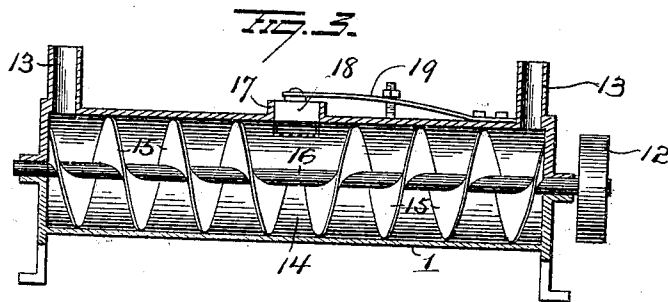
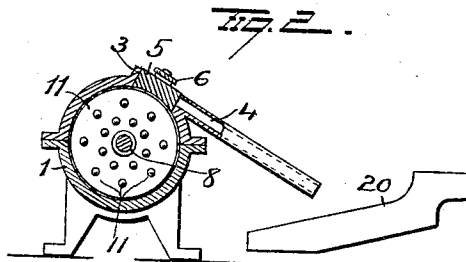
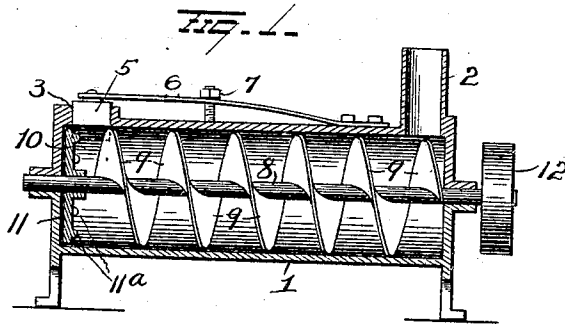


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MACHINE FOR FACILITATING THE SEPARATION OF GARLIC FROM WHEAT.
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MACHINE FOR FACILITATING THE SEPARATION OF GARLIC FROM WHEAT.

979,186.

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To all whom it may concern:

Be it known that I, JOHN WILLIAM McGEHEE, of Martin, in the county of Weakley and State of Tennessee, have invented certain new and useful Improvements in Machines for Facilitating the Separation of Garlic from Wheat; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for facilitating the separation of garlic from wheat.

The seed of garlic or onion is approximately the size and weight of wheat grain and it is therefore not feasible to attempt the separation of one from the other by means of the ordinary screening operations nor is it desirable to attempt the crushing of the garlic by passing the mixed garlic and wheat between rolls. It is necessary however, in order to separate the garlic from the wheat that the garlic shall be crushed without mashing the wheat, in order that it may be in condition to remove it from the wheat by subsequent cleaning methods which may involve the use of air blasts or other devices commonly employed in grain cleaning or scouring mechanism.

The object of my invention is to provide means whereby the mixed wheat and garlic can be subjected to a pressure which will be sufficient to crush the garlic through the medium of the forcible engagement of the wheat grains therewith while the mixture of wheat and garlic are subjected to agitation simultaneously with the pressure above alluded to.

A further object is to so construct the machine that the degree of pressure to which the mixed wheat and garlic are subjected during agitation, can be accurately regulated.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a machine embodying my improvements. Fig. 2 is a transverse sectional view of the same, and Fig. 3 is a longitudinal sectional view

illustrating a modified construction embodying my invention.

1 represents a cylinder or container provided at or near one end with an inlet spout or hopper 2 and in proximity to the other end with an outlet or discharge opening 3 which communicates with a discharge duct 4. The outlet or discharge opening 3 is normally closed by means of a valve or gate 5 held in position by yielding means, such as a spring 6. This spring is secured at one end to the cylinder 1 and in order to regulate its tension and consequently the degree of pressure within the cylinder necessary to open the valve, an adjusting device 7 is attached to the cylinder and made to engage the spring at a point between the ends of the latter.

A shaft 8 is mounted in suitable bearings at respective ends of the cylinder and to this shaft a worm conveyer 9 is fixed. The conveyer 9 extends from the inlet end of the cylinder to a point somewhat removed from the opposite end so that at the outlet end of the cylinder, a chamber 10 is formed and this chamber communicates directly with the outlet or discharge opening 3 in the wall of the cylinder. The outer wall of the chamber 10 is formed by means of a disk 11 rigidly secured to the shaft 8 in proximity to the adjacent end wall of the cylinder, and provided with knobs or projections 11^a.

One end of the shaft 8 is provided with a pulley 12 for the accommodation of a belt from any suitable source of power.

Mixed grain or garlic and onion will be fed through the inlet spout or hopper into one end of the cylinder and will be moved by the conveyer toward the opposite end of the cylinder and pressed against disk 11 at the opposite end of the cylinder. The disk 11 which forms an abutment for the mixed wheat and garlic, being secured to and rotating with the conveyer worm 9, will prevent clogging of the grain in the chamber 10 and undue friction of the shaft and its bearings,—both of which results might otherwise occur to a greater or less degree if the disk 11 were omitted and the fixed end wall of the cylinder were utilized as one wall of the chamber 10. The yielding valve or gate 5 will hold the mixed grain and garlic forced forwardly by the worm conveyer to

the chamber 10, until sufficient pressure has been developed within the cylinder to cause the engagement of the grains of wheat, while both the wheat and garlic are in agitation, with the garlic to tear and crush the garlic. After the degree of pressure within the cylinder shall have exceeded that necessary to effect the tearing and crushing of the garlic by the engagement therewith of the grains of wheat during agitation, the valve or gate 5 will be forced from its seat and the mixed wheat and crushed garlic will be permitted to escape through the discharge opening 3 to the duct 4,—by which latter it will be conveyed to suitable cleaning mechanism for removing the crushed garlic and hulls from the wheat.

In the construction shown in Fig. 3 the cylinder is provided at both of its ends with inlet spouts or hoppers 13 and instead of forming an open chamber such as 10 at one end of the cylinder, an open chamber 14 is formed at the center of the cylinder between the inlet ends of right and left hand worm conveyers 15 secured to the shaft 16. In this modified construction the discharge opening 17 is located centrally between the ends of the cylinder and communicates with the open chamber 14 between the inner ends of the respective worm conveyers 15. The discharge outlet 17 is closed by a valve or gate 18 normally pressed to its seat by an adjustable spring 19, the same as with the construction shown in Fig. 1. In the use of the modified construction shown in Fig. 3, the mixed grain and garlic is fed into both ends of the cylinder and will be agitated and moved toward the central chamber 14. The movement of the mixed grain and garlic in opposite directions from respective ends of the cylinder to the central chamber 14 will cause sufficient pressure to effect the crushing and tearing of the garlic by the action thereof of the wheat grains,—each of the worm conveyers 15 in this case acting as an abutment for the other in substantially the same manner as the disk 11 acts as an abutment for the mixed grain and garlic forced toward the end of the cylinder by the conveyer as shown in Fig. 1.

Any suitable cleaning mechanism or device might be employed and in the drawings I have merely indicated such a device diagrammatically at 20.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to restrict myself to the precise details herein set forth.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is,—

1. A machine for facilitating the separation of garlic from grain, comprising a con-

tainer having a smooth interior surface and provided with an inlet and an outlet, said container being closed between the inlet and outlet, means for moving mixed grain and garlic from the inlet toward the outlet, and a normally closed yielding gate cooperating with said outlet to sufficiently retard the flow of grain through the container to cause the garlic to be torn by contact of the grain therewith during the passage of the mixed grain and garlic from the inlet to the outlet of the container.

2. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, means for forcing mixed grain and garlic from the inlet to the outlet of the container, means cooperating with the outlet to retard the flow of grain and garlic through the container, and means movable with the forcing means and spaced therefrom in proximity to the outlet to prevent clogging at the outlet.

3. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, a yielding valve or gate normally closing the outlet, means within the container for forcing mixed grain and garlic toward the outlet, and an imperforate abutment located adjacent to the outlet and movable with said forcing means but spaced from the adjacent end thereof.

4. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, a yielding valve or gate normally closing the outlet of the container, a shaft passing through the container, a conveyer fixed to said shaft and extending from the inlet of the container to force a mass of mingled grain and garlic toward the outlet, and an imperforate abutment fixed to said shaft and spaced from the conveyer and forming a chamber communicating with said outlet.

5. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, means within the chamber for forcing material from the inlet to the outlet, a yielding valve or gate normally closing said outlet, means for adjusting the tension of said yielding gate, and an imperforate abutment movable with and spaced from the adjacent end of the forcing means near the outlet of the container.

6. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided in proximity to its respective ends with inlet and discharge openings, a yield-

ing valve normally closing the discharge
opening; a shaft passing through said con-
tainer, a worm conveyer fixed to said shaft,
and an imperforate disk or abutment fixed
5 to the shaft and spaced from one end of the
worm conveyer to form a chamber communi-
cating with the discharge opening.

In testimony whereof, I have signed this
specification in the presence of two sub-
scribing witnesses.

JOHN WILLIAM McGEHEE.

Witnesses:

A. J. McGEHEE,

W. A. McGEHEE.