

(No Model.)

2 Sheets—Sheet 1.

J. PICKLES & H. W. WHITEHEAD.
COMBING MACHINE.

No. 384,783.

FIG. 1.

Patented June 19, 1888.

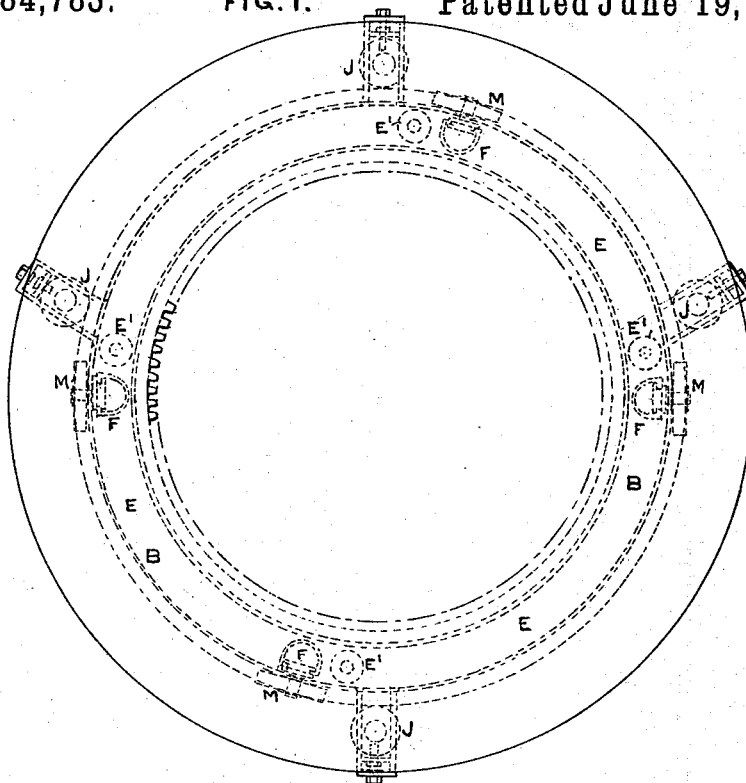


FIG. 2.

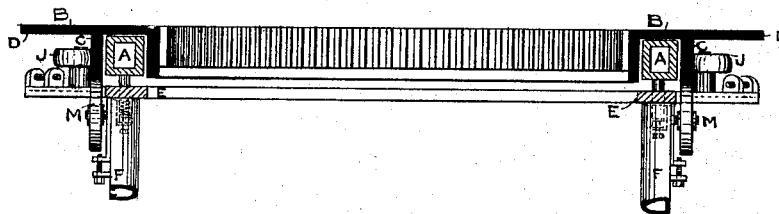
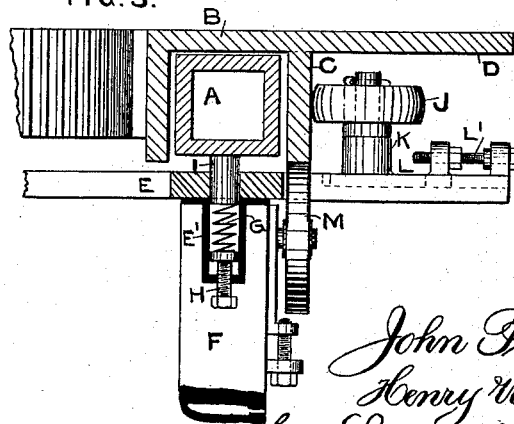


FIG. 3.



Witnesses,

Chas. H. Smith
W. L. Serrell

Inventors,

John Pickles.
Henry W. Whitehead
for *Lemuel W. Serrell.*

(No Model.)

2 Sheets—Sheet 2.

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COMBING MACHINE.

No. 384,783.

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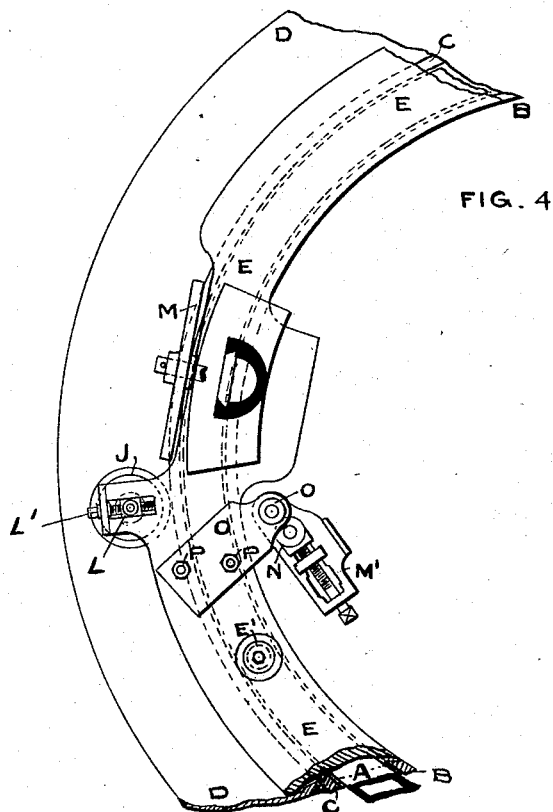


FIG. 4

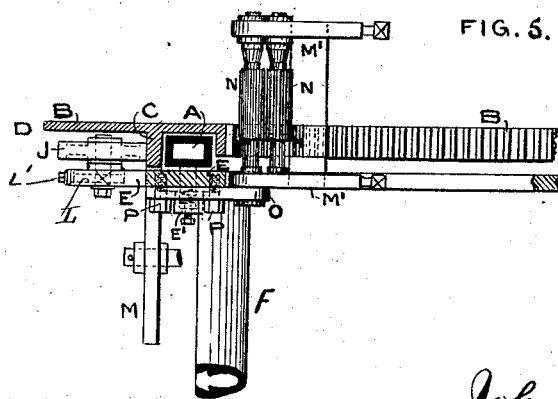


FIG. 5.

Witnesses.

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att

UNITED STATES PATENT OFFICE.

JOHN PICKLES, OF BINGLEY, AND HENRY WALTON WHITEHEAD, OF LEEDS,
COUNTY OF YORK, ENGLAND.

COMBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,783, dated June 19, 1888.

Application filed May 11, 1887. Serial No. 237,808. (No model.) Patented in England March 10, 1887, No. 3,665.

To all whom it may concern:

Be it known that we, JOHN PICKLES and HENRY WALTON WHITEHEAD, subjects of the Queen of Great Britain and Ireland, and residing at Bingley and Leeds, respectively, both in the county of York, England, have invented new and useful Improvements in Noble's Combing-Machines, (for which a patent has been granted us in Great Britain, dated March 10, 1887, No. 3,665,) of which the following is a full, clear, and exact description.

Figure 1 is a plan view of a portion of a Noble's combing-machine with our improvements applied thereto. Fig. 2 is a cross-section of the same. Fig. 3 is a cross-section in larger size of a portion of the rack-circle, steam-chest, and plate that carries the supporting-rollers and other parts. Fig. 4 is an inverted plan, and Fig. 5 a cross-section, of a portion of said combing-machine, showing the means for supporting the drawing-off rollers, these two figures being on a larger scale than Figs. 1 and 2.

We make use of a loose copper, iron, or other metallic steam-chest, A, in connection with the rack-circle B, and support and guide the parts as hereinafter set forth. For this purpose we cast or otherwise apply to the ordinary rack-circle, B, an additional flange, C, outside the rack-teeth and at the under side of the plate D, and thus form a space in which to insert the loose square or other form of steam chest or pipe A. This rack-circle B carries the circle of comb-teeth upon its top plate, D, as usual, in the Noble combing-machine. We also employ a circular plate, E, which is fixed on the standards F of the machine and below the rack-circle. To this plate E are attached spring-boxes E', in each of which are arranged the spring G, adjusting-screw H, and buffer-piece I, on which the loose copper, iron, or other metallic steam chest or pipe A is carried and thereby adjusted. Further, we apply any required number of runners or pulleys, J, outside the outer flange, C, and underneath the rack-circle. Each of the pulleys or runners J is carried on a stud, K, attached to the sliding piece L, having a regulating-screw, L', provided for pressing the

runners J against the flange C. The ordinary vertical runners, M, are also employed in conjunction with the aforesaid arrangement.

The above improvements are applicable also to the small rack-circles.

Our improvements also consist in preventing the drawing-off rollers from becoming heated. In the present way of supporting these rollers they are mounted in bearings attached to the under side of the steam-chest; but in ours the drawing-off rollers are supported by the stand M', secured to a bracket, O, attached to the circular plate E by bolts P, and the plate E is supported by the standards F of the machine. By this arrangement the leathers last considerably longer, it preventing the drying thereof and cracking at the joints.

The described arrangement also prevents the lubricant of the bearings or journals of the drawing-off rollers from being dried or otherwise affected by the heat arising from the steam-chest as much as in machines heretofore made.

By the above arrangements the wear and tear of the rack-circles is considerably reduced by the friction being taken off the steam-chest, and by working on circular runners the rack-circles revolve with much greater steadiness than hitherto, thus making the combs run true with relation to each other. At the same time the driving-power required for the machine is greatly reduced.

What we claim is—

1. The combination, with the rack-circle B and its downward flange C, of a separate steam chest or pipe, A, between the flange C and the rack, the circular plate E, boxes E', supported by said plate E, a spring and an adjusting-screw to each box, and a buffer between each spring and the steam-chest, substantially as and for the purposes specified.

2. The combination, with the rack-circle B and its flange C, of the separate steam-chest A between the rack and the flange C, the circular plate E below the steam-chest and rack-circle, and means for supporting said steam-chest and the rollers J outside the flange C, and studs for the rollers supported by said circu-

lar plate E, and means for adjusting the position of said studs and rollers J, substantially as and for the purposes specified.

3. The combination, with the rack-circle B,
5 a steam-chest separate from said circle, and means for supporting said steam-chest, of a circular plate, E, below said rack and steam-chest, the standards F, for supporting the said plate E, the drawing-off rollers N N, the bracket O,

secured to said plate E, and the stand M', for supporting said rollers attached to the bracket O, substantially as and for the purposes specified.

JOHN PICKLES.

HENRY WALTON WHITEHEAD.

Witnesses:

J. W. HARDING,

J. JOWETT.