

A. McCLOY & J. W. BOLGER.
PICKLING MACHINE.

APPLICATION FILED FEB. 7, 1911. RENEWED APR. 26, 1912.

1,046,315.

Patented Dec. 3, 1912.

Fig. 1.

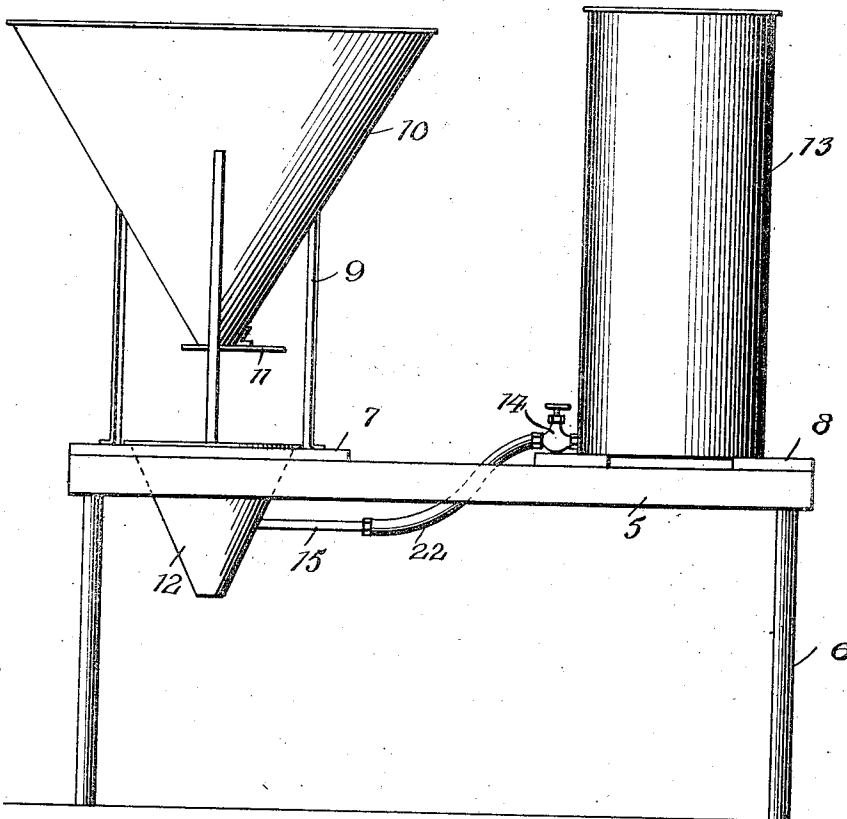


Fig. 2.

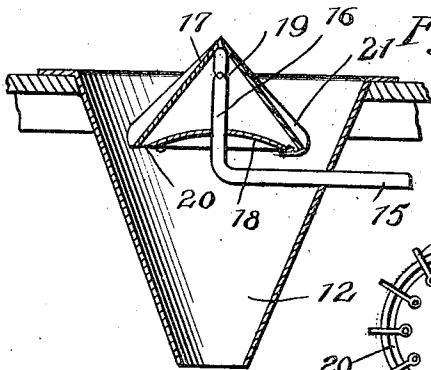


Fig. 3.

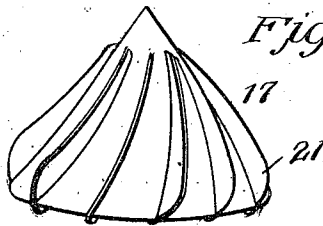
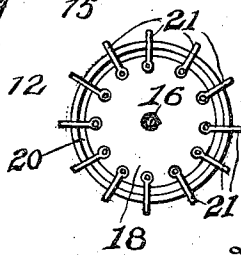


Fig. 4.



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UNITED STATES PATENT OFFICE.

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PICKLING-MACHINE.

1,046,315.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ALFRED McCLOY and JAMES W. BOLGER, citizens of the Dominion of Canada, residing at the city of Stratford, in the county of Perth and Province of Ontario, Canada, have invented new and useful Improvements in Pickling-Machines, of which the following is a specification.

This invention relates to improvements in apparatus for pickling or treating seed grain for destruction of smut germs and the like.

The object of the invention is the provision of a simple and efficient device automatically actuated to thoroughly mix the grain with water or other liquid solution in an expeditious manner.

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

In the accompanying drawings, forming part of the specification;—Figure 1 is a side elevation of the device. Fig. 2 is a detail vertical section taken through the rotor and stator. Fig. 3 is a detail perspective of the rotor. Fig. 4 is a detail sectional view showing a connection between the bottom and top of the rotor.

Similar numerals of reference are employed to designate corresponding parts throughout.

The device is shown to include a support comprising a frame 5, which is supported by legs 6 arranged at the four corners of the frame. Positioned on one end portion of the frame is a platform 7, and arranged in the opposite end portion of the frame is a similar platform 8, the inner side of which is spaced from the corresponding side of the first-named platform. Formed in the platform 7 is a centrally disposed circular opening and rising from the platform and adjacent to the side of said opening are a plurality of spaced uprights 9.

A funnel-shaped hopper is designated by

the numeral 10 and is suitably secured to the upper end portions of the uprights, its lower or reduced end being positioned above the platform 7, the said lower or reduced end having a hinged door 11.

A hollow inverted frusto-conical-shaped stator is designated by the numeral 12. This member extends through the opening in the platform 7 and at its large base is provided with a lateral flange to bear on the upper surface of the platform 7.

A liquid supply tank is designated by the numeral 13 and is positioned on the platform 8. The lower end of the tank 13 is provided with a nozzle 14. A pipe section is shown to include a horizontal portion 15 extending through an opening in the medial portion of the wall of the stator 12. The horizontal portion 15 extends inwardly to the center of the stator whence it terminates in an upwardly bent portion 16, the upper end of which extends a trifle above the plane of the platform 7.

What will subsequently be termed a rotor is shown to include a hollow cone-shaped body 17 having a concaved base or bottom 18. The base or bottom 18 is provided with a central opening for the loose reception of the upwardly bent portion 16 of the pipe section, the upper end of the said upwardly bent portion 16 being closed and bearing on the upper end of the body 17. It will be observed now by reference to the drawings that the upwardly bent portion 16 is provided a trifle below its upper end with a plurality of outlet openings 19 and it will be further observed that the actual length of the rotor is somewhat less than the length of the upwardly bent portion 16 of the pipe section so that when the rotor is supported as shown in the drawings its lower end will be spaced from the horizontal portion 15 of the pipe section. The diameter of the base of the rotor is somewhat less than the distance between two diametrically opposite points at the medial portion of the inner face of the stator so that when the motor is positioned as shown in the drawings it will be free to rotate in the stator without binding on the latter. A plurality of outlet openings 20 are formed adjacent to the outer edge of the base or bottom 18, the function of which will appear later.

By reference now to Fig. 3 it will be seen that the rotor is exteriorly provided with a plurality of curved blades 21, the said blades

extending longitudinally of the rotor from the lower edge of the bottom thereof to a point adjacent the apex. The lower terminals of the blades 21 are secured to the edges of the base 18 and form partitions to divide the openings 20. The blades 21 are arranged in spaced relation and are similarly curved. Connection between the outer end of the horizontal portion 15 of the pipe section and the nozzle 14 is established by means of a flexible tube 22.

In the operation of the device and assuming the hopper 10 is filled with seed grain and the tank 13 filled with liquid the valve in the nozzle 14 is opened, whereupon the water will flow through the tube 22 and pipe section and into the rotor from whence it will flow into the stator through the openings 20. Upon opening the hinged door 11 of the hopper the grain will fall into the spaces between the blades 21 and during this downward movement by bearing on the said blades will operate to rotate the rotor. Remembering now that water is flowing through the outlet openings 20, the action of the rotor will tend to throw the water outwardly so that the grain falling from the rotor will mix with the water and with the latter fall in a mixed state through the opening at the lower end of the rotor.

From the foregoing, it is evident that we have provided a device which is comparatively simple in structure and inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

We claim:

1. A grain pickling machine comprising a support, a hopper connected thereto and arranged in spaced relation to the said support, a stator connected to the support and located below and in alinement with the hopper, a liquid supply tank connected to the stator, and a rotor supported in the stator and operated by the grain falling into the stator from the hopper.

2. A grain pickling machine comprising a support, a hopper connected thereto and arranged in spaced relation to the said support, a stator connected to the support and arranged below and in alinement with the hopper, a liquid supply tank positioned on the support above the stator, an outlet pipe leading from the tank into the stator, a rotor arranged in the stator, and supported by the outlet pipe and operated by the grain falling into the stator from the hopper.

3. A grain pickling machine comprising a support, a hopper connected thereto and arranged in spaced relation to the support, a stator connected to the support and located below and in alinement with the hopper, a rotor arranged in the stator, a liquid supply tank, an outlet pipe leading from the tank into the stator and having an up-

wardly bent portion bearing on the upper end-portion of the rotor, and further provided at a point below its upper end with a plurality of outlet openings.

4. In a grain pickling machine, the combination with a support, a hopper arranged thereon, a liquid supply tank, and a stator positioned below the hopper and in alinement therewith; of an outlet pipe connected at one end with the supply tank and extending through the stator and terminating in an upwardly bent portion having a plurality of outlet openings, and a cone-shaped rotor having a bottom provided with a central opening for the upwardly bent portion of the outlet pipe, and its upper end portion bearing on the upper end of said outlet pipe, and further provided with a plurality of outlet openings, for the purpose described.

5. In combination, an inverted conical member formed hollow, fluid distributing means extending through the conical member and forming a support, and a rotor centrally and loosely arranged for rotation on the support and adapted to distribute material against the wall of the hollow conical member.

6. In combination, a hollow conical member, a fluid distributing pipe forming a support arranged in the hollow conical member, a conical distributing device centrally and loosely mounted for rotation on the support and having outlet openings in its basal portion, and blades secured on said distributing device.

7. In combination, a hollow member, a support arranged within the hollow member, a conical distributing device freely rotatable on the support and provided with openings in its basal portion, said device being formed with surface projections and adapted to distribute material against the wall of the hollow member, and means for supplying fluid through the openings in the device.

8. In combination, a hollow member, a support having a vertical portion arranged within the hollow member, a conical member having its apex mounted on the vertical portion of the support and having a base surrounding said support, said base having openings therein, blades mounted on the conical member, and means for supplying fluid to the openings.

9. In combination, a conical hollow member, a distributing hopper arranged over the member, a support having a vertical portion provided with openings in its upper end and arranged in the conical member, and a bladed distributing device rotatable on the upper end of the vertical portion of the support and having outlet openings in its basal portion, said support being adapted to supply fluid to the openings.

10. In a pickling device, a hollow stationary member, a fluid supply pipe extend-

ing into the hollow stationary member and forming a support, and an inverted conical member mounted at its apex for rotation on said support and provided with a series of
5 openings in its base and a series of external blades leading from said apex to said openings.

In testimony whereof we affix our signatures in presence of two witnesses.

ALFRED McCLOY.

J. W. BOLGER.

Witnesses:

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