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UNITED STATES PATENT OFFICE

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METHOD OF SEPARATING THE PITH AND FIBER OF CORNSTALKS

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This invention relates to a method of preliminary preparation of cornstalks so that they may be treated to obtain a satisfactory pulp stock as a base material for making paper, and has especial reference to the effective separation of the pith and the fiber always found in this particular plant structure.

While it has long been known that the cornstalk fiber is well adapted for the said purpose, and that it was essential to eliminate thoroughly the cornstalk pith to obtain a finished paper free from hardness and an undesirable rattling sound, no effective means for obtaining this elimination of the pith has heretofore been devised.

The method of this application, however, has been demonstrated to be efficient, and will therefore make this agricultural waste product useful in the paper making industry.

This method as applied to the matured cornstalk, such as remains in the field after the corn is harvested, is as follows:—the cornstalks are given a light beating in the presence of an air blast to remove the dust and dirt which adheres to the stalk. They are then passed into a silage cutter and cut into short lengths in accordance with the immediate conditions and circumstances. It has been found that a three inch length works well if there are no mechanical difficulties connected therewith.

After the cutting operation, the pieces of cornstalk pass on to a travelling, perforated conveyor belt, above which spray lines of water are positioned. At intervals along the line of travel of the belt, "kickers" are employed to turn the cornstalk stock, so that it will be thoroughly washed.

From the wash belt the cornstalk stock is passed to a machine through which a strong stream of water passes continuously, and in this machine the cornstalk stock is reduced to a mass which is washed free from the pith which passes into a cistern below, the fiber being carried forward and collected in a separate container.

It will be obvious from the foregoing that a fiber free from pith will be obtained by this method, and that the same can be thereafter treated to obtain a pulp which can be used efficiently in paper making.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. The method of separating the fiber in matured cornstalks from the pith therein, comprising the following steps; beating and cleansing the cornstalks; dividing the cornstalks into predetermined lengths; conveying the said stock under spray lines of water to a container; separating the pith in the said stock from the fiber; and conveying the said fiber to a separate container.

2. The method of separating the fiber in matured cornstalks from the pith therein, comprising the following steps; beating and cleansing the cornstalks; dividing the cornstalks into predetermined lengths; washing and cleaning the cornstalk stock; reducing the said stock under water treatment to a mass free from pith; and conveying the fiber and the pith to separate containers.

3. The method of separating the fiber in matured cornstalks from the pith therein, comprising the following steps; beating and cleansing the cornstalks; dividing the cornstalks into predetermined lengths; conveying the said stock under spray lines of water to a container through which a stream of water passes continuously; and conveying the fiber and the pith to separate containers.

4. The method of separating the fiber in matured cornstalks from the pith therein, comprising the following steps; beating and cleansing the cornstalks; dividing the cornstalks into predetermined lengths; conveying the said stock under spray lines of water to a container; separating the pith in the said stock from the fiber by a continuous stream of water passed through the said container; and conveying the fiber and the pith to separate containers.

In testimony whereof I have hereunto affixed my signature.

ELTON R. DARLING.