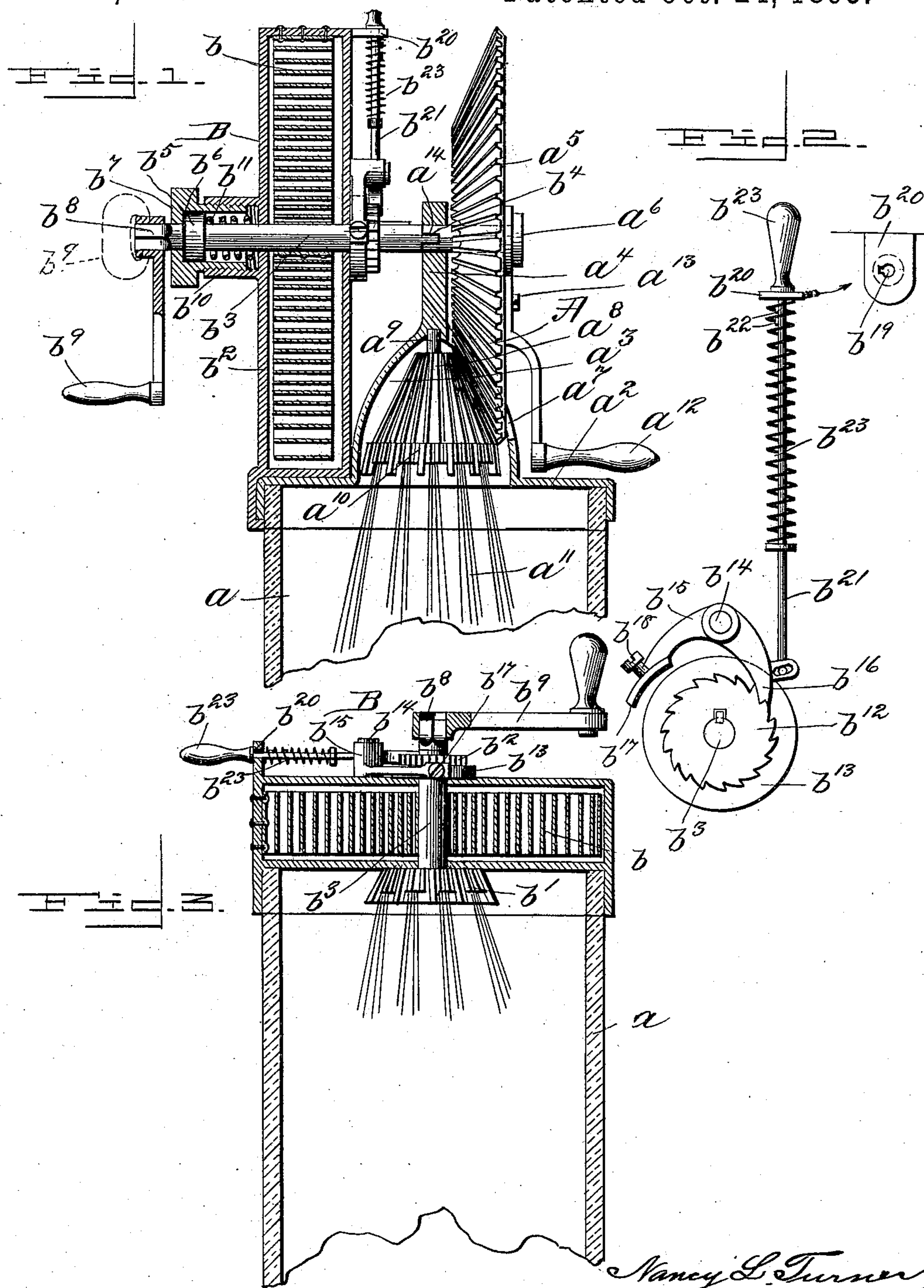


(No Model.)

N. L. TURNER.
MOTOR.

No. 507,464.

Patented Oct. 24, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

NANCY L. TURNER, OF WASHINGTON, DISTRICT OF COLUMBIA.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 507,464, dated October 24, 1893.

Application filed June 14, 1893. Serial No. 477,539. (No model.)

To all whom it may concern:

Be it known that I, NANCY L. TURNER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Motors; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in motor attachments for egg beaters.

The object of the invention is to provide a novel form of device of this class, that shall possess advantages in point of simplicity, durability and general efficiency. In attaining these objects I employ various novel details of construction and combinations of elements which will be hereinafter more fully set forth and specifically pointed out in the claims.

In describing the invention in detail, reference is had to the accompanying drawings forming part of this specification, wherein like letters indicate corresponding parts in the several views, in which—

Figure 1 is a view in central longitudinal section of one form of motor embodying my improvements and showing the same in connection with an egg-beater. Fig. 2 is a detail view of the locking device and the friction-brake. Fig. 3 is a sectional view, showing the whip-retaining device directly connected with the motor-shaft.

In the drawings:—A—denotes a well known form of egg-beater which consists essentially of a vessel—a—usually a glass jar, to which is fitted a metallic cap or cover—a².— This cap is projected upwardly to form centrally thereof a cupola-like casing—a³— and terminates in a vertical post or gear support—a⁴.

—a⁵— indicates a main gear, which is revolutely mounted on a stud shaft—a⁶— that is secured in an opening at or near the top of the post—a⁴.— This gear projects through an aperture—a⁷—formed in the casing at a point below the junction with the post, and engages a pinion—a⁸— which is rotatably carried on

a headed stud—a⁹.— The pinion is provided upon its lower end with a suitable whip retaining device, as for example that indicated at—a¹⁰— to which the whips—a¹¹— formed by the bending up of a continuous length of wire, are secured in a well known manner.

—a¹²— is a crank which is detachably secured to the main gear—a⁵— by a screw—a¹³.

The construction thus far described represents one of many to which my attachment may be applied and serves as a means of illustration only. This attachment—B— comprises an ordinary clock spring—b— which is inclosed in a barrel or casing—b²— with one extremity thereof secured to the inner wall of the barrel and the other fixed on a centrally disposed shaft—b³.— One end of this shaft is reduced to form an engaging tooth—b⁴— which is adapted to take into a slot or cut—a¹⁴— in the end of shaft—a⁶— and the opposite end thereof is provided with an annular flange or collar—b⁵— which is swiveled in a socket—b⁶— of a thumb-nut—b⁷— and projects through an opening of the nut and terminates in a head—b⁸— preferably square on which a crank or thumb-piece—b⁹— may be secured. The nut—b⁷— is adjustably held in a socket—b¹⁰— formed on the outer face of the barrel by a screw-thread connection therewith. Interposed between the flange—b⁵— and the wall of the barrel is a spiral spring—b¹¹— which encircles the shaft and tends normally to retain the tooth—b⁴— out of engagement with the notch—a¹⁴.— This engagement being controlled however by the position of the nut—b⁷.— To lock the spring and prevent its unwinding, I employ the device shown in detail in Fig. 2, wherein—b¹²— is a ratchet disk formed on the face of a friction pulley—b¹³— which is keyed to slide on and revolve with the shaft—b³.— It will be seen that the spring—b¹¹— bears outward against the flange—b⁵— and pushes the shaft outward from the pulley—b¹³, it being slidingly keyed to the shaft. On a stud—b¹⁴— immediately above the shaft—b³— a double pawl—b¹⁵— is pivotally mounted with one prong—b¹⁶— thereof normally engaging the ratchet and the other—b¹⁷— flattened to form a brake shoe for engagement with the periphery of the

friction disk. This flattened prong may be provided with a set screw —*b*¹⁸— for the purpose of increasing the friction also for taking up the wear of the shoe. Through a key-hole slot —*b*¹⁹— formed in a lug —*b*²⁰— on the side of the casing, a rod —*b*²¹— is passed and provided with two studs —*b*²²— and a handle —*b*²³— the lower end thereof being pivotally connected in the pawl —*b*¹⁵—. This rod is encircled by a spiral spring —*b*²³— which constantly exerts a downward pressure on the pawl and this prevents disengagement with the ratchet disk and the resultant release and unwinding of the spring.

The operation is as follows: The thumb screw nut may if desired be unscrewed to allow the spring to disengage the motor drive-shaft from the beater gearing and the crank or thumb piece —*b*⁹— rotated to wind up the main spring which is prevented from backward movement by the pawl and ratchet. After this winding has been completed the thumb nut is screwed home, and thereby forces the clutch members into engagement. If now, the operator draws the pawl lever upwardly until the uppermost lug has passed through the key hole slot and then gives this rod a slight turn to cause said lug to engage and lock on the upper face of the bracket lug —*b*²⁶— the frictional dog will remain out of contact with its disk and the motor will drive with full power. If, however, the rod is elevated sufficiently to lock the lower lug, the frictional dog will be thrown into engagement with its disk and the speed of the motor somewhat checked.

In Fig. 3 I have dispensed with the beater gearing and clutch mechanism and shown the motor shaft provided with a whip-retaining device similar to that illustrated in Fig. 2— and the barrel or casing of the main spring formed with a downwardly projecting flange which fits snugly around the mouth of the

jar. Thus it will be obvious that this peculiar form of a motor may be applied either direct to the vessel or to the ordinary gearing of the beater.

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

1. The combination of the case, the spring arranged therein, the shaft arranged in the case and connected to the spring, the whip receiving device operated by the shaft and having whips, the friction pulley on the shaft, the ratchet on the pulley, the spring rod, the pawl and brake shoe connected to the rod the plate through which the rod passes having a key hole slot and the lug on the rod engaging said slot.

2. The combination with a revoluble shaft mounted to slide longitudinally and means for limiting said movement, of an impulse spring connected to the shaft, a combined frictional and positive locking device, suitable gearing connecting said last named device with the shaft engaging portion on the shaft, for connecting the shaft and gearing, as specified.

3. A spring motor comprising a rotatable and longitudinally movable shaft provided at one end with a detachable crank and adjacent the crank with a fixed collar which is adapted to work loosely in a socket piece, a spiral spring incircling the shaft and abutting against the collar, an impulse spring connected with the shaft, a combined positive and frictional locking device, and a terminal engaging projection of the shaft, as specified.

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

NANCY L. TURNER.

Witnesses:

LAURA B. HOLDERBY,
WM. N. MOORE.