J. F. FOSS.

Carding-Machine.

No. 166,089. Patented July 27, 1875.

Fig. 3.

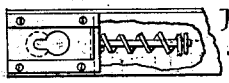

Fig. 4.

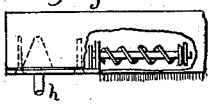

Fig. 2.

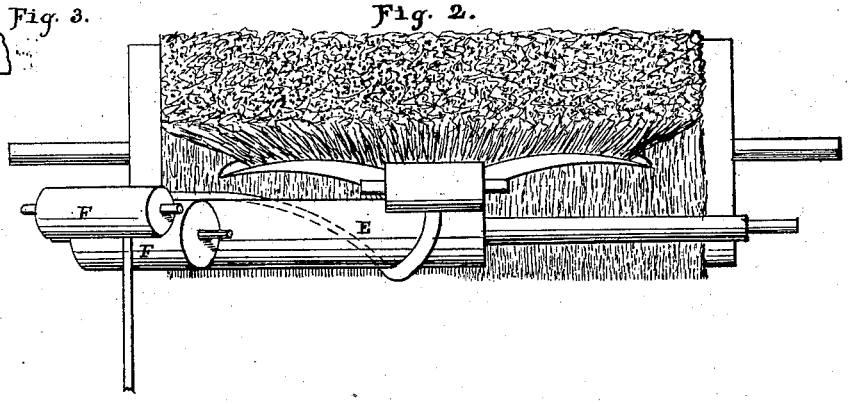

Fig. 5.

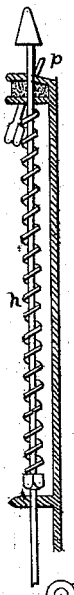

Fig. 1.

WITNESSES:

Robert H. Brown

Henry B. Osgood.

INVENTOR.

John F. Foss.

UNITED STATES PATENT OFFICE.

JOHN F. FOSS, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN M. PEVEY, OF SAME PLACE.

IMPROVEMENT IN CARDING-MACHINES.

Specification forming part of Letters Patent No. **166,089**, dated July 27, 1875; application filed October 24, 1874.

To all whom it may concern:

Be it known that I, JOHN F. FOSS, of Lowell, State of Massachusetts, have invented an Improved Carding-Machine, of which the following is a specification:

The objects of my invention are to improve the process of carding cotton, to lessen the cost of machinery, and to increase the capacity of mills by diminishing the space required for carding.

In the accompanying drawings, Figure 1 is a side elevation of my improved carding-engine. Fig. 2 is an elevation and perspective view of the doffer and rolls, showing how the sliver is conveyed to one side of the card to clear the lap. Fig. 3 is a sectional plan of one of the under-flats, showing one end of the side nearest the cylinder. Fig. 4 is a side elevation of the same, with the head of its guide or holding rod. Fig. 5 is a section through the card-arch, showing also the guide-rod *h* and adjusting-pins *p*.

A is the card side with recess-room E′ to admit of stripping under-flat No. 1. B is the lap; C, the main cylinder, to revolve as indicated by the arrow; C′, the position of the feed-rolls; D, the doffer; E, a roll, showing how the sliver may be guided so as to clear the lap; F F, the calender-rolls, which deliver the cotton from the card. G are the top flats, as usually made for cotton-cards. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 are the additional flats. These under-flats are attached respectively to guide-rods *h h h*, arranged in the case around the main cylinder, as shown in Fig. 1, each rod having a spring thereon to lift the flats into place against their gravity or friction in sliding. The flats are attached to the rods, substantially as shown in Figs. 3 and 4, and the rods slide radially out and in from and toward the axis of the cylinder. H is the self-stripper, as ordinarily made for top flats; I, a rod, showing how the stripping is communicated by miter-gears from the upper to the lower arm. The lower cam-gear J, and parts connected with it, serve as a counterpoise to the stripper above, and do away with necessity of weights, for that purpose alone, used on ordinary self-stripping cards. The cylinder in the ordinary carding-machine turning upward from card feed-rolls, all seed, leaf, sand, and other dirt tend to work into the cylinder, and such as are thrown off in plyings must pass the flats and doffer; whereas, the cylinder in my machine carries the cotton downward from the feed-rolls, and all seeds, leaf, sand and other dirt drop out of, instead of into, the cylinder, and is taken from the under-flats by the stripper unless it finds egress through the spaces between the under-flats, and these spaces are kept in effectual operation as cleansers from their frequent removal by the self-stripping mechanism, thus making the spaces dirt-removers, as well as the flats themselves.

By the term "under-flats" is meant flats situated below a horizontal plane passing through the center of the main cylinder; but I have shown some of the additional flats above such a plane, and I do not intend to confine myself entirely within said limits, as one or two of the flats may be above that plane.

Having thus described the construction, object, and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

In a carding-machine, under-flats 1 2 3 in combination with guide-rods and springs *h h h*, substantially as herein specified.

JOHN F. FOSS.

Witnesses:

ROBERT K. BROWN,

HENRY B. OSGOOD.