G. B. STACY.

Separator for Husk Hackling Machine.

No. 108,532. Patented Oct. 18, 1870

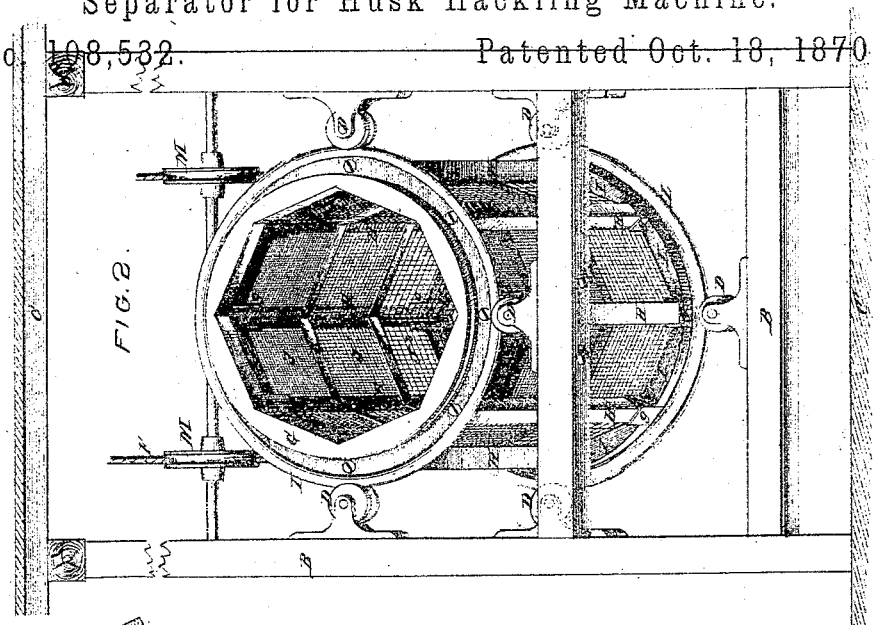

FIG. 2.

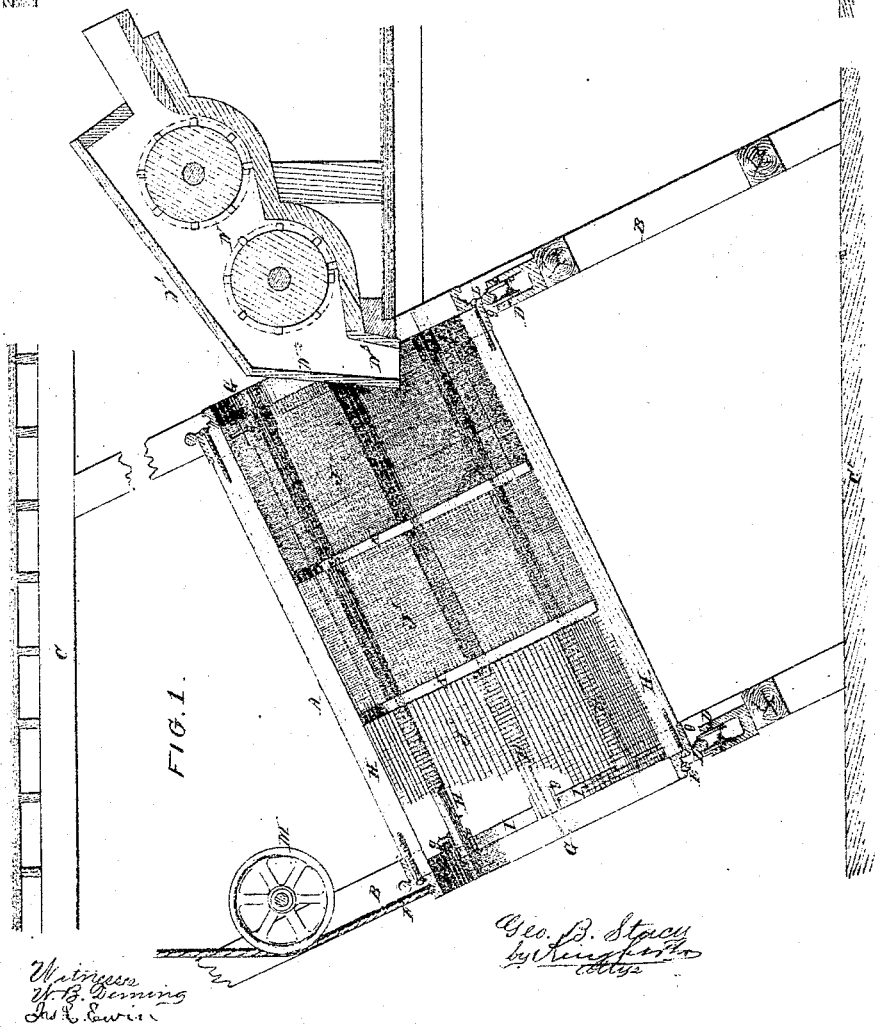

FIG. 1.

Witnesses
W. B. Benning
Jas. L. Ewin

Geo. B. Stacy
by Munn & Co
Attys

United States Patent Office

GEORGE B. STACY, OF RICHMOND, VIRGINIA.

Letters Patent No. 108,532, dated October 18, 1870.

IMPROVEMENT IN SEPARATING ATTACHMENTS FOR HUSK-HACKLING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same

I, GEORGE B. STACY, of Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Separating Attachment for Husk-hackling Machines.

Nature and Objects.

The object of my invention is the complete separation from the hackled husk of all foreign matter, and the utilization thereof.

The corn husk, as gathered, contains, in addition to the stubs or stems, a large amount of dirt and grit with "nubbins," loose grains, and cobs, which have to be removed to fit the material for market as a stuffing for mattresses, &c.

The "waste," including all these and a large amount of the fiber discharged from the hackling-machines, is commonly sold at a nominal price for manure.

No other mode of utilizing or saving this waste has been employed, heretofore, other than the expensive process of hand-bolting, to regain the stubs and attached fibers for retreatment.

It has been found that, by first separating the dirt and grit, a very valuable feed for stock may be advantageously separated from this waste, being the grains of corn, ground cobs, and fine particles of the husk. The remainder of the waste forms a most excellent paper stock.

The value of corn husks for making paper is well known. This waste, freed from the dirt and grit, corn and cobs, is in the very condition it is desirable to have it, and in a better condition than it could be put in by any other process for the paper manufacturers use. It is thus practically of more value for this purpose than the raw husks.

The invention consists in the combination, with a husk-hackling machine, of an apparatus, adapted to receive the material therefrom, and, as above described, or in an equivalent manner, separate it.

The apparatus in the proposed form consists of a rotary screen, of proper size, supported externally, inclined so as to feed and discharge automatically, and provided with one or a series of circumferential sieves of equal or graduated mesh, as required for the discharge of the matter to be separated.

Description of Drawing.

In the accompanying drawing, made a part of this specification—

Figure 1 is a vertical longitudinal section of the apparatus, and an adjoining portion of a hackling-machine adapted to discharge directly into the separator.

Figure 2 represents a front view of the apparatus.

General Description.

The separator A, as consisting of a rotary screen, as shown, is mounted in two parallel inclined frames B, jointed in the floors C C′, between which it is to be located, or in an equivalent support, is supported by external friction-rollers D in such support, and provided with a pulley, E, for the reception of a driving-band, F, by which to rotate it, or its equivalent.

Its frame or skeleton is preferably composed of annular cast-iron heads or ends G, and wooden longitudinal ribs H, wooden filling-blocks I, between the sockets *g* of the ribs H, serving, in connection with said ribs, for the reception of the fastenings of wire-cloth to form the sieves or screens proper J J^1 J^2, the joints of which (when there are more than one) may be covered by internal hoops K.

The heads G may combine, as represented, the pulley E, sockets *g* for the longitudinal ribs H, and circumferential flanges L, by which to support the screen, and may be cast from the same pattern, as represented.

The supporting-rollers D are preferably three in number for each end of the screen, being arranged beneath and at the sides, as represented.

The weight of the screen may thus serve to tighten the driving-band F.

Pulleys M M, in the frame B of the screen, may support the driving-band F at the proper angle for the screen.

The apparatus is so arranged as to receive the material from the hackling-machine N, which is adapted to discharge thereinto.

Any separate handling of the material is thus dispensed with, and the operation rendered continuous.

To enable the material to be thus introduced, the hackling-machine may be provided with a cover, N^1, an end wall, N^2, to arrest the material, and a downly-projecting discharge, N^3.

With these provisions the material may be dropped on the screens at the extreme front end, and its complete treatment thus be secured.

The sieves or screens proper J J^1 J^2 of the screen or separator A are preferably three in number, as represented, each forming a circumferential belt, and being respectively of such mesh as to pass through the first J the dirt and grit which may be in the material; through the second J^1 any corn, pieces of cobs, and pulverized husk which may be in the mass; and through the last J^2 the stems and heavy, coarse particles.

In this case separate receptacles or conduits will receive the discharge of the respective sieves.

Annular slides, or their equivalent, may serve to regulate the length of the sieves, to vary the extent of treatment as required, for different qualities of husk.

The form of the apparatus is not essential, and it may be employed with any form of hackling-machine,

performing the whole or any desired part of the separation.

Operation.

The operation of the apparatus, as represented, is as follows:

The hackling-machine N being in operation, and motion imparted to the screen A through its driving-band F, the hackled husk, with its mingled dirt, &c., as discharged by the former, is received by the latter.

Falling on the first sieve J, it is rolled and tossed by the motion of the screen, and has separated from it all the contained dirt and grit. Passing to the second sieve J^1, the portion of the waste suitable for stock feed is passed through and collected; when the remainder rolling over the last sieve J^2, has separated from it the heavy particles which are passed through its sufficiently-large mesh as they settle, and saved for paper stock.

The clean husk is finally discharged at the open rear end of the screen, the action of the several sieves being repeated meanwhile during the operation.

I am thus enabled by an automatic, continuous process, with no appreciable additional expenditure of power, and in space otherwise occupied by the mingled mass and its handles, to completely clean the hackled husk, and at the same time separate the removed waste, heretofore at least comparatively lost, into two valuable marketable commodities. An immense increase in profits is apparent.

Claim.

I claim as my invention—

The combination, with a "husk-hackling machine," of a separator, arranged to receive the hackled husk directly therefrom, and constructed to operate substantially as herein described, for the purpose set forth.

To the above specification of my invention, I have signed my hand this 25th day of November, 1869.

G. B. STACY.

Witnesses:

W. B. DEMING,

JAS. L. EWIN.