No. 864,209. PATENTED AUG. 27, 1907.

J. W. STOKOE.

RICE HULLER.

APPLICATION FILED MAY 4, 1907.

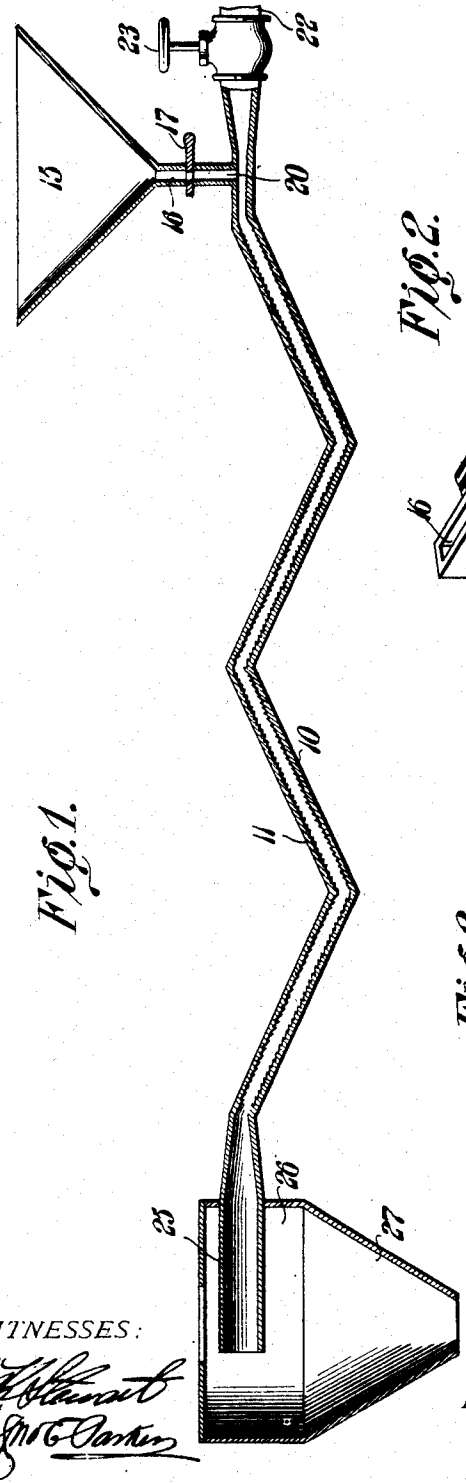

Fig. 1.

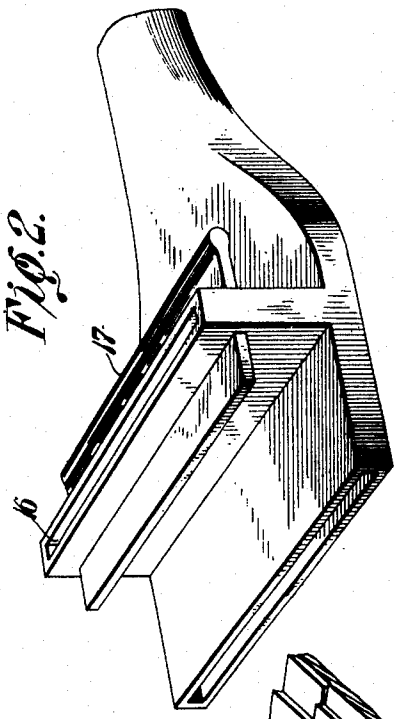

Fig. 2.

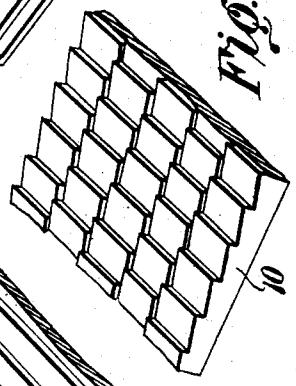

Fig. 4.

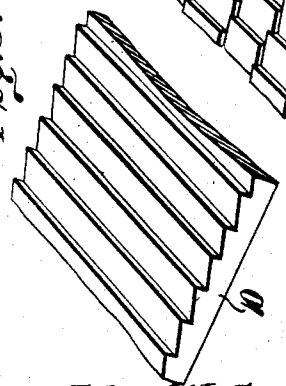

Fig. 3.

WITNESSES:

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RICE-HULLER.

No. 864,209. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed May 4, 1907. Serial No. 371,839.

To all whom it may concern:

Be it known that I, JOHN W. STOKOE, a citizen of the United States, residing at Jeanerette, in the parish of Iberia and State of Louisiana, have invented a new and useful Rice-Huller, of which the following is a specification.

This invention relates to rice hulling machinery and has for its principal object to provide a mechanism of simple construction for thoroughly and effectively removing the hulls from rice and other cereals.

A further object of the invention is to provide a device of this type in which the grain is carried along between a plurality of hulling boards having serrated or toothed surfaces against which the grain is driven with considerable force and ricochets from side to side in order to insure thorough separation of the hull.

A further object of the invention is to provide a device of this class in which a pair of hulling boards are arranged in such manner as to present a tortuous or zigzag passage through which the grain is driven by a blast of air or other fluid, the boards presenting roughened or serrated surfaces for engagement with the grain during its passage.

A still further object of the invention is to provide a device of this class in which the grain is divided into a thin sheet and forced in this form against hulling surfaces by means of a blast of air or other fluid.

A still further object of the invention is to provide a pneumatic hulling device in connection with a separator of such nature as to insure the separation of the rice and the greater portion of the hulls by centrifugal force.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a longitudinal sectional elevation of a rice huller constructed in accordance with the invention. Fig. 2 is a detail perspective view of a portion of the same showing particularly the feeding end. Fig. 3 is a detail perspective view of a portion of one of the hulling boards. Fig. 4 is a similar view of a modified form of board.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In carrying out the invention, two hulling boards 10 and 11 are arranged in slightly spaced relation to form a narrow passage through which the rice or other grain is driven by a blast of fluid. The boards may be formed in sections arranged zigzag fashion in order to form a tortuous passage, so that the grain will be driven by the blast into contact with the boards, and will bound from side to side in such manner as to insure the removal of all of the hull from the rough rice. The hulling surfaces of the boards are provided with ribs or serrations 12 presenting flat faces 13 at substantially a right angle to the direction of the blast, but the angle may, of course, be slightly altered, and instead of continuous ribs extending across the board, a plurality of spaced or scattered teeth may be employed with the same result.

The huller boards are of any desired width, and in practice will usually be of two or more feet. At the feed end the rice is introduced into the hopper 15 and passes through a discharge neck 16 having a suitable valve 17, the rice falling by gravity into a feed passage 20 of a width approximately equal to that of the huller boards, and of such height as to accommodate the thin stream or sheet of rice allowed to pass through the neck 16. To the rear of this feed passage 20 is connected an air blast tube 22 having a suitable controlling valve 23, and the air is directed in the form of a wide blast or sheet which engages with the rice and carries the same between the huller boards, the rice being carried along with great force and striking against the huller boards in order to disintegrate the hulls. The rice bounds from side to side so that all portions of the hull will strike against the roughened or serrated surfaces of the board and finally pass through a discharge neck 25 which leads into a separating hopper 26, the neck being disposed tangentially to the hopper, so that the mingled hulls and grains of rice will whirl around within the hopper under the influence of centrifugal force. The hopper is provided with a contracted discharge bottom 27 down which the grains of rice will travel by gravity, the rice clinging to the wall of the hopper owing to its acquired momentum, while the hulls will remain in the eddy formed by the current of air at or about the center of the hopper and may be carried upward to a point of discharge.

I claim:—

In a rice huller, a pair of upper and lower plates disposed in approximately parallel relation and spaced from each other, said plates being arranged to form a zigzag course, each of the plates being provided with transversely extending ribs across its entire surface, a grain feed hopper having a contracted discharge neck of a width equal to the width of said passage, a controlling valve for the neck, and an air pipe connected to the passage at a point in advance of the discharge neck.

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

JOHN W. STOKOE.

Witnesses:
J. ROSS COLHOUN,
C. E. DOYLE.