No. 820,135. PATENTED MAY 8, 1906.

F. F. RUSSELL.

CHURNING MACHINE.

APPLICATION FILED SEPT. 7, 1905.

2 SHEETS—SHEET 1.

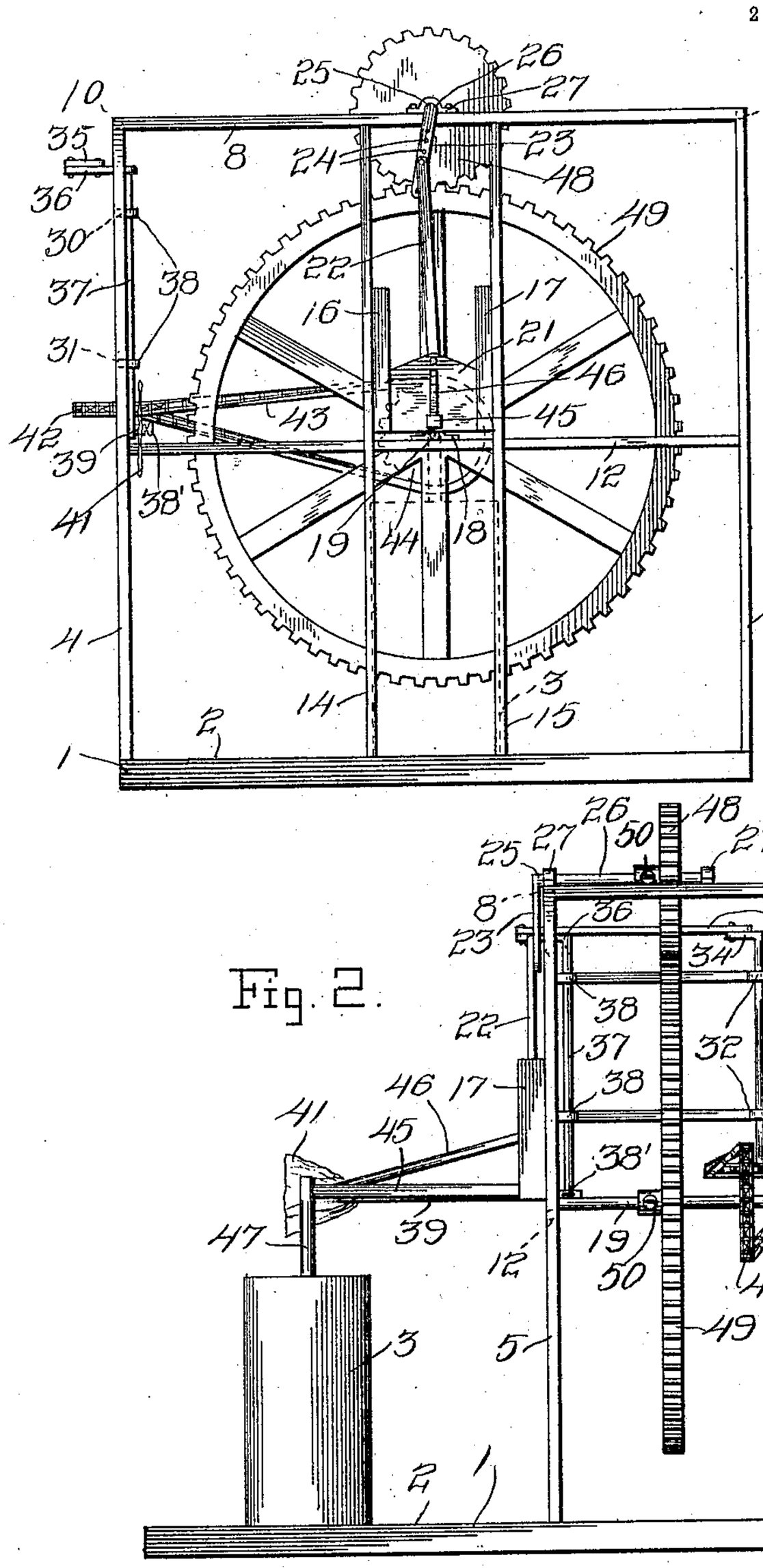

Fig. 1.

Fig. 2.

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Witnesses
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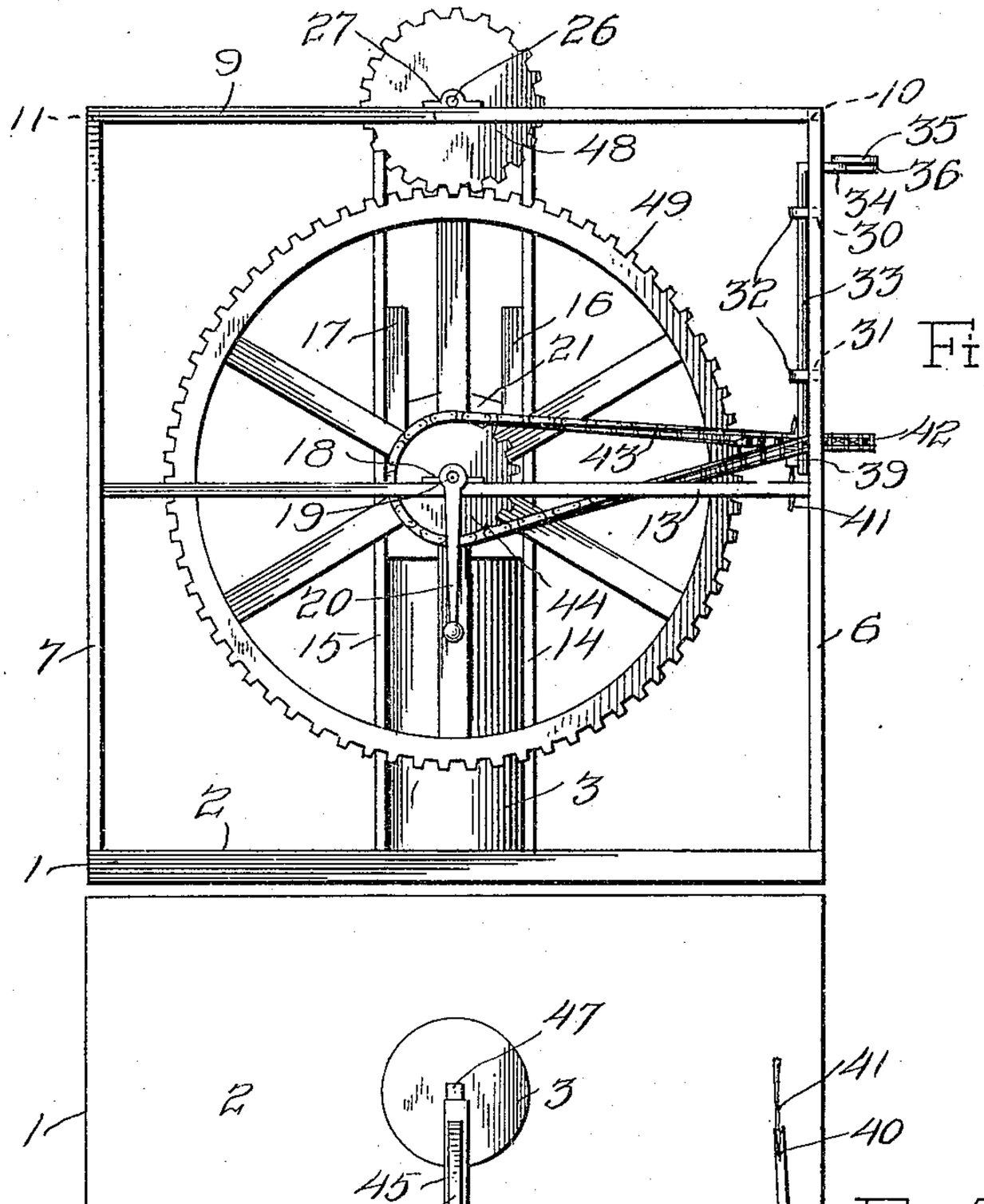

Fig. 3.

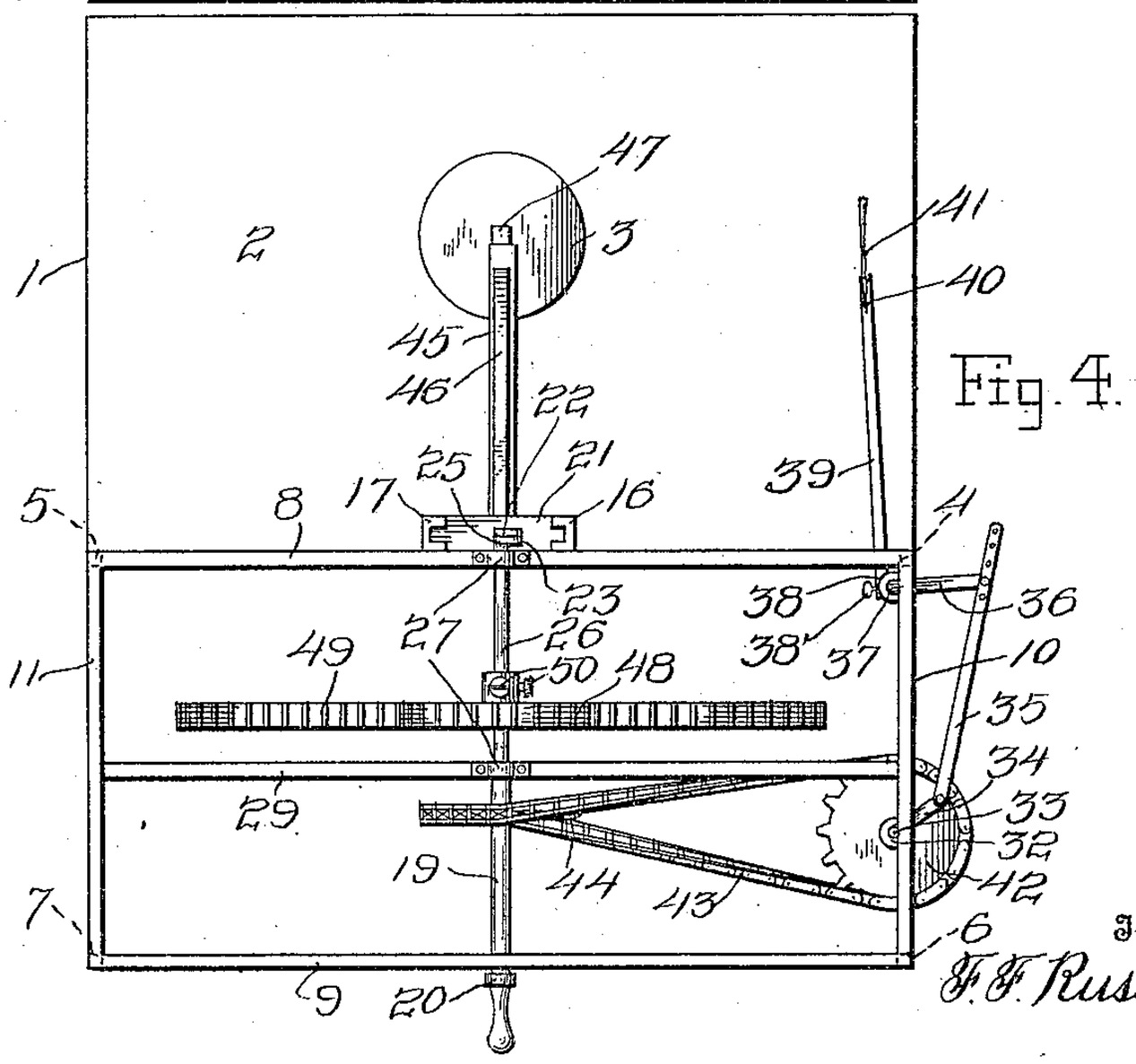

Fig. 4.

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UNITED STATES PATENT OFFICE.

FREDDIE F. RUSSELL, OF DANIEL, MISSISSIPPI.

CHURNING-MACHINE.

No. 820,135. Specification of Letters Patent. Patented May 8, 1906.

Application filed September 7, 1905. Serial No. 277,387.

To all whom it may concern:

Be it known that I, FREDDIE F. RUSSELL, a citizen of the United States, residing at Daniel, in the county of Smith, State of Mississippi, have invented certain new and useful Improvements in Churning-Machines; and I do hereby 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 churns.

One object of the invention is to provide a churn embodying such characteristics that the churn may be readily and easily operated.

Another object of the invention resides in the provision of a churn including means adapted to keep insects away from the churn-body.

A still further object of the invention is to provide a comparatively simple, inexpensive, durable, and efficient churn-operating mechanism.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of my invention. Fig. 2 is a side elevation. Fig. 3 is a rear view. Fig. 4 is a top plan view.

Referring now more particularly to the accompanying drawings, the reference character 1 designates a base provided with flooring 2 throughout a portion of its length, upon which is mounted a churn-body 3 of any size desired. At the open end of the base 1 are four uprights 4, 5, 6, and 7, connected at their upper ends by the front and rear connections 8 and 9 and the side connections 10 and 11, there being other front and rear pieces 12 and 13 connecting, respectively, the uprights 4 and 5 and 6 and 7 intermediate the base and the upper front and rear cross-pieces 8 and 9.

The upright members 14 and 15 are connected with the base parallel with the uprights 4 and 5 and extending upwardly for connection with the front cross-piece 8, there being a guide-rail 16 and 17 mounted upon the said uprights 14 and 15, respectively.

The front and rear intermediate cross-pieces 12 and 13 are provided each with an internal bearing 18, which are arranged in alinement with respect to each other and in which is journaled a horizontal transverse shaft 19, provided at one end with a crank-handle 20 and at its opposite end with a slide-block 21, to which latter is pivotally connected a pitman 22, provided with a pin 23 for interchangeable engagement with a series of perforations 24, formed in the crank portion 25 of a horizontal shaft 26, which is journaled in suitable bearings 27, respectively, of the front cross-piece 8 and an intermediate longitudinal cross-piece 29, the latter being arranged between the front and rear cross-pieces 8 and 9.

Arranged transversely of the frame and connecting the uprights 4 and 6 beneath the end cross-piece 10 are upper and lower transverse rods 30 and 31, which are each provided with a bearing 32, in which is journaled a short vertical shaft 33, whose upper end is provided with a crank 34 for engagement with a pitman 35, whose opposite end is connected with another crank 36, formed at the upper end of a second vertical rod 37, which latter is journaled in a pair of bearings 38, formed upon a post 4 and which has adjustably connected, by means of a set-screw 38′, a fan-arm 39, whose outer end is bifurcated, as at 40, for the wedging reception therebetween of newspapers or other suitable material 41 for sidewise or lateral movement to keep flies or other insects away from the churn-body 3 in a manner to be presently explained. At the lower end of the first-named vertical shaft 33 there is disposed a gear-wheel 42, to which is connected a chain or other flexible connection 43, which passes around a second gear-wheel 44, carried by the transverse shaft 19.

Connected with the slide-block 21 is an arm 45, which is spaced with respect to the said block by means of a suitable brace 46. This arm 45 has detachably and adjustably secured to its outer end the dasher-shaft 47, which reciprocates within the churn-body 3 for churning purposes.

Mounted upon the shaft 26 is a small cog-wheel 48, which is designed to mesh with a larger cog-wheel 49, carried by the transverse

shaft 19, the said cog-wheels being connected for slidable adjustment longitudinally of the respective shafts by means of a suitable set-screw 50.

The operation of my invention is as follows: Turning of the crank-handle 20 will cause rotation of the transverse shaft 19, and by reason of the cog-wheels 48 and 49 being in mesh with each other also cause rotation of the upper transverse shaft 26, and through the instrumentality of the pitman connection 24 with the rod 22 of the slide-block 21 the arm 45 and the dasher-shaft 47, to which the latter is connected, will reciprocate vertically, and thereby effectually perform the churning operation. In order that flies or other insects may be kept away from the churn-body 3, I provide means operating simultaneously with the churning mechanism. For instance, by reason of the gear-wheels 42 and 44, which are of the same size and which connect the transverse and vertical shafts 19 and 33, respectively, the latter is caused to rotate upon rotation of the crank-handle 20 and through its crank 34 cause movement of the pitman 35 and also cause the crank 36 to oscillate the vertical shaft 34, and consequently reciprocate the fan-arm 39 laterally backwardly and forwardly with respect to the churn-body. By simply using ordinary newspaper 41 in the bifurcation 40 of the arm 39 it is obvious that the arm may be continuously supplied with fan material and that the application of paper in this manner is far less expensive than the regular fan, for the reason that the regular fan would have to be continually cleaned or replaced. It will be understood that this bifurcation 40 is so formed as to permit a wedging of the paper therewithin.

I wish to state in conclusion that the crank 34 is much smaller than the crank 36, thereby causing the vertical shaft 33 to rotate at a greater speed than the oscillation of the oscillating shaft 37, and that by reason of the peculiar connection between the arm 22 of the slide-block 21 and the horizontal shaft 26 the slide-block will reciprocate many more times within a single revolution of the crank-handle 20, and that this slide-block may be regulated with respect to different-size churn-bodies by reason of the adjustable connection of the arm 22 with the member 23.

What is claimed is—

1. A device of the character described comprising a base having a frame mounted upon one end, a horizontal shaft mounted in the frame, a guide mounted upon the frame, a slide-block mounted for movement in said guide, an arm connected to the slide-block for connection with a dasher-shaft, a second shaft mounted in the frame, a crank-arm associated with said second shaft, said crank-arm being provided with a series of openings, a pitman, a pin carried by said pitman at one of its ends and interchangeably engaged through the openings in said crank-arm, said pitman being pivoted at the other of its ends to the said slide-block to cause vertical movement of the same when the said first-named shaft is rotated.

2. A device of the character described, comprising a base having a frame mounted upon one end thereof, a shaft mounted within the frame, a guide mounted upon the frame, a slide-block mounted in the guide and provided with means for connection with a dasher-shaft, a second shaft mounted above the first-named shaft, a connection between the second shaft and the slide-block, a connection between the first-named shaft and the second-named shaft to cause a reciprocation of the slide-block upon rotation of the first-named shaft, a rock-shaft and a rotatable shaft mounted within the frame, crank-arms carried by said shafts, a pitman connecting said crank-arm, a connection between the first-named rotatable shaft and the vertical rotatable shaft to operate the said shaft and the said rock-shaft, and a fan-arm connected to said rock-shaft for lateral swinging movement simultaneously with a vertical reciprocation of the slide-block.

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

F. F. RUSSELL.

Witnesses:
J. A. FRANKLIN,
T. W. FRANKLIN.