

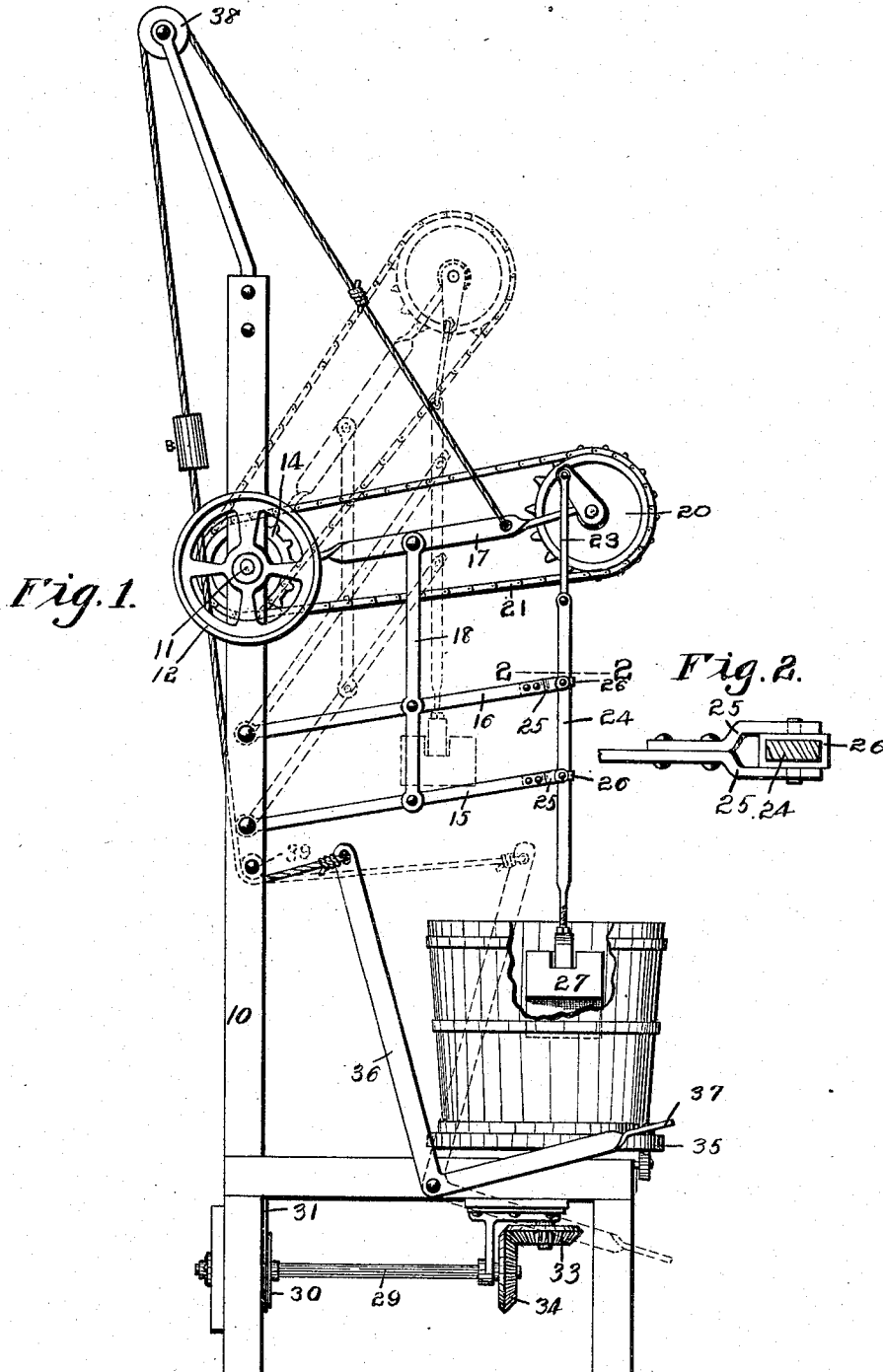
M. G. OLSON.
BUTTER PACKER.

APPLICATION FILED OCT. 21, 1908.

930,787.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.



Witnesses.

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2 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

MARTIN G. OLSON, OF RANDALL, IOWA.

BUTTER-PACKER.

No. 930,787.

Specification of Letters Patent.

Patented Aug. 10, 1909.

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To all whom it may concern:

Be it known that I, MARTIN G. OLSON, a citizen of the United States, residing at Randall, in the county of Hamilton and State of Iowa, have invented a certain new and useful Butter-Packer, of which the following is a specification.

The object of my invention is to provide a device of simple, durable and inexpensive construction, adapted to receive and support a tub of butter, said device, when operated by applied power, being arranged to automatically pack the butter firmly in the tub or other receptacle in which it is placed.

My invention consists in the construction, arrangement and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the complete device embodying my invention with a tub or receptacle in position thereon. The dotted lines in said figure show the position of the parts when the packing weights are elevated. Fig. 2 shows an enlarged, detail, sectional view of the bars that support the packing weights and the guide devices for them, said view being taken on the line 2—2 of Fig. 1, and—Fig. 3 shows a front elevation of the complete device embodying my invention.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the frame of the device. Near the upper end of the frame is a rotatable shaft 11 having a pulley 12 fixed thereto and an idler 13 adjacent to the pulley, said pulley being designed to receive a belt by which the shaft may be driven by applied power. At the central portion of the shaft is a sprocket wheel 14.

There is a separate guide frame for each of the reciprocating bars of the packer weights. Each of said frames comprises three parallel bars 15, 16 and 17, the bars 15 and 16 being pivoted to the frame 10 and the bar 17 being pivoted to the shaft 11. These bars are all connected with each other by means of the frame member 18 which is arranged vertically. By this arrangement it is obvious that the free ends of the bars 15, 16 and 17 may be moved up and down and will always stand in parallel positions. Rotatably mounted in the outer ends of the bars 17

is a shaft 19 having a sprocket wheel 20 fixed to its central portion and connected by the chain 21 with a sprocket wheel 14. On the ends of the shaft 19 are the cranks 22, which cranks are connected by means of the links 23 with the bars 24 that support the packing weights. These bars are slidingly mounted in the free ends of the bars 15 and 16 as follows:

In Fig. 2 of the drawings, the reference numeral 25 is used to indicate the forked end of one of the bars 15; and pivotally mounted therein is a block 26 having a central opening in which the bar 24 is slidingly mounted. By this arrangement it is obvious that when the bars 15 and 16 are raised or lowered at their free ends, the blocks 26 will move on their pivots and thus maintain the bars 24 in vertical positions. At the lower end of each of the bars 24 is a packer weight 27.

From the foregoing description it is obvious that when the shaft 11 is rotated, the packing weights will be reciprocated vertically. The cranks 22 are fixed on the shaft 19 in opposite directions, so that only one of the packing weights is at its lower limit of movement at a time; hence the packing weights themselves resting upon the butter in a tub will support the weight of all of the bars and the mechanism connected with the free ends thereof. Hence, the said packing weights will be automatically lowered as the butter in the tub becomes packed down and thereby lowered, that is to say, when a tub full of butter in loose condition is placed under the packing weights and the packing weights are alternately reciprocated, then as the butter becomes packed and the level lowered, the packing weights will follow the level of the butter within the tub without any attention whatever on the part of the operator.

In order that the tub full of butter may be turned around so that the packing weights do not strike at the same places successively on the butter in the tub, I have provided the following mechanism: Fixed to the shaft 11 is a pulley 28 and mounted in the lower portion of the frame 10 is a rotatable shaft 29 having a pulley 30 thereon connected with the pulley 28 by the belt 31. Rotatably mounted in the frame 10 is a vertical shaft 32. This vertical shaft is operatively connected with the shaft 29 by means of the beveled gear wheels 33 and 34 fixed to said shafts and in mesh with each other. Fixed

to the upper end of the shaft 32 is a rotatable platform 35 designed to receive and support a tub or other receptacle filled with butter or the like. By this arrangement it is obvious that the same power that operates to strike the packing weights also causes the tub full of butter to be rotated so that the weights strike upon the surface of the butter at different places.

10 In order to remove a tub of butter already packed and replace it with another containing butter unpacked, it is necessary to elevate the packing weights. In order to accomplish this, I have provided the following device: Pivoted to the frame 10 is a bell crank lever 36 having its lower end provided with a treadle 37. Supported above the top of the frame 10 is a pulley 38 and supported at the rear of the frame is a pulley 39. A rope or cable 40 is fixed at one end to the upper portion of the lever 36 and is then passed under the pulley 39, then over the elevated pulley 38 and then its other end portion is attached to the bars 17. By this arrangement it is obvious that when the treadle 37 is moved downwardly the packing weights will be elevated to the position shown by dotted lines in Fig. 1.

In practical use, the operator first places a foot upon the treadle 37 and thereby elevates the packing weights. He then places a tub full of butter on the platform 35 whereupon the packing weights may be lowered and raised on top of the surface of the butter. Then the shaft 11 is rotated by power applied to the pulley and when this is done the weights 27 are alternately reciprocated in a vertical plane. They descend as the butter becomes packed into the tub and hence the device needs no attention whatever by the operator after the tub is placed in position and until the butter is thoroughly packed. The butter will be packed uniformly throughout the tub because the tub itself is continuously rotated during the time that the packing weights are being reciprocated.

I claim as my invention:

1. In a device of the class described, the combination of a frame, a rotatable shaft mounted in the frame, a bar pivoted at one end concentric to the shaft, a second shaft rotatably mounted in the other end of said bar, means for rotating them in unison, another bar pivoted to the frame below the first and parallel with it, an upright member pivotally connected with the said bars and arranged vertically, a crank arm on the end of the second shaft, a link connected with it, a bar connected with the link and slidingly mounted in the lower one of the said bars, and a packing weight at the lower end of the latter bar.

2. In a device of the class described, the combination of a frame, a rotatable shaft

mounted in the frame, a bar pivoted at one end concentric to the shaft, a second shaft rotatably mounted in the other end of said bar, means for rotating them in unison, another bar pivoted to the frame below the first and parallel with it, an upright member pivotally connected with the said bars and arranged vertically, a crank arm on the end of the second shaft, a link connected with it, a bar connected with the link and slidingly mounted in the lower one of the said bars, and a packing weight at the lower end of the latter bar, a lever, a rope connected therewith and also with the upper one of said bars, and pulleys for said rope, for the purposes stated.

3. In a device of the class described, the combination of a supporting frame, a shaft rotatably mounted therein, two frames each comprising three parallel bars, the two lower ones being pivoted to the supporting frame, and the upper one to the said shaft, and an upright bar pivotally connected with all three of said bars, a shaft rotatably mounted in the free ends of the upper bars of said frames, a crank arm in each end of the latter shaft, said arms being extended in opposite directions, a sprocket gearing device connecting said shafts, a link pivoted to each crank arm, a sliding bar pivoted to each link, means for slidingly supporting said bars in the outer ends of the lower two bars of said frames, and a packing weight on the lower end of each of said sliding bars.

4. In a device of the class described, the combination of a supporting frame, a shaft rotatably mounted therein, two frames each comprising three parallel bars, the two lower ones being pivoted to the supporting frame, and the upper one to the said shaft, and an upright bar pivotally connected with all three of said bars, a shaft rotatably mounted in the free ends of the upper bars of said frames, a crank arm in each end of the latter shaft, said arms being extended in opposite directions, a sprocket gearing device connecting said shafts, a link pivoted to each crank arm, a sliding bar pivoted to each link, means for slidingly supporting said bars in the outer ends of the lower two bars of said frames, said means comprising a forked end on each bar, a block pivoted therein and having an opening through which the sliding bar is extended and a packing weight on the lower end of each of said sliding bars.

5. In a device of the class described, the combination of a supporting frame, a shaft rotatably mounted therein, two frames each comprising three parallel bars, the two lower ones being pivoted to the supporting frame, and the upper one to the said shaft, and an upright bar pivotally connected with all three of said bars, a shaft rotatably mounted in the free ends of the upper bars of said

frames, a crank arm in each end of the latter shaft, said arms being extended in opposite directions, a sprocket gearing device connecting said shafts, a link pivoted to each crank arm, a sliding bar pivoted to each link, means for slidably supporting said bars in the outer ends of the lower two bars of said frames, said means comprising a forked end on each bar, a block pivoted therein and having an opening through which the sliding bar is extended, and a packing weight on the lower end of each of said sliding bars, a lever, a rope connected therewith and also connected to said frames, and pulleys having said rope passed over them so arranged that when the lever is moved in one direction the packing weights and frames will be jointly elevated.

6. In a device of the class described, the combination of a supporting frame, a shaft rotatably mounted therein, two frames each comprising three parallel bars, the two lower ones being pivoted to the supporting frame, and the upper one to the said shaft, and an upright bar pivotally connected with all three of said bars, a shaft rotatably mounted

in the free ends of the upper bars of said frames, a crank arm in each end of the latter shaft, said arms being extended in opposite directions, a sprocket gearing device connecting said shafts, a link pivoted to each crank arm, a sliding bar pivoted to each link, means for slidably supporting said bars in the outer ends of the lower two bars of said frames, said means comprising a forked end on each bar, a block pivoted therein and having an opening through which the sliding bar is extended, and a packing weight on the lower end of each of said sliding bars, a rotatable platform, a vertical shaft fixed to it, a horizontally arranged shaft mounted in the supporting frame, gearing devices for connecting said shafts, and a belt and pulley device for connecting the latter shaft with the first mentioned shaft, substantially as and for the purposes stated.

Des Moines, Iowa, Sept. 10, 1908.

MARTIN G. OLSON.

Witnesses:

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