

No. 620,053.

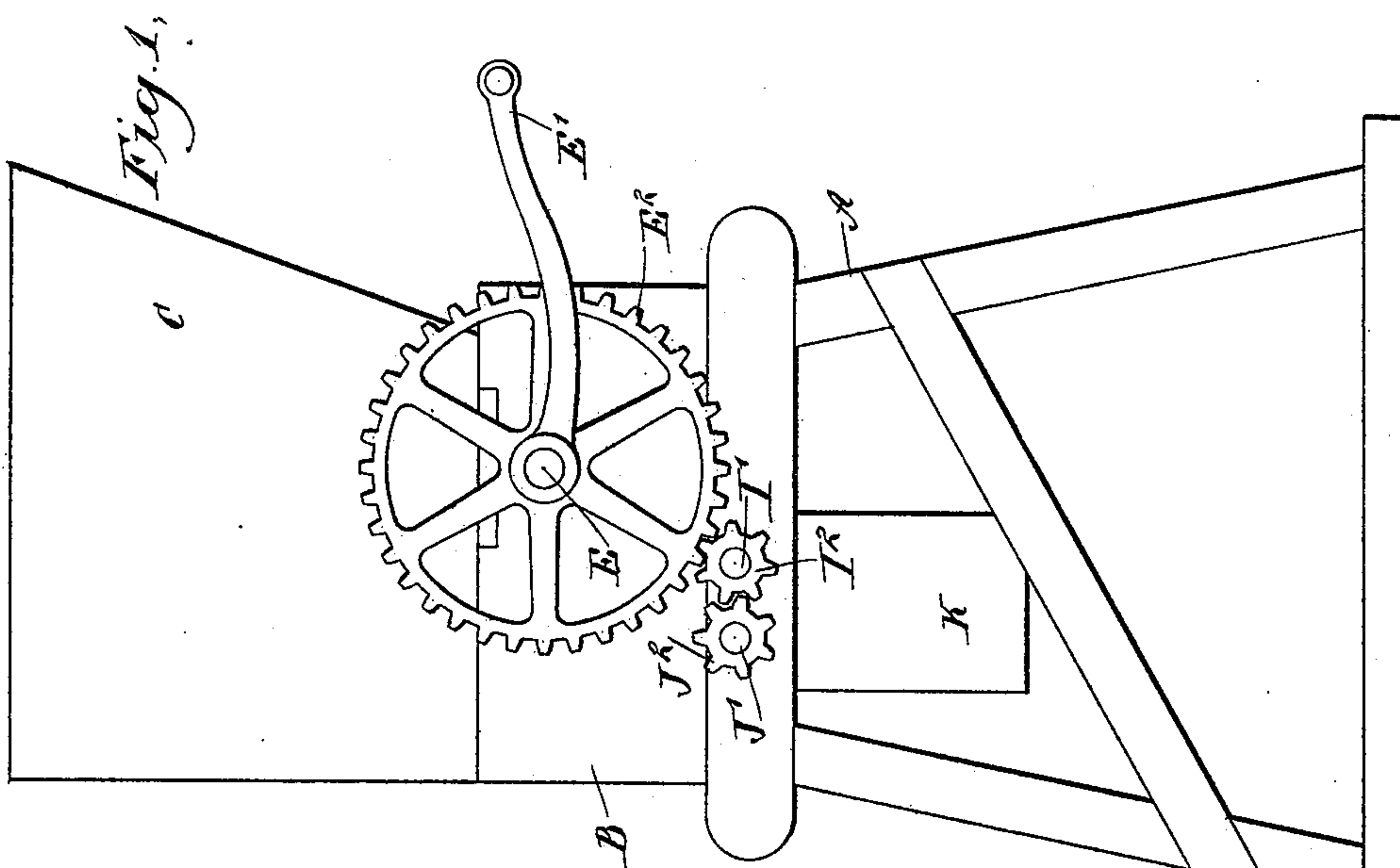
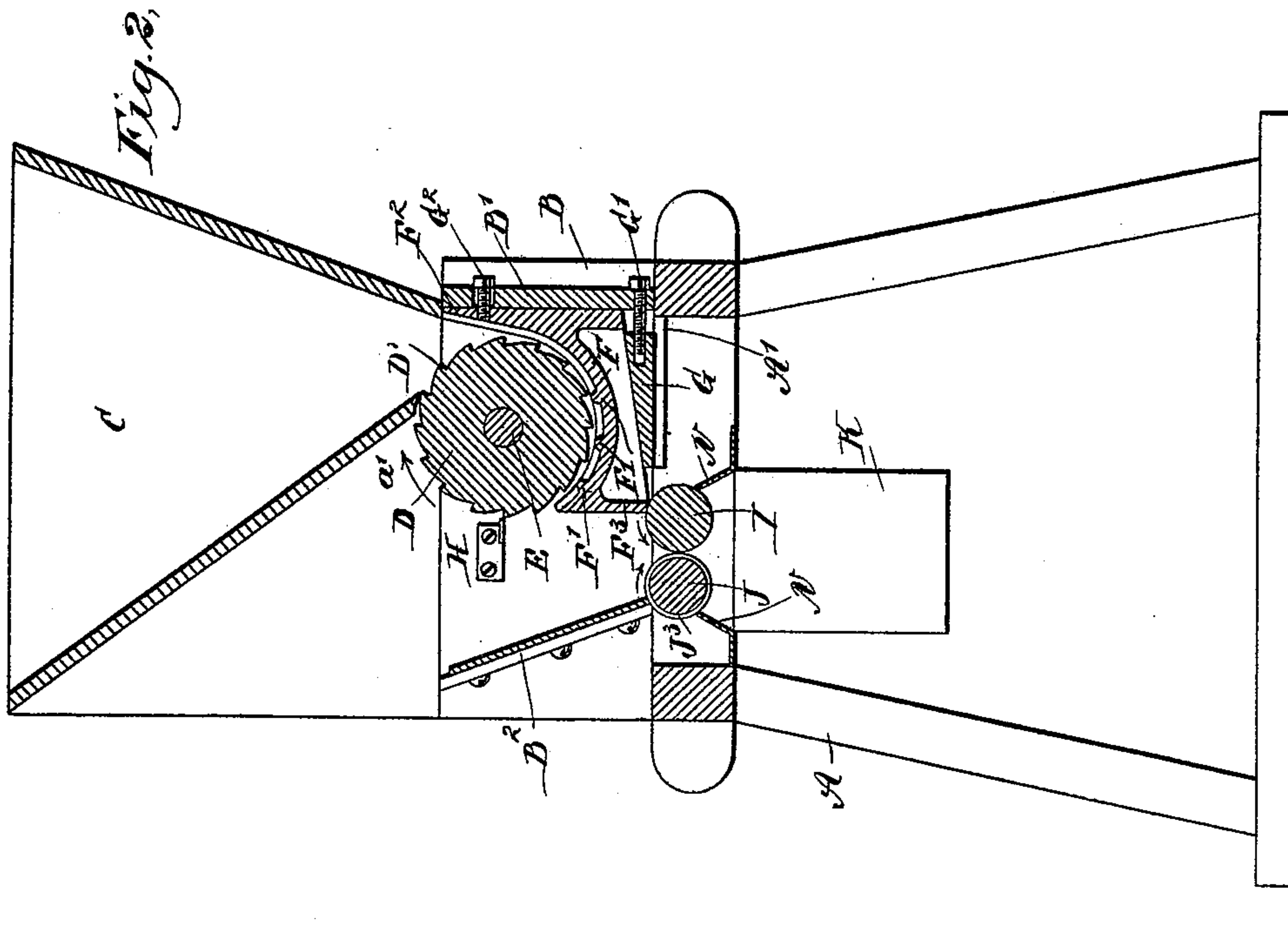
Patented Feb. 21, 1899.

R. T. RICKARD.
COFFEE PULPING MACHINE.

(Application filed Dec. 30, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Edward Thorpe
Rev. G. Foster

INVENTOR

R. T. Rickard

BY

Mumford
ATTORNEYS.

No. 620,053.

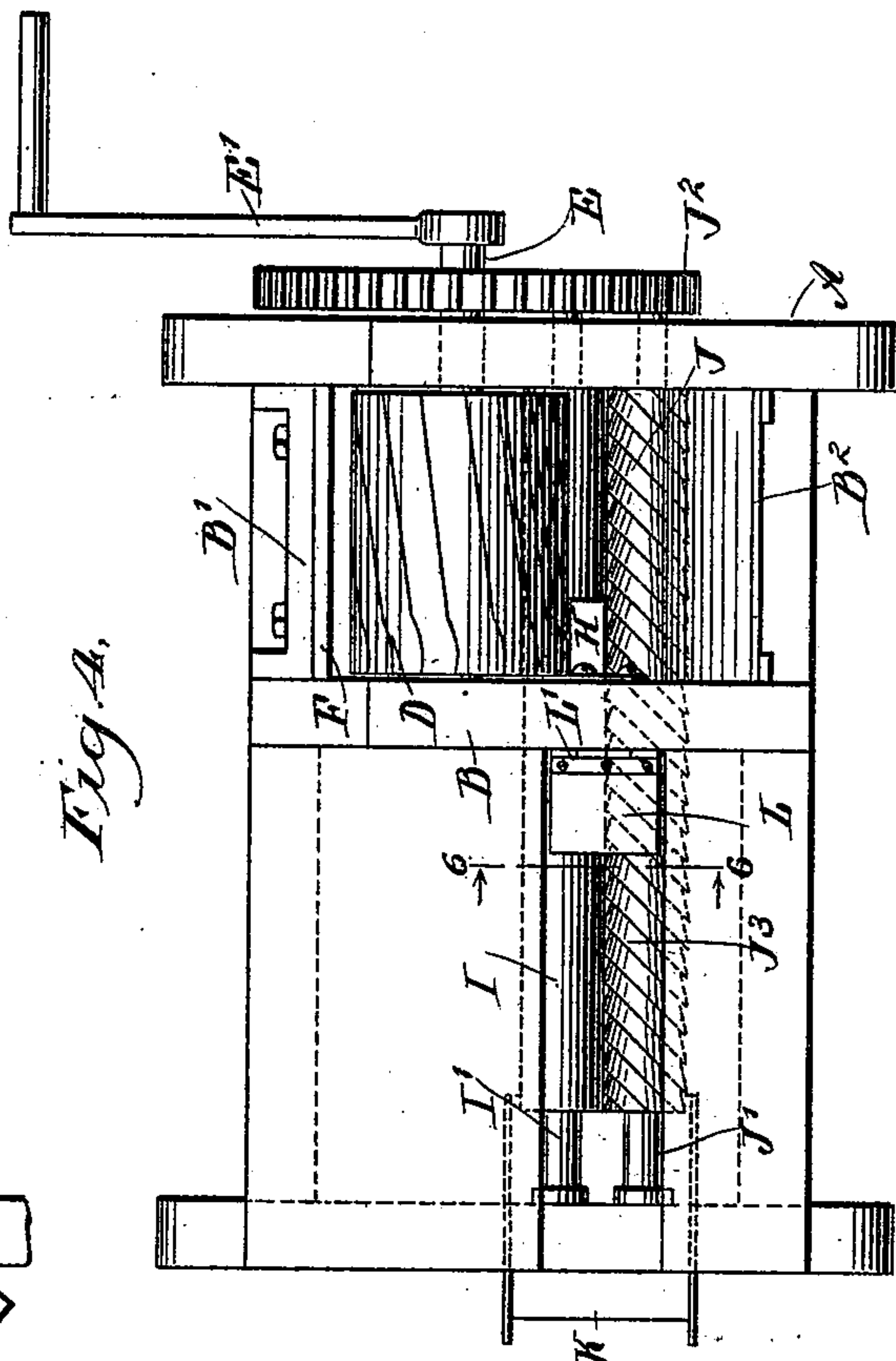
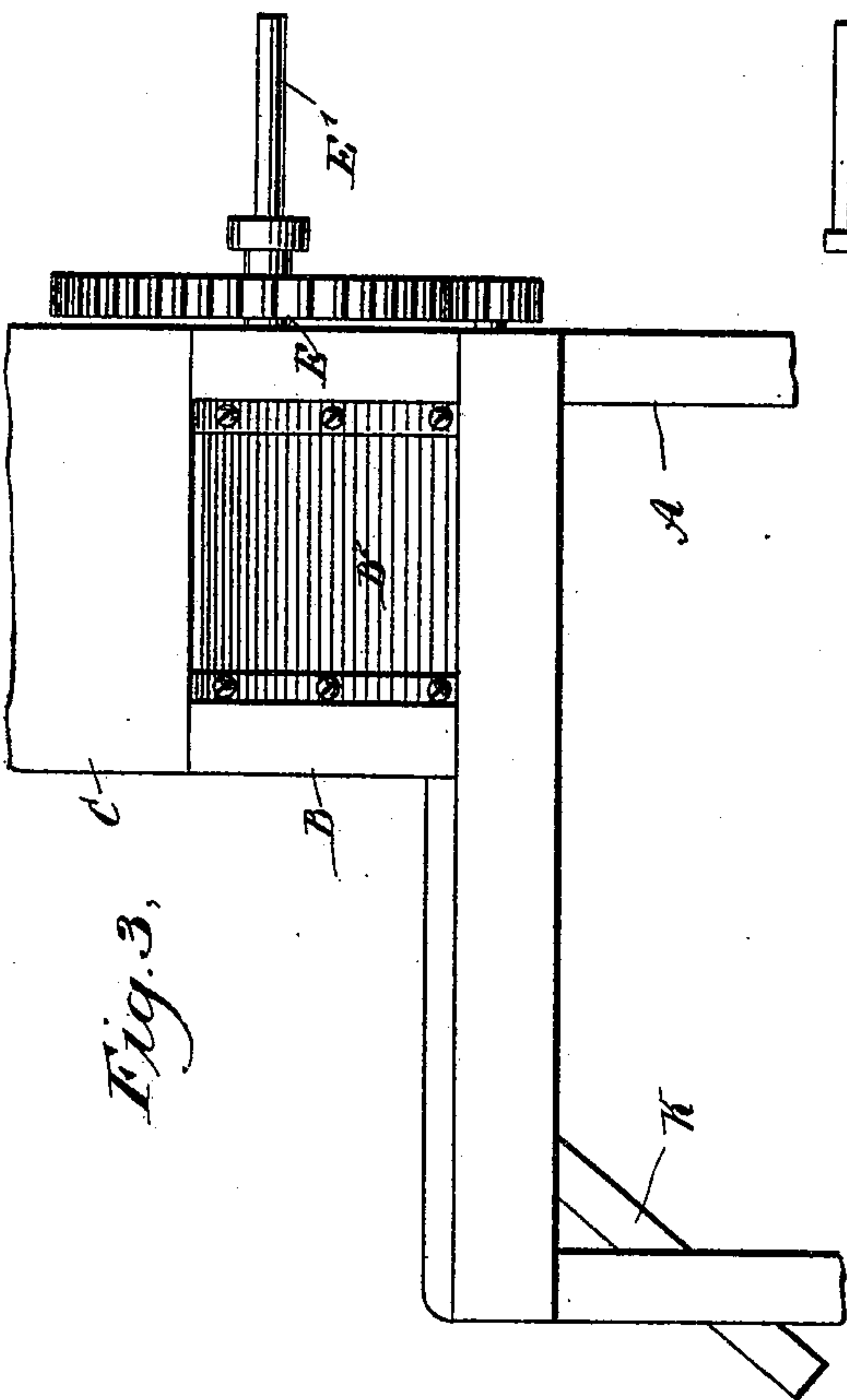
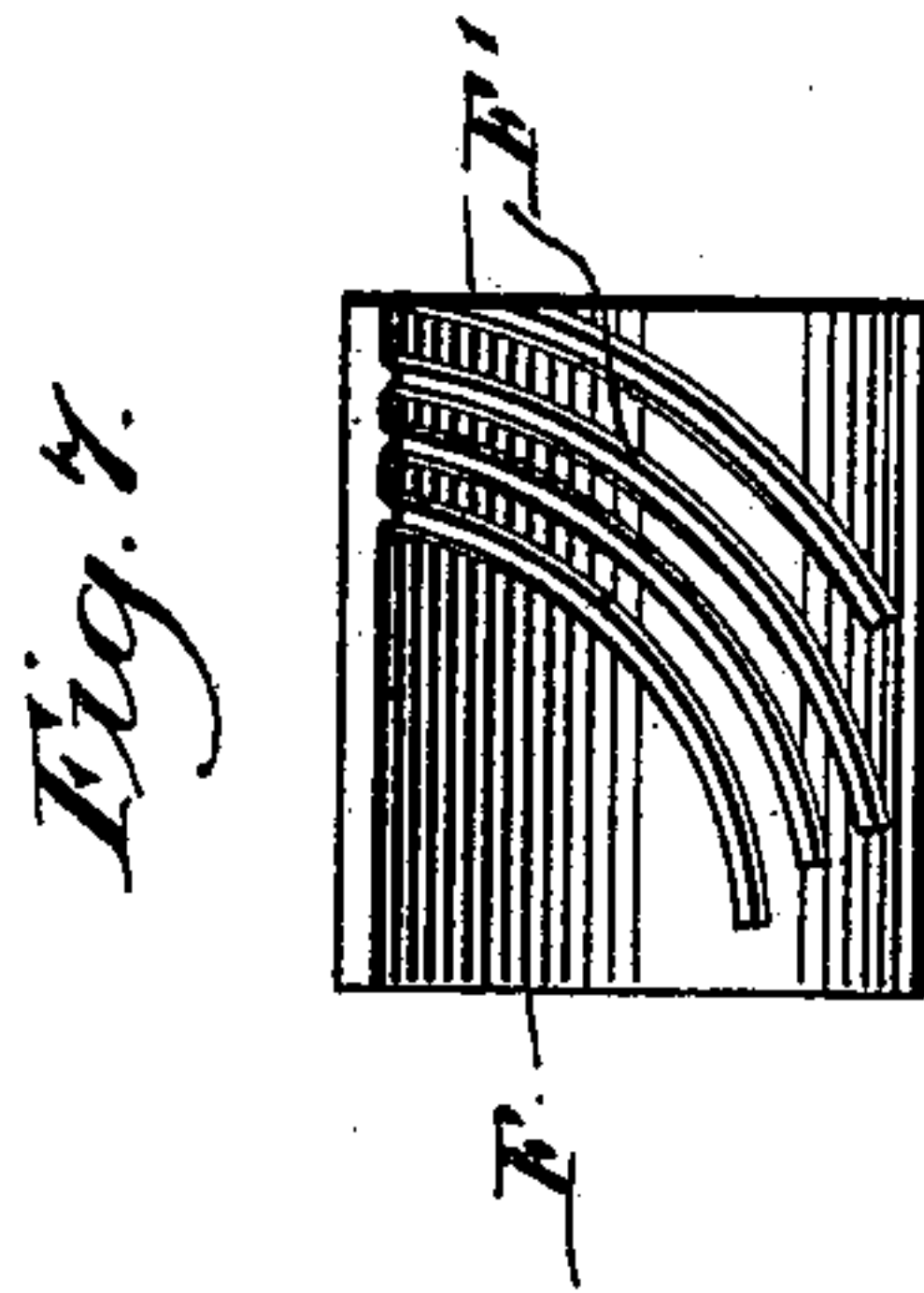
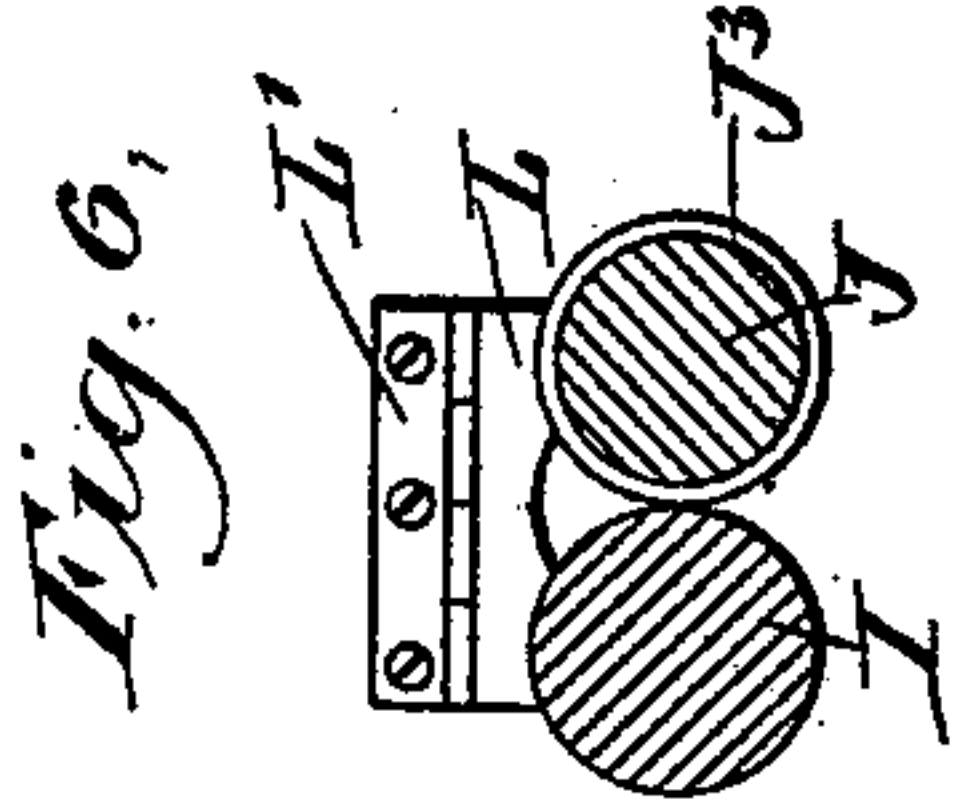
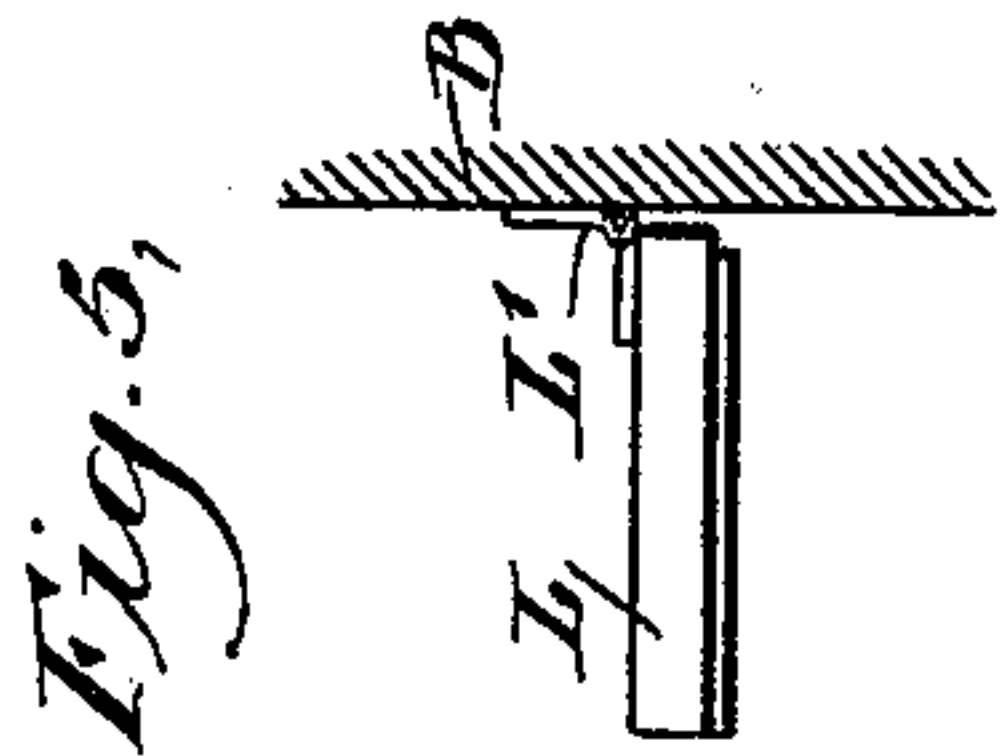
Patented Feb. 21, 1899.

R. T. RICKARD.
COFFEE PULPING MACHINE.

(Application filed Dec. 30, 1897.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Edward Thorpe.
New York, N.Y.

INVENTOR
R. T. Rickard

BY *Mundy*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

RICHARD THOMAS RICKARD, OF HONOKAA, HAWAII.

COFFEE-PULPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 620,053, dated February 21, 1899.

Application filed December 30, 1897. Serial No. 664,627. (No model.)

To all whom it may concern:

Be it known that I, RICHARD THOMAS RICKARD, a subject of the Queen of Great Britain, residing at Honokaa, in the District of Hamakua, in the island of Hawaii, Hawaii, have invented a new and Improved Coffee-Pulping Machine, of which the following is a full, clear, and exact description, and for which I have obtained Letters Patent of Hawaii, No. 131, granted to me on June 9, 1897.

The object of the invention is to provide a new and improved pulping-machine which is simple and durable in construction, easily operated, not liable to get out of order, and more especially designed for effectually removing the pulp of the berry.

The invention consists principally of a diagonally-grooved pulping-roller mounted to rotate over a segmental bed-plate having ribs. The invention further consists of a pair of rollers for separating the berry from the pulp, one of the rollers being plain and the other grooved to feed the berry bodily forward, at the same time allowing the pulp to pass down between the rollers.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement. Fig. 2 is a sectional side elevation of the same. Fig. 3 is an end elevation of the same. Fig. 4 is a plan view of the improvement with the hopper removed. Fig. 5 is an end elevation of the pulp-stop. Fig. 6 is a cross-section of the separating-rollers with the stop in position, the section being taken on the line 6 6 of Fig. 4; and Fig. 7 is a plan view of the bed-plate.

The improved machine is mounted on a suitably-constructed frame A, supporting a casing or box B, carrying a hopper C, containing the coffee to be treated, the lower end of the said hopper discharging the coffee upon a pulping-roller D, mounted to turn within the casing or box B and secured on a shaft E, journaled in suitable bearings in the ends of the said box B.

One outer end of the shaft E is provided with an arm E', adapted to be taken hold of by the operator for turning the shaft E and the roller D in the direction of the arrow α' , it being understood, however, that the pulleys and belts may be employed on the said shaft E for turning the latter by power. The pulping-roller D operates in conjunction with a bed-plate F, made segmental in shape and formed with curved ribs F', as is plainly shown in Figs. 2 and 7, the ribs operating in conjunction with diagonal grooves D', formed on the peripheral surface of the roller D.

The upper end of the bed-plate F extends in alinement with one side of the hopper C, so as to form an entrance-opening for the coffee between the roller D and the bed-plate to allow the berries to pass between the ribs F' and the grooves D' and to permit the surface of the rollers to act on the berries in such a manner that the coating or pulp is readily removed from the berry.

The bed-plate F is arranged for vertical adjustment in the casing B, and for this purpose I mount the lower end of the said bed-plate on wedges fitted to slide on suitable guideways A' held on the frame A. A screw G' is mounted to turn in the side B' of the casing B and screws in the wedge G to move the latter inward or outward, so as to lift or lower the bed-plate to bring the segmental surface thereof in proper relation to the peripheral surface of the pulping-roller D. Suitable bolts G² are employed for fastening the bed-plate to the side B' of the casing B, the said bolts being free, however, to slide in vertically-extending slots arranged in the said side B'.

A scraper H is attached to the back of the casing B and is in contact with the rear end of the pulping-roller D, so as to scrape off any berries, pulp, or hulls from the peripheral surface of the roller. The berries and the pulp pass out from between the roller D and the bed-plate F over the inner edge F³ of the bed-plate into a hopper formed by the inclined side B² of the casing, and the said inner side F³ of the bed-plate and the separated berries and pulp then pass upon rollers I and J, mounted to rotate toward each other in the directions of the arrows indicated in Fig. 2.

The rollers I and J are secured on shafts I'

and J', respectively, journaled in suitable bearings on the frame A, and on the outer end of the shaft I' is secured a pinion I², in mesh with a gear-wheel E², secured on the shaft E, so that when the latter is rotated a rotary motion is given to the pinion I², the shaft I', and the roller I. The pinion I² is also in mesh with a pinion J² on the shaft J' of the roller J, so that the rollers I and J rotate in unison toward each other, as above explained.

The roller I has a plain smooth surface, while the roller J is grooved spirally, as at J³, so as to form with the roller I sufficient space for the passage of the pulp, the space, however, being sufficiently small to prevent the berries from passing downward between the rollers.

Now it is evident that when the machine is in motion and the berries and pulp are discharged upon the said rollers the pulp finally passes between the rollers downward upon the floor or a suitable receptacle, while the berries are moved forward between the rollers by the spiral grooves of the roller J to be finally discharged into a chute K, extending downward from the rear end of the rollers.

In order to prevent the pulp from passing too far rearwardly along the rollers with the berries before being forced downward between the rollers, I provide a stop L, hinged at L' to the back of the casing B and with the under surface of the stop resting on the top of the two rollers, with the under side cut out between the rollers to allow the ready passage of the berries, as will be readily understood by reference to Fig. 6. Now it will be seen that the stop L prevents the rearward passage of the pulp, but allows the movement of the berries, at the same time keeping the rollers clean by scraping off any pulp that may adhere to the peripheral surface of the rollers. The forward ends of the rollers I and J are kept clean by scrapers N, attached to the frame A, as indicated in Fig. 2.

The functions of the grooved roller revolving over the ribbed bed-plate are, first, to break away the cherry-like pulp from the berries, and consequently the ribs of the bed-plate allow and provide spaces or channels for the pulp-berries, with the pulp, to pass between them without crushing or damaging the berries in their passage to the small separating-rollers. The action of the scraper H upon the grooves D is to keep the roller clean and to prevent the pulp-berries from adhering to and being carried around by the said roller

and again mixing with the unpulped berries or "cherries," as they are sometimes called from their resemblance to the berries.

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

1. A machine of the class described comprising a frame, a bed-plate held vertically adjustable therein and formed with a segmental ribbed surface, a pulping-roller journaled in the said frame, and having spiral grooves operating in conjunction with the ribs of the said bed-plate, a hopper for delivering the article to be treated to the said roller and the bed-plate, the latter extending with its upper end outwardly, to form with the roller an entrance-opening for the article, and a pair of rollers for separating the berry from the pulp, one of the rollers being plain and the other grooved to feed the berries bodily forward, and to allow the pulp to pass down between the rollers, the said pair of rollers receiving the berries and pulp from the said frame, the latter being for this purpose provided with a hopper into which the berries and pulp are discharged from the said roller and bed-plate, substantially as shown and described.

2. In a coffee-pulping machine, the combination with a frame, of a bed-plate, a hulling-roller mounted above the bed-plate, two separating-rollers mounted adjacent to the bed-plate and receiving the material therefrom, said separating-rollers extending in axial parallelism with the hulling-roller and being projected past the same, one of said separating-rollers being smooth, and the other being provided with a spiral groove, said separating-rollers serving to separate the berries from the pulp.

3. In a coffee-pulping machine, the combination with a frame, of a bed-plate, a pulping-roller mounted above the bed-plate, two separating-rollers located adjacent to the bed-plate and receiving the material from the same, the said separating-rollers extending in axial parallelism with the pulping-roller and being projected past one end thereof, said separating-rollers serving to separate the berries from the pulp, and a hinged stop mounted above the said separating-rollers and bearing on the same.

RICHARD THOMAS RICKARD.

Witnesses:

L. A. ANDREWS,
C. E. HAPAI.