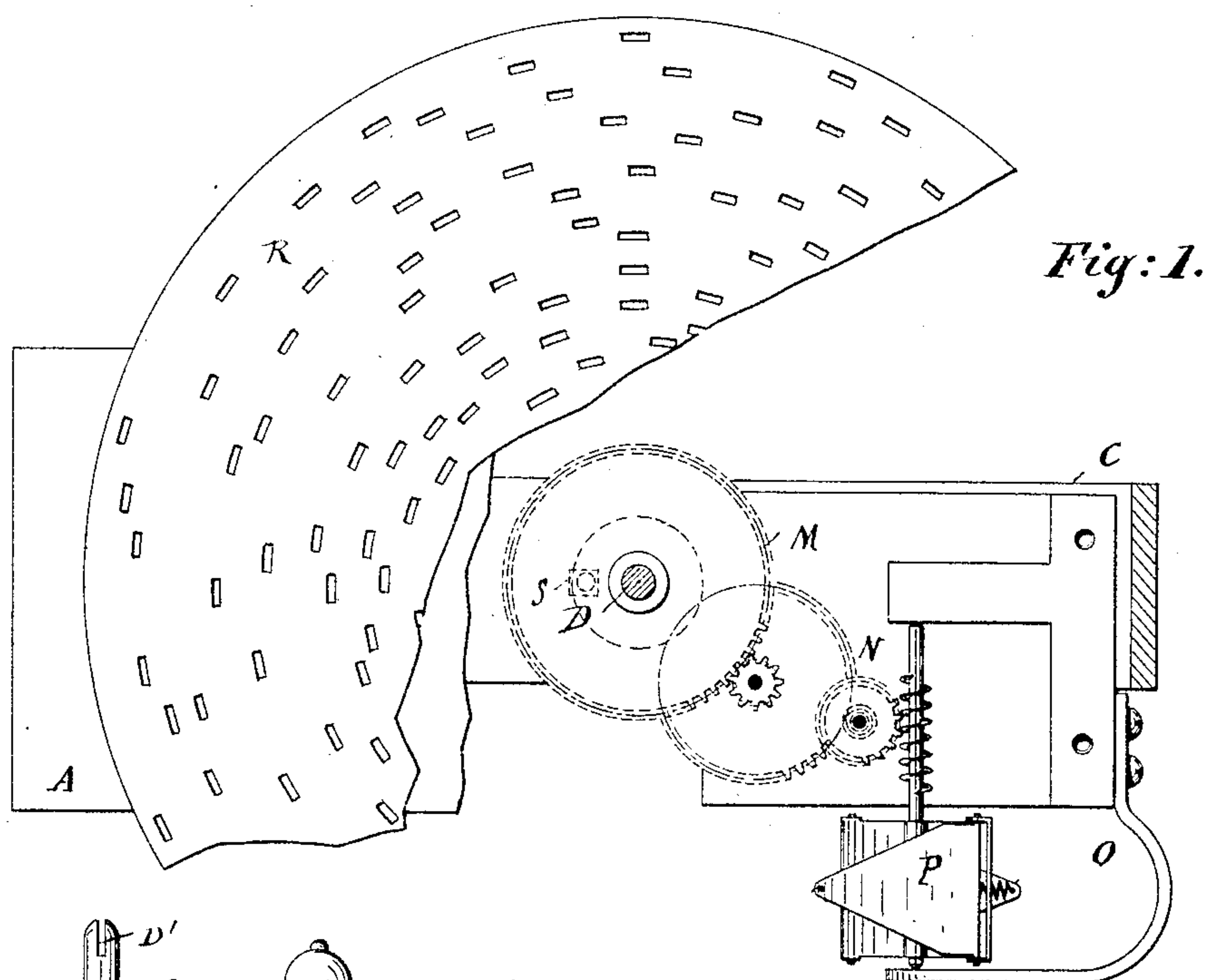


(No Model.)

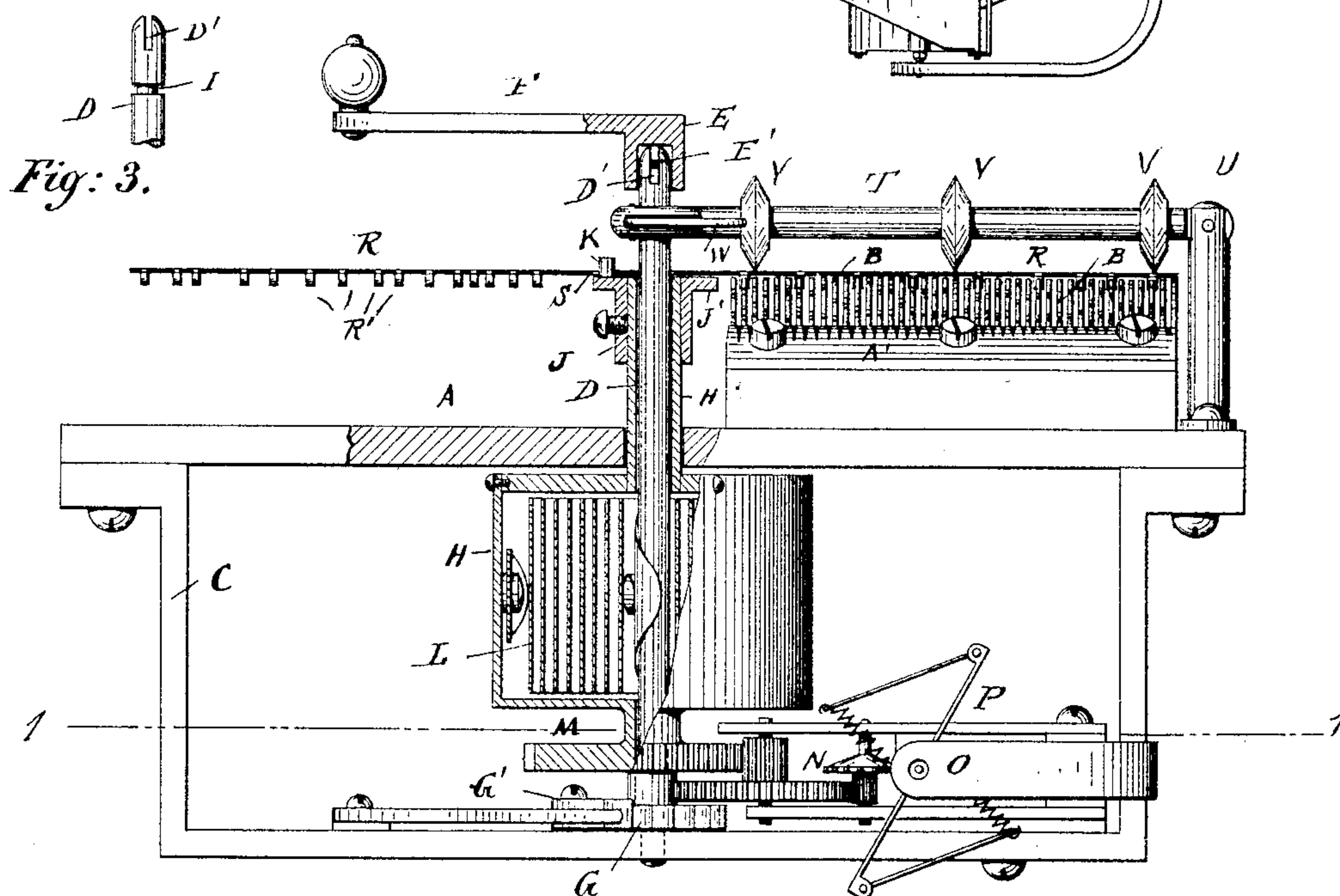
F. SCHAUB.  
MUSICAL BOX.

No. 538,468.

Patented Apr. 30, 1895.



*Fig:1.*



*Fig: 2.*

Witnesses  
J. A. Palmes  
E. J. J. J.

*F. Schaub* Inventor

By his Attorney *Robert F. Gunz.*



# UNITED STATES PATENT OFFICE.

FERDINAND SCHAUB, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO  
F. G. OTTO & SONS, OF SAME PLACE.

## MUSICAL BOX.

SPECIFICATION forming part of Letters Patent No. 538,468, dated April 30, 1895.

Application filed February 21, 1895. Serial No. 539,178. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND SCHAUB, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Musical Boxes, of which the following is a specification.

This invention relates to improvements in that class of musical boxes provided with a rotating disk having projections for operating ratchet wheels, which in turn operate the teeth of a steel comb.

The object of my invention is to provide a new and improved musical box of this kind, which is simple in construction, strong and durable, runs a long time for one winding, and is not apt to get out of order.

The invention consists in a musical box having sound producing devices, a vertical spindle, a motor spring surrounding said spindle and having its inner end fastened thereto, a drum surrounding the spindle loosely and to which the outer end of the spring is fastened and means for rotating a note disk directly from said drum.

The invention also consists in the construction and combination, of parts and details as will be fully described and set forth herein- after and finally pointed out in the claims.

In the accompanying drawings, forming a part of this specification, and in which like letters of reference indicate like parts in all the views, Figure 1 is a horizontal sectional view of my improved musical box on the line 1 1 of Fig. 2, parts being broken out, parts of the toothed disk being shown, and the casing being omitted. Fig. 2 is a side view of the same, parts being broken out and others being shown in section. Fig. 3 is a detail view.

The comb A' is fixed in the usual manner on the base plate A, which also carries the support for the ratchet or star wheels B, all in the usual manner. A U-shaped frame C, is fastened to the under side of the base plate A, and serves for supporting the motor. The vertical central spindle D, has a bearing at its lower end in the bottom piece of the frame C, and projects through an aperture in

the base plate, at its upper end. The said spindle is provided with the notch D' for receiving a transverse pin E', in a socket E formed on the end of a removable crank handle F, which socket serves for receiving the upper end of said spindle D, in such a manner that the transverse pin E' passes into the notch D' and the spindle can be turned on its axis by means of said crank handle. A ratchet wheel G, is fixed on the lower end of the spindle D, directly above the bottom of the frame C, and is engaged by a spring pawl G' pivoted on the bottom piece of the frame.

A spring drum H, loosely surrounds the spindle D, below the base plate and is provided on its top with a neck H' also loosely surrounding the spindle and projecting beyond the top of the base plate and on the upper end of said neck, a sleeve J is fastened, which is provided at its top with the flange J' from which a pin K projects upward. A spiral spring L in the drum H has its outer end secured to the drum and its inner end is secured to the spindle D. A cog wheel M, made integral with the spring drum H, engages the train of gearing N which operates the fan governor fan P, of the usual construction and mounted in a frame O on the

The note disk R, provided with projections R' has a central aperture for receiving the upper end of the spindle D, and at the side of the same a smaller aperture S for receiving the pin K projecting upward from the flange J' of the sleeve J, on which flange the central part of the disk rests. A retaining and pressing lever T, for the note disk is pivoted to a standard U on the base plate and carries the presser rollers V, of any approved construction. A latch W serves for locking the free end of said retaining bar to the central spindle D, which has an annular groove I for receiving the latch.

The motor spring is wound by turning the central spindle D on its axis by means of the key F, the ratchet wheel G and pawl G' serving to prevent the spindle from turning backward. The spring in uncoiling, turns the drum H, and cogwheel M, whereby the con-



trolling or governor fan is operated and the collar J is turned and by means of the pin K the note disk R, is rotated and its teeth turn the ratchet wheels B, which in turn vibrate the teeth of the comb A'.

In place of vibrating the teeth of a comb, the star or ratchet wheels can as well operate the valves of a wind or reed instrument.

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

1. In a musical box, the combination with sound producing devices and a base plate, of a vertical spindle passed through the base plate, a motor spring drum loosely surrounding said spindle, a motor spring in said drum having its ends fastened to the drum and spindle respectively, and a support for a note disk connected with the spring drum to rotate therewith and means on said support for carrying along the note disk thereon, substantially as herein shown and described.

2. In a musical box, the combination with sound producing devices and a base plate, of a vertical spindle passing through the base plate, a spring drum loosely surrounding the spindle, a coiled spring in said drum, having its ends connected with the drum and spindle respectively, a neck on said drum extending above the base plate, a note disk support on said neck and means on said note disk support, for carrying along the note disk, substantially as herein shown and described.

3. In a musical box, the combination with sound producing devices and a base plate, of a vertical spindle passing through said base plate, a spring drum loosely surrounding the spindle, a coiled spring in said drum, having its ends connected with the drum and spindle, respectively, a neck on said drum, also loosely surrounding the spindle, a note support on said neck and means on said support for carrying along the note disk, a cog wheel connected with the spring drum, a governor fan and a train of gearing for operating said fan from the cog wheel connected with the drum substantially as herein shown and described.

4. In a musical box, the combination with sound producing devices and a base plate, of a frame on the under side of the base plate, a vertical spindle having its lower end mounted in said frame and its upper end passed through the base plate, a ratchet wheel fixed on said

spindle, a spring pawl on said frame engaging the ratchet wheel, a spring drum loosely surrounding the spindle, a coiled spring in said drum, having its ends connected with the drum and the spindle, a neck on said drum projecting above the base plate, a note disk support on the upper end of said neck and means on said support for carrying along the note disk, substantially as herein shown and described.

5. In a musical box, the combination with sound producing devices and a base plate, of a vertical spindle passing through the base plate and provided at its upper end with a notch for engaging a winding key, a spring drum loosely surrounding the spindle, a coiled spring in said drum, having its ends connected with the drum and spindle and means for rotating a note disk directly from said drum, substantially as herein shown and described.

6. In a musical box, the combination with sound producing devices and a base plate, of a vertical spindle passing through said base plate and provided at its upper end with a notch for engaging a winding key, a spring drum loosely surrounding the spindle, a coiled spring in said drum, having its ends connected with the drum and the spindle, means for rotating a note disk directly from said drum, a hinged retaining bar for the note disk and a latch on the free end of said retaining bar for engaging it with the upper end of the spindle and thus locking said retaining bar in place, substantially as herein shown and described.

7. In a musical box, the combination with sound producing devices, of a vertical spindle, a motor spring on said spindle, means for engaging the upper end of said spindle with a winding key, a drum loosely surrounding the spindle and the spring, with which drum the outer end of the spring is connected and means for rotating a note disk directly from said drum, substantially as herein shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 16th day of February, 1895.

FERDINAND SCHLAUB.

Witnesses:

OSCAR F. GUNZ,  
H. M. FLANNERY.