

(No Model.)

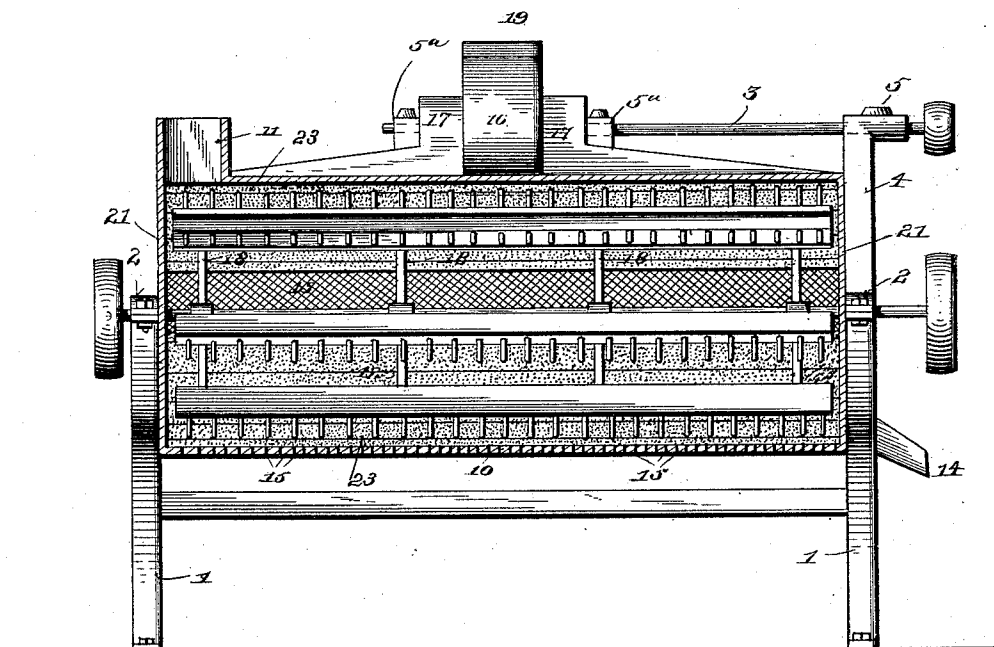
2 Sheets—Sheet 1.

J. J. FAULKNER.
COTTON SEED HULL LINTING MACHINE.

No. 466,669.

Patented Jan. 5, 1892.

FIG. I.



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FIG. II.

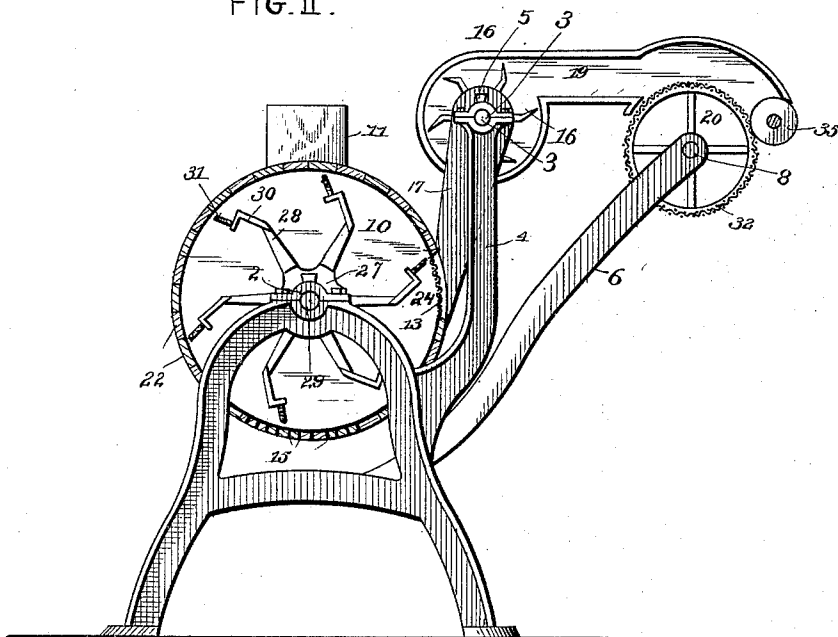


FIG. IV.

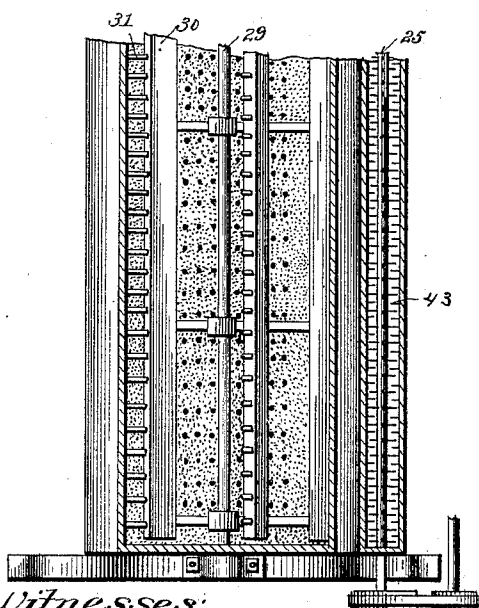
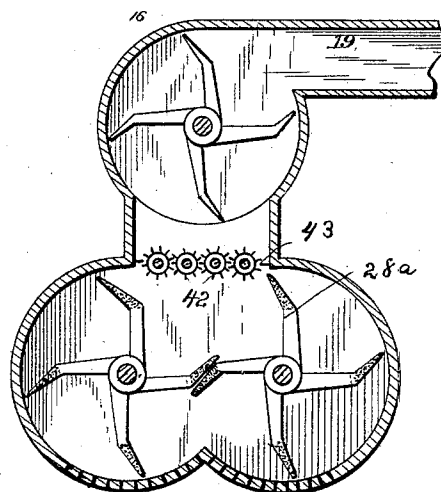


FIG. III.



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UNITED STATES PATENT OFFICE.

JAMES JONES FAULKNER, OF MEMPHIS, TENNESSEE, ASSIGNOR OF TWO-THIRDS TO THE NATIONAL COTTON SEED OIL AND HULLER COMPANY, OF SAME PLACE.

COTTON-SEED-HULL-LINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 466,669, dated January 5, 1892.

Application filed September 8, 1890. Serial No. 364,381. (No model.)

To all whom it may concern:

Be it known that I, JAMES JONES FAULKNER, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Cotton-Seed-Hull-Linting Machines, of which the following is a specification.

My invention relates to machines for removing the lint from the hulls of cotton-seed, which has been largely wasted heretofore, owing to the inefficiency of the machinery by which it has been treated.

The machine to which my invention relates comprises, first, a scouring or agitating cylinder having a suitable hopper, a perforated bottom, a hull-outlet, a guarded outlet through which lint is drawn by an air-current, a scouring-surface, and an agitating-reel; second, a fan connected by suitable trunks with the lint-outlet and a condenser, and, third, a suitable condenser; and my invention consists in certain novel features of construction of the above-mentioned parts, having for objects the more thorough and economical treating of the material, all of which will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure I is an axial section of my machine. Fig. II is an end view with the side of the casing removed. Fig. III represents in transverse section a modification in the form of the apparatus, and Fig. IV represents a horizontal section in the plane of the lint-outlet.

1 represents a suitable frame, having the bearings 2 for the cylinder-shaft 29, supplemental arms 4, with bearings 5 for the fan-shaft 3, and further extensions 6, with bearings 8 for the condenser. Any equivalent frame may be used.

10 represents the scouring-cylinder, having the inlet-hopper 11, the agitator 12, the guarded lint-outlet 13, the hull-outlet 14, and the perforated bottom 15.

16 represents the fan, connected by the air-trunk 17 with the lint-outlet 13 and by the air-trunk 19 with the condenser 20.

The scouring-cylinder 10 is composed of suitable heads 21 and a number of longitudi-

nal slats 22, closely secured together and provided with a scouring-surface 23, of emery, sand, or other suitable material. The perforated bottom 15 of the cylinder may be formed of a perforated plate or of wire fabric, as may be desired.

The guarded outlet 13 or the air-trunk through which the fibers pass may be provided with a guard roll or rollers extending from end to end of the air-trunk and provided with closely-set radial pins or corrugations having their ends bent and fitting the width of the trunk. The guard-plate is shown at 24 in Fig. I, while the roller is shown at 25 in Fig. IV. The roller is used when strong air-currents are used. A rotary motion is imparted to said roller by means of a belt 26, running from the fan-shaft.

The agitating-reel in the cylinder is composed of spiders 27, having radial arms 28 and mounted on a suitable shaft 29, and having on their outer ends angle-plates 30, in which are inserted scouring pins or projections 31, coated with emery or other suitable abrading substance. The ends of the spider-arms are beveled, so that one side of the angle-plates forms an angle thereto, while the other side projecting at right angles carries the scouring-pins substantially parallel to the side of the plate by which it is secured. The combined length of the spider-arms and scouring-pins is such that the pins pass around in close proximity to the outer shell of the cylinder.

The fan may be of any suitable construction.

The condenser consists of a cylinder 32, constructed of wire fabric and mounted upon a shaft 8, which communicates through a suitable pulley with the shaft of the fan. The air-trunk 19 extends from the fan, and being curved to conform to the surface of the wire cylinder is terminated by a roller 35, bearing upon the cylinder and acting therewith to condense the fiber. The under side of the curved portion of the air-trunk is open, and the fiber which is passed through the trunk collects upon the wire cylinder, while the air passes through and escapes. The cotton-seed hulls covered with lint being passed into the hopper 11 until a sufficient quantity is col-

lected in the cylinder will be agitated and the fiber removed as the material passes through the cylinder. The fiber is drawn by a strong air-current through the outlet 13 into the fan and along to the condenser, the seeds being kept back by the guard, as explained.

In the modified form of apparatus shown in Fig. III is illustrated a double cylinder having the intersecting portions of the walls removed and containing agitating-reels rotating in the same direction and consisting, simply, of intermeshing radial arms 28^a. Independent perforated bottoms are shown, and a broad air-trunk extends vertically from the machine and is provided with several intermeshing pin-rollers 25 for opposing the passage of the seeds. The pin-rollers constitute a form of guard obviously as readily applicable to the form of cylinder shown in Fig. I as to the other forms of cylinder shown. Whether one or more pin-rollers are used it is desirable to use the stationary pins 43 at the sides of the opening, as shown in Figs. III and IV. The effect is the same in either form, provided some of the pins are roller-mounted—that is to say, are mounted in a roller or rollers.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent—

30 1. In a linting-machine, the combination of a cylinder having suitable inlet and outlet for the hulls, a guarded outlet for the lint,

and the roughened scouring-surface for removing the lint, with the agitating-reel, consisting of spiders having roughened pieces attached to the ends thereof, a suitable suction-fan connected with the guarded lint-outlet, and a condenser connected with the fan, substantially as set forth. 35

2. In a linting-machine, the combination of a cylinder having inlet and outlet for the hulls, a guarded outlet for the lint, and the roughened scouring-surface for removing the lint, with the agitating-reel, consisting of spiders having their arms provided with angle-plates arranged at an angle thereto, said angle-plates also having roughened pieces attached to their ends, a suitable suction-fan connected by an air-trunk with the guarded lint-outlet, and means for collecting the lint from the fan, substantially as specified. 40 45 50

3. In a linting-machine, the combination of the scouring-cylinder having suitable inlet and outlet for the hulls, with the agitating-reel, consisting of spiders having roughened pieces attached to the ends thereof, the system of rollers having radial pins, the stationary pins adapted to guard the lint-outlet, and a suitable exhaust-fan connected with the lint-outlet, substantially as set forth. 55

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