No. 659,265. Patented Oct. 9, 1900.

J. C. W. STANLEY.

APPARATUS FOR HEATING AND DAMPENING OLEAGINOUS MEAL.

(Application filed Aug. 21, 1899.)

(No Model.)

FIG. 2.

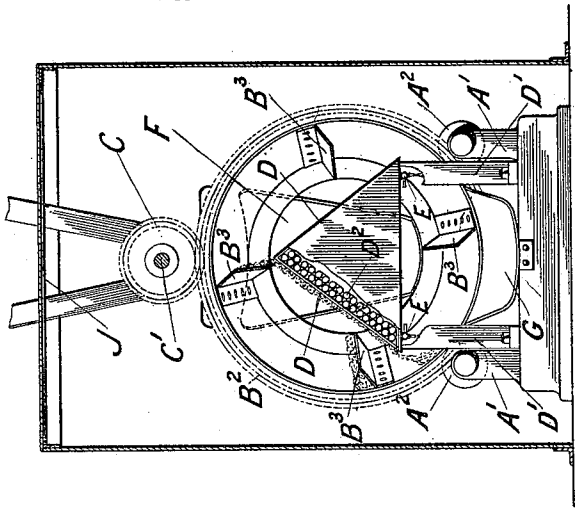
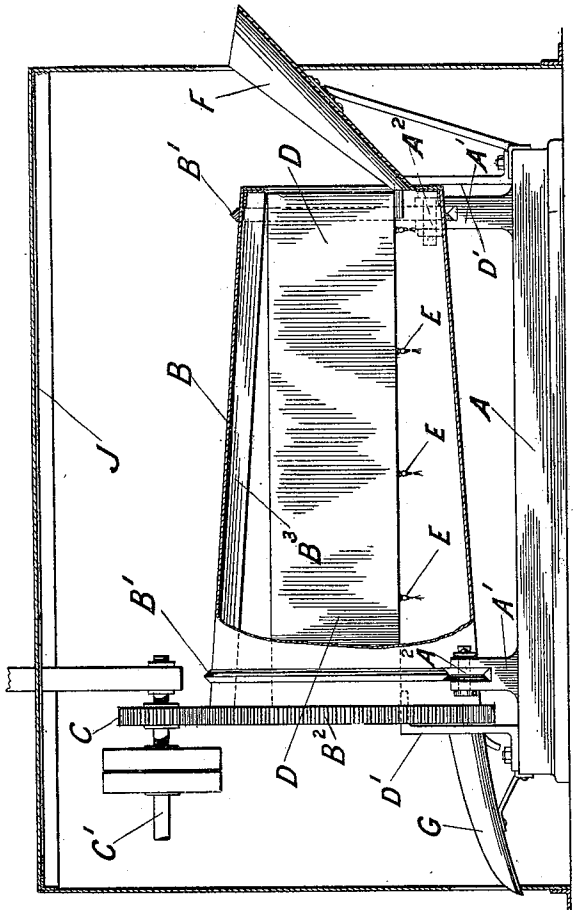


FIG. 1.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN CHARLES WILLIAM STANLEY, OF LONDON, ENGLAND, ASSIGNOR TO THE COTTON SEED OIL SYNDICATE, LIMITED, OF SAME PLACE.

APPARATUS FOR HEATING AND DAMPENING OLEAGINOUS MEAL.

SPECIFICATION forming part of Letters Patent No. 659,265, dated October 9, 1900.

Application filed August 21, 1899. Serial No. 728,006. (No model.)

To all whom it may concern:

Be it known that I, JOHN CHARLES WILLIAM STANLEY, a subject of the Queen of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Apparatus for Heating and Dampening Oleaginous Meal, (for which I have made application for Letters Patent in Great Britain under No. 15,958, dated August 4, 1899,) of which the following is a specification.

This invention relates to apparatus for heating and dampening oleaginous meal generally, but particularly for heating and dampening cotton-seed meal before pressing for the extraction of the oil. The heating is preferably effected by causing the meal to fall upon a hot inclined surface or plate and the dampening by causing a jet or jets of steam to act upon the meal as it falls from the inclined surfaces.

In the accompanying drawings, Figure 1 is an elevation, partly in longitudinal central section, and Fig. 2 is an end view, of one form of apparatus constructed according to this invention.

Like letters indicate like parts throughout the drawings.

A pedestal A is provided with two or more pairs of uprights A′, which carry rollers A^2 in their upper ends. A drum B in the form of a truncated cone is mounted upon these rollers and is prevented from having endwise movement by the provision of bands B′, of triangular cross-section, on its exterior periphery, which engage with corresponding grooves formed in the rollers A^2. The drum is rotated by means of a pinion C, carried on the driving-shaft C′, gearing with a driving-ring B^2, fixed on any convenient part of the drum B. Vanes B^3 are provided on the inner periphery of the drum for the purpose hereinafter described. Each of these vanes is formed of an angle-iron or of sheet metal bent at an obtuse angle, one arm of the angle being bolted or otherwise fixed to the inside of the drum, the other arm forming an acute angle, preferably of about sixty degrees with the periphery and constituting the vane proper. The vanes are all arranged in the same sense—*i. e.*, their ends point toward the direction of rotation of the drum, preferably in planes parallel to its axis. They may, however, be arranged more or less helically. Within the drum, but distinct therefrom, is the hot surface or heater, hereinbefore referred to, which preferably comprises two plates D, extending for substantially the whole length of the drum and forming a ridge presented toward its upper interior portion. The heater is carried on the supports D′, which project out of the open ends of the drum B. The plates are heated by means of the stack of steam-pipes D^2, arranged contiguous to them and within the angle formed by their junction. Jet-nozzles E are arranged at any desired intervals in proximity to the heater and are adapted to eject steam into the heated meal falling from the latter. The steam for supplying the jet-nozzles may conveniently come from the same source as that supplying the heater.

A hopper or other inlet F for the material to be treated is arranged at the smaller end of the drum B, and an exit device G is provided at the opposite end.

In operation steam is first admitted within the steam-pipes D^2 and to the nozzles E. The drum is now revolved, and the meal to be treated is admitted to the smaller end of the drum and, owing to the conical shape and to the revolution of the latter, gradually travels toward the exit. As the drum revolves the vanes B^3 carry the meal up and drop it upon the heater D. As it falls over the lower edge of the latter it comes under the action of the steam issuing from the nozzles E, and is thereby dampened. It will be observed that the heat of the plates, the amount of dampening fluid, the speed of the drum, and the amount of meal under treatment are all quantities which can be regulated, and hence the quality of the product can be controlled with nicety.

A casing J is preferably provided to inclose the whole apparatus in order to check heat losses.

What I claim is—

1. In an apparatus for heating and dampening oleaginous meal, the combination of a conical drum, means to rotate it, means to feed the meal to be treated to its smaller end, inclined surfaces within the drum and meeting at their upper edges, means to heat said surfaces, vanes secured to the interior face of the drum to carry the meal upwardly and dis-

charge it upon the inclined surfaces, and means to dampen the meal as it falls from the inclined surfaces, substantially as set forth.

2. In an apparatus for heating and dampening oleaginous meal, the combination of a conical drum, means to rotate it, means to feed the meal to be treated to the smaller end of the drum, inclined plates supported within the drum and meeting at their upper edges, vanes secured to the interior surface of the drum to carry the meal upwardly and discharge it upon the inclined plates, a stack of steam-pipes supported between the plates to heat the latter, and nozzles connected to said steam-pipes to discharge steam upon the meal as it falls from the plates, substantially as set forth.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

JOHN CHARLES WILLIAM STANLEY.

Witnesses:
FRED C. HARRIS,
T. J. OSMAN.