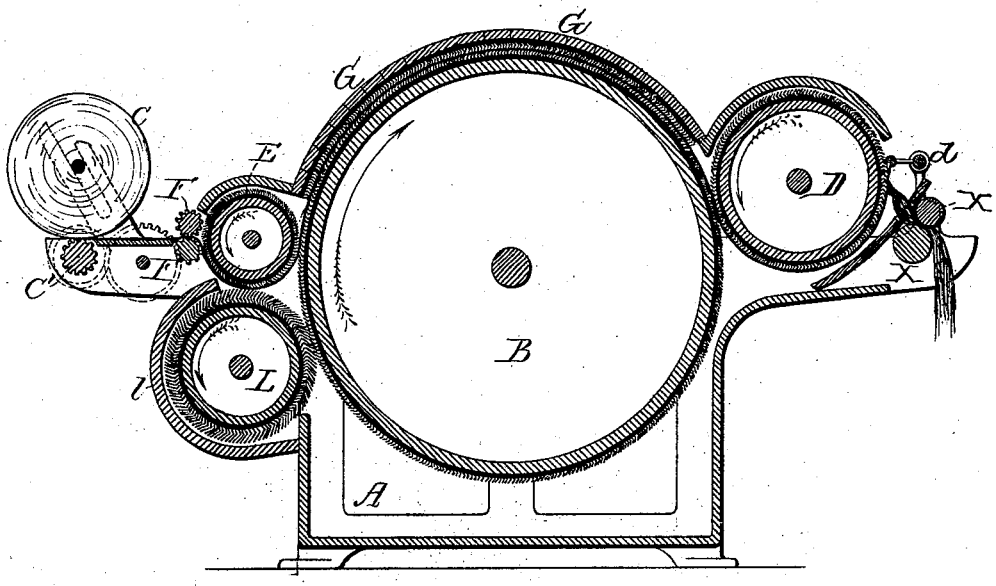
C. JONES.
Carding-Machine.

No. 209,692. Patented Nov. 5, 1878.



Witnesses
Harry A. Crawford
Harry Smith

Inventor
Charles Jones,
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

CHARLES JONES, OF GLEN RIDDLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY RIDDLE, OF SAME PLACE.

IMPROVEMENT IN CARDING-MACHINES.

Specification forming part of Letters Patent No. **209,692**, dated November 5, 1878; application filed February 4, 1878.

To all whom it may concern:

Be it known that I, CHARLES JONES, of Glen Riddle, Delaware county, Pennsylvania, have invented a new and useful Improvement in Carding-Machines, of which the following is a specification:

The object of my invention is to so combine a fancy card-cylinder with the main cylinder, licker-in, and doffer of a carding-engine that the said fancy-cylinder shall serve to continuously raise whatever surplus stock in the main cylinder is left by the doffer before the said surplus stock can reach the point where the licker-in acts on the main cylinder, by which arrangement I am enabled to maintain the main cylinder in good working order and to dispense with the fancy-cylinder, which is usually placed above the doffer and tends to disturb the uniformity of the carded fibers.

In the accompanying drawing, which represents a vertical section of a carding-machine with my improvement, A is the frame of the machine; B, the main carding-cylinder; C, the lap to be fed to the machine, this lap being carried by the drum C′, as usual. F F are the feed-rolls; E, the licker-in; G, the top flat cards; D, the doffer-comb, and X X the rolls for conveying the stock from the machine.

The above-mentioned parts are arranged and operated in the usual manner, the stock being conveyed by the feed-rolls F F to the licker-in E, which transfers it to the main card-cylinder B.

After the fibers have been subjected to the combined action of the top flat cards G and the main cylinder, the stock is taken from the latter by the doffer, and thence removed by the doffer-comb, in the usual manner.

To bearings in the lower part of the frame, and preferably near the licker-in E, are adapted the journals of a cylinder, L, having "fancy" card-clothing—that is, clothing with long elastic teeth, inclined in the direction shown in the drawing—the cylinder being so arranged that when the machine is in operation the long elastic teeth will project between the teeth of the card-clothing on the main cylinder. The fancy-cylinder is caused to revolve at such a speed that its surface shall move in the direction of the arrow at a greater speed than that of the main cylinder.

When the machine is in operation the long teeth of the fancy-cylinder will raise such of the stock in the main cylinder as the doffer has failed to remove, and the surplus stock thus raised becomes, in a measure, incorporated with the new stock applied to the said main cylinder by the licker-in, and the old stock and new stock are carded together until the greater portion is removed by the doffer, whatever remains in the main cylinder as surplus stock after passing the doffer being raised by the fancy-cylinder and becoming incorporated with the new stock. Thus the clothing of the main cylinder is constantly maintained in good working condition.

Heretofore fancy-cylinders have been placed above the doffer to raise, or partially raise, the stock in the main cylinder before it reaches the doffer; but it has a tendency in this position to disturb the uniformity of the carded fibers immediately before the doffer takes effect. Moreover, a fancy-cylinder arranged above the doffer has no tendency to keep the card-clothing in good working condition, for part of the stock in the main cylinder, when raised before the doffer takes effect, must be returned by the latter to the said main cylinder, and must be cleared by hand from time to time. This involves the stoppage of the machine and expensive delay, to avoid which is the main object of my invention.

It may be remarked here that, while the fancy-cylinder performs the desired main duty of raising the stock in the main cylinder, it has also a cleansing effect, as it entirely removes from the clothing of the main cylinder tangled lumps of fiber which are received by the shield. This, however, is but a minor advantage of my invention.

I am aware that the patent of L. M. Capron, No. 96,884, November 16, 1869, shows cylinders the clothing of which has teeth of the ordinary length, and which can be brought to act on the lower portion of the main cylinder, so as to serve as a brush and sharpen the teeth of the said main cylinder; but these supplementary cylinders are not intended to raise the stock of the main cylinder, nor can they

effect this purpose, as their teeth cannot penetrate between those of the main cylinder without stopping the machine, whereas the long teeth of the fancy-cylinder can yield in performing their continuous duty of raising the stock.

Without claiming broadly, therefore, a supplementary card-cylinder for acting on the lower portion of the main cylinder of a carding-engine, I claim as my invention—

The combination of the main cylinder of a carding-engine with a fancy-cylinder adapted to bearings arranged in respect to the lower portion of the main cylinder, as described, so that it shall serve by continuous action to raise the surplus stock left in the main cylinder by the doffer before the said stock can reach the licker-in, all as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES JONES.

Witnesses:
JAS. M. SCHOFIELD,
JOS. BATTY.