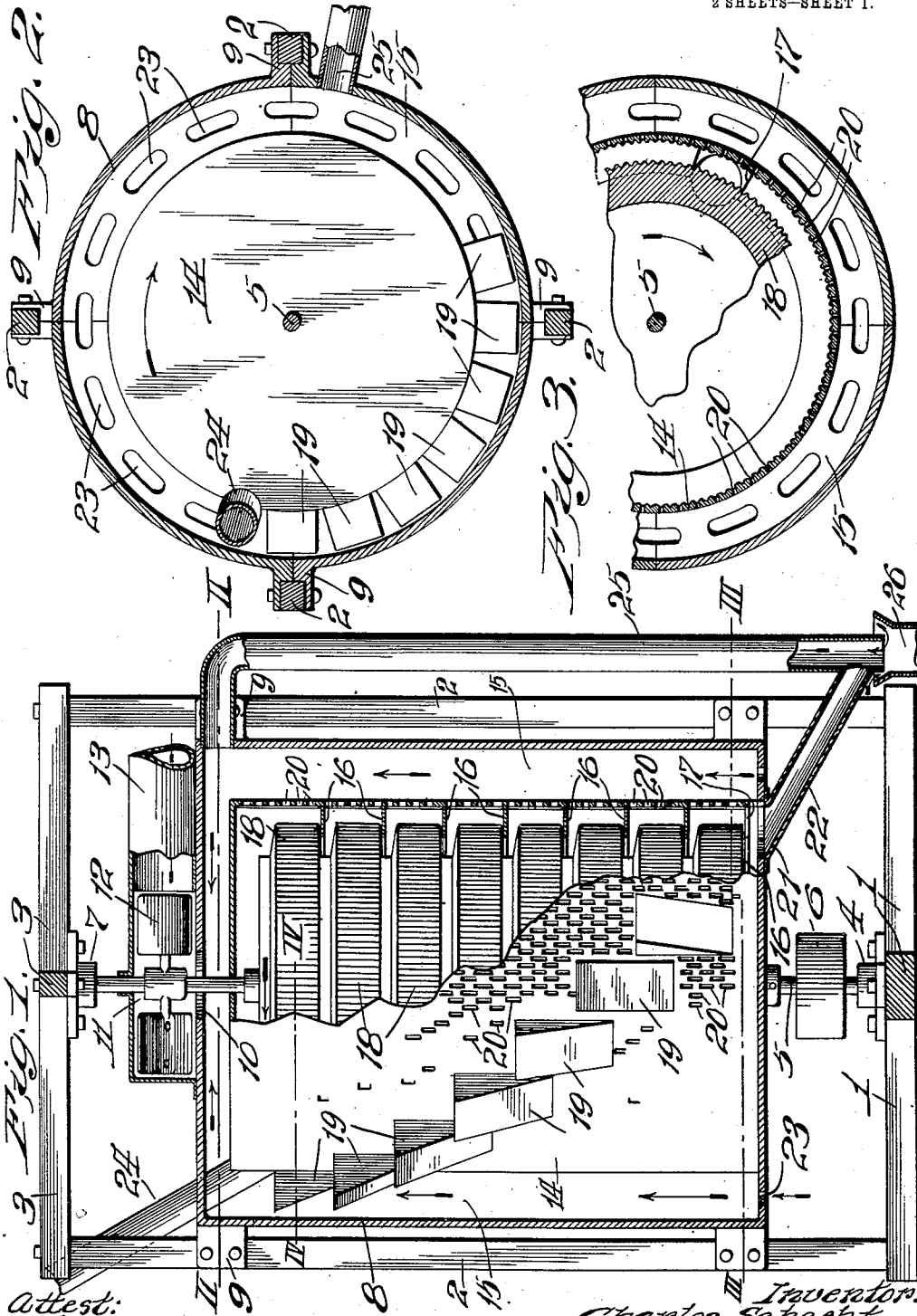


C. SCHACHT.
GRAIN HULLING AND SCOURING MACHINE.
APPLICATION FILED MAY 1, 1911.

1,017,326.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.



Attest:
J. L. Fletcher
M. C. Hummon

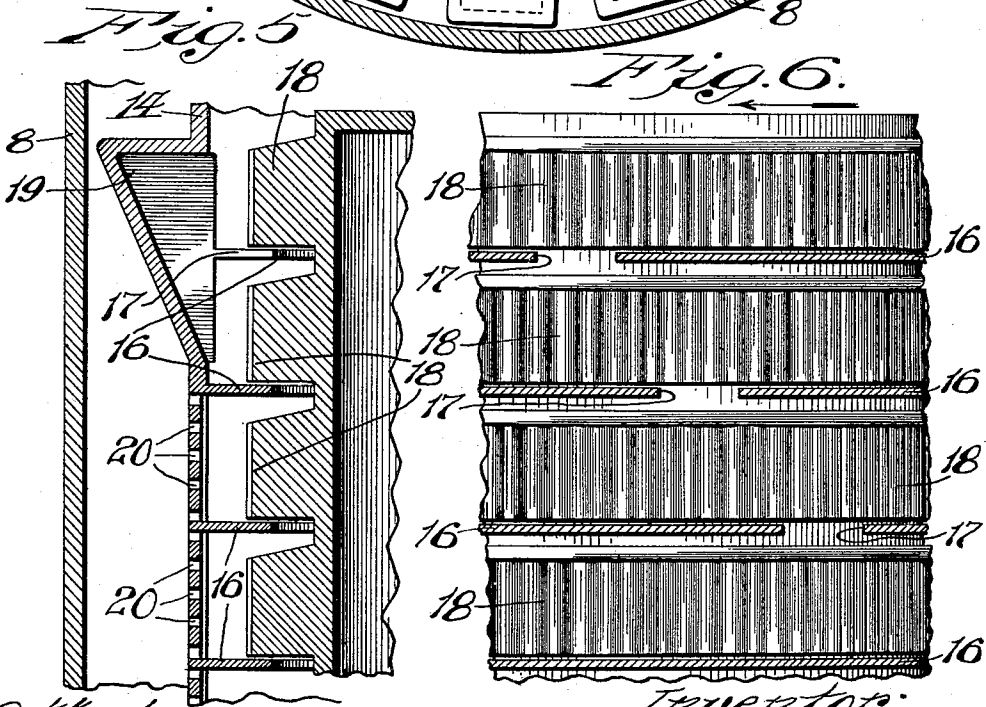
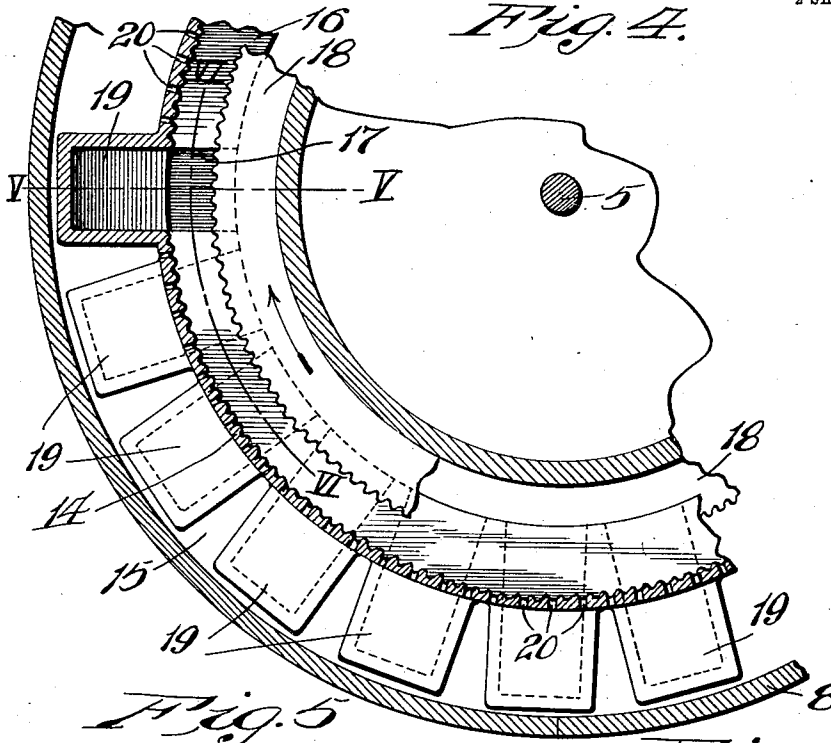
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By *Knightrich* attys.

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Attest:
A. G. [Signature]
M. C. [Signature]

Inventor:
Charles Schacht.
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UNITED STATES PATENT OFFICE.

CHARLES SCHACHT, OF HIGHLAND, ILLINOIS.

GRAIN HULLING AND SCOURING MACHINE.

1,017,326.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed May 1, 1911. Serial No. 624,323.

To all whom it may concern:

Be it known that I, CHARLES SCHACHT, a citizen of the United States of America, residing at Highland, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Grain Hulling and Scouring Machines, of which the following is a specification.

This invention relates to grain hulling and scouring machines, and has for its primary object to provide an improved construction, combination and arrangement of parts, whereby machines of this character can be simply and economically constructed, and rendered efficient in operation, and whereby the grain hulling and scouring can be more perfectly accomplished.

One of the objects of the present invention is to provide improved means for separating the cleanings from the grain berries.

Other and further objects will appear in the specification, and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention, and in which—

Figure 1 is a side elevation of a machine constructed in accordance with the principles of the present invention, parts being broken away, and parts being shown in section. Fig. 2 is a section on the line II—II, Fig. 1. Fig. 3 is a fragmentary section on line III—III, Fig. 1. Fig. 4 is an enlarged fragmentary section on the line IV—IV, Fig. 1. Fig. 5 is a fragmentary section on line V—V, Fig. 4. Fig. 6 is a fragmentary section on the curved line VI—VI, Fig. 4.

Referring more particularly to the drawings and to the embodiment shown therein, the main frame of the machine, which is vertically disposed, comprises base members 1, from which project lateral members 2 secured together at the top by top members 3. At the center of the base members 1, is secured a step bearing 4 which supports a vertical shaft 5, provided with a pulley 6. The upper end of said shaft is journaled in a bearing 7 secured to the top frame members 3.

Co-axially mounted with the shaft 5, is an outer cylindrical casing 8, which is secured to the lateral frame members 2 by rigidly mounted plates 9. The closed top of the casing 8 is provided with an air opening 10 leading to a wind box 11, within which a fan

12, keyed to the shaft 5, rotates to discharge air from the casing 8, through a discharge pipe 13.

Centrally disposed within the outer casing 8 so as to be co-axial with the shaft 5, is an inner casing 14 which is rigidly connected to the outer casing, and provided with a closed top wall. The disposition of this inner casing 14 leaves an annular space for conveying off these cleanings under the action of the fan 12. Extending around the inner wall of the casing 14, are a plurality of ledges 16, each of which is provided with a discharge opening 17, through which the scoured grain drops to the ledge below, after it has been passed substantially once around the entire circumference of the casing 14. As shown best in Fig. 6, these openings 17 are arranged in stepped order for this purpose.

Keyed to the shaft 5 so as to be rotatable within the casing 14, is a rotor comprising a plurality of scouring disks 18, said disks being corrugated around their peripheries for a purpose to be hereinafter made clear. Said disks 18, moreover, overreach the shelves or ledges 16 with just sufficient clearance to avoid all interference therewith. The upper face of each of said corrugated disks 18 is preferably inclined downwardly and outwardly to facilitate the discharge of the grain therefrom under the action of centrifugal force in a manner to be hereinafter described.

As shown best in Figs. 3 and 4, the inner surface of the casing 14 is provided with corrugations oppositely disposed to the corrugations of the disks 18, these corrugations being adapted to scour the grain, while at the same time conveying it gradually around the shelves 16 to be deposited on the succeeding disks therebelow.

The cylindrical casing 14 is provided with a protuberant pocket 19 forming a chute around each of the discharge openings 17 for facilitating the passage of the grain through said openings to the ledges below. As shown in Figs. 1 and 5, the cylindrical wall of the casing 14 is provided with great numbers of slotted openings 20, a few only being shown to illustrate. As shown in Figs. 1 and 3, the lowermost ledge 16 is provided with its discharge 17 immediately over a discharge outlet 21 in the bottom wall of the

machine, from which leads a discharge pipe 22 for the scoured grain.

In the annular portion of the bottom wall of the machine, closing the lower end of the annular space 15, are a plurality of air inlet openings 23, through which the air rushes under the action of the fan 12 for conveying the cleanings upwardly through the wind box 11, and out through the discharge pipe 13. The wheat discharged through the spout 22 is subjected to a final action of the air by being discharged into a vertical pipe 25 which projects upwardly over a hopper 26 and communicates with an annular air space 15 above, as shown.

The operation of the machine will now be readily understood, and briefly stated, is as follows: The rotor shaft 5 having been set in rapid rotation by means of pulleys 6, the fan 12 acting to create a strong current of air upwardly through the annular space 15 into the wind box 11, and outwardly through the discharge pipe 22, the grain is introduced into the inner casing 14 through an inlet chute or pipe 24. The grain thus poured into the machine is jumbled together in the annular space between the uppermost scouring disk 18 and the outer wall of the casing 14, the oppositely disposed corrugations serving to break away the hulls and other matter by attrition. During this action, the parts of the hulls which are broken up are drawn through the slotted openings 20 into the annular space 15, and thence upwardly through the wind box 11, and discharged through the pipe 13. As this action goes on, the grain is moved circumferentially around the upper disk 18 until it reaches the uppermost discharge opening 17, through which it passes to the ledge 16 below to be acted upon in a similar manner between the corrugations of the next lower disk 18 and the casing 14. Eventually, the grain, after having been thoroughly scoured and cleansed, reaches the discharge pipe 22. At the same time, all of the finer particles, including the broken hulls, have been drawn off through the slotted openings 20 and discharged as hereinbefore described.

It is evident that the rotor can be made to comprise as many scouring disks 18 as desired. Furthermore, the upper faces of the disks 18 can be made with a close ring fit

on the ledges 16 without departing from the broad spirit of my invention.

What I claim is:

1. In a device of the character described, the combination with a scouring casing, of annular ledges disposed around the inner wall of said casing, movable scouring disks respectively overhanging said ledges, and chutes for conveying grain from one ledge to another, said chutes being open through the lateral wall of said casing.

2. In a grain scouring machine, the combination with a scouring shell provided with ledges projecting inwardly from its inner surface said ledges being provided with discharge openings, of a rotor provided with scouring disks overhanging said ledges, respectively, said disks and ledges being close enough to prevent the passage of grain therebetween, said scouring shell being provided with openings for the passage of cleanings; and means for drawing off the cleanings through said openings.

3. In a device of the character described, the combination with a casing provided with annular ledges projecting inwardly, said casing being provided with openings extending respectively on opposite sides of said ledges and said ledges being provided with peripheral openings registering with the openings in said casing, of protuberant pockets on the outer wall of said casing and covering said openings therein, and scouring disks movable relatively to said ledges, and close enough thereto to prevent grain passing therebetween.

4. In a device of the character described, the combination with a scouring shell closed at the top and provided with lateral openings for the passage of cleanings, of a plurality of ledges projecting horizontally from the inner surface of said shell; said ledges being provided with discharge openings arranged in stepped order around said shell, and a rotor within said shell and provided with a plurality of scouring disks overhanging said ledges; said disks being adapted to jumble the grain and to convey it around each ledge to the opening therein.

CHARLES SCHACHT.

In the presence of—

M. A. HALDEMAN,
M. C. HAMMON.