

No. 815,799.

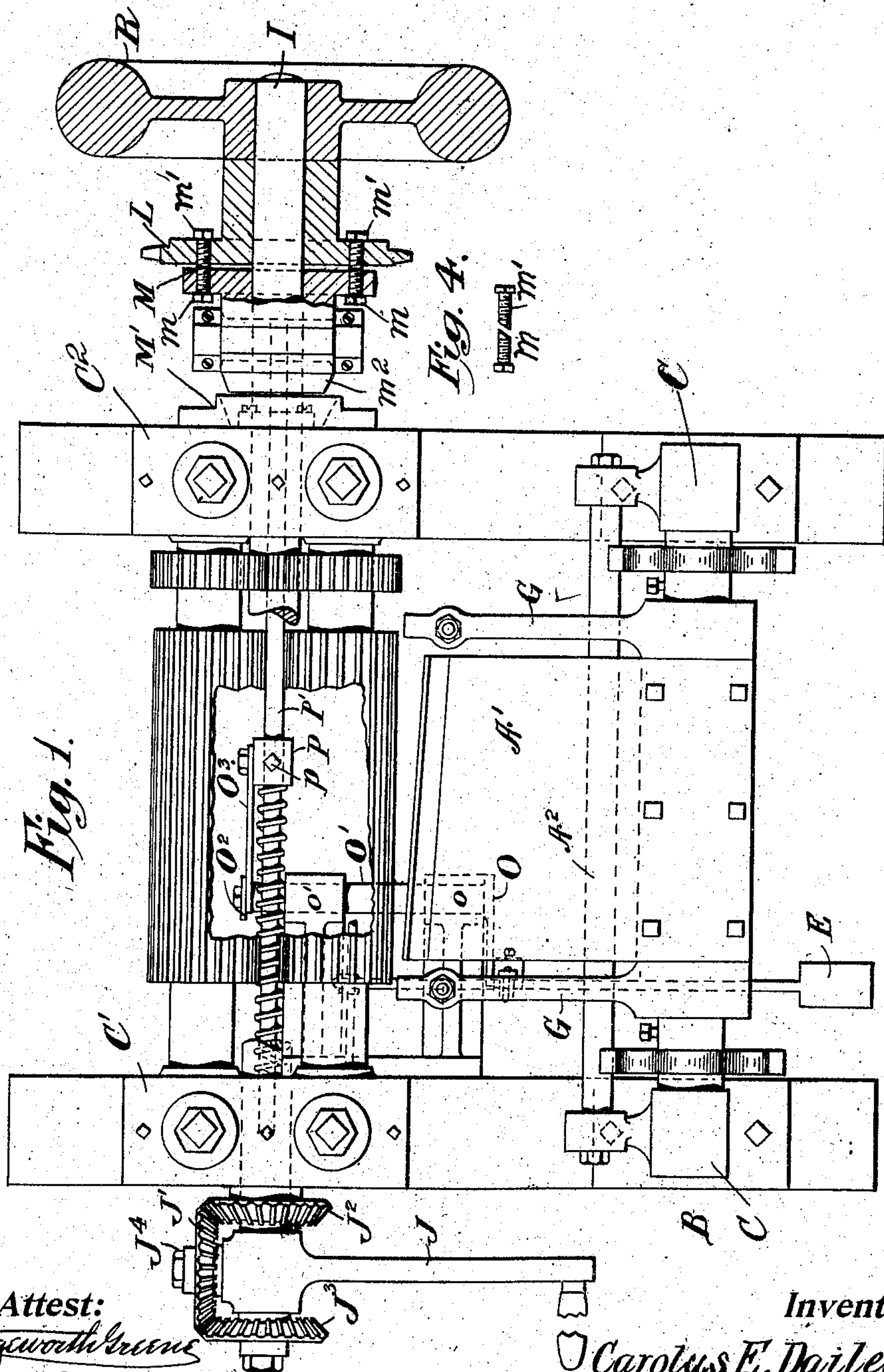
PATENTED MAR. 20, 1906.

C. E. DAILEY.

MACHINE FOR DECORTICATING MANILA FIBER AND LIKE SUBSTANCES.

APPLICATION FILED SEPT. 2, 1905.

2 SHEETS—SHEET 1.



Attest:
Edgeworth Bruce
Paul A. Blair.

Inventor:
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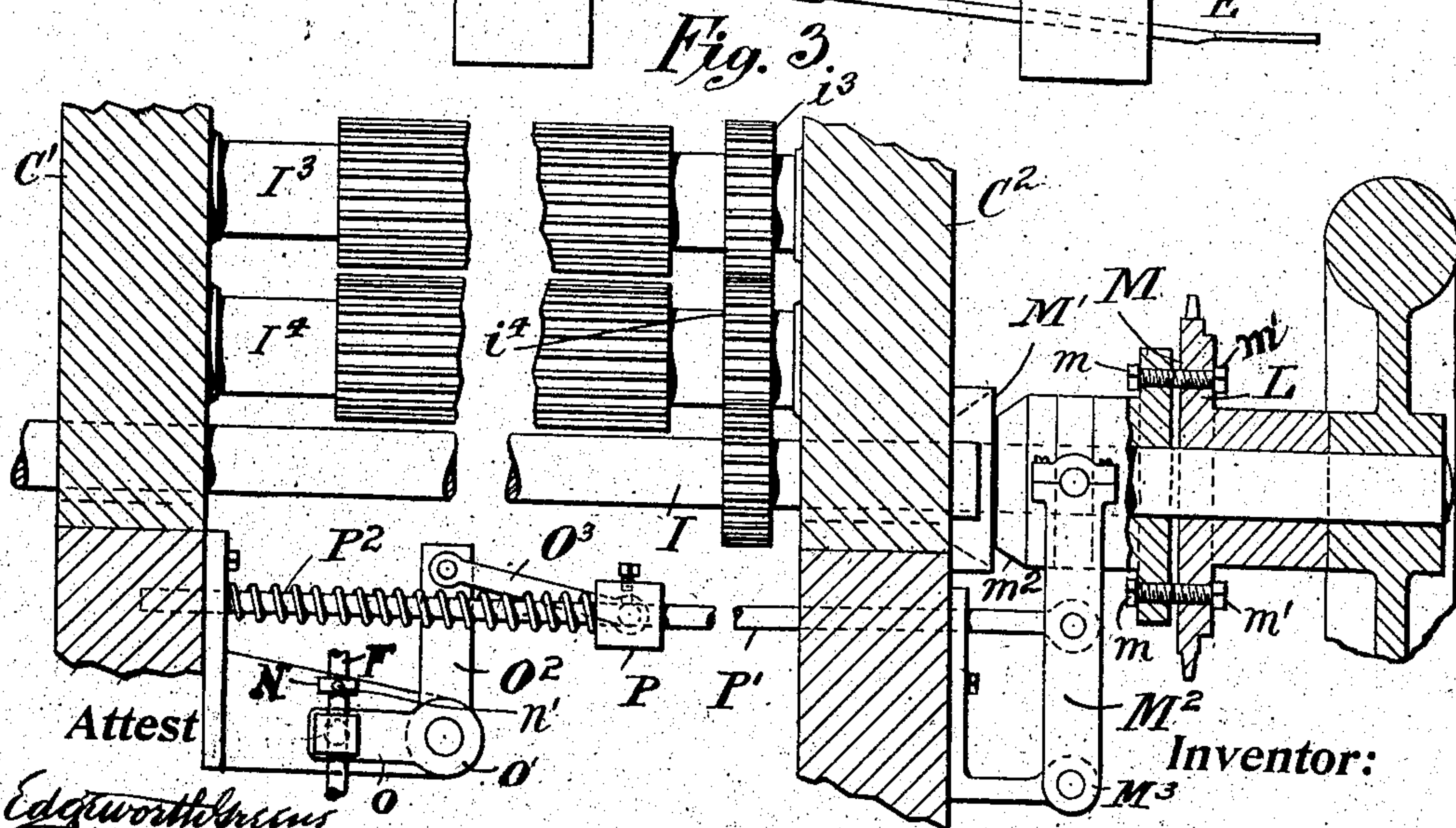
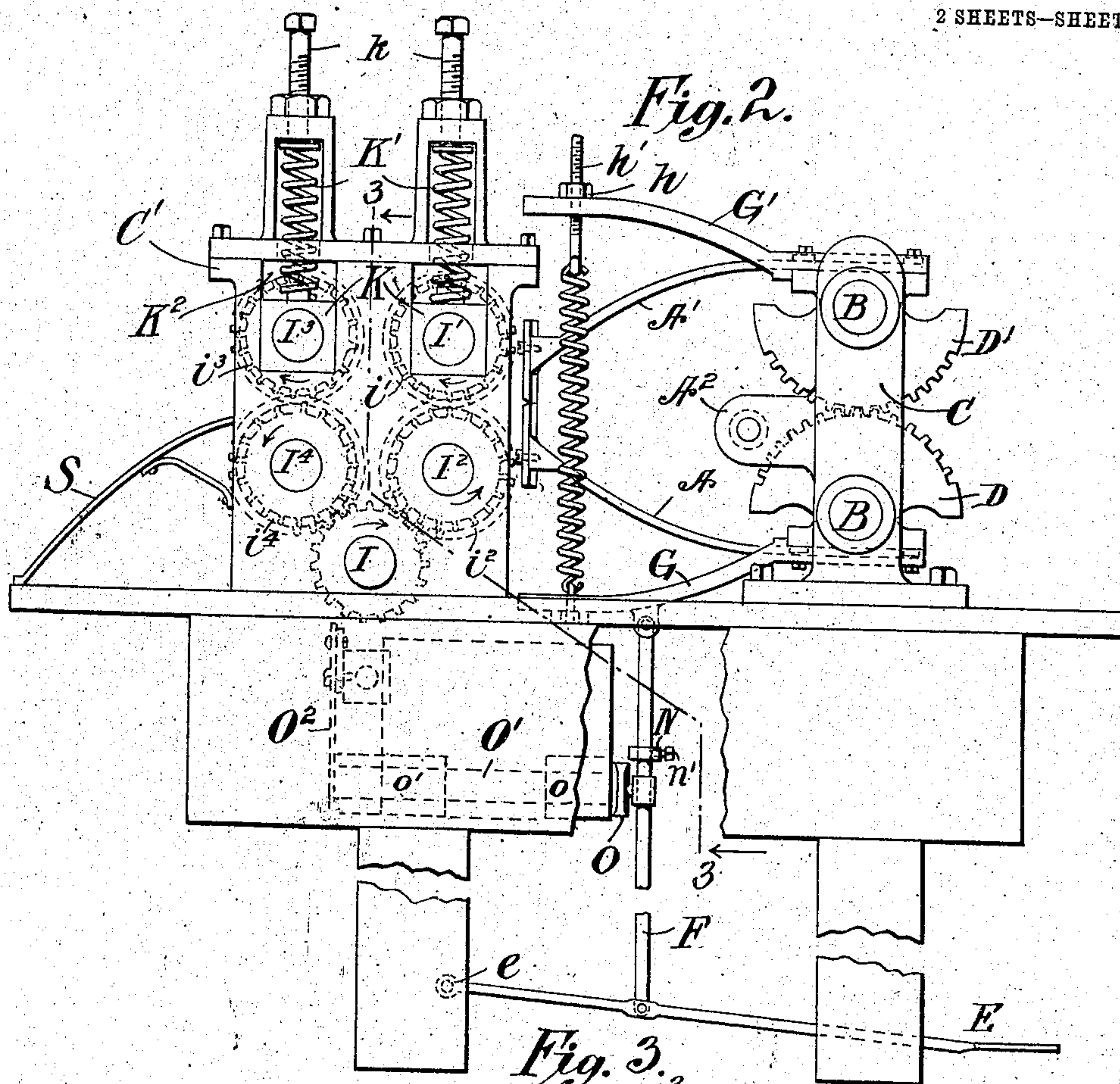
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UNITED STATES PATENT OFFICE.

CAROLUS E. DAILEY, OF BROOKLYN, NEW YORK.

MACHINE FOR DECORTICATING MANILA FIBER AND LIKE SUBSTANCES.

No. 815,799.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed September 2, 1905. Serial No. 276,869.

To all whom it may concern:

Be it known that I, CAROLUS E. DAILEY, a citizen of the United States of America, 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 Manila Fiber and Like Substances, of which the following is a specification.

My invention relates to machines for decorticating manila fiber and other fibrous material where it is necessary to remove the pulp and outer skin from the leaves or bark to obtain the fibrous material, which is specially used in the manufacture of cordage, twine, &c.

My invention has for its object to furnish a light, compact, and convenient machine which may be easily carried about from one place to another and which will be simple and effective in thoroughly crushing, scraping, and cleaning the leaves at one operation, leaving the fibrous material clean and straight ready for baling.

In the accompanying drawings, Figure 1 is a plan view of a machine embodying my invention, with parts thereof shown broken away. Fig. 2 is a side elevation of my machine. Fig. 3 is a sectional elevation on the line 3 3, Fig. 2, and Fig. 4 is a detail view of the clutch-pins.

Referring to the drawings, A A' represent two jaws secured to blocks on the bars B B', mounted in bearings in uprights C on the framing of the machine. These bars B B' are turned by means of intermeshing segmental gears D D', which are operated by pressure on the foot-lever E through the connecting-rod F and the lever G, also connected to the bar B. On the upper bar B', on each side of the jaws, is a similar lever G', the end of which is connected to the lever G by means of a spring H, adapted to tend to keep the jaws together with a certain amount of pressure. This pressure may be regulated by means of a nut h on the threaded rod h', connected with the end of the spring. It will be noted that the jaws may be made of any suitable material having sufficient strength, yet thin and light in weight. The knife-edges at the ends of the jaws are preferably made of steel and secured to the jaws by screws or other suitable means. The knife-edges extend in a substantially straight line across the machine, but are set at an an-

gle to the axes of the drawing-rollers, as shown in the plan view, Fig. 1.

Formerly the cleaning of fiber was all done by hand, and in drawing the leaf between the knife-edge and block, as done by the natives, it was always necessary to give the leaf a slight twitch to the side in order to get it started. I accomplish a like result by setting the knife-edges, as described, at an angle to the drawing-rollers.

Mounted on the frame in suitable uprights C' C² are two sets of fluted rollers I' I² and I³ I⁴, extending across and in front of the jaws, so that they are adapted to pull the leaves and fiber through between the knife-edges. These rollers are operated from the main driving-shaft I through the gear i meshing with the gears i² i⁴, which in turn mesh with the gears i' i³ of the rollers above, thereby giving the upper and lower rollers proper directions of rotation, as indicated by the arrows in Fig. 2. The upper rollers are preferably mounted in adjustable blocks K to accommodate the varying thicknesses of material being drawn through. These blocks K slide in vertical grooves or slots K² in the standards C' and are held in contact with the lower rollers by the springs K', the tension of which may be regulated by the threaded bolts k'.

The main driving-shaft I may be turned by hand or may be power-driven, both means being shown in Fig. 1. The crank J (at the left in Fig. 1) is provided with a miter-gear J', which meshes with a stationary gear J², surrounding the shaft I and secured to the frame, and also with similar gear J³, secured to the end of the shaft, so that two revolutions of the shaft are obtained for the single rotation of the handle. When it is desired to use the power mechanism at the other end, this handle may be removed or disconnected by removing the nut and bearing J⁴ and the gear-wheel J'. As shown in the drawings, and which is the preferred way, a sprocket-wheel L is loosely mounted on the shaft I and may be connected by a chain with the engine. The power is communicated from a sprocket-wheel to the shaft through the clutch M, which is keyed thereto. This clutch may be of any well-known simple and quick-acting form, such as a pin-clutch, as shown, which consists of projecting pins m m' from the sprocket-wheel and clutch that engage each other when thrown into gear. This clutch M is for the purpose of stopping the rollers quickly on

opening the jaws when a new leaf is about to be inserted. The conical portion m^2 of the clutch acts as a friction-brake and engages a corresponding concave member M' , secured to the frame, so that when the clutch is released from the sprocket-wheel by mechanism hereinafter described it engages this stationary part and instantly stops the rollers. The clutch is operated or thrown in and out of gear by means connected with the foot-lever E for opening the jaws. This foot-lever, which is pivoted to the frame, as at e , is connected to the lever G by the rod F, as before mentioned. This rod F passes through a block N on an arm O on a shaft O' , which is mounted in suitable bearings $o o'$ in the frame. At the opposite end of this shaft O' is another arm O^2 , as shown by dotted lines in Fig. 2 and by full lines in Fig. 3. From this arm O^2 extends a connecting-rod O^3 , connected to a collar P, adjustably secured by a set-nut p on the rod P' , which is connected to the lever M^2 to throw the clutch in and out of gear. Above the arm O is an adjustable collar N' on the rod F to engage the block N on the arm O, as the rod F moves downward. The amount of motion therefore necessary to operate the clutch may be regulated by shifting this collar N' up or down. Between the collar P and the side of the frame I prefer to provide about the shaft a coiled spring P^2 , which tends to hold the clutch in engagement with the sprocket-wheel. There is also keyed to the main driving-shaft I a suitable fly-wheel R.

The operation is as follows: When a leaf is to be inserted in the machine, the foot-lever E is pressed down to open the jaws, and the leaf is pressed in at the rear end over the central bar A^2 and between the open jaws until it comes in contact with the fluted rollers. Then when the pressure is released on the foot-lever the jaws immediately close on the leaf, owing to the action of the springs H. On the closing of the jaws the rod F goes up, and through the release of the bell-crank lever the connecting-rod O^3 moves the rod P' horizontally, so as to throw the clutch into gear with the sprocket-wheel. The feed-rollers are thereby started and pull the leaf down over a delivery-apron S. After the leaf has passed entirely through the rollers the foot-lever is again pressed to throw out the clutch and apply the friction-brake, stopping the rollers almost instantly, and by the

same action of the foot-lever the two jaws are both separated from each other, so that both jaws may clear themselves from the pulp.

I claim as my invention—

1. A machine for decorticating manila fiber and the like, comprising movable jaws, means for opening and closing said jaws, knives carried by the jaws, rollers for drawing the fiber between the knives, and means for simultaneously opening the jaws and stopping the rollers.

2. A machine for decorticating manila fiber and the like, comprising knife-carrying jaws, means for opening and closing said jaws, and rollers for drawing the material between the knives, in combination with a clutch mechanism and means for simultaneously opening the jaws and operating the clutch to stop the rollers.

3. A machine for decorticating manila fiber and the like, comprising knife-carrying jaws, and rollers for pulling the material between the knives, the latter extending in a substantially straight line across the machine but at an angle to the axes of the rollers.

4. A machine for decorticating manila fiber and the like, comprising knife-carrying jaws and spring means to draw said jaws together, a foot-lever and means to move both jaws away from each other against the action of the spring means, and rollers to draw the fiber between the knives.

5. A machine for decorticating manila fiber and the like, comprising pivoted knife-carrying jaws, gear connections for the two jaws, spring means to tend to draw the jaws together, a foot-lever and connections to separate the two jaws, and rollers to draw the fiber between the knives.

6. A machine for decorticating manila fiber and the like, comprising knife-carrying jaws and spring means for holding said jaws together, a foot-lever and connections to separate the jaws against the action of the spring means, and rollers to draw the fiber between the knives, the latter extending in a substantially straight line across the machine, but at an angle to the axes of the rollers.

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

CAROLUS E. DAILEY.

Witnesses:

PAUL A. BLAIR;
WALTER R. BEACH.