

B. J. F. Owen.

Cotton Clearer.

N^o 85,024.

Patented Dec. 15, 1868.

Fig. 2.

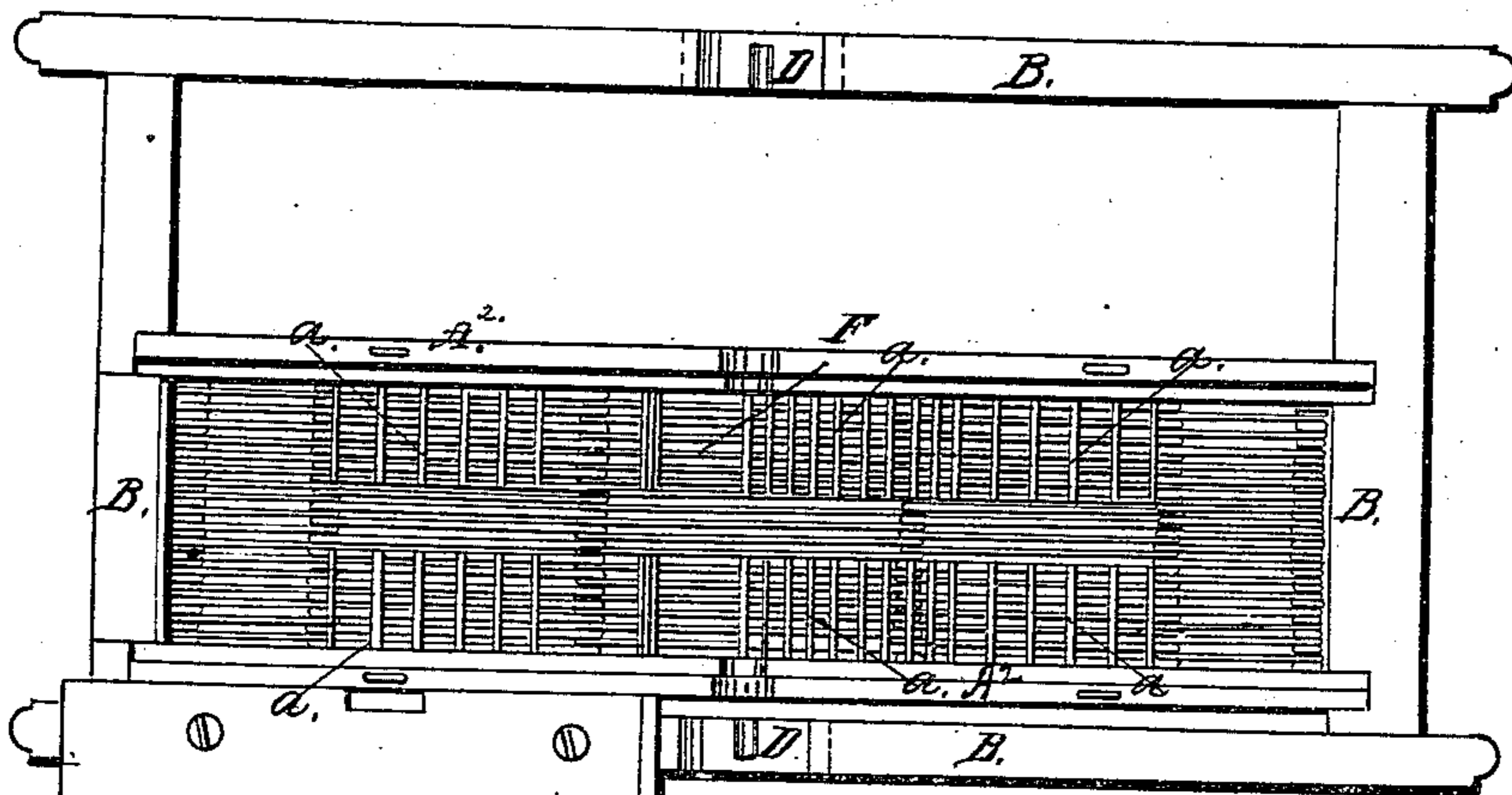
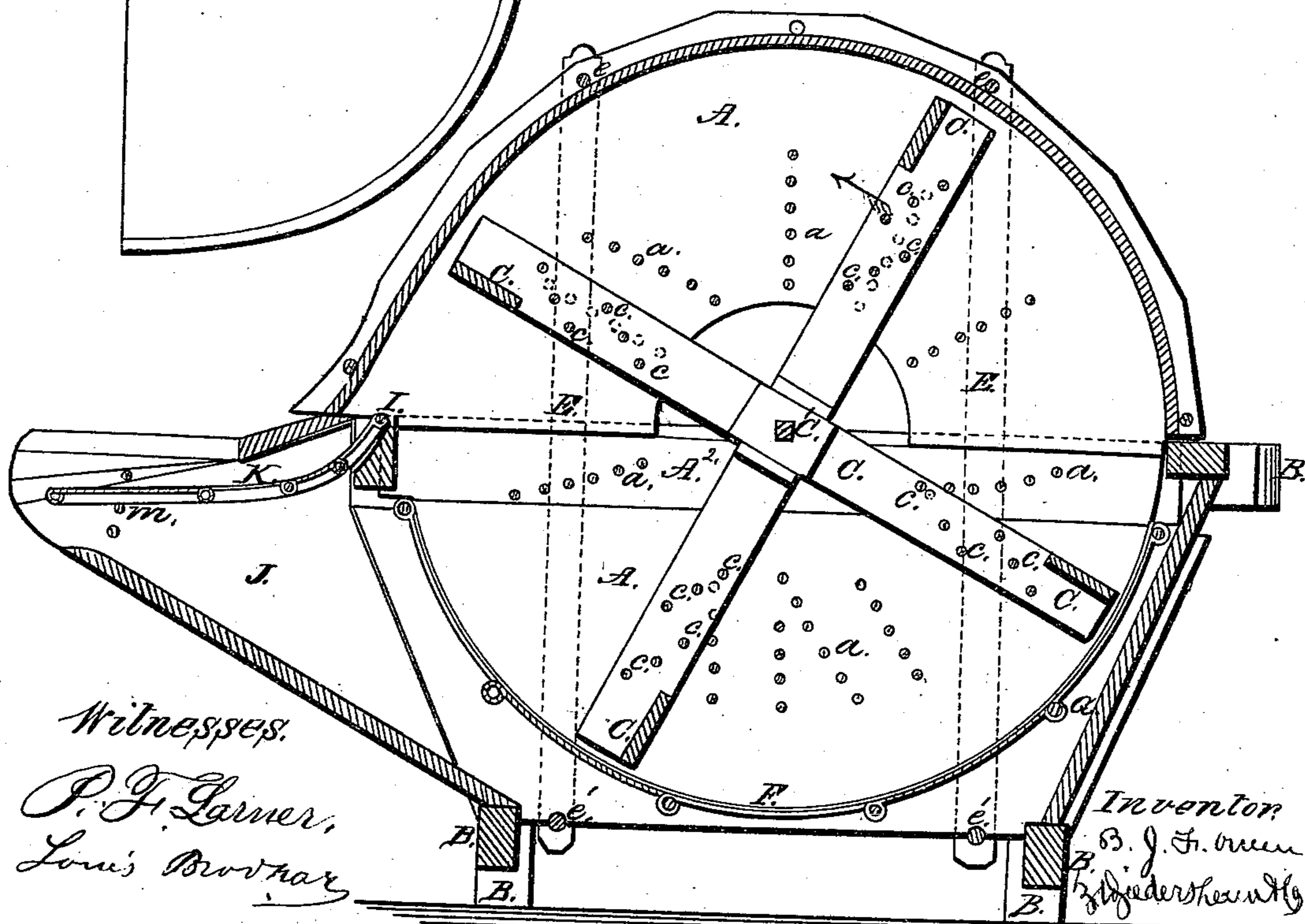


Fig: 3.



Fig:1.



Witnesses.

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Fig. 4.

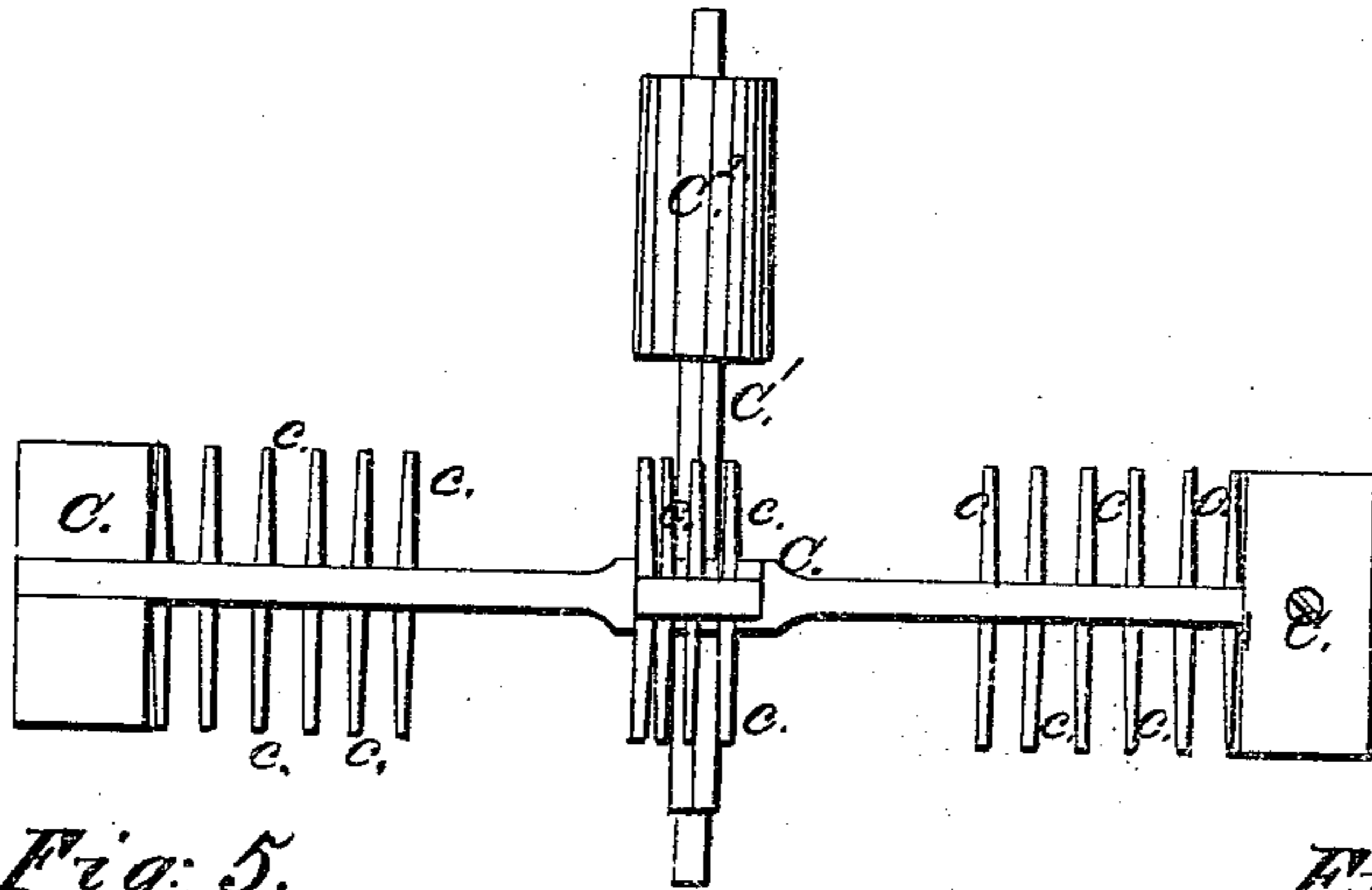


Fig. 5.

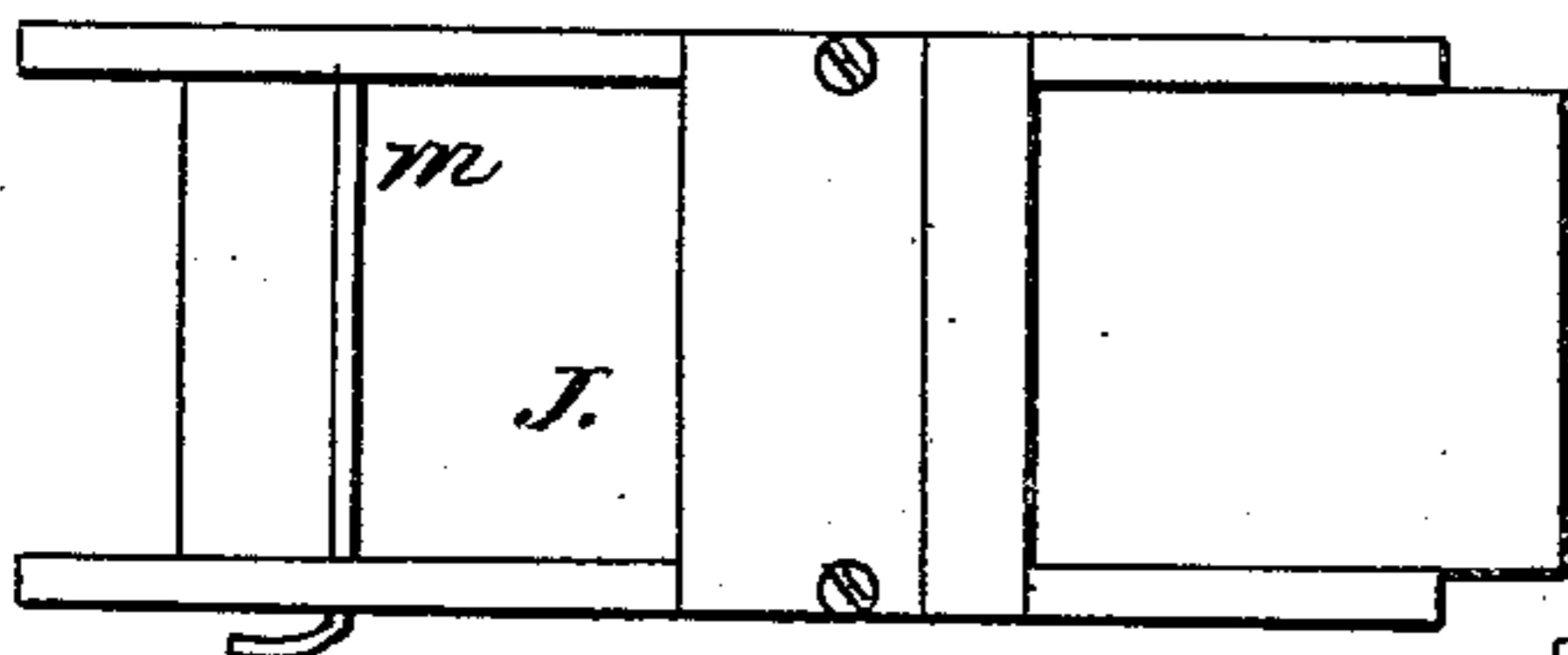


Fig. 6.

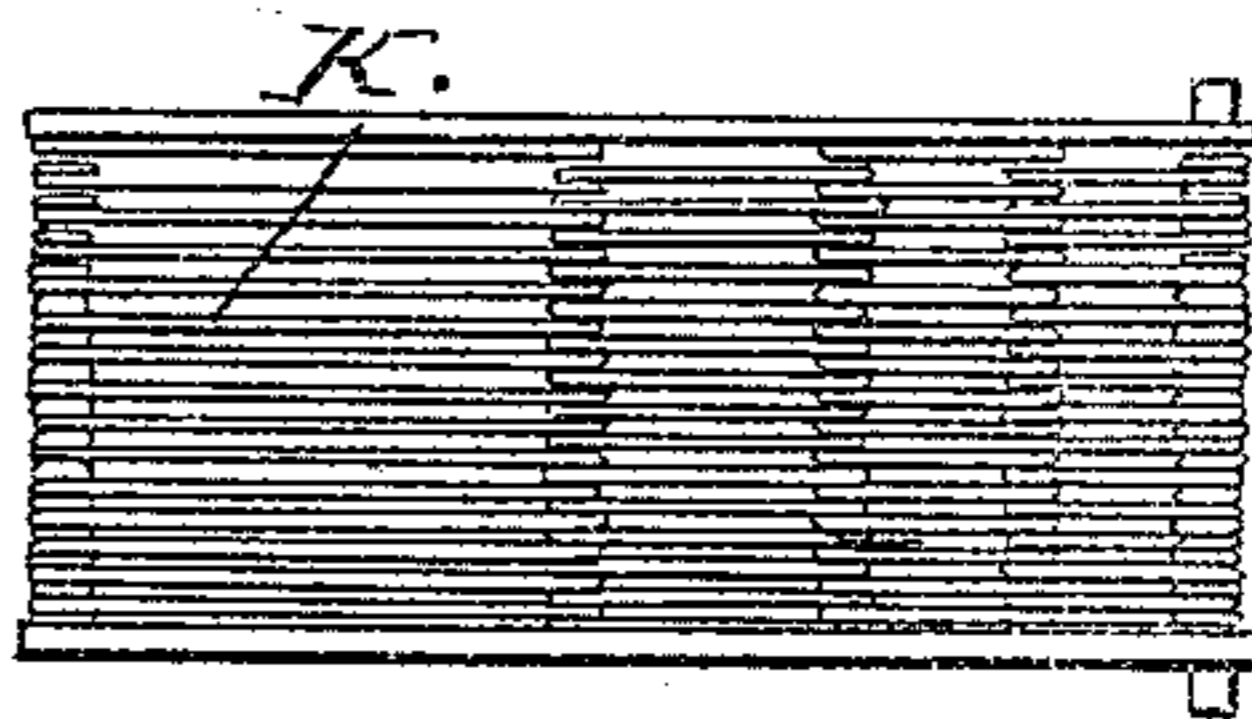
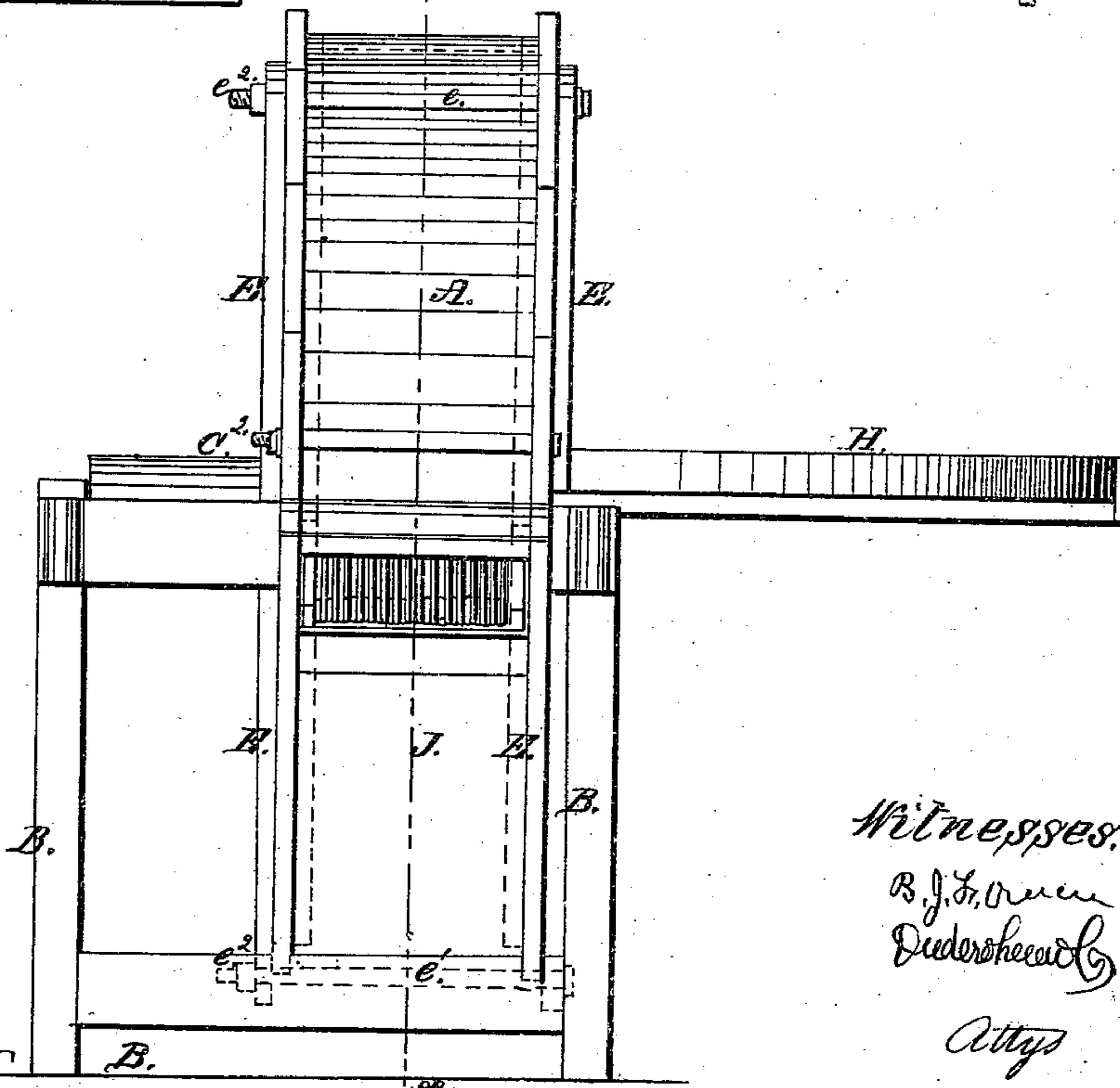


Fig. 7.

sp.



Inventor.

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United States Patent Office.

BENJAMIN J. F. OWEN, OF MEMPHIS, TENNESSEE.

Letters Patent No. 85,024, dated December 15, 1868.

IMPROVEMENT IN MACHINE FOR CLEANING COTTON.

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, BENJAMIN J. F. OWEN, of Memphis, in the county of Shelby, and State of Tennessee, have invented certain new and useful Improvements in Machines for Cleaning Cotton; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable others skilled in the art to which the invention appertains, to fully understand and use the same, reference being had to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a vertical central section of my improved machine, the line *x x*, fig. 7, indicating the plane of section.

Figure 2 is a plan view of the machine, the upper portion of the cotton-box, together with the rotary beating and fanning-device, being removed, the better to exhibit other parts.

Figures 3, 4, 5, and 6 are detached views of parts, to be hereinafter referred to in detail.

Figure 7 is a front elevation of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

The subject of this invention is a machine in which the cotton is cleaned by being subjected to the combined action of a fan-blast and a number of closely-arranged stationary and revolving spikes or beaters.

The features of novelty and utility in my machine are—

First, a fan armed with spikes or prongs in such a manner as to constitute a combined fanning and beating-instrument.

Second, a riddle, situated at the discharge-opening, and made adjustable, as to inclination, by means of its supporting-rod, in order to project the cleaned cotton to a greater or less distance from the machine, in separating the same from the burrs, stems, and trash.

Third, a mode of constructing the cotton-box in sections, whereby the spikes or beaters are made readily accessible for repair or replacement.

In the drawings—

A may represent the upper, and

A¹, the lower part of a wooden or other case, termed "the cotton-box," which, together with the other parts of the machine, is supported upon a suitable frame, B. A plan view of the interior of the lower portion of the cotton-box is presented in fig. 2.

a a a are spikes or prongs driven into the sides of the cotton-box, and projecting within the said box from opposite directions, as shown in fig. 2.

C, represents a fan, which is shown detached in fig. 4.

The arms of this fan are provided with spikes or prongs, *c c c*.

The fan C occupies and revolves within the box A A¹, its shaft, C¹, being confined in bearings D, upon the upper side-pieces of the frame B, by the dovetailed blocks D'. (see figs. 2 and 3,) or otherwise.

The prongs *a* and *c* are so disposed and arranged that the prongs *c*, in revolving with the fan C, pass between, but in close proximity to the prongs *a*.

The fan C is driven through the medium of a belt applied to the pulley C², on shaft C¹ of the fan.

I prefer to construct the cotton-box with a lining, that is to say, to form each side of said box of two distinct pieces, which being joined together face to face, with the grain of the respective pieces running in different directions, afford a more durable and secure support for the spikes *a*, the embedding of whose ends in the two thicknesses of wood enables them to effectually resist blows, pressure, or force applied in different directions.

The lining of the casing is indicated by dotted line in fig. 7.

The lower part of the cotton-box rests in notches or mortises in the lower part of the frame B, and is thereby held against lateral displacement.

The central portion of the cotton-box consists of two detachable sections, A², whose lining may be so applied as to form rebates along the edges, which rebates, in connection with projections on the sections, and corresponding apertures in the upper and lower parts of cotton-box, may serve to join the several parts of said box together.

While the lower part of the cotton-box is held against sidewise movement in the frame B, as before stated, the cotton-box is likewise held at a point above, in consequence of the ends of the sections A² A² resting in notches or mortises in the upper cross-bars of the frame B.

The sides of the upper and of the lower part of the cotton-box are connected to the parts between said sides by screw-bolts and nuts, in such manner that said sides may be readily detached from the intermediate parts, thus facilitating the renewal or adjustment of the pins *a*.

The several parts, A A¹ A², of the cotton-box are held firmly together by bars E E E E, (four in number,) each pair of which is connected together at the top and bottom of the cotton-box by the screw-bolts *e e e' e'* and nuts *e''*.

The mode of applying these bars will be understood by reference to figs. 1 and 7.

The bars and screw-bolts firmly brace and stay the cotton-box, and permit the parts of the same to be detached and separated with facility, as the said bars E may be raised and removed with the upper part of the cotton-box, when the lower screw-bolts *e'* are withdrawn.

F represents wire net-work, or other suitable separating-device, forming a connection between the sides of the lower part, A¹, of the cotton-box.

The action of the fan C expels the dirt, &c, which is separated from the cotton through the wire net-work F.

The rear end of the lower part of the cotton-box may be closed by a removable board, G.

The cotton-box has a central opening, through which the cotton is passed from the platform H, whereupon the cotton is carried around, by the fan C and prongs c, in the direction indicated by the arrow in fig. 1. The cotton, in being thus carried around within the cotton-box, is subjected to blows, following each other in rapid succession, and the combined whipping and drawing or pulling action of the spikes a and c serves to thoroughly loosen and separate the cotton, thereby not only separating some of the dust and dirt therefrom, but enabling the fan-blast to act more effectively upon the same.

The fan C ultimately ejects the cotton from the cotton-box, through the opening at I, leading into the chute J.

The cotton being thus ejected into the chute J with no inconsiderable force, impinges against a riddle, K, (see fig. 6,) which is suitably hinged to the cotton-box at one end, and made adjustable vertically at its opposite end by means of its supporting-rod, m, which may be shifted from a lower to a higher position in the vertical series of apertures in the sides of the chute J.

By changing the inclination of the riddle K, and thereby varying the angle of incidence, the cotton will be projected to a greater or less distance from the machine, it being necessary, under some circumstances or conditions of the cotton, to project it further than

at other times, in order to separate it from the burrs, stems, and trash which may be ejected from the cotton-box with it.

The cotton, being of less specific gravity than the trash, is carried beyond and away from the trash, and the distance to which the cotton is thrown is increased by raising the outer end of the riddle K, and diminished by lowering the same.

Having thus described my invention,

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

1. A fan armed with spikes or prongs c c, arranged as described, and applied to and operating in a cotton-cleaning machine, substantially as set forth.

2. An adjustable riddle or deflector, K, arranged, in relation to the discharge-opening I, substantially as and for the purpose set forth.

3. The cotton-box, composed of the detachable parts A A¹ A², substantially as and for the purpose explained.

To the above specification of my improvements in machines for cleaning cotton, I have signed my hand, this 11th day of July, A. D. 1868.

BENJ. J. F. OWEN.

Witnesses:

CHAS. D. SMITH,

JOHN A. WIEDERSHEIM.