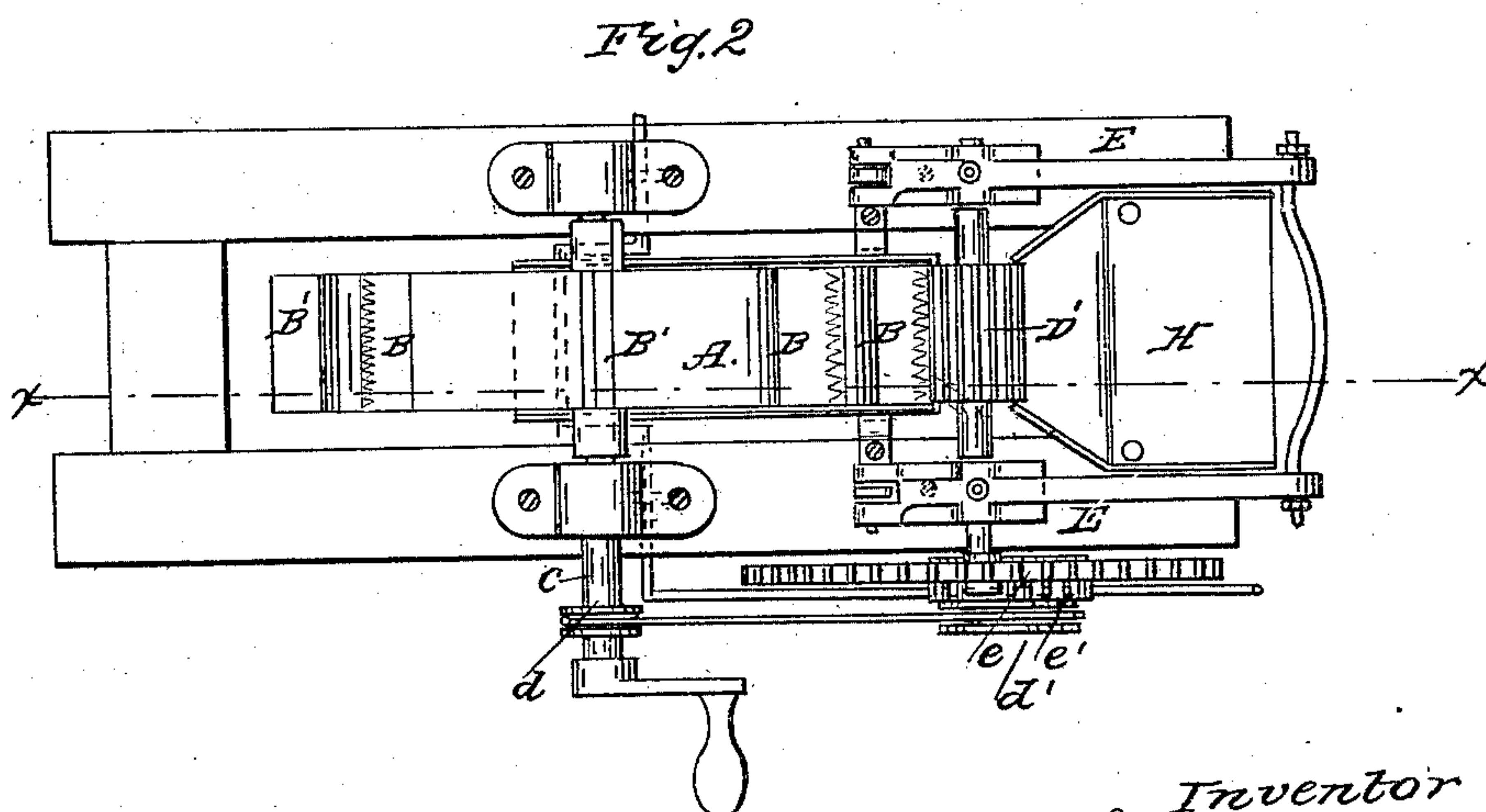
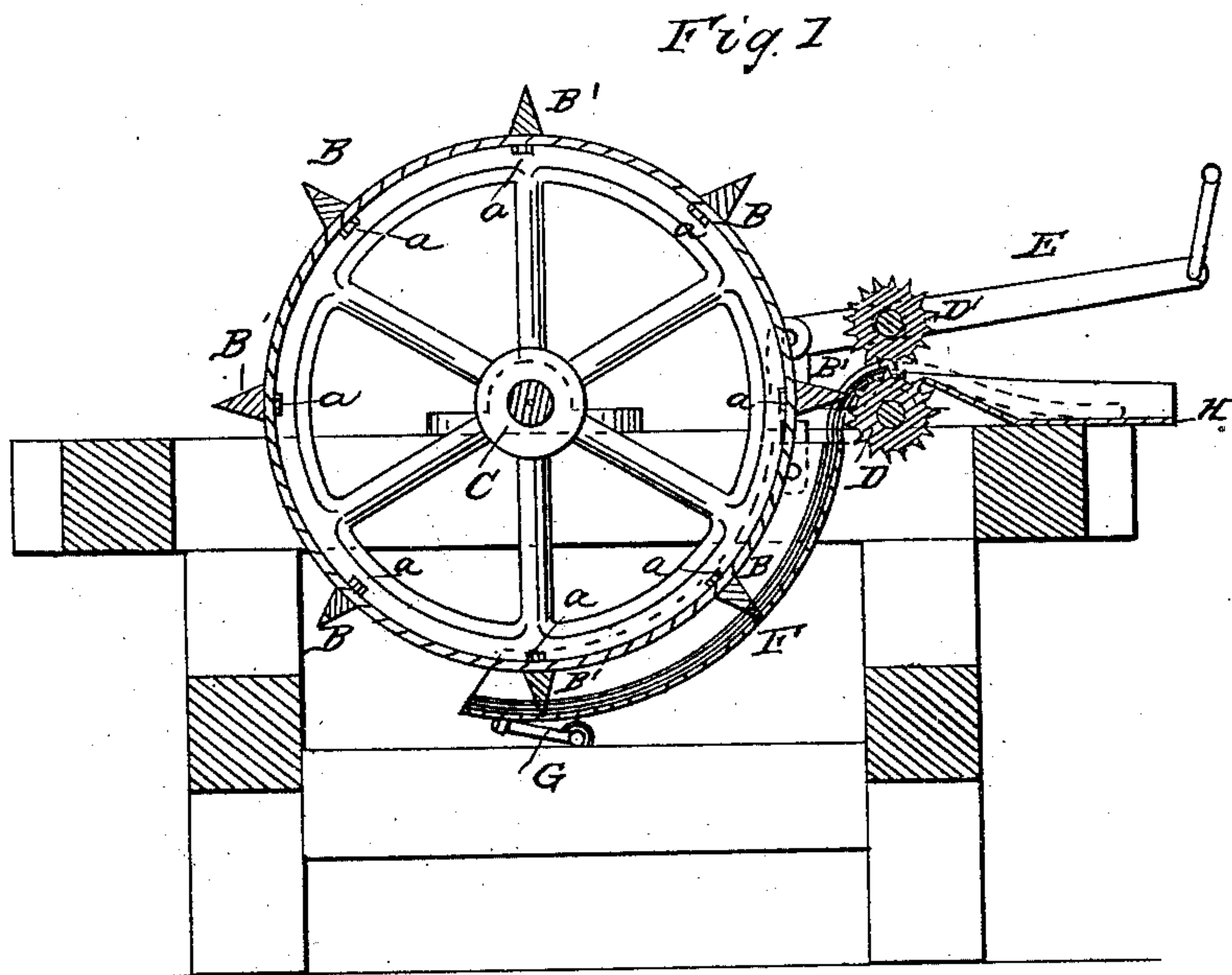


E. JUANES y PATRULLO.
Disintegrating Fibrous Plants.

No. 31,616.

Patented March 5, 1861.



Witnesses
A. S. S. S. S.
J. W. Coombs

Inventor
Eduardo Juanes
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[Signature]

UNITED STATES PATENT OFFICE.

E. J. Y. PATRULLO, OF MERIDA, MEXICO.

IMPROVEMENT IN MACHINES FOR DRESSING THE LEAVES OF THE AGAVE PLANT.

Specification forming part of Letters Patent No. 31,616, dated March 5, 1861.

To all whom it may concern:

Be it known that I, EDUARDO JUANES Y PATRULLO, of Merida, in the State of Yucatan, and Republic of Mexico, have invented a new and Improved Machine for Dressing the Leaves of *Agave Americana*, &c.; 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 longitudinal vertical section of my invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same.

Similar letters of reference in both views indicate corresponding parts.

The leaves of *Agave Americana*, or, in Spanish, "*Hoja de Jeniquen*," are composed of fibers similar to the fibers of hemp, said fibers being inclosed and surrounded by the fleshy portion of the leaf. When this portion is removed, the fibers can be used like ordinary hemp. All experiments hitherto made for the purpose of dressing the leaves of *Agave Americana* by machinery have failed, because the fleshy portion of the leaves, even when the same are dry, adheres to the fibers with such a tenacity that it is very difficult to separate it from them.

After a great many experiments I have now succeeded in constructing a machine which completes the operation of dressing said leaves to perfection; and this machine consists, essentially, of a series of alternate comb-edged and smooth-edged beaters of peculiar form, and arranged on a rotary drum, in combination with suitable feed-rollers, and with an adjustable hinged apron which keeps the ends of the leaves to the beaters.

To enable those skilled in the art to fully understand and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

The drum A, to the circumference of which the beaters B B' are secured, rotates on a shaft, C, motion being imparted to the same by means of a crank or pulley in any convenient manner. The beaters consist of wedge-shaped pieces of steel or any other suitable material extending all the way across the face of the drum, being secured to the same by means of screw-bolts and nuts *a*, or in any other con-

venient manner. The points of the beaters are brought to sharp edges, and those of the beaters B' are left smooth, while the points of the beaters B are notched, giving to the edges the form of combs. The notches between the points of said combs must, however, not be made any deeper than necessary to allow said points to penetrate through the thickness of the leaves to be dressed, so that while the points separate the fibers the inner portions of the notches scrape off the fleshy parts which adhere to and surround said fibers. The leaves are fed to the drum one after the other over a feed-plate, H, by means of feed-rollers D D', to which motion is imparted by means of pulleys *d d'* and gear-wheels *e e'* from the main shaft, and the upper roller, D', has its bearings in a hinged frame, E, so that by raising said frame the action of the rollers on the leaf is suspended. From the feed-rollers the leaves pass down to a segmental apron, F, which is hinged to the sides of the frame supporting the entire mechanism, and which forms an arc of about ninety degrees or less. The lower extremity of this apron is supported by a bell-crank lever, G, which is operated by the handle *c*, which extends near to the feed-table H, so that it can be conveniently reached by the operator. Instead of this handle, however, a treadle might be arranged in such relation to the bell-crank lever G that the apron could be raised and lowered by the action of the foot. The object of this apron is to keep the points of the leaves in close contact with the points of the beaters.

The operation is as follows: After the machine has been started, the point of a leaf is entered between the two feed-rollers D D', the butt-end being firmly grasped by the hand. By the action of the feed-rollers the leaf is now slowly fed toward the drum, and the beaters B B' act on the same in quick succession. By the action of the smooth-edged beaters B' the fleshy parts of the leaf are broken, and by the action of the comb-edged beaters B the fibers are separated, and the fleshy parts adhering to the same are scraped off and thrown out on the end of the machine. After one end of the leaf has thus been dressed, the roller D' is raised, the leaf is withdrawn and reversed, and the other end is now dressed in a similar manner.

By the action of this machine the leaves of the *Agave Americana* and of other similar plants can be separated entirely from the fleshy parts and dressed ready for use by simple and easy operation.

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

The within-described arrangement of alternate comb-edged and smooth-edged beaters B

B' on the circumference of a rotary drum, A, in combination with feed-rollers D D', and with an adjustable hinged apron, F, constructed and operating in the manner and for the purpose set forth.

EDUARDO JUANES Y PATRULLO.

Witnesses:

C. W. COWTAN,
JAMES LAIRD.