

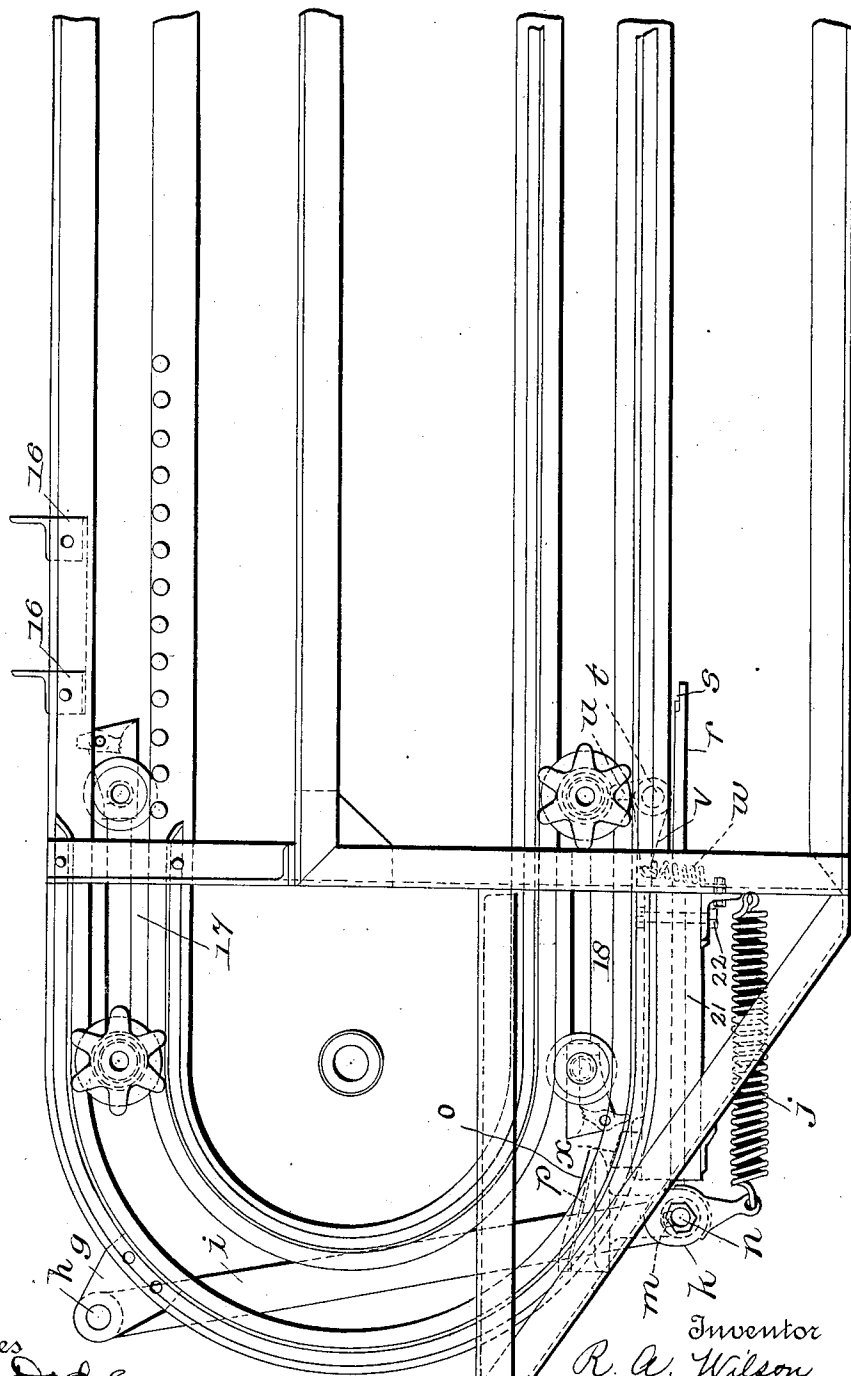
R. A. WILSON.
 DEFIBRATING MACHINE.
 APPLICATION FILED FEB. 11, 1909.

1,037,389.

Patented Sept. 3, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



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Fig. 5.

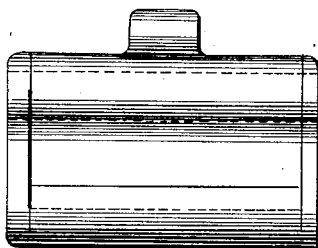
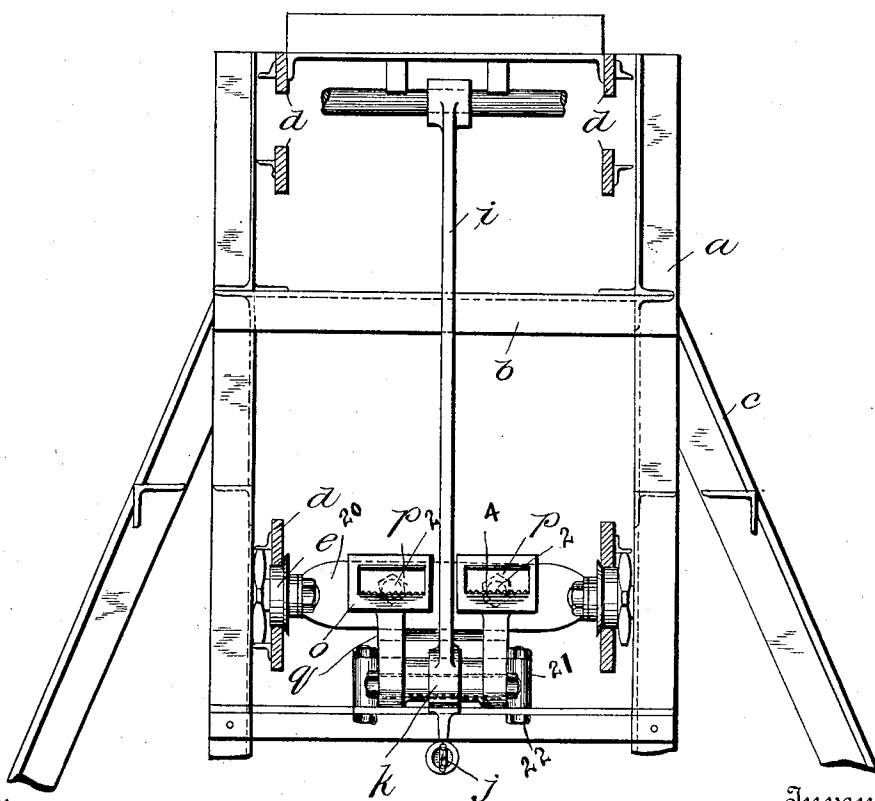


Fig. 6.



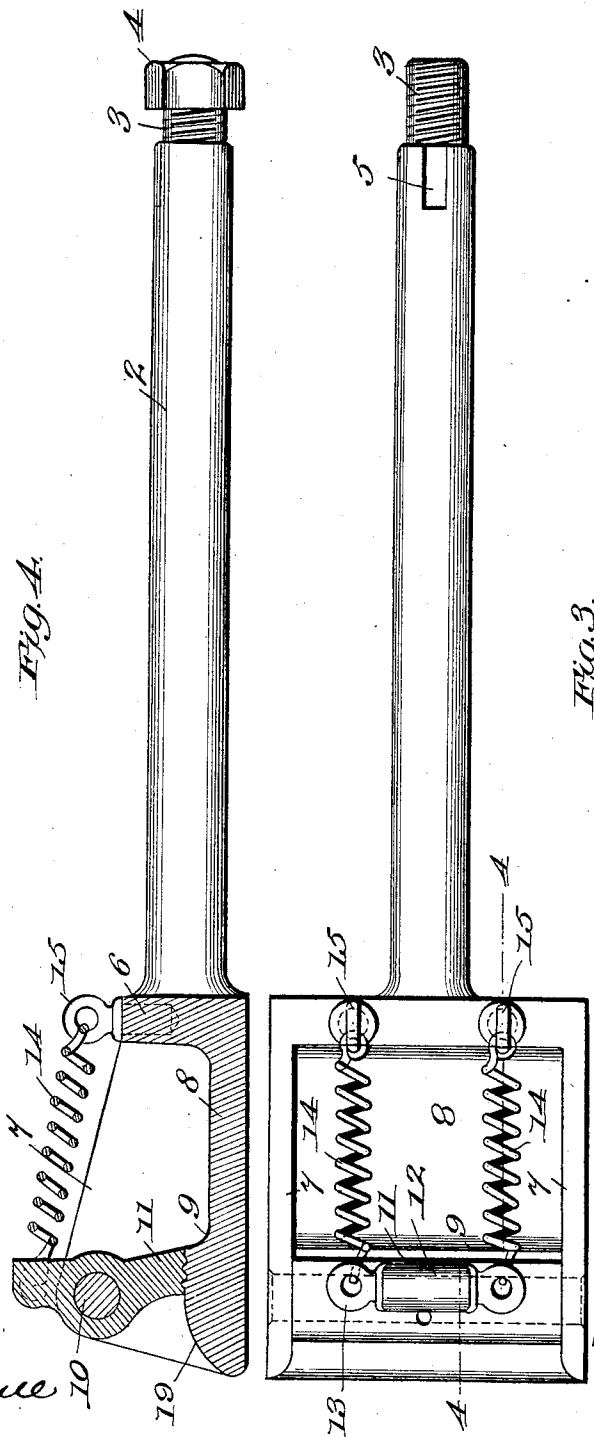
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UNITED STATES PATENT OFFICE.

ROY A. WILSON, OF CAVITE, PHILIPPINE ISLANDS, ASSIGNOR TO PHILIPPINE HEMP MACHINE COMPANY, OF MANILA, PHILIPPINE ISLANDS, A CORPORATION.

DEFIBRATING-MACHINE.

1,037,389.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed February 11, 1909. Serial No. 477,445.

To all whom it may concern:

Be it known that I, ROY A. WILSON, a citizen of the United States, residing at Cavite, in the Province of Cavite and Island of Luzon, Philippine Islands, have invented certain new and useful Improvements in Defibrating-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to defibrating machines, in which traveling carriages convey the fiber under, over or between knives, brushes, or both, being a specific improvement upon the Gillies defibrating machine, as shown in the Gillies application, Serial No. 404,402, filed Nov. 29, 1907.

The objects of my invention are to provide a mechanical means for feeding the hemp or other plant into the machine and to make this feeding automatic, thus increasing the capacity of the machine.

With these objects in view, my invention consists in the construction and combinations of parts, as hereinafter described and claimed.

In the accompanying drawing—Figure 1 shows part of one end of a defibrating machine, with my invention applied thereto. Fig. 2 is an end view of the same, the guiding and supporting rails being shown in section. Fig. 3 is a plan view of one of the grippers. Fig. 4 is a section of the same, on the line 4—4 of Fig. 3. Fig. 5 is an end view of one of the grippers.

a represents the frame of the machine, provided with cross beams *b*, braces *c* and guiding and supporting rails *d*, which are curved at each end of the machine and between which the wheels *e* of the gripping carriage run, all as described in the application above referred to. These wheels *e* are mounted on the cross beam 20, which beam supports the grippers hereinafter referred to. As the present invention relates only to the feeding means, the general machine will not be described.

In brackets *g* on the machine frame is mounted a shaft *h* on the center of which is mounted the swinging lever *i*. To the lower end of this lever and to the frame of the machine is fastened a strong spring *j*,

which normally holds the lever in the position shown in Fig. 1. Near its lower end this lever is enlarged, as shown at *k*, the enlarged part being provided with an elongated perforation *m*, through which passes the pin or shaft *n*, on which the feeders are mounted. This elongated perforation is provided so that the feeders, hereinafter described, may be moved back and forth in a straight line, although the lever *i* swings around the shaft *h*. These feeders, of which there are two, one for each gripper and located on each side of the lever *i*, each consist of a metal box *o*, open at the rear and top and having sloping sides, as shown in Fig. 1, and each provided with a spring plate *p*, attached to the back of the box and having its free end, which is serrated, bearing upon the front edge of the box. The spring *p* extends the full width of the box. Each of these boxes is mounted upon an upright arm or standard, as *q*, in which standards the ends of the pin *n* are firmly secured. Made integral with each standard *q*, or firmly attached thereto, is a horizontal guide arm *r*, which is slidably mounted in a perforated support 21 fixed to the frame of the machine by bolts 22. The end of the arm *r* is provided with a notch *s*. Pivotaly mounted on the pin *t*, carried by one of the guide rails *d* is a right-angled trip having a vertical arm *u* and a horizontal arm *v*, a spring *w* being attached to the frame and to the arm *v*. *x* represents another trip fixed to the support 21, the distance between said trips being nearly the same as the length of one of the carriages carrying the grippers. These grippers, of which there are two on each carriage, are shown enlarged in Figs. 3 and 4. Each consists of a shank 2 having a screw threaded end 3, adapted to be secured by a nut 4 to a cross beam 20 on the front of the carriage, and having a spline groove 5, to prevent the gripper from twisting. At one end the shank terminates in a box-like construction having an end 6, sloping sides 7 and a bottom 8, cut away, as shown at 9. The top and one end of the box are open. In the sides 7 is firmly secured a pin 10, on which is freely mounted a plate 11, having an upwardly projecting portion 12 and eyes 13, to which springs 14 are attached, the other

ends of said springs being attached to perforated pins 15. The lower edge of the plate 11 and the corresponding part of the bottom 8 are serrated, as shown in Fig. 4, and act as clamps or gripping jaws between which the hemp or other material is firmly held, by means of the tension of the springs 14. One side of the bottom 8 is rounded off, as shown at 19 in Fig. 4, to insure an easy entrance of the stalks of fiber from the feeder into the gripper.

16 are projecting trips on the machine frame, against which the ear or projection 12 is adapted to strike as the fiber carriage moves along, to release the fiber from the grippers.

17 and 18 represent two fiber-carrying carriages or it might be the same carriage in two different positions.

The operation is as follows:—As the carriage 17 is moved to the left from the position shown in Fig. 1 by any suitable means (not shown), the cross beam 20 thereon strikes the lever *i*, moving it to the left. This lever carries with it the feeders *a*, against the tension of the spring *j* until the notch *s* in the arm *r* engages with the end of the arm *v*, which is constantly pulled down by the spring *w*. Stalks of fibre are held by hand or otherwise on a table (not shown) with their ends projecting over the edge of the table, and these ends engage with and lift the springs *p* slightly as the feeders *a* move toward the table and are then caught between the springs and the front edge of the feeder. The spring *j* remains extended until the carriage 18 nearly reaches the position shown in Fig. 1, when the projection 12 on the clamping plate strikes the trip *x* and thus moves the clamping jaw 11, and at the same time the arm *u* is struck by the carriage, disengaging the arm *v* from the notched end of the arm *r*, whereupon the spring *j* pulls the feeders back to the position shown in Fig. 1, and brings the projecting ends of the fiber stalks in between the clamping parts 8 and 11, for a short time. These projecting ends are then quickly gripped by the parts 8 and 11, due to the action of the spring 14. The carriage then carries the fiber through the machine, during which passage it is suitably treated, being finally released from the grippers when the parts 12 strike the trips 16.

I claim:

1. In a defibrating machine, the combination of a traveling carriage having gripping means thereon, a frame provided with a trip, opening said gripping means, feeding devices arranged to deliver material deposited therein between the parts of the gripping means as they are opened, and devices whereby said feeding devices are moved away from said frame by the car-

riage in its movement, and then toward the carriage after it has passed said feeding devices, substantially as described.

2. In a defibrating machine, the combination of a traveling carriage having gripping means thereon, a frame provided with a trip, opening said gripping means, and a feeder adapted to be moved by the travel of the carriage toward and away from said train and to deliver material deposited therein between the parts of said gripping means as they are opened, substantially as described.

3. In a defibrating machine, the combination of a suitable frame provided with trips and a carriage adapted to travel along said frame and provided with gripping means thereon, said gripping means being opened by said trips as the carriage travels along, and a movable feeder adapted to be moved away from the machine by the carriage and to be swung back to deliver the material to be treated between the parts of said gripping means as they are opened, substantially as described.

4. In a defibrating machine, the combination of a suitable frame provided with trips thereon, a carriage adapted to travel along said frame, said carriage being provided with gripping means adapted to be opened by said trips as the carriage passes along, a movable feeder adapted to feed stalks of material between the parts of said gripping means as they are opened, a lever connected to said feeder, and a spring for returning said lever toward said carriage just as the parts of said gripping means are opened, substantially as described.

5. In a defibrating machine, the combination of a frame provided with trips, a carriage adapted to travel along said frame, said carriage being provided with gripping means adapted to be opened as the carriage moves along, an automatic feeder arranged to slide in guides on said frame, a trip on said frame adapted to engage with said feeder when the latter is swung away from the frame, a lever against which said carriage is adapted to strike, said lever being pivotally connected to said feeder, and a spring connecting said lever with the frame of the machine, substantially as described.

6. In a defibrating machine, the combination of a frame provided with trips, a carriage adapted to travel along said frame and provided with gripping means adapted to be opened as the carriage moves along, an automatic feeder to feed stalks of material between the parts of said gripping means when the latter are opened, said feeder being provided with parts sliding in guides in said frame and one of said parts having a notched end, a trip on said frame adapted to engage said notched end,

a lever pivoted on the frame of the machine and pivotally connected with said feeder, and a spring connecting one end of said lever and the frame of the machine, substantially as described.

7. In a defibrating machine, the combination of a suitable frame provided with a trip, a carriage adapted to travel along said frame and provided with gripping means adapted to be opened by said trip, an automatic feeder consisting of an open topped box provided with a spring plate, said feeder being also provided with a horizontal arm supported by said frame and said arm having a notched end, a pivoted spring-pressed clip mounted on said frame and adapted to engage said notched end at times, a lever having one end pivoted to the frame of the machine and pivotally connected to said feeder, and a spring connecting one end of said lever with the frame of the machine, substantially as described.

8. In a defibrating machine, the combination of a supporting frame, a carriage traveling thereon and gripping means mounted on said carriage comprising a box-like structure open at one end and having a gripping plate pivotally mounted therein and springs normally holding said gripping plate against the bottom of said box, substantially as described.

9. In a defibrating machine, the combination of a suitable frame provided with a trip, a carriage adapted to travel along said frame and gripping means carried by said carriage, said gripping means including a box-like structure open at the top and one end, a pivoted plate in the sides of said box,

and provided with a projecting portion adapted to strike said trip as the carriage moves along, and springs normally holding said gripping plate in contact with the bottom of said box, substantially as described.

10. In a defibrating machine, the combination of a suitable frame provided with a trip, a carriage adapted to travel thereon and gripping means carried by said carriage, including a shank secured to said carriage, a box made integral with one end of said shank, said box being open at the top and one end, a plate pivotally mounted in the sides of said box and having a projection adapted to strike said trip, and springs connecting said plate with one end of said box, substantially as described.

11. In a defibrating machine, gripping means for the fiber consisting of a shank having a screw threaded end with a nut thereon, a box made integral with the other end of said shank, said box being open at the top and one end and being cut away on its bottom and having the part adjacent to said cut away portion grooved, a plate pivotally mounted in the sides of said box and having its lower edge grooved, said plate being provided with an upwardly projecting part and springs connecting the upper part of said plate to one end of said box, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

ROY A. WILSON.

Witnesses:

A. W. BEAM,

J. NILNOREND LENSKE.