

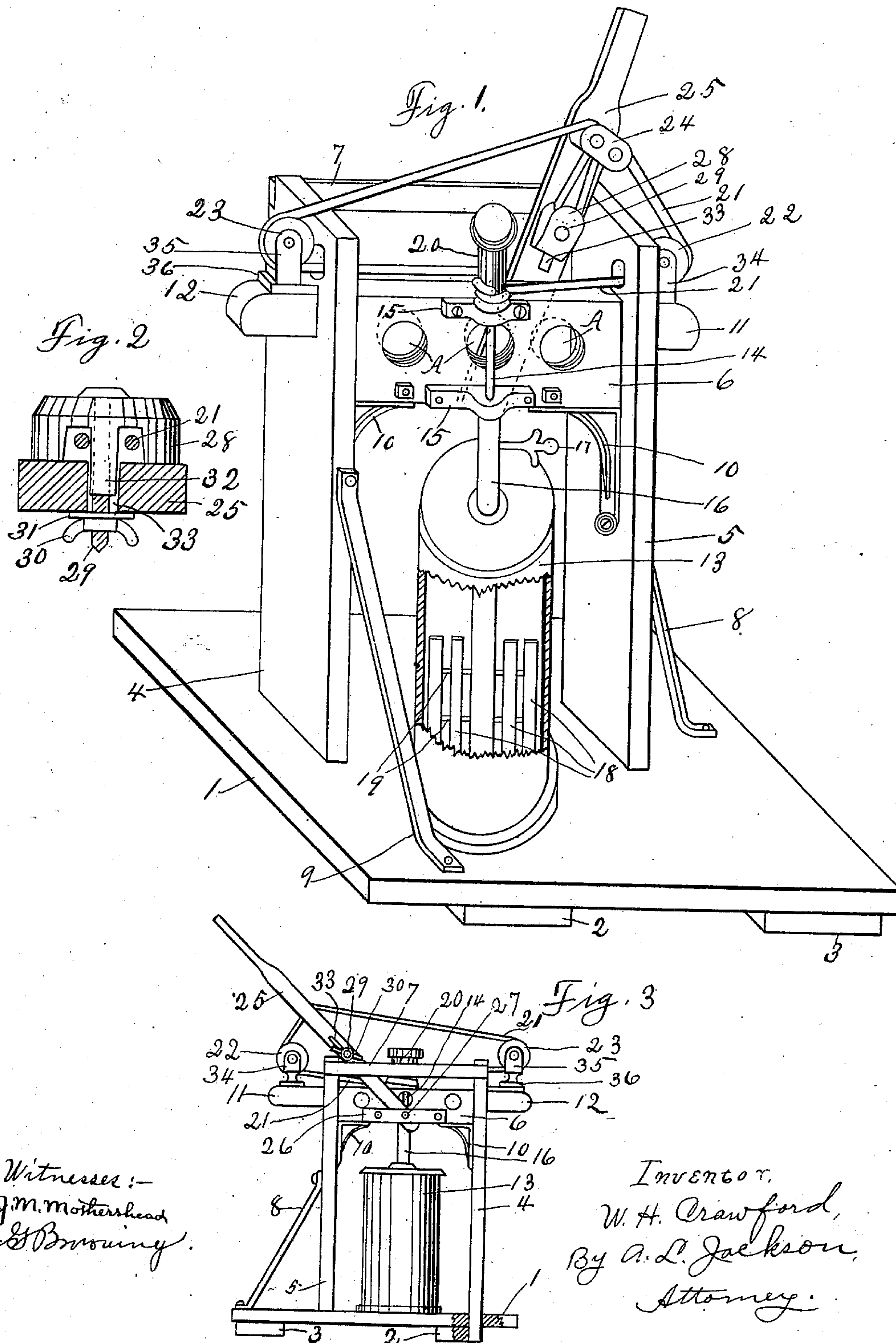
No. 663,805.

W. H. CRAWFORD.
CHURN MOTOR.

Patented Dec. 11, 1900.

(Application filed Mar. 29, 1900.)

(No Model.)



Witnesses:-
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UNITED STATES PATENT OFFICE.

WILLIAM H. CRAWFORD, OF WEATHERFORD, TEXAS.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 663,805, dated December 11, 1900.

Application filed March 29, 1900. Serial No. 10,637. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CRAWFORD, a citizen of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented a new and Improved Churn-Motor, of which the following is a specification.

My invention relates to churns, and more particularly to churns operated by a crank-lever and belt and pulleys; and the object is to construct a churn which is simple in construction, which is easily operated, and which is light, strong, and durable. Other objects and advantages will be fully understood from the following description and claims.

Reference is had to the accompanying drawings, which form a part of this application.

Figure 1 is a perspective view of the invention, the churn being shown in a broken sectional view. Fig. 2 is a cross-section of the crank-lever. Fig. 3 is a side elevation of the invention on a smaller scale than Fig. 1 and showing the opposite side from that shown in Fig. 1.

The frame for the churn consists of a platform 1, supported on cross-pieces 2 and 3, two uprights 4 and 5, the central girder 6, supported in the uprights 4 and 5, the brace 7, and suitable braces for the uprights and girder. The brace 8 supports the frame at one end and the brace 9 supports the frame on one side. The braces 10 aid in binding the uprights 4 and 5 to the girder 6 and hold these parts rigidly together. The ends 11 and 12 of the girder 6 are reduced and projected through the uprights 4 and 5. The milk-holder 13 is supported on platform 1. A driving-shaft 14 is mounted on the girder 6. The uprights 4 and 5 are set in the platform 1 and the upright 4 is nailed or otherwise attached to the cross-piece 2. The brackets 15 are secured to the girder 6 and are apertured for the passage of the driving-shaft 14. The dasher 16 is secured to the driving-shaft 14 by means of a key 17. This key serves as a fan to drive away knats and flies and also for cooling the temperature. The dasher consists of a central body-piece 16 and a plurality of small bars 18, secured to the body 16 by means of rods 19, which pass through the body 16 and through the bars 18, the bars and rods constituting wings for the body 16. A driving-

pulley 20 is mounted on the vertical driving-shaft 14. The belt 21 passes through this pulley, then around the pulley a few times, then through the uprights 4 and 5 and under the pulley 22 and 23, and then up to the tension-bracket 24. The crank-lever 25 is pivotally mounted on the girder 6 by means of a bracket 26 and pivot-bolt 27. The tension-bracket 24 is secured to the crank-lever 25. The tension-frog 28 is adjustably mounted on the crank-lever by means of a bolt 29 and nut 30 with a washer 31. The tension-frog 28 is provided with a tongue 32, which operates in a slot 33 in the crank-lever. This tongue is for holding the belt 21. The belt 21 passes through the tension-bracket 24, down in the frog 28, around the tongue 32, and back through the tension-frog. The belt is endless and the tension thereof is regulated by simply moving the frog 28 up or down the crank-lever, as the tension is to be made more slack or increased. This is done by means of the bolt 29 and nut 30. The brace 7 serves as a guide for the lever 25. The pulley 22 is supported in bearing 34, which is attached to the end 11 of the girder 6, and pulley 23 is supported in a bearing 35, which is mounted on a block 36. Block 36 is mounted on the end 12 of the girder 6. The bearing 35 is mounted on block 36 in order to raise the pulley 23 high enough to let the belt 21 run on a level from the pulley 23 to the driving-pulley 20. The block is intended to raise the pulley 23 as much higher than the pulley 22 as that portion of the belt toward the pulley 23 is higher than the portion of the belt toward the pulley 22.

In operation that portion of the belt toward pulley 23 winds on the pulley 20 above the point at which the belt passes through pulley 20 and the portion of the belt 21 toward the pulley 22 winds on the pulley 20 below the point at which the belt passes through pulley 20. The belt may be secured in the pulley by a pin or in any other practical manner, so that the belt cannot slip back and forth through the pulley during operation. Holes A may be made in the girder 6 for making the girder lighter and for ornament.

It will be seen that I have invented a motor which is simple in construction and simple in operation. All that is necessary to oper-

ate the motor after the churn has been adjusted is to move the lever 25 back and forth, the operator standing at one end of the frame. The dasher is put in the churn. The churn
 5 is then adjusted to its proper place and the dasher secured to the shaft 14 by the key 17, the shaft 14 entering the dasher, so that the key 17 passes through the shaft and the dasher-handle. A churn of any suitable
 10 shape may be used with my improved motor.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A churn-motor consisting of a suitable
 15 frame, said frame having a girder on which the motor is mounted, a driving-shaft provided with suitable bearings mounted on said girder, a driving-pulley mounted on said shaft, auxiliary pulleys provided with suitable
 20 bearings mounted on said girder, a crank-lever pivotally mounted on said girder, a driving-belt passing through said driving-pulley and rigidly secured therein and passing
 25 to said lever, and means for tightening said belt consisting of a tension-bracket through which said belt passes secured to said lever, and a tension-frog adjustably mounted on
 30 said lever for regulating the tension of said belt, said frog having a tongue for securing said belt in said frog projecting in a slot in said lever.

2. A churn-motor provided with a suitable frame having a girder for supporting the
 35 driving mechanism, a shaft provided with bearings mounted on said girder for operating a churn-dasher, a driving-pulley mounted on said shaft, a crank-lever mounted in said

frame, pulleys mounted on said girder adapted to aid in regulating the tension of the belt, 40 the driving-belt attached to said driving-pulley, and means for attaching said belt to said lever and regulating the tension thereof consisting of a tension-bracket secured to said
 45 lever and a tension-frog provided with means for attaching the same to said lever at various points of adjustment.

3. In a churn-motor provided with a suitable frame and a shaft for operating a churn-dasher mounted in said frame; means for 50 driving said shaft consisting of a pulley mounted on said shaft, a belt attached to said pulley, a crank-lever and pulleys coacting with said lever for driving said belt, and means for regulating the tension of said belt 55 consisting of a tension-bracket mounted on said lever and a tension-frog to which said belt is attached provided with means for securing the same to said lever at various points of adjustment. 60

4. In a churn-motor provided with a shaft for operating a churn-dasher and a belt and suitable pulleys for driving said shaft; a lever for operating said belt and means for regulating the tension of said belt consisting of 65 a tension-bracket mounted on said lever and a tension-frog provided with means for attaching the same at various points of adjustment on said lever.

In testimony whereof I set my hand, in the presence of two witnesses, this 24th day of March, 1900.

WILLIAM H. CRAWFORD.

Witnesses:

HARRY B. KIRKPATRICK,
 EVAN G. RICHARDS.