

No. 608,222.

Patented Aug. 2, 1898.

L. REED.

OPERATING MECHANISM FOR CHURNS.

(Application filed June 12, 1897.)

(No Model.)

Fig. 2.

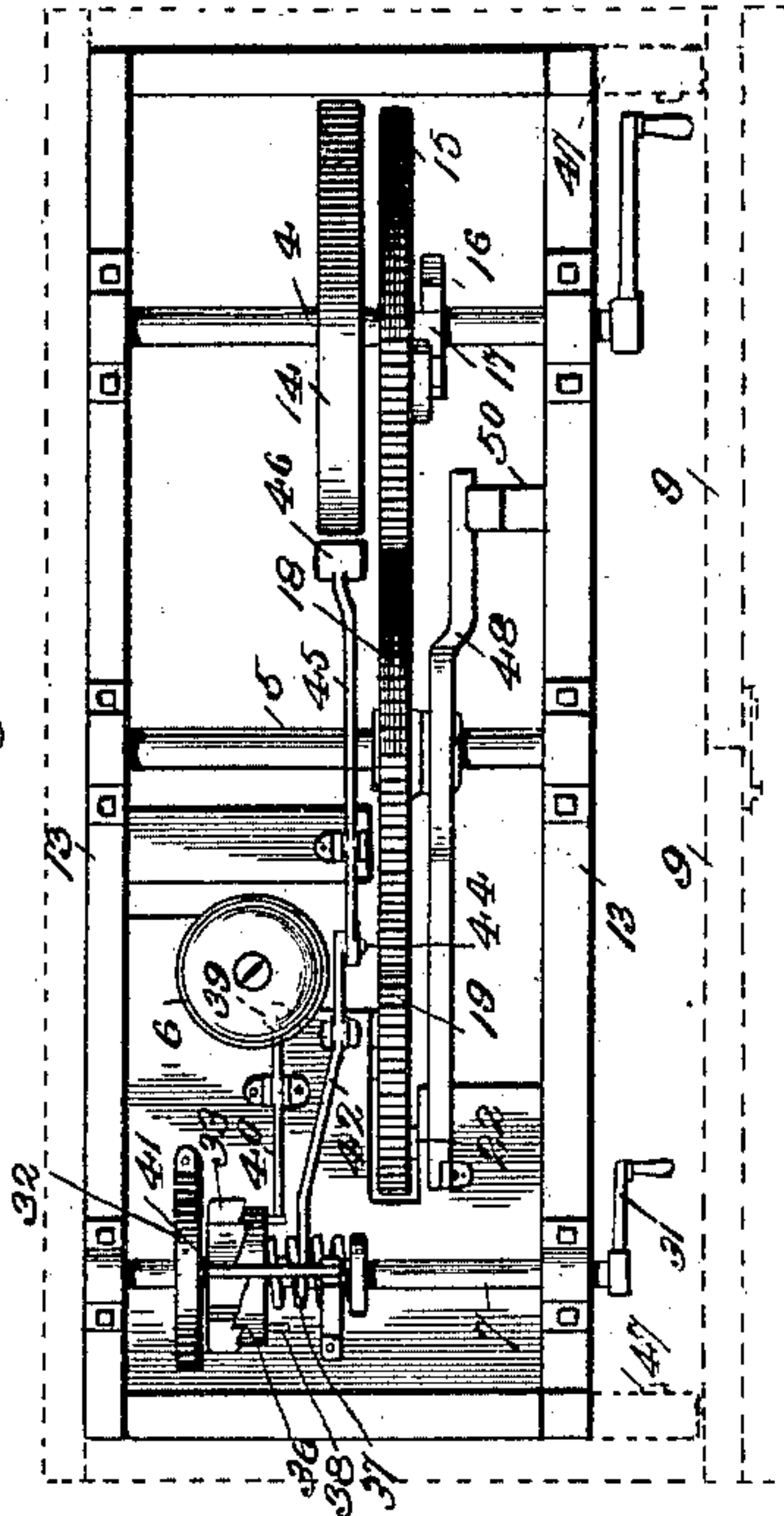


Fig. 3.

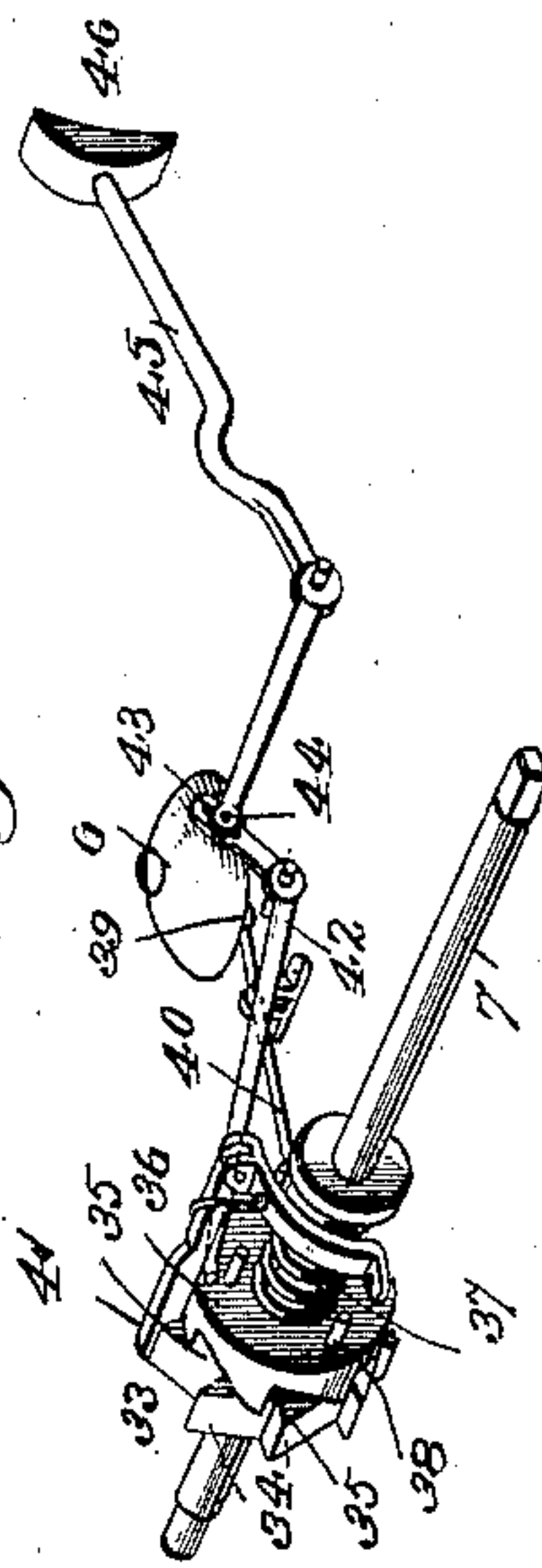
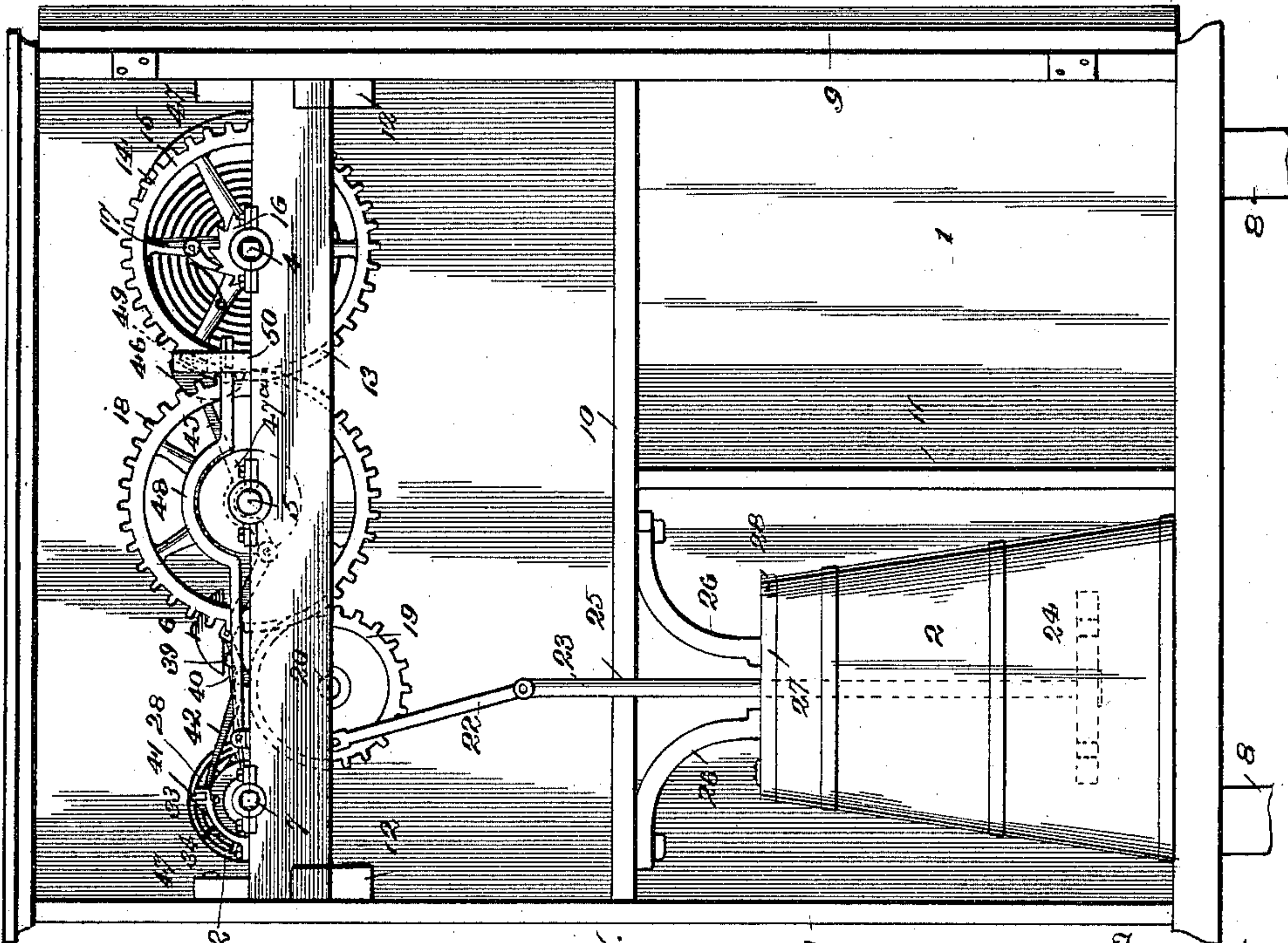
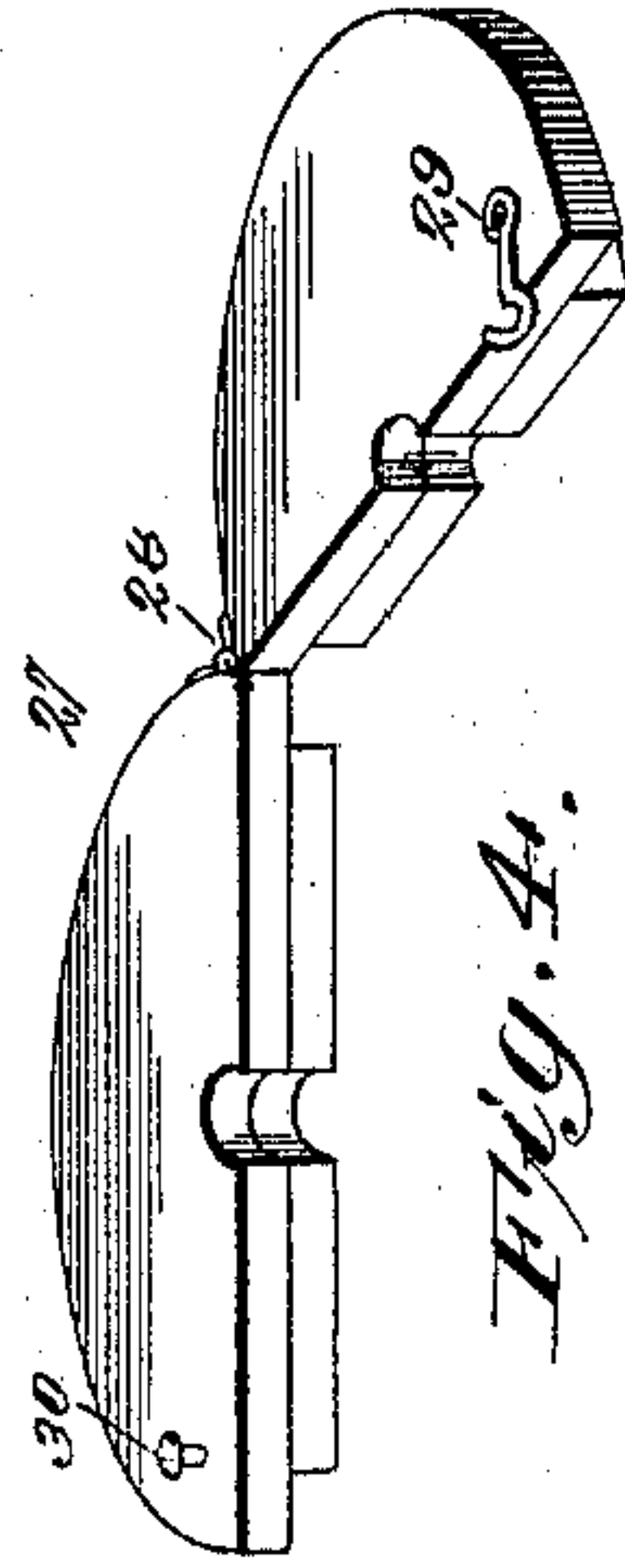


Fig. 4.



Witnesses  
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Fig. 1.

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# UNITED STATES PATENT OFFICE.

LINCOLN REED, OF TABOR, IOWA.

## OPERATING MECHANISM FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 608,222, dated August 2, 1898.

Application filed June 12, 1897. Serial No. 640,487. (No model.)

*To all whom it may concern:*

Be it known that I, LINCOLN REED, of Tabor, in the county of Fremont and State of Iowa, have invented certain new and useful Improvements in Operating Mechanism for Churns; 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 improvements in churns, and has more particular relation to operating mechanism for the same.

The invention consists of the combination, with a suitable containing-casing, of a train of gears mounted in the same, means for operating said gears, a plunger-rod connected to said gears and provided with a dasher adapted to work in the churn, an alarm, and means connecting said alarm and the power mechanism whereby a signal is sounded upon the power being expended.

The invention also consists of certain other novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a central vertical section through the mechanism embodying my invention. Fig. 2 represents a top plan view of the operating mechanism removed from the casing. Fig. 3 represents a detail perspective view of the bell-shaft, clutch, bell, and trip mechanism; and Fig. 4 represents an enlarged detail perspective view of the churn-lever.

1 in the drawings represents the casing; 2, the churn; 24, the dasher; 4, the main power-shaft; 5, the auxiliary power-shaft; 6, the bell, and 7 the bell-shaft. Said casing 1 may be of any desired construction and material and is provided with a plurality of supporting-legs 8 and suitably-hinged doors 9. Said casing is further provided with a horizontal partition 10, vertical partition 11, and guides 12. Said guides are adapted to support the sliding frame 13, upon which the shafts 5 and 7 are journaled. Said shaft 4 is provided with an ordinary clock-spring 14, gear-wheel 15, and a ratchet-wheel and pawl 16 and 17, respectively. This construction is simply that of

an ordinary clock mechanism, the shaft 4 being adapted to be rotated by any suitable key or handle to wind the spring 14. The said gear-wheel 15 meshes with a gear 18, mounted upon the shaft 5, which latter gear in turn meshes with a spur-gear 19, mounted upon an auxiliary shaft 20. This latter gear is provided with a wrist, to which is connected a pitman 22. The lower end of said pitman is connected to a plunger-rod 23, which carries a suitably-perforated dasher 24 at its lower end. The pitman 22 and plunger-rod 23 pass through a suitable slot 25, formed in the horizontal partition 10. The said dasher 24 is adapted to enter the churn 2, which is supported in the lower portion of the casing and held firmly in position by pivoted brackets 26 26, mounted upon the under side of the horizontal partition 10 and adapted to engage the upper surface of the churn when in position. Said churn 2 may be of any desired construction and is provided with a divisible cover 27, two sections of which are hinged together at 28, so that they may be opened to place said cover about the plunger-rod. These sections are normally held together by a pivoted catch 29, mounted upon one of the same and adapted to engage a suitable stud or pin 30, mounted upon the remaining section. Said shaft 7 is journaled in suitable bearings upon the sliding frame 13 and is provided at one end with a crank-handle 31, whereby it may be rotated to wind a spring 32, one end of which is secured to said shaft and the opposite end to the slide 13. Said shaft 7 is also provided with a clutch member 33, fast thereon and having ratchet-teeth formed upon its periphery, as at 34, and upon one side, as at 35. These latter teeth are adapted to engage a companion clutch-wheel 36, loosely mounted upon the shaft 7 and normally forced into contact with the wheel 33 by a spiral spring 37, which surrounds said shaft. This latter clutch member 36 is provided upon one side with a plurality of laterally-projecting pins 38, the use of which will be hereinafter more particularly described. The bell 6 may be of any desired construction and is provided with a clapper 39, mounted upon a pivoted lever 40, one arm of which is adapted to be engaged by the pins 38, mounted upon said wheel 36. The said wheel 33 is engaged and held against any ac-



cidental rotation by a pivoted pawl 41. This pawl is in turn pivotally connected to a bell-crank lever 42, mounted upon the slide 13, provided at one end with an elongated slot 43, in which a pin 44, mounted upon a bell-crank lever 45, operates. Said lever 45 is provided at one end with a shoe 46, adapted to be engaged by the spring 14 when in its expanded position.

10 It will be observed from the foregoing description that as the shaft 7 is rotated the wheel 33 travels therewith, riding over the clutch-teeth of its companion wheel 36. Said wheel 33 is held in position against the tension of the spring 32 by the pawl 41, as before described. When the spring 14 is almost fully expanded, it engages the shoe 46 and through the levers before described raises the pawl 41, thus releasing the shaft 7 and 20 permitting the same to revolve under the impetus imparted to it by the spring 32. This revolution of the shaft carries the wheel 33 with it, and as the teeth of said wheel engage the wheel or clutch 36 the latter is also rotated, with the result that the pins 38 strike the lever 40, and thus vibrate the clapper of the bell and sound the alarm.

By the peculiar construction of the operating mechanism of my invention the same 30 may be set in operation and left without attention to do its work, the alarm being sounded when the spring has been expanded so as to indicate that the mechanism should be rewound. By means of the construction of the slide 13 the same may be removed from the casing for repairs or oiling of the mechanism and instantly replaced.

I do not care to limit myself to the application of the spring-actuated mechanism, as 40 weights or any other device may be employed to impart energy to the shaft 4.

In order to hold the slide 13 firmly in position when in operation, I provide the upper portion of the casing 1 with a pivoted bracket 45 47, which may be so turned as to be engaged

by the slide and prevent its passing out of the casing.

In connection with one of the gears, as shown, is a brake-wheel 47<sup>a</sup>, engaged by a lever 48, adapted to be adjusted in notches 49 50 in an upright 50, attached to the frame. This device is intended to regulate the movement of the mechanism when desired.

Having thus described the invention, what is claimed as new, and desired to be secured 55 by Letters Patent, is—

1. In a churn-operating mechanism, the combination with a suitable casing, of a spring-actuated power mechanism mounted therein, a plunger-rod connected to said mechanism, 60 a bell mounted in said casing, a spring-actuated shaft carrying a fast clutch-wheel and a loose clutch-wheel, pins mounted on the loose clutch-wheel, a bell-clapper adapted to be struck by said pins, a pawl for engaging 65 the fast clutch-wheel, and a trip adapted to be engaged by the spring of the power mechanism to release the pawl, substantially as described.

2. In a churn-operating mechanism, the 70 combination with a suitable containing-casing, of a spring-actuated mechanism mounted therein, a pitman connected to said mechanism, a plunger-rod connected to said pitman, a churn-dasher on the lower end of said plunger-rod, a bell, a spring-actuated shaft, a clapper adapted to engage projections upon said shaft, a ratchet-wheel mounted on said shaft, a pawl for engaging said ratchet-wheel, and a trip adapted to be engaged by the spring of 80 the power mechanism to operate said pawl and release the bell-operating shaft, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing 85 witnesses.

LINCOLN REED.

Witnesses:

C. M. OTIS,

H. M. STARRETT.