

(No Model.)

2 Sheets—Sheet 1.

J. S. DANIELL.

COTTON CLEANER AND FEEDER.

No. 312,192.

Patented Feb. 10, 1885.

Fig. 1.

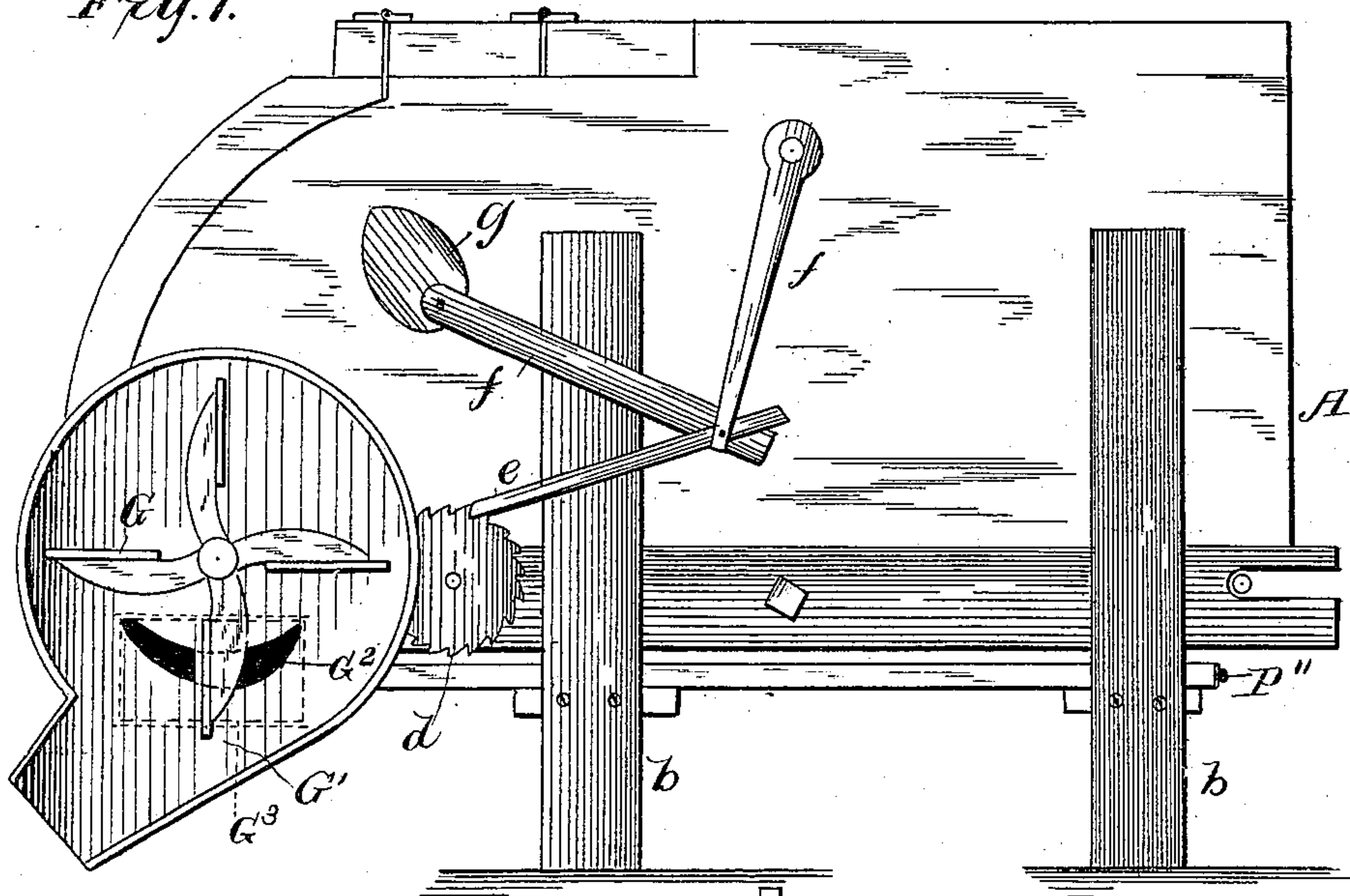
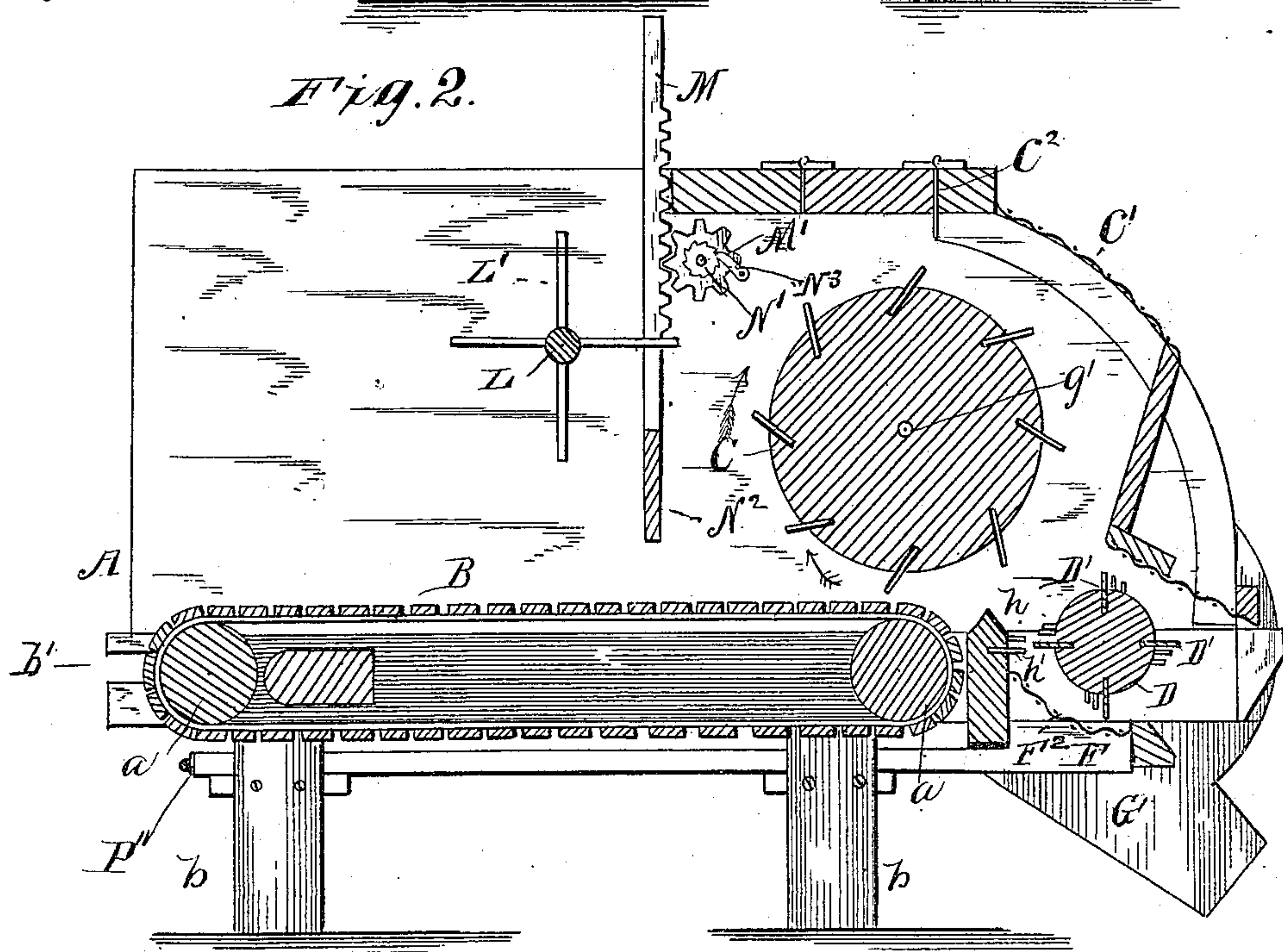


Fig. 2.



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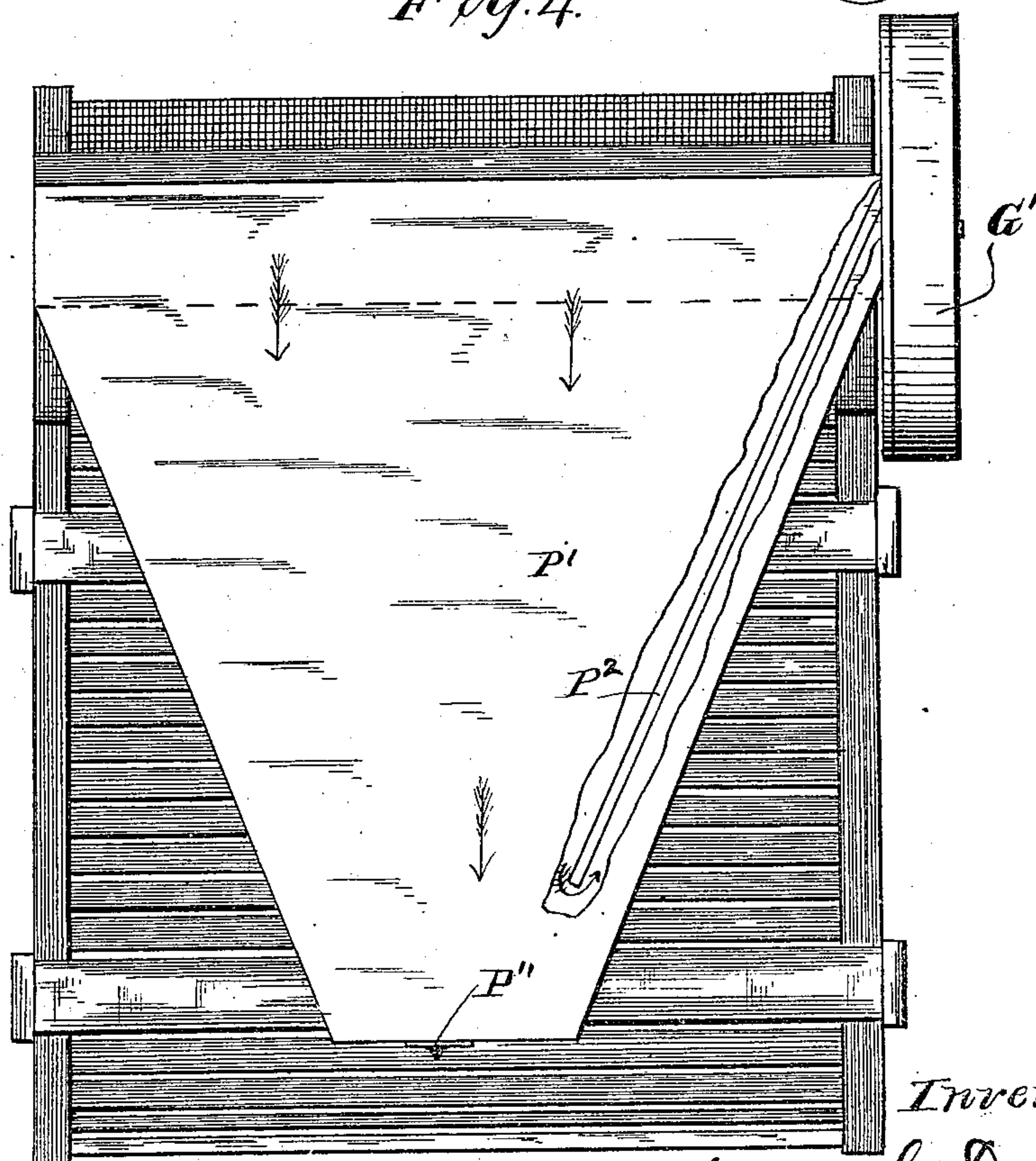
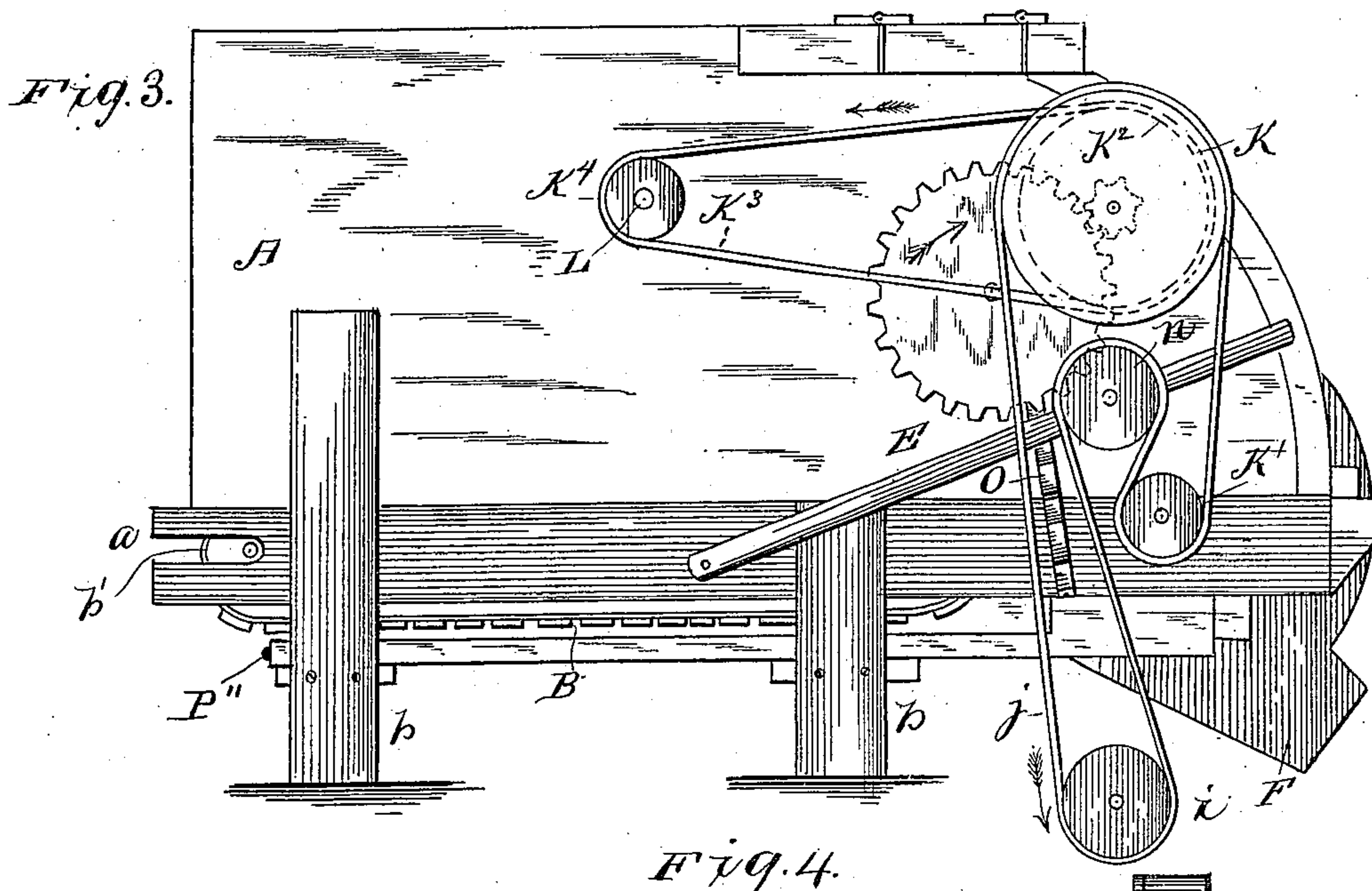
2 Sheets—Sheet 2.

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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN S. DANIELL, OF CONYERS, GEORGIA.

COTTON CLEANER AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 312,192, dated February 10, 1885.

Application filed October 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. DANIELL, a citizen of the United States of America, residing at Conyers, in the county of Rockdale and State of Georgia, have invented certain new and useful Improvements in Cotton Cleaners and Feeders, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention pertains to improvements in combined cotton-cleaners and gin-feeders; and it consists of the detailed construction and combination of parts, substantially as hereinafter fully set forth, and pointed out in the claims.

15 In the accompanying drawings, Figure 1 is a side elevation of my cotton cleaner and feeder. Fig. 2 is a longitudinal section thereof. Fig. 3 is a side elevation showing the opposite side of Fig. 1; and Fig. 4 is a plan view of the dust-box, partly broken away to show the dust-flue.

20 In the construction of my cotton-cleaner and gin-feeder I employ a two-sided receptacle, 25 A, with one end open, and provided in its bottom with an endless feeding slatted apron or carrier, B, encompassing rolls *a a*, arranged at opposite ends of the receptacle. Said receptacle is supported in a slightly elevated 30 position upon suitable legs or supports, *b*, fastened thereto. The shaft of the front apron-roll is journaled in longitudinal slots *b'* in the sides of the receptacle A, to permit the longitudinal movement of said roll, whereby the 35 apron may be kept properly stretched. The shaft of the forward apron-roll is provided at one end with a ratchet-wheel, *d*, (see Fig. 1,) with which engages a pawl, *e*, hung or pivoted at the point of articulation between the 40 two arms, *f f'*, of a jointed lever, one of said arms being connected to an eccentric, *g*, on the shaft *g'* of a large toothed cylinder, C, and through which an intermittent rotary motion is imparted to the said forward roll, whereby 45 the apron receives an intermittently longitudinal motion to effect the feeding of the cotton resting thereon in the receptacle A to the toothed cylinder C. The plane of rotation of the cylinder C being in the direction indicated by the arrow, the cotton will be taken and 50 carried upwardly and over the cylinder and downward, to be treated by the joint action of

the teeth D' of the smaller oppositely-revolving cylinder D and the teeth *h'* of the cross-bar *h*, the cotton falling first upon the cylinder and its teeth, whence it is carried around 55 to the stationary teeth of the cross-bar, the effect of which, as is obvious, is to deprive it of foreign particles and to loosen it. The toothed bar *h* is secured at the rear end of the 60 receptacle A upon the floor or bottom of the latter.

At the rear end of the receptacle A, in rear of the feed-cylinder C, is a screen, C', which is hinged in place at C², and which, while it 65 permits the dust or other fine particles set free by the action of the cylinder C to measurably escape, allows ready access to said cylinder to enable it to be conveniently cleaned 70 without removal from its place in the receptacle.

In operating the mechanism the driving-power is taken from the shaft *i* and conveyed to the belt *j*, encompassing the same, to wheel K, and from thence around pulley K' and the 75 frictional rotary bearing or pulley *n*, which latter is secured to the hand-lever E. The wheel K has integral therewith a slightly smaller coincident wheel, K², (shown in dotted lines in Fig. 3,) which rotates pulley K⁴ by 80 means of belting K³, which pulley is rigidly secured to the journal L of auxiliary fan-wheel L', said journal having its bearings in the longitudinal walls of receptacle A.

The auxiliary fan-wheel L' is designed to 85 facilitate the removal of dirt, dust, and all light foreign substances from the cotton, and in practice the rotation of said fan-wheel draws atmosphere into receptacle A through the open end thereof and forces it between the 90 racks M beneath a fender, N², (presently described,) and in direct contact with the cotton undergoing the picking operation, and the cotton being thus subjected to a constant and strong pressure of atmosphere, it is denuded 95 of many foreign substances.

Another means which I employ conjointly with the aforementioned for facilitating removal of foreign substances from the cotton is the dust-flue P', which consists of a shallow 100 triangular box, as shown, having a lateral rear door, P'', for removal of dust at intervals therein collected. This flue is formed by rigidly securing in the box the bar P², in-

terposed between and connecting the top and bottom or horizontal sides thereof, the bar P² extending from the fan parallel with the longitudinal sides of the box to near the remote
 5 or narrow end thereof, thus forming a flue opening into the fan. Thus constructed, the dust that falls through the screen F² into a dust box or receptacle, F, is sucked with the atmosphere by the action of the fan G through
 10 the flue P' and carried out through the fan dust-box G'.

E is a lever suitably pivoted at one end to the receptacle A, and having a frictional rotary bearing or pulley, *n*, which, by suitably
 15 manipulating said lever, is capable of being moved against and tightening the loose belt to put the machine into operation. The lever, with its outer lower corner edge entering the coincident one of a series of notches in a
 20 notched or serrated bar, *o*, fastened to the receptacle A, is enabled to be retained at its point of adjustment in acting upon the loose belt.

The fan dust-box G' is provided with a crescent-shaped opening, G², having a slide-door, G³, adjustable in guides, as a means of regulating the force of the draft, the dust-box G', as shown in Fig. 4, being inclosed with a correspondingly-shaped cover. (Omitted in
 30 Fig. 1.)

As mechanism for adjusting the supply of cotton fed to feed-cylinder C, I employ the racks M, disposed in suitable vertical guides, and secured to each wall of the two-sided receptacle A, and also arrange coincident cog-wheels M', having journals integral there-
 35 with, in said walls, in such manner that the teeth of each cog-wheel mesh in the teeth of its corresponding rack, its motion being restrained as against the descent of the rack

by the ratchet N', rigidly connected to one side of the same cog-wheel, and pawl N³, pivoted in the wall of the receptacle. These racks have rigidly secured thereto by ordinary expedient a fender, N², which is elevated or lowered in adjusting the supply of
 45 cotton fed to the feed-cylinder. The fender N² extends across the receptacle A, and regulates the feeding of the cotton to the feed-cylinder by operating a crank connected to the
 50 shaft of the cog-wheel M', which causes the rack-bars M, carrying the fender, to ascend or descend, and to be held in the desired position by means of pawl N³ and ratchet N'. The pivotal bearing of the pawl N³ projects a
 55 short distance through receptacle A, and can be conveniently engaged with or released from the ratchet by the hand when desiring to reverse the cog-wheels M', and thereby
 60 raise the fender N².

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

1. In a cotton cleaner and feeder, the picking mechanism, the dust-box F, and the dust-
 65 flue P', having bar P² and door P'', in combination with the fan dust-box G', having opening G², slide-door G³, and fan G, substantially as shown, and for the purpose described.

2. In a cotton cleaner and feeder, the re-
 70 ceptacle A, provided with suitable screens, the adjustable fender N², fan-wheel L', cylinders C and D, and toothed bar *h*, all combined substantially as shown and described

In testimony whereof I affix my signature in
 75 presence of two witnesses.

JOHN S. DANIELL.

Witnesses:

J. E. WHITAKER,
 A. M. HELMS.