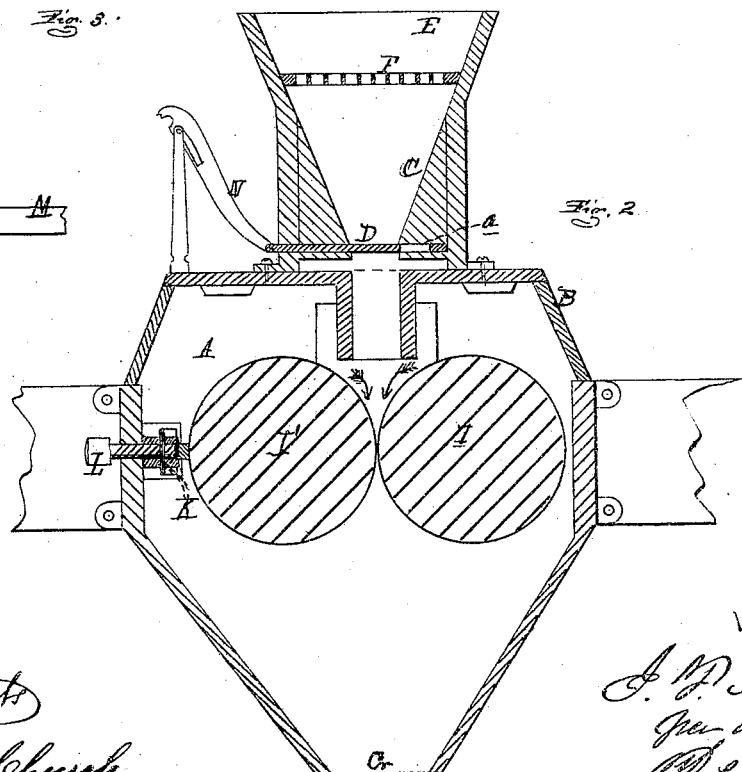
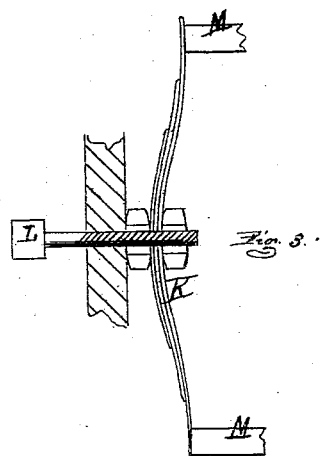
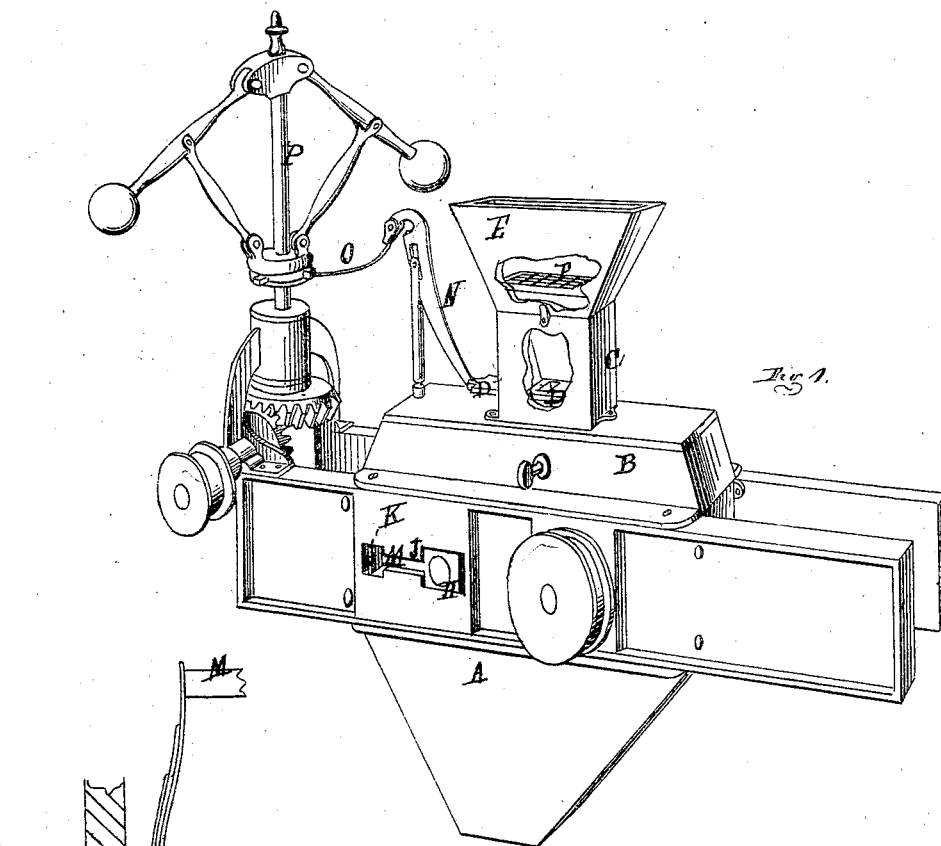


JAMES F. TIBBLE.

Improvement in Machines for Bruising Malt.

No. 114,882.

Patented May 16, 1871.



ATTEST

W. F. Eberts

Thos. H. Chesebrough

INVENTOR

J. F. Tibble

per atty

W. L. Sprague

United States Patent Office.

JAMES FLOWER TIBBLE, OF DETROIT, MICHIGAN.

Letters Patent No. 114,882, dated May 16, 1871.

IMPROVEMENT IN MACHINES FOR BRUISING MALT.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, JAMES FLOWER TIBBLE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Machines for Bruising Malt; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective;

Figure 2 is a vertical longitudinal section; and

Figure 3 is a detached section.

Like letters indicate like parts in each figure.

The nature of this invention relates to the construction of a machine to be employed in bruising malt preparatory for the mash-tub, by means of which the properties of the malt are all preserved and utilized.

The ordinary method is to grind or break up the malted grain, and in this process many of the valuable properties are lost.

The invention consists—

First, in employing a pair of rolls, one of which is adjustable, rotated toward each other in an air-tight case, so that the malted grain will be bruised in passing between the rolls and the lighter portions of the grain prevented from escaping.

Second, in a new and ingenious method of controlling the feed and regulating the same to the speed with which the rolls revolve.

Third, in the combination and arrangement of all the parts to produce the required result, as more fully hereafter described.

In the accompanying drawing—

A represents a case, provided with a cap, B, surmounted upon which is the spout C, within which the slide D has a reciprocating movement, and the hopper E, which is provided with a sieve or grate, F.

The lower end of the case is provided with a mouth, G, through which the bruised and malted grain is delivered after being operated upon.

In proper boxes H, in each side of this case, are journaled the rolls I, which receive motion from any suitable source, provided that said rolls rotate, when in use, toward each other.

One of these rolls, which I will denominate I', is journaled in boxes, which may have a lateral play, as shown at J.

A suitable spring, K, provided with a set-screw, L, and prolongations M, is so arranged in one end of the case that the prolongations, actuated by the spring and set-screw, will allow the operator to change the position laterally of the roll I', and will allow said roll to give and permit any hard and foreign substance to pass through.

The slide D is provided with an opening, *a*, through the same, corresponding to the opening at the bottom of the spout C, and the end of said slide is connected, by means of a bell-crank, N, and suitable connecting-rod O, with a governor, P, which may be of the ordinary construction; the whole so arranged that when the governor is at rest the slide will close the throat of the spout, and when in motion the valve will be withdrawn until the opening *a* will allow the grain in the hopper to pass to the rolls, and the speed of the governor will regulate the size of the opening through the slide, so that when the rolls and governor are rotating at full speed the delivery of grain will be full and ample, and more or less cut off, as may be required by the speed, the object being to regulate the delivery to the rolls according to their capacity to bruise, and this capacity is in turn regulated by the speed of their rotation.

The case and cap should be air-tight, to prevent the escape of any of the properties of the malt.

The grate F is to prevent the entrance of any foreign and hard substances with the malt.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with an air-tight case, A, of the rolls I I', arranged to operate as and for the purposes herein set forth.

2. The slide D and spout or chute C, in combination with the governor P and the necessary connections, as and for the purposes set forth.

3. The combination of the case A, rolls I I', boxes H, spring K, set-screw L, spout C, slide D, hopper E, connections N O, and governor P, when the parts are constructed and arranged and operate substantially as and for the purpose herein set forth.

JAMES FLOWER TIBBLE.

Witnesses:

THOS. S. SPRAGUE,
H. F. EBERTS.