

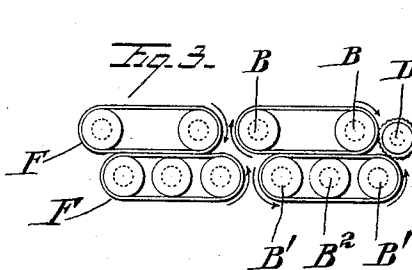
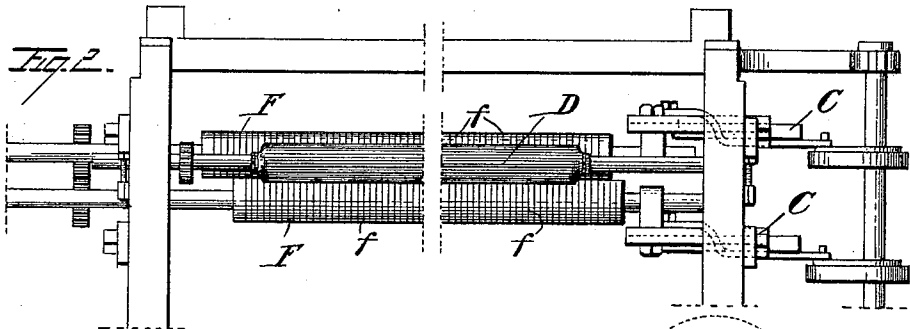
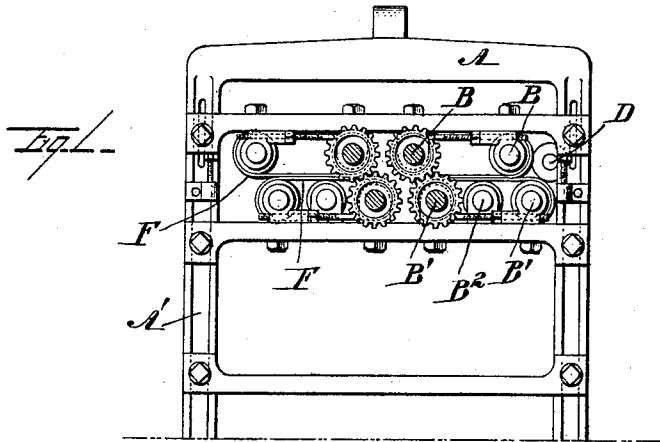
(No Model.)

S. H. GIDLEY.

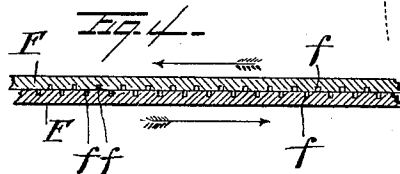
RUBBING APRON FOR CONDENSING CARDING ENGINES.

No. 480,088.

Patented Aug. 2, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL H. GIDLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN DOBSON AND JAMES DOBSON, OF SAME PLACE.

RUBBING-APRON FOR CONDENSING CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 480,088, dated August 2, 1892.

Application filed June 25, 1891. Serial No. 397,405. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. GIDLEY, a citizen of the United States, and a resident of the city of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Rubbing-Aprons for Condensing Carding-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to the rubbing mechanism of condensing carding-engines; and it consists in the combination, with one or more sets, each consisting of a pair of upper rub-rolls and a pair of lower rub-rolls, of short endless leather belts or aprons laterally between said rollers, the surfaces of which aprons are channeled or grooved to provide a roughened surface for rubbing and condensing woolen slubbing which has not been oiled or dampened.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view of the rear end of a condensing carding-engine containing the rub-rolls, said drawings showing two sets of rolls, each set consisting of two pairs of upper and lower rolls with short endless belts around each lateral pair of the same and each belt provided with a channeled or grooved surface constituting my improvement. Fig. 2 is an elevation from the inside of the rub-roll frame. Fig. 3 is a diagram illustrating the relative arrangement of the pairs of rub-rolls and endless belts, the wipe-roller, and the doffer-cylinder. Fig. 4 is a lateral sectional view through the top and bottom short endless belt, showing the channeling in each.

The object of my invention is to provide a mechanical means for condensing woolen slubbing which has not been dampened or subjected to an oiling, as is usual on the first breaker-card, such dry slubbing being desired in many instances, notably where delicate coloring is to be given to the yarn made therefrom or where the yarn is to be subsequently woven without dyeing, so that the resultant fabric shall be of the natural color of the wool.

It having been found in practice that un-

oiled wools could not be, owing to their fluffy nature, successfully slubbed by any of the well-known forms of rub-roll mechanism of condensing carding-engines, I have discovered that the same could be accomplished by giving a channeled or grooved surface to the one or more pairs of endless aprons that traverse the lateral rub-rolls.

In the drawings showing one of the forms of mechanism to which my invention is applicable, A represents the frame carrying the rub-roll devices, (shown in Fig. 1 at the top of the frame,) a similar set of rub-rolls being usually used in said frame in the lower portion thereof, (marked A'.)

On the right-hand side of Fig. 1 are shown two pairs of rub-rolls BB and B'B'. Stretched around each lateral pair are short endless belts or aprons F. A supporting-roller B² is placed in position in the frame between the two lower lateral rollers and beneath the point where the two belts come together in order to prevent sagging of the belts in the middle. A wipe-roller D is located in the frame relatively to the rub-rolls BB' and the doffer-roll E, as shown in Fig. 3. An additional set of rub-rolls (shown on the left-hand side of Fig. 1) may be and usually is applied for the double purpose of additionally condensing the slubbing, and, if need be, of rotating them more rapidly than the first set of rub-rolls, so as to create a draft or tension on the wool fibers between the two lateral sets; but the function of the second set is cumulative of the first in all respects, except that of creating a draft or tension. These rub-rolls have a rotary as well as an endwise motion, as is usual, said motion being imparted by means of a set of eccentrics CC—such, for illustration, as shown in Fig. 2. The endless belts or aprons placed around these rub-rolls I provide with a roughened surface made by channeling or grooving into the leather of which the belt or apron is made straight channels or grooves of shallow depth and placed longitudinally of the belt and about an eighth to a quarter of an inch apart. It is not essential, however, that the grooves or channels should be in an accurately-straight line longitudinally of the belt, but they may be at a slight angle, or they may be

in the form of a single continuous spiral groove or channel proceeding from one side of the belt to the other laterally. So arranged they will present the appearance in section, as shown in Fig. 4, F F representing the two belts and *ff* the channels or grooves therein, and in mounting these belts upon the rub-rolls, if the channels are straight longitudinally and parallel with the edges of the belts, or nearly so, I prefer to mount the belts so that the channels will not be opposite each other at the point where the belts coincide upon the upper and lower lateral rub-rolls. It will be observed that by this construction the endless aprons present rubbing-surfaces to each other, which are roughened by the channels or grooves therein and seize the fibers of the slubbing in a much more effective manner than if the surface of the belt is smooth, as usual, and this roughened surface I have found is sufficient to enable the wool slubbing to be condensed without being dampened and without the usual oiling of the breaker-card.

It is not essential that the second set of rub-rolls farthest from the doffer, and shown

on the left-hand side of Figs. 1 and 3, should be roughened, as described; but if channeled-surface endless belts are so applied to said second set of rolls the action while cumulative only of the first will add to the efficiency of the latter in accomplishing the said end desired.

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

In rub-roll mechanism for condensing carding-engines, the combination, with two pairs of rub-roll shafts mounted relatively to each other, as described, of short endless aprons or belts mounted thereon laterally between said shafts and provided on their rubbing-surfaces with a series of shallow longitudinal channels or grooves, substantially as described.

In testimony whereof I have hereunto affixed my signature this 2d day of May, A. D. 1891.

SAMUEL H. GIDLEY.

Witnesses:

H. T. FENTON,
C. W. BECK.