

# UNITED STATES PATENT OFFICE.

JOHN CHARLES WILLIAM STANLEY, OF LONDON, ENGLAND.

## PROCESS OF TREATING COTTON-SEED.

SPECIFICATION forming part of Letters Patent No. 675,423, dated June 4, 1901.

Application filed December 24, 1900. Serial No. 40,968. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOHN CHARLES WILLIAM STANLEY, a subject of the Queen of England, residing at London, England, have invented certain new and useful Improvements in or Relating to the Treatment of Cotton-Seed Hulls and the Obtaining of Certain Useful Products Therefrom, of which the following is a specification.

Cotton-seed after the ginning of the cotton has always a certain proportion of adhering fiber, and with this fiber and the hull is associated a very material percentage of oil which it is desirable to remove not only on account of its commercial value, but also because it is detrimental to the fiber. Further, it is practicable to make use of the hull of cotton-seed, and for some purposes the removal of the oil from the hull is very desirable. In order to secure the oil for its commercial value and to render the cotton fiber and hulls serviceable for purposes which would be impaired by the presence of the oil, I in the first instance and by any suitable means separate the cotton-seed into its main constituent parts, viz: kernels, hulls, and cotton fiber. While this separation may be effected in different ways and by various appliances, I prefer to employ a sequence of dividing and sifting operations, and for this purpose may make use of the apparatus set forth in my Patent No. 658,876, dated October 2, 1900. In these operations the seed is first cracked, but without crushing the kernels into the hulls, and is then threshed and screened, with the result that the greater proportion of the kernel is separated as a meal from the hull and the fiber. A certain proportion of kernel or meal will, however, adhere to the fibers and hull, and I therefore subject the material after sifting to a further separating process, as by the apparatus of my Letters Patent No. 658,877, and thus secure every particle of kernel, which is then mixed with that already sifted out, and the remaining material practically consists solely of hull and fiber, which have never before been secured in this separated condition from the kernels. This material contains from eight to ten per cent. of oil, and to remove and secure the oil and separate the hull and fiber I grind up the two into a fine mass. This mass is then sifted

and the major portion of the hull is separated from the fiber; but there will yet remain a proportion of fine ground hull in combination with the cotton, which cannot be separated by sifting or other mechanical operations. I therefore subject the material to a solvent which will dissolve the oil—as, for instance, benzene or bisulfid of carbon—and I have found that I thus not only extract the oil, but that the effect of the solvent is to secure the ready separation of the remaining fine particles of ground hull from the cotton fibers, so that after the removal and evaporation of the solvent from the insoluble particles grinding and sifting will readily remove the hull material, leaving the cotton in a pure state and specially adapted, owing to the absence of oil, for use for paper-making, &c. The hull being also freed from oil is specially adapted for use for fertilizing purposes, as the hull-meal freed from the oil is more efficient than that in which the oil is present, while the oil saved by my process amounts to from eighty to one hundred tons out of even one thousand tons of combined hull and fiber treated. After treating the material to dissolve the oil the latter is removed from the solvent in any usual or suitable manner.

It will be seen that instead of grinding the kernels with the hulls or instead of discarding the hulls, together with a large proportion of the kernels, as heretofore, I save the whole of the kernels and also the whole of the hull portion, securing as a new product the comminuted particles of hull freed from kernel and fiber, and that by the use of a solvent I also eliminate all the oil, securing it as a merchantable product.

I claim as my invention—

1. The within-described process of treating cotton-seed the same consisting in first wholly separating the kernel from the hull and fibers, then reducing the hull and fibers together to minute particles, treating the ground material mechanically to partially separate the fiber and hull, then subjecting the fibrous portions to the action of a solvent and then separating the fibers and particles, substantially as set forth.

2. In the treatment of cotton-seed first wholly removing the kernels from the hull and fibers and then after reducing the fiber

and hull together to fine particles subjecting  
the fibrous portions to the action of a solvent,  
separating the dissolved and undissolved ma-  
terials and then acting on the latter to sep-  
5 arate the fibrous and hull portions, substan-  
tially as set forth.

In testimony whereof I have signed my

name to this specification in the presence of  
two subscribing witnesses.

JOHN CHARLES WILLIAM STANLEY.

Witnesses:

HAROLD WADE,

HARRY B. BRIDGES.