(No Model.) 2 Sheets—Sheet 1.

T. PUETZ, Jr.

MASH MIXING MACHINE.

No. 490,498. Patented Jan. 24, 1893.

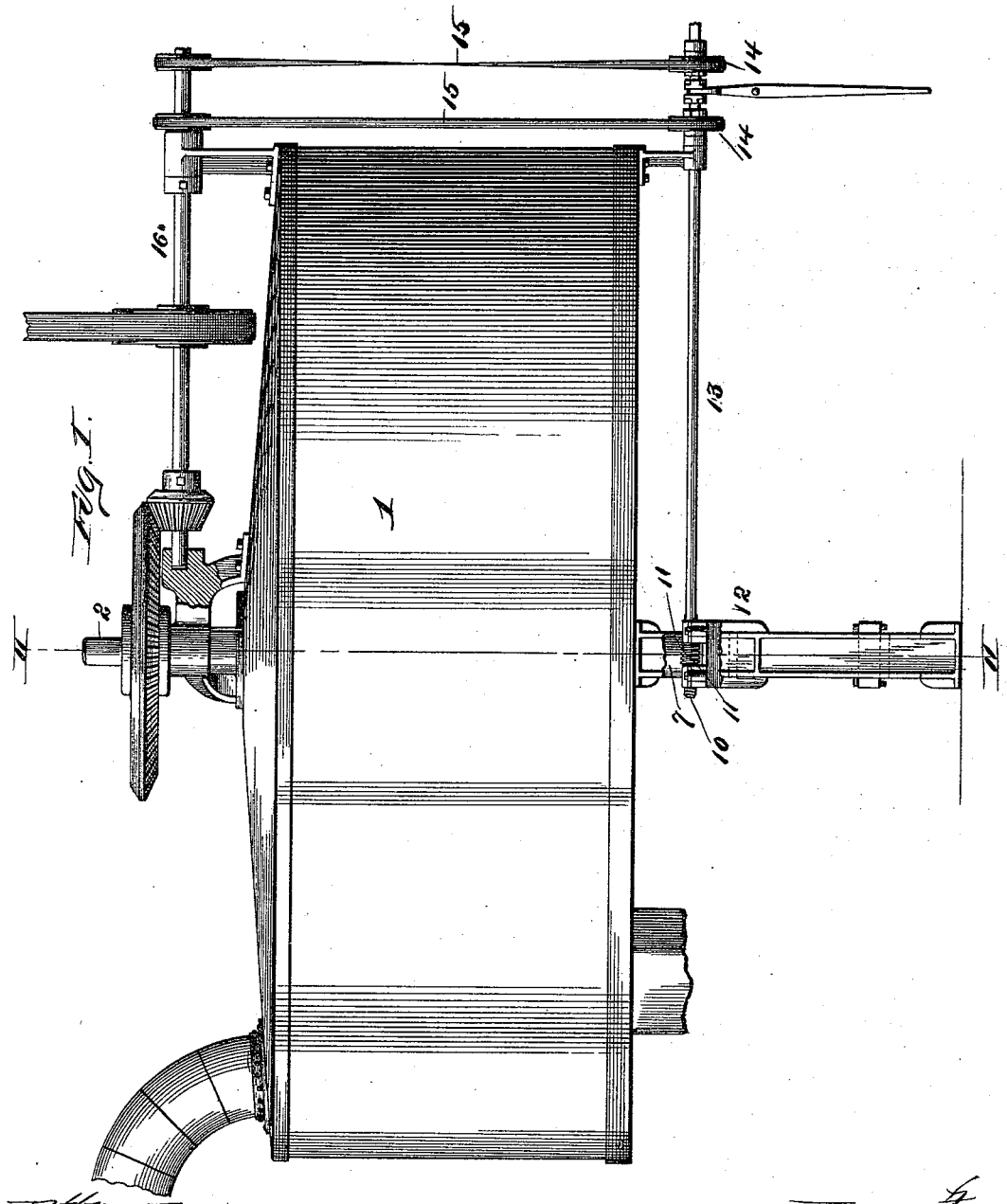

Fig. 1.

Attest:
Walter E. Allen.

Inventor:
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(No Model.)

2 Sheets—Sheet 2.

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Fig II.

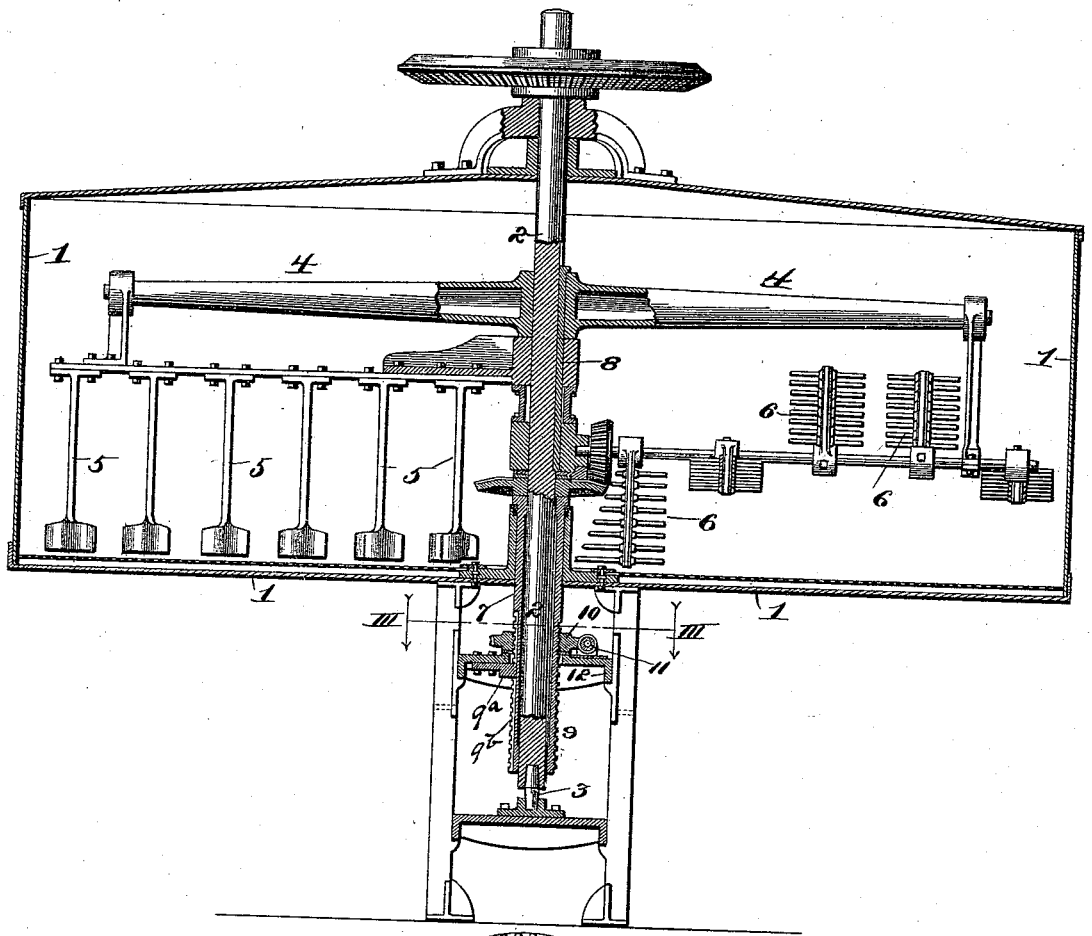


Fig III

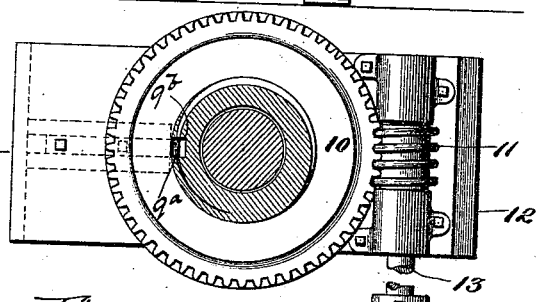
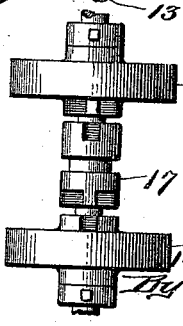


Fig IV.



Witnesses:
Walter E. Allen.

Inventor:
Tillman Puetz Jr.
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UNITED STATES PATENT OFFICE.

TILLMAN PUETZ, JR., OF ST. LOUIS, MISSOURI.

MASH-MIXING MACHINE.

SPECIFICATION forming part of Letters Patent No. 490,498, dated January 24, 1893.

Application filed November 4, 1892. Serial No. 450,986. (No model.)

To all whom it may concern:

Be it known that I, TILLMAN PUETZ, Jr., of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Mash-Mixing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a certain improvement whereby the shovels or stirrers can be moved out of the mash when the mixing is completed, and my invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is an elevation, illustrative of my invention. Fig. II is a vertical section, taken on line II—II, Fig. I. Fig. III is an enlarged, horizontal section, taken on line III—III, Fig. II. Fig. IV is a detail view.

Referring to the drawings, 1 represents a tub or vat in which the mash is placed, and which is of any ordinary construction.

2 is a vertical shaft stepped in a bearing 3 and to which the arms 4 that carry the shovels 5 and stirrers 6 are secured.

My invention relates to a means for elevating the shovels and stirrers out of the mash, after the mash has been stirred or mixed.

7 represents a sleeve fitting loosely on the shaft 2, so as to have end movement thereon; the hubs of the arms 4, shovels 5 and stirrers 6 are mounted on the shaft above the sleeve 7, and have a feather and groove connection 8 with the shaft so that they will be turned as the shaft is turned while they are free to move longitudinally on the shaft. The lower end 9 of the sleeve 7 is provided with a screw-thread with which engages a worm wheel 10, the wheel having an internal thread meshing into the thread of the sleeve. The sleeve is held from revolving or turning by means of a key 9^a, (see Figs. II, III and IV,) fitting in a groove 9^b in the sleeve, so as not to interfere with the vertical movement of the sleeve.

11 represents a worm engaging the wheel 10, as shown clearly in Fig. III. The worm is supported on a suitable bed 12, and it will be seen that by turning the worm in the proper direction the sleeve 7 will be elevated, carrying the mixing shovels and stirrers with it, or by turning the worm in the other direction, the shovels and stirrers will be lowered to working position. The worm shaft 13 is provided with suitable pulleys 14 for receiving belts 15, which also pass over pulleys connected with the stirrer operating shaft 16, as shown in Fig. I.

17 represents a sliding clutch, so that either pulley 14 may be thrown into operative connection with the shaft 13, and thus the stirrers raised or lowered as desired.

With the use of my invention, the stirring process may be done as usual, and after the mash has been thoroughly stirred, the shovels and stirrers may be raised out of the mash by simply throwing the clutch 17 into engagement with the proper pulley 14.

I claim as my invention:—

1. The combination of a mash tub, a central operating shaft, stirrers or shovels adapted to slide on said shaft, and a fixed means for elevating said stirrers or shovels out of the mash consisting of a hollow threaded sleeve surrounding the central shaft and connected with the stirrers or shovels for raising them, a worm-wheel having a fixed bearing, and engaging said threaded sleeve, a worm working said wheel, and means for imparting power to said worm, substantially as and for the purpose set forth.

2. The combination of a mash-tub, a central shaft, shovels or stirrers mounted on said shaft and a fixed means for raising said shovels or stirrers out of the mash consisting of a threaded sleeve, a threaded wheel surrounding and engaging said sleeve and having a fixed bearing and means for turning said wheel to raise and lower the sleeve, substantially as and for the the purpose set forth.

3. The combination of the mash tub and stirrer, the threaded sleeve 7 sliding in the bottom of the tub beneath the stirrer, worm wheel 10 having a fixed bearing and engaging the threaded portion of said sleeve, a worm 11 engaging said wheel, a worm shaft 13 on which the worm is mounted, and means for turning the shaft, substantially as and for the purpose set forth.

4. In a mash tub the combination of a cen-

tral shaft, having suitable power driving connections, a stirrer mounted to be rotated by said shaft but movable vertically thereon, and a stationary means for raising the stirrer located without the tub and having clutch connection with power driving connections, said means consisting of the threaded sleeve fixed against rotation and having connection with the stirrer, the threaded wheel surrounding and engaging the sleeve, but fixed against vertical movement, and working connection between said threaded wheel and the clutch shaft, all substantially as and for the purpose set forth.

TILLMAN PUETZ, JR.

In presence of—
ED. S. KNIGHT,
BENJ. A. KNIGHT.