UNITED STATES PATENT OFFICE.

HARRY PRESTON BASSETT, OF NEWARK, DELAWARE.

TREATMENT OF FLAX-STRAW.

1,046,538. Specification of Letters Patent. Patented Dec. 10, 1912.

No Drawing. Application filed June 16, 1910. Serial No. 567,220.

To all whom it may concern.

Be it known that I HARRY P. BASSETT, a citizen of the United States, residing at Newark, in the county of Newcastle and State of Delaware, have invented a new and useful Treatment of Flax-Straw, of which the following is a specification.

This invention relates to a new and useful process or method for the treatment of flax straw.

The principal object of the invention is to secure a superior quality of fiber from the flax straw.

While the process of the present invention is particularly intended for use in treating flax straw, it can nevertheless be employed in connection with other products, such for example as hemp.

In carrying out the method of the present invention, flax straw which is either straight, or which has been threshed, may be employed.

The first treatment to which I subject the flax straw is intended to accomplish two results, namely, (1) to loosen the fiber from the shive, so as to facilitate the subsequent separation of the fiber and shive; and (2) to provide for the removal of certain waxes and gums. The accomplishment of both of these results is aided or facilitated by a single operation on the straw, which will be referred to herein as the first step, although it is to be understood, that if desired, these two results can be attained by separate agencies without departing from the spirit of the invention. The first step in the process is to boil the straw in a one per cent. solution of sulfuric acid. This acid treatment serves to hydrolyze certain basic waxes and gums in the product, converting them into soluble bodies which can be removed by washing, as hereinafter described. This acid treatment serves also to loosen the fiber from the shive.

The second step in the method is to wash the product. This washing, which may be accomplished in any suitable manner, serves to remove the hydrolyzed products derived from basic waxes and gums, it being understood that these basic waxes, of vegetable character, will combine with the acid during the acid treatment to form acid salts whereby the second treatment of washing, serves to remove these soluble bodies resulting from the action of the acid on the waxes.

The third step in the process is to treat the product to the action of a one per cent. solution of caustic soda or alkali and to boil the same in said solution for a period varying approximately from five to ten minutes. This treatment loosens or removes the fiber from the shive and rots the latter to a degree sufficient to facilitate the breaking operation to which the product is subsequently subjected as will hereinafter appear.

The fourth step in the method is to wash the product in any suitable manner so as to remove the traces of alkali therefrom.

The fifth step in the method is to break the product in any suitable manner.

Finally, the shive is completely separated or removed from the fiber in any suitable manner such for example as by combing or carding.

What is claimed as new is:—

The process of treating flax straw, which consists in hydrolyzing the basic waxes and gums and loosening the fiber from the shive by boiling the stray in a substantially one per cent. solution of sulfuric acid, removing the hydrolyzed waxes and gums in the form of salts by washing, loosening the fiber from the shive and rotting the shive by boiling the same in a substantially one per cent. alkaline solution, washing out the alkali, breaking the product, and completely separating the fiber from the shive by combing or carding.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY PRESTON BASSETT.

Witnesses:

H. D. EGGERS, Jr.,

FIRMAN THOMPSON.