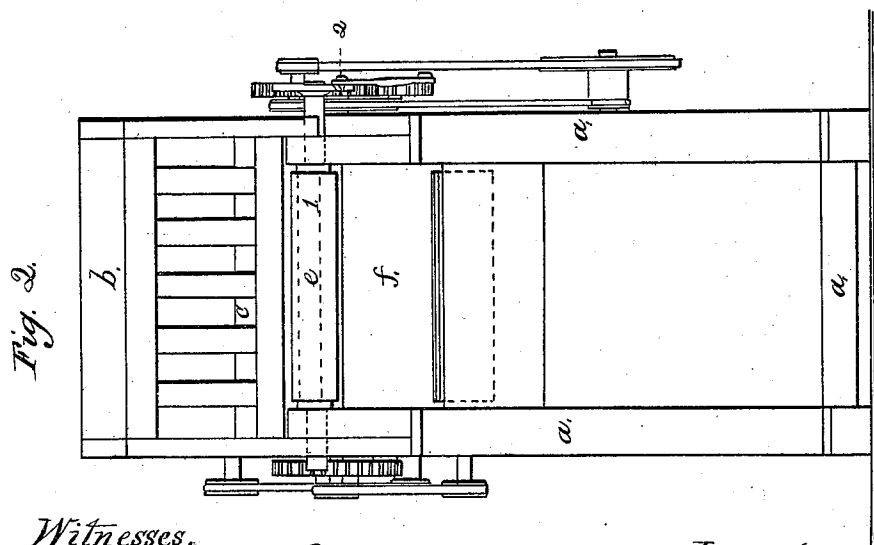
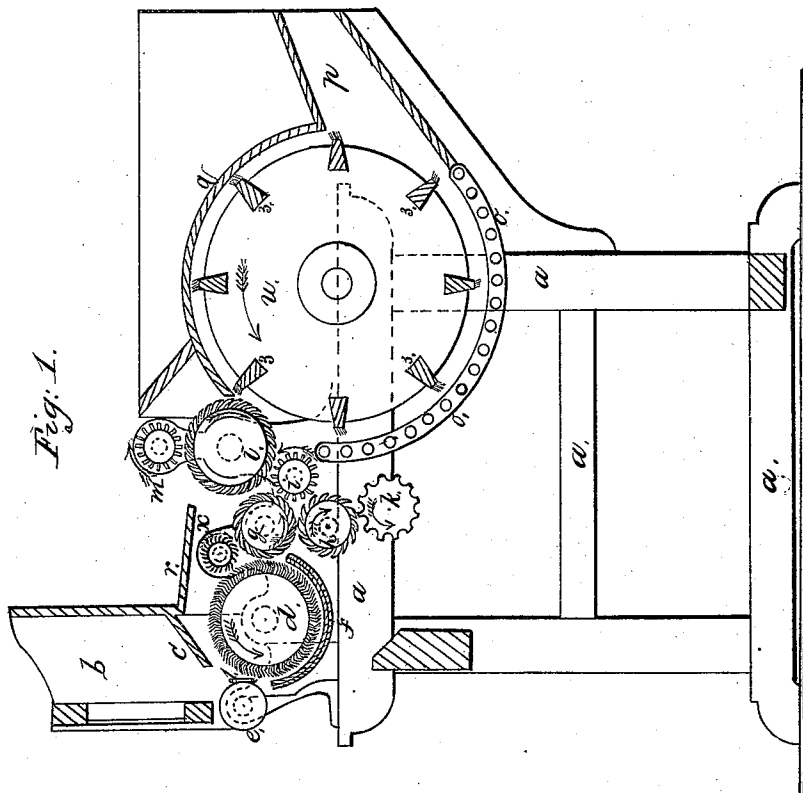


S. R. Parkhurst,
Wool Cleaner,
N^o 41,936, Patented Mar. 15, 1864.



Witnesses,
Chas. H. Smith
Thos. Geo. Harold

Inventor.
S. R. Parkhurst.

UNITED STATES PATENT OFFICE.

STEPHEN R. PARKHURST, OF BLOOMFIELD, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR PICKING AND CLEANING WOOL, &c.

Specification forming part of Letters Patent No. 41,936, dated March 15, 1864.

To all whom it may concern:

Be it known that I, STEPHEN R. PARKHURST, of Bloomfield, in the county of Essex and State of New Jersey, have invented, made, and applied to use a certain new and useful Improvement in Machinery for Cleaning and Picking Wool, Cotton, &c.; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical longitudinal section of my said machine, and Fig. 2 is an elevation of the feeding end where the fiber is supplied to the machine.

Similar marks of reference indicate the same parts.

In Letters Patent granted to me January 6, 1863, a cylindrical rotary feeding-table is set forth, and in Letters Patent granted to me June 17, 1862, an arrangement of cylinders is shown in which both sides of the fiber are exposed to the action of beaters or strippers for removing burrs and other foreign substances.

The nature of my present invention consists in a revolving feeding-cylinder, in combination with a receptacle into which the cotton, wool, or other fiber is placed, and from which said cylinder draws the fiber to the extent necessary for filling its card or other teeth with such fiber, and I combine therewith a vibrating or oscillating comb that detains, keeps back, and evens the fiber on such feeding-cylinder. The feeding-cylinder is provided with a shell surrounding a portion of it, and from the said feeding-cylinder the fiber is taken, pulled apart, and gradually opened by toothed rollers acting at the edge of such shell to draw off and loosen the fiber and allow dirt to fall out, and from thence the fiber is exposed to a cleaning operation on both sides, according to my said patent of June 17, 1862. By this arrangement I make use of the rotary feeding-table similar to that shown in my patent of January 6, 1863, combined with a hopper or receptacle, so as to render the same self-feeding, and I dispense with the feed rollers and aprons now employed in picking and carding machinery, and I loosen, open, and separate the fiber by pulling the same simultaneously in different directions, and with a comparatively slow motion, thereby avoiding the difficulty here-

tofore experienced of cutting and breaking the fiber in picking and cleaning the same. At the same time the burrs and foreign substances are loosened and easily fall or are knocked away by the strippers, because they are not compressed into the wool or other fiber by feed-rollers, &c.

In the drawings, *a* is a frame-work of any usual kind, on which the receptacle or hopper *b* is placed. This is formed of a nearly parallel sided box, the front of which should be of slats, as seen in Fig. 2, in order to more readily examine the quantity of fiber in such receptacle.

c is an inclined bottom board to the receptacle, which is above the feeding-cylinder *d*, that is formed with card or other suitable teeth projecting from the surface thereof in such a direction that said teeth will, as they revolve in the direction of the arrow, draw down from the receptacle such cotton, wool, or other fiber that is to be operated on. In order to prevent too large a quantity of fiber passing in by the said cylinder *d*, I employ the vibrating or oscillating roller *e*, with a comb, 1, affixed to the same, which comb removes the surplus fibers from the teeth of the cylinder *d* and detains them in the receptacle *b*. The depth of the teeth on the cylinder *d*, and the speed or motion given to such cylinder, will determine the amount of fiber supplied into the machine with great accuracy, and the parts may be driven by gearing or belting of any usual character. I prefer that the vibrating comb be moved by a crank-arm, 2, to which a positive motion is given by a pitman to a crank-pin describing a circle with a less radius, and driven by one of the other shafts of the machine with the required speed.

Beneath the feeding-cylinder *d* is the shell *f*, that holds the fiber to the teeth and prevents such fiber falling off during the slow movement of the cylinder.

g is a toothed cylinder parallel to *d*, and *h* is a similar cylinder below *g*, both having teeth standing away from the inner or back edge of the shell *f*, and both cylinders being rotated by competent power in the direction indicated in the arrow pulls the fiber off of and out from the teeth on *d*, separating and loosening any lumps, and the edge of the shell *f* aids in this operation by detaining such lumps

until they gradually pass above said edge as the feeding-cylinder progresses, and to aid in this opening and separating operation the edges of the shell at this point may be provided with teeth.

The toothed cylinders *g* and *h* travel faster than the feeding-cylinder *d*, and thereby draw and open the fiber gradually, and the cylinder *g* should travel faster than the cylinder *h*, to produce a carding operation between the teeth of the said cylinders.

x is a toothed roller more thoroughly to clean the feeding-cylinder *d* and convey the fiber to the cylinder *g*.

The fiber upon the cylinder *g* is subjected to the action of the beater or stripper *i*, which knocks off and removes any burrs or lumps, and such lumps fall or are thrown on the fluted roller *k* below the cylinder *h*, which, revolving slowly, carries such lumps beneath the cylinder *h*, and any fibers are taken by said cylinder and carried up again to the cylinder *g*, which, traveling fastest, strips this cylinder *h*. Any dirt and burrs that fall on the fluted roller *k* are out of the reach of the teeth on *h* while in the flutes, and pass on and fall out.

From the cylinder *g* the fiber is taken off by the cylinder *l*, which, being driven faster than *g*, draws off the fiber, at the same time loosening it and presenting the other side of the sheet or bat to the action of the stripper *m*, that acts the same, in removing any burrs from the fiber, as the device described in my patent of June 17, 1862. *r* is a receptacle for any burrs removed by the stripper *m*.

From the cylinder *l* the fiber is taken away by the blower *u*, that is fitted with slats 3 3, armed with strips of card-teeth, so as to entirely clean the cylinder *l* and blow the fiber away; and I find in practice that such card-teeth do not detain the fiber like a brush; neither do they become clogged and obstructed, but allow the fiber to pass off from their points with ease, as driven away by the blast of air and centrifugal force.

A grating, *o*, is provided below the blower

to allow any particles of dust, &c., to pass away, but to detain the fiber until it arrives at the delivery-mouth *p*. *q* is the cover or case to the blower.

The gear-wheels, pulleys, belts, &c., for giving motion to the different parts may be of any desired character, and do not require further description.

I do not claim a hopper from which fiber is taken by a toothed cylinder, as this is common with cotton-gins. In this case, however, the toothed cylinder is employed to open, separate, and convey the fiber away from seeds or foreign substances, and does not act in the capacity of a feeding device to supply a regulated quantity to the cleaning mechanism; and I do not claim returning the fibers that may fall with the burrs to the cleaning-machine to prevent the waste of such fiber.

What I claim, and desire to secure by Letters Patent, is—

1. A toothed cylinder, in combination with a receptacle or hopper to act as a feeder to carding, picking, and cleaning machines by conveying to such machines the fibers that are seized by and surround the teeth of such cylinder, substantially as specified.

2. A vibrating or oscillating comb or detainer, in combination with the said feeding-cylinder and receptacle, as specified.

3. The fluted roller *k*, in combination with the toothed cylinder *h* and stripper *i*, for the purposes specified.

4. The toothed cylinders *g*, *h*, and *l* and strippers *i* and *m*, arranged substantially as specified, in combination with the feeding-cylinder *d* and shell *f*, for the purposes and as specified.

In witness whereof I have hereunto set my signature this 15th day of September, A. D. 1863.

S. R. PARKHURST.

Witnesses:

THOS. GEO. HAROLD,
CHAS. H. SMITH.