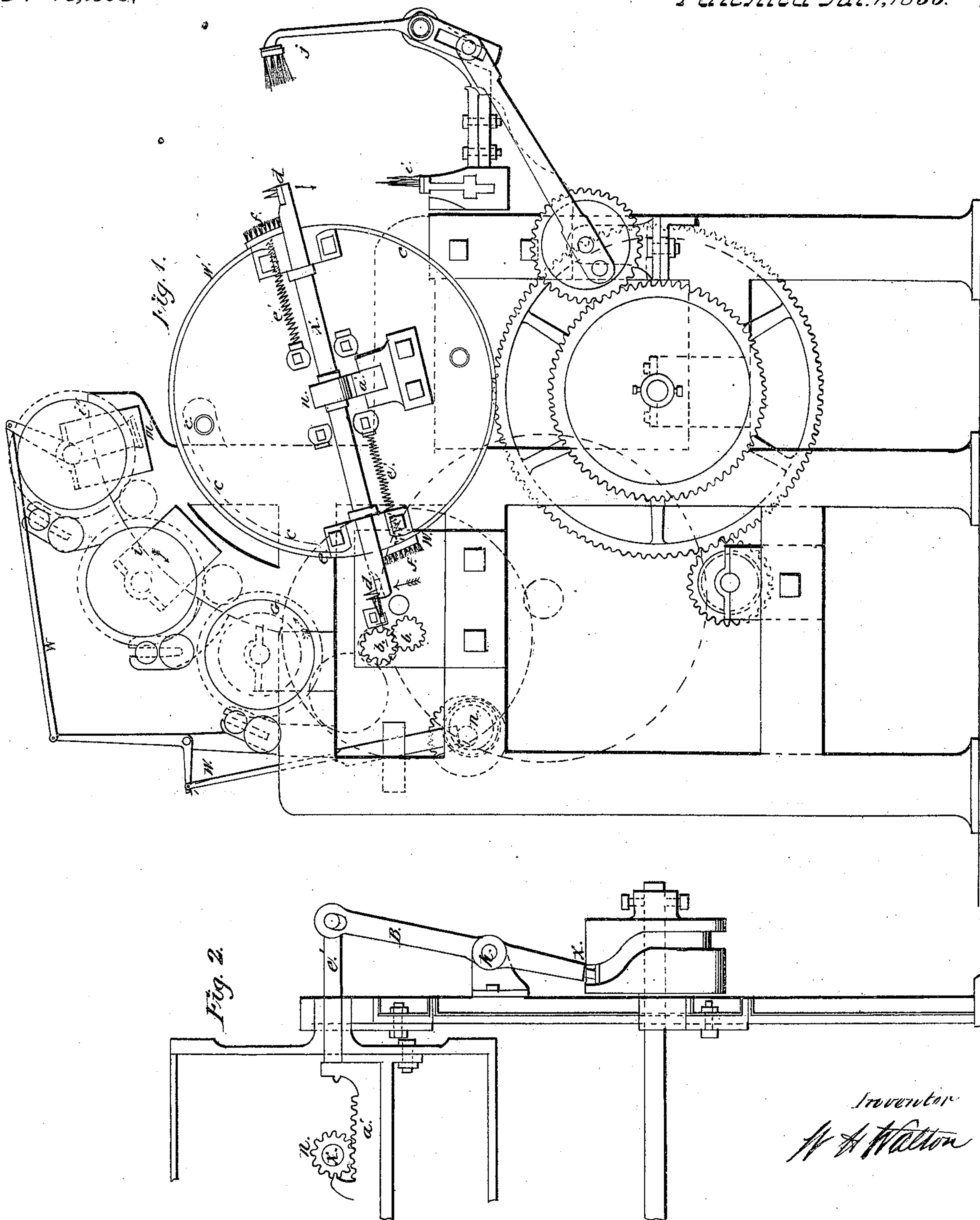


W. H. Walton.
Wool Combing Mach.

N^o 15,208.

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UNITED STATES PATENT OFFICE.

WM. H. WALTON, OF BROOKLYN, NEW YORK, ASSIGNOR TO W. H. WALTON AND J. E. WINANTS, OF BROOKLYN, NEW YORK.

MACHINERY FOR COMBING WOOL.

Specification of Letters Patent No. 15,268, dated July 1, 1856.

To all whom it may concern:

Be it known that I, W. H. WALTON, of Brooklyn, county of Kings, and State of New York, have invented certain new and
5 useful Improvements in Machinery for Preparing and Combing Wool and other Flexible Materials, the following being a description thereof, reference being had to the accompanying drawing, in which—

10 Figure 1 is a side elevation of my machinery. Fig. 2 is a vertical cross section of the cylinder and reversing combs showing the gearing by which during the revolution of the cylinder the combs are re-
15 versed.

The construction and operation of the machinery is as follows for the first process, preparing the wool or other material to comb it is first fed in a manner like feeding an ordinary machine card: thence the
20 wool passes between two pairs of feeding rollers *b, b*, as is usual in carding engines. These rollers may be plain or fluted according to the material to be worked. As the
25 fibers pass continuously through the feeding rollers and project beyond them it is caught on the teeth of the combs *d, d*, that project from the cylinder *e* (smooth on its exterior) at two opposite points where the
30 axis *x* passes radially through the center from side to side and projects sufficiently beyond to bear the combs *d* one on each end, in such a position as to be rotated by
35 turning the axis on which they are fixed. Then these combs come in to contact with the fiber before named projecting from the feed rollers *b b*. The teeth of the comb project forward in the direction of its motion as shown by the arrows so as to take
40 hold of and carry off a portion of the fiber, which by the revolution of the cylinder is carried upward and brought in contact with a sufficient cylinder apparatus for working the fiber; this may be as shown in the drawing where a small card cylinder *G* is represented running slowly in the same direction
45 as the motion of the comb which tends to straighten the fiber and takes off a portion thereof, thence the comb passes to a second cylinder running in an opposite direction as indicated by the arrows, thence the comb passes to a third cylinder, running like the first. The two outside cylinders are
50 stripped by the center one and that is stripped by the passing comb, so as to keep

all clear. Other devices might be substituted for this if found desirable. To insure the contact of the fiber on the combs with the cylinders I place behind each comb a brush *f* which is, when not in action kept
60 drawn back into a recess on the cylinder *e* by a spring *e'*, but as it is passing the small working cylinders *G* its ends, which project beyond the ends of cylinders *e*, strike projections or curved rails affixed to the frame
65 just beyond the ends of the cylinder and lettered *c c c* shown by dotted line Fig. 1, (as they are hid by the cylinder) that throw the brush outward, and force the fibers onto the teeth of the small cylinders. 70
After the comb has passed the brush falls back into place, and the comb *d* as it reaches point *w* revolves on its radial axis *x* before named, that passes through the cylinder, so as to reverse the position of the
75 teeth, and make them point backward. This motion is effected by means of a small pinion *n* at its center as clearly shown in Fig. 2, this pinion *n* gears into a rack *a'* that slides endwise in the line of the axis
80 of the revolving cylinder, so that when moved in either direction it causes the axis to turn a semi-revolution. To give motion to the rack it has a small rod *c'* attached to it, and projecting through the hollow axis
85 of the cylinder. This is connected by an ordinary collar, with the upper end of a lever *B* having its fulcrum at *h*, and with its lower end worked by a zig-zag cam at *x* on the lower shaft, from which it derives
90 its motion at proper intervals as is obvious from the construction of the parts. When the comb has been reversed it passes onward into contact with the teeth on an endless chain comb such as is used in ordinary
95 combing machines, where the fiber is deposited, it being freely doffed from the position of the parts. After passing this point, and before they again reach the feeding rollers, the opposite combs *d* have
100 reached the point *w* in Fig. 1 and the two combs being on the same axis *x*, are again at the same time reversed, fringing the first described comb, (now the lower one) with its teeth pointing in the right direction to
105 receive its charge from the feeding rollers and the upper one into position to have its fibers doffed. To insure the doffing onto the comb *i* from the uppermost comb *d*, a brush *j* is employed that is brought down 110

onto said comb, pressing the fiber into the teeth. When the fiber is deposited on the comb *i* the combed portion projects outward, leaving the remaining noil, &c., behind the teeth. The endless chain comb then travels on to the point where the fiber is drawn off in a manner well known to wool combers and in which there is nothing new.

10 To clear the fibers from the cylinders I have what I denominate a cleaning bar *m* which is moved downward at the proper time between the comb and working cylinder and by this motion separates the fibers

15 in the comb from the last working cylinder and this moves back when needed to be out of the way. This bar is worked by the connections *w w* with a grooved cam *u*. The effect of it is to clear the fibers adhering to

20 the combs *d* from the last cylinder before said comb reverses, throwing off the fiber so as to be clear of the cylinder *i*, before

the comb begins to turn which prevents the fibers from being caught and tangled; the bar extends the whole length of the cylinder 25 for that purpose.

Having thus fully described my improvements, what I claim as new and desire to secure by Letters Patent is—

1. The reversing comb arranged substantially as described for conveying the wool from the feed rollers past the cylinders and out the endless chain comb as set forth. 30

2. I further claim in combination with the above named reversing comb the brush 35 in rear thereof for the purpose specified.

3. I also claim the clearing bar for clearing the fibers of wool from the cylinder *i''* before the comb reverses when combined with the reversing comb.

W. H. WALTON.

Witnesses:

JACOB HATZEL, Jr.,
J. E. WINANTS.