No. 671,324. Patented Apr. 2, 1901.

J. B. POWELL.

SPEED REGULATOR.

(Application filed Jan. 30, 1900.)

(No Model.)

Fig. 1.

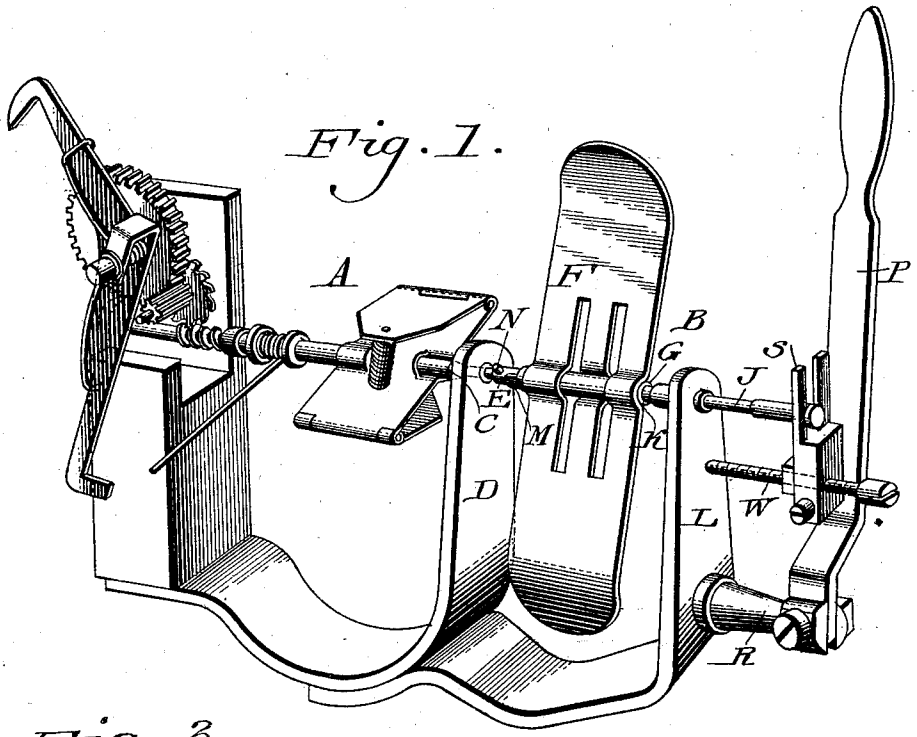


Fig. 3.

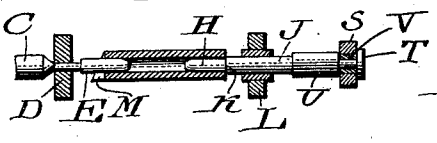
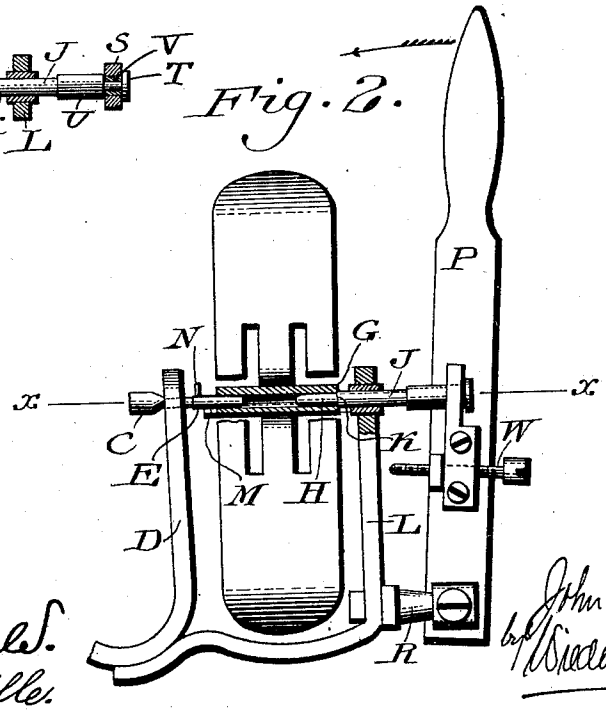


Fig. 2.



Witnesses
P. F. Dagle.
L. Bowdille.

Inventor
John B. Powell.
by Dickerson & Fairbanks
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN B. POWELL, OF PHILADELPHIA, PENNSYLVANIA.

SPEED-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 671,324, dated April 2, 1901.

Application filed January 30, 1900. Serial No. 3,277. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. POWELL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Speed-Regulators, which improvement is fully set forth in the following specification and accompanying drawings.

This invention consists of a novel construction in a speed-regulator adapted, for instance, to be applied to the governor-shaft of a music-box, although it is understood that it can be applied to other rotating parts without departing from this invention.

The invention further consists in the features of construction hereinafter fully described and claimed.

Figure 1 represents a governor-shaft for a music-box with a speed-regulator embodying my invention applied thereto. Fig. 2 represents a detail side elevation of my speed-regulator, partially in section. Fig. 3 represents a horizontal section on the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a speed-governing apparatus of a music-box, and B the speed regulator or retarder embodying my invention applied thereto. The governing apparatus is of familiar construction, and the shaft C thereof extends through the upright D and is provided with an extension E. The speed regulator or retarder B consists, essentially, of a retarding device, fly, or fan F, that is normally loose on the shaft C, and means for tightening said fly on said shaft C to cause the fly to rotate, and thus reduces the speed of said shaft. The said fly F is provided with a sleeve or hub G, open at its ends and rotatably mounted upon the extension E of the shaft C and upon the reduced end H of a spindle J, a shoulder K between said reduced end J and the larger portion of the spindle being adapted to abut against the end of the sleeve or hub G for the purpose of moving the fly laterally to be engaged by the shaft C. The said spindle J is mounted to slide longitudinally in the upper end of an upright L, secured to the upright D, and the end of the hub G that receives the extension E of the shaft C is provided with a stop or projection M, that is situated to be engaged by a stop or pin N upon said extension E. The said spindle J is movable longitudinally, and when moved inwardly toward the governor-shaft C the said shoulder K engages the end of the hub G and moves the stop M into the path of the rotating stop N of said shaft C, so as to cause the fly to be rotated thereby. When said spindle J is moved in the opposite direction, however, there is sufficient friction between the reduced end H of the spindle and hub G to move the fly to the right and disengage the stops M and N. The said spindle J is controlled by a lever P, fulcrumed upon a bracket R near the base of the upright L, and provided with a fork S, which engages the shoulders formed between a head T of said spindle and an annular flange U adjacent thereto. The tongues of this fork S embrace a bearing-block V, situated between the head T and flange U and in which the spindle is rotatably mounted, the sides of said block being flat and having sliding engagement with said fork S. To regulate its inward movement, the lever P is provided with an adjusting device, consisting of a screw W, the inner end of which is situated to engage the upright L.

The operation is as follows: The parts stand normally in the position shown in the drawings—that is to say, with the lever P retracted and the stop M out of the path of the stop N. This allows the governor-shaft C to rotate freely. When it is desired to reduce the speed of the governor-shaft C, the lever P is moved inwardly until the end of the adjusting-screw W contacts with the upright L, this movement of the lever causing the spindle J to be moved inwardly, so that the shoulder K thereof engages the end of the hub G and moves the fly toward the governor-shaft C until the stop M of the said hub is moved into the path of said stop N of said governor-shaft. This causes the fly to rotate with the governor-shaft and reduces the speed thereof in an obvious manner. In moving the lever P in an opposite direction it is obvious that the fly is moved therewith to move the stop M thereof out of the path of the stop N to allow the governor-shaft to rotate without driving the fly.

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

1. In a speed-regulating device, driven mechanism, a rotatable and laterally-movable speed-retarder, and means for connecting and disconnecting said speed-retarder and a rotatable member of said driven mechanism by reason of the lateral movement of the speed-retarder, said speed-retarder being independent of said driven mechanism and the means for driving the same, whereby said driven mechanism can continue to operate and be driven by said means for driving the same when the speed-retarder is disconnected from said driven mechanism.

2. In a speed-regulating device, a rotatable shaft, a speed-retarder rotatably and laterally movable upon said shaft, a laterally-movable spindle engaging said speed-retarder, means for moving said spindle, and means for connecting and disconnecting said shaft and speed-retarder upon the lateral movement of the latter upon said shaft.

3. In a speed-regulating device, a rotatable shaft, a speed-retarder rotatably and laterally movable upon said shaft, a laterally-movable spindle engaging said speed-retarder, a lever engaging said spindle for moving the same laterally, and means for connecting and disconnecting said shaft and speed-retarder upon the lateral movement of the latter upon said shaft.

4. In a speed-regulating device, a rotatable shaft, a speed-retarder rotatably and laterally movable upon said shaft, a laterally-movable spindle engaging said speed-retarder, a lever engaging said spindle for moving the same laterally, means for adjusting the throw of said lever, and means for connecting and disconnecting said shaft and speed-retarder upon the lateral movement of the latter upon said shaft.

5. In a speed-regulating device, a rotatable shaft having a stop, a speed-retarder rotatably and laterally movable upon said shaft and provided with a stop, a laterally-movable spindle engaging said speed-retarder, and means for moving said spindle to move the speed-retarder laterally upon said shaft to connect and disconnect the said stops.

JOHN B. POWELL.

Witnesses:
JOHN A. WIEDERSHEIM,
WM. CANER WIEDERSHEIM.