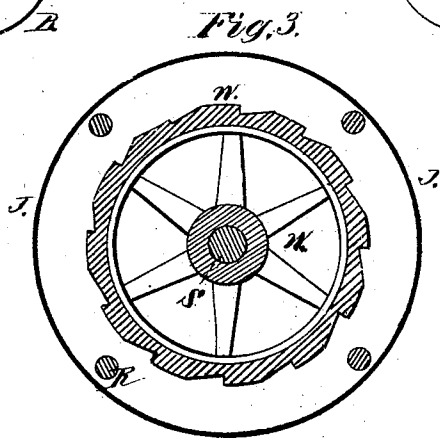
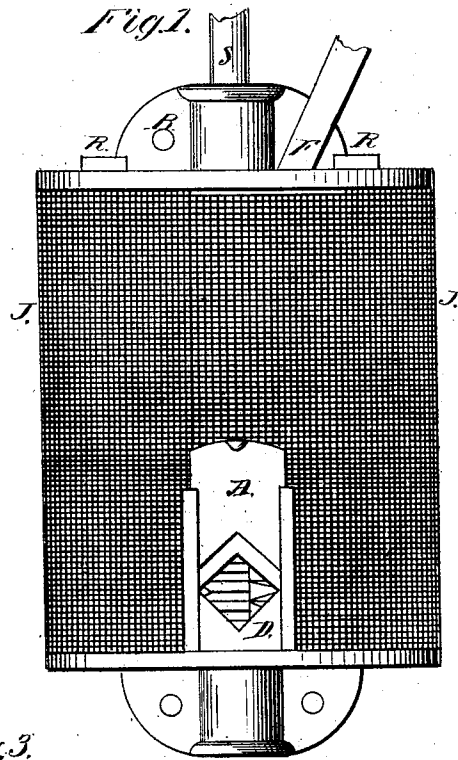
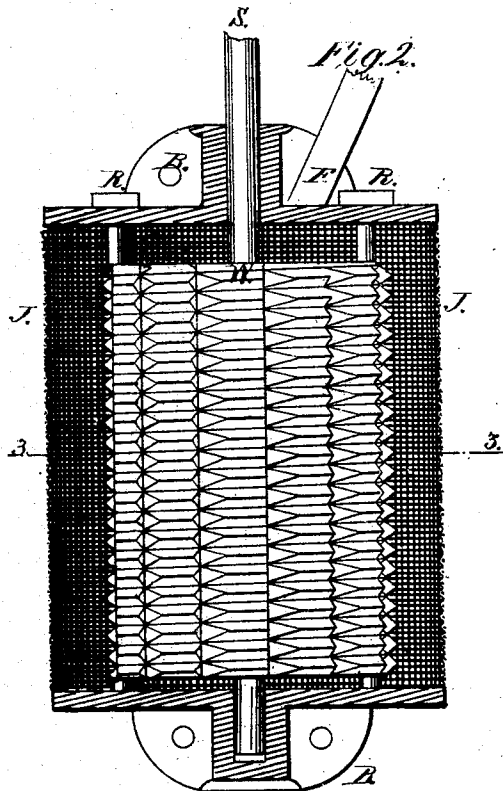


N. A. CONKLIN.

Machines for Removing the Germs from Corn.

No. 149,101

Patented March 31, 1874.



Witnesses

James W. Boutant
George H. Bedell

Inventor

Nathaniel A. Conklin

UNITED STATES PATENT OFFICE:

NATHANIEL A. CONKLIN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR REMOVING THE GERMS FROM CORN.

Specification forming part of Letters Patent No. **149,101**, dated March 31, 1874; application filed September 10, 1873.

To all whom it may concern:

Be it known that I, NATHANIEL A. CONKLIN, of Brooklyn, New York, have invented a Machine for Chitting Corn, Comminuting Glue, Gums, &c., of which the following is a specification:

My invention consists of an improved machine for depriving maize of its germ or chit before grinding, by submitting it, under a variable pressure, to the action of a drum armed with numerous teeth rapidly revolving within an open-work jacket and a series of longitudinal rods.

In the accompanying drawings, J represents a stationary cylindrical jacket of wire-cloth, held in place between a top and bottom plate and bearings B B by the vertical rods R R passing inside the jacket, to which they are securely fastened. The bearings B B have bolt-holes to secure them to a stout frame. Within the jacket, secured to the spindle S, is a drum, W, of iron, steel, or other hard material, having a screw-thread cut on its whole length of, say, five threads to the inch. This thread is intersected at intervals by vertical slots of, say, one-eighth of an inch in depth, forming a series of teeth on each thread. A uniform action is thus secured, as every tooth traverses a different path, and the space between their paths is less than the hundredth part of an inch. The drum is preferred hollow. The rods are preferred square, although shown in the drawings as round. A motion of, say, six hundred revolutions per minute is given to the drum. The corn enters freely at E, and fills the space—less than an inch in width—between the drum and the surrounding jacket, which is furnished with a restricted discharge at D. The pointed teeth on the drum, being of a size and shape to correspond to the average germ of the corn, rapidly eat out this soft substance, while the space between the teeth and the jacket is sufficient to allow the grains to turn when the teeth strike their harder parts. The rods R R within the cham-

ber serve to prevent a rotary motion being communicated to the grain, and by obstructing this movement they produce inequality in the pressure, which assists the presentation of all the grains in turn to the action of the drum.

In this machine but little heat is generated, and as it operates upon the grain in a thin layer against an open-work jacket, most of that is immediately given off.

I do not claim teeth on the drum of a greater length than is necessary to act upon the layer of grains immediately in contact with the drum. As the value of my machine consists in reducing the quantity of corn within the jacket to the minimum, and carrying the whole action to a point almost in contact with the jacket, I avoid teeth of a greater length or beaters, as they require a large grain-chamber, destroy more corn, produce great heat, and add immensely to the power required for the same yield.

In a machine of a modified form this device is peculiarly applicable for comminuting glue and gums that have a tendency to heat and become adhesive during the process.

I do not confine my claim to the particular form described, but may vary it to include horizontal or inclined spindles and revolving jackets as well, with or without a blast of air.

I claim as my invention—

1. The drum W, having a screw-thread formed on its surface, the thread intersected at intervals by vertical depressions, forming a series of teeth on each thread, substantially as and for the purpose herein shown and described.

2. The drum W, constructed substantially as described, in combination with the jacket J and the rods R R, as and for the purpose set forth.

NATHANIEL A. CONKLIN.

Witnesses:

W. T. BEDELL,
R. B. SMITH.