No. 735,980.

PATENTED AUG. 11, 1903.

T. A. JACKSON & W. E. THOMPSON.

WOOL COMBING MACHINE.

APPLICATION FILED JUNE 5, 1901.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

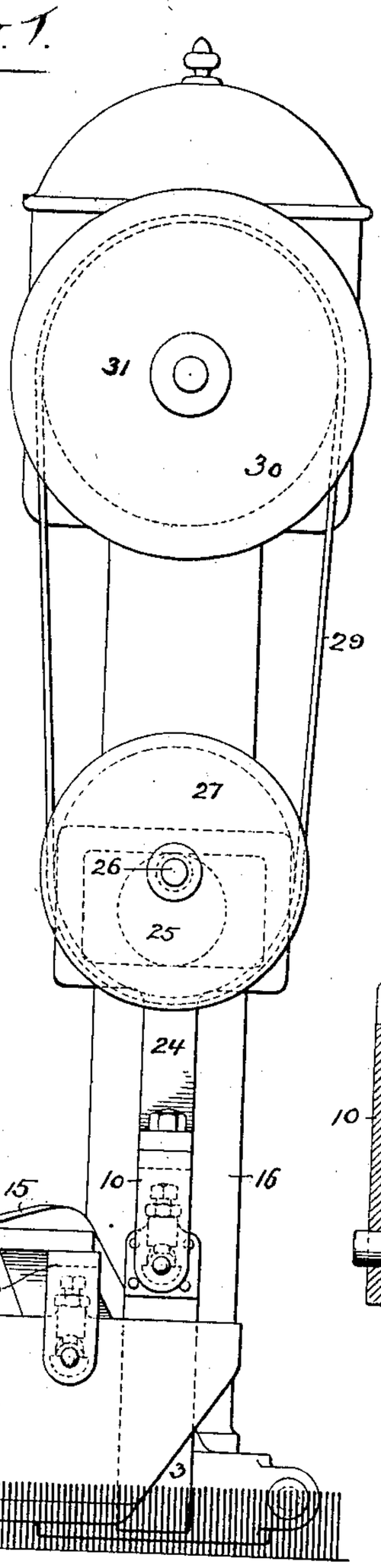


Fig. 4.

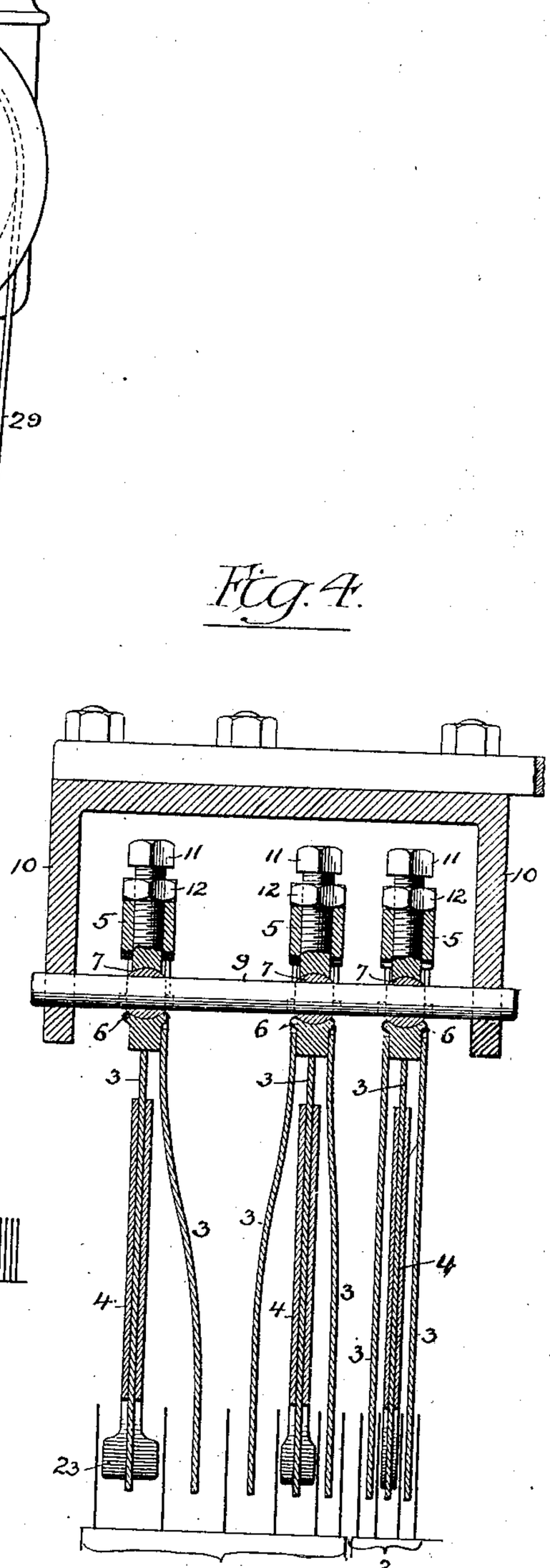
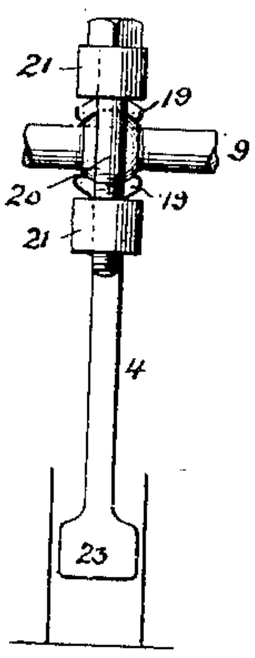


Fig. 5.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

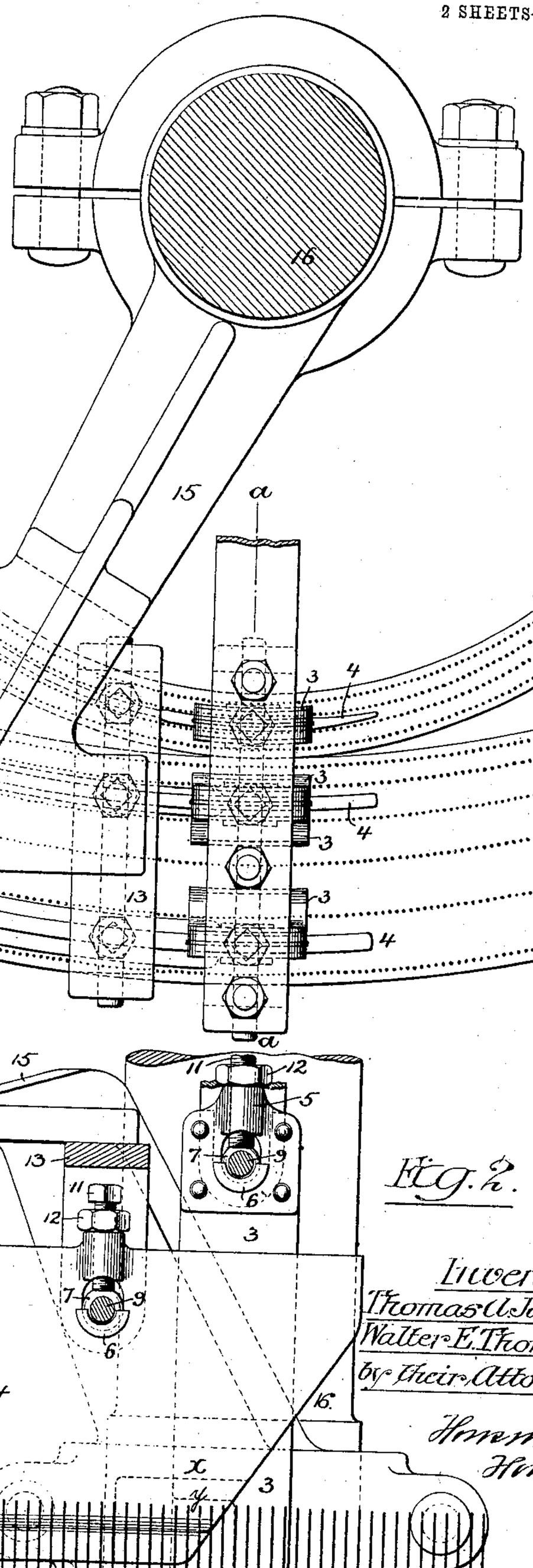

Fig. 2.

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No. 735,980. Patented August 11, 1903.

UNITED STATES PATENT OFFICE.

THOMAS A. JACKSON AND WALTER E. THOMPSON, OF PHILADELPHIA, PENNSYLVANIA.

WOOL-COMBING MACHINE.

SPECIFICATION forming part of Letters Patent No. 735,980, dated August 11, 1903.

Application filed June 5, 1901. Serial No. 63,230. (No model.)

To all whom it may concern:

Be it known that we, THOMAS A. JACKSON, a subject of the King of England, and WALTER E. THOMPSON, a citizen of the United States, and both residents of Philadelphia, Pennsylvania, have invented certain Improvements in Wool-Combing Machines, of which the following is a specification.

The object of our invention is to provide a durable and effective substitute for the usual dabbing-brushes whereby the web of wool is pressed down into the spaces between the pins of the large and small "circles" of a wool-combing machine. This object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of sufficient of an ordinary wool-combing machine to illustrate the application of our invention thereto. Fig. 2 is a side elevation, on an enlarged scale, of that portion of the machine to which our invention particularly relates. Fig. 3 is a sectional plan view of the same. Fig. 4 is a transverse section on the line *a a*, Fig. 3; and Fig. 5 is an end view looking in the direction of the arrow *b*, Fig. 2.

In Fig. 3 of the drawings, 1 represents part of the outer or large circle, and 2 part of the inner or small circle, of an ordinary wool-combing machine, the small circle being much less in diameter than the large circle and approaching the latter closely at one point, so that the fibers of the web of wool which are caused to engage with the pins of the circles at their point of nearest approach will as the pins diverge be drawn between them, and thereby combed or straightened.

Vertically-reciprocating brushes are usually employed for dabbing the wool into the spaces between the pins of the circles; but the rapid wear of these brushes is an objection to their employment, and it has heretofore been proposed to substitute for the reciprocating dabbing-brushes fixed plates having tapering front ends for thrusting the wool down into the spaces between the pins or traveling belts having their lower runs gradually approaching the tops of the pins for the same purpose, or combinations of such devices, none of which, however, have proven to be as effective for the purpose as the reciprocating brushes. In carrying out our invention, therefore, we propose to retain this dabbing action without the employment of the usual brushes, substituting for the latter reciprocating metallic plates guided by suitable bars, which extend between the rows of pins on the circles of the machine. In the drawings these reciprocating dabbing-plates are represented at 3, as many of these plates being, by preference, employed as there are spaces between the rows of pins on the circles, and as many of the plates as may be necessary being guided in slots near the forward ends of bars 4, which are located between the rows of pins and extend some distance rearwardly beyond the dabbing-plates, the lower edge of each bar projecting below the tops of the pins, so as to hold the fibers of the wool in engagement with said pins during the time that the combing or drawing action is being effected. In the present instance the inner circle 2 has four rows of pins, in connection with which are employed three dabbing-plates, and the outer circle has six rows of pins, in connection with which are employed five dabbing-plates. The central dabbing-plate of the set of three which operates in conjunction with the four rows of pins of the circle 2 is guided by an inner bar 4. The central dabbing-plate of the set of three coöperating with the first four rows of pins of the circle 1 is guided by an intermediate bar 4. The outermost of the pair of dabbing-plates which coöperate with the outer rows of pins of the circle 1 is guided by an outer bar 4, as shown in Fig. 4.

Each set of dabbing-plates has a head 5, which head has a concave socket 6 for the reception of a carrier-block 7, mounted upon a transverse rod 9, carried by a yoke 10, the carrier-block 7 constituting a segment of a sphere and being engaged at the top by the concaved lower end of a confining-screw 11, which is adapted to a threaded opening in the head 5 and is secured in place by a lock-nut 12. A similar method of support is provided for mounting the front ends of the bars 4 upon the yoke 13 at the forward end of a bar 14, which is secured to or forms part of an arm 15, mounted upon a column 16, which is located

axially in respect to the circle 2, the rear end of the bar 14 having another yoke 17, which supports a transverse rod 9 with spherical carrier-blocks 7 thereon, these carrier-blocks being engaged by concaved lips 19 at the top and bottom of a longitudinal slot formed in the rear end of each of the intermediate and outer bars 4, contact of these lips with the spherical carrier-block being effected by means of a vertical clamp-screw 20 engaging with ears 21, projecting from the rear end of the bar, respectively above and below the slot therein. Similar means are adopted for mounting the rear end of the innermost bar 4 upon the end of a bar 22, which projects rearwardly from the arm 15. Each of the bars 4 and the dabbing-plates guided thereby is thus adjustable toward and from the center of the machine by shifting the blocks 7 upon the rods 9, so that each dabbing-plate may occupy its proper central position between two rows of pins and each of the bars can swing laterally upon its carrier-block 7, so as to insure the maintenance of the lower portion of the bar in its proper position between the rows of pins of the circle and prevent it from bearing against the pins of either row with such force as to cause undue wear of the same, the lower end of each bar being thickened, as shown at 23, so as to almost fill the space between the rows of pins between which it is projected. This lateral freedom of movement of the bars 4, however, in no way affects their vertical rigidity necessary for keeping the wool pressed down into the spaces between the pins. In order to effect the vertical reciprocation of the dabbing-plates 3 the yoke 10 carrying the same is secured to the projecting lower end of an arm 24, vertically guided in suitable bearings on the post 16 and engaged by a cam or eccentric 25 on a shaft 26, which is mounted in bearings on said post 16 and has a pulley 27, driven by means of a belt 29 from another pulley 30 on a shaft 31, mounted in bearings at the top of the post 16 and having rotative movement imparted to it in any suitable manner.

The front edges of the bars 4 are preferably inclined or beveled, as shown in Figs. 1 and 2, so as to aid in pushing the wool down between the rows of pins of the circles; but this is not essential to the proper carrying out of our invention, as the engagement of the wool with the pins may, if desired, be accomplished solely by the action of the reciprocating dabbing-plates.

Where the front edges of the bars 4 are inclined, the forward edges of their inner wings may be cut away, so as to present recesses extending above the tops of the pins and rearwardly beyond the dabbing-plates, as shown, for instance, by dotted lines x in Fig. 2, and where three dabbing-plates are employed in a set the lower portion of the central dabbing-plate may also be cut away or recessed at the rear, as shown by dotted lines y in Fig. 2, as this plate does not have to perform as severe duty as the outer plates of the series.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. The combination of the pin-carrying circle of a wool-combing machine, a bar extending between the rows of pins of said circle and having its lower edge projecting at all times below the tops of said pins, and one or more vertically-reciprocated dabbing-plates guided vertically by said bar, subtantially as specified.

2. The combination of the pin-carrying circle of a wool-combing machine, a bar disposed between the rows of pins on said circle and having a beveled front edge and a lower edge projecting at all times below the tops of said pins, and one or more vertically-reciprocated dabbing-plates guided by said bar, substantially as specified.

3. The combination of the pin-carrying circle of a wool-combing machine, with vertically-guided and vertically-reciprocated dabbing-plates disposed between rows of pins of said circle, said dabbing-plates, and the guiding means therefor, being pivotally mounted, whereby the lower ends of the dabbing-plates can swing laterally, substantially as specified.

4. The combination of the pin-carrying circle of a wool-combing machine, a bar disposed between rows of pins on said circle and mounted so as to swing laterally at its lower end, and one or more vertically-reciprocated dabbing-plates guided by said bar and also mounted so as to swing laterally therewith, substantially as specified.

5. The combination of the pin-carrying circle of a wool-combing machine, a series of connected and vertically-reciprocated dabbing-plates disposed between rows of pins on said circle, and a bar engaging one of said series of dabbing-plates, and serving as a vertical guide therefor, said bar being disposed between rows of pins of the circle and having its lower edge projecting at all times below the tops of said pins, substantially as specified.

6. The combination of the pin-carrying circle of a wool-combing machine, a series of vertically-reciprocated dabbing-plates disposed between rows of pins on said circle, guides for said plates projecting downwardly between the rows of pins on the circle and having their lower edges at all times below the tops of said pins, and radially-adjustable carriers for said dabbing-plates and their guides, substantially as specified.

7. The combination of the pin-carrying circle of a wool-combing machine, a series of vertically-reciprocated dabbing-plates disposed between rows of pins on said circle, guides for said plates projecting downwardly between the rows of pins on the circle and having their lower edges at all times below the tops of the pins, and radially-adjustable carriers upon which said dabbing-plates and

their guides can swing, substantially as specified.

8. The combination of the pin-carrying circle of a wool-combing machine, a series of dabbing-plates disposed between rows of pins on said circle, a head carrying said dabbing-plates, a vertically-reciprocated yoke having a rod or bar with spherical carrier-block thereon, and means for mounting the dabbing-plate head upon said spherical carrier-block so that it is vertically confined thereto but is free to swing laterally thereon, substantially as specified.

9. The combination of the pin-carrying circle of a wool-combing machine, a series of vertically-reciprocated dabbing-plates disposed between rows of pins on said circle, a bar constituting a vertical guide for said dabbing-plates, said bar being longitudinally slotted at its rear end, a yoke having a rod with spherical carrier-block thereon occupying said slot in the bar, and means whereby the opposite walls of the slot are caused to bear upon said carrier-block, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS A. JACKSON.

his
WALTER E. × THOMPSON.
mark

Witnesses:
F. E. BECHTOLD,
JOS. H. KLEIN.