

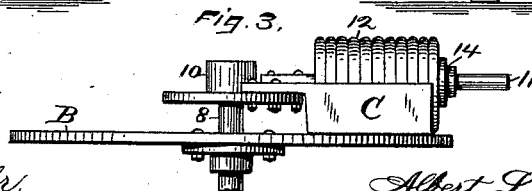
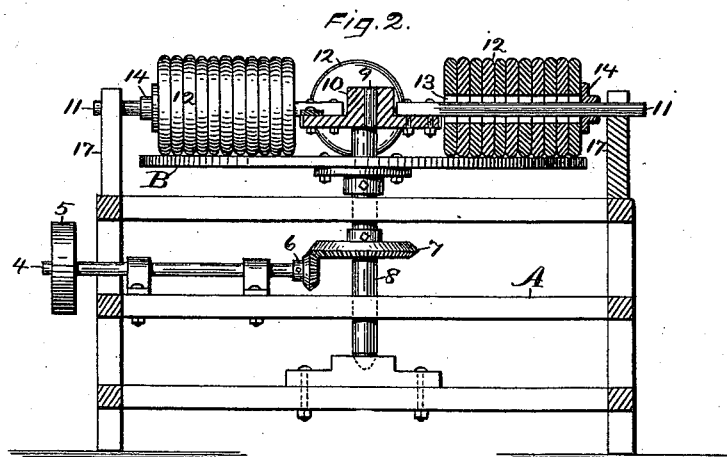
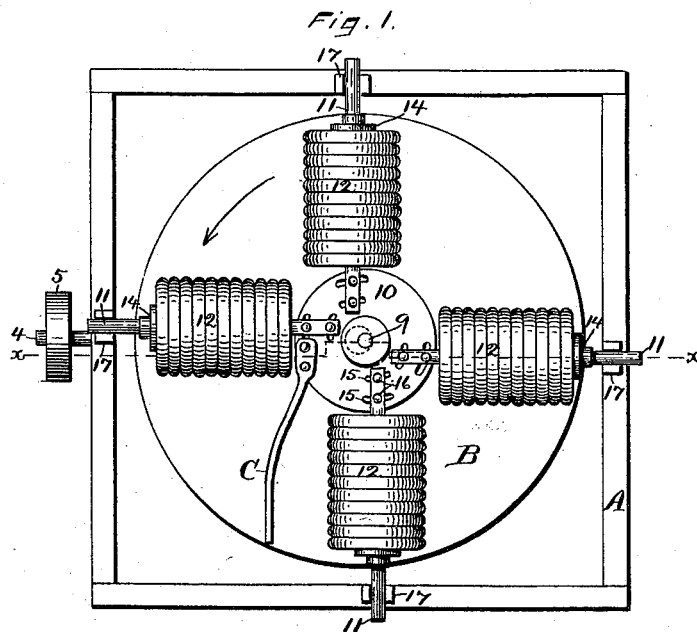
(No Model.)

A. L. WASHBURN.

MACHINE FOR WORKING VEGETABLE FIBER.

No. 418,832.

Patented Jan. 7, 1890.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT L. WASHBURN, OF AIKEN, SOUTH CAROLINA.

MACHINE FOR WORKING VEGETABLE FIBER.

SPECIFICATION forming part of Letters Patent No. 418,832, dated January 7, 1890.

Application filed June 27, 1889. Serial No. 315,786. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. WASHBURN, a citizen of the United States, residing at Aiken, in the county of Aiken and State of South Carolina, have invented certain new and useful Improvements in Machines for Working Vegetable Fiber, of which the following is a specification.

My invention relates to improvements in machines for working vegetable fiber—as, for instance, pine-needles; and the chief object of my improvement is to produce a machine for efficiently and quickly working the fiber by subjecting it to a simultaneous pressing and rubbing motion.

In the accompanying drawings, Figure 1 is a plan view of my machine. Fig. 2 is a vertical section, partly in elevation, on line *x x* of Fig. 1; and Fig. 3 is a side elevation of detached parts.

A designates a frame of any desired form, upon which is mounted the driving-shaft 4, provided with driving-pulley 5 and beveled pinion 6, which pinion meshes into and drives the beveled gear 7 of the upright shaft 8. Said shaft is vertically mounted in suitable bearings in the frame, and provided with a table or disk B, which revolves with said shaft. The upper end of said shaft 8 is also provided with a crank or eccentric 9. This crank 9 receives a flanged hub 10, to which hub I affix a series of projecting arms 11, each bearing a series of crushing-rollers 12. The bore or central hole (see 13, Fig. 2) of these rollers is larger than the shaft or arm 11 upon which they are mounted, so that said rollers are not only free to rotate on said arm but are also free to rise and fall vertically thereon. A suitable collar or other fastening 14 is secured to the outer end of the arms 11 to prevent said rollers from working off from the ends of the arms. These projecting arms should be so secured to the flanged hub as to have a degree of movement thereon—as, for instance, by means of the slot-and-bolt connection, as shown, respectively, at 15 and 16 in Fig. 1. In order to avoid crowding the figures of reference, I have placed them only upon the slots and bolts of the lowermost arm

in Fig. 1. These arms 11 are set practically tangential to the hub 10—that is, they are set to one side of the radius of said hub, in order to give more of a rubbing or drawing action as the table revolves under them. Projecting upwardly from the frame A there are rigid supports 17, having slots at their upper ends, into which the outer ends of the arms 11 are received to hold them stationary with reference to the rotary motion of the table B, but leaving them free to move endwise in said uprights. To the flanged disk 10 I secure a tangential scraper C, which extends downwardly to the upper surface of the revolving table B.

Power is applied so as to revolve the table B in the direction indicated by the dart in Fig. 1. The material to be worked is then delivered to said table at a point between the scraper C and the series of rollers immediately back of said scraper, and may be supplied as fast as the machine can work it. The several series of rollers then act to crush or bruise the material with a rubbing or dragging motion, owing to the position of the arms and to the longitudinal movement given to them by crank. If the material lies unevenly on the table, the rollers may rise independently of each other to accommodate themselves thereto. The successive series of rollers will spread it more evenly and repeatedly act upon it by the same crushing and rubbing action until it has passed all of the rollers, when ordinarily it will be properly reduced, and the tangential scraper C will sweep it from the table, where it can fall into any suitable receptacle.

I claim as my invention—

1. The combination of a revolving table B and its shaft, crushing-rollers on suitable mountings held against the revolving motion of said table, and the crank 9 and connections intermediate said crank and rollers for reciprocating the latter, substantially as described, and for the purpose specified.

2. In a machine for working fiber, the combination of the table B, the arm 11, held against rotation with said table, and a series of crushing-rollers independently and loosely

mounted upon said arm, substantially as described, and for the purpose specified.

3. The combination of the table B, a series of arms 11 over said table, crushing-rollers
5 mounted upon said arms, the fixed bearings or uprights 17, for the outer ends of said arms, and means for imparting an endwise move-

ment to said arms, substantially as described, and for the purpose specified.

ALBERT L. WASHBURN.

Witnesses:

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