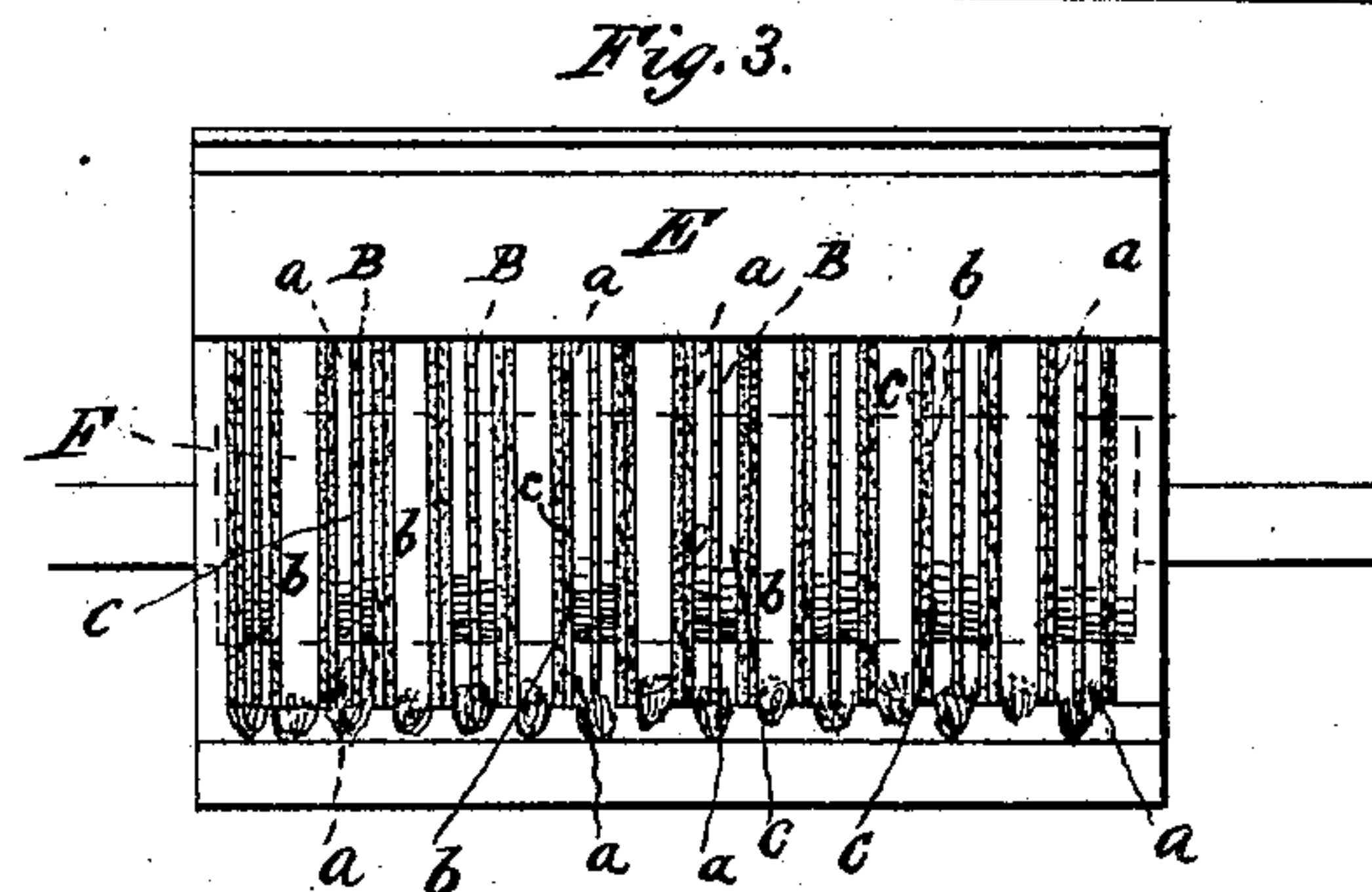
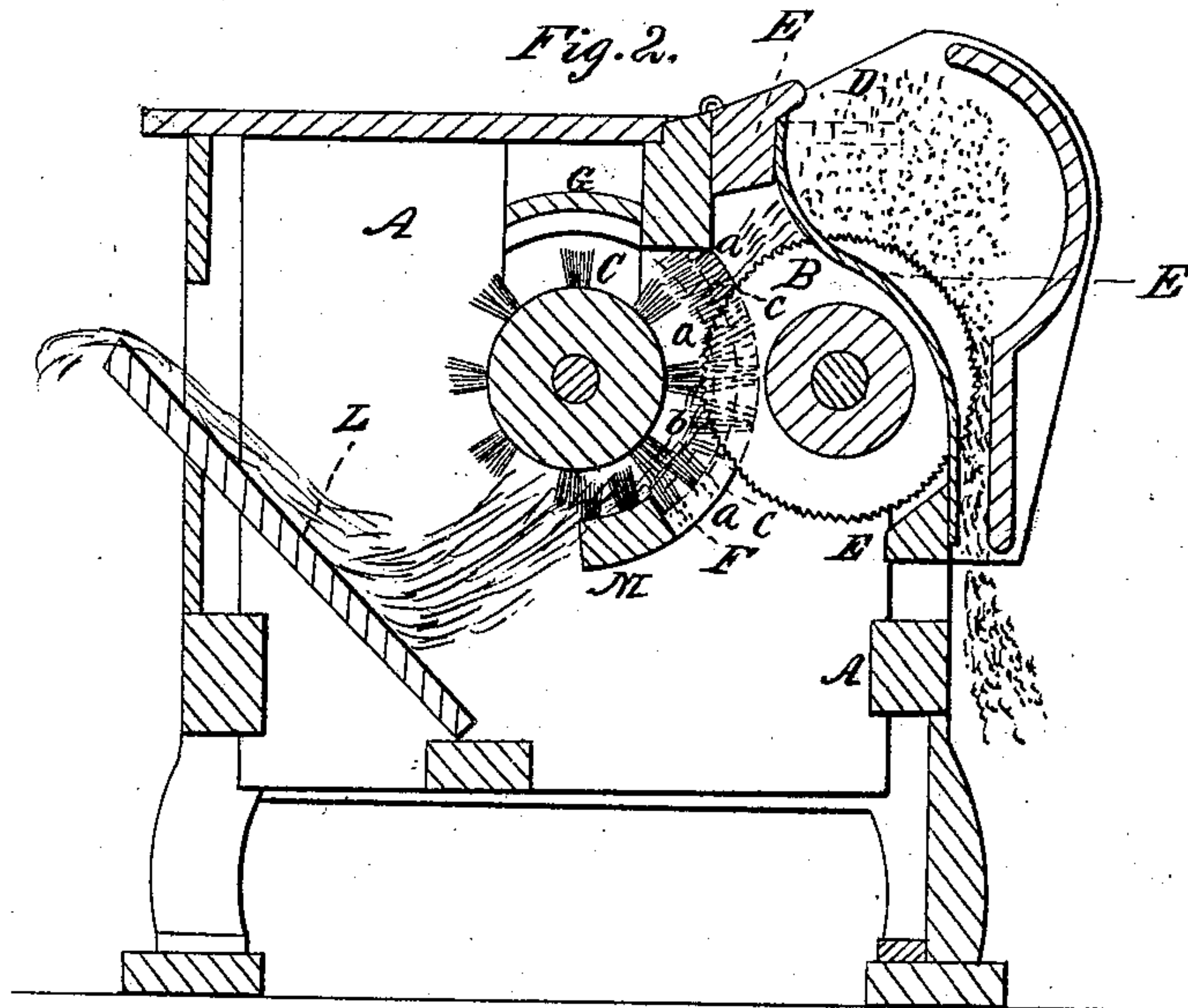
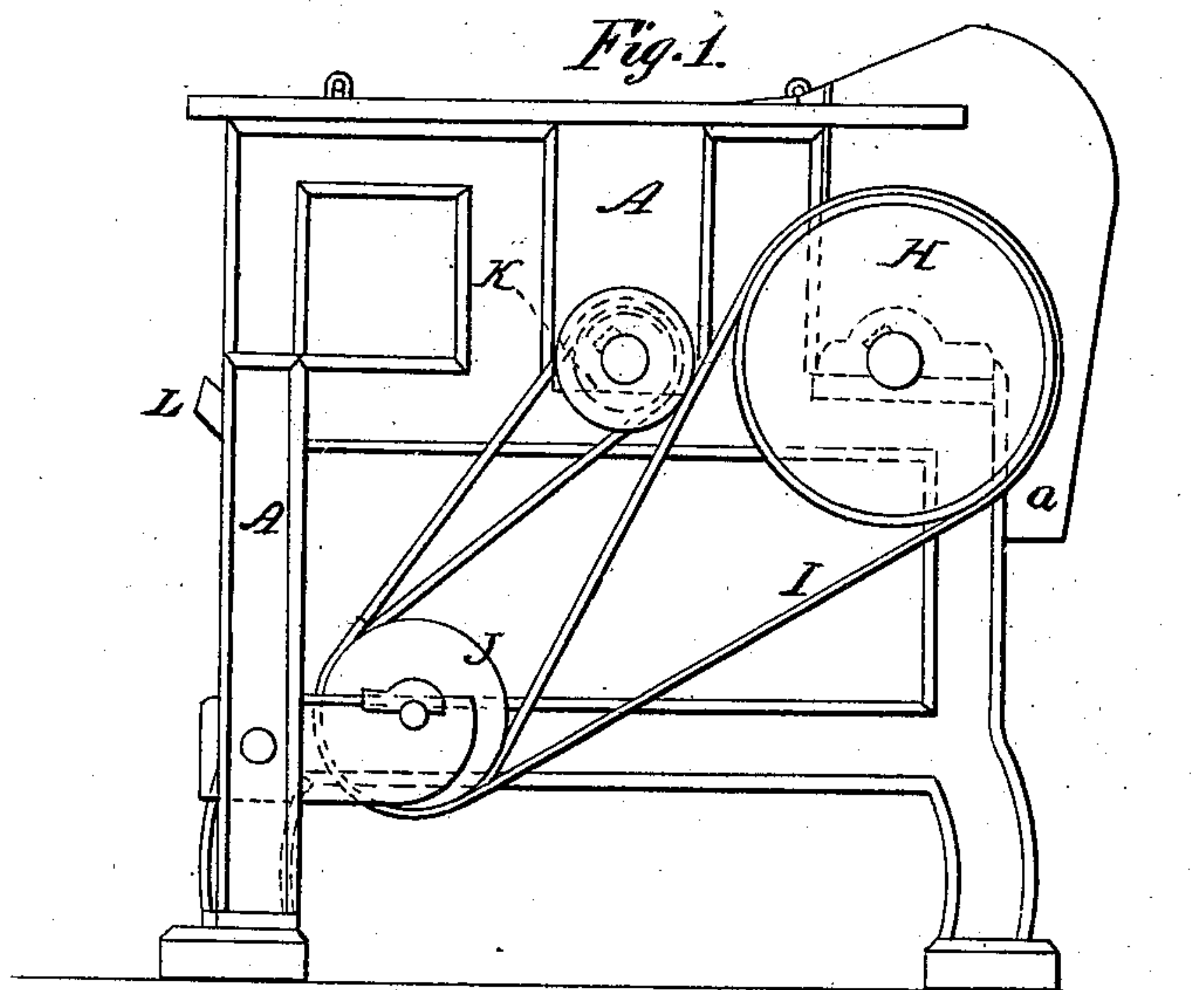


L. CAMPBELL.

Cotton Gin.

No. 10,401.

Patented Jan. 10, 1854.



UNITED STATES PATENT OFFICE.

LEONARD CAMPBELL, OF COLUMBUS, MISSISSIPPI.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. **10,401**, dated January 10, 1854.

To all whom it may concern:

Be it known that I, LEONARD CAMPBELL, of Columbus, in the county of Lowndes and State of Mississippi, have invented a new and useful Improvement in Cotton-Gins; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an external side elevation of the machine, showing the arrangement of the gearing for operating the saws and brush-fan. Fig. 2 is a vertical longitudinal section through the center of the machine. Fig. 3 is a detached view of the stationary concave which serves as a brush for more perfectly stripping the cotton of foreign matter in its passage from the hopper and saws to the fan-brush.

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

This invention relates to a new and useful improvement in cotton-gins, whereby they are rendered more effectual in their action upon the cotton, and all foreign and extraneous matter can be separated from the lint in a more perfect manner than what it has heretofore been by the gins in use; and it consists in the employment of a peculiarly-constructed intermediate concave between the revolving fan-brush and ginning-saws, the said concave being set vertically for the fan-brush to revolve in, and having a series of slots cut through it for the saws to work in and carry the cotton through to the brush-fan, the sides of the slots being covered or set with bristles or other elastic substances, which project from the concave and serve, as the saws force the ginned cotton through the slots, to further strip the cotton of all remaining impurities or foreign matter which the saws fail to remove, and render it fit to pass down to the lower horizontal edge of the concave, which is set with brushes, to be spread out smooth and even, or have the uneven ragged appearance given it by the ginning-saws removed by said brushes and the brush-fan operating upon it just before it escapes, it, after thus being prepared, passing up over an inclined way by the blast of the fan-wheel, and discharged into a proper receptacle at one end of the machine, the dirt, &c., falling down through the center of the machine, and the

seed being conducted into a proper receiver at the end opposite that where the lint is discharged.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the frame of the gin, which may be constructed as shown in the drawings, or otherwise.

B B are the ginning-saws, and C is the brush-fan. These are arranged and operated in the ordinary way.

D is the hopper through which the cotton is fed, it falling upon the grated frame E, as shown by red color in Fig. 2.

F is the intermediate concave placed between the saws and brush-fan C, in the manner shown in Fig. 2. This concave has a series of slots, *a a*, for the saws to work in, and for the cotton to pass through as it passes to the brush-fan C. The sides of these slots are covered with bristles or other yielding substances, *b b*, as seen in Figs. 2 and 3, these substances serving to strip the cotton of all remaining dirt and seed which the saws may fail to remove, for it will be evident that as the cotton is carried rapidly through these slots by the saws it will be operated upon by the bristles and cleared of all dirt, the bristles yielding sufficiently to allow the cotton to have a free passage through the slots, and yet being sufficiently stiff to remove the dirt, &c., which the cotton may contain. These brushes or bristles are secured to the sides of the slots by metal plates *c c*, as seen in Figs. 2 and 3.

G is a concave top for preventing a current of air passing down toward the ginning portion of the machine and scattering the seed and lint. The saws are driven by the pulley H, through the band I, which passes from the pulley H to the speed-regulating pulley J, and from thence passes to the pulley K on the shaft of the brush-fan, this fan being set in motion by said pulley and band. The saws and brush-fan revolve together, the former operating upon the cotton as it is fed in at the hopper D, and strip it of its seed, the saws carrying the cotton through the slots in the grated frame E, and through the slots in the concave F, to be further operated upon by the brush-fan and concave, the seed falling down through the spout *d* of the hopper, as seen in Fig. 2.

In Fig. 2 the cotton or lint is indicated by the red color, it being shown passing from the saws to the concave, to be operated upon by the brush-fan, and thence down to the bottom of the same, where it is spread out even, and then up over the inclined way L, from whence it passes into a proper receiver.

I do not claim the use of brushes suspended in a position so as to allow them to hang loosely between the ginning-saws; but

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

1. The concave brush-ribs F, and concave brush M, in combination with the brush-wheel C, for the purpose of scouring the nap (which

is formed by the ginning-saws B) out of the cotton, and at the same time remove all impurities or foreign substances from it. Said ribs F are each of them provided with two rows of short, stumpy bristles, which are secured on the inner edges of said ribs, as described.

2. The concave plate G, for the purpose of regulating the current of air which passes between said plate and the wheel C, substantially as herein described.

LEONARD CAMPBELL.

Witnesses:

JOS. W. PICKETT,
CHAS. D. BONSALE.