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T. H. FAULKNER.

WOOL BURRING AND PICKING MACHINE.

No. 332,651. Patented Dec. 15, 1885.

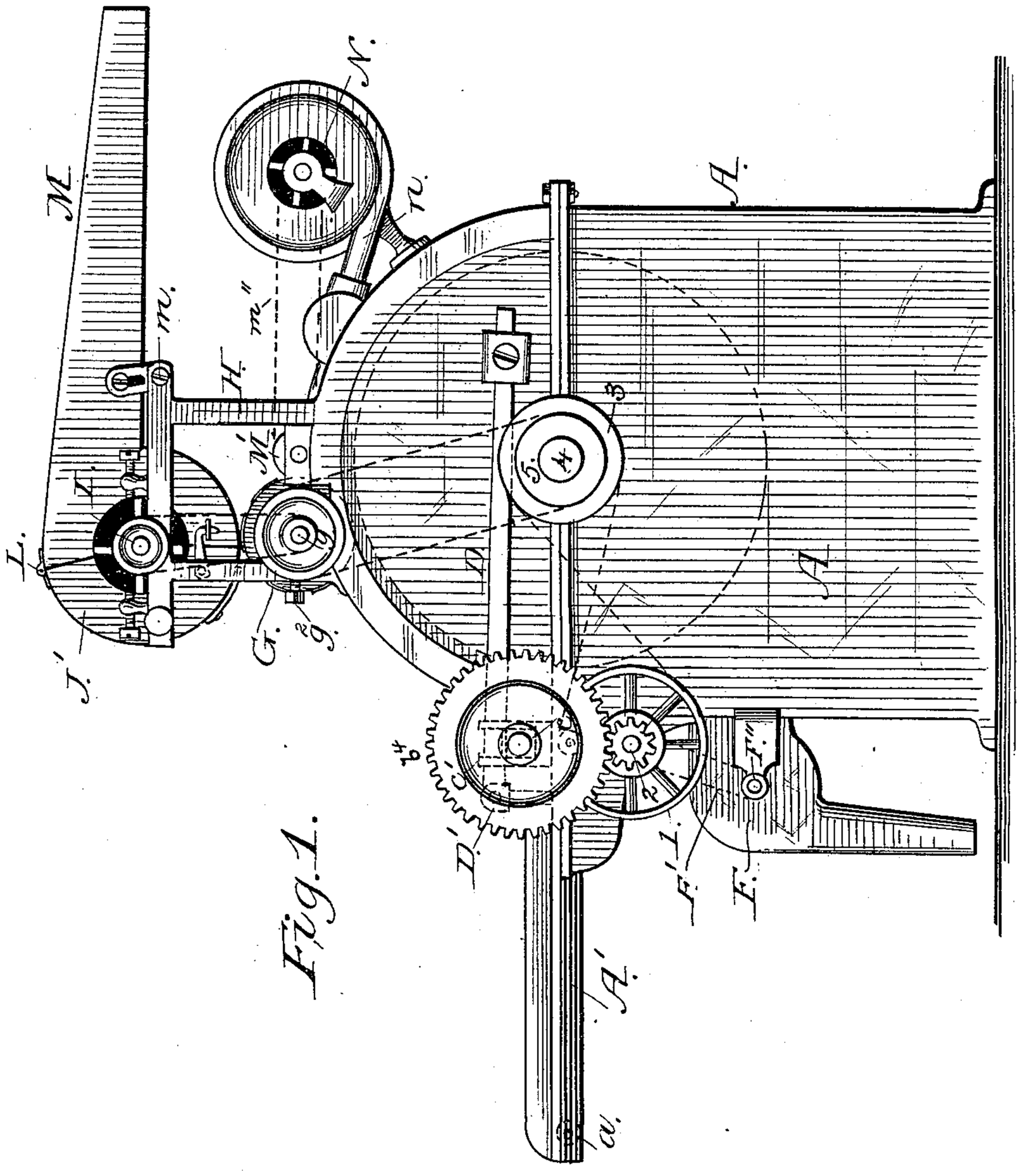

Fig. 1.

WITNESSES
P. Waller Fowler
H. B. Applewhaite,

INVENTOR
Thomas H. Faulkner
per A. N. Evans & Co.
Attorneys

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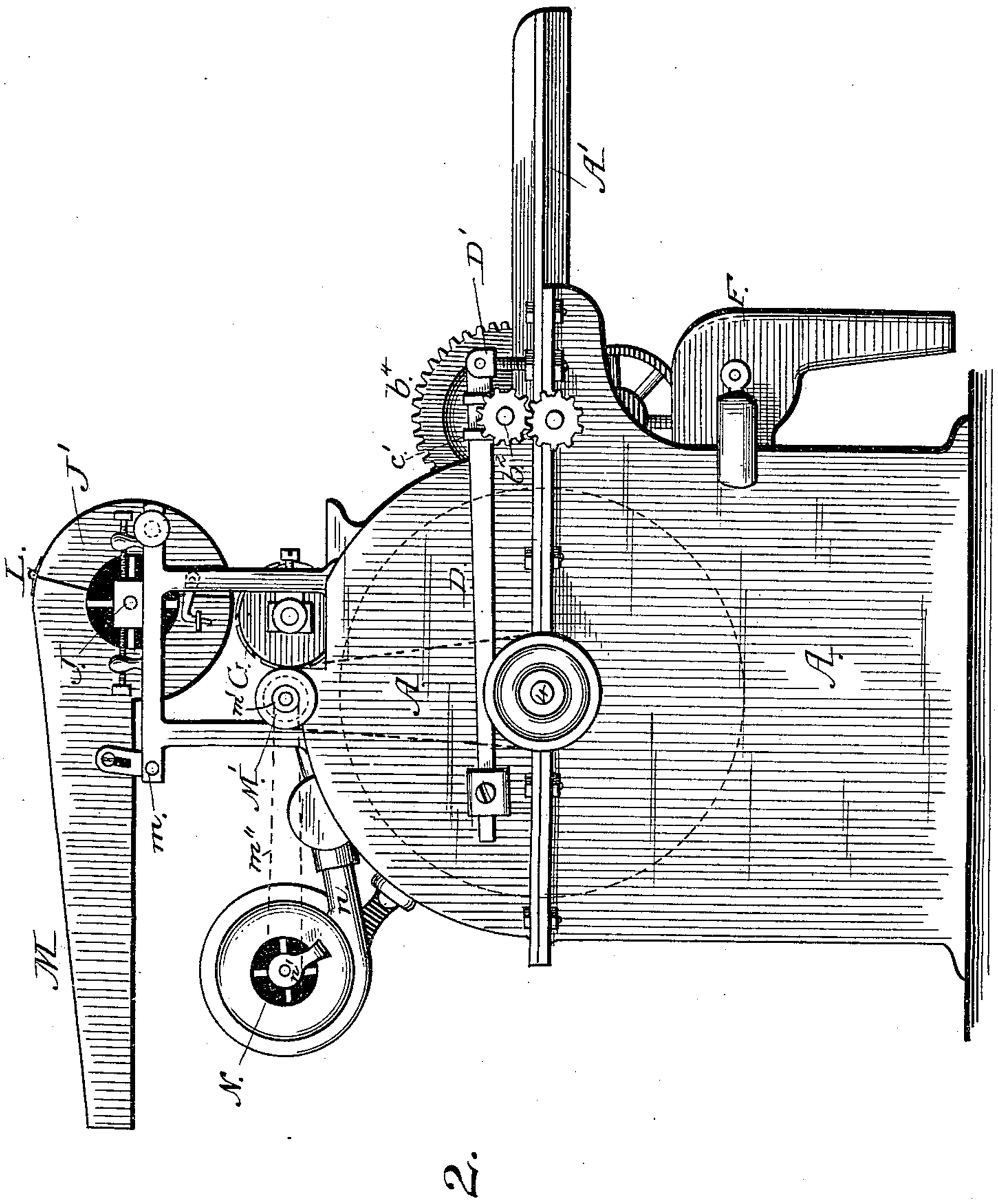

Fig. 2.

WITNESSES
P. Walter Fowler,
H. B. Applewhaite,

INVENTOR
Thomas H. Faulkner
per A. H. Evans
Attorneys

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T. H. FAULKNER.

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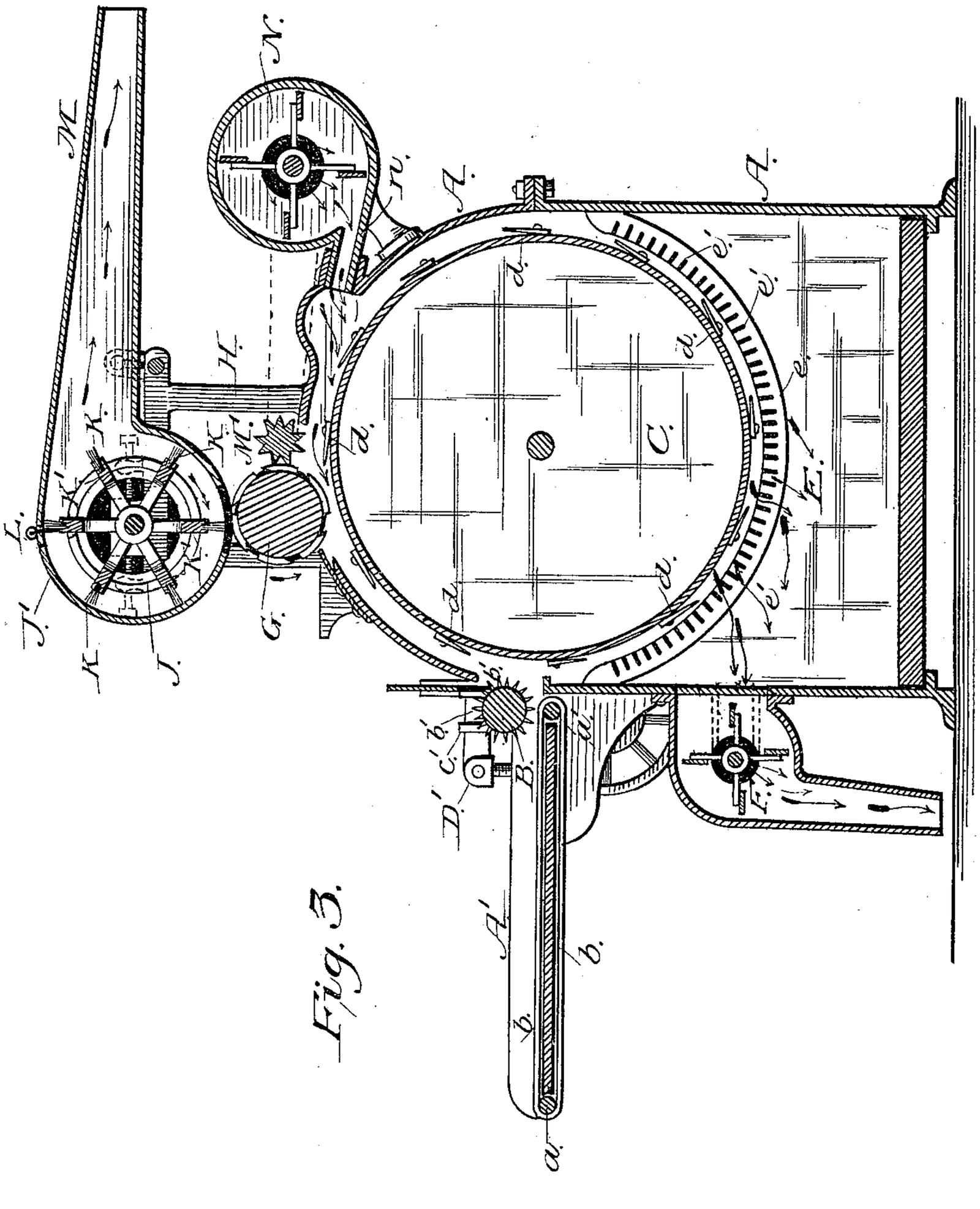

Fig. 3.

WITNESSES

P. Walter Fowler

H. B. Applewhaite,

INVENTOR

Thomas H. Faulkner

per A. N. Evans & Co.

Attorneys

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T. H. FAULKNER.

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Fig. 4.

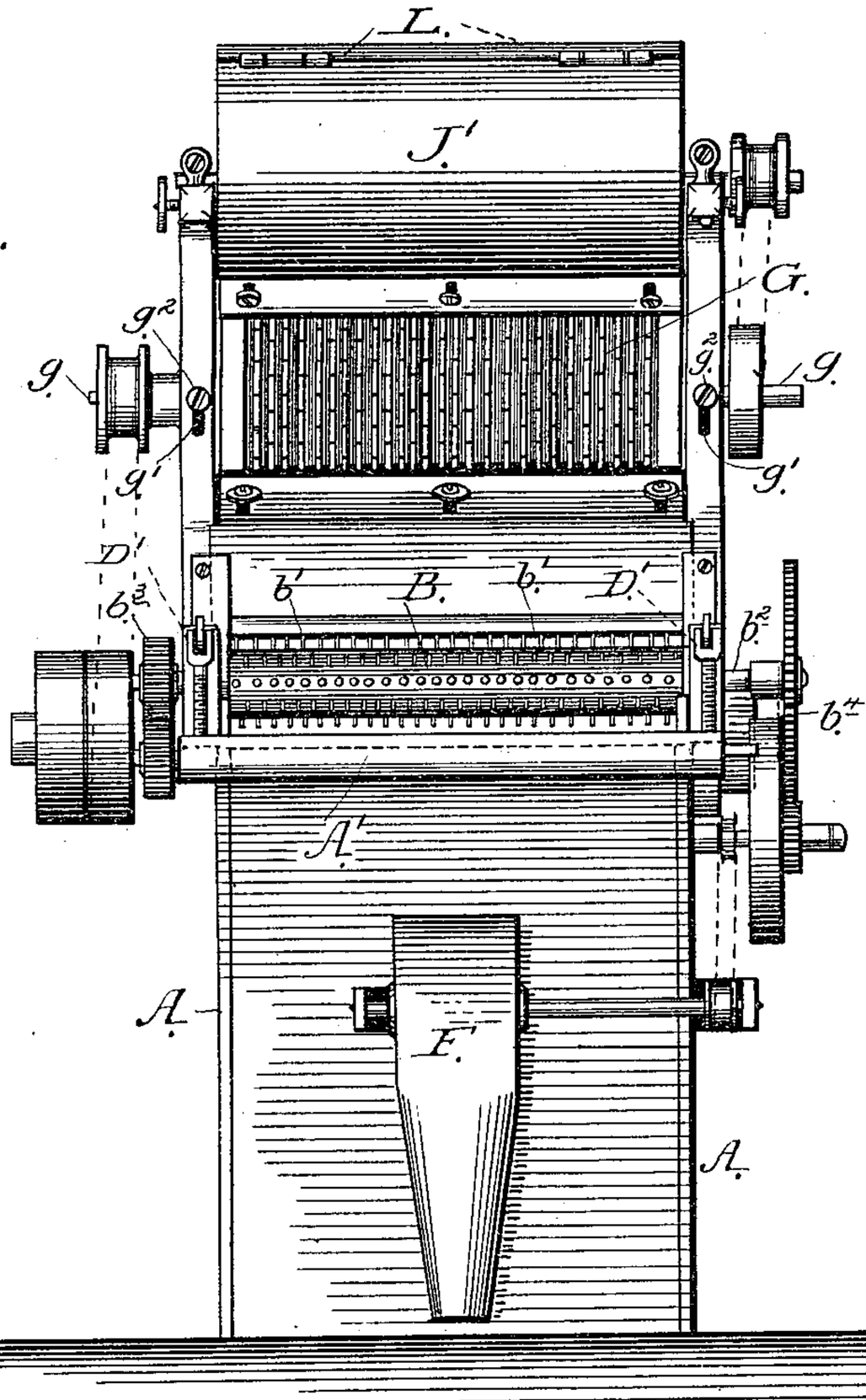
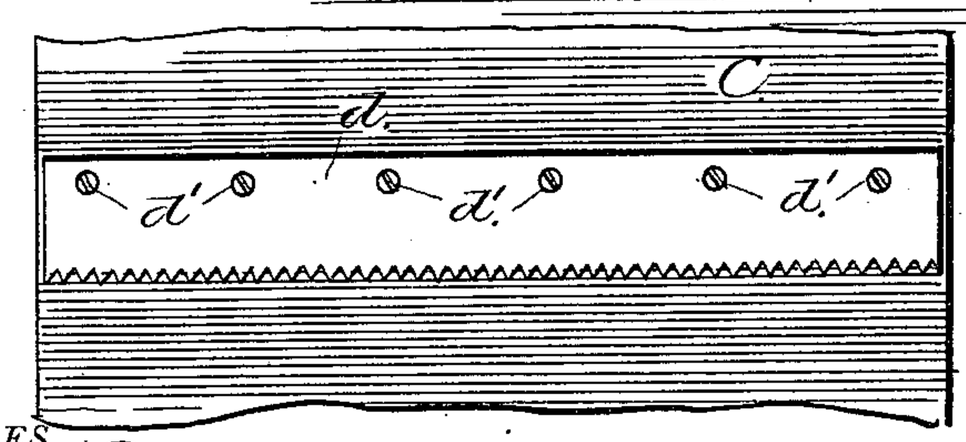


Fig. 5.



WITNESSES

P. Walter Fowler.

H. B. Applewhaite,

INVENTOR

Thomas H. Faulkner

per A. H. Evans & Co.

Attorneys

UNITED STATES PATENT OFFICE.

THOMAS HOPKINS FAULKNER, OF McMINNVILLE, TENNESSEE.

WOOL BURRING AND PICKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 332,651, dated December 15, 1885.

Application filed April 24, 1885. Serial No. 163,358. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. FAULKNER, a citizen of the United States, residing at McMinnville, in the county of Warren and State of Tennessee, have invented certain new and useful Improvements in Wool Burring and Picking Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of a burring-machine with my improvements attached. Fig. 2 represents an elevation from the opposite side. Fig. 3 represents a longitudinal sectional view. Fig. 4 represents a front elevation. Fig. 5 is a detail of a portion of the main cylinder, showing one of the blades and the manner whereby the blade is secured to the cylinder.

My invention relates to machines for burring and picking wool; and it consists in the peculiar construction and combination of devices, all of which I shall hereinafter describe and specifically point out in the claim.

It is well known to those skilled in the art that wool, after being washed, is matted together, and usually it has been subjected to a picking operation to open the wool previous to carding. In ordinary pickers the wool is torn and the fiber broken to a considerable extent; and the object of my invention is to separate the mass of wool with as little injury to its fiber as possible. These essential features are accomplished by the mechanism illustrated in the accompanying drawings, and to enable those skilled in the art to which my invention appertains, I will now proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a framework of any suitable construction, and provided with an extension or table, A′, within which is mounted the roller *a* and *a′*, around which is passed the endless apron *b*, which conveys the wool, cotton, or other fibrous material to the feed-roller B. This feed-roller B has its entire surface covered with a series of teeth, *b′*, which pick or open the material and feed the same to main picking-cylinder C. The feed-roller B has a shaft, b^2, upon one end of which is a pinion, b^3, and upon the other end a gear-wheel, b^4, while grooved blocks *c*, moving in guides or standards *c′*, permit the feed-roller to have a vertical movement to accommodate itself to any unevenness that may exist in the body of the wool. The vertical movement of the feed-roll is controlled by bars D, the forward ends of which are pivoted in slotted standards D′, and thence passing through the slotted top of the guides *c′* extend backward, are weighted, as shown in Figs. 1 and 2.

The material, after being acted on by the feed-roller, is caught by the main picker-cylinder C. This cylinder has a solid surface, and may be made either of metal or wood, and at different points around its periphery are securely fastened strips or blades *d*, having serrations or teeth cut thereon, said blades being held in place by screws *d′*, as shown in Fig. 5. Beneath the cylinder C, and concentric therewith, is arranged a grating, E, which consists of flanges *e* and transverse-spaced bars *e′*, between which the burrs, dirt, and other foreign material may fall.

At the front of the machine, and directly beneath the feed table or extension A′, is arranged a suction-fan, F, which communicates with the interior of the frame at a point immediately beneath the curved grating E. The purpose of this fan is to produce a strong suction of air, the air being drawn between the bars in the grating E, and allowing all particles of dirt and other foreign substances to fall through by their own gravitation into the dirt-box, but being greatly assisted by the strong blast of air produced by the fan, and I have found by actual experiment that when the fan is located as herein shown and described I have been able to obtain better results, as it thoroughly prevents the smaller particles of dust and dirt from going with the wool onto the "burr-cylinder." The burring-cylinder G is mounted on a shaft, *g*, journaled between the sides of the frame and immediately above the cylinder C, and it has an adjustment toward or from this cylinder by reason of slots *g′* and set-screws g^2. I prefer placing the bearing-cylinder G above and in close proximity to the main cylinder, as I have found this to be the most effectual place to locate it, from the fact that at this point the material has less centrifugal tendency, hence the burr-cylinder G can keep the burrs

back more easily and requiring less speed, as the natural gravitation of the burrs will prevent them from following this cylinder, which lies slightly in advance of the central vertical line of the main cylinder.

The frame of the machine is extended at its upper portion, as shown at H, and within the frame thus formed is mounted a shaft, I, which carries a fan, J, having a series of brushes, K, attached to the transverse blades K′, as shown. The fan J rotates in a suitable closed frame, J′. This frame is hinged at L, which permits the frame to be opened and the brushes to be cleaned or replaced, and is also provided with catches which secure the parts together. The fan-frame is extended at its rear end and terminates in a spout, M, through which the cleaned wool is discharged, after it has been taken from the burring-cylinder, by the brushes K. The fan-frame is pivoted at *m*, so that the discharge end may be raised or lowered to different inclinations. Directly behind the burring-cylinder and mounted in the frame is the stripper M′, which assists in keeping the wool open and evenly distributed upon the burring-cylinder.

Secured on rear portion of the main frame A, and immediately beneath the discharge-spout M, is a blower-fan, N, having a spout, *n*, which communicates with interior of the machine and produces a strong current of air, blowing against the burr-cylinder and directly under it, so as to prevent any dirt or burrs from following the burr-cylinder in its rotation.

Motion is imparted to the various working parts of the machine through a pulley, 1, on the shaft 2, which carries the pinion and operates the feed-roll through the medium of the gear-wheel b^4. A belt passing from the pulley 1 engages the pulley 3 on the main shaft 4 and drives the cylinder C, while another belt on a pulley, 5, on the shaft 4 engages a pulley on the shaft *g* and drives the burring-cylinder G. A similar belt runs from the burring-cylinder shaft to the shaft of the fan-brush and drives the latter. A belt, *m*″, passes from a pulley, *m*′, on the shaft of the stripper M′ to a pulley, *n*′, on the shaft of the blower-fan and operates the latter, while another belt, F′, extends from a pulley on the shaft 2 to a pulley, F″, on the suction-fan shaft and operates said fan.

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

The combination, with the frame A, the cylinder C, and the burr-cylinder G, of a concentric grating, E, provided with transverse spaced bars *e*′, a suction-fan, F, at the front of the machine and beneath the table, a fan, J, a fan-case provided with a discharge-flume, and a blower-fan, N, at the rear and immediately beneath the discharge-flume, substantially as herein described.

THOMAS HOPKINS FAULKNER.

Witnesses:

H. H. FAULKNER,

J. M. CUNNINGHAM.