

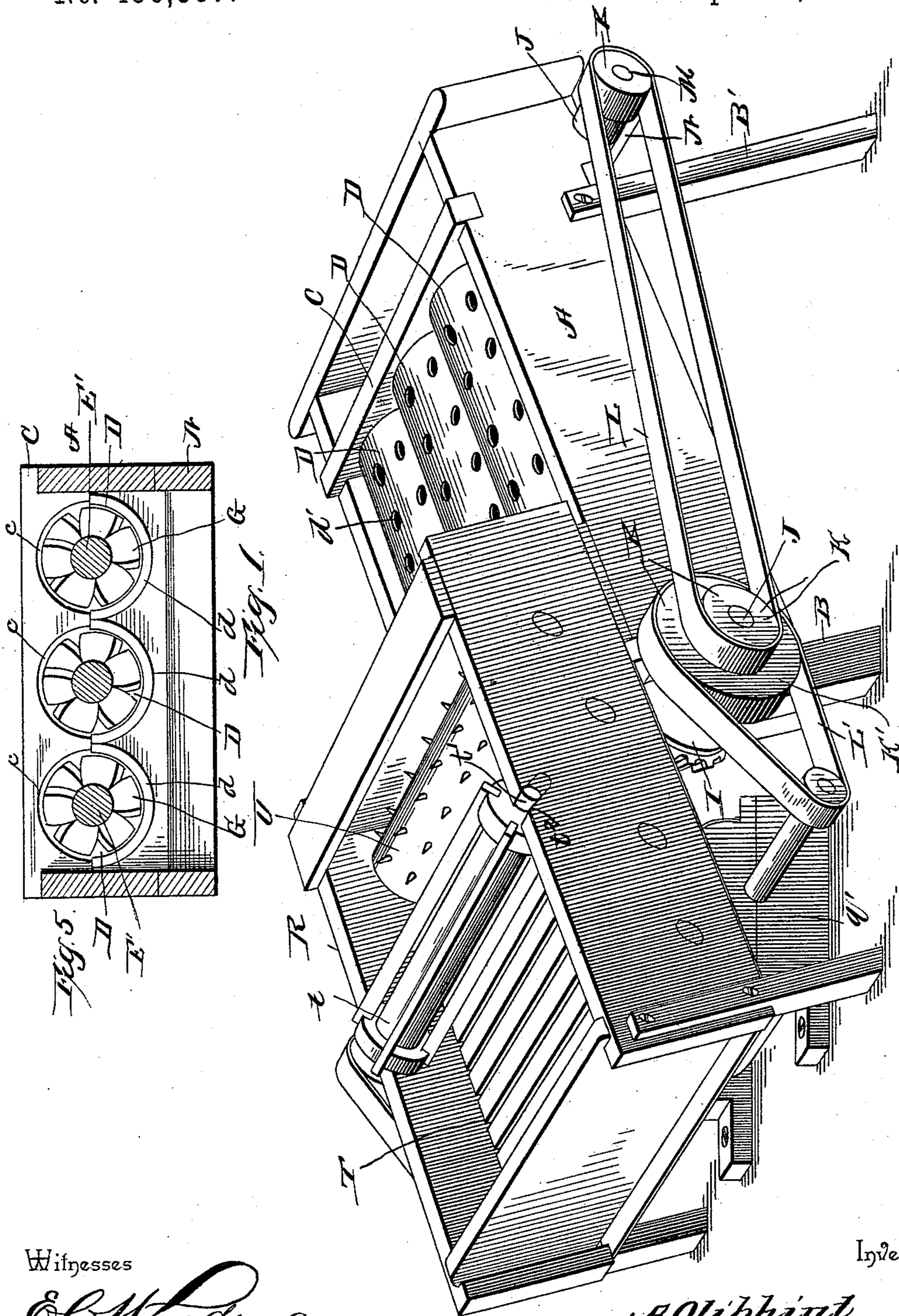
(No Model.)

2 Sheets—Sheet 1.

A. OLIPHINT.
COTTON FEEDER AND CLEANER.

No. 496,367.

Patented Apr. 25, 1893.



Witnesses

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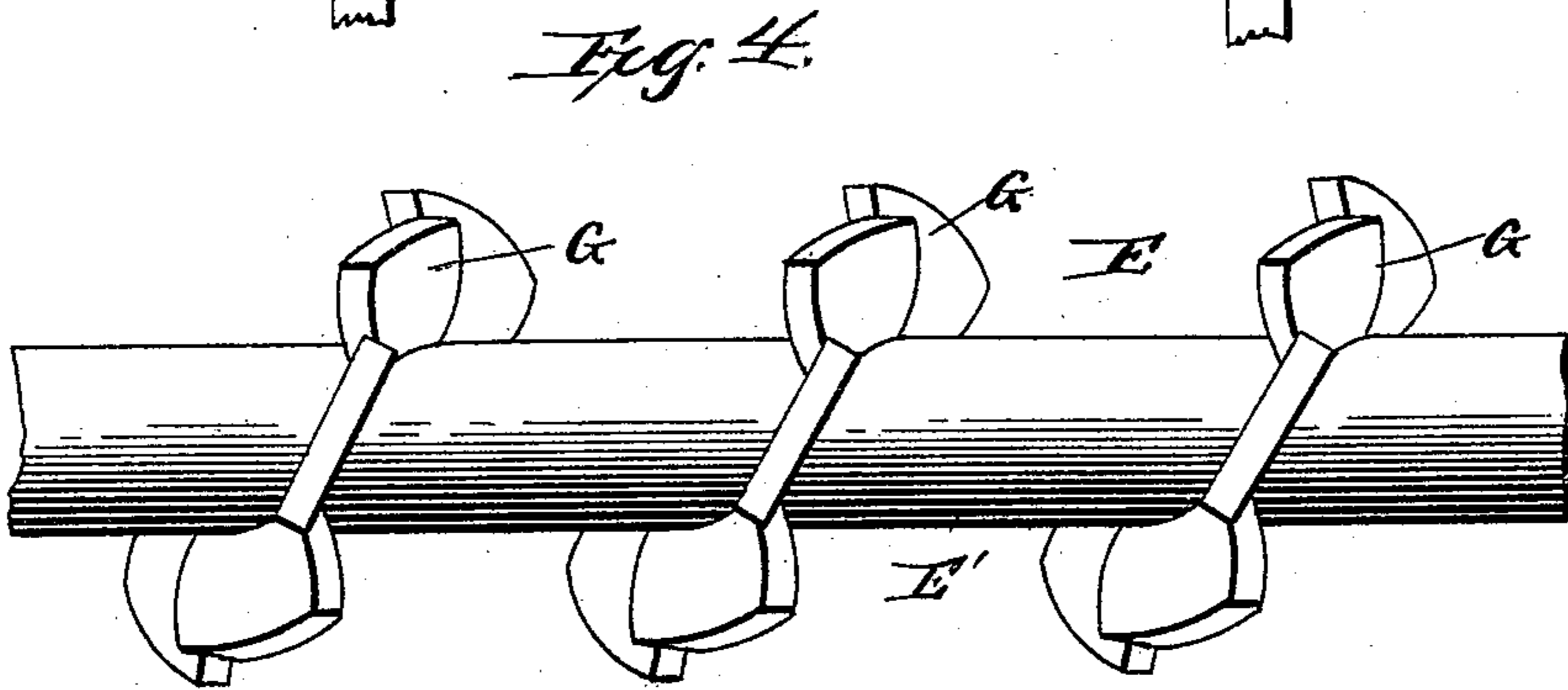
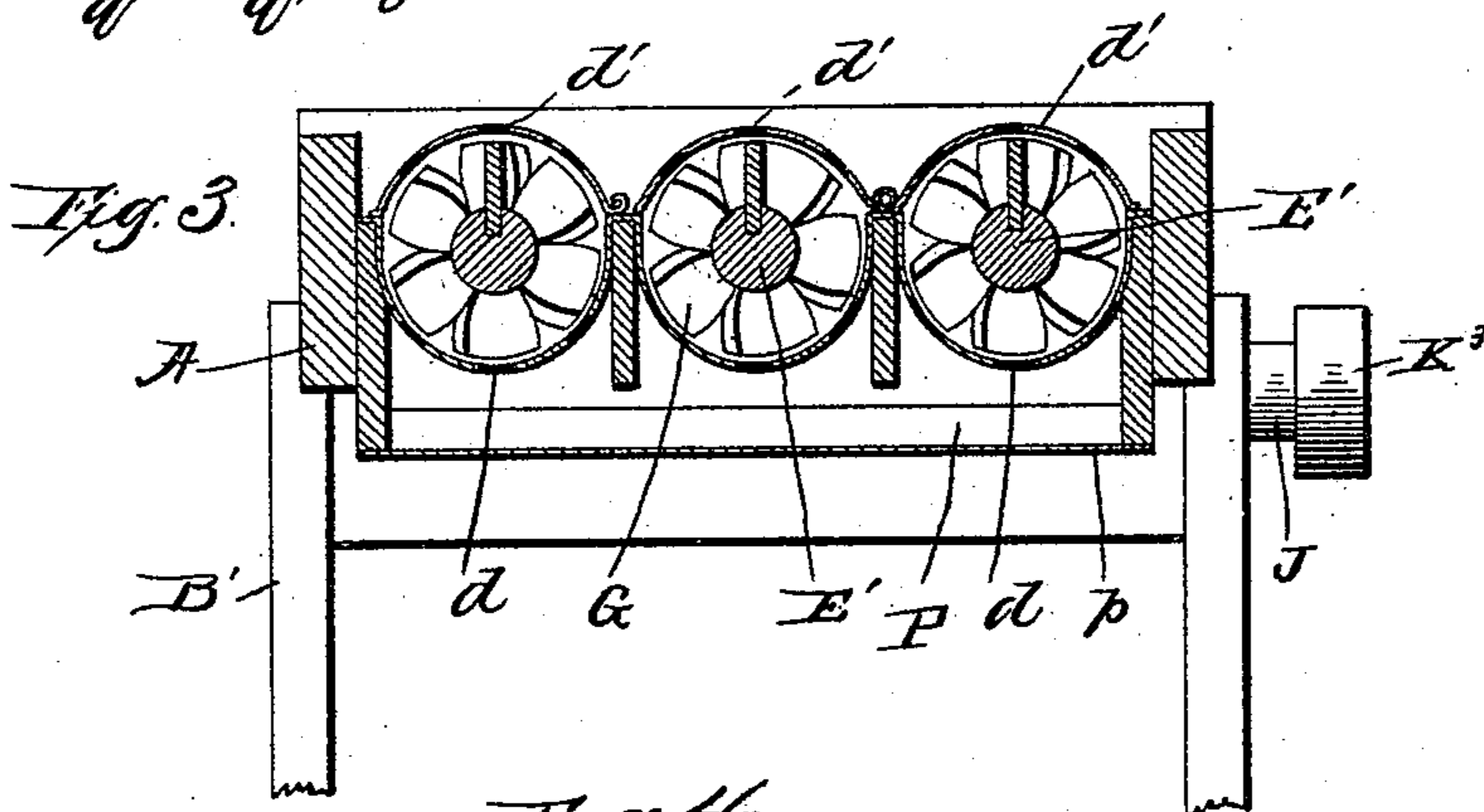
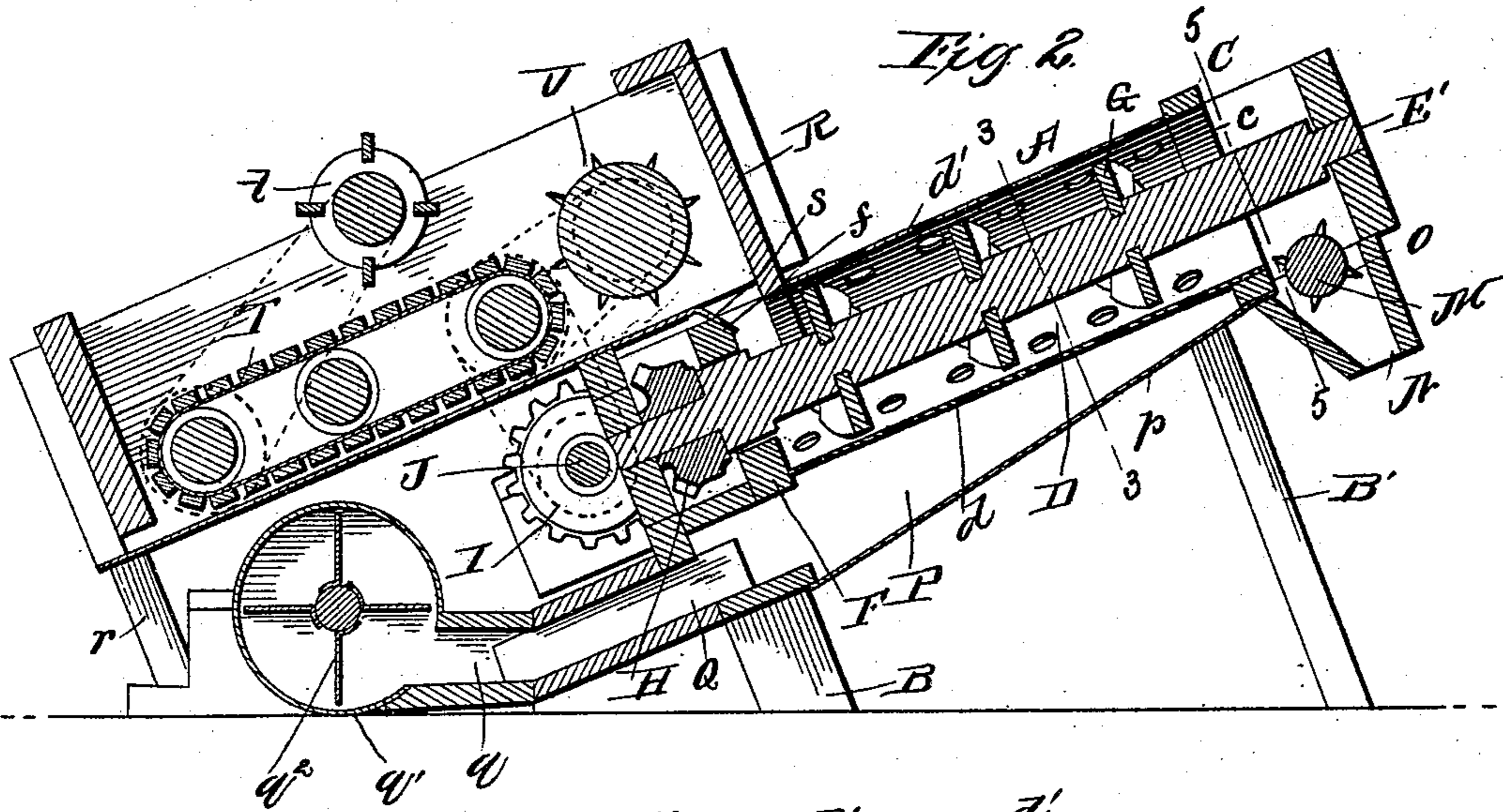
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UNITED STATES PATENT OFFICE.

ALFRED OLIPHINT, OF NEW BIRMINGHAM, ASSIGNOR OF ONE-THIRD TO
WILLIAM P. LONG, OF RUSK, TEXAS.

COTTON FEEDER AND CLEANER.

SPECIFICATION forming part of Letters Patent No. 496,367, dated April 25, 1893.

Application filed July 7, 1892. Serial No. 439,279. (No model.)

To all whom it may concern:

Be it known that I, ALFRED OLIPHINT, a citizen of the United States, residing at New Birmingham, in the county of Cherokee and State of Texas, have invented a new and useful Cotton Feeder and Cleaner, of which the following is a specification.

This invention relates to feeders and cleaners for cotton gins; and it has for its object to provide a combined feeder and cleaner for cotton gins which not only thoroughly and effectually cleans cotton before it passes to the gin, but at the same time it regularly and positively feeds the cotton to the gin in such cleaned condition. To this end the main and primary object of the invention is to generally improve upon and render more efficient in use gin feeders of this type.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings;—Figure 1 is a perspective view of a combined cotton feeder and cleaner constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is a detail elevation of one of the screw conveyers. Fig. 5 is a detail sectional view on the line 5—5 of Fig. 2.

Referring to the accompanying drawings;—A represents a suitable rectangular frame supported at its lower end upon the short legs B, and at its upper higher end upon the longer pivoted legs B', pivoted to the sides of the frame near its upper end and adapted to be moved as required in order to support the frame at the proper incline or angle according to the height of the gin breast into which the machine is feeding. Secured transversely between the opposite sides of the inclined frame and adjacent to the upper end frame piece is the transverse bar or plate C having a number of circular openings *c* into which open the upper discharging ends of the perforated metallic cleaning cylinders D. The said perforated cleaning cylinders D are ar-

ranged longitudinally within the frame A in a sufficient number to correspond to the number of the saws in the gin to which the cotton is being fed, and it has been found preferable to have one cylinder feed to every ten saws of the gin, so that there will be an equal distribution of the cotton to the entire series of saws. This is a matter of option, as any number of cylinders or conveyers can be employed. Each of the perforated cylinders D comprise a semi circular fixed bottom *d*, and a semi-circular top *d'* hinged at one edge to one of the edges of its corresponding bottom, so that the same can be raised when necessary in order to clean the cylinders or the screw conveyers E working therethrough. The conveyer shafts E' working through each of the several perforated cylinders are journaled in the upper end frame pieces and the intermediate feed board F, having an upper bevel edge *f*, and secured transversely within the frame near the extreme lower end thereof, said feed board being arranged so that the lower ends of the semi-circular fixed bottoms *d*, rest thereagainst, while the lower ends of the movable tops *d'* terminate short thereof so as to leave a space between said board and the tops of the several cylinders, which forms a feed opening through which the cotton falls into the several cylinders to be carried up the same and out through the openings *c* of the upper bar or plate C as will be apparent. The conveyers E comprise a series of spirally arranged conveyer blades G suitably secured to the conveyer shafts E', in order to provide a conveyer or worm whereby cotton is worked evenly through the cylinders so as to receive the full benefit of the blast of air passing therethrough.

The lower ends of each of the conveyer shafts E' carry the bevel pinions H, meshing with adjacent pinions I, which latter are mounted to revolve with the lower drive shaft J. The said drive shaft J is journaled in the lower ends of the frame A and is provided with belt pulleys K and K' on one end thereof, and the pulley K² on the other end, the last named pulley being driven by suitable belt-
ing from the gin itself while the pulleys K and K' receive the belts L and L' respectively. The belt L passes to the feeding shaft M jour-

naled in the upper end of the frame A below the upper ends of the conveyer shafts E'. The said feeding shaft M is mounted to rotate within the gin feeding spout N, formed at the upper end of the frame in front of and below the discharge openings c of the several cylinders, and is designed to feed the cleaned cotton into the gin breast, and it is provided with a series of feeding spikes or fingers O, which serve to force the cotton through the spout end and feed the same evenly and regularly into the gin breast.

The entire under side of the frame A, below the spout N, is inclosed by the air tight inclined air trunk P, open at its lower end at the lower end of the frame A, and provided with an inclined bottom p, whereby any sand or other dirt from the cotton, being worked through the cylinders, may fall, if heavier than the pressure of the air blast, so that the same may be subsequently removed. The lower open end of the air trunk P receives one end of the closed air flue Q, closely fitting said open end, entirely, and also connected with the discharge opening or neck q of the fan casing q', within which revolves the blast fan p², receiving its motion from the belt L' before referred to. It will now be seen that when the combined feeder and cleaner is in operation, as the cotton is being conveyed through the perforated cylinders, a powerful blast of air is directed at the same time through said cylinders and thoroughly and effectually removes dirt and other foreign matter from the cotton and carries the same off into the air and also breaks up or "perforates" the cotton so that the same will be fed to the gin more regularly than usual.

In connection with the combined feeder and cleaner just described I preferably employ the auxiliary feeder frame R illustrated in the accompanying drawings. The said auxiliary feeder frame or box R is mounted at its lower end upon the supporting legs r, while the upper end thereof terminates in an upper discharge spout or opening S, resting within the receiving opening at the lower end of the frame A, and provided at one side of the same with a beveled slide s, registering with and snugly resting upon the upper beveled edge f, of the feed board F so that the cotton can be fed directly to the cylinders from the auxiliary feeders without escape. An endless feeding apron T is mounted within the feeder frame R, and is designed to receive the cotton to be carried to the feeder and cleaner just described, and subsequently to the gin. Directly over said apron T is arranged a spreader t which provides for evenly spreading the cotton upon the apron at any desired depth, so that the same will be evenly fed to the spiked feeding roller U, arranged at the upper end of the endless feeding apron and above the discharge opening or spout of the auxiliary feeder box, so as to force the cotton into the cleaning and conveyer cylinders. The journal ends t' of the spreader t, are loosely

mounted in the open bearing slots t², in the opposite sides of the frame R, which slots allow the spreader a slight upward play to accommodate itself to the thickness of cotton on the apron. Motion is communicated to the apron, the spreader, and the feeding roller U, comprising an auxiliary feeder of a preferred form, by suitable pulleys and belting as illustrated in the accompanying drawings, but which forms no essential part of the present invention.

From the foregoing it is thought that the construction, operation and many advantages of the herein described combined cotton feeder and cleaner will be apparent without further description.

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

1. In a cotton feeder and cleaner, the inclined frame having a discharge opening or spout at its upper end, a feeding roller arranged within said discharge opening, an inclined perforated cylinder arranged within said frame and delivering onto said roller in the discharge opening, and having a hinged top, means to direct a current of air transversely through the cylinder, and a screw conveyer working in said cylinder, substantially as set forth.

2. In a cotton feeder and cleaner, an inclined frame having a discharge opening or spout at its upper end, a series of inclined perforated cylinders mounted within said frame and delivering into said spout, screw conveyers working within said cylinders, and an air blast trunk inclosing the under side of said cylinders, substantially as set forth.

3. In a combined cotton feeder and cleaner, an inclined frame having a discharge opening at its upper end, a perforated cylinder mounted within said frame and provided with a lower receiving opening and delivering into said upper discharge opening, said cylinder comprising a fixed semi-circular bottom and hinged semi-circular top, a screw conveyer moving within said cylinder, and an air trunk inclosing the fixed bottom of said cylinder, substantially as set forth.

4. In a combined cotton feeder and cleaner, a rectangular inclined frame fixedly supported at its lower, and adjustably at its upper end, a transverse perforated plate arranged within the frame near its upper end, a series of inclined perforated cylinders mounted within said frame and delivering through the perforations in said plate and provided with lower receiving openings, a gin feeding spout arranged in front of and below said perforated plate, screw conveyers working within said cylinders, and an air tight blast trunk inclosing the perforated bottoms of said cylinders, substantially as set forth.

5. In a combined cotton feeder and cleaner, an inclined frame having a discharge opening or feeding gin spout at its upper end, a spiked feeding roller working in said spout, a series

of inclined perforated cylinders mounted within said frame and delivering into said spout, screw conveyers working within said cylinders, an air trunk inclosing the bottoms 5 of said cylinders and a blast fan connected with said trunk, substantially as set forth.

6. In a combined cotton feeder and cleaner, an inclined frame, a series of inclined perforated cleaning cylinders mounted within said 10 frame, a closed air blast trunk inclosing the under-sides of said perforated cylinders conveyor shafts working within said cylinders and carrying at their lower ends bevel pinions, and a single transverse drive shaft journaled 15 in the lower ends of said frame and carrying regularly spaced bevel gears meshing with each of said pinions, to simultaneously rotate said shafts, substantially as set forth.

7. In a combined cotton feeder and cleaner, 20 an inclined frame having a discharge opening at its upper end, a series of inclined perfo-

rated cylinders mounted within said frame and each comprising fixed semi-circular bottoms and semi-circular tops hinged to said bottoms and terminating short of the lower 25 ends thereof to form receiving or feed openings for the cylinders, screw conveyers working within said cylinders, a closed air trunk arranged beneath said cylinders, a blast fan, a flue connecting said fan with said air trunk, 30 and an auxiliary feeder having a discharge spout projecting into and resting within the receiving openings of the cylinders, substantially as set forth.

In testimony that I claim the foregoing as 35 my own I have hereto affixed my signature in the presence of two witnesses.

ALFRED OLIPHINT.

Witnesses:

J. H. MEEKS,

TAYLOR RICKETTS.