

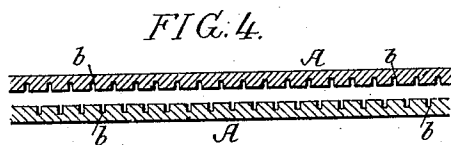
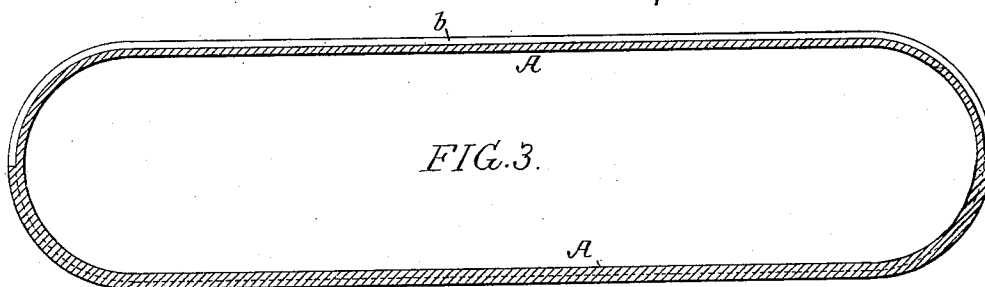
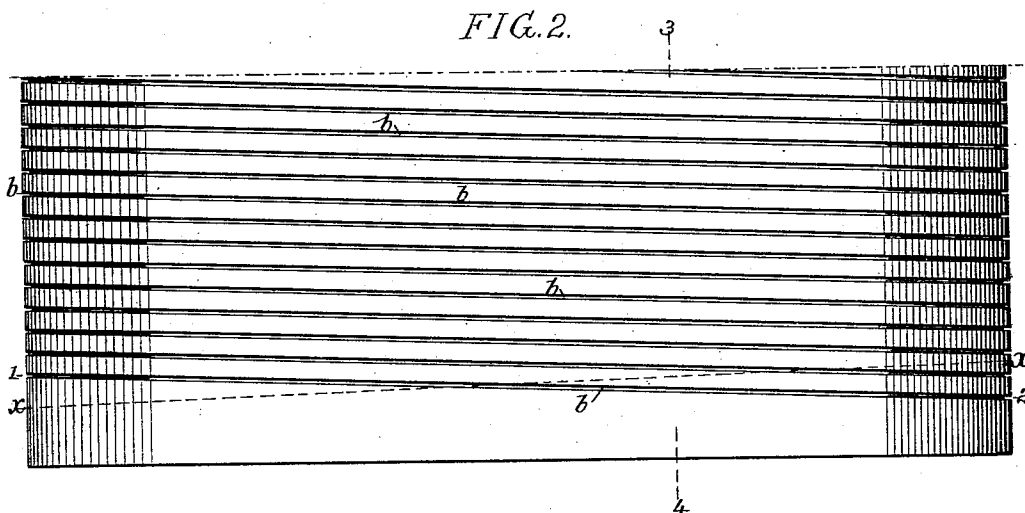
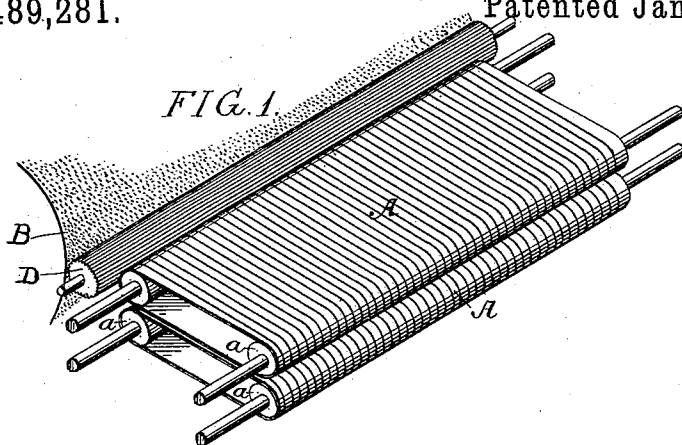
(No Model.)

J. BARKER.

RUBBING BELT OR APRON FOR CARDING ENGINES.

No. 489,281.

Patented Jan. 3, 1893.



Witnesses:
Alex. Barkoff
Hamilton D. Turner

Inventor:
James Barker
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UNITED STATES PATENT OFFICE.

JAMES BARKER, OF PHILADELPHIA, PENNSYLVANIA.

RUBBING BELT OR APRON FOR CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 489,281, dated January 3, 1893.

Application filed October 7, 1890. Serial No. 367,339. (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 certain Improvements in Rubbing Belts or Aprons for Carding-Engines, of which the following is a specification.

My invention consists of certain improvements in the rubbing aprons or belts of carding machines, one object of my invention being to provide means whereby the belts will grasp the fleece as it passes between them, dispensing to a great extent with the use of oil and other compounds for the purpose, and a further object is to remove the nubs or tufts which collect on the wipe roller between the series of ends of sliver.

In the accompanying drawings—Figure 1, is a perspective view showing a pair of rubbing aprons, in accordance with my invention; Fig. 2, is a plan view of a portion of the apron; Fig. 3, is a section on the line 1—2, Fig. 2; and Fig. 4, is a section on the line 3—4, showing two adjoining aprons in cross section.

A A are the two belts or aprons which pass around the rollers *a, a*, these rollers being driven in a manner well known in carding machines, and the mechanism being generally attached to what is known as the condenser card. The belts or aprons A A are usually of leather having perfectly smooth surfaces, and between the aprons pass the strands from the carding machine which are thereby given the necessary rolling motion, to condense them before they are delivered as rovings or slubbings.

Oil has been heretofore used not only to render the aprons pliable, but also to give the same a sufficient hold upon the sliver to properly condense it and give it the slight twist required. The use of oil for this purpose, or in fact, the use of any oily compound, is objectionable, and it is to dispense with the use of such oil or compounds that my invention has been devised.

I cut or otherwise form in each apron a series of longitudinal grooves *b*, which are preferably arranged at a slight angle to the line of forward motion of the strands or slivers,

as, for instance, in the spiral form shown in Fig. 2, and I prefer also to arrange the grooves in the two aprons, so that when one apron is placed upon the other, the grooves of the one apron will cross the grooves of the other, as indicated by the lines *x x*. These grooves are cut only to a slight depth, as shown in Fig. 4, and their distance apart may vary according to the class of machine on which they are employed, and the character of the work which they are to perform. By this means the use of oil or other compound is dispensed with, except in so far as it is used to preserve the apron itself, and enable it to run smoothly. The grooved aprons engage at once with strands or slivers as they pass between them, and when they are reciprocated laterally they condense the slivers into slubbing or roving.

It will be understood that my invention may be applied to rubbing rolls as well as aprons.

B is the doffing cylinder, and D is the wipe or doffer roller, for removing the slivers from the doffing cylinders, the roller D, being covered with fabric forming longitudinal ribs and the roller and the upper apron being in contact.

As the sliver ends pass from the roller to the rubbing aprons fine ends or tufts of cotton stray from the sliver path and are in time bunched into balls or nubs, which mingle with the slivers and when freed from the roller pass between the aprons and thus form hard lumps in the slubbing. By using the grooved rubbing aprons, however, the loose fibers or stray ends are at once gathered from the wipe roller and carried in with the sliver ends, thus preventing the formation of such nubs or balls in the slubbing.

I claim as my invention:—

1. As a new article of manufacture a rubbing apron or roll for carding machines formed of a single piece of leather or analogous material, having cut in its face a series of circumferential grooves running in spiral lines around the apron or roll, substantially as specified.

2. The combination of the two rubbing aprons or rolls situated one above the other, with circumferential grooves cut in each roll or apron in a spiral line, so that the grooves

of one apron or roll will cross those of the other, substantially as described.

3. The combination of the circumferential grooved apron or roll, with a wipe roller engaging therewith whereby the grooved apron or roll will remove the stray fiber between the sliver ends, substantially as set forth.

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

JAMES BARKER.

Witnesses:

HENRY HOWSON,

HARRY SMITH.