

G. ESTES.
Carding Machine.

No. 217,598.

Patented July 15, 1879.

Fig. 2.

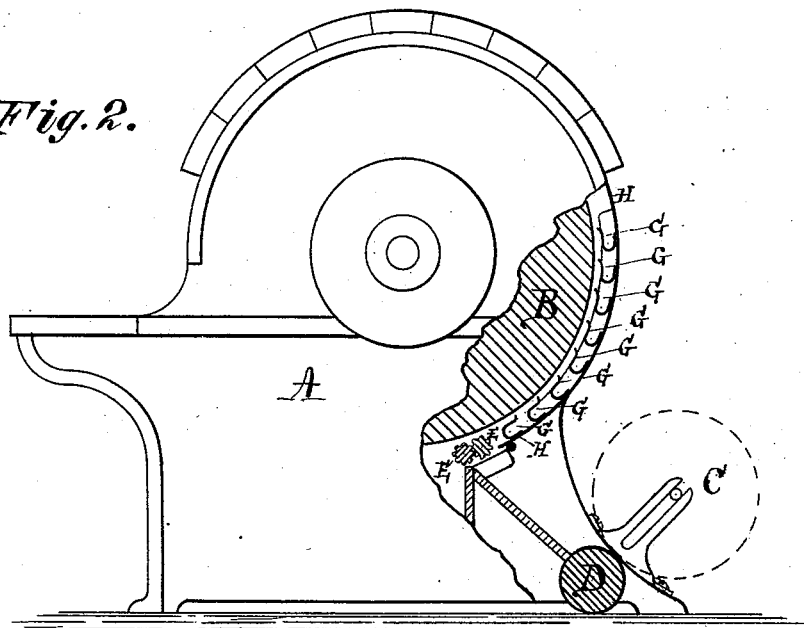
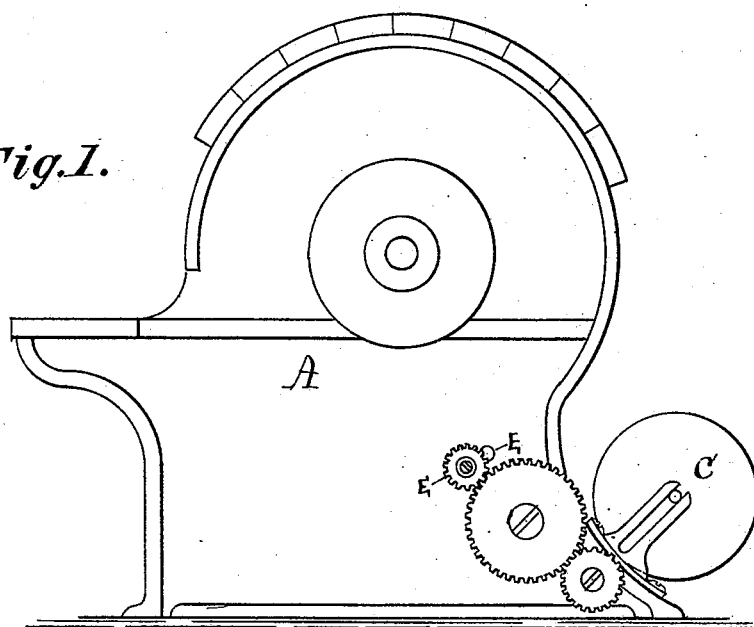


Fig. 1.



Witnessed.

Bushrod Morse
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Inventor,

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by Chas. F. Sleeper, Atty.

UNITED STATES PATENT OFFICE.

GEORGE ESTES, OF LOWELL, ASSIGNOR OF ONE-HALF INTEREST TO
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IMPROVEMENT IN CARDING-MACHINES.

Specification forming part of Letters Patent No. 217,598, dated July 15, 1879; application filed
September 25, 1878.

To all whom it may concern:

Be it known that I, GEORGE ESTES, of the city of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Carding-Machines for separating dirt and other impurities from cotton or other fibrous material, which are fully set forth in the following specification.

My invention consists in the combination and arrangement of parts hereinafter described, and pointed out in the claim.

Figure 1 is a side view of a carding-engine with my improvement attached; and Fig. 2 is also a side view of the same, partly in section.

A is the frame; B, the cylinder; C, the lap. D is the roll by which the lap is unrolled and passed to the feed-rolls E, by which feed-rolls it is fed to the cylinder B. This is essentially the common mode of conveying the cotton from the lap to the cards; but it will be noticed that the position of the lap with relation to the cards is materially changed, it being placed near the floor, so that it can be fed to the cylinder well under it or near its vertical axis, instead of (as is usual) on or about the line of its horizontal axis. Having thus fed the lap to the cylinder I arrange upon a cover, H, a series of troughs, G G, with their edges curved toward the cylinder and set from one-eighth to one-quarter of an inch from its face, the lower trough being placed as near as possible to the feed-rolls, and the upper at or near the horizontal axis of the cylinder.

As the cylinder revolves the tendency of the fiber is to fly off from it; but, being met by the edges of the troughs, the fiber is thrown back to its place, while the loose dirt, leaf, &c., being heavier, fall naturally into the troughs, their positions facilitating such deposit.

By placing the lap-roll and feed-rolls near the floor, the feed-rolls well under the cylinder, and the lap-roll as near to them as is possible, to allow of the proper handling of the lap in its progress to the feed-rolls, I very materially shorten the card from what it is when the lap is fed at or about the line of the horizontal axis of the cylinder, thereby saving

much room on the floor of the mill, and enabling me to put in more carding-machines in a given space—a matter of great importance.

By placing my cards in the manner described, I remove a large quantity of the dirt, sand, leaf, &c., from the cotton while it is upon the cylinder, and before it arrives at the flats, having actually, in practice, extracted more than one-half per cent. in weight of impurities from a lap of cotton. It necessarily follows that the cotton thus treated before it is given to the flats must produce an exceptionally clean sliver, thread, and web.

My improvements can be attached with a slight expense to the carding-engines now in general use by simply changing the lap and feed-rolls from the positions they now occupy to those shown in the drawings, and adding the troughs and cover, as described.

I do not depend upon any mechanism for shaking the edges of the troughs and thereby shaking the cotton, or upon any draft of air to influence the deposit of impurities, my object being to place the troughs so near the cotton that the centrifugal force of the cylinder will throw the cotton against their edges, and that the weight of the impurities detached by such impact will cause them to fall into the troughs and to remain there, the troughs and cylinder being so close to each other that any draft of air between them is practically impossible.

I am aware that troughs for cleaning the cotton have previously been placed on a carding-engine, and also that the lap and feed rolls have been placed below the line of the horizontal axis of the cylinder. These I do not claim, broadly; but

What I claim as my invention is—

In a carding-machine, the combination, with the removable cover H, provided with the series of dirt-receptacles G G G, having inwardly-curved lips, of the feed-rolls E E and lap-roll C, said feed and lap rolls being located in front of the main cylinder and below the horizontal axis thereof, substantially as described.

GEORGE ESTES.

Witnesses:

CHARLES GARNISS,
WILLIAM DONNELL.