

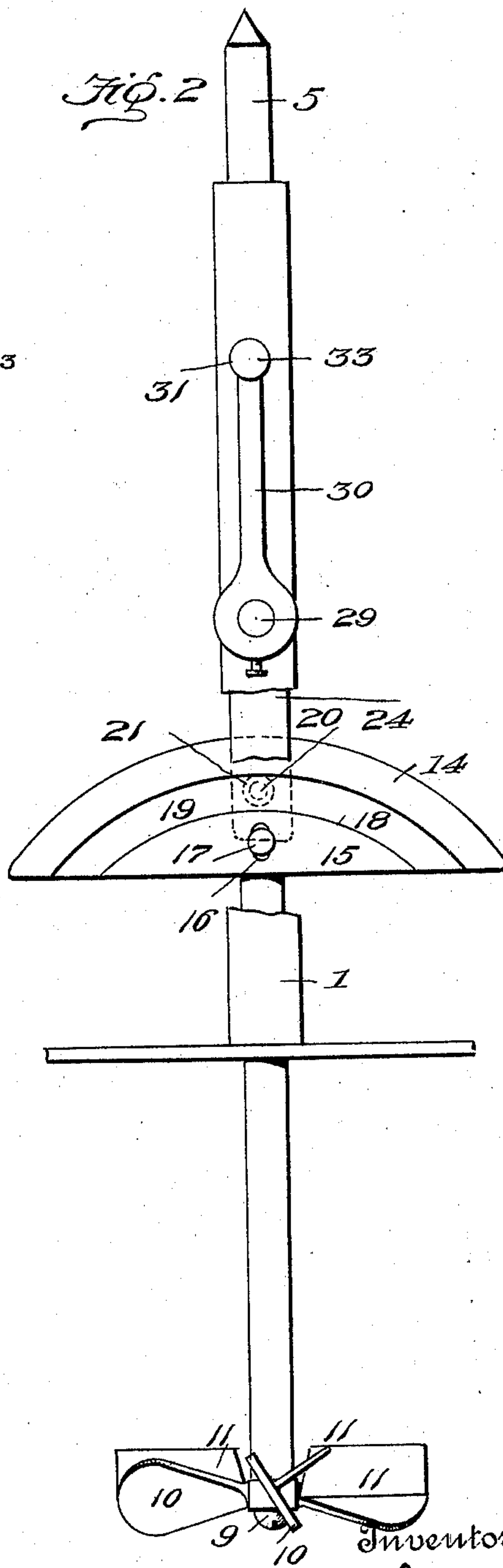
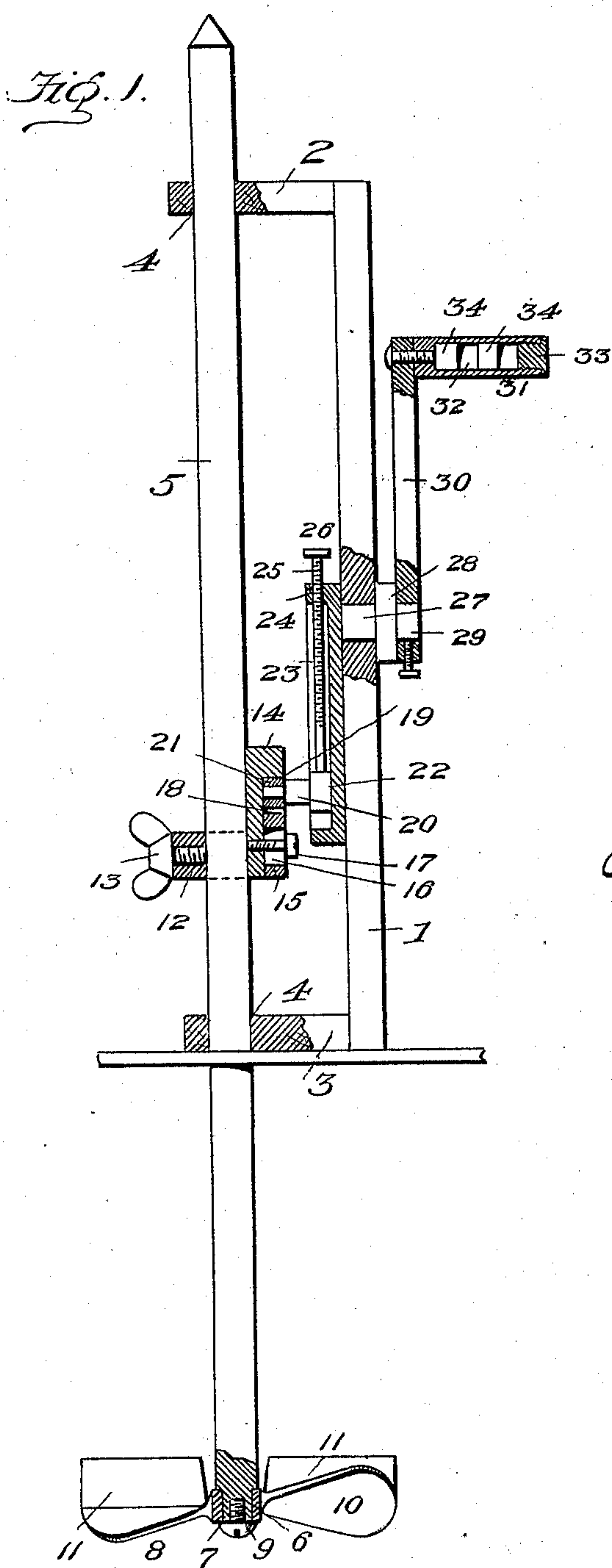
(No Model.)

2 Sheets—Sheet 1.

W. P. BLISS.
CHURN MOTOR.

No. 585,837.

Patented July 6, 1897.



Witnesses

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J. A. Wilson

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By H. B. Wilson.
Attorney

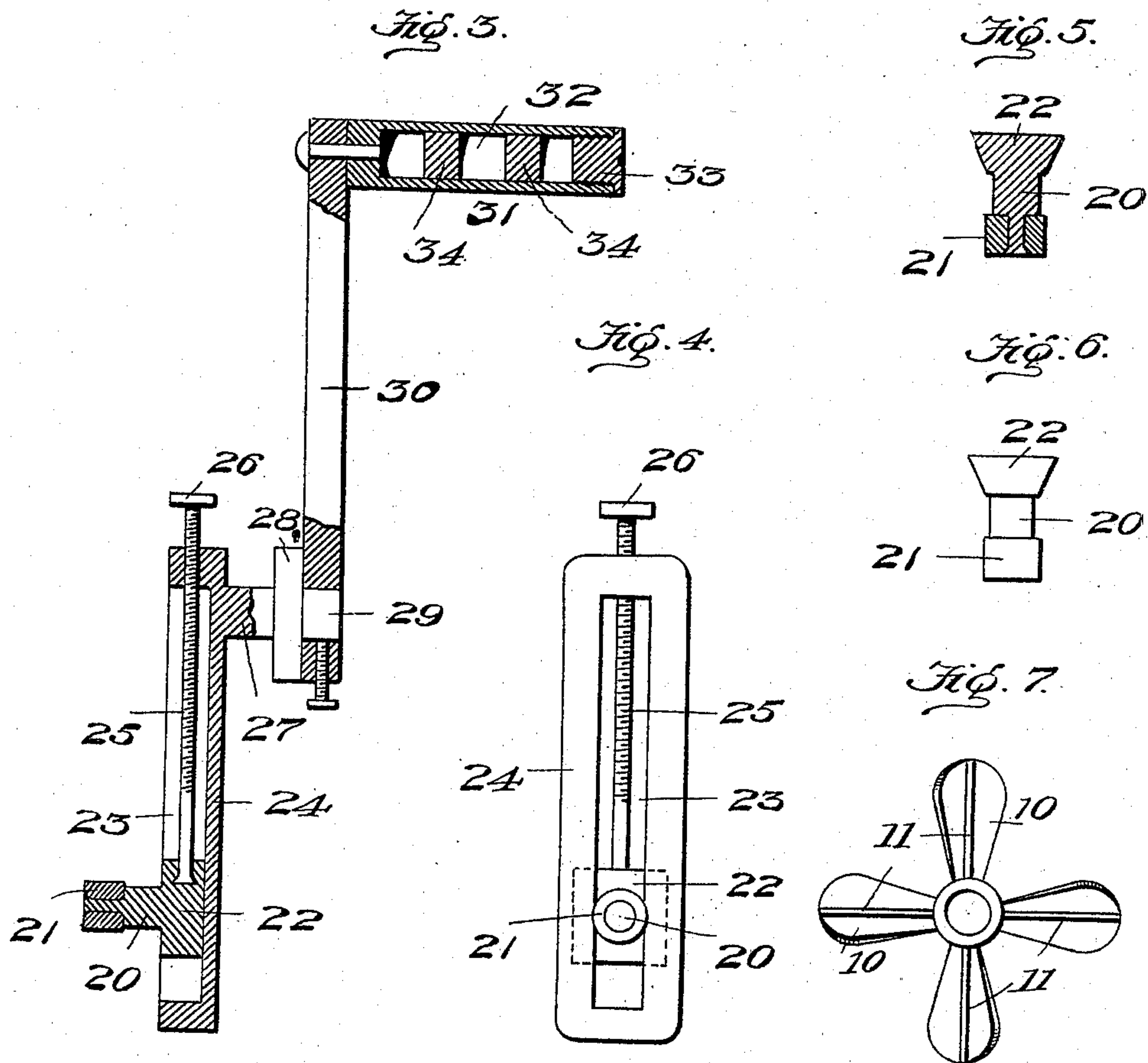
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J. A. Wilson

Inventor
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UNITED STATES PATENT OFFICE.

WILLIAM PLEASANT BLISS, OF AURORA SPRINGS, MISSOURI.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 585,837, dated July 6, 1897.

Application filed December 14, 1896. Serial No. 615,721. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PLEASANT BLISS, a citizen of the United States, residing at Aurora Springs, in the county of Miller and State of Missouri, have invented certain new and useful Improvements in Mechanical Motors for Churns; 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.

My invention has relation to improvements in the construction of churns, and more particularly to a mechanical motor for operating the vertical reciprocating dasher of an ordinary churn.

The object is to provide a simple, durable, and effective device for this purpose; and to this end the novelty consists in the construction, combination, and arrangement of the several parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a side elevation, partly in section, of my improved churn-motor. Fig. 2 is a rear elevation of the same. Fig. 3 is a horizontal section of the line of the driving-shaft. Fig. 4 is a front view of the crank. Fig. 5 is a cross-section of the crank-pin. Fig. 6 is a top plan view, and Fig. 7 is a detail of the dasher.

1 represents a suitable standard formed with integral horizontal parallel arms 2 and 3, which are provided with rectangular guide-orifices 4 4, which receive a vertically-reciprocating rectangular dasher-rod 5, the lower end of which is provided with a cylindrical stud 6, which engages a circular orifice 7 in the dasher 8. A screw 9 serves to hold said dasher in place on the stud, and at the same time permits it to rotate freely thereon while the rod is being operated.

The dasher itself is formed of two cross-blades 10 10, which are arranged with their plane faces at a slight incline, so as to cause the dasher to rotate on its own axis on the stud 6, and the blades are each formed with a longitudinal fin 11, arranged at a right angle to the plane face of the blade, which

serves to retard the rotary movement of the dasher, and thus agitate the cream horizontally, while the vertical movement disintegrates it to set free the butter globules.

12 represents a horizontal cross-head which encompasses the dasher-rod 5, and is vertically adjustable thereon by the set-screw 13. The face of this cross-head is formed with an integral crescent-shaped flange 14, and 15 represents a block provided with a vertical slot 16, through which a set-screw 17 passes to adjustably secure said block to the face of the cross-head immediately below the flange 14. The upper edge 18 of this adjustable block is also crescent-shaped to conform to the curve of the flange 14, the space between forming a groove 19, in which the crank-pin 20 operates. This crank-pin is provided with a friction-sleeve 21, and the pin itself is formed integral with a dovetail block 22, mounted in a dovetail groove 23 in the crank 24.

25 is a longitudinal screw mounted in the groove 23, its outer end engaging the block 22 and its inner end provided with a thumb-grip 26, by means of which the screw may be manipulated to increase or diminish the throw of the crank-pin, and consequently govern the stroke of the dasher-shaft.

The crank 24 is mounted on the inner end of the short horizontal shaft 27, journaled in the standard 1, and it is provided with a collar 28 and a hub 29, on which the operating crank-handle 30 is mounted.

31 represents the hand-grip of the crank-handle, and it is formed with a longitudinal pocket 32, closed by a removable screw-cap 33. A series of removable weights 34 34 are contained in the pocket, so arranged as to counterbalance the weight of the cross-head, dasher-rod, and dasher, thereby enabling the operator to manipulate the churn at a minimum expenditure of power.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to

secure by Letters Patent of the United States, is—

1. A motor for churns, comprising the vertical standard provided with the horizontal arms, the rectangular dasher-rod mounted therein and provided with the rotatable dasher 8, the cross-head 12 adjustably mounted on said dasher-rod, and formed with an integral crescent-shaped flange 14, an adjustable block 15 secured to the face of said cross-head, in combination with the shaft 27 provided with the integral crank 24 having the dovetail groove 23, the dovetail block 22 mounted in said groove and provided with the integral crank-pin 20 and sleeve 21, the screw 25, mounted in said groove in the crank and engaging the block 22 and the crank-handle 30, substantially as shown and described.
2. A churn-motor comprising the standard 1 provided with integral arms, the rectangular dasher-rod mounted in said arms and having its lower end formed with a stud 6, the dasher 8 mounted so as to revolve on said stud, and formed with the inclined cross-blades 10 10 having fins 11 11, the cross-head

12 adjustably secured to said dasher-rod and provided with the integral flange 14 and the adjustable block 15 having a crescent-shaped edge 18, in combination with the shaft 27, the crank 24, the pin 20 engaging the groove 19 in the cross-head, and the operating crank-handle 30, substantially as and for the purpose set forth.

3. A churn-motor comprising the standard, the rectangular dasher-rod mounted in said standard, the cross-head adjustably secured to said dasher-rod and provided with the groove 19, in combination with the shaft 27, the pin 20 of which engages the groove 19 in said cross-head, and the crank-handle 30 secured to said shaft and provided with the hand-grip 31 formed with the longitudinal pocket 32 and removable screw-cap 33, and the removable weights 34, substantially as and for the purpose set forth.

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

WILLIAM PLEASANT BLISS.

Witnesses:

O. D. CONNER,

C. A. LESTER.