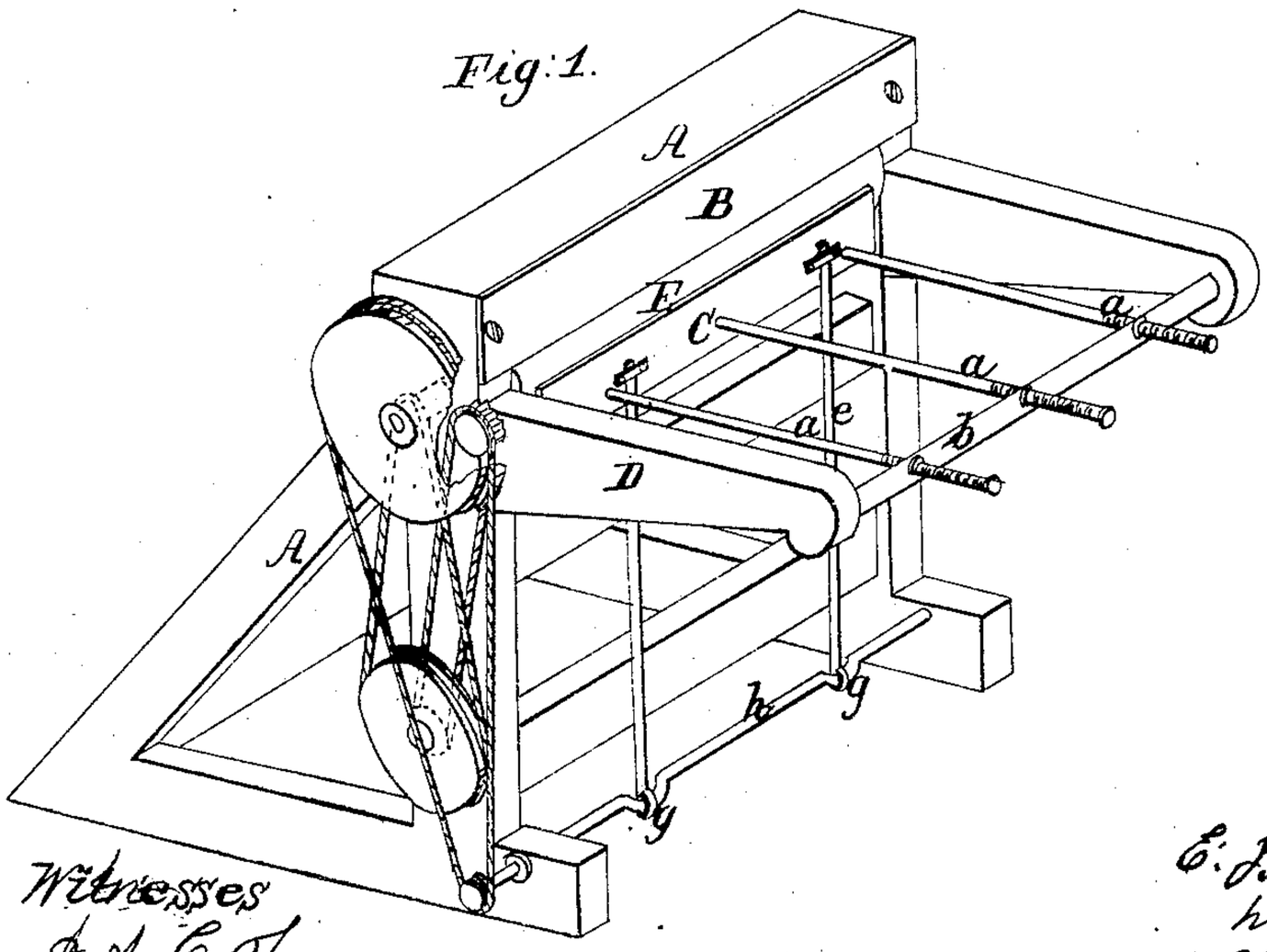
E. J. McCarthy
Wool Burring Machn.

No. 26,775. Patented Jan. 10, 1860.

Fig: 1.



Witnesses
F. A. C. Taubenschmitt
Edwin Farnel.

Fig: 2.

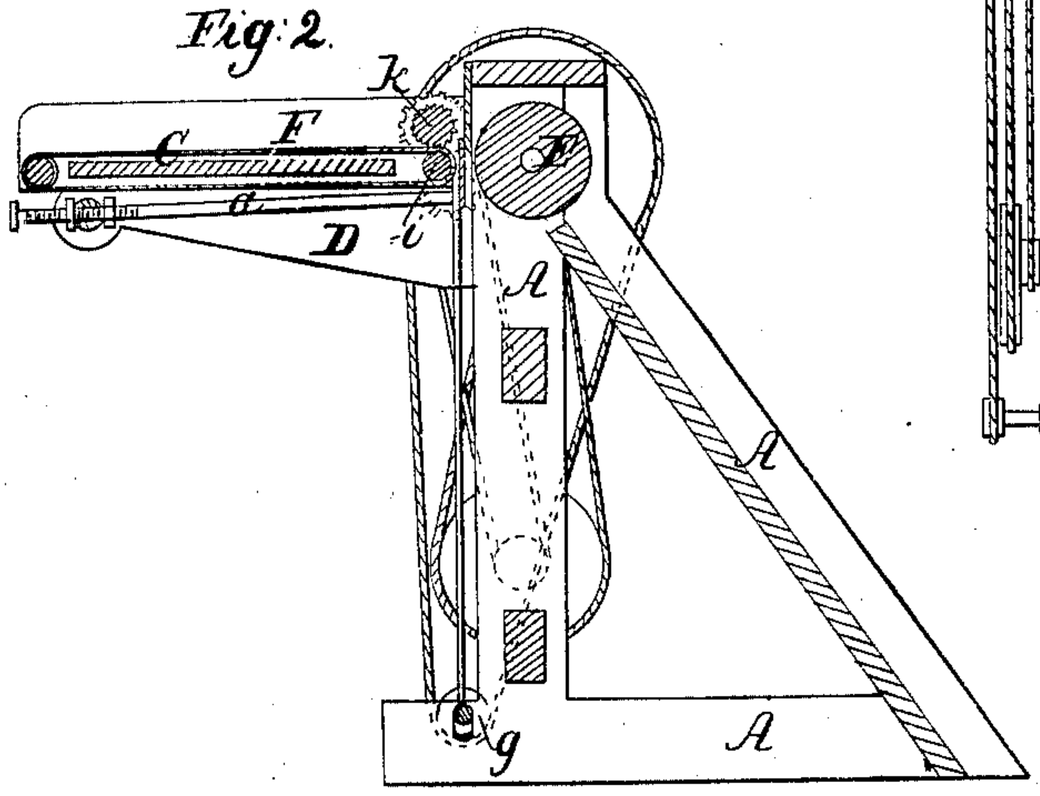
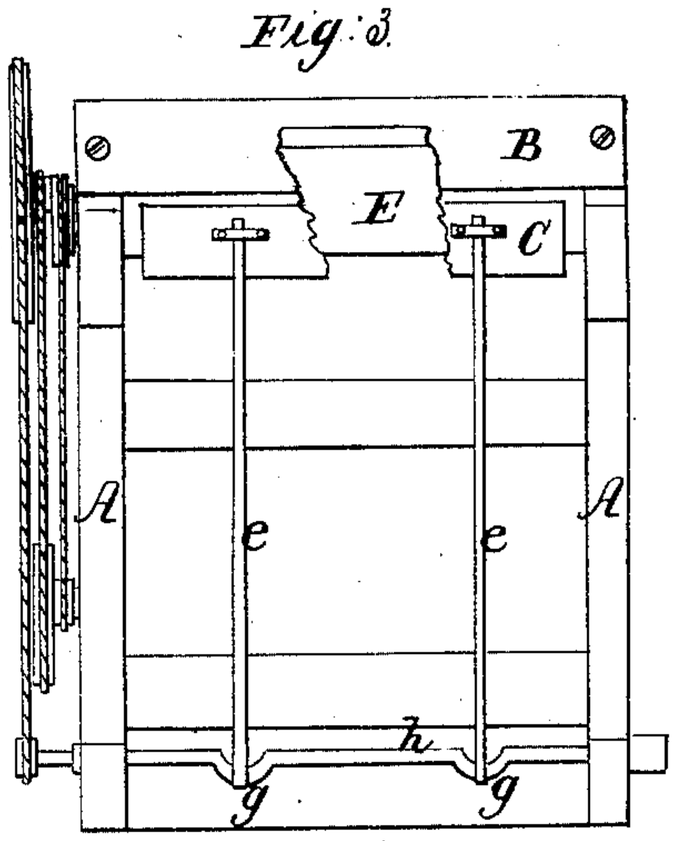


Fig: 3.



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UNITED STATES PATENT OFFICE.

E. J. McCARTHY, OF NEW YORK, N. Y.

MACHINERY FOR BURRING WOOL.

Specification of Letters Patent No. 26,775, dated January 10, 1860.

To all whom it may concern:

Be it known that I, E. J. McCARTHY, of the city and county of New York, State of New York, have invented certain new and useful Improvements in Wool-Burring Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a perspective view of my machine for removing the burs from wool. Fig. 2 represents a vertical transverse section through the center of the machine showing the arrangement of the different parts in relation to each other. Fig. 3 represents a front elevation of the machine.

It has long been a desideratum to obtain some automatic means by which the mestizo bur found in South American wools could be successfully removed. The only mode heretofore adopted by which these burs are successfully removed has been to pick them out by hand. But owing to the high price of labor, it cannot be adopted in this country, hence most of the valuable wools from South America containing this bur are sent to Germany and other parts of Europe where labor is cheaper and few find their way to this country. Attempts have been frequently made with the ordinary burring machines to remove the mestizo from wool but without success as the bur adheres to the wool with so great tenacity that in the attempts to remove it the fiber of the wool is strained or broken as well as the bur, the broken pieces of which are scattered among the other fibers leaving the wool in a worse state after passing through these machines than before. After much thought, study and many experiments upon these wools I have found the best mode for removing the bur is to hold the bur and draw the fiber of the wool from the bur or the bur from the fiber without crushing or breaking it. In order to effect this object by automatic means I have combined with the draw roller, the breast plate and the stripper used in McCarthy's cotton gin a pair of feed rollers, the upper one of which is serrated for the purpose of holding one end of the fiber while the opposite end is held by the breast plate and feed roller in order to produce a tension on the fiber so as to cause it to be drawn out by the stripping plate, and also bent downward over on the edge of the stripping plate at the end of its upward motion and thus present it to the stripping plate in a thinner sheet and in such position that the bur is more easily removed.

In the accompanying drawing is represented a machine for removing the mestizo burs from wool embracing my improvement. This machine consists of a strong frame (A) for supporting the working and stationary parts, and these parts consist of a breast plate (B) attached to the cross bar of the frame of the machine in such manner that it may be raised or lowered. In front of the breast plate and parallel to it is a vibratory stripping plate (C), which is caused to move in a vertical plane parallel and close to the face of the breast plate by means of guide bars (*a*) attached to the stripping plate at one end and connected to a rock shaft (*b*) at the opposite end, which turns on bearings in the ends of arms (D) projecting from the sides of the frame. This stripping plate receives its motion through links (*e*) attached to its lower end and connected with cranks (*g*) on a crank shaft (*h*). These links may be made adjustable for the purpose of regulating the distance the stripping plate overlaps the breast plate in its vibrations. The guide rods may also be made adjustable to regulate the distance between the stripping and breast plate.

In front of the breast plate with its axis in the same plane as the lower edge of the breast plate is a draw roller (E) for the purpose of drawing the fiber forward as it passes under the breast plate.

A secondary frame (F) resting upon the arms (D) carries a feeding apron (G) and feeding rollers (*i* and *k*) the upper one of which (*k*) is serrated in order to carry forward and hold the fibers of wool. These rollers are so arranged that their line of contact is a little below the upper edge of the stripper when at the end of its upward motion so as to cause the fiber to bend down in front over the edge of the stripping plate instead of being above it.

Motion is communicated to different parts of the machine by means of pulleys and bands arranged to give the requisite velocity to each part.

In adjusting the machine for use the edge of the breast plate is placed in the same plane with the axis of the draw roller and tangential to its surface so as to rest uniformly against it, and the pressure of the breast plate on the draw roller is regulated

by means of springs in the same manner as in McCarthy's cotton gin. The stripping plate is adjusted by means of the guide bars so as to work near to the breast plate and admit the fiber of the wool to pass and prevent the burs from entering between the two plates, and the height it rises and overlaps the breast plate is also adjusted so that its upper edge will pass about a half an inch above the lower edge of the breast plate. The velocity given to the draw roller is such as to carry the fiber forward a less distance than the stripping plate passes the breast plate so that during the time an open space is left between these two plates by the descent of the stripping plate the burs stripped backward by the stripping plate shall not pass under the edge of the breast plate but be carried backward on the fiber by the next upward movement of the stripper.

The wool is first prepared for this machine by scouring it and running it through a picker in order to open it. In this state it is placed upon the apron which carries it forward to the feed rollers. It then passes between the feed rollers to the opening between the breast plate and the stripper. The draw roller catches the points of the fibers and carries them upward under the edge of the breast plate. The stripping plate rising, bends the fibers upward between itself and the breast plate, and carries with it the burs adhering to the fibers. The opposite end of the fiber being connected by means of other fibers and held by the serrated feed rollers whose line of contact is below the edge of the stripping plate, is bent downward in front over the edge of the stripping plate at the end of its upward motion, and placed in a better position for the action of the stripper to remove the bur and in a measure prevents the bur from passing between the stripping and the breast plate. As the fiber is held at one end by the draw roller and at the other end by the feed roller the ascent of the stripping plate draws the fiber so that it is presented in a thin uniform sheet to the action of the stripping plate, which facilitates the removal of the bur.

Having thus described my improvement in machines for removing the mestizo bur, what I claim therein as new and desire to secure by Letters Patent is—

The combination of the feed rollers with the stripping plate, breast plate and the draw roller arranged substantially as described for the purpose set forth.

In testimony whereof I have subscribed my name.

E. J. McCARTHY.

Witnesses:
A. M. Barnes,
Fitz Henry Fay.