H. F. WHALTON & J. R. STOWERS.

WINDING MECHANISM.

APPLICATION FILED APR. 4, 1912.

1,066,237. Patented July 1, 1913.

FIG. 1.

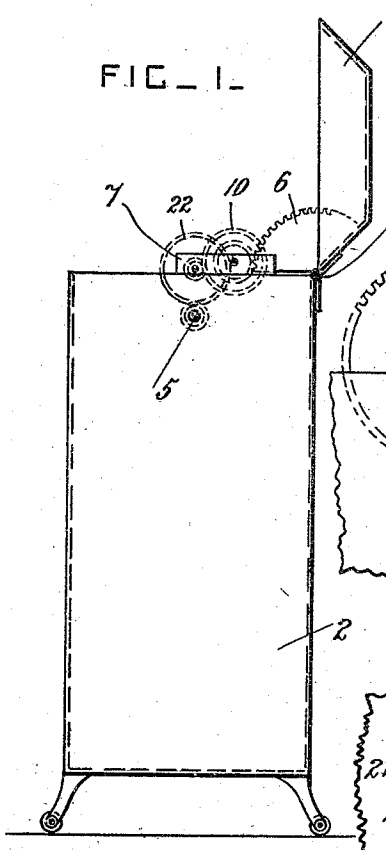


FIG. 2.

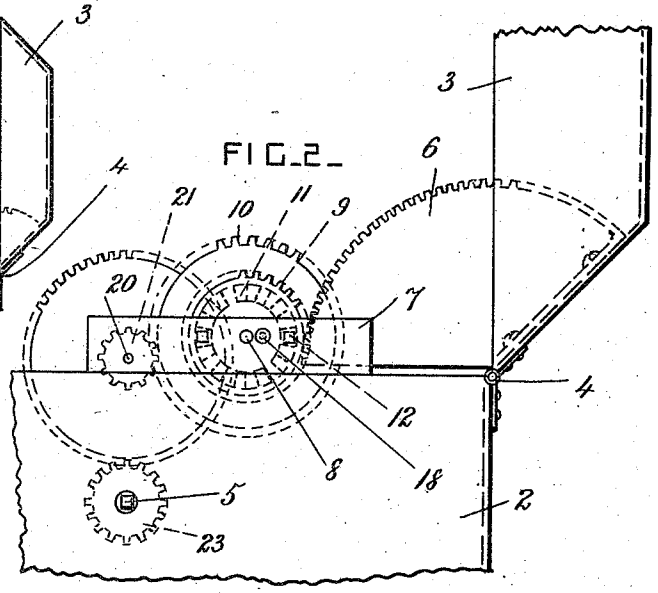


FIG. 3.

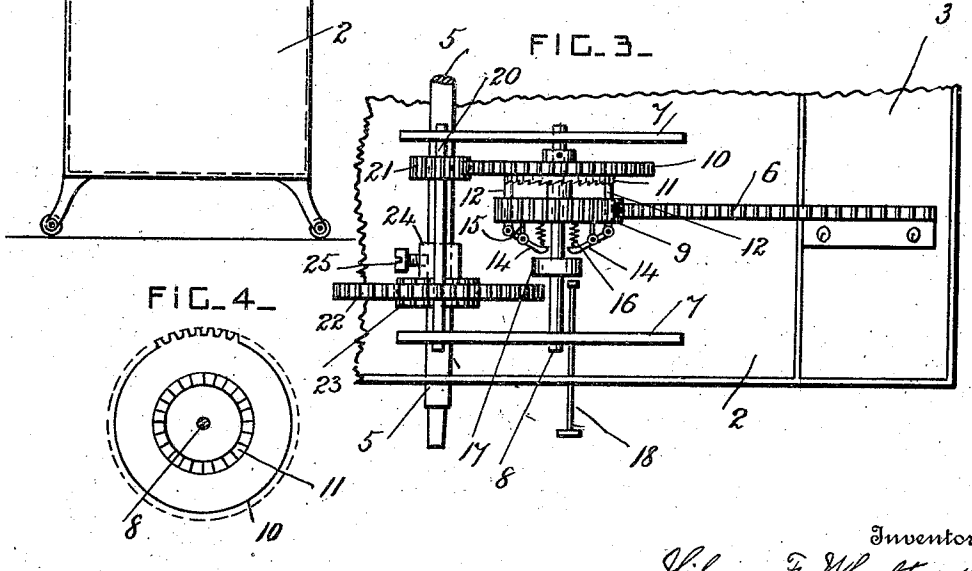


FIG. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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WINDING MECHANISM.

1,066,237. Specification of Letters Patent. Patented July 1, 1913.

Application filed April 4, 1912. Serial No. 686,491.

To all whom it may concern:

Be it known that we, HILARY F. WHALTON and JAMES R. STOWERS, residing at Key West, in the county of Monroe and State of Florida, have invented certain new and useful Improvements in Winding Mechanism; and we 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 winding mechanism specially intended for use in connection with talking machines inclosed in cabinets provided with hinged lids; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed, whereby the spring motor of the talking machine is wound up automatically to a prearranged extent each time the lid or cover of the cabinet is closed down.

In the drawings, Figure 1 is a side view of a cabinet for a talking machine provided with winding mechanism according to this invention. Fig. 2 is a side view of the winding mechanism, drawn to a larger scale. Fig. 3 is a plan view of the winding mechanism. Fig. 4 is a detail side view of the wheel having the ratchet toothed ring.

A cabinet 2 of any approved construction is provided, and 3 is a lid or cover pivoted to the top edge of the back of the cabinet by a hinge 4. The usual winding shaft 5 of the machine projects through a hole in the side of the upper part of the cabinet and is provided with a rectangular portion for engaging with the usual winding crank. A talking machine of any approved construction, such as "The Victrola," is inclosed in the cabinet, and is provided with a spring motor which is operatively connected with the winding shaft 5 so that it may be wound up in the usual way by means of the crank handle.

In order to assure the machine being wound up sufficiently to play completely through each record or piece without running down, automatic winding mechanism is connected with the hinged lid 3. A toothed segment 6 is secured to the lid concentric with its pivot or hinge, and moves with the lid. A frame having two side plates 7 is secured in the upper part of the cabinet, and a shaft 8 is journaled in this frame and is provided with a toothed wheel 9 which gears into the toothed segment 6. A toothed wheel 10 is also mounted loosely on the shaft 8 adjacent to the wheel 9, which is secured to the shaft. The toothed wheel 10 has a ratchet toothed ring 11 formed on one side of it, and 12 are spring actuated pawls which are slidable longitudinally in holes in the wheel 9, and which engage with the toothed ring 11.

Trip levers 14 are pivoted at their middle parts to supports 15 which project from the wheel 9. Springs 16 are arranged between one end portion of each lever 14 and the wheel 9, and the other end portions of the levers 14 engage with the pawls 12. A collar 17 is arranged to slide on the shaft 8 so that it bears against the inner end portions of the trip levers 14, over the springs. A trip rod 18 is slidable in a hole in one side of the cabinet, and bears against the collar 17 when pushed in. The springs normally hold the pawls in driving engagement with the ratchet toothed ring, and these pawls are retracted when the trip rod is pushed in, and are thereby disengaged from the ratchet toothed ring.

A second shaft 20 is journaled in the frame parallel to the shaft 8, and a toothed pinion 21 is secured on the shaft 20 and is arranged in gear with the toothed wheel 10. A toothed wheel 22 is also secured on the shaft 20, and gears into a toothed pinion 23.

The toothed pinion 23 has a sleeve 24 which is slidable on the winding shaft 5, and 25 is a set-screw which secures the pinion and sleeve to the winding shaft. The pinion 23 is slid into or out of engagement with the wheel 22, according to whether the attachment is required to be used or not.

When the parts are in the positions shown in the drawings, and the lid is closed down, the toothed segment revolves the wheel 9, and the motion is transmitted to the winding shaft by the wheels 10 and 22, the pinions 21 and 23, and the ratchet mechanism. This train of driving mechanism is proportioned so that each time the lid is closed down, preparatory to playing a record or piece, a winding of the winding shaft and the spring motor of the talking machine, sufficient for playing the record or piece completely through, is assured.

The ratchet mechanism permits the lid to be raised without having any effect on the winding shaft. When the trip rod is pushed in, to disengage the ratchet mechanism, the lid can be closed down without re-

volving the winding shaft, which is sometimes desirable. When the spring has been rewound by closing the lid, the pawls 12 hold the spring from unwinding in the reverse direction.

What we claim is:

1. The combination, with a cabinet for a motor, said cabinet being provided with a hinged lid, a motor winding shaft journaled in the cabinet, and means for winding up the motor independent of the movements of the said lid; of a disengageable auxiliary winding mechanism comprising a toothed rack secured to the said lid, and a train of toothed driving devices operatively connecting the said rack with the said shaft and provided with a ratchet mechanism, whereby the winding shaft is revolved to wind up the motor by the downward movements of the said lid.

2. The combination, with a cabinet for a motor, said cabinet being provided with a hinged lid, a motor winding shaft journaled in the cabinet, and means for winding up the motor independent of the movements of the said lid; of a disengageable auxiliary winding mechanism comprising a toothed pinion slidable on the said shaft and provided with a fastening device for securing it to the shaft, a toothed rack secured to the said lid, and a train of toothed driving devices normally connecting the said rack with the said pinion and provided with a ratchet mechanism, whereby the winding shaft is revolved in one direction by the downward movements of the said lid.

3. The combination, with a cabinet for a motor, said cabinet being provided with a hinged lid, a motor winding shaft journaled in the cabinet, and means for winding up the motor independent of the movements of the said lid; of a toothed rack secured to the said lid, a driving shaft carried by the cabinet, a toothed wheel mounted on the driving shaft and operatively connected with the said rack, a toothed wheel also mounted on the driving shaft and having a ratchet toothed ring on one side, a spring-pressed pawl slidable longitudinally in a hole in the first said toothed wheel and engaging with the said ring, and driving devices operatively connecting the last said toothed wheel with the said driving shaft.

4. The combination, with a cabinet provided with a hinged lid, and a motor winding shaft journaled in the cabinet; of a toothed segment secured to the said lid and arranged concentric of its hinge, a driving shaft carried by the cabinet, a toothed wheel mounted on the driving shaft and operatively connected with the said segment, a toothed wheel also mounted on the driving shaft and having a ratchet toothed ring on one side, a spring-pressed pawl slidable longitudinally in a hole in the first said toothed wheel and engaging with the said ring, a collar mounted to slide longitudinally on the said driving shaft, a trip rod, for moving the said collar, carried by the cabinet, a trip lever pivotally supported from the first said wheel and interposed between the pawl and the collar, and driving devices operatively connecting the last said toothed wheel with the said winding shaft.

In testimony whereof we affix our signatures, in presence of two witnesses.

HILARY F. WHALTON.
JAMES R. STOWERS.

Witnesses:
WARDLAW M. ADAMS,
WILLIAM SAWYER.