

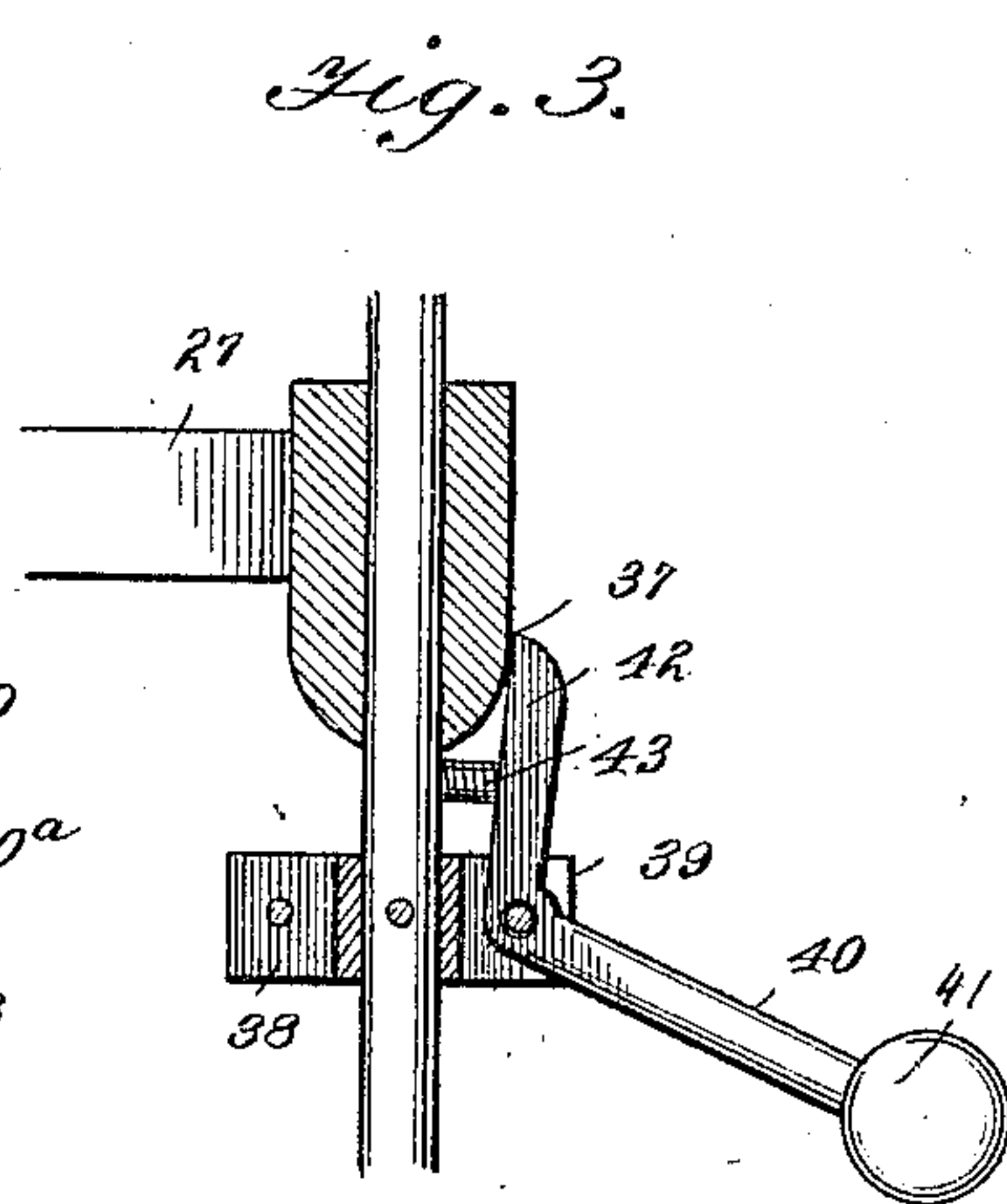
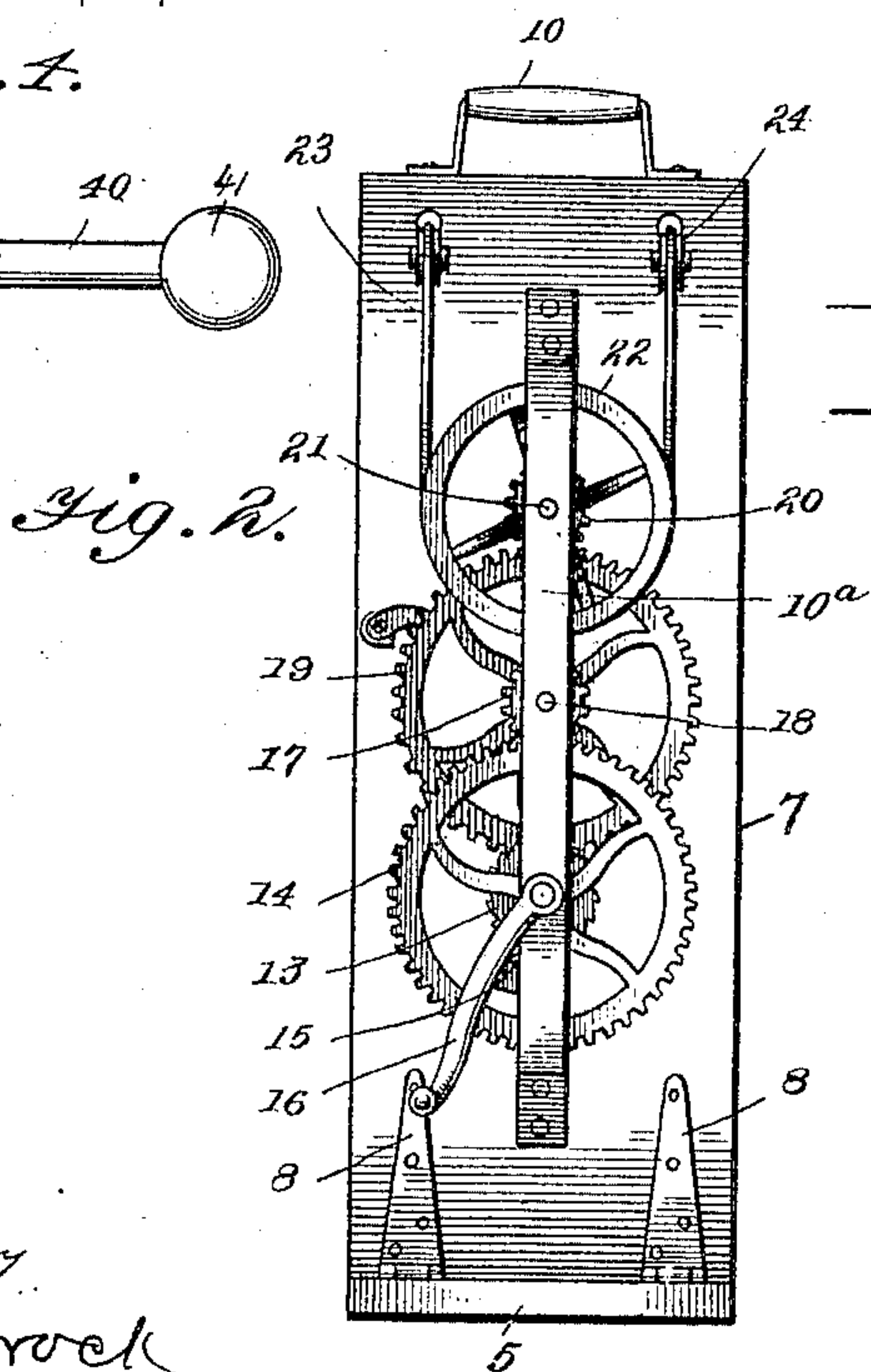
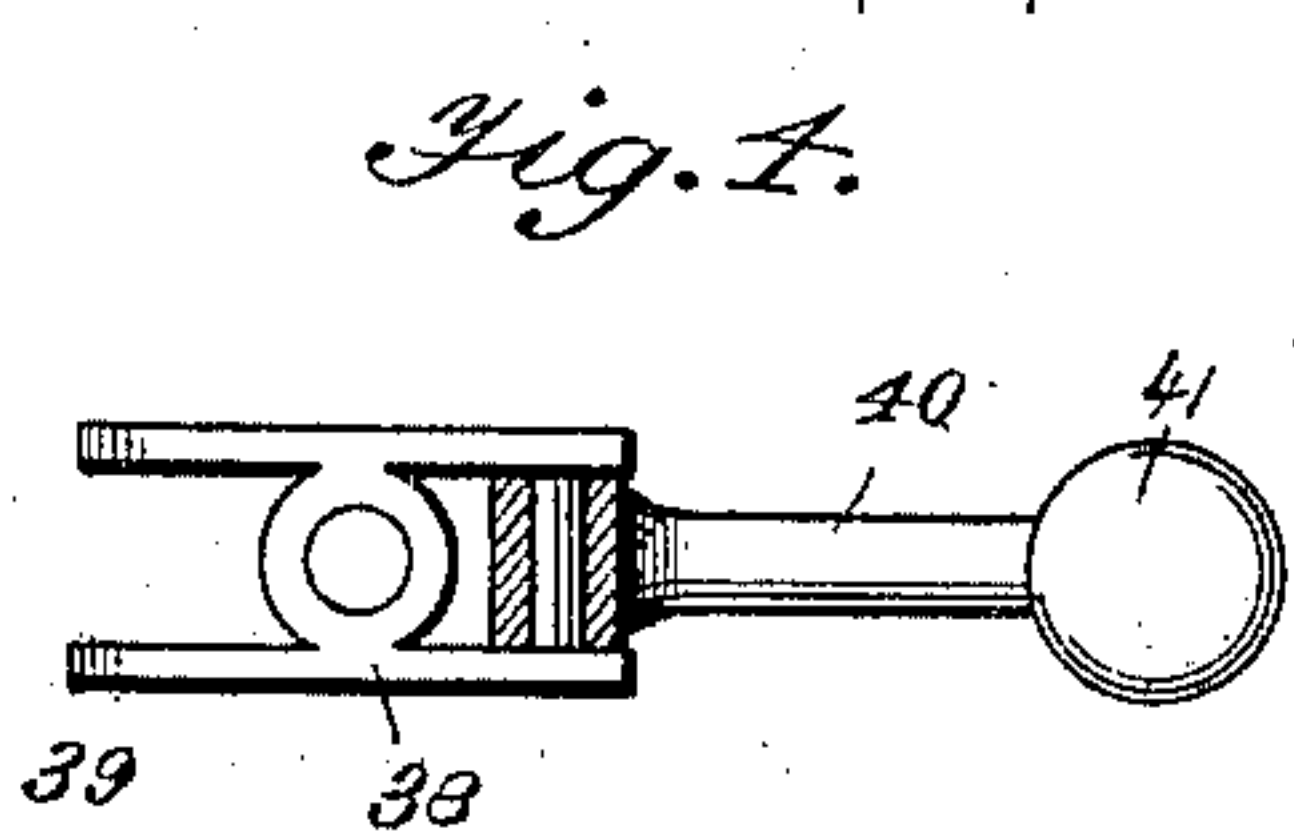
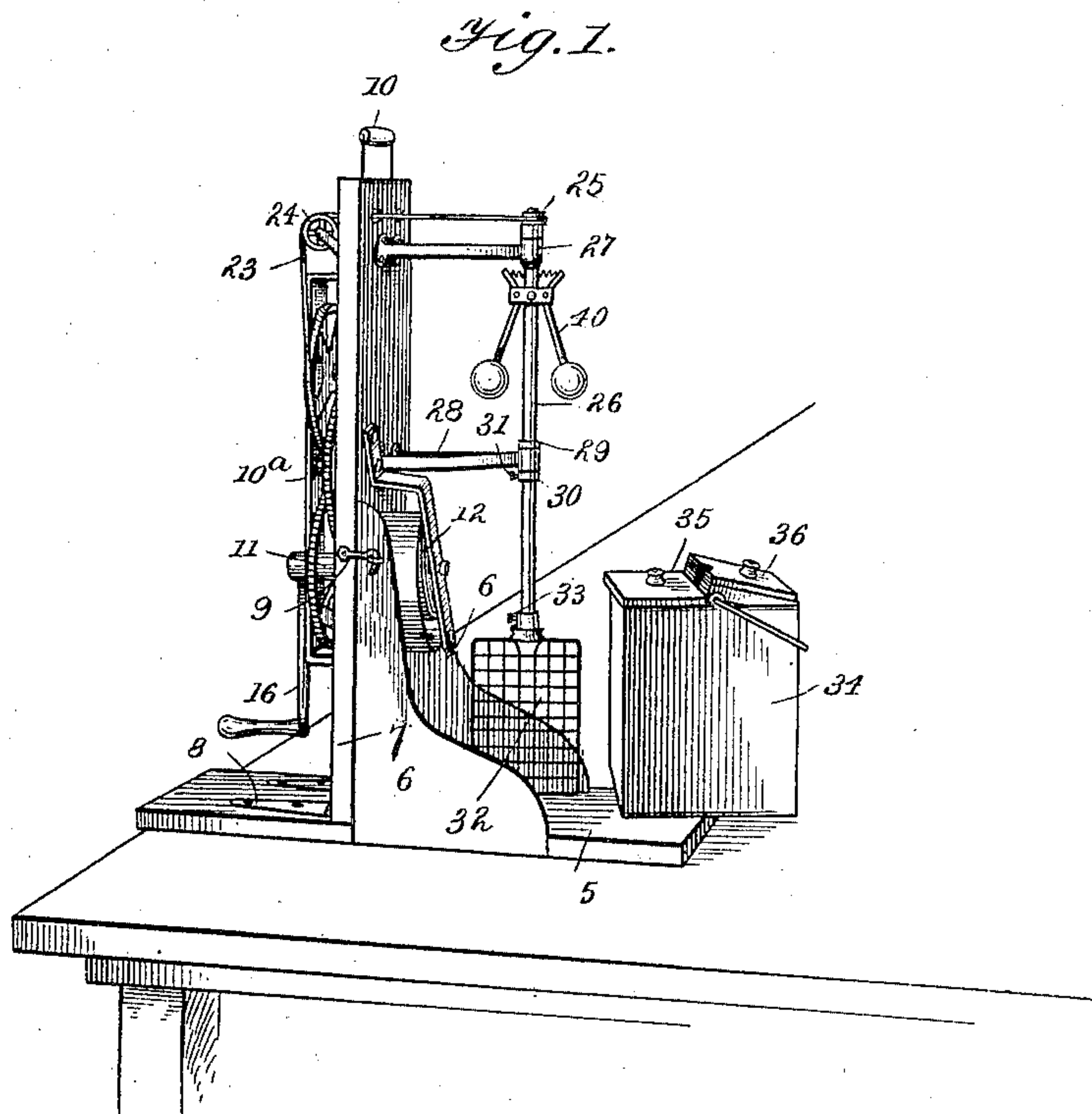
No. 672,458.

W. E. RICE.
MOTOR.

Patented Apr. 23, 1901.

(Application filed Apr. 25, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM E. RICE, OF CHILLICOTHE, MISSOURI.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 672,458, dated April 23, 1901.

Application filed April 25, 1899. Serial No. 714,394. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. RICE, a citizen of the United States, residing at Chillicothe, in the county of Livingston and State of Missouri, have invented a new and useful Motor, of which the following is a specification.

My invention relates to motors; and the object is to provide a simple and effective motor especially designed for use in connection with churns and which may be readily placed in operative position with relation to the churn and conveniently operated to rapidly actuate the dasher of the churn.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a perspective view illustrating my improved motor in connection with a churn. Fig. 2 is a view in rear elevation, showing the upright and gearing. Fig. 3 is a detail vertical sectional view of the governor mechanism. Fig. 4 is a detail transverse sectional view of the same.

Like characters of reference mark the same parts in all the figures of the drawings.

Referring to the drawings by numerals, 5 indicates the base-board, and 6 6 upright brackets rigidly secured at the sides thereof, with their rear edges at right angles thereto. 7 indicates an upright attached to the base by hinges 8 8, whereby it may be folded down upon the base or raised to a vertical position against the rear edges of brackets 6, to which it may be secured by hooks 9. The upright 45 is provided with a bail-handle 10 for convenience in carrying it. A bearing-bar or keeper 10^a is secured to the back of the upright and with the upright supports the train of gearing of the motor now to be described. Near 50 the lower end of the upright is journaled a shaft 11, having secured to it a spring 12 for driving it, a ratchet-wheel 13, and a gear-

wheel 14, the latter loose on the shaft and provided with a pawl 15 to engage the teeth of the ratchet-wheel. On the shaft is a crank 55 16. The gear-wheel 14 engages a pinion 17 on another shaft 18, which carries a gear-wheel 19, engaging a pinion 20 on a third shaft 21, carrying a grooved pulley 22. A round belt 23 engages in the groove of the 60 pulley and passing through slots on the upright over pulleys 24 24 engages around a pulley 25 on an upright shaft 26, journaled in bearing-sleeves at the outer ends of horizontal arms 27 and 28, secured to the front of 65 the upright. This shaft 26 is prevented from moving vertically by collars 29 and 30 above and below the lower bearing-sleeve, the latter secured by set-screw 31.

The dasher 32 of the churn is secured to the 70 lower end of the shaft 26 by a set-screw 33. The churn-body 34 has a cover formed of two sections 35 and 36, so that the cover may be placed thereon after the dasher has been positioned therein. 75

The bearing-sleeve of arm 27 is conical, as at 37, and below and in contact with it is a collar 38, secured on shaft 26, said collar being provided with laterally-projecting lugs 39, in which are pivoted governor arms or 80 wings 40, tipped with balls 41, and extended beyond the pivots to form brake-shoes 42, held apart normally by a spring 43.

The construction of my invention will be readily understood from the foregoing de- 85 scription, and its operation is as follows: The spring-motor being wound up, the hooks 9 are loosened, so that the upright B may be turned upon the hinges 8 sufficiently far to raise the dasher 32 and permit of its intro- 90 duction into the churn-body. Having inserted the dasher in the mouth of the churn-body, raised the upright 7 to its vertical position, and secured it therein by engaging the hooks 9, the churn is ready for action. The 95 spring exerting its force upon the shaft 11 will cause it to turn, and pressing its teeth against the pivoted pawl 15 will cause the gear-wheel 14 to turn, the motion of which will be communicated through the train of 100 gearing before described to the grooved pulley 22. The rotation of this pulley will give motion to the driving-belt 23, and consequently to the vertical dasher-shaft 26.

Should the dasher-shaft rotate at too high a speed, the wings 40 will be thrown outward, which will cause the brake-shoes 42 to be thrown inward into contact with the conical sleeve 37, and their frictional contact there-
 5 with will at once retard the movement of the shaft, thereby preventing the too-rapid movement thereof. The surfaces of the wings are presented to the air in rotating, which
 10 also serve to prevent the too-rapid rotation of the shaft, thereby governing its motion to some extent, even before its speed has reached a point sufficient to throw the brake-shoes into contact with the conical sleeve.

15 While I have illustrated and described the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown, but hold that any
 20 slight changes or slight variations, such as might suggest themselves to the ordinary mechanic, would properly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by 25 Letters Patent of the United States, is—

In a churn-motor, the combination, with a base provided with a bracket projecting upwardly from each side, of an upright pivotally secured to the base adjacent to said 30 brackets and provided with means for engaging therewith, the upper end of the upright being slotted near each edge, a keeper secured to one side of the upright and two arms to the other side, a train of gearing 35 journaled in the keeper and in the upright provided with means for operating it at one end and a belt-wheel at the other, a rotary shaft in the arms provided at its upper end with a pulley and a governor, and a belt over 40 said wheel and pulley and through the slots in the upright, substantially as described.

WILLIAM E. RICE.

Witnesses:

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 W. D. COLBY.