

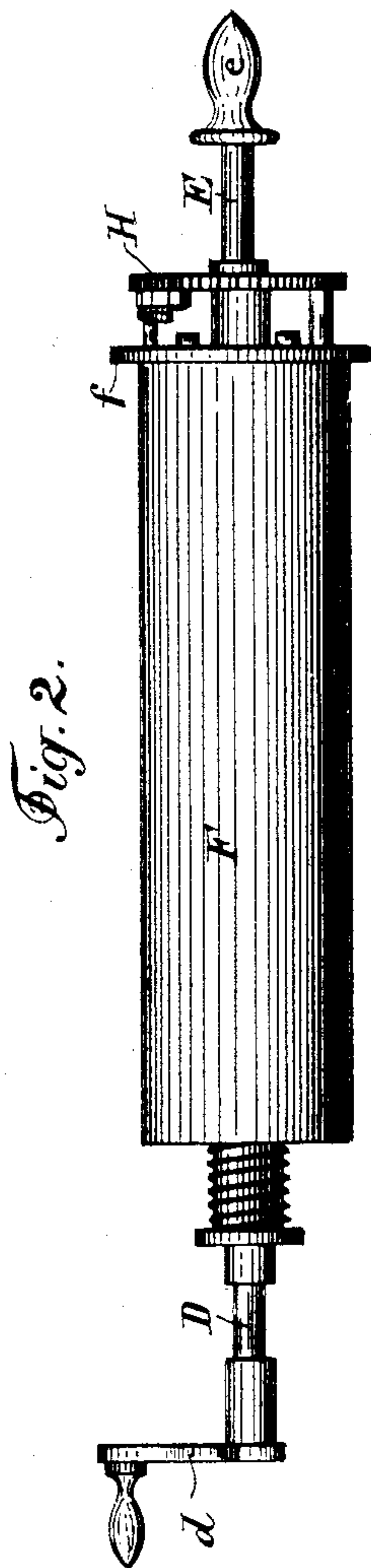
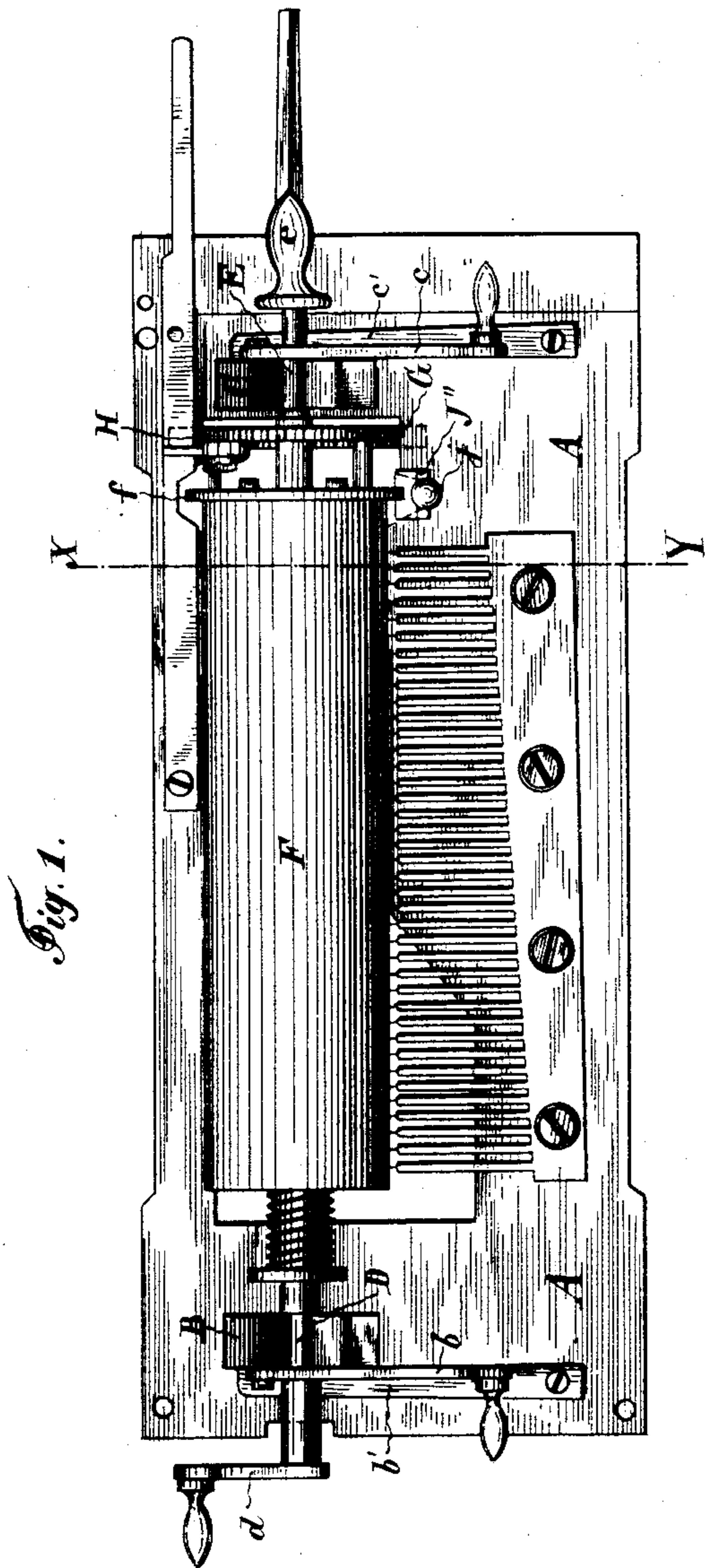
(No Model.)

2 Sheets—Sheet 1.

A. JUNOD, J. JACCARD & P. CALAME-JACCARD.
MUSICAL BOX.

No. 445,699.

Patented Feb. 3, 1891.



Witnesses

Chas. H. Smith
J. Staib

Inventors

Alfred Junod
Jules Jaccard
Paul Calame-Jaccard
per Lemuel W. Percell atty

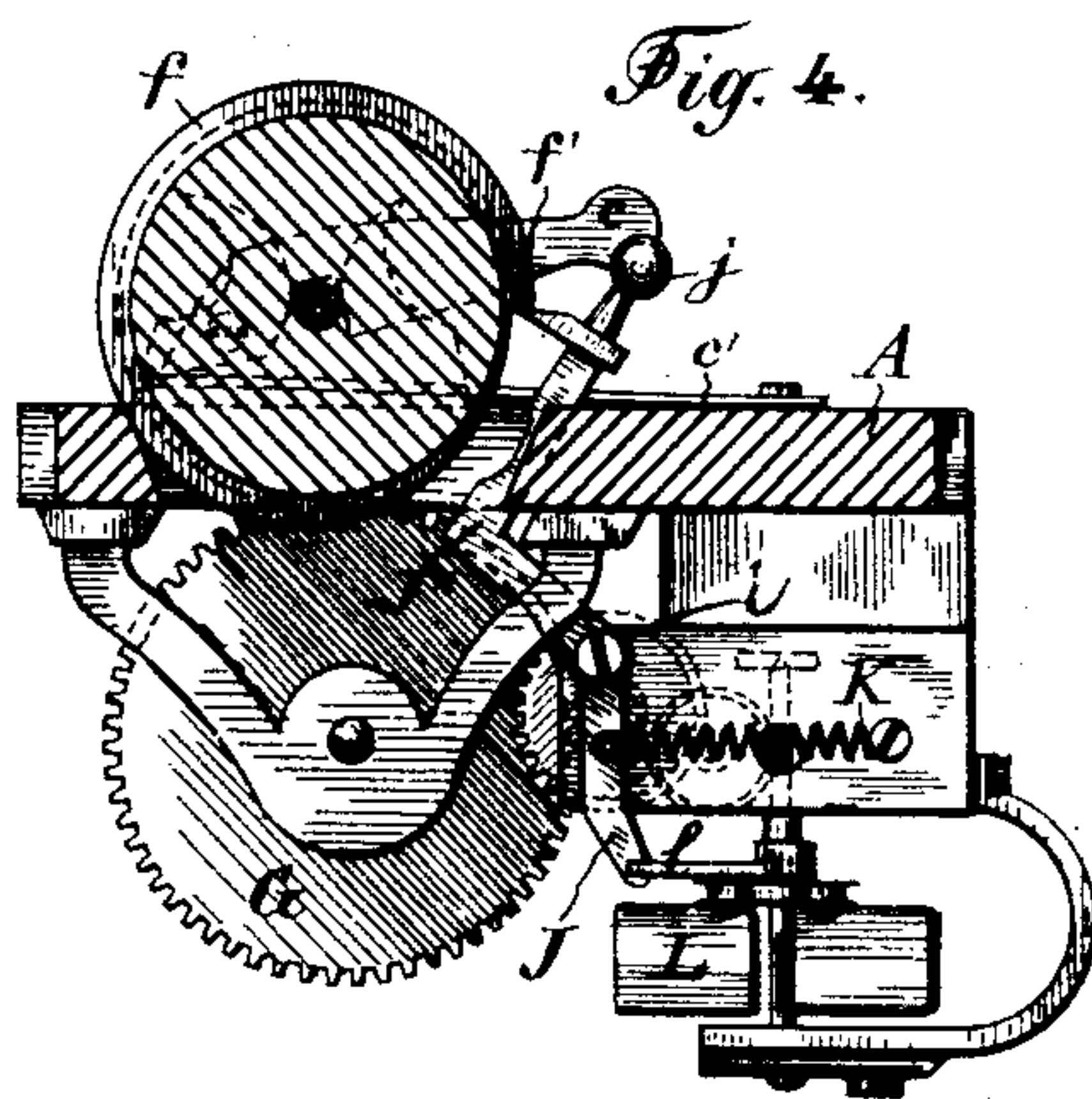
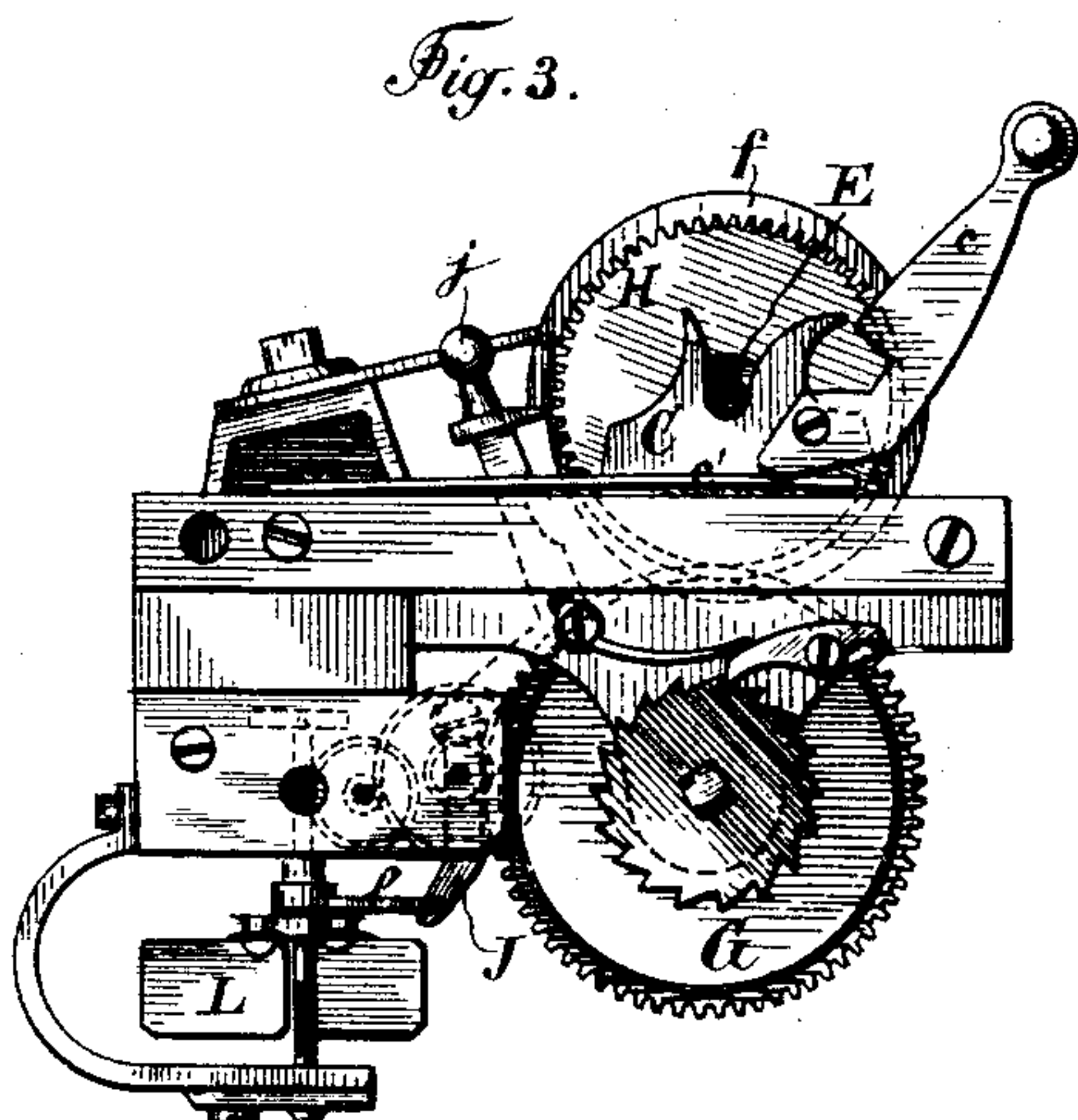
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UNITED STATES PATENT OFFICE.

ALFRED JUNOD, JULES JACCARD, AND PAUL CALAME-JACCARD, OF STE. CROIX, SWITZERLAND, ASSIGNORS TO ALFRED JUNOD & CO., OF SAME PLACE.

MUSICAL BOX.

SPECIFICATION forming part of Letters Patent No. 445,699, dated February 3, 1891.

Application filed October 6, 1890. Serial No. 367,203. (No model.) Patented in Switzerland June 9, 1890, No. 2,293.

To all whom it may concern:

Be it known that we, ALFRED JUNOD, JULES JACCARD, and PAUL CALAME-JACCARD, all manufacturers, residing at Ste. Croix, in the Canton of Vaud, in Switzerland, have invented certain new and useful Improvements in Musical Boxes, (for which we have received Letters Patent in Switzerland, No. 2,293, dated June 9, 1890,) of which the following is a specification.

This invention relates to a musical box with interchangeable cylinders, which can be manufactured cheaply and enables the said cylinders to be easily exchanged, even during its action, without any risk either to the cylinders themselves or to the comb.

The improved musical box constructed according to the aforesaid invention has a plate carrying two bracket-bearings, which are open above and adapted to receive the two journals of the interchangeable cylinder above mentioned. One of these journals terminates in a knob, and the other journal has at its end a crank so arranged that when the cylinder is held by the said knob and crank it will, by reason of its own weight, assume the desired position for presenting the part of its surface which is not provided with pins in front of the comb when the two journals are placed in their brackets. The latter are provided with covers or clips, the tail-pieces of which are acted upon by springs to prevent the journals leaving the said brackets accidentally. The spring-barrel is placed below the above-mentioned plate in such a manner that the toothed wheel mounted on the axis of the cylinder will engage directly with the wheel mounted on the axis of the said barrel when the cylinder is put in its place in the brackets. The tangential pressure produced by the teeth of the driving-wheel on the axis of the spring-barrel upon the teeth of the wheel on the axis of the cylinder will not have any tendency to raise this cylinder, and the latter will remain in its place even if the covers or clips for the brackets are not let down, provided that the musical box has been placed in its normal position. The wheels of the regulator, which are also placed below the above-mentioned plate, are actu-

ated directly by the wheel on the axis of the spring-barrel. The stoppage of the cylinder and of the fly is effected simultaneously by means of a double-armed lever pivoted to the case. One arm of this lever is under the action of a spring, and its extremity serves to stop the arm of the fly used. The other arm of the said lever is provided with a tooth, which bears against the flange of the cylinder and engages with the recess in the flange when the tune is finished. For setting the box in operation, the second arm of the said lever is withdrawn by means of its knob, thereby disengaging at the same time its tooth from the said recess and the first arm of the said lever from the arm of the fly. When the box is to play in a continuous manner, the second arm of the lever can be kept raised in any suitable manner—for instance, simply by the friction at its bearing or pivot. The arrangement above described enables the cylinder to be changed even during the operation of the musical box.

In the accompanying drawings, Figure 1 is a plan view of a musical box constructed according to our invention. Fig. 2 shows, separately, one of the interchangeable cylinders of the same. Fig. 3 is a side elevation when looking from right to left in Fig. 1; and Fig. 4 is a section through xy , looking from left to right, in Fig. 1.

In all the figures the same letters refer to the same parts.

A is the base-plate, bearing the brackets B and C, which receive the journals D E of the cylinder F. The journal E has a knob e and the journal D a crank d , for the purpose above specified.

b and c are the covers or clips of brackets B and C and are acted upon by springs b' and c' .

G is the spring-barrel, having a tooth-wheel which engages with the tooth-wheel H of the cylinder F.

J' J'' is a double-armed lever having its fulcrum in i . The arm J' is acted upon by a spring K and serves to catch the arm l of the fly L. The arm J'' bears upon the flange f of the cylinder F and engages the notch f' when the tune is finished.

To cause the music to play, one raises the button *j* of the arm *J''*, and this moves the arm *J''* to release the notch *f'* and the arm *J'* to release the arm *l* of the fly *L*.

5 In cases where the cylinder intervenes between the spring and the gearing to the fly the cylinder cannot be removed without the spring running down. In the present improvements, the spring being below the cylinder and geared independently of the fly, the fly prevents the spring running down when the cylinder is removed for inserting another cylinder.

15 Having thus described our invention, we claim—

1. In musical boxes, the combination of a cylinder and its journals with the base-plate and open brackets receiving said journals, a spring-barrel beneath the plate, and driving-gears for rotating the cylinder without lift-

ing the same out of its brackets, substantially as and for the purpose specified.

2. In musical boxes, the combination of a cylinder and its journals with the base-plate and open brackets receiving said journals, a spring-barrel beneath the plate, and driving-gears for rotating the cylinder without lifting the same out of its brackets, and the safety covers, substantially as and for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALFRED JUNOD. [L. S.]
JULES JACCARD. [L. S.]
PAUL CALAME-JACCARD. [L. S.]

Witnesses:

JOHANN WÄBER,
S. WAAG.