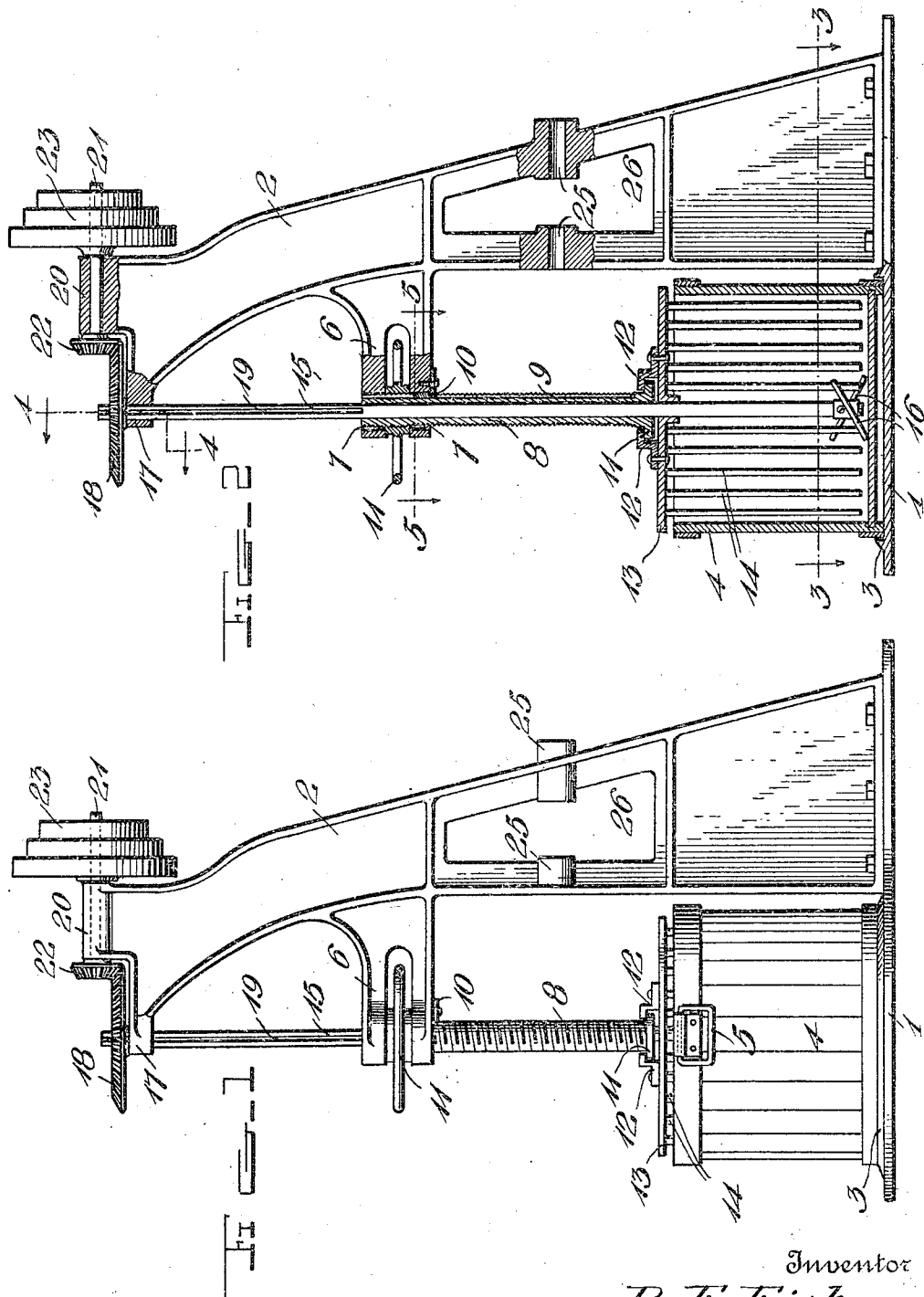


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B. F. FISH.
FRUIT MIXING MACHINE.
APPLICATION FILED JULY 7, 1909.

Patented May 31, 1910.

2 SHEETS—SHEET 1.



Witnesses

L. O. Hilton.

Inventor

B. F. Fish

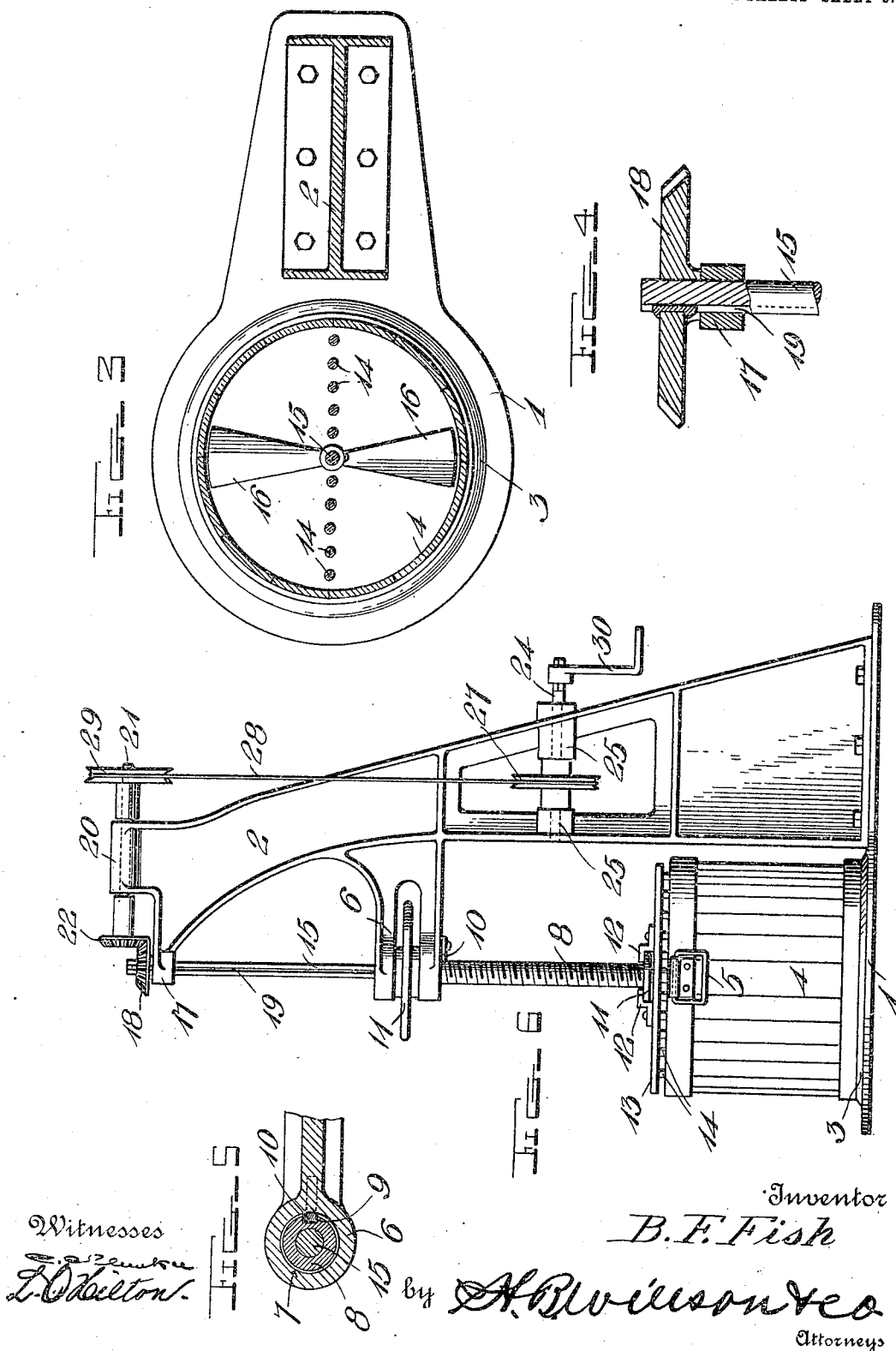
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UNITED STATES PATENT OFFICE.

BENJAMIN F. FISH, OF CHICAGO, ILLINOIS.

FRUIT-MIXING MACHINE.

959,726.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed July 7, 1909. Serial No. 506,413.

To all whom it may concern:

Be it known that I, BENJAMIN F. FISH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fruit-Mixing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in fruit mixing and stirring devices.

One object of the invention is to provide a machine of this character by means of which fruit or the like may be thoroughly stirred and mixed in a tub or other receptacle.

Another object is to provide a mixing machine having means whereby the mixing or stirring mechanism may be elevated above the mixing tub to permit the latter to be removed from the machine.

Still another object is to provide a mixing machine having means whereby the same may be operated by a suitable motor or by hand power.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a mixing machine constructed in accordance with the invention; Fig. 2 is a central vertical sectional view of the same; Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2; Fig. 4 is a vertical section on the line 4—4 of Fig. 2; Fig. 5 is a detail horizontal section on the line 5—5 of Fig. 2; Fig. 6 is a detail side view showing the machine arranged for operation by hand power.

In the embodiment of the invention, I provide a supporting frame comprising a base plate 1, on which, adjacent to one end is bolted or otherwise secured a standard 2 in which is formed a series of bearings, the purpose of which will be hereinafter described. On the base plate 1, in front of the standard 2 is formed an annular ridge or flange 3 which forms a seat to receive the mixing tub 4 which is arranged on the base and held in position by said flange. The tub 4 may be of any suitable construction,

but is preferably formed of wooden staves and is provided on opposite sides with handles 5 to facilitate the moving of the tub.

On the front side of the standard at a suitable distance above the tub, is formed a right angularly projecting bearing bracket 6, the outer end of which is bifurcated, as shown. In the outer portion of the bracket 6 is formed a vertically disposed guide passage 7 through which is adapted to slide a tubular dasher raising and lowering shaft 8, said shaft having screw threads formed thereon along its entire length. In one side of the shaft 8 is formed a longitudinally disposed key-way 9 which also extends the entire length of the shaft and is engaged by a key 10 secured to the underside of the bracket 6. The engagement of the key 10 with the key-way 9 of the shaft 8 prevents the latter from revolving. In the bifurcated outer end of the bracket 6 and having a screw threaded engagement with the shaft 8 is an interiorly threaded hand wheel 11 which, when revolved in one direction or the other in the end of the bracket, will raise or lower the shaft 8.

On the lower end of the shaft 8 is formed an annular flange 11 with which is engaged by a clip 12, and by means of which the shaft 8 is loosely connected to the cross bar of head 13 of a rotary dasher or mixing device comprising a series of depending rods 14 which are secured at their upper ends in the cross bar 13 in any suitable manner. The rods 14 are preferably arranged in a direct line with each other across the bar 13, as clearly shown in Fig. 3 of the drawings.

Extending through the tubular shaft 8 and revolubly mounted therein, is a dasher operating shaft 15 which projects through the cross bar 13 of the dasher and is rigidly secured thereto and extends downwardly below said bar to near the lower end of the tub. On the lower end of the dasher shaft 15 are mounted agitating blades 16. The blades 16 project laterally in opposite directions from the shaft 15 and are set at oppositely disposed angles, as clearly shown in the drawings, whereby the material in the lower portion of the tub will be thrown upwardly when the shaft 15 and the blades 16 are operated.

The upper end of the shaft 15 is revolubly mounted in a laterally projecting bearing bracket 17 formed on the upper end of the

standard 2. Slidably keyed on the upper end of the shaft above the bracket 17 is a bevel gear 18 by means of which the shaft 15 and the dasher carried thereby are revolved.

5 The shaft 15 is provided in one side between the brackets 6 and 17 with a longitudinally disposed key way 19 to receive the key which secures the gear thereto. By providing the key-way 19, the shaft 15 may be

10 raised or lowered by the hand wheel hereinbefore described, and when so raised and lowered, will slide through the gear 18. In a suitable bearing 20 on the upper end of the gear 18 is revolubly mounted a drive

15 shaft 21, on the inner end of which is mounted a bevel gear pinion 22 which is engaged with the gear 18 to operate the same. On the outer end of the shaft 21 is mounted a cone pulley 23, with one of which is adapted

20 to be engaged the drive belt from a suitable operating motor, whereby the shaft 21 may be operated at various speeds to drive the dasher shaft 15 faster or slower, as desired.

In order that the machine may be operated by hand power, I provide a shaft 24

25 which is revolubly mounted in suitable bearings 25 formed in the standard 2 a short distance above the top of the tub 4. On the shaft 24 and in an open space 26 in the

30 standard 2, is mounted a pulley wheel 27 which is connected by a belt 28 to a pulley wheel 29 which is mounted on the adjacent end of the shaft 21 in place of the pulleys 23. On the outer end of the shaft 24 is

35 operatively mounted a crank handle 30 by means of which the shaft 24 and pulley wheel 27 are operated to drive the shaft 21 and through the latter to operate the dasher shaft 15.

40 In the operation of the machine, the dasher is raised by means of the threaded sleeve and hand wheel, as hereinbefore described, to elevate the dasher above the tub a suitable distance to permit the removal of

45 the latter for the placing therein of the fruit or other material to be mixed, after which the tub is replaced on the base plate 1 and the dasher sleeve 9 and dasher again lowered to an operative position in the tub,

50 after which the power is applied to start the rotary movement of the dasher in the proper direction. After the fruit has been sufficiently mixed, the hand wheel is again operated to screw up the tubular shaft 8 thereby

55 raising the dasher and the dasher shaft a sufficient distance above the top of the tub to permit the latter to be removed from the machine.

From the foregoing description, taken in

connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a mixing machine of the character described, a supporting frame, comprising a base plate, a standard secured to said plate, a guide bracket formed on said standard, a mixing tub arranged on said base plate, a dasher operating shaft having formed in one side a longitudinal key-way, an operating gear slidably keyed to said shaft, a dasher secured to said shaft, a tubular exteriorly threaded dasher raising and lowering shaft arranged on said dasher operating shaft, said tubular shaft having formed in one side a key-way, a key arranged on the guide bracket of said supporting frame to engage said key way and hold said tubular shaft against rotation, means to loosely connect said dasher with the lower end of said tubular shaft, an interiorly threaded hand wheel operatively mounted in said guide bracket, and engaged with said threaded shaft whereby the latter and the dasher and dasher operating shaft are raised and lowered out of and into said tub.

2. In a mixing machine, a supporting frame comprising a standard, a guide bracket on the standard, a mixing tub arranged on the base of the supporting frame, a dasher operating shaft, an operating gear slidably keyed to said shaft, a dasher at the lower end of the shaft, an exteriorly threaded dasher raising and lowering sleeve, inclosing a portion of the dasher operating shaft, means to hold the sleeve against rotation, means to loosely connect the dasher with the lower end of the sleeve and manually operable means for raising and lowering the sleeve, whereby the dasher and dasher operating shaft may be raised and lowered into and out of the tube.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BENJAMIN F. FISH.

Witnesses:

E. EDMONSTON, Jr.,
L. O. HILTON.