

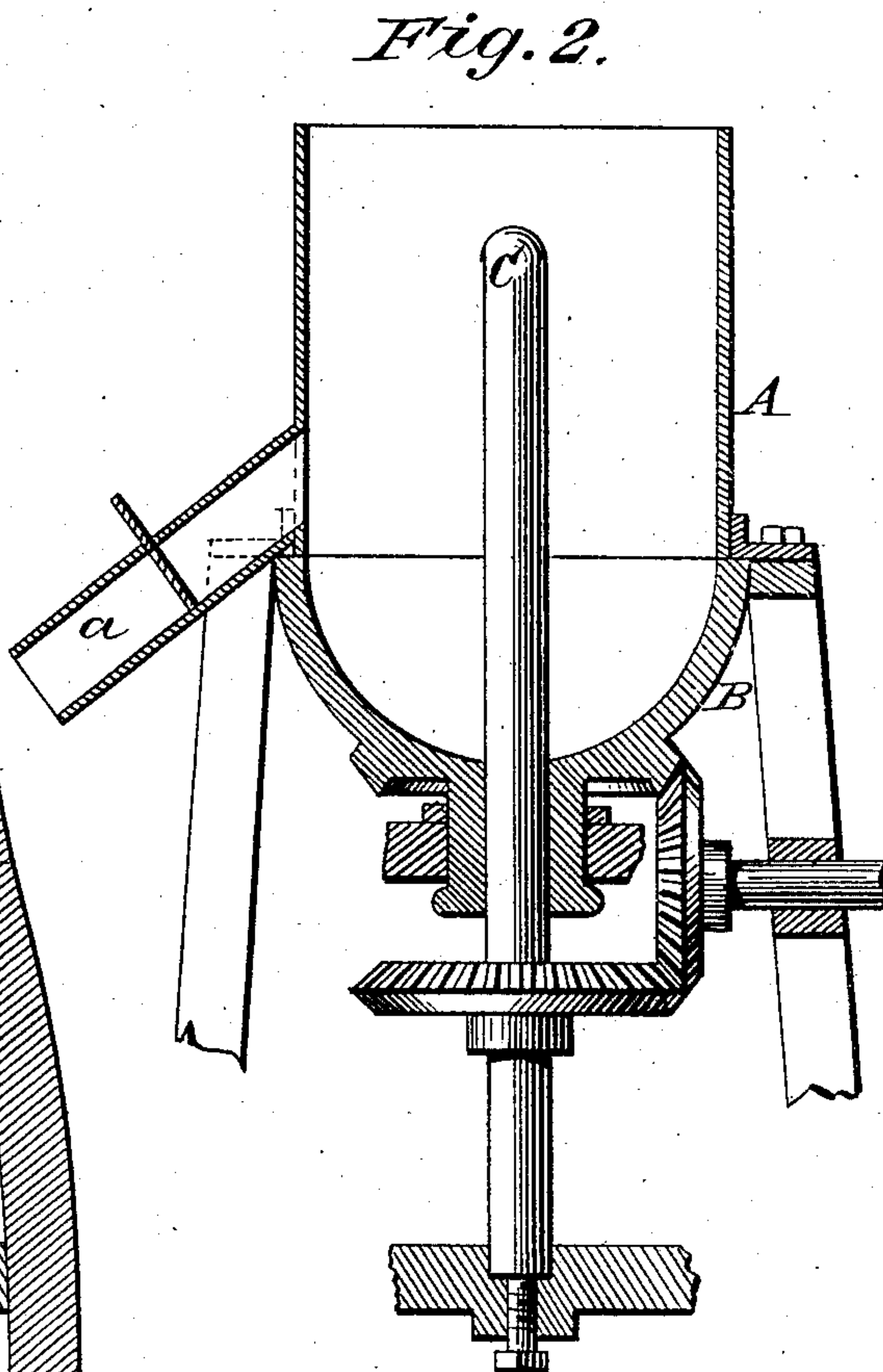
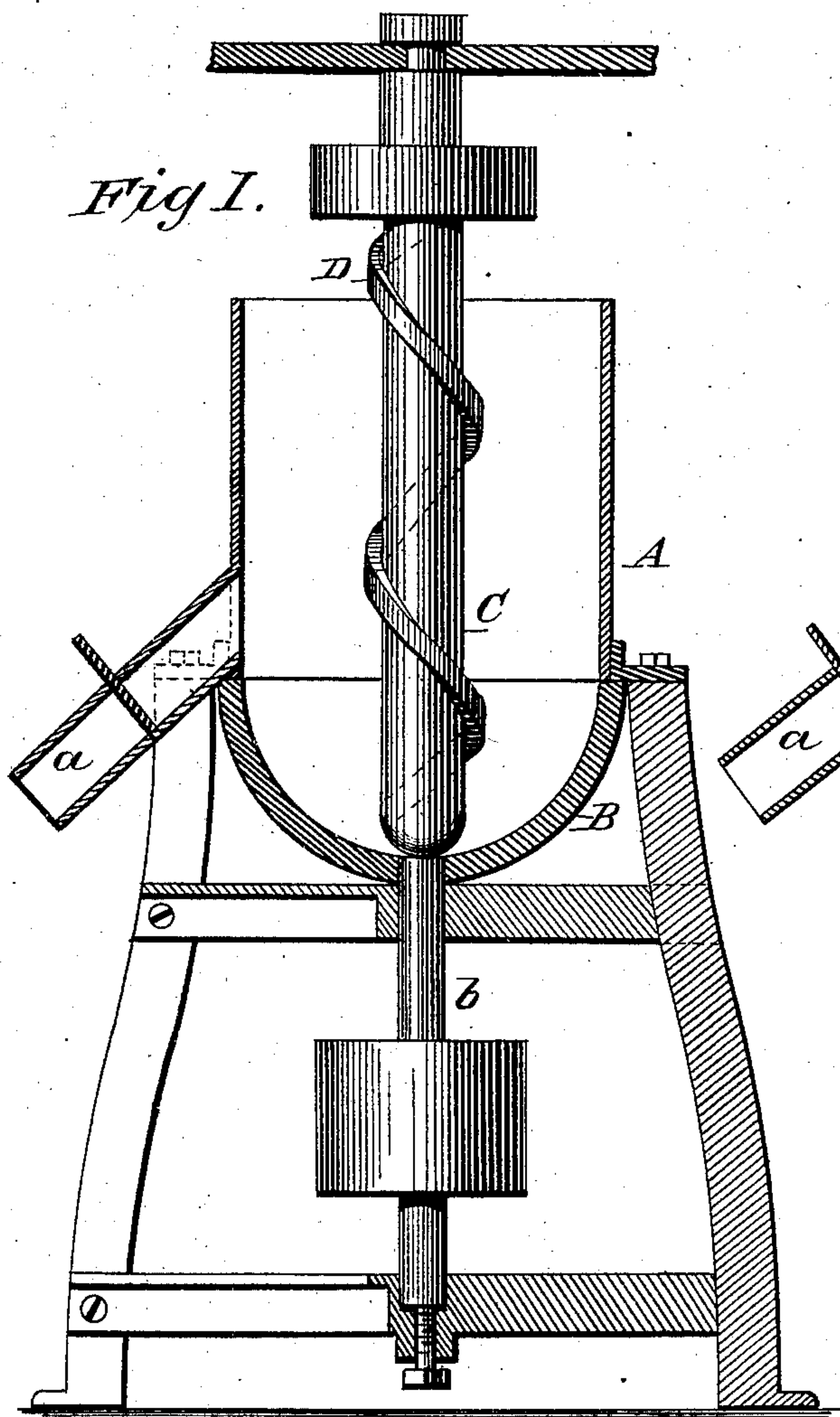
(No Model.)

F. J. SYME.

RICE MACHINE.

No. 365,451.

Patented June 28, 1887.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FREDERICK J. SYME, OF NEW ORLEANS, LOUISIANA.

## RICE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 365,451, dated June 28, 1887.

Application filed August 5, 1886. Serial No. 210,114. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK J. SYME, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Rice-Machines, of which the following is a specification.

This invention is an improved machine for treating rice to remove therefrom the cuticle, or that covering of the grain immediately within the hull.

The invention has for an object to provide a simple machine by which to remove such cuticle without to any considerable extent crushing or breaking the grains, and to accomplish such result expeditiously and thoroughly.

The invention consists in certain features of construction and novel combinations of parts, as will be described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical section of my improved rice-machine. Fig. 2 shows another form of the same in which the mechanism by which the plug or shaft is operated is arranged below the revolving bowl.

The cylinder A is fixed to a suitable support or frame. The bowl B is supported in bearings so it may be readily revolved. This is usually accomplished by securing said bowl on a shaft, b, which latter is journaled in bearings, as shown, and has a band-pulley, by which it may be geared with the drive power. It is not material, however, how the said bowl is geared with the driving power, and the connection might, if so desired, be effected by the construction shown in Fig. 2, in which the bowl has formed on it a ring of gear-teeth meshed by a bevel-gear on a drive-shaft. It is also usual to provide the cylinder A with a discharge-chute, a, through which the treated rice may be discharged. As the bowl is revolved, the rice masses up along the side of the cylinder A by centrifugal action, and it is desirable that a circulation upward and outward from the bottom and inward and downward from the top should be obtained.

In the use of machines constructed with a revolving bowl and a cylinder, substantially as described, it has been demonstrated that the circulation of the rice, &c., upward and outward from the bottom and inward and downward from the top will be impeded or retarded

by the massing of such rice or other material centrally within the cylinder. My invention seeks to prevent this massing of the grain, and, further, to provide at the same time simple means for facilitating the downward movement of the grain in the operation of the machine. I extend a plug or shaft, C, centrally into the cylinder A. In Fig. 1 the plug is shown extended from above, as is preferred, down into the cylinder and close to the bowl; but manifestly it might extend up through the bowl, as is shown in Fig. 2. Now, this plug, as will be seen, prevents the rice from massing at the center of the cylinder, and thereby causes the portion of said rice distant from the inner surface of the cylinder to move downward, as the outer part thereof is forced upward, and this circulation effects an attrition and rubbing of the rice together, which accomplishes thoroughly the desired result. By preference, I journal this plug or shaft in bearings, so that it may be revolved, and in practice revolve it by suitable connection, which may be with the drive mechanism shown and in a direction the reverse of that of the bowl. By so revolving the plug it effects a stoppage and breaking up of the circular movement of the inner portion of the grain and facilitates the downward movement thereof, as will be understood.

While ordinarily the plug, as described and as shown in Fig. 2, may give good results, it may be preferred to provide said plug with a spiral rib, D, as shown in Fig. 1. In operation this spiral rib will engage the inner portion of the rice and force it positively downward, as will be readily understood from the construction shown. This spiral rib may be continuous or unbroken, or may be broken out at intervals, forming a number of sections or wings, as will be readily understood.

While the arrangement of the mechanism shown in Fig. 1 may be preferred where there is abundance of room overhead, that shown in Fig. 2 may be preferable in locations where the head room is limited.

In Fig. 2 the extension of the bowl is hollow and the plug extends up therethrough, and such plug and bowl are driven in opposite directions by a shaft and a bevel gear-wheel meshing with bevel-gears on the bowl and plug.

Manifestly belt-gearing might be substituted



tuted for the bevel-gearing shown in Fig. 2. This might be effected by arranging the power-shaft parallel to shaft C and connecting it with shaft C and with the bowl by belts, one of such belts being crossed in order that the bowl and shaft C may be revolved in opposite directions.

While the machine is especially intended and designed for the treatment of rice, it manifestly may be used in the treatment of wheat and other grain.

Having thus described my invention, what I claim as new is—

1. The combination of the cylinder, the revoluble bowl, supports therefor, and a plug extended centrally into said cylinder, as and for the purposes specified.

2. The combination of a cylinder, a revoluble bowl, supports therefor, a plug extended centrally into the cylinder, and means whereby said plug is revolved in a direction the reverse of the bowl, substantially as set forth.

3. The herein-described machine, consisting of the cylinder, the bowl, the plug having a spiral rib, and mechanism, substantially such as described, whereby said bowl and plug are revolved in opposite directions, as and for the purposes specified.

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Witnesses:

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