(No Model.)

J. BARKER.

RUBBING MECHANISM FOR CARDING MACHINES.

No. 266,414. Patented Oct. 24, 1882.

Fig. 1.

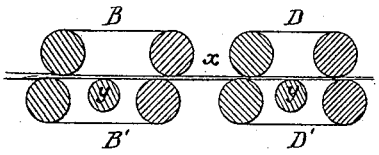


Fig. 2.

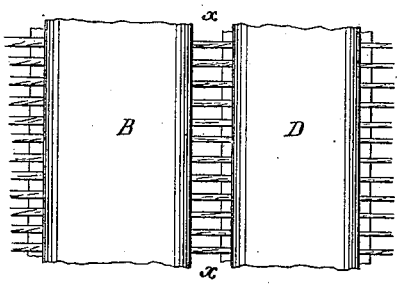
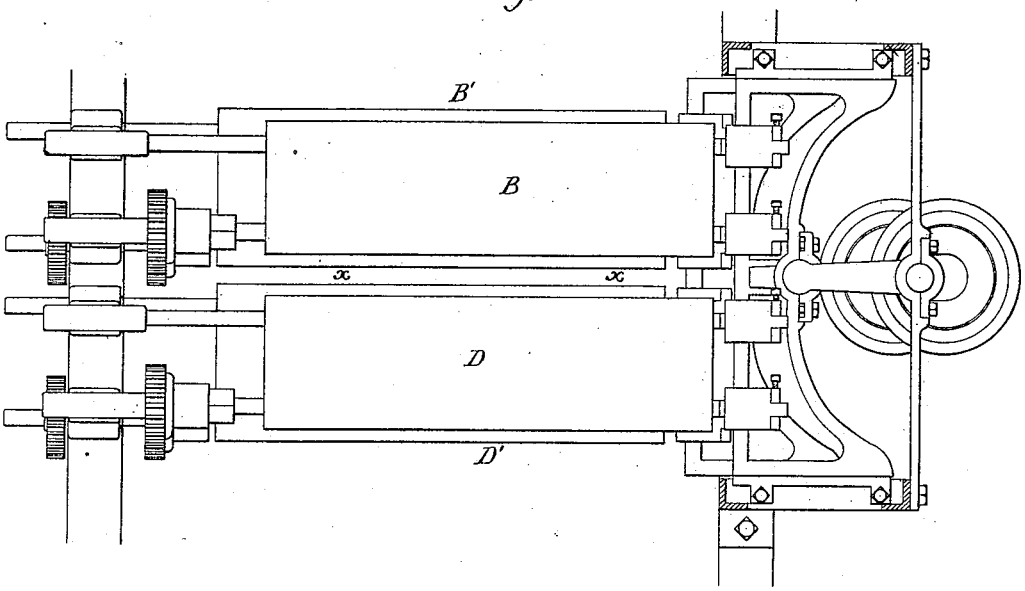


Fig. 3.



Witnesses:
Harry Drury
Harry Smith

Inventor:
James Barker
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

JAMES BARKER, OF PHILADELPHIA, PENNSYLVANIA.

RUBBING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 266,414, dated October 24, 1882.

Application filed June 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES BARKER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an Improvement in Rubbing Mechanisms for Carding-Machines, of which the following is a specification.

My invention consists of the combination, described hereinafter, of two pairs of endless rubbing-aprons of leather as a substitute for the ordinary rub-rolls of carding-engines or for the single pair of endless rubbing-aprons heretofore used in connection with carding-machines.

The object of my invention is to obtain strands more perfectly rubbed and more free from defects than those produced by ordinary rub-rolls or by a single pair of long aprons.

Rubbing-aprons have been heretofore applied to carding-engines with the view of obtaining extended rubbing-surfaces, two long aprons of leather, one above the other, having been used for this purpose. The objection to this plan has been the difficulty of obtaining from a hide perfect leather of sufficient length and breadth to make an apron of the desired length, local imperfections in the leather inducing the warping and sagging of the aprons and causing the irregular rubbing of the strands. No draft on the strands, moreover, could be obtained by a single pair of aprons.

In order to overcome these difficulties, I adapted two pairs of aprons, B B′, D D′, for each set of strands, which passed between the first pair, B B′, across the space *x*, and between the second pair of aprons, D D′, as shown in the the vertical section, Figure 1, and sectional plan, Fig. 2, of the accompanying drawings.

The mechanism used for rotating the rollers round which the aprons pass, and for reciprocating the same, may be similar to that used for operating ordinary rub-rolls, and hence need not be described, a means for reciprocating said rollers being shown in Fig. 3 of the drawings, which figure is designed to illustrate a plan view of my invention.

Supporting-rollers *y*, similar to those used in connection with the usual large aprons, are placed in such a position as to prevent any sagging of the aprons in the middle.

Although I have shown two pairs of aprons, additional pairs may be used, if desired; but I have found two pairs for each set of strands sufficient. Each apron being short, it can be made of better leather than a long apron, which, owing to its extended area, must necessarily be composed in part of inferior portions of a hide. The strands, moreover, can be subjected to more or less draft by causing the second apron to traverse faster than the first.

In carrying my invention into practical effect, however, I obtained much better results as regards the perfection of the strands than I originally anticipated, and this I attribute to the following cause: In using a single pair of long aprons any local imperfection in the leather had a detrimental effect on a strand or strands. While there are comparatively few defects in the short aprons, owing to the selected leather, yet local imperfections must necessarily occur; but whatever imperfection may be imparted to a strand or strands when subjected to the first pair of aprons, it will, with rare exceptions, be removed by the second pair, as an imperfection in the second pair is not likely to take effect on that part of the strand which was injured by the first pair. A strand or strands, moreover, which have passed between the first pair of aprons without receiving any injury cannot be seriously damaged, because the first rubbing of the strands has reduced them to a condition which enables them to resist the injurious effects of imperfections in the second pair of aprons.

A short rubbing-apron is not new of itself, for two such aprons have been shown in combination with rub-rolls for the purpose of obtaining the drawing effect of the rolls with the superior rubbing effect of the aprons; but by two pairs of aprons the desired drawing effect can be obtained without resorting to rub-rolls.

I claim as my invention—

A rubbing mechanism for carding-machines in which short endless aprons B B′ are combined with a second pair of aprons, D D′, arranged at a short distance from the first pair, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES BARKER.

Witnesses:
HARRY DRURY,
HARRY SMITH.