

(No Model.)

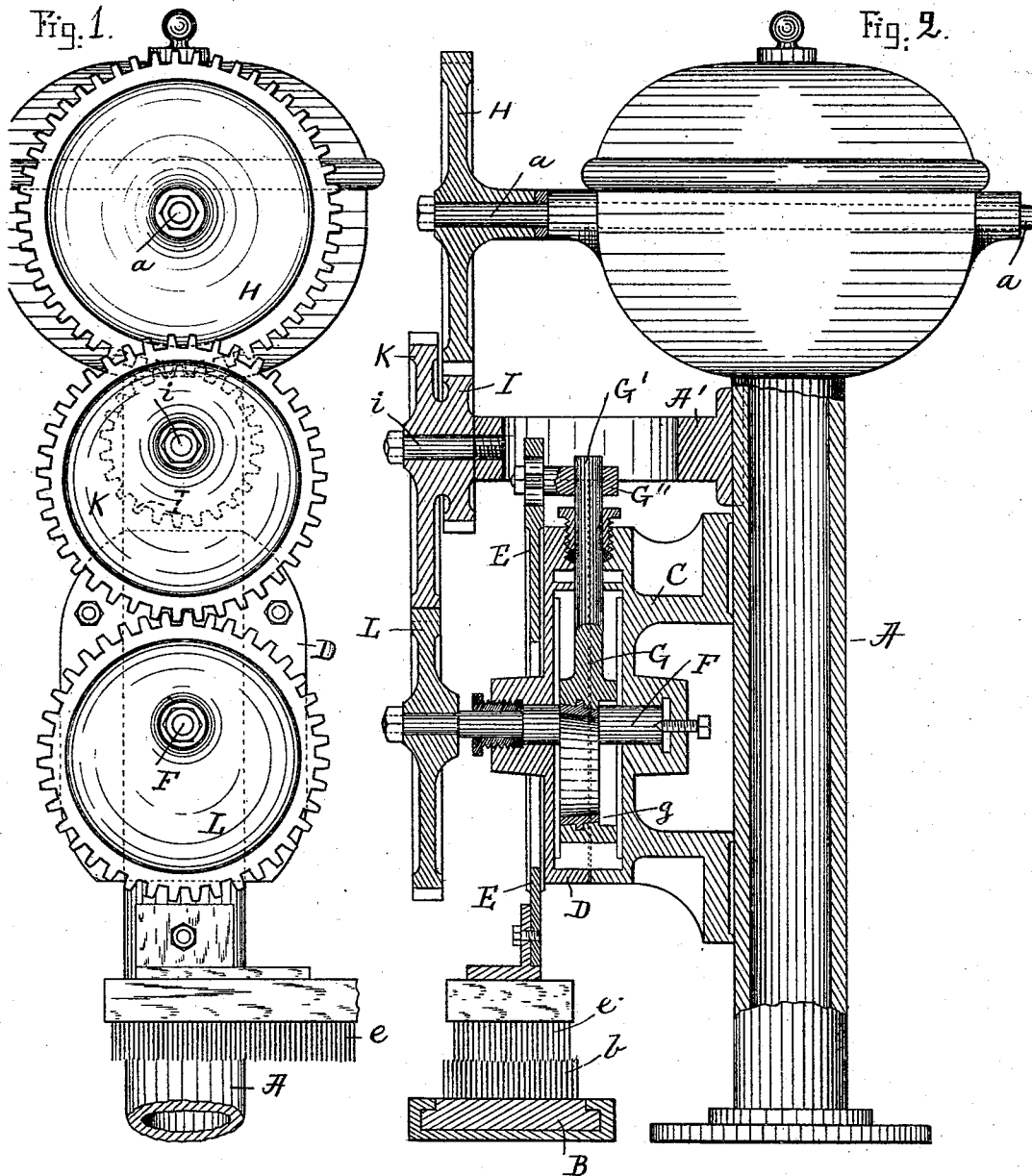
2 Sheets—Sheet 1.

J. L. BALLANTYNE.

DABBING APPARATUS FOR WOOL COMBING MACHINES.

No. 479,695.

Patented July 26, 1892.



Witnesses.

Lauritz N. Möller.
Geo. W. White.

Inventor.

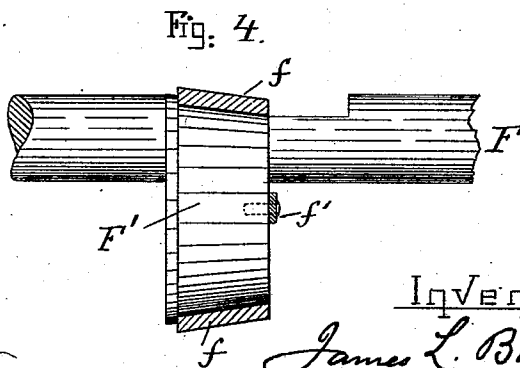
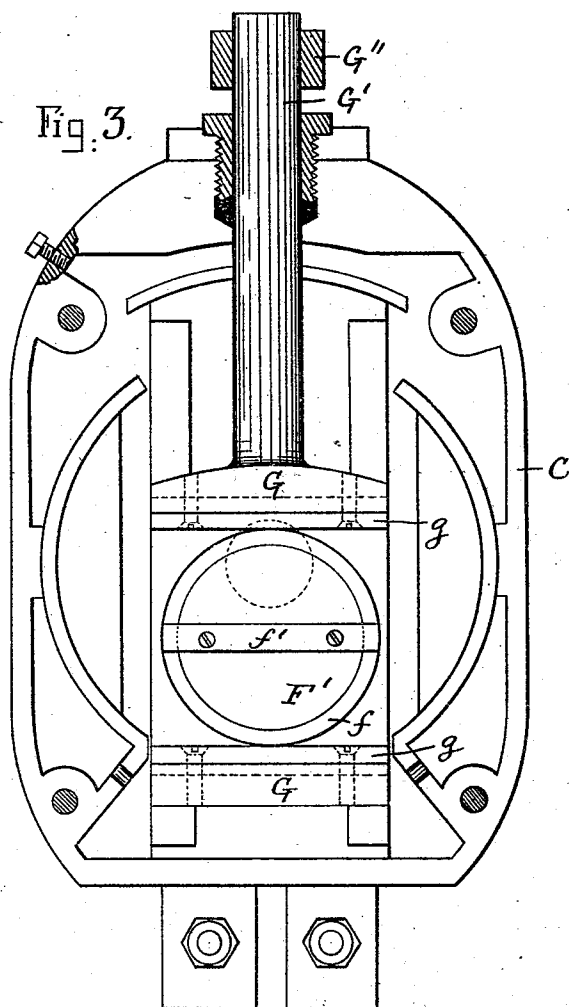
James L. Ballantyne
by Alban Andrién
his atty.

J. L. BALLANTYNE.

DABBING APPARATUS FOR WOOL COMBING MACHINES.

No. 479,695.

Patented July 26, 1892.



Witnesses.

Leinitz N. Möller.
Geo. White

Inventor.

James L. Ballantyne.
by Alban Fredrick
his atty.

UNITED STATES PATENT OFFICE.

JAMES L. BALLANTYNE, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE
NONANTUM WORSTED COMPANY, OF SAME PLACE.

DABBING APPARATUS FOR WOOL-COMBING MACHINES.

SPECIFICATION forming part of Letters Patent No. 479,695, dated July 26, 1892.

Application filed February 5, 1892. Serial No. 420,403. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. BALLANTYNE, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Dabbing Apparatus for Wool-Combing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements on the patent granted to me June 4, 1889, No. 404,376, for dabbing apparatus for wool-combing machines, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a front elevation of my present invention; and Fig. 2 represents a vertical section of the same, parts of which are shown in elevation. Fig. 3 represents an interior view of the device, showing the cover as removed; and Fig. 4 represents a side view of the rotary cam-shaft, showing its tapering ring in section.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In Figs. 1 and 2, A represents one of the vertical posts of a wool-combing machine, in the upper enlarged portion of which is journaled in bearings the driving-shaft *a*, as usual.

B in Fig. 2 represents the rotary comb-ring with its upwardly-projecting comb *b*, as is common in wool-combing machines.

C is the box-bracket, secured to the pillar A and provided with a cover D, in which is guided the sliding plate E, to the lower end of which is secured the dabbing-brush *e*, as usual.

In bearings in the box-bracket C and cover D is journaled the cam-shaft F, to which is secured or made in one piece the cam or eccentric F', which is preferably made slightly tapering, as shown in Fig. 4. The said cam F' is surrounded by a loosely-fitting ring *f*, preferably made of phosphor-bronze or other suitable metal, and to prevent said ring from getting detached from the cam while in use I secure to the smaller end of said cam a bridge or bar *f'*, the ends of which project to the outer edge of the loose ring *f*, or nearly so, as fully shown in Figs. 3 and 4. The cam and its ring when rotated impart an up-and-down motion

to the cam-carrier G, which is guided in ways in the box-bracket C, and is preferably provided with hardened-steel faces *g g*, against which the cam-ring *f* acts during its rotation.

G' is an upwardly-projecting stem on the cam-carrier G, which stem passes through a stuffing-box in the upper end of the box-bracket C and is connected by means of an arm G'' to the upper end of the sliding plate E, as shown and described in my aforesaid Letters Patent.

In devices of this kind, where a rotary cam or eccentric is employed for the purpose of imparting a reciprocating motion to the dabbing-brush and its cam-carrier, it has been found that the wear on the said cam occurs mainly at one place on its periphery—that is, the place located farthest from the axis of the cam-shaft—causing a reduction or flattened surface at such place, by which a rattling or hammering action is caused on the carrier by the rotation of the cam. By placing a loose ring, as described, on said cam or eccentric these objections are overcome, and as the cam rotates within said ring it causes the latter to rotate with a reduced speed as compared with the cam, thus bringing consecutively all parts of the periphery of the ring in contact with the faces *g g*, thus causing a uniform wear on the cam and its ring and preventing a hammering or imperfect action on the cam-carrier and its connected parts. The interior of the box-bracket C is filled with a liquid lubricant, as described in my aforesaid patent, for the purpose of properly lubricating the working parts therein, so as to render the action of said parts as nearly noiseless as possible.

It is desirable in machines of this kind that a positive motion should be imparted from the driving-shaft *a* to a dabbing-brush in such a manner as to cause the latter to enter and leave the bristles of the rotating circle-comb B and to move less quickly when the dabbing-brush is raised above the said circle-comb, for the purpose of causing the wool to be uniformly pressed or dabbed between the bristles of the rotary circle-comb without causing the bristles of said dabbing-brush and rotary comb to be dragged or bent out of perpendicular by the horizontal travel of the

circle-comb, and for this purpose I use the following mechanism: To the driving-shaft *a* is secured a gear *H*, the teeth of which mesh in the teeth of a gear or pinion *I*, loosely journaled on a pin or stud *i*, suitably secured to a stationary bracket *A'*, as shown in Figs. 1 and 2. To the gear *I* is secured an eccentric, elliptic, or cam-shaped gear *K*, the teeth of which mesh in the teeth of a corresponding eccentric, elliptic, or cam-shaped gear *L*, secured to the outer end of the cam-shaft *F*, as fully shown in said Figs. 1 and 2.

From the above it will be seen that a positive variable reciprocating motion is imparted to the dabbing-brush from the driving-shaft *a*, for the purpose set forth.

I wish to state that I do not desire to confine myself to the precise number and arrangement of gear-wheels as shown in the drawings, as such may be varied according to the construction of wool-combing machine on which the dabbing device is to be used without departing from the essence of my invention, it being only essential to impart from the driving-shaft a positive variable motion to the dabbing-brush for the purpose stated.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. In a dabbing apparatus, the combination of a variably-reciprocating dabbing-brush, a driving-shaft, a rotary shaft having a cam or eccentric thereupon, a ring loosely journaled

on the cam or eccentric, a reciprocating cam-carrier connected with the dabbing-brush, and gearing between the driving-shaft and the cam-shaft for imparting a variable reciprocating motion to the dabbing-brush, substantially as described.

2. In a dabbing apparatus, a variably-reciprocating dabbing-brush, in combination with a rotary shaft having a cam, a driving-shaft, and gear connections between the driving-shaft and cam-shaft for imparting a positive variable reciprocating motion to the dabbing-brush, substantially as described.

3. In a dabbing apparatus, the combination, with a rotary driving-shaft, of a variably-reciprocating dabbing-brush and gearing connecting the driving-shaft and brush for imparting a variable reciprocating motion to the latter, substantially as described.

4. In a dabbing apparatus, the combination, with a rotary comb-circle and a rotary driving-shaft, of a variably-reciprocating dabbing-brush and gearing connecting the shaft and brush for imparting a variable reciprocating motion to the latter, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 3d day of February, A. D. 1892.

JAMES L. BALLANTYNE.

Witnesses:

ALBAN ANDRÉN,
GEO. W. WHITE.