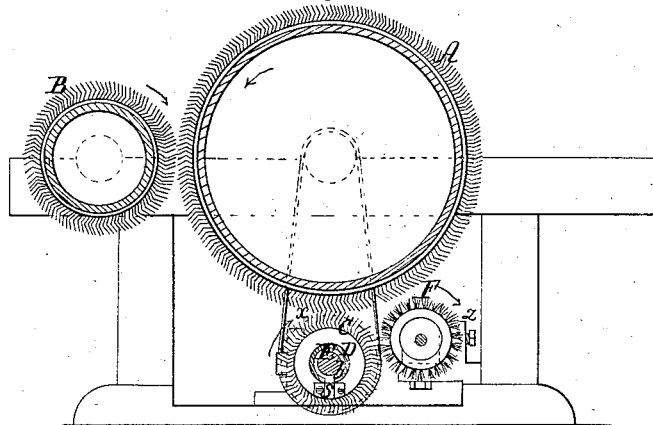
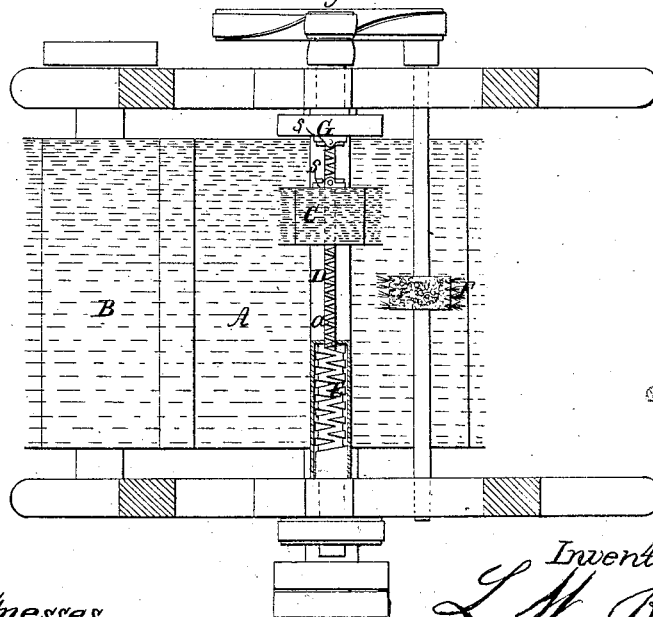


*L. W. Boynton.*  
*Cleaner and Grinder for Carding Machn.*  
*N<sup>o</sup> 110,004. Patented Dec. 13, 1870.*

*Fig. 1.*



*Fig. 2.*



*Witnesses*  
*Edw. Homer*  
*W. R. Adams*

*Inventor*  
*L. W. Boynton*  
*per Brown, Corbridge & Co.*  
*Attorneys*

# United States Patent Office.

LEANDER W. BOYNTON, OF HARTFORD, CONNECTICUT.

Letters Patent No. 110,004, dated December 13, 1870.

## IMPROVEMENT IN CLEANERS AND GRINDERS FOR CARDING-MACHINES.

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, LEANDER W. BOYNTON, of the city and county of Hartford, in the State of Connecticut, have invented a new and useful Improvement in Card-Cleaners and Grinders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a sectional elevation, taken transversely through the card-cylinder of a carding-engine, in part, with my improvement applied to it, and

Figure 2 an inverted plan, mainly in illustration of the cleaner and grinder, as applied to the card-cylinder.

Similar letters of reference indicate corresponding parts.

My invention consists in the arrangement on the same sleeve or shaft, and for operation by the same actuating mechanism, of a card-cleaner and grinder, made interchangeable with each other as regards their operation on the cylinder of the engine.

Referring to the accompanying drawing—

A represents the card-cylinder, and

B the doffer of a carding engine, both traveling as indicated by their respective arrows.

C is the cleaner or brush, here shown as applied to the card-cylinder, and arranged below the latter, in rear of the doffer, and revolving as indicated by the arrow *z*, also having a traverse motion across or over the face of the card-cylinder, along a revolving sleeve, D, formed with a longitudinal slot, *a*, in it, and serving in conjunction with a reversely-rotating screw, E, and swiveling fork *b*, to effect a reciprocating motion to the cleaner C, or any other revolving and traverse motion for the purpose may be adopted; the one, however, here shown, which is an ordinary one for other purposes, will suffice.

The cleaner C thus rotating, which it does at a higher velocity than the card-cylinder, and having a reciprocating traverse motion, as specified, serves most effectually to detach all adhering fiber and matter from the card-cylinder, and this cleaner is in itself cleared by means of a secondary brush or cleaner, F, arranged

to rotate, as indicated by the arrow *z*, at a somewhat higher velocity than the cleaner C, and which, if desired, may be made to reciprocate along with the cleaner C.

This cleaner C is here represented as armed or clothed with wires, but I do not confine myself to any particular material, as bristles or splints of various kinds may be used.

When such cleaner is applied to the doffer, it, of course, should be arranged above the latter.

As here shown applied, however, to the card-cylinder, the screw and sleeve which serve to operate it, occupy the same position as and virtually constitute the ordinary "under shaft" which is used in carding engines, to direct the belt that gives motion to the strippers, by which arrangements I make said shaft serve a double function or purpose.

The fork *b*, by which the cleaner C is rotated and traversed, through the action of the slotted sleeve D and screw E, is connected with said cleaner by a detachable box, S, in which the fork is free to swivel; and on the same sleeve D is arranged a card-grinder, G, provided with a similar box, S, so that either the grinder or the cleaner may be connected as required, through the fork *b*, with the sleeve D and screw E; and the other of such devices, that is cleaner or grinder, not in use or required at the same time and disconnected from the fork, be pushed to one side out of the way along the sleeve D.

Thus the card-cleaner and grinder are made interchangeable on the same shaft or sleeve, and the same devices that served to operate the one answer to drive the other.

What is here claimed, and desired to be secured by Letters Patent, is—

The arrangement, on the same shaft or sleeve, and for operation by the same devices, of the card-cleaner and grinder, made interchangeable as regards their action on the cylinder of the engine, substantially as specified.

LEANDER W. BOYNTON.

Witnesses:

JOHN W. BOYNTON,  
WILLIE N. JACKSON.