

(No Model.)

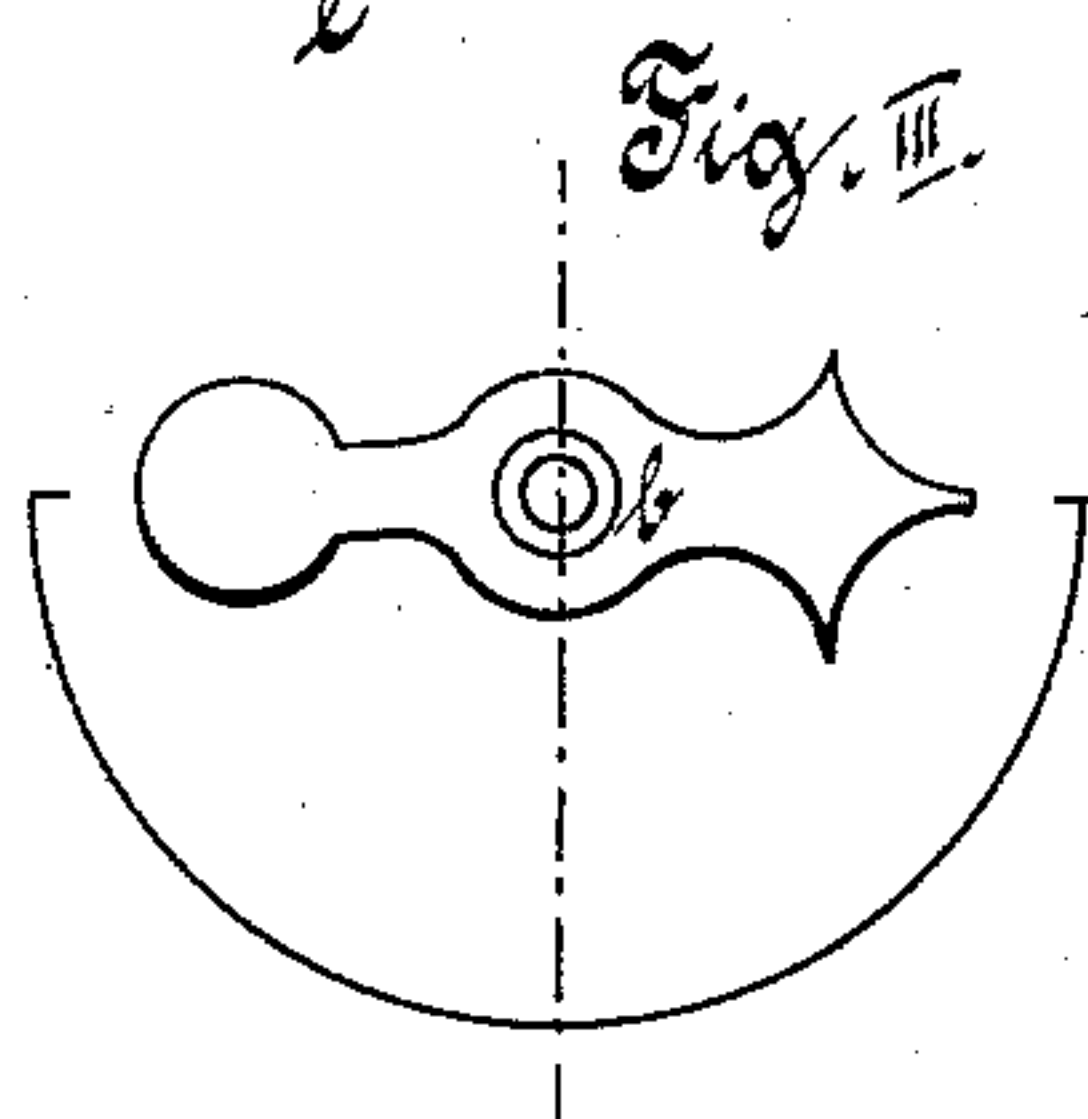
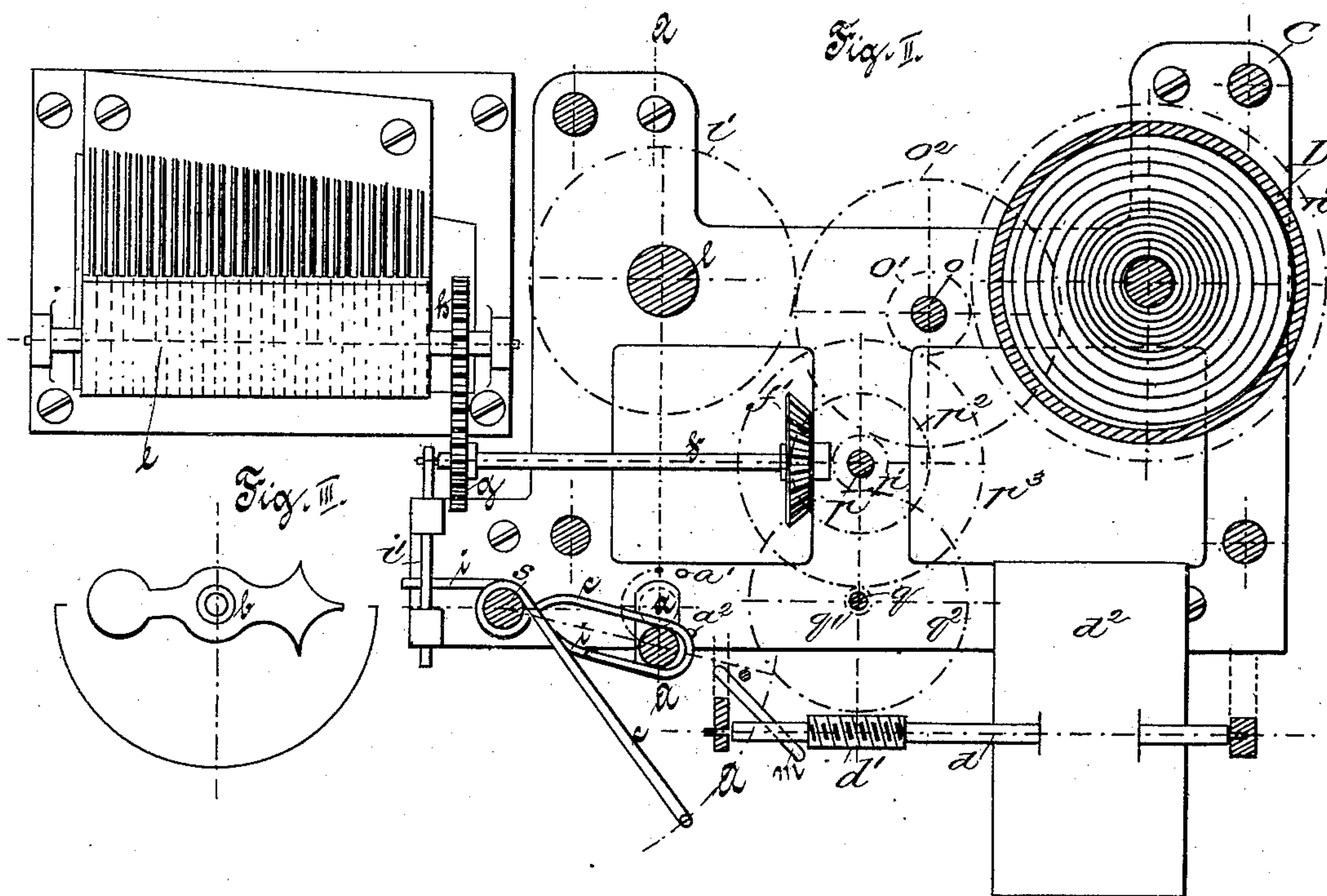
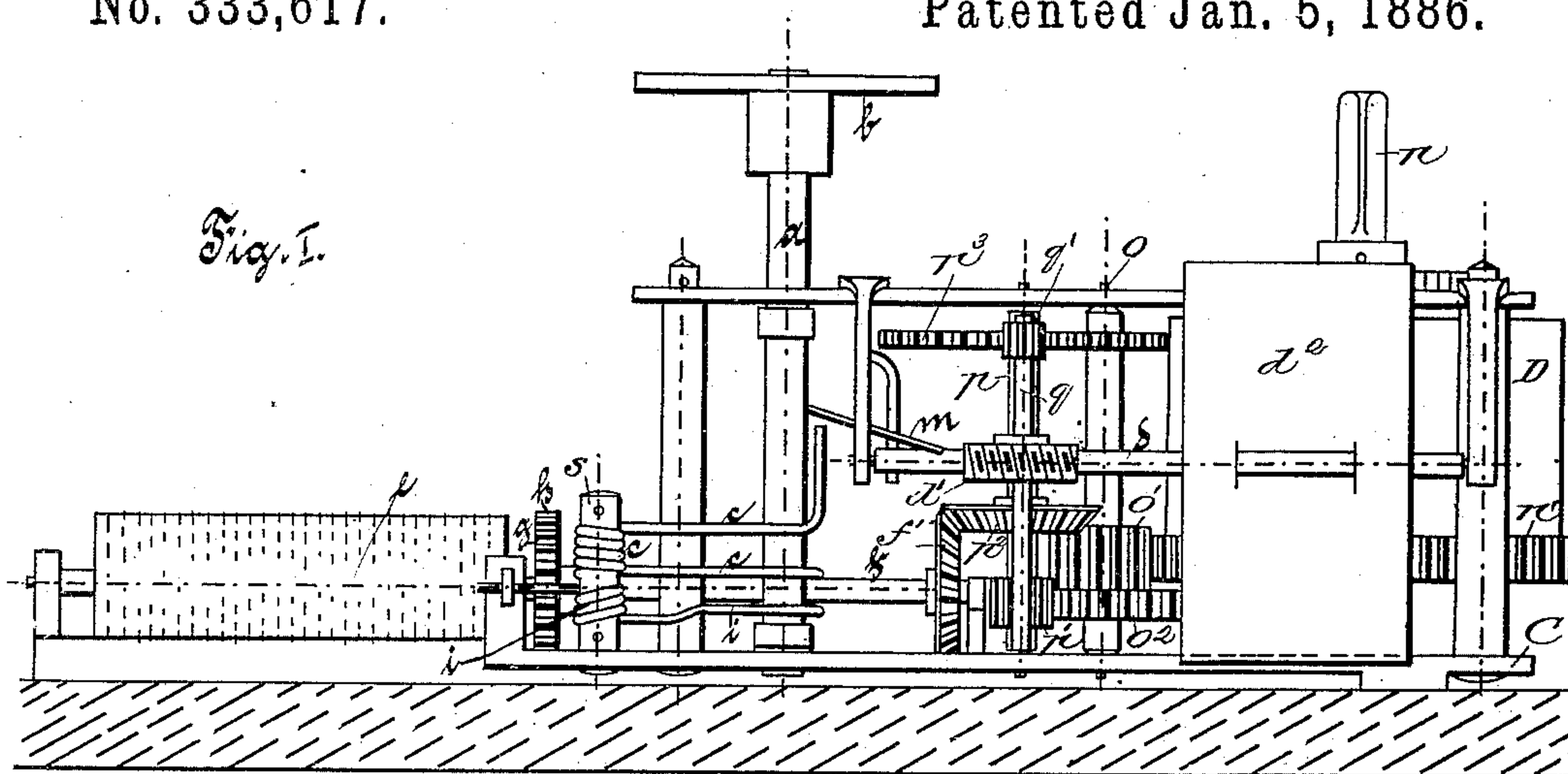
2 Sheets—Sheet 1.

J. C. ECKARDT.

MECHANISM FOR TURNING CHRISTMAS TREES WITH OR WITHOUT  
ACCOMPANIMENT OF MUSIC.

No. 333,617.

Patented Jan. 5, 1886.



Witnesses.

Y. A. Rae  
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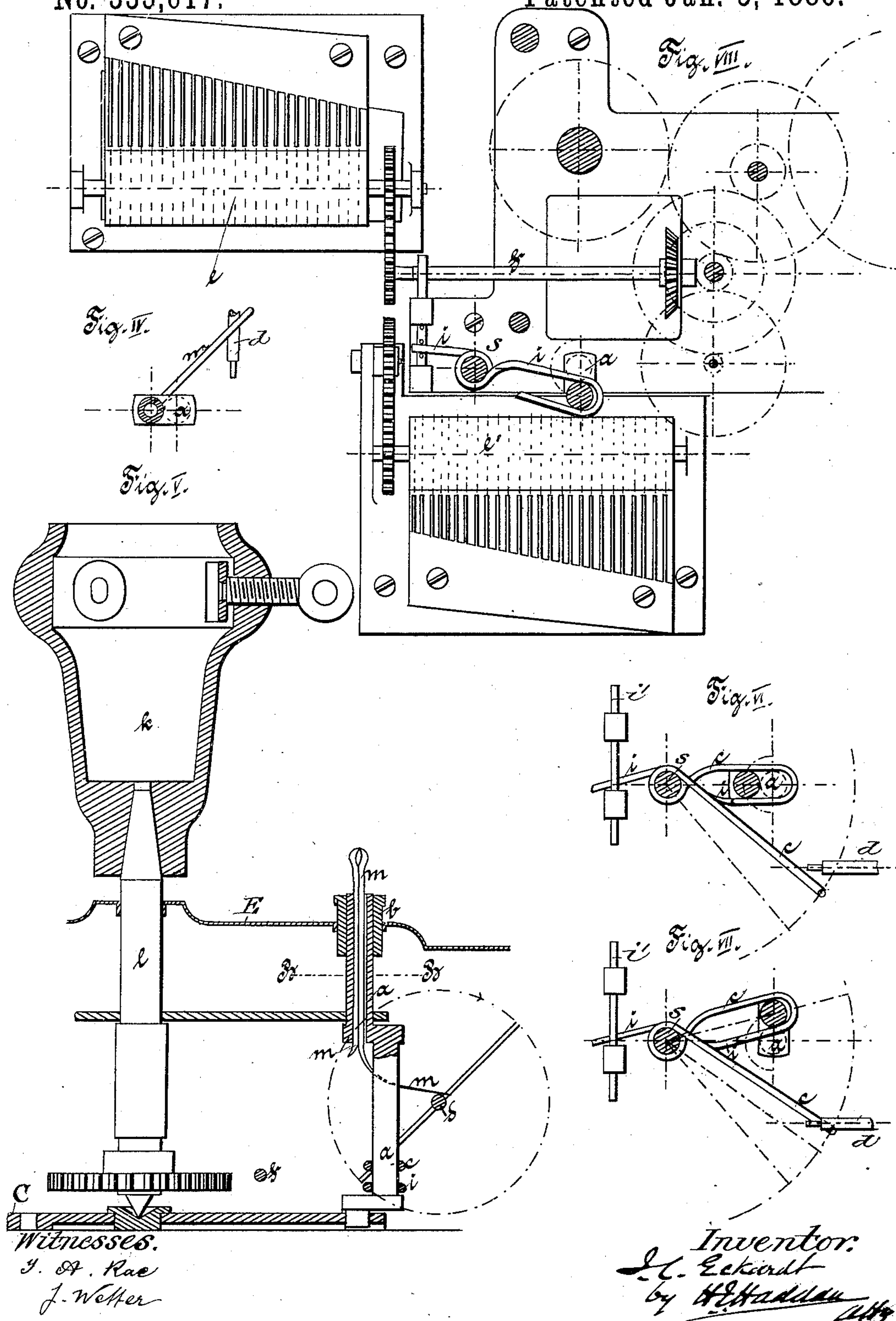
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

JOHANNES CARL ECKARDT, OF STUTTGART, GERMANY.

MECHANISM FOR TURNING CHRISTMAS-TREES WITH OR WITHOUT ACCOMPANIMENT OF MUSIC.

SPECIFICATION forming part of Letters Patent No. 333,617, dated January 5, 1886.

Application filed January 5, 1885. Serial No. 152,059. (No model.) Patented in Germany July 22, 1884, No. 30,617.

*To all whom it may concern:*

Be it known that I, JOHANNES CARL ECKARDT, of Stuttgart, Germany, have invented a new and useful Improvement in Mechanism for Turning Christmas-Trees with or without Accompaniment of Music, (for which I have obtained patent in the German Empire, dated July 22, 1884, No. 30,617,) of which the following is a specification.

15 This invention consists of new combinations of mechanism, with or without musical instruments, for turning show-cases, such as are used in show-windows for exhibiting Christmas-trees and other objects.

15 In the annexed drawings, Figure I is a front elevation, and Fig. II a horizontal section, of an apparatus embodying my invention. Fig. V is a vertical section along line A A A of Fig. II, and Fig. VIII shows a modification (horizontal section) of the said improvement. 20 Figs. III, IV, VI, and VII show details.

On a base-plate, C, is mounted the frame of an ordinary clock-work, comprising a spring-barrel, D, and various tooth-wheels, which in 25 number and size correspond to individual requirements. The spring is mounted on the shaft *n*, and turns the shafts *o*, *l*, and *p* by means of spur-wheels *n'*, *o'*, *o''*, *l'*, and *p'*. The shaft *f* is adapted to pivot around *p'* and to 30 receive motion from the latter by bevel-wheels *p''* and *f'*. The shaft *q* is set in motion from shaft *p* through spur-wheels *p''* and *q'*, and carries a worm-wheel, *q''*, gearing into a worm, *d'*, formed or mounted on the shaft *d*.

35 At one end of the vertical shaft *l*, forming part of the driving mechanism, is mounted the Christmas-tree holder *k*, being loose on the conical extremity of the axle *l*, and forming with this cone a kind of friction-coupling. 40 The cone of the axle *l* is so chosen that small resistances—such as the touching of the branches of the tree—may be overcome, while greater resistances or the backward turning of the holder *k* cause the conical friction-surfaces 45 to slide, so that the inner mechanism is perfectly protected from these accidents. At the other end of the driving mechanism is situated the horizontal shaft *d*, provided with an endless screw, *d'*, and a fan or air-brake, *d''*, and 50 gears with its endless screw into the corresponding tooth-wheel, *q''*, of the clock-work.

On this axle *d* acts a peculiar combination of mechanism by which the whole motion of the apparatus may be stopped and regulated. This combination of mechanism is the essential 55 novelty of this invention. In the frame of the clock-work is guided a vertical crank-axle, *a*, and a longitudinally-movable slide-rod, *i'*, Figs. I, VI, and VII, carrying one extremity of the axle *f*, provided with two tooth-wheels, *f'* 60 and *g*. The bevel-wheel *f'* of this axle *f* gears into the clock-work, and imparts motion through the shaft *f* and the tooth-wheel *g* to the tooth-wheel *h* of the music-work *e*. For 65 setting the latter in and out of gear and for stopping and regulating the clock-work, I use the following contrivance: The slide-bar *i'* and the crank-axle *a* are connected by a lever, *i*, coiled round the fast pin *s*, and forming at one end a loop inclosing the crank shaft, Fig. 70 VII, so that the revolution of the crank-axle *a* causes *i'* to be shifted lengthwise, Figs. II and VII, and thereby causes the wheels *g* and *h* to gear or to be withdrawn from each other. 75 Above the lever *i* is situated a similar lever, *c*, coiled round the same pin, *s*, and forming a loop round the axle *a*. This lever presses with the extremity of its long arm, in the position shown by Fig. VII, against the worm-axle *d*, and holds the same stationary by friction. 80 The levers *i* and *c* are bent from round wire, and are coiled several times about the fixed pin *s*, so that each of the said levers acts as a spring, the lever *i* exerting an elastic pressure on the slide *i'*, so as to secure 85 the latter in its extreme position, (represented by Figs. II and VII,) while the spring *c* presses radially upon the axle *d* and serves as a brake to the same. The motion of the lever *i* is transmitted to the slide *i'* by a pair of pins 90 fixed in the slide *i'*, right and left of the lever *i*, so that the latter always abuts against one of the two pins, according as the lever is turned forward or backward. The axle *a* carries at the top a hand or pointer, *b*, Fig. III, indicating the three principal positions of the mechanism. 95

In Fig. II the driving mechanism is coupled with the music-work; in Fig. VI the driving mechanism is disengaged from the music-work, and in Fig. VII the driving mechanism is arrested. 100



To prevent the axle *a* from turning more than one hundred and eighty degrees, a pair of stop-pins, *a' a''*, are fixed to the base-plate C.

For enabling the velocity of the wheel-work to be regulated, the upper part of the crank-axle *a* is axially perforated to receive the vertically-movable splint-like spring *m*, Fig. V, the longer arm of which is bent and acts more or less as a brake on the axle *d*, carrying the fan-wheel and endless screw according to the position of the spring *m*. (See Fig. IV, which is a section along line B B of Fig. V.) The spring *m* is adapted to retain itself at any desired height in the axle *a* by friction.

The modification represented by Fig. VIII of the annexed drawings has for its purpose to bring two separate music-works, *e* and *e'*, alternately into connection with the wheel-work. This is effected in the same manner as with the arrangement described above. In the middle position of the crank-axle *a* the axle *f* is situated so that the intermediate wheel, *g*, gears neither with the music-work *e* nor with *e'*. By shifting the axle *f* to the right or to the left either the music-work *e* or *e'* is coupled with the clock-work. As in this case the brake-spring *c* is not applicable, the apparatus is set out of action solely by the regulating-spring *m*, Fig. V. Also, in the aforementioned construction the regulating-spring may serve to perform the function of the stop-spring *c*.

The whole mechanism is covered over the base-plate by a suitable casing, E, of wood or sheet metal, as indicated by Fig. V, and only the beveled upper end of the axle *l* and the crank-axle *a*, with hand *b* and stop-spring *m*, project from the cover of the casing.

What I claim is—

1. In mechanism for turning Christmas-trees or other objects with or without accompaniment of music, the combination of a clock-work with a music-work, disengaging-gear adapted to connect the music-work with the clock-work and to disconnect it from the same, a crank-shaft, *a*, and a two-armed spring, *i*, coiled round a fixed pin, one arm being adapted to receive oscillating motion from the crank-shaft, while the other arm is adapted to transmit this motion to the disengaging-gear, substantially as described.

2. The combination of a clock-work with

crank-shaft *a*, pivoted shaft *f*, and wheel *g*, slide *i'*, adapted to move the shaft *f* to and fro, and two-armed spring *i*, coiled round a fixed pin, one arm being adapted to receive an oscillating motion from the said crank-shaft *a*, while the other arm is adapted to transmit this motion to the slide *i'*, and a music-work, *e*, having a driving-wheel, *h*, adapted to receive motion from the wheel *g* when the latter is in one of its extreme positions, substantially as described.

3. The combination of a fan, *d'*, and fan-axle *d*, geared together with the part holding the tree or other object to be turned, with a crank-shaft, *a*, and a brake-spring adapted to be pressed against the shaft *d* by turning the shaft *a*, substantially as described.

4. The combination of a clock-work adapted to turn the Christmas-tree or other object with a music-work, a disengaging-gear adapted to set the music-work in and out of action, a crank-shaft, *a*, a two-armed spring, *i*, coiled round a fixed pin, *s*, one arm being adapted to receive oscillating motion from the crank-shaft *a*, while the other arm transmits this motion to the disengaging-gear, and a brake-spring, *c*, coiled round the fixed pin *s* and adapted to receive oscillating motion from the shaft *a* and to act as a brake for the clock-work, the springs *i* and *c* being placed so that in one of the extreme positions of the crank-shaft *a* the music-work gears with the clock-work while the brake-spring is out of action, that in the opposite position the music-work is disengaged while the brake-spring acts on the clock-work, and that in the intermediate position neither the music-work nor the brake-spring is in action, substantially as described.

5. The combination of a fan and axle geared together with the clock-work, with hollow crank-shaft *a* and a brake-spring, *m*, passing through the said axle, and adapted to be pressed more or less against the fan-axle, and to retain itself at the desired height, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHANNES CARL ECKARDT.

Witnesses:

EDUARD NEUSTADT,  
HERMANN POHLMANN.