E. TROMBLY

WOOL-BURRING MACHINE.

No. 185,988. Patented Jan. 2, 1877.

Fig. 1.

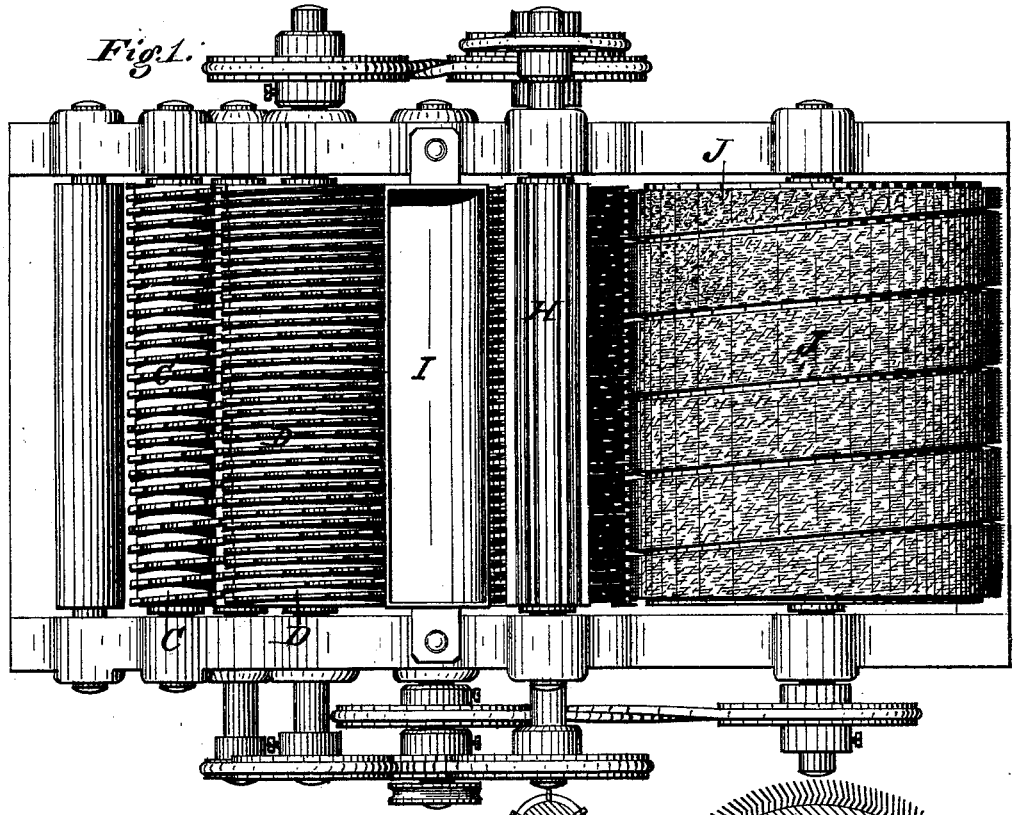
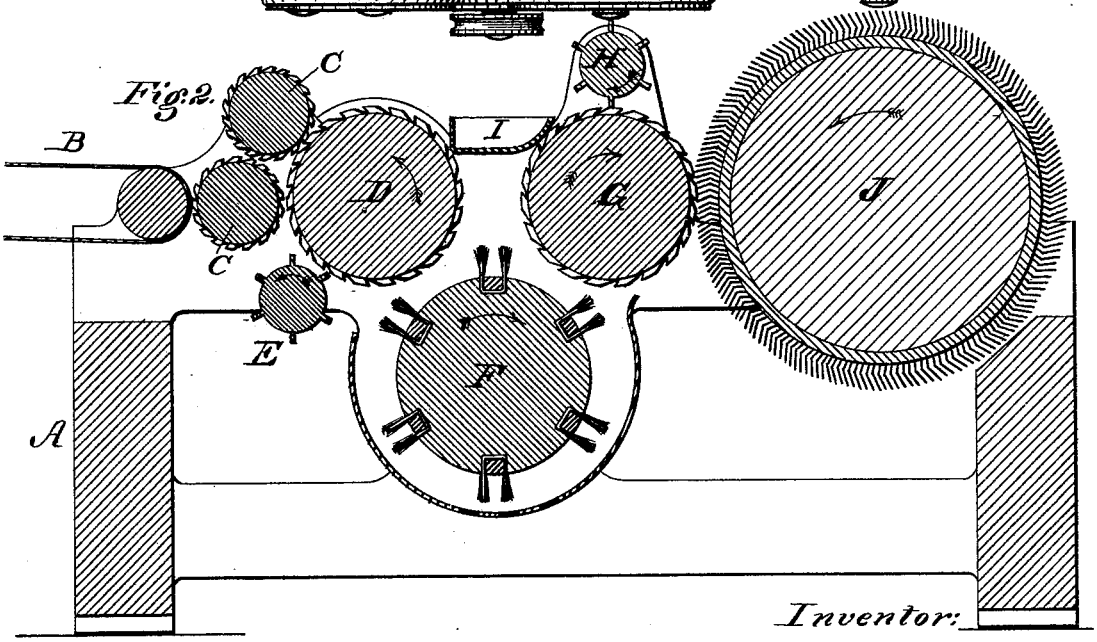


Fig. 2.



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EDWARD TROMBLY, OF MAYNARD, ASSIGNOR TO C. G. SARGENT & SON, OF GRANITEVILLE, MASSACHUSETTS.

IMPROVEMENT IN WOOL-BURRING MACHINES.

Specification forming part of Letters Patent No. **185,988**, dated January 2, 1877; application filed July 19, 1876.

To all whom it may concern:

Be it known that I, EDWARD TROMBLY, of Maynard, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Machines for Burring Wool and other fibrous material, of which the following is a specification:

My invention consists in the combination of two burring-cylinders, rotating in opposite directions, and an intermediate rotary brush, arranged to strip the fiber from the first cylinder and carry it into the teeth of the second cylinder, at the same time loosening and opening it and turning it over.

Figure 1 represents a top plan view of my improved machine; Fig. 2, a longitudinal vertical section of the same.

In constructing my machine, the burring-cylinders and their attendant devices may be constructed and arranged in any ordinary and suitable manner, so that each cylinder and the devices co-operating therewith will treat the fiber in the same manner as is done by the machines in common use.

The invention consists in combining two of the cylinders, rotating in opposite directions, and their usual attendant parts, with the intermediate brush, arranged to transfer the fiber from one cylinder to the other, and in so doing to turn it over, so that one side will be treated on the first cylinder, as usual, and then the other side treated in a similar manner on the second cylinder, whereby a more thorough and effective cleaning of the fiber is secured than can be done with the machines now in use.

In the drawings, A represents the frame of the machine; B, the apron by which the fiber is fed into the machine; C C, the two feed-rolls; D, the first burring-cylinder; E, the first guard-cylinder, provided with longitudinal ribs, and revolving at a high rate of speed in close proximity to the burring-cylinder; F, my cylindrical brush, acting against the first burring-cylinder; G, the second burring-cylinder, also subject to the action of the brush; H, the second guard-cylinder, acting in connection with the second burring-cylinder; I, a receptacle to catch and retain the burrs and other foreign matters removed from the fiber by the guard H, and J the tumbler of a carding-machine, which may, however, be replaced by a brush-cylinder, to blow the fiber off into a receptacle.

As indicated by the arrows, the two burring-cylinders rotate in opposite directions, while the brush rotates in the same direction as the second cylinder at a speed greater than that of the first cylinder.

The fiber to be treated is placed on the feeding-apron B, and, being carried between the rolls C, is caught and combed out by the teeth of the cylinder D, which carries it downward past the guard E, the blades of which, running at a high speed, knock from the exposed surface of the fiber all burrs and other adhering particles and impurities. The fiber thus partially cleaned is carried forward on the first burring-cylinder to the brush cylinder F, which moves in the same direction as the surface of the burring-cylinder, but at a more rapid speed. This brush-cylinder strips or removes the fiber from the first burring-cylinder D, and transfers it to the teeth of the second burring-cylinder G, and in so doing turns the fiber over in such manner that on the second cylinder its uncleaned surface or side is exposed.

It will be seen that the brush-cylinder, rotating in the same direction as the second cylinder, drives or forces the fiber against and into the teeth or gullets thereof, and at the same time, owing to the velocity at which the teeth and the brush pass each other in opposite directions, and the firm and ready hold which the teeth take upon the fiber, the latter is opened and drawn out in a very thorough manner.

The second cylinder G carries the fiber past the second guard-cylinder H, which knocks off all remaining impurities and foreign matters into the receptacle I. The wool thus cleansed is carried forward to the carding-cylinder J, or its substitute in a perfectly clean and clear condition.

In addition to transferring the fiber from one burring-cylinder to the other, the brush-cylinder also serves to lighten up and loosen

the fiber and remove the fine and loose impurities therefrom.

By my combination of two burring-cylinders rotating in opposite directions, and the intermediate brush, the fiber is thoroughly cleansed on both sides in a single passage through the machine, and with a single handling by the attendant, thus saving time and labor, and also producing better results than can be attained by the ordinary machines.

I am aware that it is old to combine two burring-cylinders rotating in the same direction with an intermediate card-cylinder in such manner that the first burring-cylinder was stripped by the carding-cylinder, and the latter in turn stripped by the second burring-cylinder. When the parts are thus arranged, with the three cylinders all rotating and presenting their teeth in one and the same direction, the card-cylinder serves merely to strip the fiber slowly from the first cylinder and draw it out to be seized by the second burring-cylinder.

My combiuation differs from the above in having its burring-cylinders arranged to rotate in different directions, and in having a rotary brush traveling at a high speed in place of the card-cylinder. My brush easily seizes all the fiber from the first burring-cylinder and throws it into and against the teeth of the second burring-cylinder, its high speed causing it to thoroughly separate and disintegrate the fiber and brush the same thoroughly while upon the second burring-cylinder, so as to remove all foreign matters, while at the same time in transfering the fiber it turns the same over in such manner as to expose to the action of the second guards the side which on the first burring-cylinder was underneath and unexposed.

Having thus described my invention, what I claim is—

1. In a burring-machine, the combination, with two burring-cylinders and mechanism for rotating them in opposite directions, of an intermediate rotary transfer-brush, arranged substantially as shown, whereby the material operated on is transferred from one of said cylinders to the other by said brush, and thoroughly burred and opened.

2. The combination, in a burring-machine, of the two burring-cylinders D and G, arranged to rotate in opposite directions, the guard-cylinders E and H, arranged to operate in connection with the respective burring-cylinders, and the rotary transfer-brush F, arranged between the burring-cylinders, as shown and described, whereby the brush is caused to open and brush the fiber and transfer the same from the first to the second burring-cylinder in a light loose condition.

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