

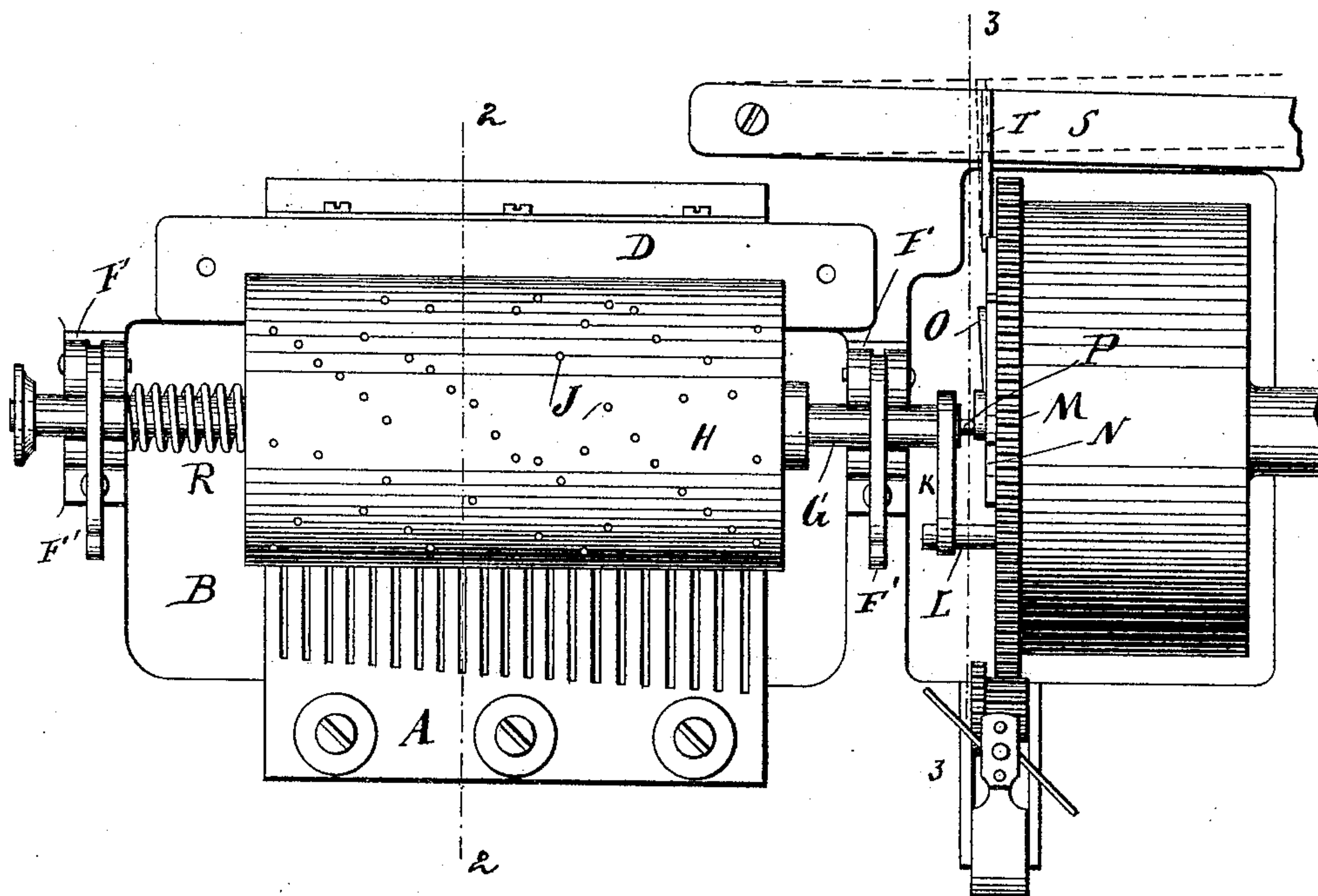
(No Model.)

A. E. PAILLARD & A. SUEUR.  
MUSIC BOX.

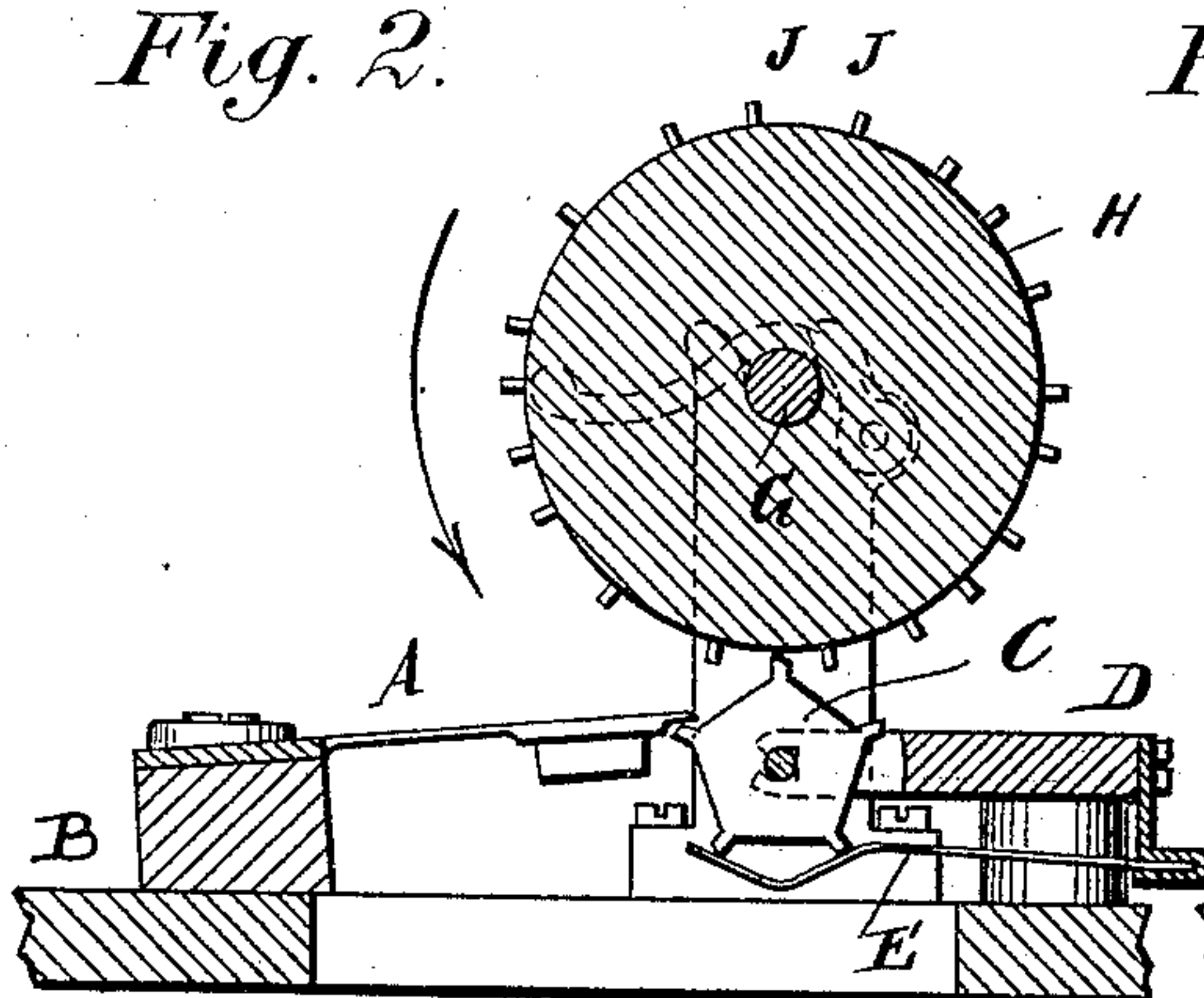
No. 526,499.

Patented Sept. 25, 1894.

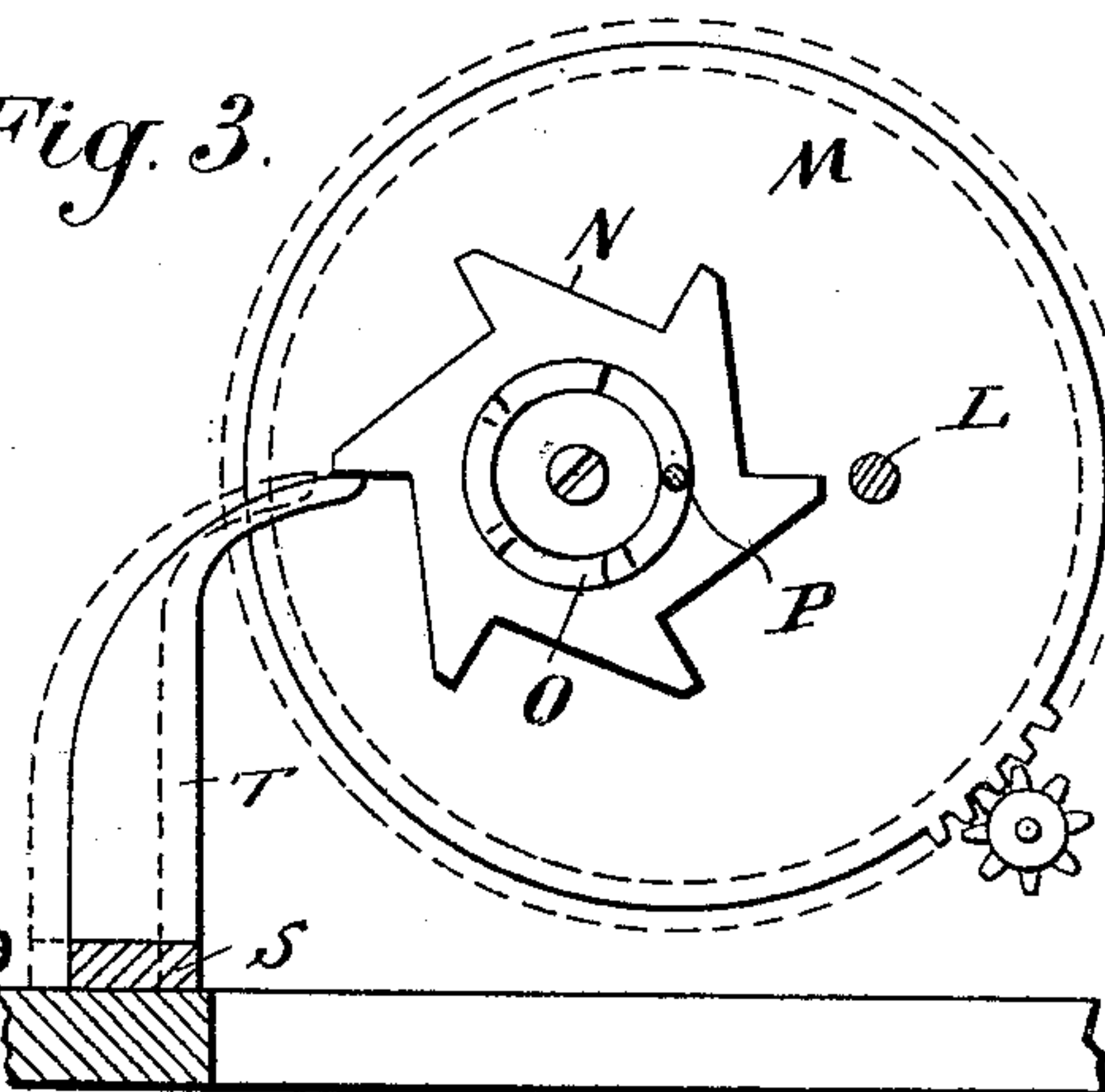
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 526,499, dated September 25, 1894.

Application filed January 22, 1894. Serial No. 497,674. (No model.)

*To all whom it may concern:*

Be it known that we, ALFRED E. PAILLARD, a citizen of Switzerland, and a resident of the city of New York, in the county of New York and State of New York, and ALFRED SUEUR, a citizen of Switzerland, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Music-Boxes, of which the following is a specification.

The object of our invention is to simplify the cylinder shifting mechanism for changing the tunes in music-boxes.

The invention consists in the combination with the pin cylinder, of a shaft fixed in said cylinder, a motor-wheel having a pin that enters a notch in an arm of the cylinder shaft, a toothed wheel pivoted at its center to the side of the motor-wheel, eccentrically thereto, a cam-track on said toothed wheel and crossing the center of the same, on which cam track one end of the cylinder shaft rests, a spring on said cylinder shaft to press it lengthwise toward the cam-track, and an adjustable spring for turning the toothed wheel, substantially as set forth.

In the accompanying drawings, Figure 1 is a plan-view of a music-box containing our improvements. Figs. 2 and 3 are vertical transverse sectional views on the lines 2—2 and 3—3 of Fig. 1, respectively.

Similar letters of reference indicate corresponding parts.

The comb A is of the usual construction and is fastened on the base-plate B in the usual manner. Adjacent to the vibrating end of each tooth a star-wheel C is mounted to turn in notches of a plate D in such a manner that the prongs or arms of each star-wheel can vibrate the corresponding tooth. A retaining spring E rests against each star-wheel and prevents the same from rotating too freely. In suitable bearings F having latches or locking levers F' the shaft G is mounted to turn and so that it can slide in the direction of its length. Said shaft carries the cylinder H fixed thereon and said cylinder is provided with pins J which when the cylinder is rotated act on the prongs or arms of the star-wheels and ro-

tate said wheels, whereby other prongs or arms of the star-wheels, vibrate the teeth. The pins are arranged on the cylinder in such a manner that when the cylinder is rotated the comb-teeth are vibrated to produce a certain melody.

The roller is preferably made of wood as a matter of economy. As the star-wheels are finely adjusted to act on the comb teeth and as the pins act only on the star-wheels and not on the teeth, the pins need not be adjusted as required when they act on the teeth, and thus the cost of producing the roller is very much reduced.

The shaft G is provided at one end with an arm K having a recess in its free end for receiving a pin L projecting from the side of a wheel M that is rotated by means of a suitable spring-motor, such as are usually used in music-boxes. A toothed-wheel N having an annular stepped cam-track O, fixed centrally on its side is centrally pivoted to the side of the wheel M eccentrically to said wheel M, in such a manner that the cam-track O passes through the center of the wheel M. A pin P projecting from the end of the shaft G rests on the annular cam-track at that point at which the cam-track crosses the center of the wheel M. A helical-spring R surrounding the shaft G presses the end of the pin P against the annular cam-track O. The lever S is pivoted in the usual manner to the base-plate and has a spur T for engaging the teeth of the wheel N, when the cylinder is to be shifted to change the tune. For each rotation of the wheel M the toothed-wheel N is turned the distance of one tooth and thereby the cylinder is shifted lengthwise as the stepped cam-track O acts on the pin P and pushes the cylinder against the spring R. Although the shaft G turns on its bearings and the end of the pin P turns on the cam-track, said pin P keeps its relative position on the cam-track O.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

In a music-box, the combination with a pin-cylinder, and a shaft on which said cylinder is fixed, of bearings in which said shaft can

slide lengthwise, a motor-wheel having an eccentrically projecting pin, an arm on the cylinder shaft provided with a notch for receiving said pin, a toothed-wheel pivoted at its  
5 center to the side of the motor-wheel eccentrically to said motor-wheel, a cam-track formed on said toothed-wheel, and passing over the center of the motor-wheel, on which cam-track one end of the cylinder shaft rests,  
10 a spring acting on said cylinder shaft to press the same lengthwise toward the cam-

track, and an adjustable spur for turning the toothed-wheel, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in  
15 presence of two subscribing witnesses.

ALFRED E. PAILLARD.  
ALFRED SUEUR.

Witnesses:

K. R. BRENNAN,  
OSCAR F. GUNZ.