(No Model.) 2 Sheets—Sheet 1.

E. TROMBLAY.

SELF FEEDER FOR CARDING MACHINES, &c.

No. 346,418. Patented July 27, 1886.

Fig. 1.

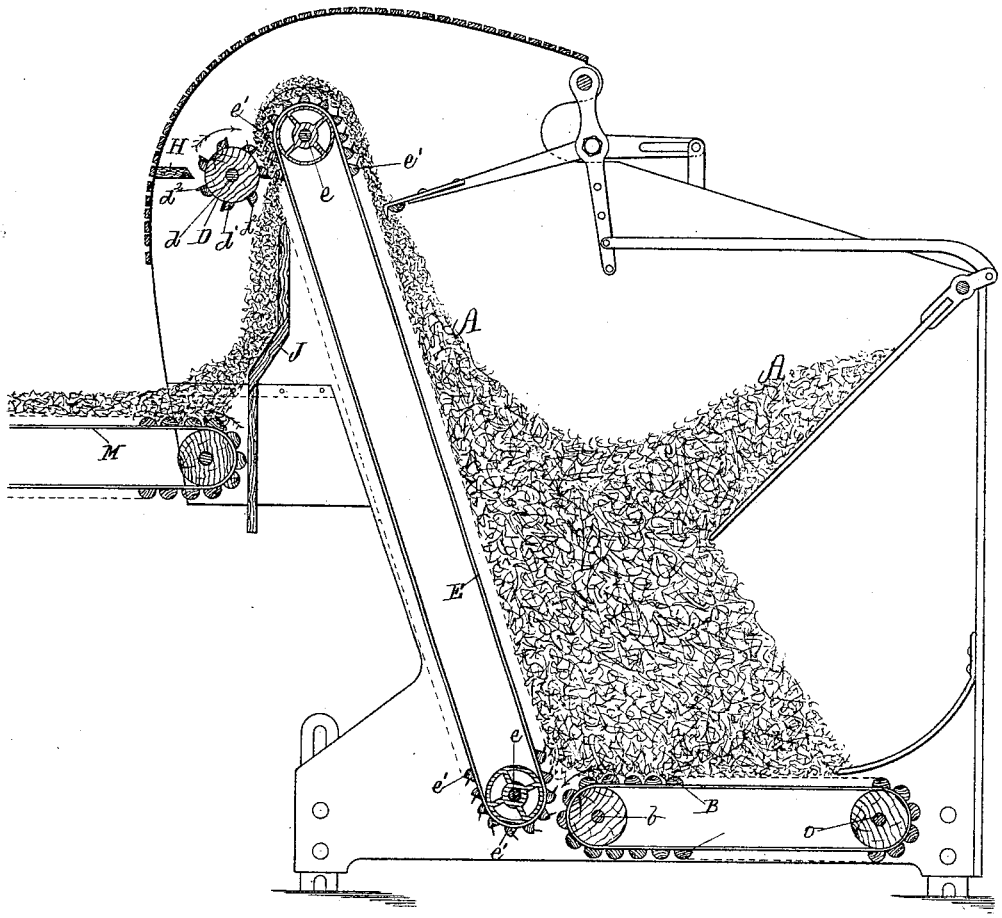

Fig. 2.

Witnesses.

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John R. Snow.

Inventor.

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by

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(No Model.)

2 Sheets—Sheet 2.

E. TROMBLAY.

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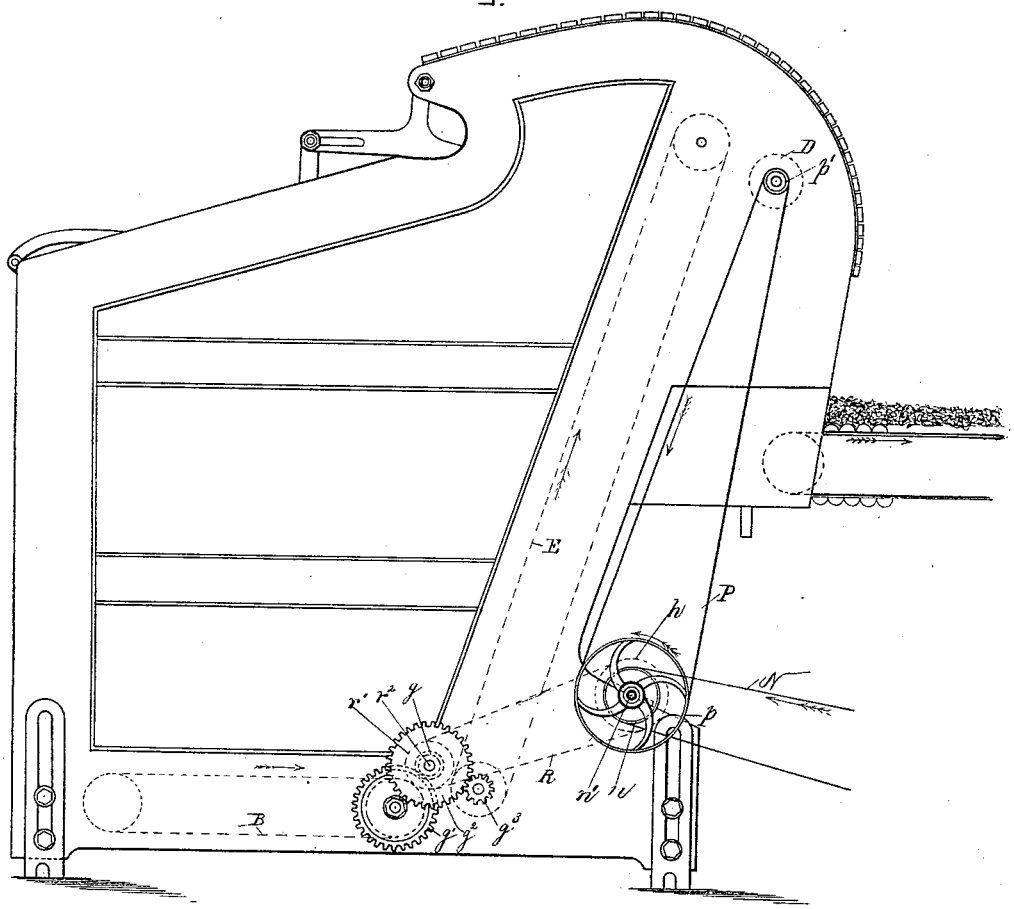
Fig. 3.



Witnesses.

L. N. Möller.

John R. Snow.

Inventor.

Edward Tromblay

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his Atty.

UNITED STATES PATENT OFFICE.

EDWARD TROMBLAY, OF LOWELL, MASSACHUSETTS.

SELF-FEEDER FOR CARDING-MACHINES, &c.

SPECIFICATION forming part of Letters Patent No. 346,418, dated July 27, 1886.

Application filed May 22, 1885. Serial No. 166,354. (No model.)

To all whom it may concern:

Be it known that I, EDWARD TROMBLAY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Self-Feeders for Carding-Machines and Pickers, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

The object of the feeder is to take the wool or other fiber from a mass and feed the same in proper and regular quantities to the carding-machine or picker.

My invention relates to devices by which the wool may be fed regularly and evenly; and it consists in the combination of a carrying-apron with a doffer, a drum having a number of strippers, of leather or like material, arranged on the periphery of the drum, the doffer-shaft being lower than the upper shaft of the carrying-apron, and the apron having a slant from top to bottom away from a vertical plane through the doffer-shaft.

In the drawings, Figure 1 is a vertical longitudinal section of a feeder illustrating my invention. Fig. 2 is a perspective of the doffer detached, and Fig. 3 is a side elevation of the feeder.

The wool A is put into the feeder in a mass, and is fed up to the doffer by the aprons B and E. The apron E usually revolves at a much greater speed than apron B, and is inclined from a vertical plane, for the purpose hereinafter described.

The doffer consists of a drum, D, rotating on a shaft, *d*, and having leather strips d^2 attached lengthwise of the drum upon its periphery. In practice, the drum is usually about five inches in diameter, and the leather strips d^2, about one inch in width, are attached to wooden slats or cleats d', so as to project slightly beyond the cleats. The doffer-shaft is a little lower than the upper shaft, *e*, of the apron E, so as to strip the fiber immediately it begins its descent, the strippers just clearing the teeth e' of the carrier-apron E. This apron is inclined downward in a direction away from a vertical plane through the doffer-shaft. This feature is an essential element of my invention.

The doffer revolves at a greater speed than the apron E—say three or four times as fast.

A guard, H, consisting of a shelf set with its edge just clearing the strippers d^2, breaks the current of air set in motion by the strippers and prevents the fibers from clinging to the strippers and being carried around with them. A guard, J, directs the fall of the fibers upon the feed-apron M, to be carried to the picker, or upon the pan of a pair of scales when the self-feeder is used with a carding-machine.

The power for driving the several parts of the machine is communicated from the main shaft or a counter-shaft through the belt N, belted to the pulley *n*. The doffer is driven by the belt P, running from pulley *p* to pulley p'. The belt R, running on the pulley *h*, (shown in dotted lines,) at the farther end of shaft n' in Fig. 3, and on pulley r', (also shown in dotted lines,) drives the shaft r^2, by which motion is communicated to the aprons B and E, through a system of cogs, *g*, g', g^2, and g^3. The relative speed of the aprons B E and the doffer can be regulated in the usual way, too well known to require description.

The doffer in common use in self-feeders consists of an apron passing over a pair of rolls and having the strippers arranged transversely upon the apron. This has been found in practice to be much more expensive than mine to make, and less durable. Another practical objection to the old doffer is that as the apron moves in a straight path for some distance the wool is carried along by the strippers and thrown upon the feed-apron or scales in bunches or flocks, while with my device the strippers move in the arc of a circle and strip the fiber from the teeth of the carrying-apron in such a manner that it is thrown down in a light, fleecy sheet.

The advantage of having the downward path of the apron E inclined in a direction away from a plane through the doffer-shaft instead of it being vertical or inclined toward such plane is obvious, as the fiber can be stripped cleaner and fall, free from obstruction, to the receiving-apron or scales below.

I am aware of English Letters Patent No. 4,399 of 1881, to J. and A. Leadbeater, which show a shaft or roller having wings on its periphery, in combination with a spiked roller, the wings serving to clean the fiber from the spikes.

I am also aware of Letters Patent No. 43,959, to J. S. Bolette, August 23, 1864, which shows a lifting-apron and rollers furnished with blades near the upper shaft of the apron, for the purpose of stripping the fiber from the apron and feeding it forward; but the arrangement is wholly unlike mine.

I am also aware of Letters Patent No. 155,923, to George S. Harwood, February 16, 1875, which show a stripping-roller or beater above an inclined apron whose path of motion is toward a vertical plane through the stripping-roller shaft, for the purpose of feeding the fiber from the apron to the packing-chamber.

What I claim is—

1. In combination, the inclined carrying-apron E, slanted, as shown, the doffer D, with its shaft below the upper shaft of the carrying-apron, and shafts, belts, pulleys, and gears, or equivalent means for operating the apron and doffer, all substantially as described.

2. In combination, the inclined carrying-apron E, doffer D, guard H, and shafts, belts, pulleys, and gears, or equivalent means for operating the apron and doffer, all substantially as described.

EDWARD TROMBLAY.

Witnesses:
W. A. COPELAND,
JOHN R. SNOW.