

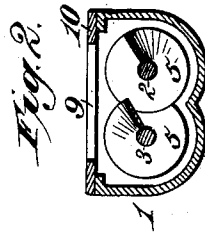
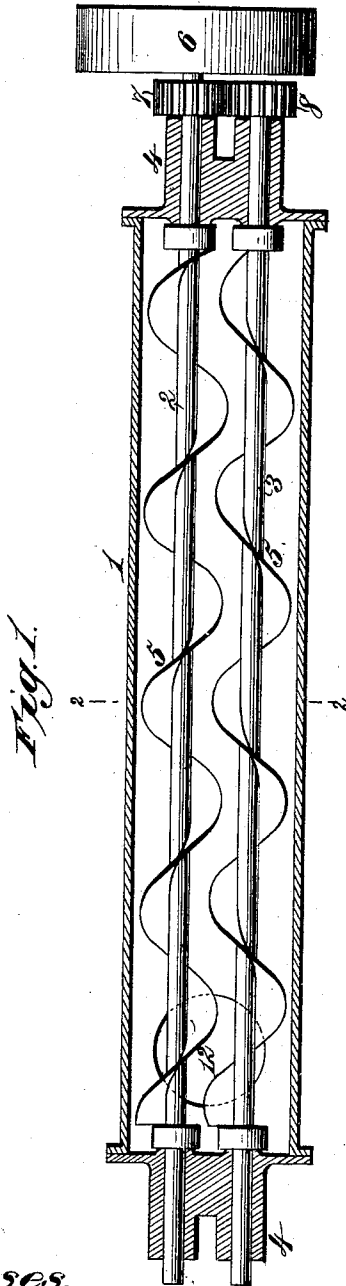
(No Model.)

W. KRUTZSCH.

WATER BALL BREAKER FOR OIL MILLS.

No. 375,165.

Patented Dec. 20, 1887.



Witnesses.
Robert Emmett.
Geo. W. Rea

Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM KRUTZSCH, OF DAYTON, OHIO, ASSIGNOR TO THE BUCKEYE IRON
AND BRASS WORKS, OF SAME PLACE.

WATER-BALL BREAKER FOR OIL-MILLS.

SPECIFICATION forming part of Letters Patent No. 375,165, dated December 20, 1887.

Application filed May 31, 1887. Serial No. 239,859. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KRUTZSCH, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Water-Ball Breakers for Oil-Mills, of which the following is a specification.

This invention relates to cotton-seed and linseed-oil mills, and the purpose thereof is to provide simple and efficient apparatus for breaking up and comminuting the "water-balls" or masses of meal which collect and roll around in the kettles, constantly growing in volume and causing much annoyance and trouble.

By the present invention it is intended to provide means for easily and expeditiously breaking up these water-balls; and the invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth, and definitely pointed out in the claim annexed to this specification.

Referring to the accompanying drawings, Figure 1 is a plan view of a machine embodying my invention, part of the top being removed. Fig. 2 is a transverse section of Fig. 1 in the plane 2 2.

In the drawings, the reference-numeral 1 designates a casing having in cross-section substantially the form shown in Fig. 2 and of any suitable length. Within said casing are arranged parallel shafts 2 and 3, journaled at their ends in boxes 4. Each shaft carries a thread or worm, 5, the thread upon one shaft being of right-hand pitch and that upon the other of left-hand or opposite pitch, as shown. One of the said shafts, as 2, is prolonged to receive a pulley, 6, by which revolution may be imparted thereto, and motion is communi-

cated to the other shaft, 3, in an opposite direction by means of gears 7 8 upon the shafts 2 and 3, which mesh with each other. A supply-opening, 9, is formed in the cover or top 10 of said casing at or near one end thereof, and egress is provided by means of an opening, 12, in the bottom of the casing at or near the opposite end.

The meal is supplied to the screws through the opening 9, and by the revolution thereof the water-balls are quickly broken up and powdered, the meal being at the same time carried by the screws toward the other end of the casing, where it is delivered through the opening 12.

The spirals or threads of the oppositely-pitched screws overlap each other, as seen in Fig. 1, the thread upon one shaft running in the intervals of the thread upon the other.

Having thus described my invention, what I claim is—

A water-ball breaker for oil-mills, consisting of a casing having a supply-opening at one end and a delivery-opening at the other end, a pair of shafts having oppositely-pitched overlapping worms, each worm having its pitch extending from one end of the casing to the other, and gearing for rotating the worm in opposite directions and causing them to break up and uninterruptedly move the water-balls from the supply to the discharge end of the casing, substantially as described.

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

WILLIAM KRUTZSCH.

Witnesses:

JAS. BUEKER,
CHAS. E. PEASE.