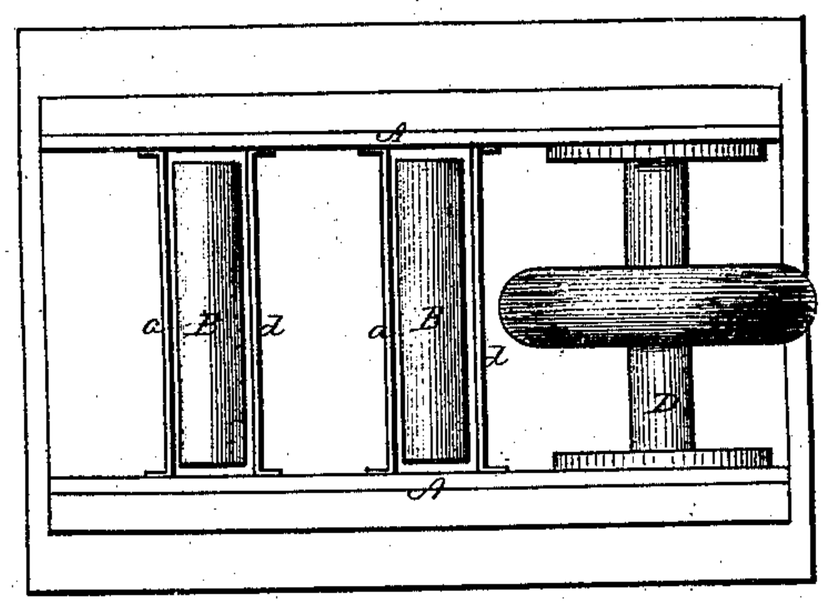


fig. 2.

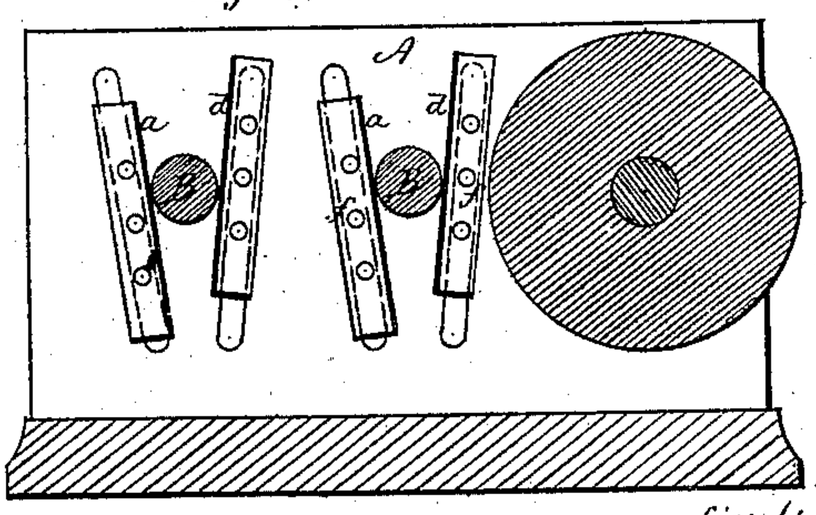


fig. 3.

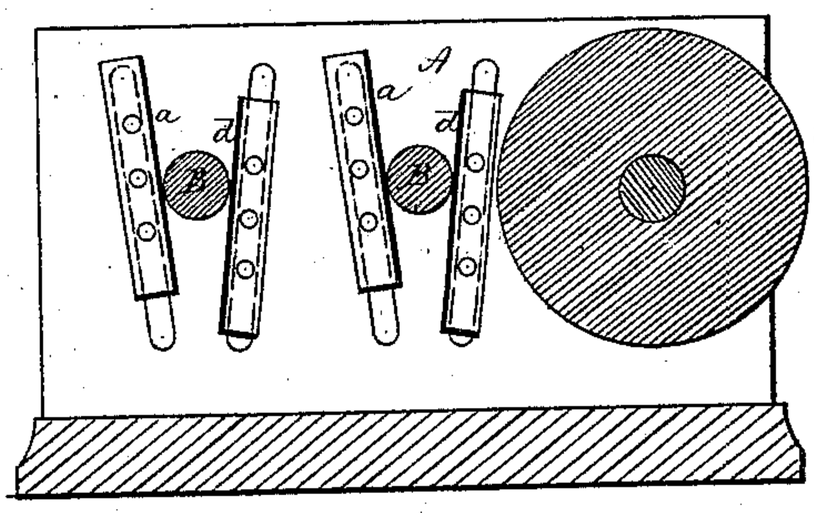
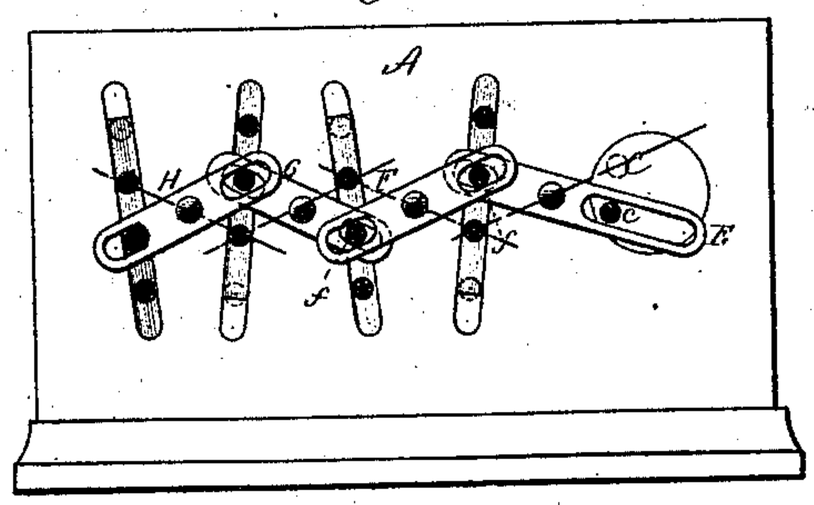


fig. 4



Witnesses.

A. J. Dibbits

J. A. Shumway

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FRANCIS W. MALLETT, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 113,182, dated March 28, 1871.

IMPROVEMENT IN MACHINES FOR SCOURING NEEDLES.

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, FRANCIS W. MALLETT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machine for Scouring Needles; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification and represents in—

Figure 1, a top view;

Figures 2 and 3, longitudinal sections, showing the movement of the plates; and in

Figure 4, a side view, showing the manner of reciprocating the plates.

This invention relates to an improvement in device for performing the operation upon needles commonly called scouring. This is done by taking the mass of needles after they have been tempered and making them into a pack, by spreading emery upon a canvas or other suitable material; then onto the emery the needles are spread with oil or other lubricating material; then the mass rolled up and bound in a package; and this pack made to revolve under a pressure causes an action within the pack which scours or cleans and smooths the needles.

The common method of performing this operation is to place two or more of these packs on one horizontal table, with a weighted reciprocating platen lying or riding upon the packs, the reciprocation of the platen causing the packs to roll back and forth to produce the required action. The weight of the platen is adjusted to give the required pressure, and also requires adjustment for different-sized packs.

The object of this invention is to simplify this operation by avoiding the aforesaid adjustment; and

The invention consists in the arrangement of a pair of vertically-reciprocating plates, one or both of which are slightly inclined, so as to make the space between the two plates narrower at the bottom than the top, then dropping the pack prepared in the usual manner into the space between the plates, where it finds its own proper position in consequence of the inclination before described, the reciprocating of the plates causing the necessary action upon the pack.

a is one of the plates, and *d* the other plate, the two together forming a pair, and arranged in suitable guides A in a vertical position, but inclined to each other so that the space between the plates is narrower at the bottom than at the top, as seen in figs. 2 and 3. This may be done by inclining both plates or making one perpendicular and the other inclined. I prefer, however, that both be inclined.

To each of these plates a reciprocating movement is given, so that they rise and fall, as from the position in fig. 2 to that in fig. 3, and *vice versa*. I arrange a succession of pairs of these plates, as may be desired, here represented as two.

Between these plates the packs B, prepared in the usual manner, are placed, their diameter fixing their position between the plates. If of smaller diameter, they simply drop further down into the space between the plates, and if larger, rest higher up. Thus the pack is self-adjusting as to size. The plates, reciprocating as before described, maintain a constant rotation of the pack back and forth, the pack maintaining the same relative position, except, as by the constant rolling its diameter slightly diminishes, it will work down between the plates, and the inclination of the plates, combined with the weight of the pack, gives the desired pressure, which remains constant; and thus the device is practically self-adjusting, both as to the size of the pack and the pressure thereon.

The best means known to me for thus reciprocating the plates is the arrangement of a crank-wheel, C, upon both ends of a shaft, D, the crank-pin *c* working in the slot of one arm of a lever, E, the other arm attached to a stud, *f*, on the first plate; then a similar lever, F, one arm of which is fixed to the stud *f* of the first plate, and to a similar stud, *f*, of the next plate, and this to the succeeding plates by other levers, G H, as seen in fig. 4. Thus, as the crank-wheel revolves, the levers are vibrated, as denoted by the broken lines in fig. 4, alternately raising and lowering the plates to give the reciprocating movement required and before described.

I claim as my invention—

A device for scouring needles, consisting of a pair of plates, *a d*, one or both of which are inclined so as to make the space between the two plates narrower at the bottom than at the top, in combination with mechanism for imparting a reciprocating movement to both of said plates, substantially as set forth.

FRANCIS W. MALLETT.

Witnesses:

A. J. TIBBITS,

J. H. SHUMWAY.