(No Model.) 2 Sheets—Sheet 1.

A. PRICE.

MACHINE FOR TREATING RAMIE.

No. 589,369. Patented Aug. 31, 1897.

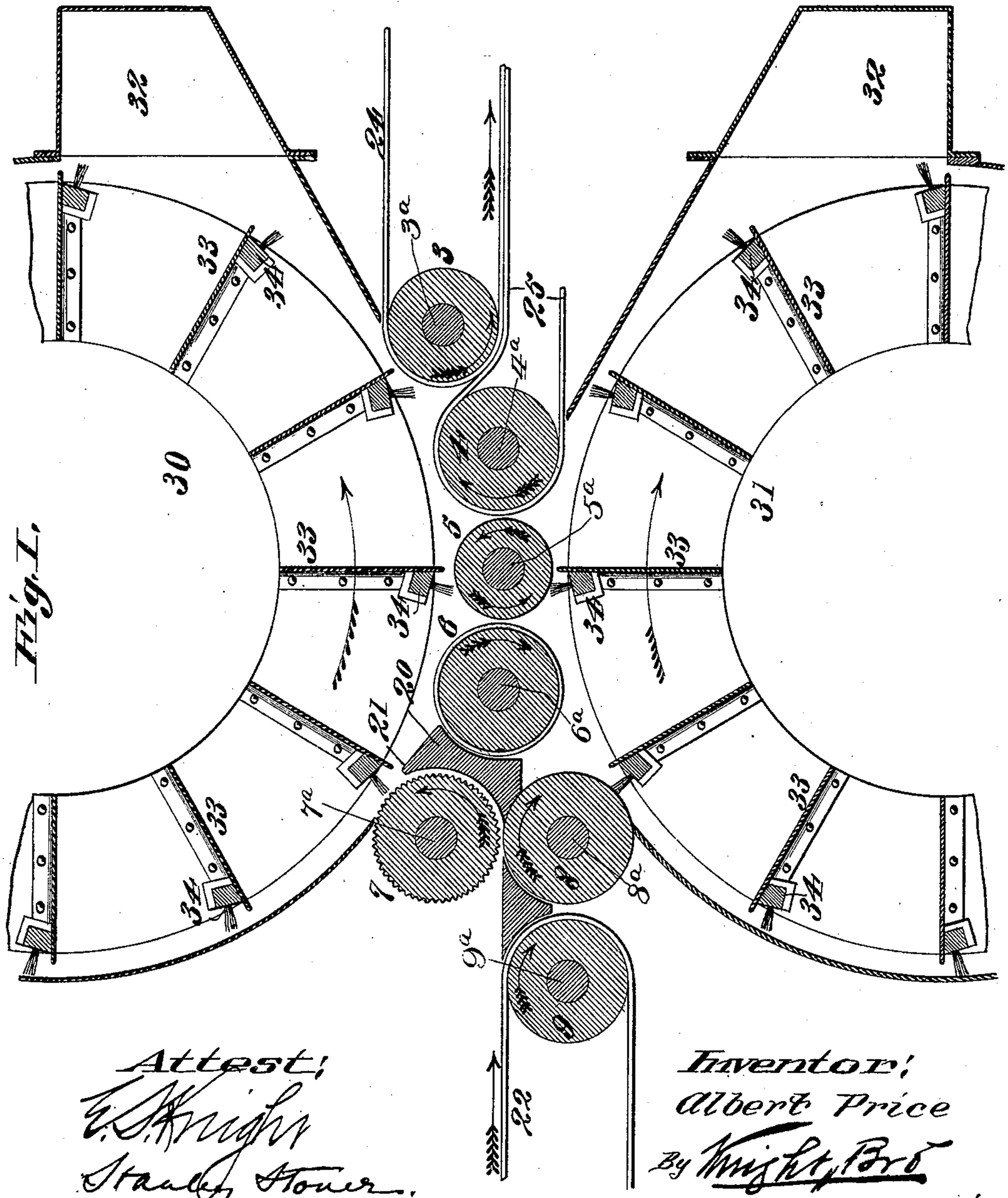

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. II.

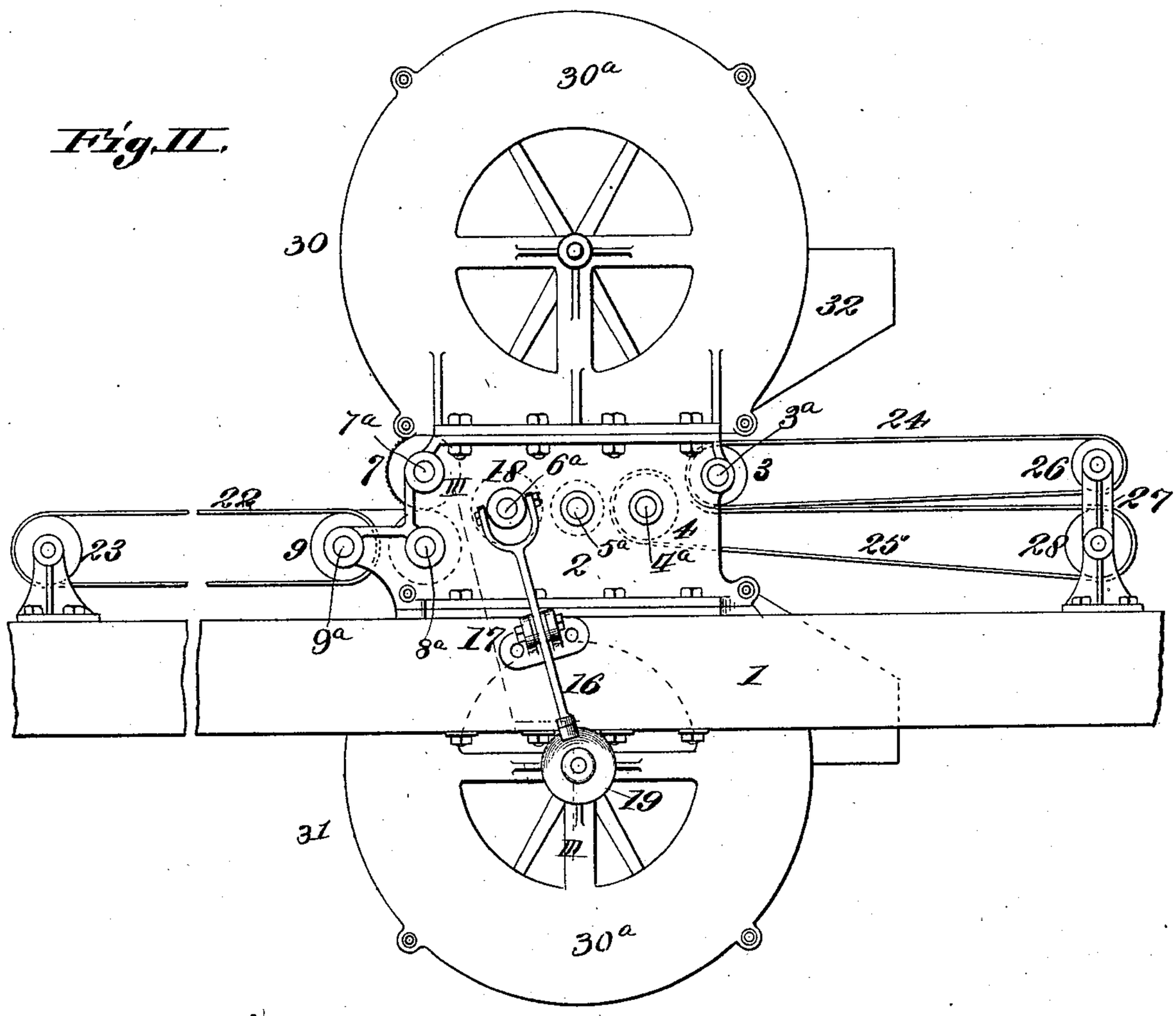


Fig. III.

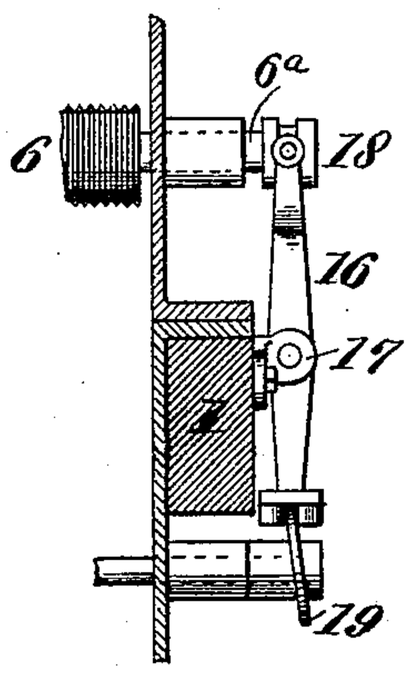


Fig. IV.

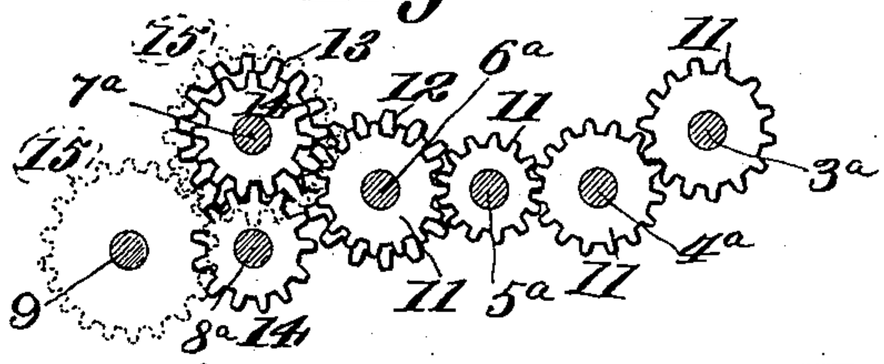
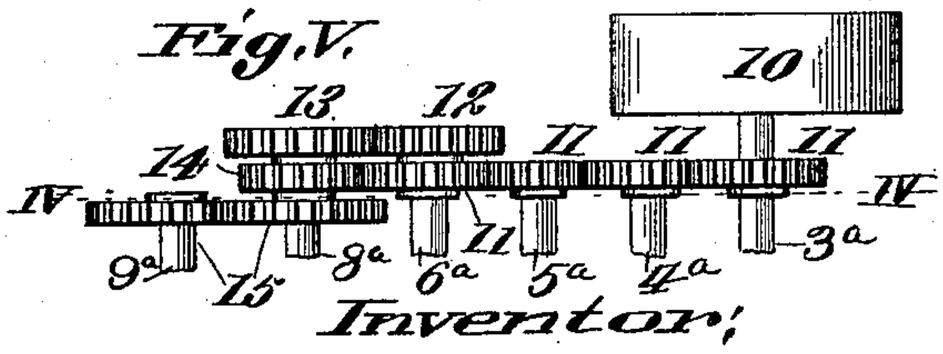


Fig. V.



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UNITED STATES PATENT OFFICE.

ALBERT PRICE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CHAS. D. McLURE, LAWRENCE D. KINGSLAND, AND EDWARD D. MEIER, TRUSTEES, OF SAME PLACE.

MACHINE FOR TREATING RAMIE.

SPECIFICATION forming part of Letters Patent No. 589,369, dated August 31, 1897.

Application filed August 12, 1896. Serial No. 602,532. (No model.)

To all whom it may concern:

Be it known that I, ALBERT PRICE, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Treating Ramie, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in machines for removing the bark from the fiber of ramie-stocks; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a detail vertical section illustrating my invention. Fig. II is a side view. Fig. III is a detail section taken on line III III, Fig. II. Fig. IV is a section taken on line IV IV, Fig. V. Fig. V is a top view showing the gearing of the machine.

Referring to the drawings, 1 represents the frame of the machine, supporting a housing 2, in which are journaled the shafts 3^a, 4^a, 5^a, 6^a, 7^a, 8^a, and 9^a of rollers 3, 4, 5, 6, 7, 8, and 9.

The roller 3 is provided with a driving-pulley 10, and the rollers 3, 4, 5, and 6 are connected by a train of gearing 11, which causes them to revolve in opposite directions, as shown by the arrows, Fig. I.

The roller 6 is provided with a second gear-wheel 12, that meshes with a pinion 13 on the roller 7. The roller 7 is geared to the roller 8 by pinions 14, and the roller 8 is geared to the roller 9 by pinions 15. The roller 7 is longitudinally corrugated, as shown in Fig. I.

The roller 6 is provided with a series of circumferential grooves, as shown in Figs. I and III, and this roller has a slight endwise movement imparted to it by means of a lever 16, pivoted at 17 to the frame of the machine. One end of the lever is forked and is provided with pins that fit in a groove of a collar 18 on the shaft of the roller 6, and the other end of the lever straddles a cam-disk 19 of the shaft of one of the fans of the machine.

20 represents a stationary bridge-block located between the rollers 6 and 7, as shown in Fig. I, and the face of which next to the roller 7 is made concave. This bridge-block has a corner or edge 21, over which the ramie-stocks are bent and broken in the operation of the machine and guides the material onto the roller 6.

22 represents a feed-belt passing around the roller 9 and around a roller 23, secured to the frame 1. At the delivery end of the machine are two belts 24 and 25, between which the clean fiber passes as it leaves the machine. The belt 24 passes around the roller 3 and around a roller 26, journaled in standards 27, secured to the frame 1, and the belt 25 passes around the roller 4 and around a roller 28, journaled in the standards 27.

30 represents a fan located above the rollers 3, 4, 5, 6, and 7, and 31 a fan located beneath the rollers 4, 5, 6, and 8. Each fan has a casing 30^a and an exhaust-opening 32, and each fan is formed with blades 33, the edges of which pass in close proximity to the rollers, and each fan is further provided with brushes 34, located behind the blades 33.

The operation of the machine is as follows: The machine being set in motion, the ramie-stocks are placed on the belt 22 and are carried in between the corrugated roller 7 and the bridge-block 20, the stocks being mashed and broken as they pass between the roller and the bridge-block. As the stocks issue from between the roller and the bridge-block they are caught by the blades 33 and turned over the edge 21 of the bridge-block, which further breaks and mashes them, causing the bark to be broken, and the brushes act to remove the broken bark, the removed bark being carried by the air-current through the exhaust 32 of the fan. The ramie next passes down between the rollers 6 and 5, and as it does so is further mashed and broken by compression between the two rollers and by the reciprocation of the circumferentially-grooved roller 6, which gives a rubbing action on the ramie transversely of its line of movement. As the ramie issues from between the rollers 6 and 5 it is acted upon by the blades and brushes of the lower fan, causing the bark to be further broken and removed, and the ramie now passes up between the rollers 5 and 4, where it is again acted upon by the blades and brushes of the upper fan, and from here the fiber, which has by this time become suf-

ficiently clean, passes out between the belts 24 and 25.

By providing an upper and a lower fan the ramie is directed in its course between the rollers, and both sides of the material are acted upon by the blades and brushes to remove the bark.

I claim as my invention—

1. In a machine for treating ramie, the combination of a series of rollers between which the material is passed, a fan having a casing provided with an exhaust-opening and located above the rollers, and a fan having a casing provided with an exhaust-opening and located beneath said rollers, said fans being provided with means for removing the bark as the material passes through the machine, substantially as set forth.

2. In a machine for treating ramie, the combination of a series of rollers between which the material is passed, a fan having a casing and located above the rollers, and a fan having a casing and located beneath the rollers, each fan being provided with blades and brushes, substantially as and for the purpose set forth.

3. A machine for treating ramie comprising a corrugated roller, a circumferentially-grooved roller, a bridge-block having an upwardly-projecting breaking edge and located between the corrugated roller and the circumferentially-grooved roller, a feed roller and belt, the discharge rollers and belts, a roller located between the circumferentially-grooved roller and the discharge rollers and belts, and the upper and lower fans, located respectively above and beneath the rollers; each fan having beating-blades and brushes and a casing provided with an exhaust-opening; substantially as described.

4. A machine for treating ramie comprising a corrugated roller, a circumferentially-grooved roller, a bridge-block having an upwardly-projecting breaking edge and located between the corrugated roller and the circumferentially-grooved roller, the pivoted lever connected at one end with the shaft of the circumferentially-grooved roller and on the other end with a cam-disk, a feed roller and belt, discharge rollers and belts, a roller located between the circumferentially-grooved roller and the discharge rollers and belts, and the upper and lower fans located respectively above and beneath the rollers, each fan having beating-blades and brushes and a casing provided with an exhaust-opening; substantially as described.

ALBERT PRICE.

In presence of—
E. S. KNIGHT,
STANLEY STONER.