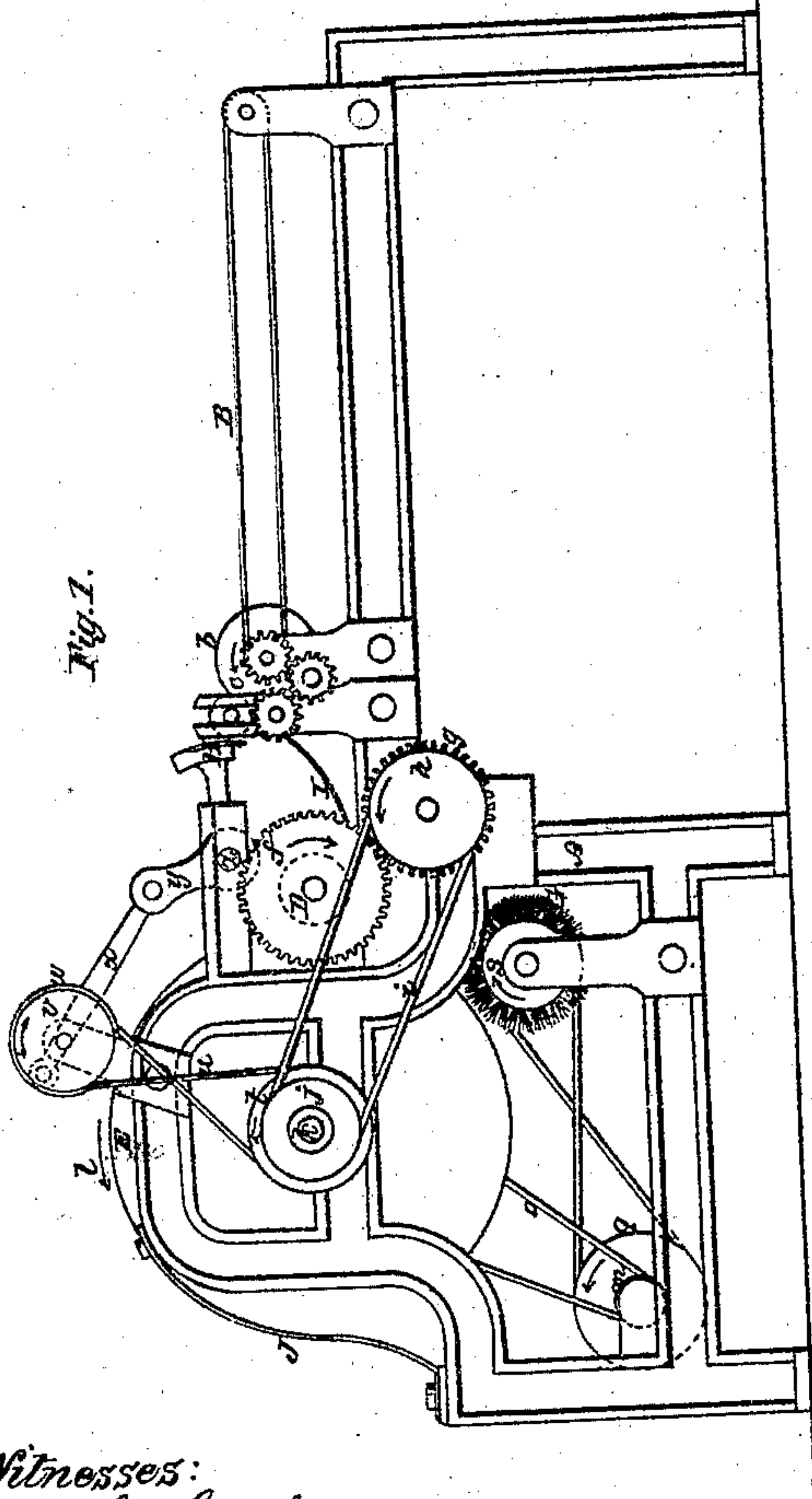
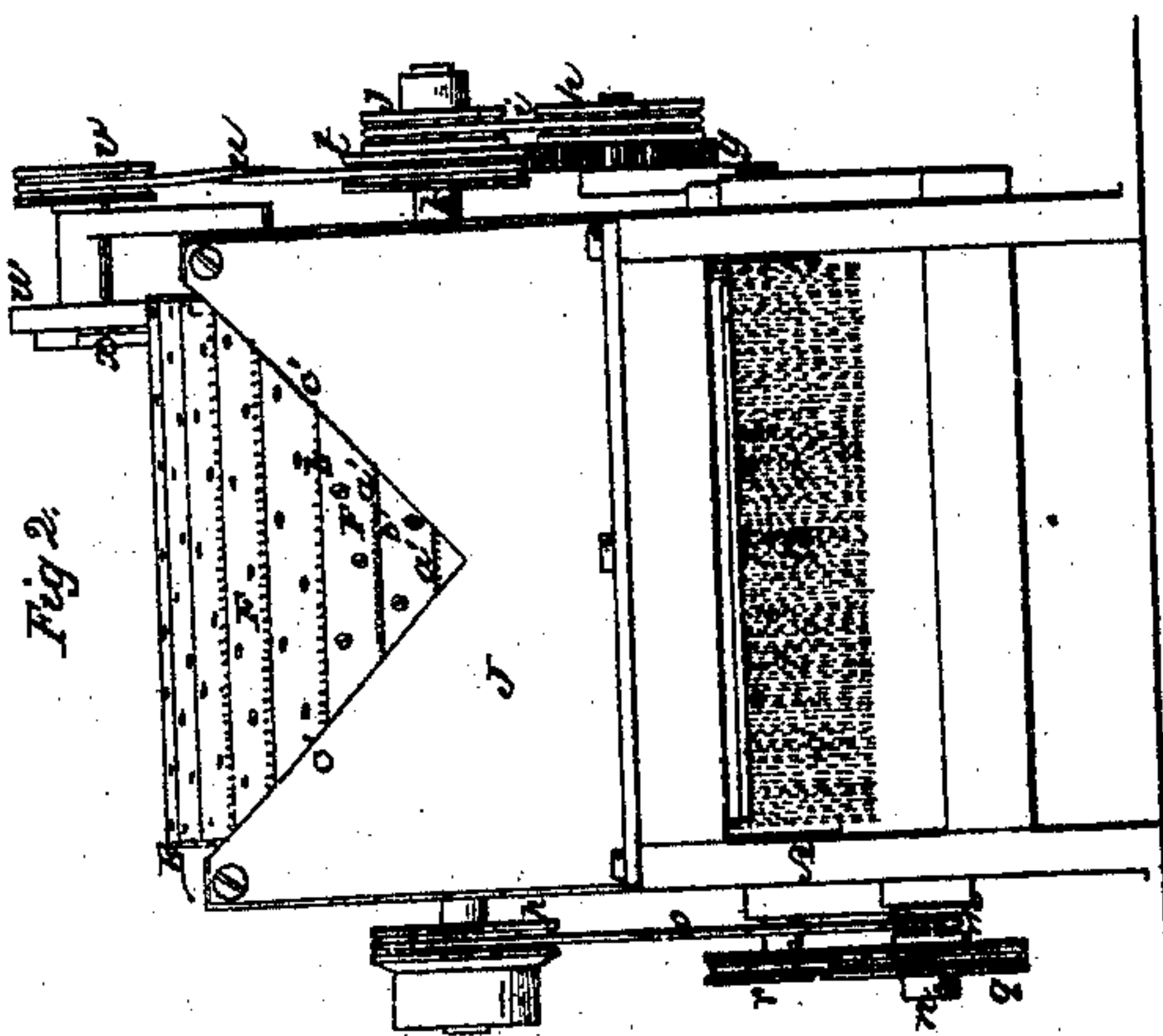
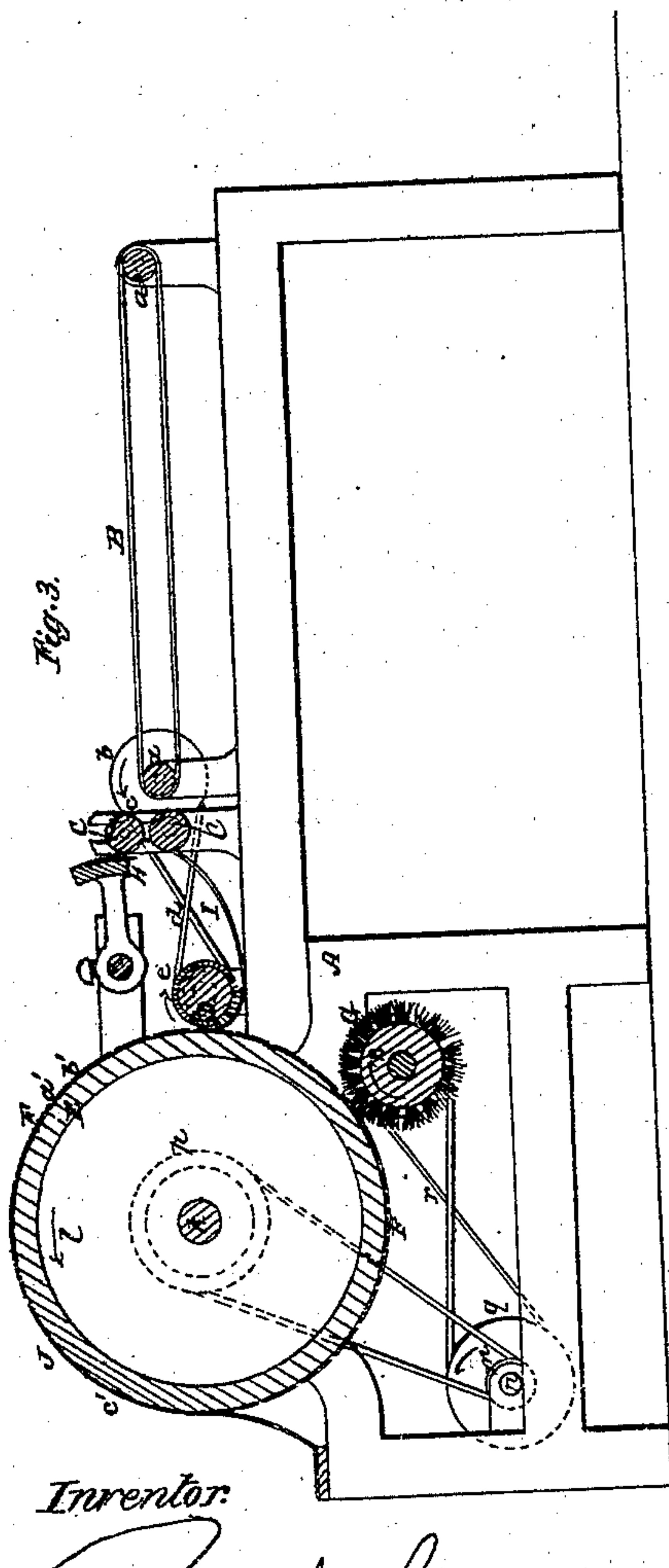
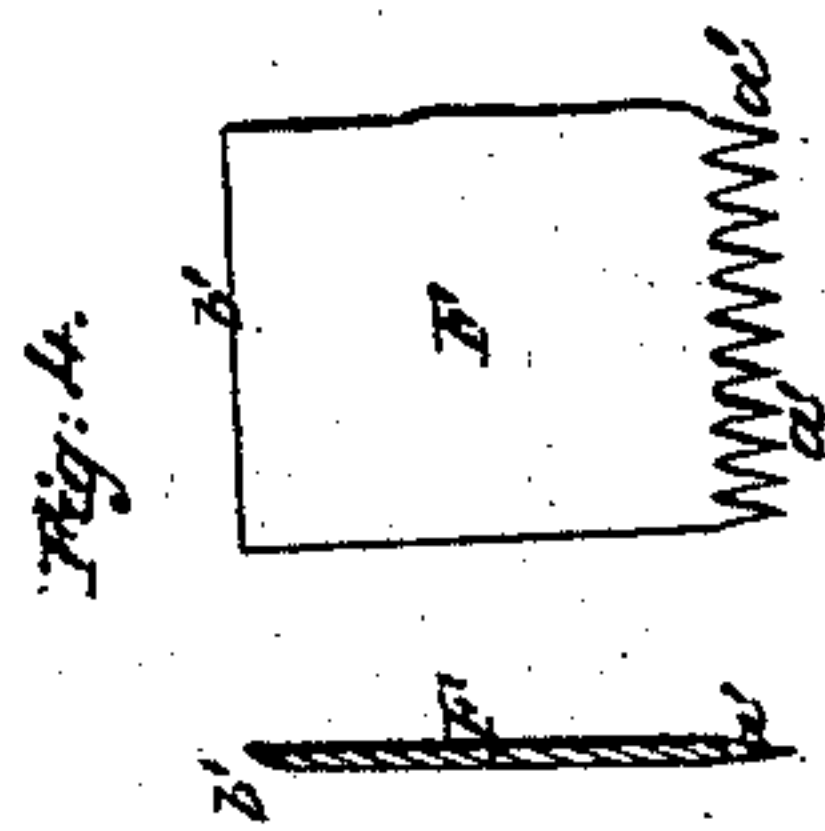


R. J. Clay,
Wool Burring Machine. July 2
Patented June 30, 1867
No 67,394.



Witnesses:
J. McComb.
G. W. Reed.



Inventor:
Robert J. Clay.

United States Patent Office.

ROBERT J. CLAY, OF GREENPOINT, NEW YORK, ASSIGNOR TO HIMSELF, J. T. HUSTED, E. G. BURLING, AND CORNELIUS CORSON.

Letters Patent No. 67,394, dated July 30, 1867.

IMPROVEMENT IN MACHINE FOR BURRING WOOL, &c.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT J. CLAY, of Greenpoint, in the county of Kings, and State of New York, have invented certain new and useful improvements on Machines for Burring Wool, ginning cotton, or other analogous purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents a side elevation of a machine embracing my improvements.

Figure 2 an end elevation thereof.

Figure 3 a vertical longitudinal section of the same, and

Figure 4 face and edge views or sections on an enlarged scale of one of the comb-like strips in part, forming a feature of or used in connection with my invention.

Similar letters of reference indicate corresponding parts.

While this my invention is applicable to various kinds of work, or for operating on different descriptions of fibre, including the ginning of cotton, or removing the seed or extraneous matter from fibres generally, it will suffice here, by way of illustrating or explaining it, to describe it as applied to burring wool, for which it is well adapted, and more especially for the removal of mestizo burs, inasmuch as by this my invention the wool may be cleared from the bur without the latter being cut or broken, which is a great desideratum, as, owing to the convolute and jagged character of such burs, it is a work of great difficulty, if not removed entire, to detach the broken particles from the fibre.

The nature of my invention consists, firstly, in a combination of a feeding device, clearer, and rotating cylinder, furnished with comb-like plates on its periphery, the teeth of which are arranged to occupy a tangential position to the cylinder; also, in a peculiar construction of such plates or strips, as regards their opposite edges; likewise, in an inclined relationship of the comb-like plates or strips and clearer; and, furthermore, said invention consists, in combination with feeding, guiding, and laying devices, in a peculiarly-arranged and operating comb or comber, for preparing the fibre in its feed to the stripping cylinder.

Referring to the accompanying drawing, A is the frame of the machine, of any suitable construction. B is an endless belt or apron, for conveying the wool to be treated to or between feeding-rolls C C, and working on or around rollers a a, the one of which may be driven by a pulley, b, revolving, as indicated by the arrow e, through a cross-band, d, from a pulley on the shaft of a rotating laying-roller, D, which travels as indicated by the arrow e. This roller D is arranged in juxtaposition to a cylinder, E, which is encircled by and carries comb-like strips or plates, F, on its periphery, and is situated to lie along or across the face of said cylinder on one side of it. Motion may be communicated to the roller D by gear f g, driven by a pulley, h, and band i, from a pulley, j, on the shaft k of the cylinder E, which latter rotates, as denoted by the arrow l, and is or may be driven by a pulley, m, on a shaft, n, through a band, o, and pulley p, the shaft n being further provided with a pulley, q, which, by a band, r, gives motion through pulley to a rotary brush, G, that travels as shown by the arrow s, while the shaft k of the cylinder E has arranged on it a pulley, t, connected by a band, u, with a pulley, v, the shaft of which carries a disk, w, that serves to reciprocate in a curvilinear direction a preparatory comb or comber, H, through a rod, x, having an eccentric connection with the disk w, and pivoted to an arm, y, secured to the shaft z of the comber.

This comb or comber H, which is preferably attached in an adjustable manner by screws or otherwise to its shaft, z, and which is composed of or carries a serrated or toothed blade extending the width or thereabouts of the feeding-rolls C C, is arranged so that in its sweep it catches the wool as it is delivered by said rolls and loosens or frees it from knots or entanglements, and so prepares it for subsequent treatment by the machine, as in its down stroke or sweep said comb feeds the wool, containing the burs, on to and along a guiding-plate or tray, I, that extends to and partly encircles the laying-roller D, in order to secure the feed and distribution in a regular or spread form of the wool with the burs to the cylinder E. This curvilinear action of the preparatory comb H, relatively to the feeding-rolls C C, guiding-plate or tray I, and laying-roller D, is favorable to a perfect disentangling action, feed, and distribution of the wool. The comb-like strips F are arranged in a cylindrical form or manner on or round the cylinder E, in close relationship to each other, their inner faces

lying on the periphery of said cylinder, and their teeth, a' , which point in direction of the travel of the cylinder, occupying a tangential position to the latter, and bevelled outwards from their under side, and it may be also slightly bevelled inwards from their outer faces, while the back edges, b' , of said strips are also bevelled off to facilitate the catching and holding of the wool as they (the strips) receive or take it from the laying-roller, but the spaces between such strips, size or disposition of the teeth, and their distance from the cylinder, should be such as to exclude the burs from entering between or under the teeth that simply catch and hold the fibre, and by their disposition or arrangement have no tendency to cut or bruise the burs, but simply to hold them by their entanglement in the fibre on the outside faces of the strips. To detach the burs whole, they are caught on the fibre which envelopes them, during the rotation of the cylinder, by the diagonally-arranged edges c' of a knife or clearer, J, situated on the opposite side of the cylinder to the feed, and lying close up to or on the outer faces of the strips F, the burs being rotated, as they are drawn down the edges c' , by the action of the strips F, and cleared of adhering fibre, any of which that remains is or may be finally cut off by a roughened, jagged, or sharpened construction of the edges c' , thus delivering the whole burs free from wool outside of the clearer J, while the wool held by the strips is carried round beneath, and such as does not fall from the cylinder swept or detached from the strips by the action of the rotating brush G, or any other suitable device.

While the construction and arrangement of the comb-like strips F on the cylinder E admits of the close working of the same to the clearer J, it may here be observed that the arrangement of the strips and shape or disposition of the clearer may be variously changed from that which is shown in the drawing, and still the same principle of action be maintained. Thus, the strips F may be set obliquely on or around the cylinder E, and the acting edge of the clearer J be single or straight and lie in a horizontal line, the detachment of the burs whole or entire being similarly effected.

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

1. The combination, with suitable feeding mechanism and knife or clearer J, of a rotating cylinder, provided on its periphery with smooth comb-like plates or strips, arranged to encircle the cylinder, and with their teeth in tangential relationship thereto, for operation together, substantially as specified.
2. And in combination therewith, I claim the construction of the plates or strips F, with their teeth, a' , bevelled from beneath or inner faces thereof, and their rear edges, b' , inclined from above or outer faces of the same, essentially as shown and described.
3. The combination, with a cylinder encircled by comb-like strips, of a knife or clearer, J, arranged on its clearing edge or edges to occupy an inclined position relatively to the strips, or the latter an inclined relationship to the clearer, for operation together, substantially as herein set forth.
4. In combination with the feeding-rolls, guiding-plate or tray, and laying-roller, or their equivalents, the comb or comber H, having a curvilinear travel across or relatively to the feed, essentially as specified.

ROBERT J. CLAY.

Witnesses:

J. W. COOMES,
G. W. REED.