

(No Model.)

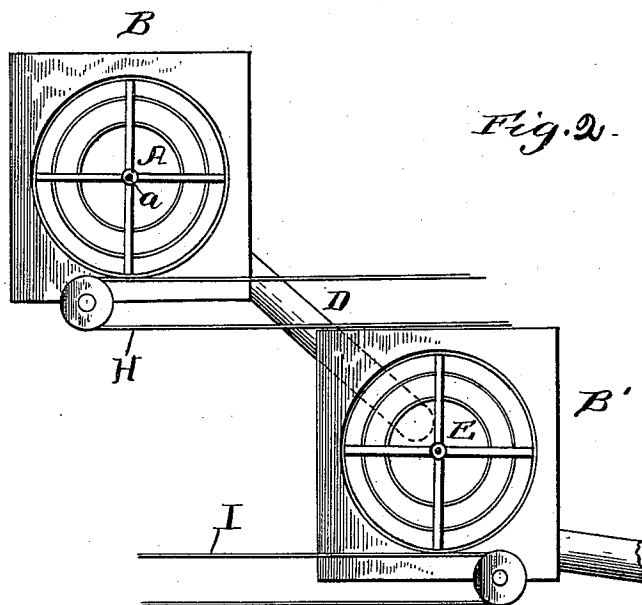
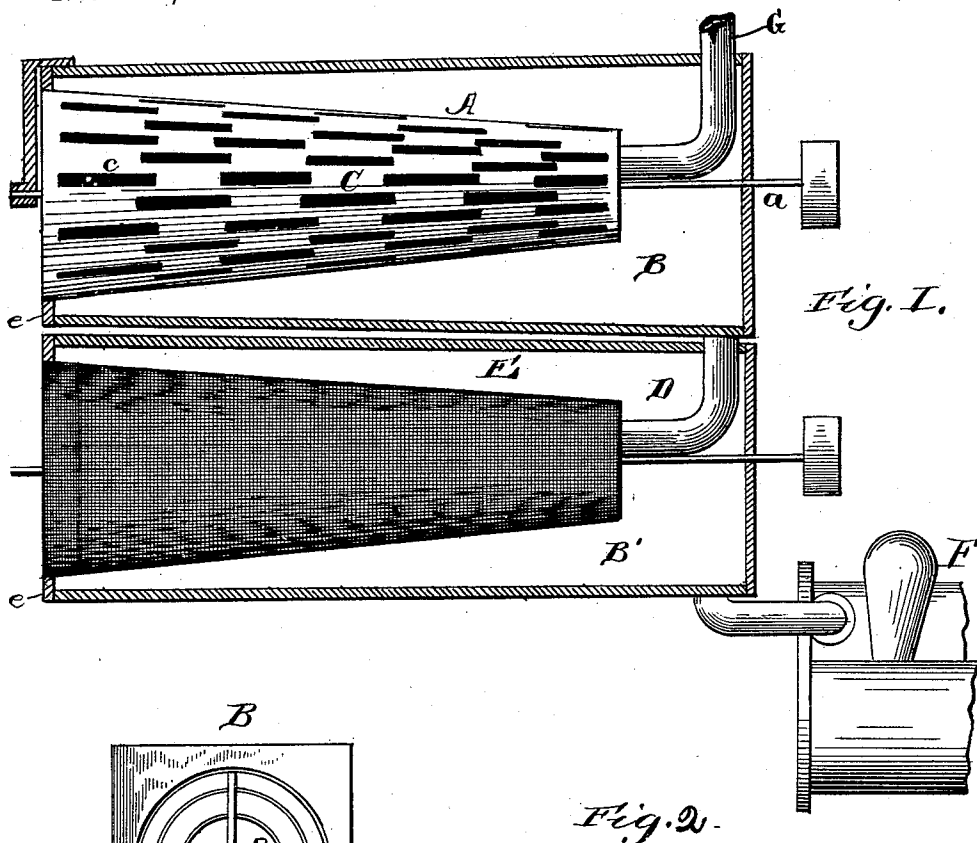
2 Sheets—Sheet 1.

E. J. POPE.

APPARATUS FOR SEPARATING GLUTEN FROM SLAUGHTER HOUSE WASHINGS.

No. 467,312.

Patented Jan. 19, 1892.



Witnesses:
J. B. McGivver.
W. F. Burkhard

Inventor:
Edward J. Pope
By his Attorneys,
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

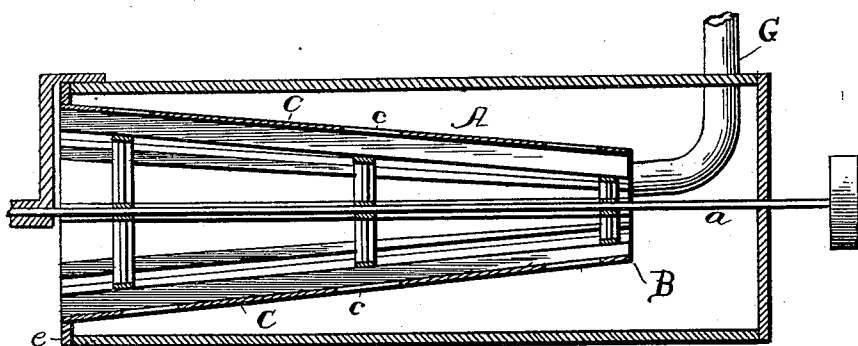
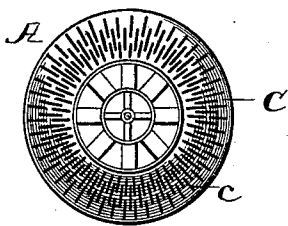


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD J. POPE, OF EAU CLAIRE, WISCONSIN.

APPARATUS FOR SEPARATING GLUTEN FROM SLAUGHTER-HOUSE WASHINGS.

SPECIFICATION forming part of Letters Patent No. 467,312, dated January 19, 1892.

Application filed March 27, 1891. Serial No. 386,652. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. POPE, a citizen of the United States, and a resident of Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented certain new and useful Improvements in Apparatus for Separating Gluten from Slaughter-House Washings; 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.

My invention relates to improvements in an apparatus for separating gluten from slaughter-house washings; and it has for its object to prepare such slaughter-house washings to effect the expeditious and economic separation of the gluten therefrom. The process and means employed for carrying the process into effect are especially designed for use in connection with the process and apparatus shown and described in Letters Patent of the United States, No. 445,055, issued to Rudolph Giebertmann on January 20, 1891.

In the present invention I aim to separate the large refuse matter from the water and smaller particles contained in the washings from slaughter-houses and bring the washings to such a condition that they may be readily submitted to the process of separation described in the above-mentioned Letters Patent.

It has been found by practical experience that the washings which accumulate in slaughter-houses during the dressing operation can be disposed of and put to practical use by submitting the washings to a proper process for separating the gluten from the water and other products. When this is accomplished, the gluten is precipitated from the washings and forms a useful article of merchandise as a fertilizer, and the water, which has thereby been cleansed and purified, may be run off to any convenient and desirable place without giving forth noxious and unhealthful odors.

The term "gluten" is used to designate the fatty substance composed of blood, fat, &c., which accumulates in slaughter-houses; and this invention is designed to separate the large particles of straw, grain, dirt, &c., from the washings before subjecting the same to the separating process described in Giebert-

mann's Letters Patent. It is well known, however, that the washings contain, besides water, blood, fat, &c., a certain quantity of large particles of inorganic matter—such as straw, grains, and many varieties of dirt—and it is desirable to dispose of this matter before subjecting the washings to the process of separating the gluten, as the apparatus used in the latter operation is of a construction especially adapted for receiving liquids only. To accomplish this object I first conduct the washings into a conical screen, which is provided with longitudinal slots in its periphery through which the smaller particles of matter and the liquids pass when the screen is revolved, and the larger particles of matter are discharged through the larger end of the screen to be conveyed away. The liquid, straw, &c., are then conducted into another conical screen, which is covered with fine wire-cloth, and after passing through such second screen the liquid containing water, &c., is conducted to the force-pump, from which it is passed into the apparatus which separates the gluten from the liquid and cleanses the water.

To enable others to more readily understand my invention, I have illustrated the apparatus in the accompanying drawings, in which—

Figure 1 is a front elevation of the screens and their connections. Fig. 2 is an end elevation of the invention. Fig. 3 is a sectional elevation of one of the screens and its containing-tank, and Fig. 4 is an end elevation of one of the screens with the tank omitted.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the upper conical screen, which is mounted on a shaft *a* and journaled in bearings in a tank or box B in which this screen is inclosed. This tank can be made of any size and material; but the bearings of the shaft *a* are placed sufficiently high to leave a sufficient space beneath the screen to receive the liquid.

The screen A consists of a suitable conical-shaped frame covered with sheet metal of any preferred kind, and this covering C is provided with longitudinal slots *c* of any desired size and spaced at suitable intervals. One of these screens may generally be found sufficient to answer the purpose of my invention; but to insure better results I prefer to use

several screens arranged one above the other communicating with each other by suitable pipes in some cases. The larger end of the screen A extends through the end of the tank or box, and for this purpose the end of the box is provided with a circular opening in which the screen fits snugly; but a flange *e* is provided beneath the end of the cylinder to prevent the liquid contained therein from escaping. A pipe G extends into the smaller end of the screen, by which the washings are conducted into the screen, which is revolved by a suitable connection with the shaft *a*, and as the water and small particles of matter are passed through the slot *c* into the box B the larger particles pass to the larger end of the screen and drop upon a conveyer H, arranged beneath the box, and they are conducted to any desired place. The tank B is tilted or inclined slightly toward the smaller end of the screen, and the liquid in the tank is conducted through a pipe D to the smaller end of the second or lower screen E. This screen E is constructed substantially as the upper screen A, except that the frame is covered with the wire-cloth, and I also use several of these screens when it is found desirable. After the liquid percolates through the conical screen to the tank or box B' it is conveyed to a pump F and then forced into the apparatus and submitted to the process of separating the gluten from the water, as will appear by reference to the patent hereinbefore referred to. All the larger matter which cannot pass through the cloth covering of the screen E will drop out of the larger end of said screen and be carried away by a conveyer I, arranged beneath the same. This may be used in a variety of ways for fertilizer or otherwise.

From the above description it will be seen that the essential features of my invention consist first in conducting the slaughter-house washings to the interior of a conical-shaped screen and revolving the same, which causes the smaller particles and water to drop into the box containing the screen, and the larger particles are passed through the open larger end of the screen and conducted away on a conveyer H, provided for that purpose.

The liquid and matter which have fallen into the box are then conducted through a suitable pipe to a second screen arranged in a box below the first screen, and the operation is then substantially similar to that of the first screen, except that this cylinder being covered with wire-cloth the liquid passes through the screen to the box and is substantially free of the larger refuse matter and contains only the matter which is held in suspension therein.

This liquid is then forced through a suitable apparatus and subjected to the process which separates the gluten from the water, and for this purpose I prefer to use the apparatus employed in the aforementioned patent, although any other desirable apparatus and process may be used.

I am aware that changes in the form and

proportion of parts and details of construction can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such changes in the apparatus as fairly fall within the scope of my invention.

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

1. In an apparatus for separating gluten from slaughter-house washings, the combination of separate tanks arranged one above the other, a primary separating-screen arranged in the upper tank and having its surface formed with longitudinal slots, a secondary screen covered with foraminous material and situated in the lower tank, and a pipe or conduit leading from the bottom of the upper tank and discharging into one end of the secondary screen, substantially as described.

2. In an apparatus for separating gluten from slaughter-house washings, the combination of these separate tanks arranged one above the other, a primary separating-screen arranged in the upper tank and having its discharge end opening through one of the ends of said tank in which it is located, a secondary screen located in the lower tank and having one end thereof extending through said tank, and the pipe or conduit leading from the bottom of the upper tank and discharging into the lower screen, substantially as described.

3. In an apparatus for separating gluten from slaughter-house washings, the combination of the separate tanks arranged one above the other, the independent rotary screens arranged, respectively, in the upper and lower tanks and discharging through the ends thereof, the conveyer (one or more) below the discharge ends of the screens, and the supply pipes or conduits which discharge into the receiving ends of the screens, substantially as described.

4. In an apparatus for separating gluten from slaughter-house washings, the combination of these separate tanks arranged one above the other, a primary conical screen supported in the upper tank with its discharge end opening through one end of the tank and provided with the series of longitudinal slots, a secondary screen covered with foraminous material and supported in the lower tank to discharge through one end thereof, the separate conveyers below the discharge ends of the respective screens, a supply-pipe for the upper screen, a separate pipe leading from the bottom of the upper tank to the receiving end of the lower screen, and the pump having the pipe connection with the bottom of the lower tank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD J. POPE.

Witnesses:

W. S. BERKSHIRE,
GEO. A. COBB.