REMOVING WOODY MATTER FROM THE STEM FIBERS OF TEXTILE PLANTS

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The present invention relates to a process and apparatus for removing the woody matter from the stems of textile plants such as ramele, hemp, and the like.

An object of the invention is to provide an apparatus which may operate upon the stem either in dry or green condition.

A further object of the invention is to provide an apparatus wherein the bundle of stems operated upon is fed between rotating blades in one direction and then withdrawn in the other direction while the blades continue rotating in the original direction.

With the above and other objects in view which will become apparent from the detailed description below, the invention is shown in the drawing in which the figure shows a diagrammatic side view of the apparatus.

In the drawing two rollers a and a' are provided with radial blades positioned on their periphery. Means are provided, though not shown, for rotating these rollers continuously in the direction shown by the arrows. The radial blades intermesh in the manner illustrated.

The rollers are supported in such manner that the upper roller a' may move forward and away from the lower roller in order to permit a greater or lesser engagement between the blades.

The number of the blades and the speed of their rotation as well as the extent to which they intermesh are adapted to the quality and the state of the textile plants which are to be treated. These elements therefore are variable factors.

The bundle b which is to be freed from woody matter is fixed by means of a clip c to an arm d. The arm d is pivotally connected at e to a bar g and the bundle is guided upon the element f mounted on the support k. The arm g is swung forwardly or backwardly by the crank h which has one end eccentrically mounted upon a disc and the other end pivotally connected to the bar g.

The disc is continuously rotated by means not shown. Also, the disc if desired may be rotated manually.

Upon each revolution of the disc, a complete oscillation of the arm d takes place and this permits the bundle b to be moved through the bladed rollers. The movement of the bundle b is at less speed than the speed of the blades on the rollers and therefore the bundle is dragged forwardly by the blades which will break the woody matter.

Then on the return movement of the bundle, the broken woody portions are separated from the textile stems.

The above described cycle of treatment may be repeated as long as desired until the bundle is entirely free from woody matter. As a practical matter a complete separation generally takes place on the first cycle.

If desired, the apparatus may be installed upon any desired carriage and moved to the field at which the plants are cut.

A main feature of the invention is a provision of a unitary mechanical device both for introducing the bundle of plants in one direction and then withdrawing such plants in the other direction while the rotating portions of the machine always move in the same direction. It is this feature which permits the elimination of the woody matter.

It is obvious that the construction shown is merely exemplary and that various modifications may be made for carrying out the process.

What I claim is:

An apparatus for removing woody matter from the stems of the textile plants comprising a pair of relative adjustable intermeshing bladed rollers mounted one above the other and having a constant peripheral speed, a horizontal support at one side of the rollers, a holder for a bunch of stems, means on said support for guiding said holder and means for reciprocating said holder toward and away from said rollers comprising a crank mounted on the opposite side of said rollers, a crank pin, a pivotal mounted bar movable by said pin and a link between said bar and holder.

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