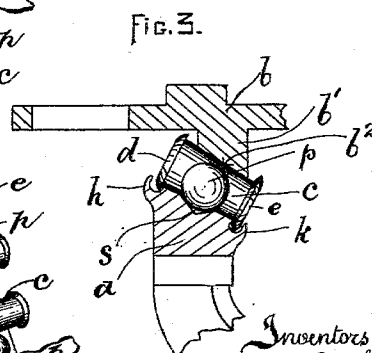
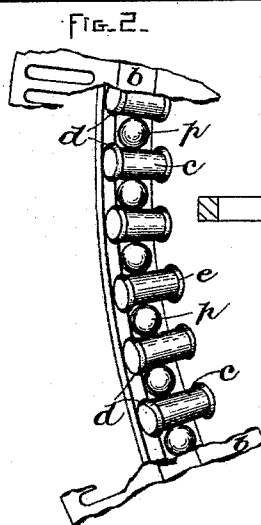
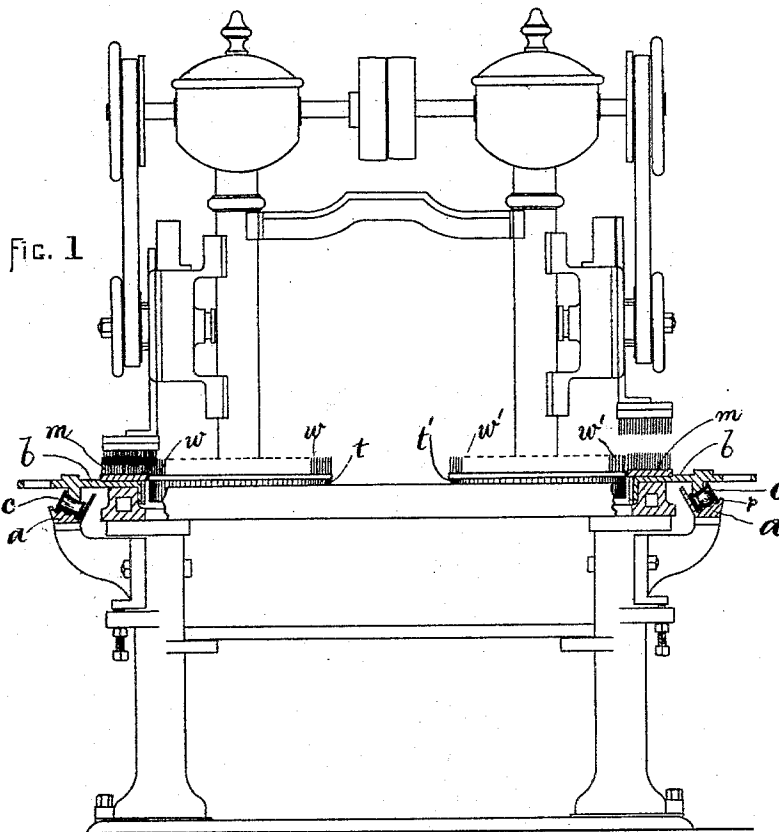


(No Model.)

J. R. HOYLE & H. COLBURN.
COMBING MACHINE.

No. 551,282.

Patented Dec. 10, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES RAMSDEN HOYLE AND HEBDEN COLBURN, OF KEIGHLEY, ENGLAND.

COMBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 551,282, dated December 10, 1895.

Application filed April 22, 1895. Serial No. 546,691. (No model.) Patented in England May 9, 1893, No. 9,236.

To all whom it may concern:

Be it known that we, JAMES RAMSDEN HOYLE and HEBDEN COLBURN, subjects of the Queen of Great Britain, residing at Keighley, in the county of York, England, have invented an Improvement in Combing-Machines, (for which we have obtained Letters Patent in Great Britain, No. 9,236, bearing date May 9, 1893,) of which the following description, aided by the sheet of drawings, is a specification.

Our invention relates to improvements in the formation, construction, and arrangement of the annular supports, parts in connection therewith, and the carriages or rotary rings upon which are mounted the circular combs of the type of machines known as "Noble's combs," whereby these parts are enabled to automatically adjust themselves to counteract or compensate for the wear incident to use, while the desired path of motion and greater freedom in the movements of said carriages or rotary rings are more certainly secured.

In the accompanying sheets of drawings, which are illustrative of our invention, Figure 1 is part sectional elevation of a sufficient portion of a combing-machine to show the application of our invention. Fig. 2 shows a fragmentary top plan view with parts broken away. Fig. 3 shows an enlarged cross-section.

In accordance with our invention the annular support *a*, above referred to, is formed so that its upper surface *a'* is at an angle to the horizontal plane, and a rib or flange *b'* is formed on the rotary carriage or ring *b* (upon which is mounted the circular comb *m*) so that its lower edge *b²* will correspond with the inclined edge *a'* of the annular support *a*. Intervening between the said support *a* and flange *b'* we mount a series of antifriction-rollers *c*, upon which said flange *b'* together with its carriage *b* (and thus the comb *m*) may freely revolve, and these rollers *c* are of a suitable tapering form, so that in their passage around the annular support *a* they will complete a certain number of revolutions without any part of their surfaces slipping or gliding over that of the surface upon or in contact with which they revolve. To maintain these antifriction-rollers *c* in position suitably-formed flanges *d* and *e* are made at each of their respective extremities to take over the sides of the annular support. Spherical

spacing-pieces *p* are interposed between the antifriction-rollers and confined laterally by a furrow *s*, which they occupy. The size of these spacing-pieces is limited so that they may not touch or come into contact in an ordinary way with the face *b²* of the flange *b'*, yet they are sufficiently large that should any force be exerted to cause them to rise in their furrow *s* they will then come in contact with the face *b²*, which will thus prevent them from being dislodged.

Supplementary flanges *h* and *k* are formed on the outer and inner edges of the supports *a* to form suitable receptacles for oil or lubricant, as shown by Fig. 6.

By the employment of the parts formed as above described the actions of the inclined surfaces against each other do not allow for any motion of the rotary carriage *b* other than that in its proper path, which is at all times equidistant from its center. Thus side shake or lateral play of or for this carriage *b* is prevented, as is desired, since said carriage *b* has to revolve in contiguity with carriages *t t'*, which carry smaller combs *w w'*, and any variation in their relative positions hinders them from treating the wool or fiber under operation with that regularity necessary for producing results aimed at by all those who are engaged in the business of combing.

Such being the nature and object of our invention, what we claim is—

1. In a combing machine, the combination of an annular support having an inclined bearing surface and lubricating grooves along opposite edges of the same, anti-friction rollers resting on the bearing surface and having end-flanges taking into the lubricating grooves, and a circular comb carriage formed to rest upon said anti-friction rollers.

2. In a combing machine, the combination of an annular support having an inclined bearing surface with a groove therein, anti-friction rollers resting on the said inclined surface, spherical spacing pieces interposed between the rollers and engaging the groove, and a circular comb carriage resting on the rollers.

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