

# UNITED STATES PATENT OFFICE.

HOMER HOLLAND, OF WESTFIELD, MASSACHUSETTS.

PROCESS FOR PREPARING THE LIGNIA OR FIBROUS PORTION OF CORN-HUSKS, &c.

Specification of Letters Patent No. 878, dated August 13, 1838.

*To all whom it may concern:*

Be it known that I, HOMER HOLLAND, of Westfield, in the county of Hampden and State of Massachusetts, have invented processes for preparing the lignia or fibrous portion of corn-husks, so as to be a suitable base for paper and oxalic acid; and I do hereby declare that the following is a full and exact description.

10 The corn husks consist of two distinct substances, viz. lignia and mucilage. The lignia or fibrous portion is similar to the fibrous portion of hemp of flax, and must be completely freed from the mucilage before it can be bleached. By making it susceptible of perfect bleaching without destroying the strength of the fiber, it may be used for valuable purposes.

20 The nature of my invention consists in making the mucilaginous portion of the husks soft and soluble, by means of alkaline solutions so as to be readily removed, by washing and beating, leaving the fiber strong and capable of being perfectly bleached. I adopt the following method of applying the alkaline solutions. The husks properly selected and cleaned are to be macerated for several hours, in a moderate solution of a carbonated alkali, in any convenient kettle, caldron, tube or vat, which may be kept warm by fuel or steam. After having been thus macerated sufficient of hydrate of lime is to be added to combine with the carbonic acid of the alkali and render it caustic, so as

to dissolve the mucilage and the whole is to be boiled from one to two hours. The mucilage of the husk is thus converted into a soluble ulmate of the alkalies employed and in this state may be removed from the lignia or fiber by washing in several waters rubbing and scouring. If the husks be thus treated, the lignia, is strong and if the washing, beating and scouring be suitable the fiber may be completely separated, and may be perfectly bleached by an alkaline chlorid or sesqui-chlorid in solution or by any of the known and approved processes of bleaching. The lignia or fiber thus prepared may be used as a substitute for sugar or starch in making oxalic acid; and after being rendered even if necessary by rolling or pressing may be manufactured into paper in the same manner as the ordinary fiber from rags.

What I claim and desire to secure by Letters Patent, is—

The process of macerating the husks of corn for several hours in a solution of a carbonated alkali; then rendering the alkali caustic by adding the hydrate of lime, and boiling for one or two hours as above described, in order to produce a fine, strong, and bleachable lignia or fiber for the manufacture of paper, of oxalic acid and other purposes.

HOMER HOLLAND.

Witnesses:

N. T. LEONARD,  
WILLIAM W. BLAIR.