

No. 863,906.

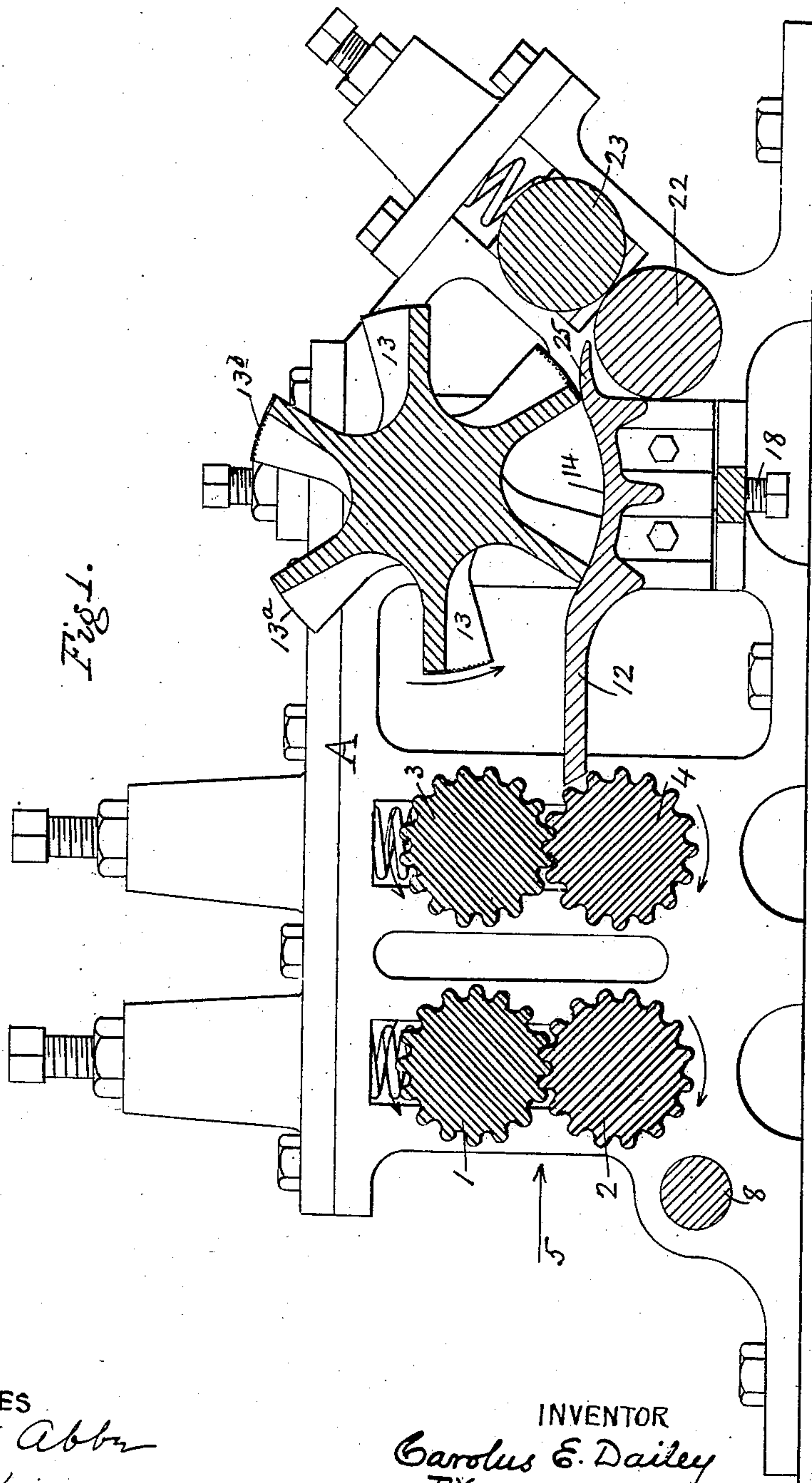
PATENTED AUG. 20, 1907.

C. E. DAILEY.

MACHINE FOR DECORTICATING MANILA FIBER.

APPLICATION FILED NOV. 19, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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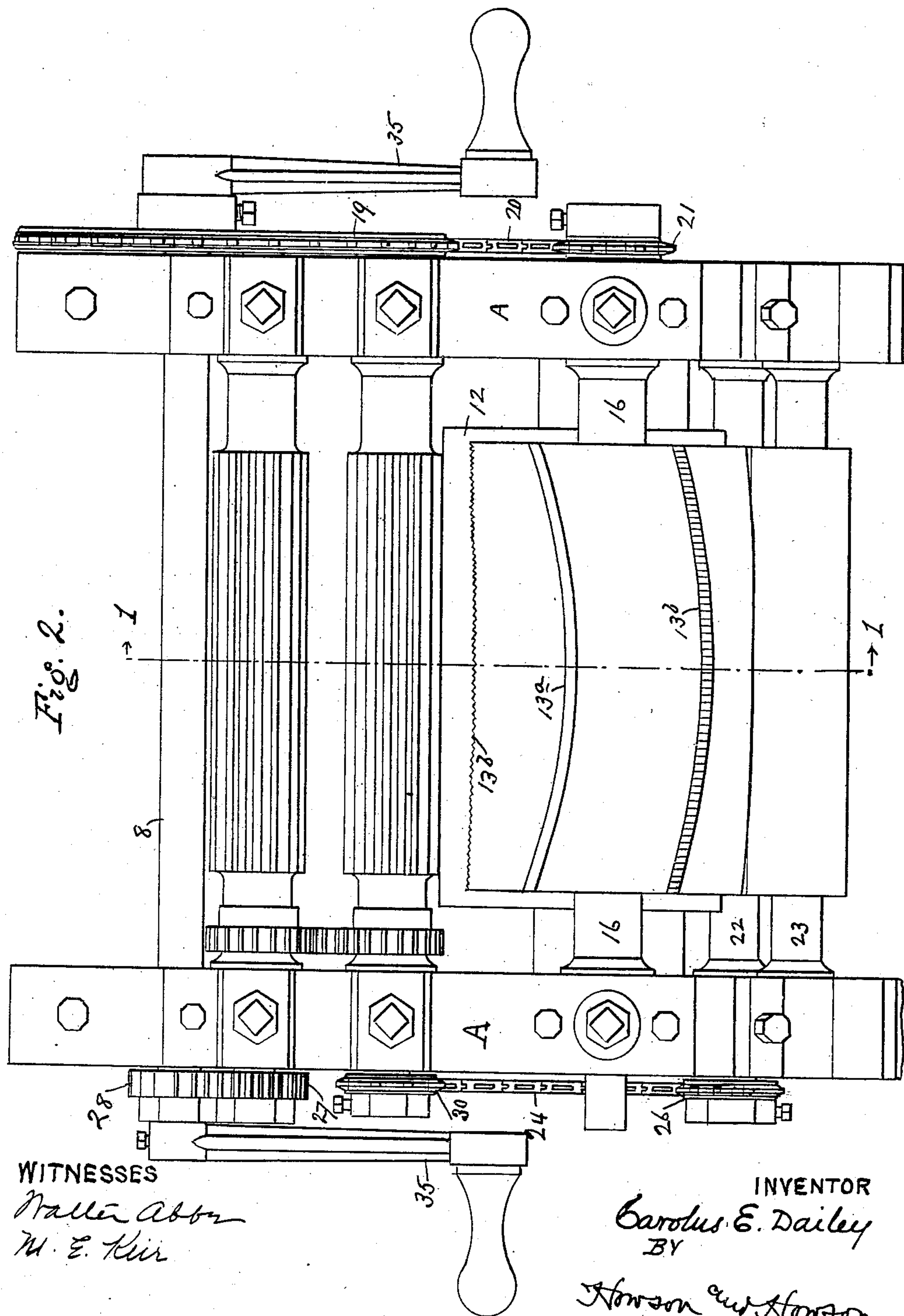
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WITNESSES

Walter Abbot
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UNITED STATES PATENT OFFICE.

CAROLUS E. DAILEY, OF BROOKLYN, NEW YORK.

MACHINE FOR DECORTICATING MANILA FIBER.

No. 863,906.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed November 19, 1906. Serial No. 344,055.

To all whom it may concern:

Be it known that I, CAROLUS E. DAILEY, a citizen of the United States of America, and residing in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Machines for Decorticating Pita and Plants of Similar Fibrous Character, of which the following is a specification.

My invention relates to machines for decorticating pita, and plants of similar fibrous character, and has particular reference to an improved construction of the decorticating blades.

In the accompanying drawings Figure 1 is a cross section of my improved machine, on the line 1—1, Fig. 2; and Fig. 2 is a plan view of the machine.

Referring to the drawings it will be seen that the fibrous substance is fed in the direction of the arrow 5 to the cutting blades 13^a and 13^b by two pairs of revolving rollers 1 and 2, 3 and 4. The table 12 receives the fiber as it passes from the rollers to the blades. The blades are formed at the extremities of a series of arms 13 longitudinally mounted upon or integral with the shaft 16.

To accomplish my purpose I have found it preferable to make one blade with a smooth cutting or scraping edge 13^a and the next with a serrated edge 13^b, and thus alternate the nature of the edges throughout their number. I do not wish to limit myself to this form, however, as it is possible to use blades all of which are provided with either smooth or serrated edges.

It is desirable to set the cutting blade at an angle to the grain of the fiber so as to simulate as closely as possible the sidewise twitch given to the scraping knife where the hand process is used. This object I accomplish by setting the blades 13 on the shaft 16 at an angle to planes taken through the length of the axis of the shaft or by curving them in the direction of their length as illustrated in Fig. 2. The latter construction is particularly advantageous inasmuch as the recurving of the blade tends to keep the fiber in towards the center of the table and underneath the blade. Blades of the spiral type tend to work the fiber to one side of the table and over the edge, so that care must be taken to feed the leaf well to one side of the blade in order to keep it on the table at all.

A surface in connection with which these blades may act is furnished by concaving the table or bed 12 at a point 14 directly under the shaft 16. The table may be made vertically adjustable as by means of screws 18.

To secure the proper action of the cutting blades, the shaft 16 must be revolved at a higher speed than the feed rollers 1 and 2, 3 and 4 which are controlled by change gears 27 and 28. On the operating shaft 8 which controls the speed of the rollers is a large sprocket wheel 19, which through the medium of a connecting sprocket

chain 20 and a small sprocket wheel 21 on the shaft 16, revolves the latter at a rate faster than that of the rollers 1, 2, 3 and 4, commensurate with the difference in the diameter of the two sprocket wheels 19 and 21.

To prevent the cleaned and shredded fiber from being whipped up and wound around or snarled upon the revolving blades 13 after it has passed beneath the same, I mount a pair of revolving rollers 22 and 23 of rubber or like substance suitably supported in the frame A in a position such that as the fiber comes from beneath the blades 13 it is fed to these rollers and passed between them to a delivery platform or receptacle. The flared lip 25 of the table assists the feeding of the fiber to the rollers. The speed of revolution of the latter is controlled to equal that of the rollers 1, 2, 3 and 4 so that the fiber shall not be pulled forward more rapidly than it is fed to the cleaning blades. I accomplish this by means of a chain connection between cog wheels 26 and 30 of proper size on the rollers 4 and 22 respectively.

The operation of the machine is readily seen:—Upon imparting motion to the operating shaft 8, which may be done in any suitable way, as by a hand crank 35, the revolution of the feeding rollers 1, 2, 3 and 4, the blade shaft 16 and the receiving rollers 22 and 23 is at once started. The fibrous material is fed to the rollers 1 and 2, transmitted by them to the rollers 3 and 4 and thence to the table 12. Reaching the concaved trough of the latter, it comes within the range of the rapidly revolving blades, which scrape and shred it, and pass it on to the receiving rollers 22 and 23. It should be pointed out that as the fiber passes under the revolving blades and becomes subject to the pull of the latter, the rollers 1, 2, 3 and 4 act in the double capacity of feeders and retarders, serving in the latter capacity to hold the fibrous material while the more rapidly revolving blades perform their function of removing the pulp from the fibers, leaving nothing but clean hemp in the shape of a hank or ribbon.

I claim as my invention.

1. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material, blade arms thereon curved in the form of an arc, a concaved bed or table adapted to cooperate therewith and means for operating said shaft, substantially as described.

2. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material, blade arms curved in the form of an arc thereon and alternately provided with straight and serrated edges, a concaved bed or table adapted to cooperate with said blades, and means for operating said shaft.

3. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material, blades curved in the form of an arc thereon, a concaved bed or table adapted to cooperate with the blades, in combination with means for adjusting said blades and concaved bed with relation to each other, and means for operating the blade shaft.

4. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material, blade arms curved in the form of an arc thereon, and pro-

vided alternately with flat and serrated cutting edges, in combination with a concaved bed adapted to coöperate with said revolving blades and means for operating the blade shaft.

- 5 5. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material, blade arms curved in the form of an arc thereon, straight and serrated edges provided therefor alternately throughout their number, a concaved bed or table adapted to coöperate with said blades in combination with means to receive and hold the fiber after it has been subjected to the action of the blades and means for operating the blade shaft.

- 10 6. In decorticating machines and the like, a revoluble shaft rotating in the direction of the feed of the material,

blade arms curved in the form of an arc thereon and alternately provided with straight and serrated cutting edges, a concaved bed or table adapted to coöperate with said blades, in combination with means for adjusting said blades and said concaved bed with relation to each other, means for rotating said blade shaft, means for feeding the fibrous material to the blades and means for receiving and holding the same after it has been subjected to the action of the blades.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses. 25

CAROLUS E. DAILEY.

Witnesses:

CHAS. L. HARRIN,

CHARLES A. E. DAILEY.

It is hereby certified that in Letters Patent No. 863,906, granted August 20, 1907, upon the application of Carolus E. Dailey, of Brooklyn, New York, the title of the invention was erroneously written and printed "Machines for Decorticating Manila Fiber," whereas the said title should have been written and printed *Machines for Decorticating Pita and Plants of Similar Fibrous Character*; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 15th day of October, A. D., 1907.

[SEAL.]

EDWARD B. MOORE,

Commissioner of Patents.