

S. Z. HALL.

Cotton Feeder for Gin Stands.

No. 29,968.

Patented Sept. 11, 1860.

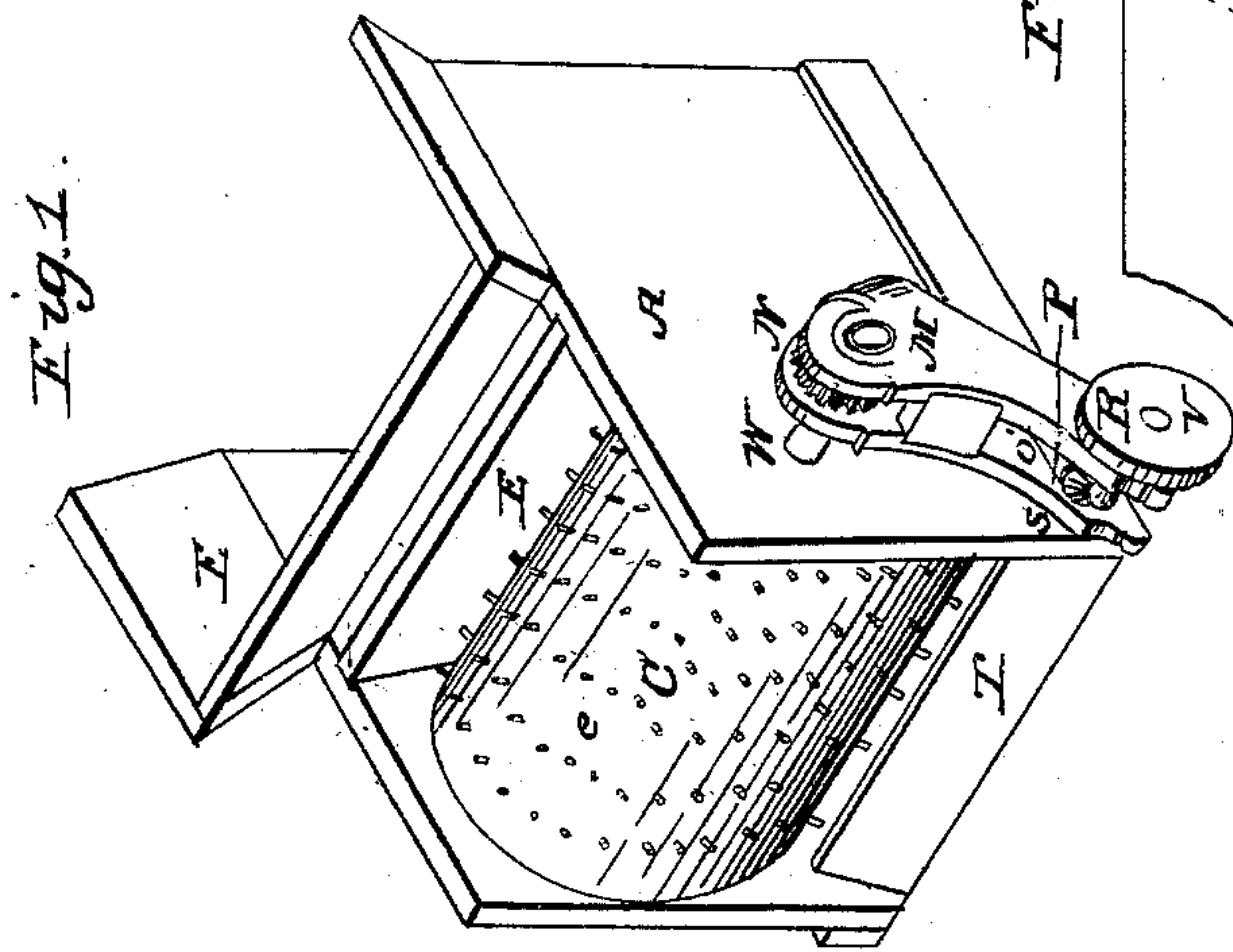
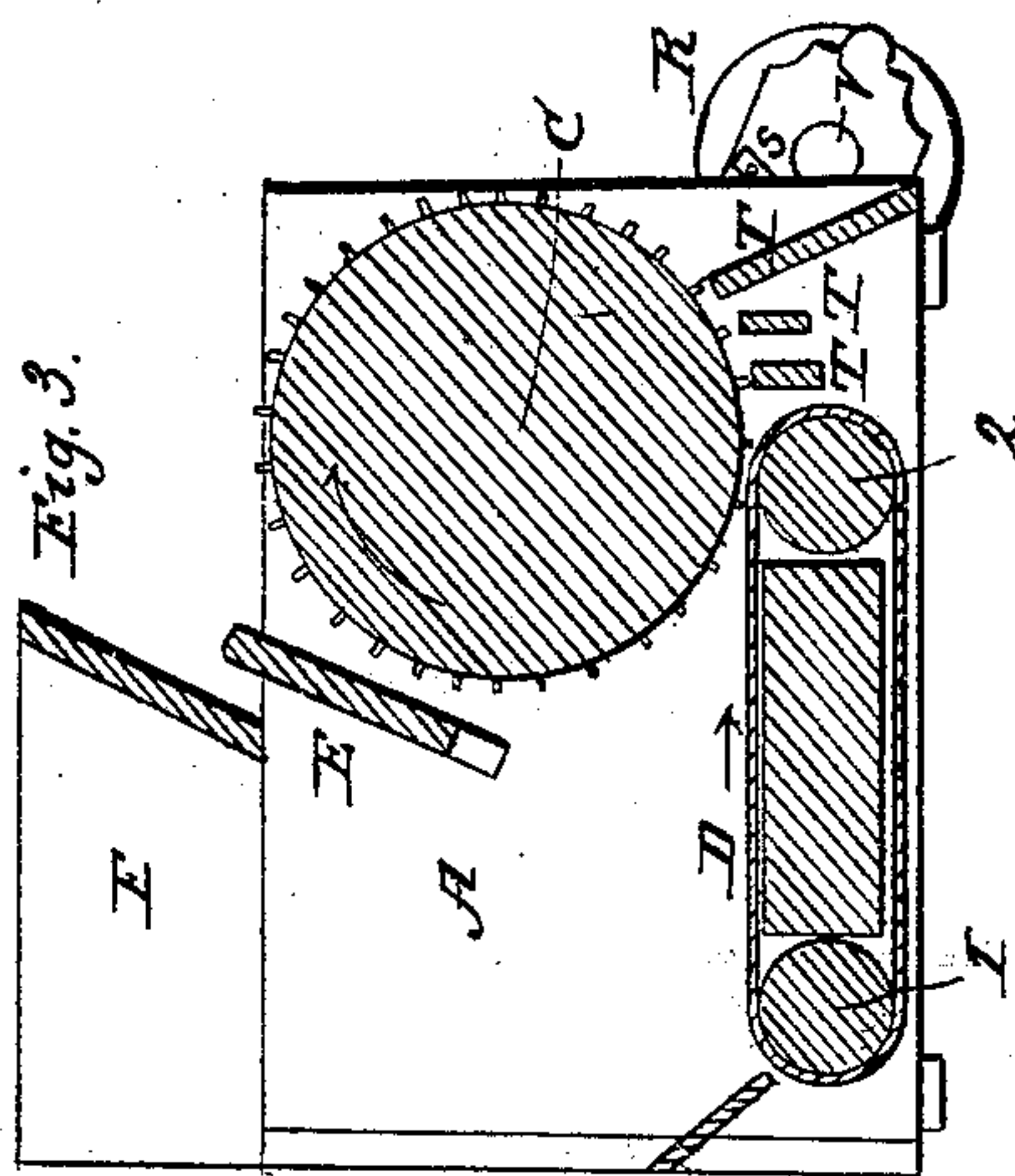
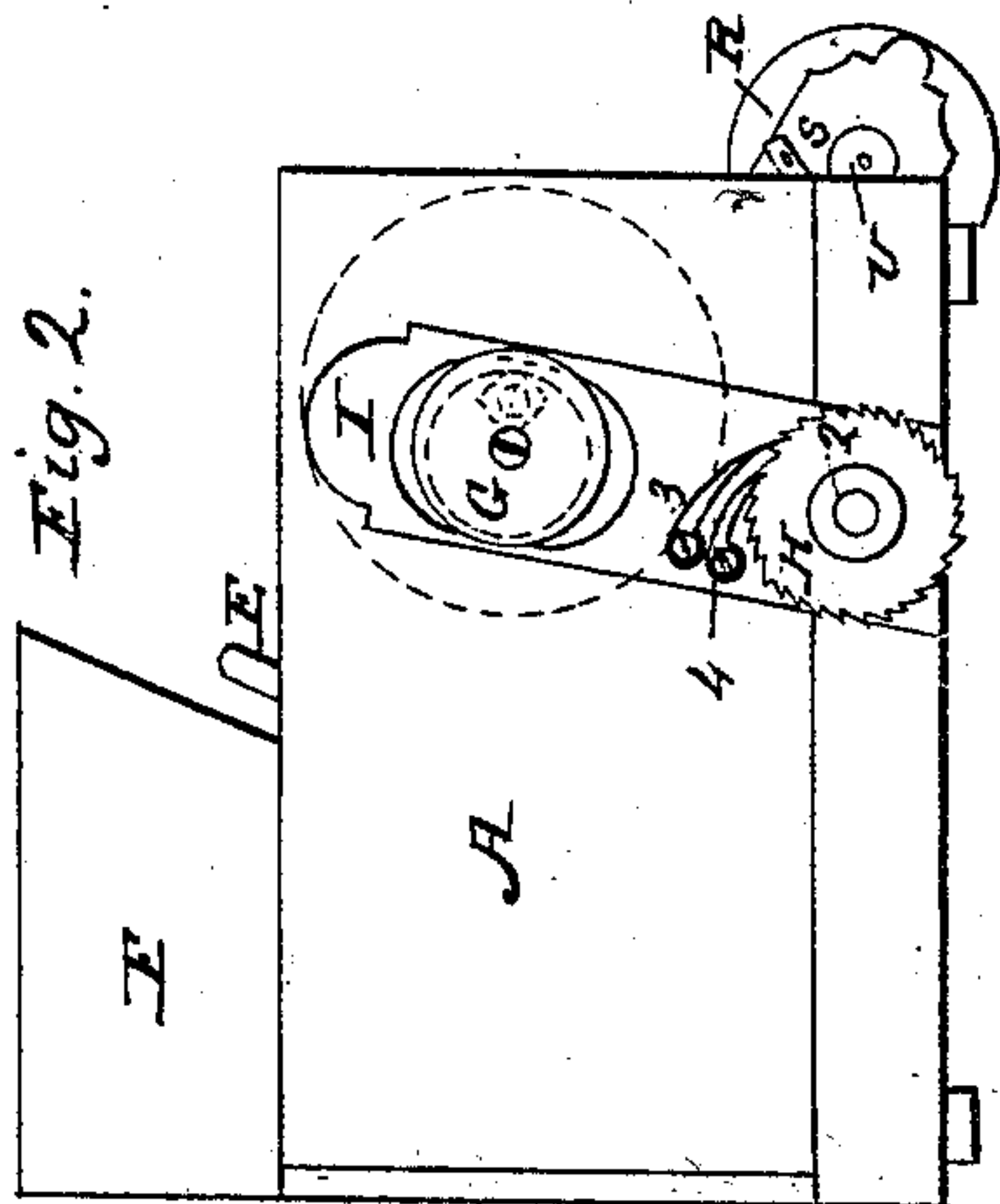
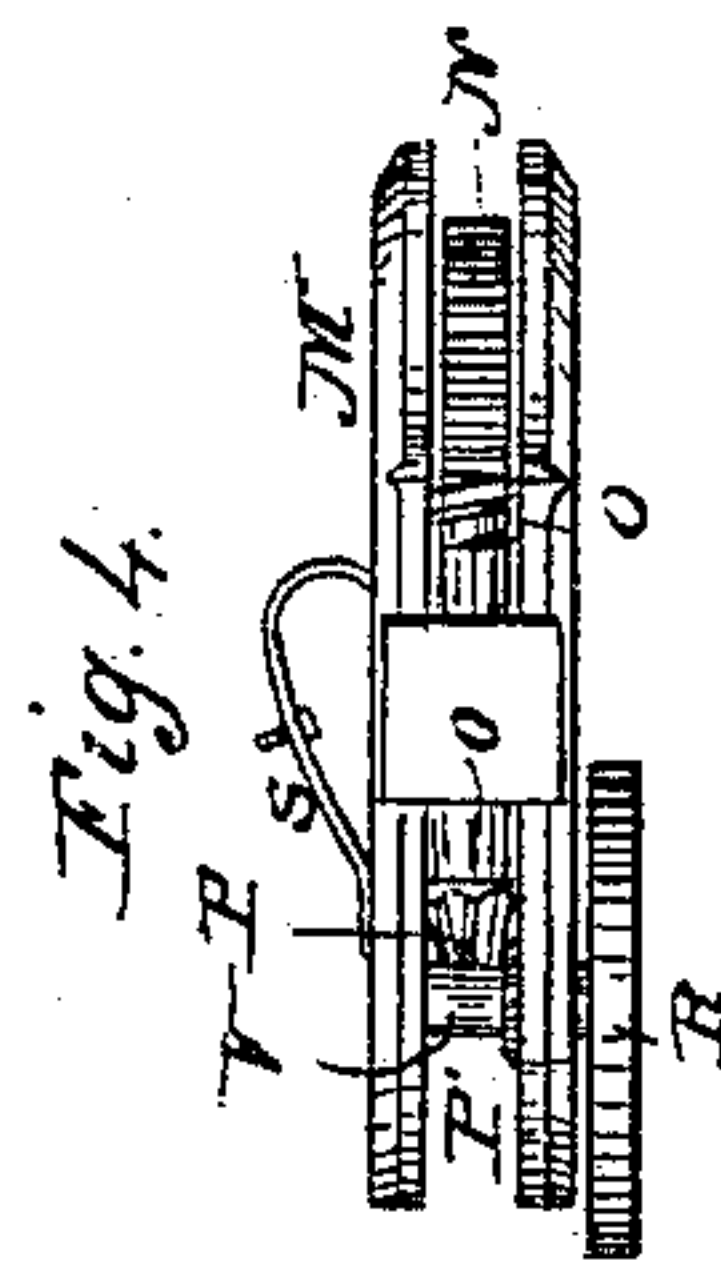
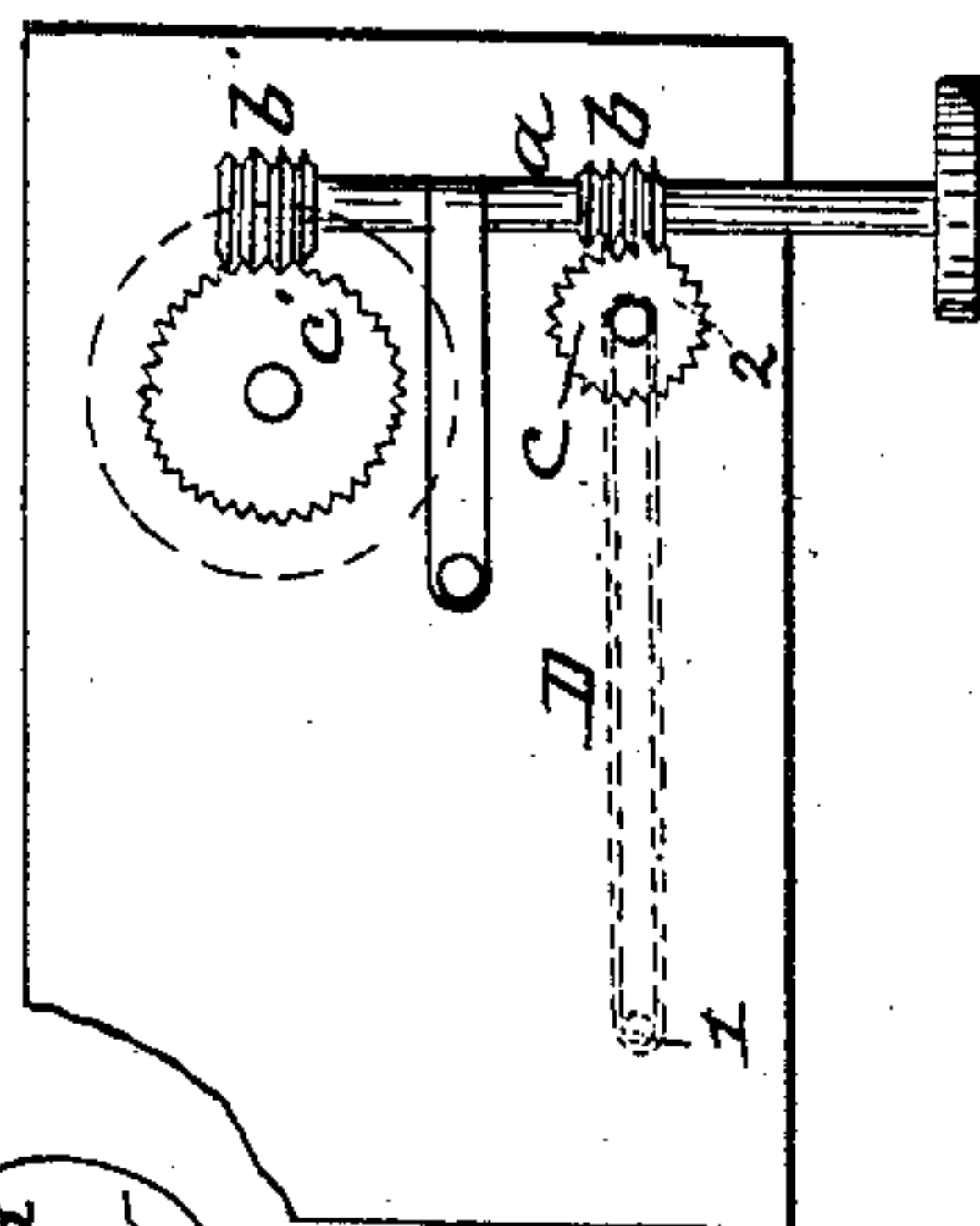


Fig. 5.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

S. Z. HALL, OF SEGUIN, TEXAS.

## IMPROVEMENT IN FEEDERS FOR COTTON-GINS.

Specification forming part of Letters Patent No. 29,968, dated September 11, 1860.

*To all whom it may concern:*

Be it known that I, S. Z. HALL, of Seguin, in the county of Gaudaloupe and State of Texas, have invented a new and useful Improvement in Cotton-Feeders for Gin-Stands; 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 a perspective view of my improvement; Fig. 2, a side elevation of the same; Fig. 3, a vertical longitudinal section through the center of the same, and Fig. 4 is a plan view of the swing-frame and the gearing which it supports.

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

The first part of my invention consists in a certain arrangement of mechanism, hereinafter described, for effecting a simultaneous and uniform movement of the endless apron and delivering-roller of a gin-stand cotton-feeder.

The second part of my invention consists in the relative arrangement of the endless apron, toothed roller, and adjustable cut-off board of the hopper, whereby the quantity of cotton introduced to the roller by the belt can be controlled, and thus a greater or less quantity be delivered into the gin-stand in a given time, as the necessity of the case may demand.

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

In the drawings, A represents the box of the feeder, which is intended to be placed upon the top of an ordinary gin-stand in such relation to the mouth of the same that the cotton shall be properly delivered to the gin-saws.

C is a cylinder of the feeder. In the periphery of the said cylinder C are inserted small pins, which are of a suitable length to serve for catching the pods of cotton and retaining them until they are carried over the cylinder to a position which shall insure their delivery into the mouth of the gin-stand.

D is an endless apron, upon which is placed the cotton intended to be fed to the gin-saws, said apron working around and being driven by the rollers 1 and 2, the rollers receiving

their motion from parts of the machinery hereafter to be described.

E is an adjustable feed-board, which is intended for regulating the quantity of cotton introduced by the feed-apron to the delivering-roller, thus preventing a too rapid feed for the capacity of the gin and power.

F is an elevated hopper made of a suitable height to contain a sufficient amount of cotton to allow the person in attendance to perform the necessary labor in the pick-room while the machines are in operation, and also to avoid the necessity of cutting away the pick-room wall or building longer flues to the gin-stands already in place.

G is a cam-wheel, said cam-wheel being secured to shaft W and working in a slot in rocking lever I.

I is a rocking lever, to which are secured the pawls 3 and 4, said lever having a slot in one end, made to receive the cam-wheel G, and also having a fulcrum or bearing on the end of roller 2.

H is a ratchet-wheel, which is secured to the roller 2, and into the notches of said wheel H work the points of the pawls 3 and 4. Pawls 3 and 4 are attached to the rocking lever I, and are for the purpose of transmitting a forward motion to the endless apron D by means of the ratchet-wheel H, lever I, and cam-wheel G.

T T T are grate-bars, said bars being for the purpose of permitting hulls, leaves, trash, imperfect pods, and gravel to pass through, preventing their admission to the gin, securing the saws from injury, and producing a better sample of cotton than can be effected by hand-feeding.

W is a cylinder-shaft, to which are secured the cam-wheel G, cylinder C, and the frame M, with its attached gearing.

M is a frame or box, which contains the gearing N O O' P P' and shaft V. The cog-wheel N is provided with a tubular shaft, upon which the frame M is allowed to turn, and through said tubular shaft passes the cylinder-shaft W. To the shaft O' are secured the worm O and beveled wheel P, said wheel being geared into a similar wheel secured on the shaft V.

V is a counter-shaft, to which are secured the friction-pulley R and beveled wheel P.

R is a friction-pulley, said pulley being for



the purpose of transmitting motion from the brush-belt of the gin-stand to the gearing N O O' P P', cylinder C, and apron D.

S is an elastic bar for adjusting and retaining the swinging frame, with its attached gearing, in any position it may be found proper to set it. By raising the loose end of this frame a certain height and inserting the pin of the retaining-bar S in one of a series of holes in the side of feeder-frame the feeding of the cotton to the gin-stand will be stopped, and by lowering the loose end of the swinging frame until the pulley R bears on the brush-belt of the saw-gin the feeding of the cotton will again commence. The friction between the belt and the pulley R can be increased or decreased by adjusting the loose end of the swing-frame and inserting the pin of the bar S in one of the series of holes in the side of the feeder-frame.

In Fig. 5 I have represented a modification of the mechanism for producing the simultaneous movement of the delivering-roller and feed-apron. This consists simply of a shaft, *a*, with worms *b b'* cut on its circumference, as shown, and of two screw-wheels, *c c'*, of different diameter, into which the worm-threads gear. With this arrangement the power-transmitting pulley has to be placed on the lower end of the shaft *a*, and the band which leads from the saw-gin has to be set edgewise, so as to come in contact with it.

The above-described machine is for the purpose of feeding cotton in the seed to the ordinary cotton saw-gins in a uniform and economical manner, removing the greater portion of the sand and dirt which is unavoidably

gathered with the cotton, separating the hulls, leaves, and imperfect pods, which injure the sample of the lint, producing a better article of cotton than can be produced by the process of ordinary hand-feeding, also being readily adapted to any gin-stands already in place, and requiring only one person to operate both feeder and gin-stand, thereby saving the wages of one hand to each gin run by the cotton-planter.

Operation: Cotton in the seed being placed in the box A, and the pulley R being dropped on the brush-belt of the gin-stand, thereby communicating motion to the cylinder C and apron D by means of the gearing N O P P', cam-wheel G, rocking lever I, pawls 3 and 4, and ratchet-wheel H, the cotton is brought into contact with the points of the projecting wires of cylinder C by the forward movement of the endless apron D, and carried over said cylinder C and deposited in the mouth of the gin-stand.

I do not claim feeding cotton in the seed to gin-stands by means of a cylinder and an endless apron, they having been previously used; but

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

The combination of the feed-apron D, delivering-roller C, swinging frame M, with its attached gearing, and rocking lever I, with its actuating-gearing, substantially as and for the purposes set forth.

S. Z. HALL.

Witnesses:

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