

J. G. FREEMAN.

FEEDING-MECHANISM FOR CARDING-ENGINES.

No. 170,842.

Patented Dec. 7, 1875.

Fig. 1.

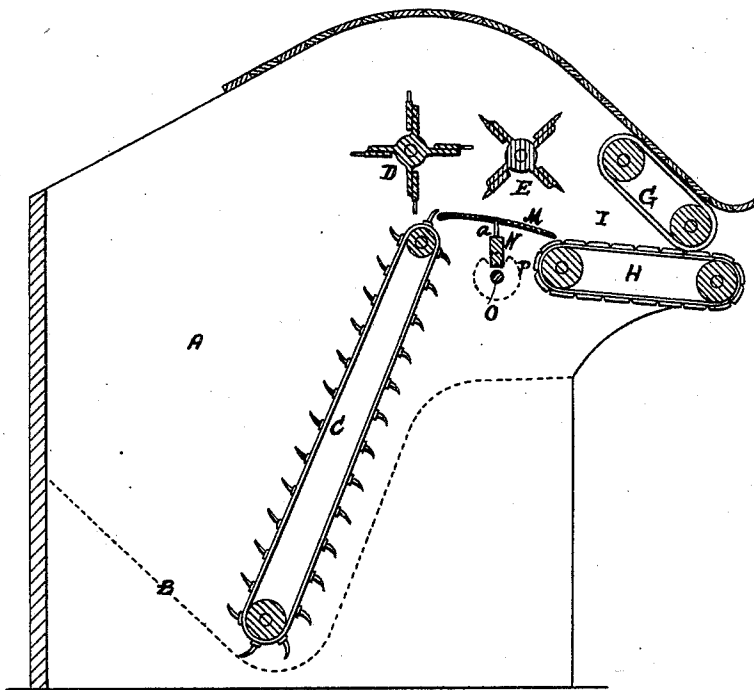
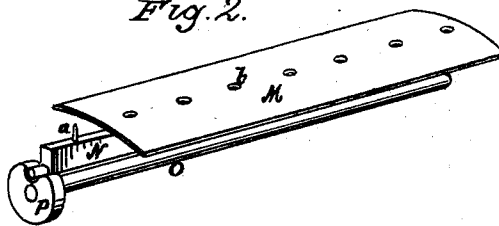


Fig. 2.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

JOSIAH G. FREEMAN, OF WORCESTER, ASSIGNOR TO GEORGE S. HARWOOD
AND GEORGE H. QUINCY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FEEDING MECHANISMS FOR CARDING-ENGINES.

Specification forming part of Letters Patent No. **170,842**, dated December 7, 1875; application filed
October 16, 1875.

To all whom it may concern:

Be it known that I, JOSIAH G. FREEMAN, of Worcester, Massachusetts, have invented certain new and useful Improvements in Feeding Mechanisms for Carding-Machines, of which the following is a specification:

This invention relates to that kind of feeding mechanism for carding-machines, represented, for example, in the patents of Bolette, No. 43,959, of August 23, 1864, and Harwood, No. 159,923, of February 16, 1875.

In machinery of this class there is now employed a spiked roll or worker intermediate between the lifting-apron and the lower feed-apron, which spiked worker is used, in conjunction with a spiked fan above it, to open and prepare the stock for the carding-machine.

In working this machine on certain kinds of stock, I have found a great tendency in long fibers of wool or waste to wind round this spiked roll or worker, and, by gradual accumulation, to become so matted as to interfere with the proper working of the machine. The design of my improvement is to obviate this difficulty. To this end I dispense with the roll and use in lieu thereof teeth or spikes, which have a rising and falling movement at stated intervals, through a clearing shield or plate, which, when the teeth retire below or behind it, clears the teeth of the stock that may have accumulated on them.

The nature of my invention, and the manner in which the same is or may be carried into effect, will be understood by reference to the accompanying drawing, in which—

Figure 1 is a longitudinal vertical section of a machine embodying my improvements. Fig. 2 is a perspective view of the teeth or spikes and their clearing-plate detached.

A is the receiving-box; B, the wire-gauze bottom; C, the spiked lifting-apron; D, the fan-beater; E, the spiked fan; G and H, the upper and lower feed-aprons, which, together, constitute the packing-chamber I. These parts are combined and operate in the usual way, and require no description here. The spiked roll or worker hereinbefore referred to has been usually placed between the upper end of the lifting-apron and the lower feed or slat apron. This roll I dispense with, and in lieu

thereof I make use of a row of teeth or spikes, *a*, set at suitable intervals apart in a proper support—in this instance a bar, N, which, thus armed with teeth or spikes, I shall term the picker-bar. The bar is suitably supported in guides in the sides of the machine-frame in such manner that it may be moved up and down. Extending from the spiked lifting-apron C to the lower feed-apron H, and above the picked bar, is fixed the shield or plate M, in which are formed holes *b*, which correspond in number and position with the teeth or spikes *a*, and exactly register therewith. When the teeth are in their lowest position their upper ends are below the upper surface of the plate, or at least are so far retracted as to cause them to be cleared of the adhering fibers of wool or waste. When on the other hand, the teeth are elevated in working position, they protrude nearly their length through the holes in the plate. This movement of the picker-bar may be produced in a variety of ways, one of which is represented in the drawing. Below the picker-bar is a shaft, O, revolved by suitable means, and at each end of the shaft is a cam, P, upon which the picker-bar rests. Each cam is a disk cut away at a point, *c*, to form a depression into which the picker-bar may at intervals drop. When the machine is in operation the cams, as the shaft revolves, will so lift the picker-bar that the teeth will protrude through the perforated shield M, and thus answer the same purpose in opening the stock as was intended by the use of the spike-roll formerly employed. The teeth fall once at each revolution of the cams, and they will thus be perfectly cleared by the shield M, so that there can be no accumulation of fibers, and the difficulty above referred to is entirely removed.

Having described my invention, what I claim and desire to secure by Letters Patent, is—

1. In card-feeding mechanisms, substantially such as described, the combination of a series of opening teeth or spikes, and a shield or plate, through apertures or perforations in which the teeth or spikes are at intervals protruded and withdrawn, substantially as and for the purposes set forth.

2. The picker-bar and shield through which teeth or spikes of said bar work, as described, in combination with the lifting-apron, the feed-apron, and the spiked fan, substantially as set forth.

3. The combination, with the picker-bar shield and the picker-bar, of the revolving cams, arranged and operating substantially as described, to effect the rise and fall of the

picker-bar at stated intervals, in the manner set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

JOSIAH G. FREEMAN.

Witnesses:

JOHN A. NOYES,
R. B. BROWN.