A. H. WOODBURY.

Wool-Carding Engines.

No. 166,578. Patented Aug. 10, 1875.

Fig. 1.

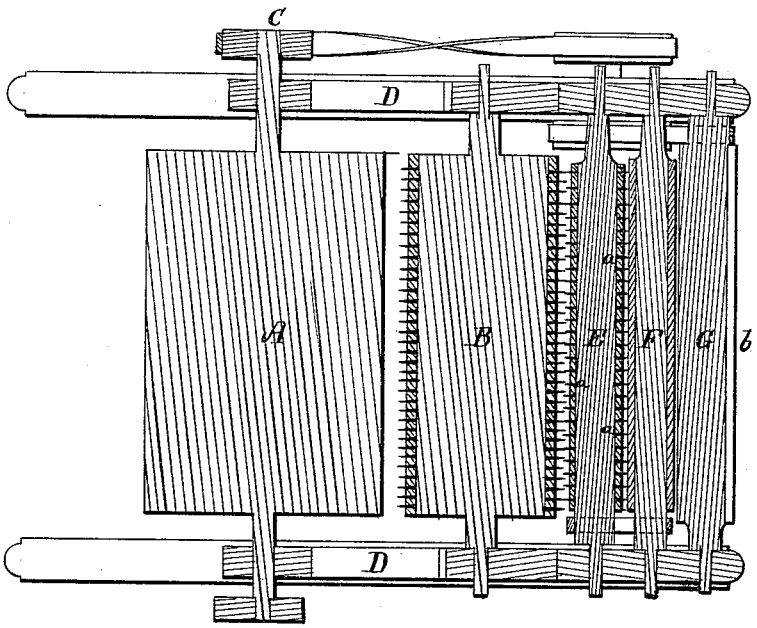
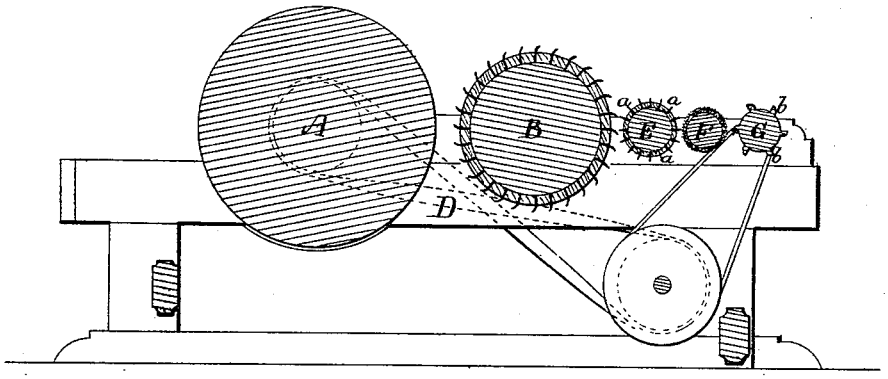


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

ANDREW H. WOODBURY, OF ASHUELOT, NEW HAMPSHIRE.

IMPROVEMENT IN WOOL-CARDING ENGINES.

Specification forming part of Letters Patent No. **166,578**, dated August 10, 1875; application filed March 25, 1875.

To all whom it may concern:

Be it known that I, ANDREW H. WOODBURY, of Ashuelot, Cheshire county, New Hampshire, have invented certain Improvements in Wool-Carding Engines, of which the following is a specification:

The construction and operation of wool-carding engines are well understood, and are briefly as follows: The oiled wool, in suitable quantities from the desired "lap," is spread on an endless apron at the front of the machine, and this apron delivers the wool to the feed-rollers, which are disposed immediately in advance of the "card-drum," and which deliver the wool to such drum. From the card-drum the wool is gradually stripped by the first "worker," whence it is received by the first "cleaner," and by the latter deposited again on the card-drum. When the wool or fleece, or web, as it is usually termed, has passed over the last cylinder onto the drum, it is taken from the drum by a "doffer" or "doffing-cylinder," from which doffer the wool is removed by a steel comb or "doffing-knife" moving rapidly up and down.

The purpose of this invention is to obviate many of the objections attendant upon the use of carding-engines as heretofore constructed, the main object in view being to dispense with the comb or doffing-knife now universally used for stripping or removing the fleece or web from the doffing-cylinder, and the substitution of devices which more effectually accomplish the purpose for which the comb was devised; and to this end my invention consists, first, in combining with and placing in rear of the doffer a cylinder, whose periphery is armed with a series of teeth, bristling over its entire surface, and which remove from the doffer the wool which passes onto it from the card-drum and a second roll, whose periphery is covered with a soft, thick cloth or other yielding semi-elastic or soft material, which shall serve to prevent adhesion of the wool or fleece to the surface of the doffer; and, finally, in the adoption, in addition to these two rolls, of a third roll, whose periphery is converted into longitudinal ribs, flutes, or teeth, the purpose of this fluted roll being to beat down from the intermediate roll the wool which would otherwise adhere to and accumulate upon said intermediate roll, the whole being substantially as hereinafter explained.

The drawings accompanying this specification represent in Figure 1 a horizontal section, and in Fig. 2 a vertical central and longitudinal section, of a wool-carding engine, or so much thereof as is requisite to illustrate the application of my improvements thereto.

In these drawings, A represents the card-drum, and B the doffing-cylinder, of a wool-carding engine, the same being belted from the driving-shaft C and mounted in housings D D, after the manner of machines of this class now in general use.

In carrying out my invention I dispense with the comb or doffing-knife heretofore used for taking the fleece from the doffer, and substitute therefor the following: First, I mount within the housings D D, and immediately in rear of and parallel to the said toothed or serrated stripping-roll B, a straight cylinder or roll, E, the periphery of which I arm, in any suitable manner, with a series of conical-pointed teeth, *a*, &c., which bristle over its entire surface, or so much thereof as acts upon or in conjunction with the doffer, these teeth or points being arranged in radial directions from the axis of the roll, or tangentially thereto, as practice and circumstances may dictate, (as this slope and direction of the teeth is not arbitrary,) and closely up to but not touching the cards with which the doffer is clothed. This serrated cylinder E, as is manifest, will strip or remove from the card-drum the fleece or stock delivered to the latter by the last cylinder. Second, I employ a second roll, F, which is also journaled within the housings D D, and is placed parallel to and immediately in rear of the stripping-roll, and is of an equal length, and preferably of about equal diameter with the latter, the periphery of this second roll F being covered with a jacket of thick cloth or other analogous material, and revolving in close proximity to the points of the teeth *a* upon the roll or cylinder E, the two rolls E and F being belted together so as to revolve in the same direction. The roll F operates to detach from or prevent adhesion to the stripper E of the wool or fleece deposited upon it from the doffer, and constitutes an auxiliary to such

roll E. Thirdly, and finally, I employ a third roll, G, which, like the others, is journaled within the housings D D, and placed immediately in rear of and parallel to the intermediate roll F, the periphery of this last-named roll G being, as before premised, converted into longitudinal flutes or teeth *b b*, &c., which serve, by revolving in close proximity to the roll F, to beat down the fleece or lap taken from the stripping-roll E, which, but for the fluted roll G or an equivalent device, would adhere to and accumulate about the periphery of such roll F, instead of descending to the lap-drum feed or "funnel" of the engine. The roll G is rotated in the same direction as the rolls E and F by a belt from the main shaft.

I claim—

In combination with the serrated stripping-roll E and auxiliary roll F, the beating-roll G, substantially as and for the purposes stated.

ANDREW H. WOODBURY.

Witnesses:

A. L. MAXFIELD,

J. EUGENE FELCH.