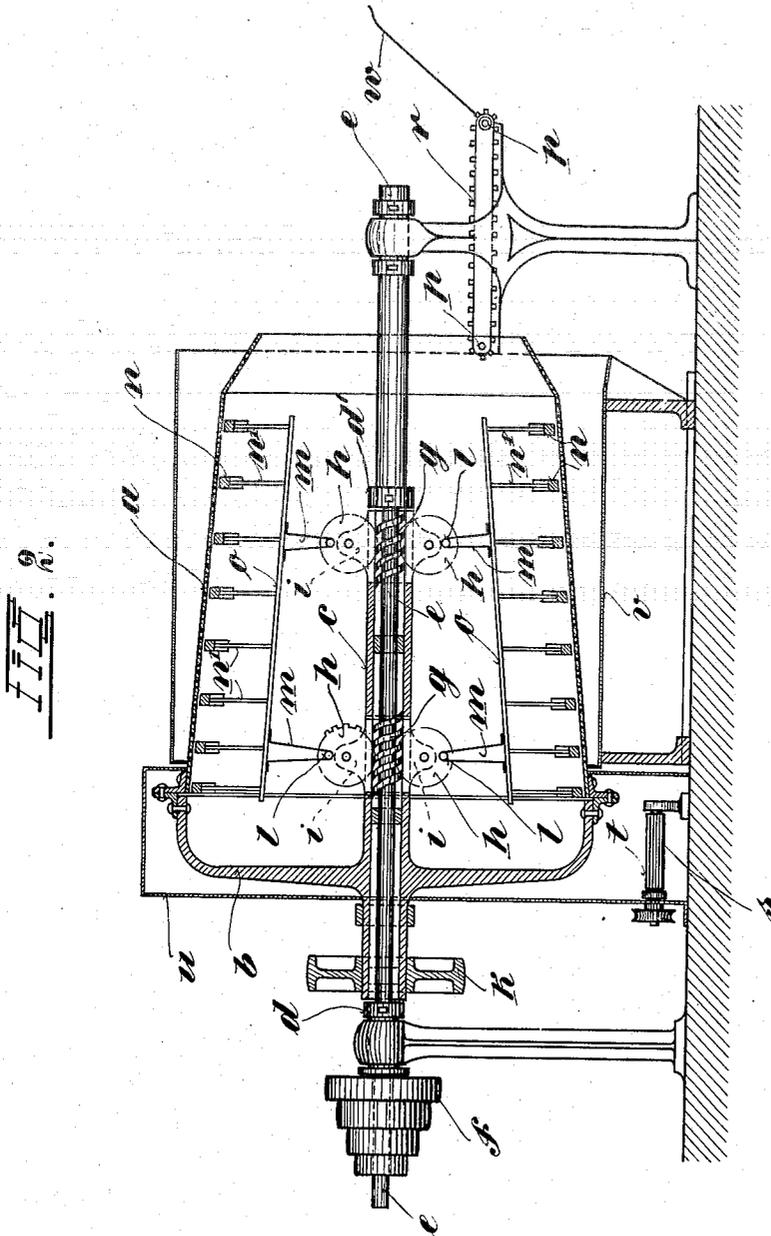


A. NEEF.
 CENTRIFUGAL DRYING APPARATUS.
 APPLICATION FILED APR. 30, 1908.

901,184.

Patented Oct. 13, 1908.

3 SHEETS—SHEET 2.



Witnesses
 S. Ford
 A. Madden

Inventor
 Arno Neef
 by A. Madden
 Attorney

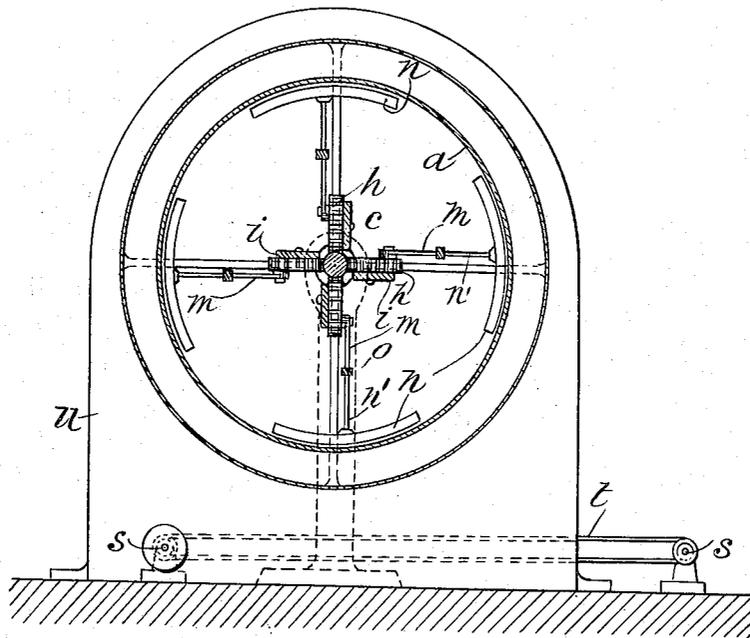
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FIG. 3.



Witnesses
L. A. Sands
H. P. Wilson

Inventor
Arno Neef

By

Francis Appelman
attorney

UNITED STATES PATENT OFFICE.

ARNO NEEF, OF KATTOWITZ, GERMANY.

CENTRIFUGAL DRYING APPARATUS.

No. 901,184.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed April 30, 1908. Serial No. 430,188.

To all whom it may concern:

Be it known that I, ARNO NEEF, a subject of the German Emperor, residing at Kattowitz, Upper Silesia, in Germany, have invented certain new and useful Improvements in Centrifugal Drying Apparatus, of which the following is a specification.

Perforated, conical centrifugal drums, with horizontal axes and internal means for moving the work through them, have heretofore been used for drying loose substances.

The present invention is differentiated from the known apparatus of this type by the fact that the known scrapers used for moving the work are connected to actuating mechanism at the side of the shaft, by which radial and axial movements are simultaneously imparted to them, so that the work is alternately pressed against the drum and released, in order to be loosened and turned.

A construction embodying the invention is shown in the annexed drawing, in which Figure 1 is a plan view of the apparatus, Fig. 2 a section on the line A—A of Fig. 1 and Fig. 3 a section on the line B—B of Fig. 1.

a is the conical, perforated drum fixed to the hollow shaft *c* integral with the spider *b*. The shaft *c* can be rotated by the belt pulley *k* at high speed about the slowly revolving solid shaft *e*, and is held from endwise displacement between collars *d d'*. The shaft *e* has fixed to it a step pulley *f*. Worms *g* on the shaft *e* engage worm-wheels *h* which have bearings in radial lugs *i* projecting from the hollow shaft *c*. Crank pins *l* fixed to the worm-wheels *h* engage the actuating rods *m* of the thrust mechanism, so that the latter rotates at high speed with the hollow shaft and is also actuated by the slow rotation of the worm-wheels. The thrust mechanism comprises a series of blades or combs *n*, curved to correspond with the curvature of the drum, the stems *n'* of these blades being fixed to bars *o* fixed to the

rods *m*. Actuation of the worm-wheels by the worms *g* causes the blades to move radially and also longitudinally of the drum; during half of the circular movement of wheels *h*, the blades advance and are withdrawn from the circumference of the drum, and during the other half they move to the rear and towards the circumference of the drum.

The wet material to be dried, for example cut beet-roots, is introduced into the rapidly revolving drum by means of any suitable known device, for example a chute *w* and endless conveyer *r* traveling over rollers *p*. Centrifugal force thrusts the material against the circumference of the drum, and the blades *n* move it step by step towards the other end of the drum, the moisture being thrown out through the perforations of the drum. The dry or partly dried material falls on to an endless conveyer *t* traveling over rollers *s* and passes out of the casing *u*.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. In centrifugal drying apparatus, the combination with a centrifugal perforated drum of scrapers and means for moving said scrapers radially to and also longitudinally parallel to the surface of the drum.

2. In centrifugal drying apparatus, the combination with a centrifugal perforated drum and hollow shaft connected to revolve therewith, of arms on said shaft, worm-wheels carried by said arms, crank pins on said worm-wheels, frames comprising a plurality of scrapers carried by said pins, a central shaft and worms on said central shaft engaging said worm-wheels.

In witness whereof I have signed this specification in the presence of two witnesses.

ARNO NEEF.

Witnesses:

WALTER MENZ,
ERNEST KATZ.