

(No Model.)

W. H. GREENWOOD & F. FARRAR.

APPARATUS FOR CLEANING EDGES OF CIRCULAR COMBS.

No. 543,381.

Patented July 23, 1895.

FIG. 1.

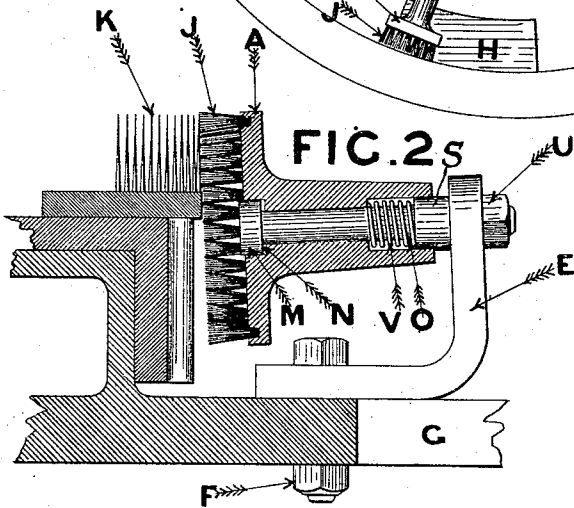
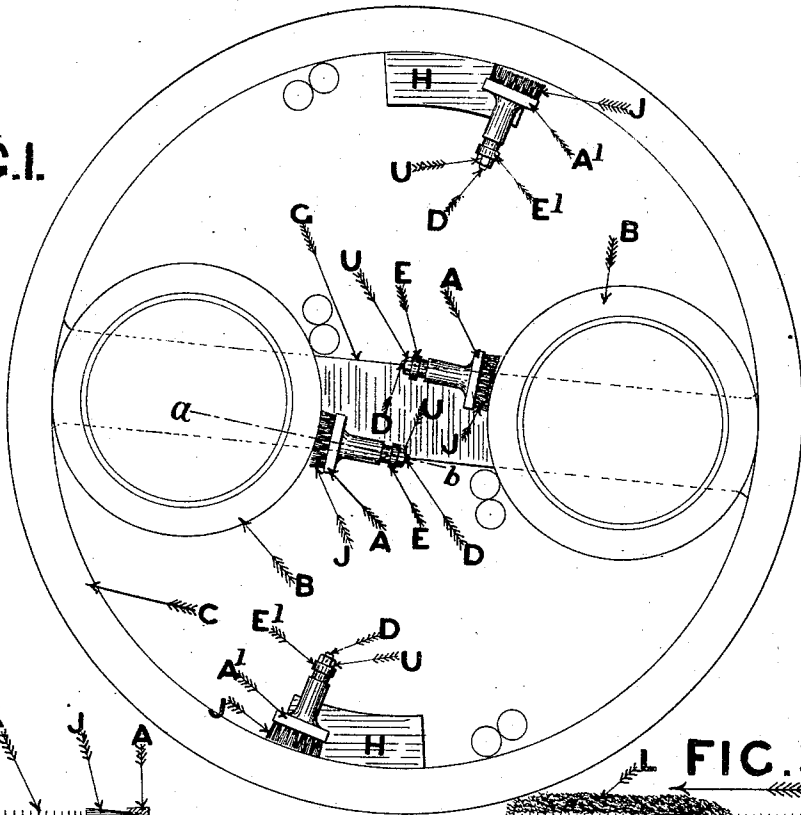


FIG. 2.

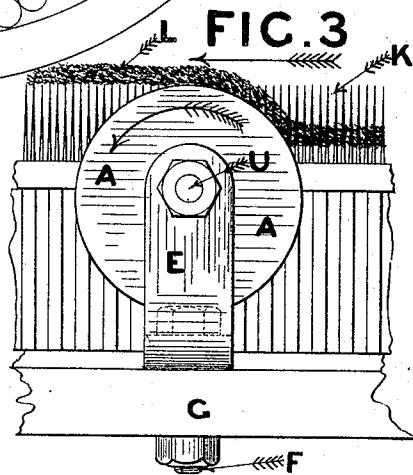


FIG. 3.

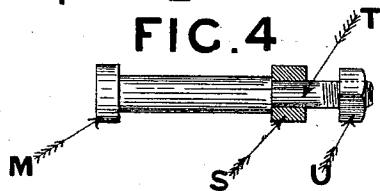


FIG. 4.

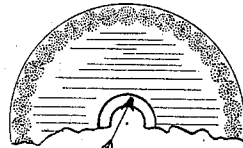


FIG. 5.

Witnesses
J. M. Fowler
Attestant

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W. H. Greenwood and
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UNITED STATES PATENT OFFICE.

WILLIAM HORSFALL GREENWOOD AND FREDERICK FARRAR, OF BRADFORD, ENGLAND.

APPARATUS FOR CLEANING EDGES OF CIRCULAR COMBS.

SPECIFICATION forming part of Letters Patent No. 543,381, dated July 23, 1895.

Application filed September 25, 1893. Serial No. 486,437. (No model.) Patented in England December 17, 1892, No. 23,257.

To all whom it may concern:

Be it known that we, WILLIAM HORSFALL GREENWOOD and FREDERICK FARRAR, subjects of the Queen of England, residing at Bradford, England, have invented certain Improvements in Apparatus for Cleaning the Edges of Circular Combs Employed in Machinery for Combing Fibrous Material, (for which we have obtained Letters Patent in Great Britain, No. 23,257, dated December 17, 1892,) of which the following is a specification.

This invention relates to improvements in apparatus for cleaning or brushing the edges of revolving circular combs used in machinery for combing wool or other fibrous material.

The said improvements consist in employing a revolving brush or rubber driven by contact with the circular comb or revolving support upon which it is mounted.

Reference is to be had to the accompanying sheet of drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in each of the figures.

Figure 1 represents a plan view of such parts of a Noble's comb as are necessary to illustrate the application of our improved brushes or cleaners thereto. Fig. 2 is a cross-section, on a large scale, of one of the small circles on the broken line *a b*, Fig. 1, showing a diametrical section of one of the revolving brushes. Fig. 3 is an elevation of a portion of the small circle and other parts, looking toward the back of the brush. Fig. 4 is a view of a detail hereinafter referred to. Fig. 5 is a view of a portion of the brush-face.

The brushes *A A* for cleaning the outer edges of the small circles *B B* and the brushes *A' A'* for cleaning the inner edge of the large circle *C* are each mounted on a stud *D* and these studs may be supported in any convenient manner. In the drawings the studs on which the brushes *A* are mounted are fixed to short uprights *E*, each secured by a bolt *F* to the cross-piece *G* (of the framework of the machine) upon which the small circles *B B* are mounted. The studs carrying the brushes *A'* are fixed to similar uprights *E'* secured to the projections *H H* (on the steam-chest of

the large circle) upon which the feed-knife brackets are usually mounted.

The studs *D* are not set quite radially to the comb-circle and are not quite horizontal, but dip slightly toward the front, so that the bristles *J*, projecting from the face of the brush, only touch the pins *K* of the circle from the side where they first meet the pins to approximately the highest point in their rotation and are quite clear from said pins during the downward part of their rotation.

As the studs *D* are below the point of contact of the bristles *J* with the circles and pins consequently as the circle revolves, the brush-disk is revolved on its stud at approximately the same surface speed through its contact with the circle, and the noil, short fibers, and foreign matter projecting from the edge of the comb at the root of the pins when they reach the bristles *J* are raised as the brush revolves approximately to the top of the pins or to a position readily removable by the noil knives. This is clearly shown in Fig. 3, in which *L* represents the dirt and short fibers and the arrows indicate the direction of rotation of the comb and the brush.

To prevent dust or fibers getting into the bearings of the brushes upon the studs *D* and interfering with the free rotation of the brushes, we prefer to form the stud with a head *M* fitting a recess *N* in the front face of the brush, and a similar recess *O* is made at the end of the bearing-boss *P* formed on the back of the brush. A collar *S* is mounted upon a reduced portion *T* of the stud fitting this latter recess. This collar forms a shoulder to bear against the upright *E* and the stud is secured by the nut *U*. Fig. 4 is a separate longitudinal view of the stud *D* with the collar *S* in section.

To keep the bristles of the brush pressed against the comb we make the recess *O* deeper than the collar *S* and introduce a spiral spring *V*, more or less compressed, between the bottom of the recess and the front face of the collar *S*.

It is obvious that instead of a brush a rubber may be used having a soft pliable or elastic face to bear against the comb and pins, but we prefer a brush.

We claim—

1. The combination with the circular rotary comb of a combing machine, of a loosely journaled brush or cleaner, bearing against and rotated by direct contact with the comb; substantially as described.

2. The combination with the circular rotary comb of a combing machine, of a loosely journaled brush or cleaner having that portion of its face above its axis of rotation or toward the ends of the comb teeth and on the side of said axis toward which the comb moves pressed against the comb, whereby as the comb revolves, its movement is imparted to the brush or cleaner and the latter turned on its axis as described.

3. The combination with the circular rotary comb of a combing machine, of a loosely journaled brush or cleaner mounted on an axis located below the edge of the comb and set slightly out of a radial line from the center of the comb, whereby the cleaner bears against the comb only in advance of a vertical plane through its center of rotation; substantially as described.

4. The combination with the circular ro-

tary comb of a combing machine, of a loosely journaled brush or cleaner mounted on an axis located below the edge of the comb and set at an inclination to cause the top of the cleaner to contact with the comb and also set slightly out of a radial line from the center of the comb, whereby the cleaner bears against the comb only above a horizontal plane through its center and in advance of a vertical plane through its center of rotation; substantially as described.

5. The combination with the circular rotary comb of a combing machine, of a loosely journaled spring pressed brush or cleaner bearing against and rotated by contact with the comb; substantially as described.

In testimony whereof we have hereunto set our hands in the presence of the two subscribing witnesses.

WILLIAM HORSFALL GREENWOOD.
FREDERICK FARRAR.

Witnesses:

DAVID NOWELL,
SAMUEL A. DRACUP.