M. S. HASIE.

Cotton-Cleaner.

No. 219,259. Patented Sept. 2, 1879.

Fig: 1.

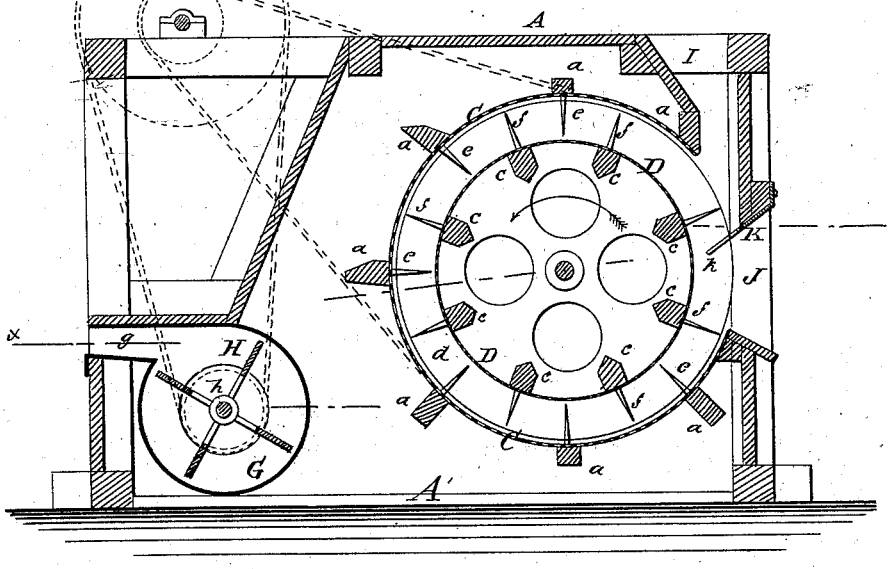
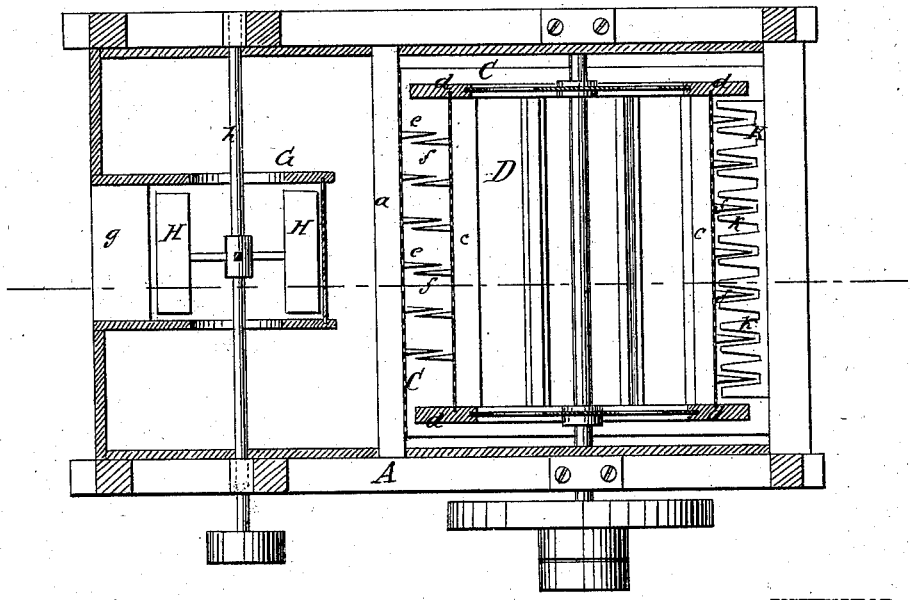


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MONTAGUE S. HASIE, OF VICKSBURG, MISSISSIPPI.

IMPROVEMENT IN COTTON-CLEANERS.

Specification forming part of Letters Patent No. **219,259**, dated September 2, 1879; application filed June 13, 1878.

To all whom it may concern:

Be it known that I, MONTAGUE S. HASIE, of Vicksburg, in the county of Warren and State of Mississippi, have invented a new and useful Improvement in Cotton-Cleaners, of which the following is a specification.

My invention relates to a novel mechanism to be employed for the utilization of refuse cotton, technically known as "cotton motes." This consists of the refuse of the cotton-gin after the process of ginning, and it has heretofore been thrown away as useless, although known to contain a large proportion of cotton fiber, the difficulty of separating the cotton from the foreign substances being considered too great to justify the expenditure of the necessary time and labor in that direction.

In my invention the cotton fiber is separated from the foreign substances, and is cleaned and condensed, so as to produce from the motes a large proportion of cotton of a good quality, and thereby to make use of what was formerly a total loss.

In carrying out my invention I take the refuse of the common gin, and thoroughly mix it with cotton-seed, so as to make it as nearly like seed-cotton as possible. I then pass it through a seed-cotton cleaner, a revolving-head gin or linter, and a condenser.

I am aware that a patent has been granted for an apparatus for linting and relinting in one machine at one operation; but said apparatus must be fed with seed-cotton in the first place, and it is not used in connection with another gin, or for ginning the refuse therefrom.

My invention is used in connection with a gin or linter, and operates upon the refuse from gins of any and every description.

The accompanying drawings represent an apparatus embodying my improvements.

Figure 1 is a longitudinal vertical section of the first part of the apparatus, or that which mixes and cleans the mass and delivers it to the gin. Fig. 2 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts.

Referring to Figs. 1 and 2, A represents a casing, which may be of any suitable material and construction, and of any suitable form which will adapt it to properly inclose the working parts of the apparatus. On the interior of the casing A, near one end, and extending between two opposite sides thereof, are bars *a*, to which is attached a sheet of perforated metal or wire-gauze, forming a stationary and nearly complete cylinder, C, the ends of which extend nearly to the sides of the casing, leaving a sufficient space for the passage of dust and dirt, as hereinafter described.

Within the stationary cylinder is a revolving cylinder, D, covered with perforated metal or wire-cloth. This cylinder is carried by a shaft which has its bearings in the side pieces of the casing; but the ends of the cylinder itself extend only as far as the ends of the stationary cylinder C. The ends of the revolving cylinder are open between the periphery and the axis, and beyond the axis they are provided with flanges *d*, for the purpose of closing the ends of the space between the outer surface of cylinder D and inner surface of stationary cylinder C.

On the inner surface of the stationary cylinder are a number of teeth, *e*, arranged in rows extending outward from the bars *a*. On the outer surface of the revolving cylinder is a number of similar teeth, *f*, arranged in rows extending outward from the ribs *c*, which constitute the frame-work to which the wire-cloth is attached. These teeth are placed at such points in the respective rows that when the cylinder D revolves the teeth *f* pass between the teeth *e*, but very near thereto, as shown in Fig. 2.

Near the end of the casing A farthest from the cylinders is a fan-chamber, G, in which works a fan, H, carried by a shaft, *h*, having its bearings in the sides of the casing. The length of the fan-chamber is considerably less than the width of the casing. The ends of the chamber are open, and it terminates in a flue, *g*, leading to the exterior of the casing.

At the end of the casing farthest from the fan-chamber is an opening, I, through which the machine is fed, and an opening, J, through which it discharges. Between these two openings is a comb, consisting of a plate, K, provided with tongues or teeth *k*. The comb is attached to the upper edge of the discharge-

opening J, with the teeth inclined downward, and extending nearly to the surface of the revolving cylinder D. The comb-teeth *k* are so arranged that as the cylinder D revolves each of its teeth *f* passes between two of the comb-teeth *k*.

The apparatus, constructed as described, is connected with a cotton gin or linter of any suitable description, with the discharge-opening J communicating with the mouth or feed-flue of the gin. The refuse and motes mixed with cotton-seed are fed into the opening I, and as the cylinder revolves in the direction of the arrow the mass is engaged by the teeth *e* and *f*, and the cotton fiber is loosened and separated from the dirt and foreign substances, and at the same time the cotton and the seeds are thoroughly mixed and brought to a condition as nearly resembling seed-cotton as possible.

As the mass is carried around in the stationary cylinder C by the revolving cylinder D, the exhaustive current caused by the fan H extracts the dirt and dust, and draws it outward through the stationary cylinder and inward through the revolving cylinder, and from the latter it escapes through the open ends of the revolving cylinder and the open space at the end of the wire of the stationary cylinder, and the whole of the dust and dirt which is thus extracted and enters the casing escapes through the open ends of the fan-chamber and passes out through the flue *g*. When the mass reaches the discharge-opening J it is discharged through the same into the gin or linter, where it is subjected to the ginning process in the usual way.

The comb K serves a double purpose: first, it prevents the cotton and seeds which are fed into the opening I from dropping down to the discharge-opening; and, secondly, it combs the lint fiber from the teeth of the revolving cylinder as said teeth pass between the comb-teeth *k*, and thus prevents said lint and fiber from being carried around by the cylinder again.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The toothed wire-gauze rotary cylinder having side apertures, the case A, having inlet and outlet for the cotton, the intermediate downwardly-oblique plate K, whose teeth intermesh with those of cylinder D, and the wire-gauze stationary cylinder C, open at the sides, in combination with the suction-fan G H, arranged substantially as shown and described.

MONTAGUE SYLVESTER HASIE.

Witnesses:

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