

(No Model.)

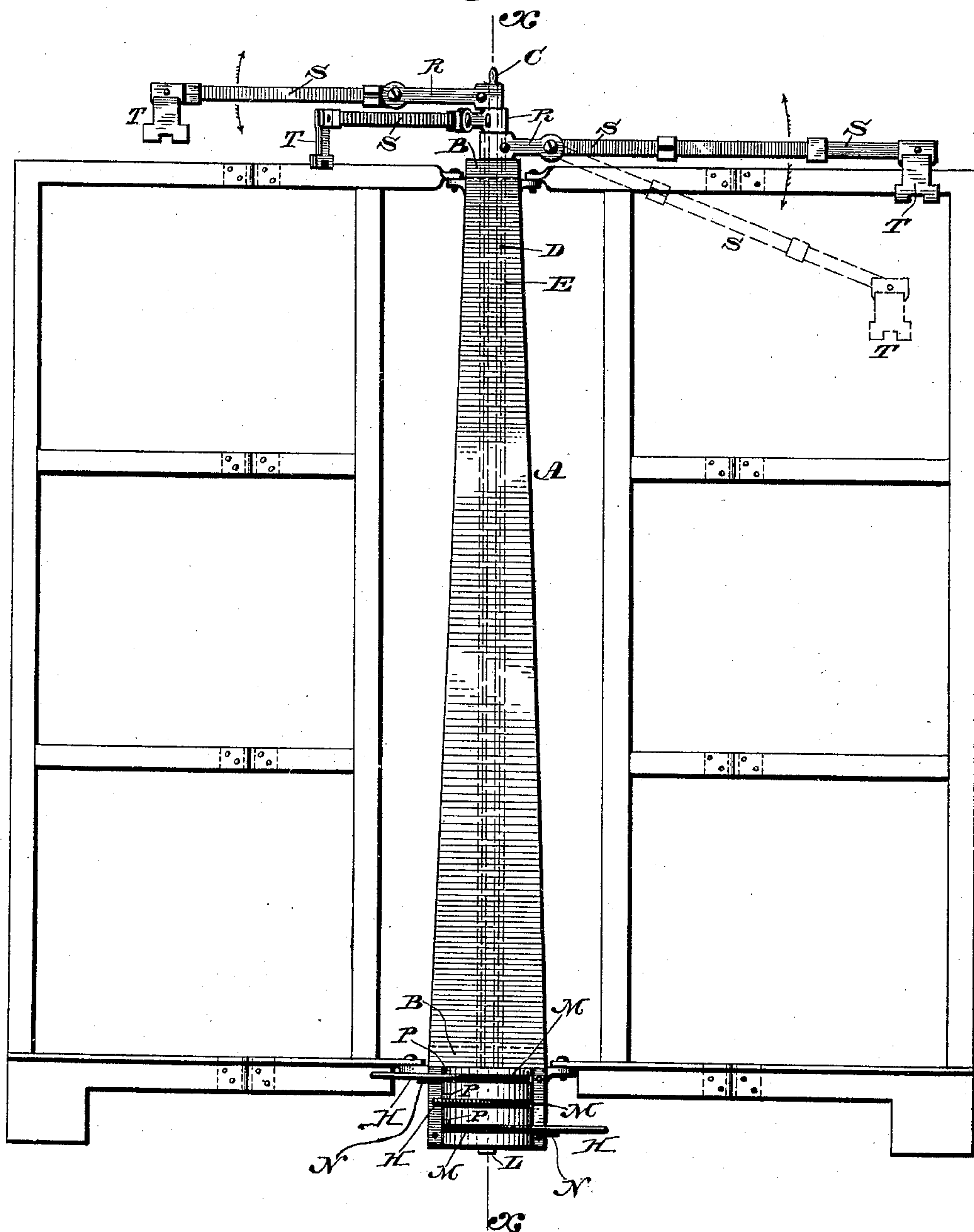
2 Sheets—Sheet 1.

T. M. & T. J. EYNON.
MUSIC LEAF TURNER.

No. 442,367.

Patented Dec. 9, 1890.

fig. 1.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

T. M. & T. J. EYNON.
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fig. 2.

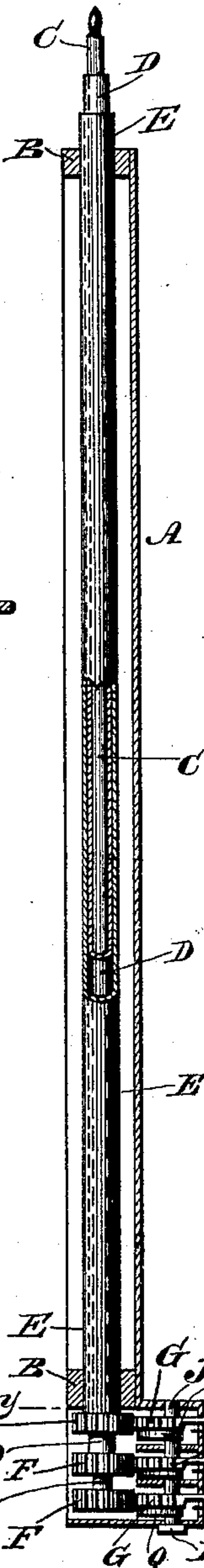


fig. 4.

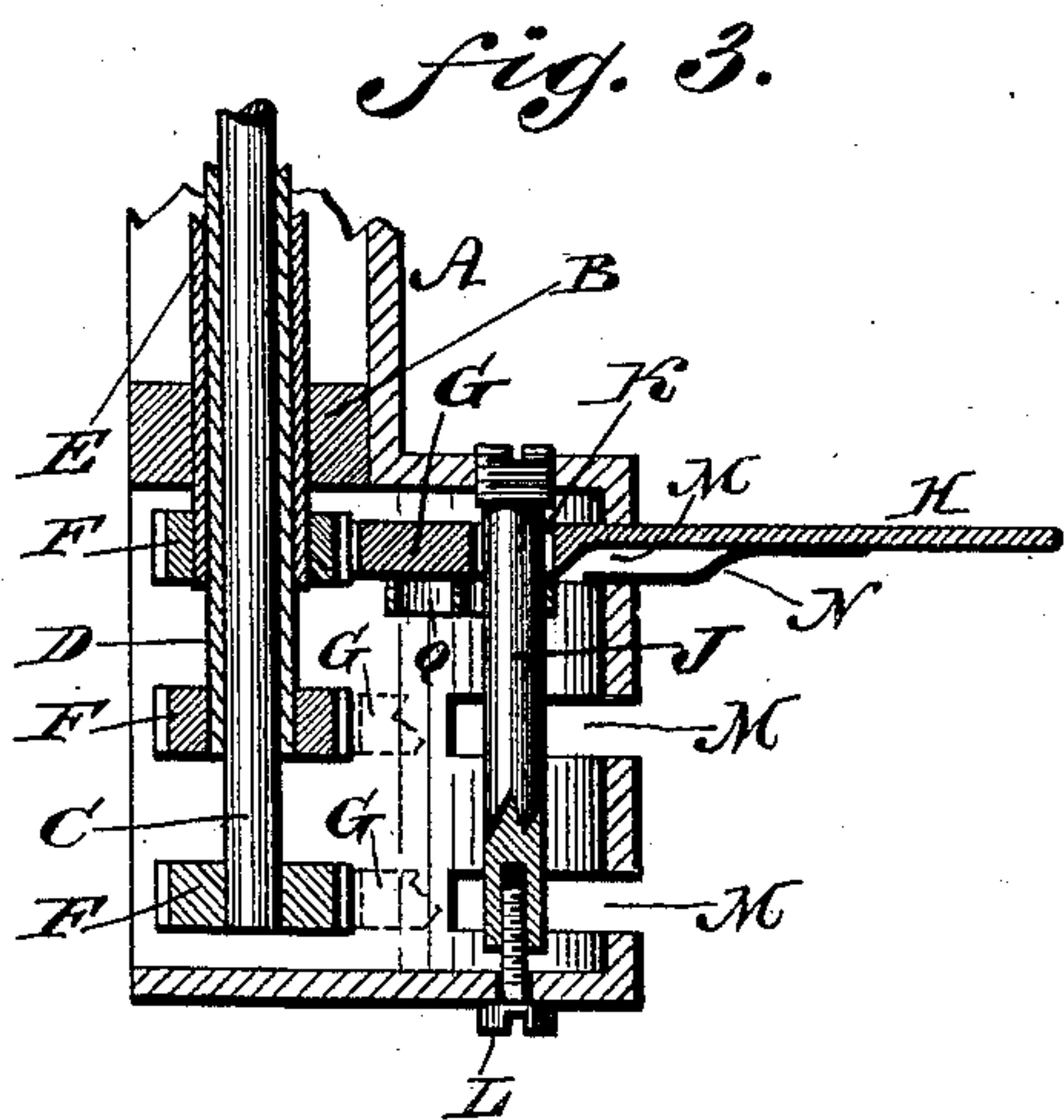
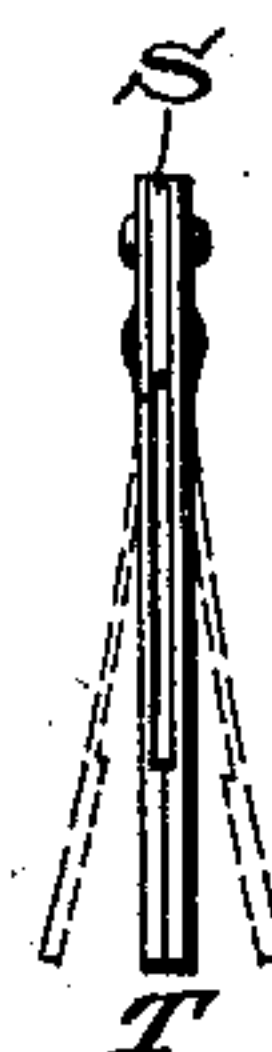
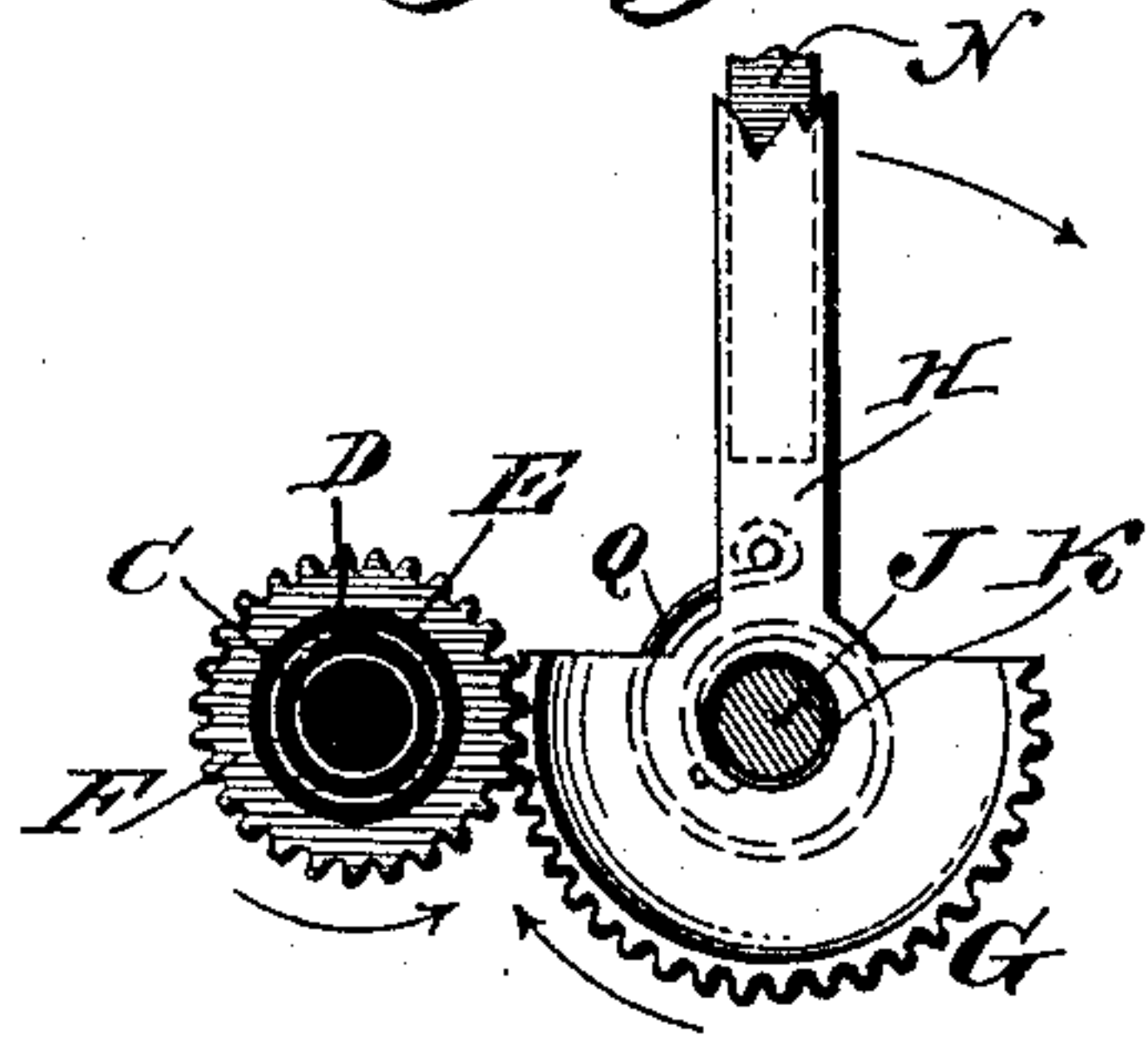


fig. 7.



WITNESSES:

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fig. 6.

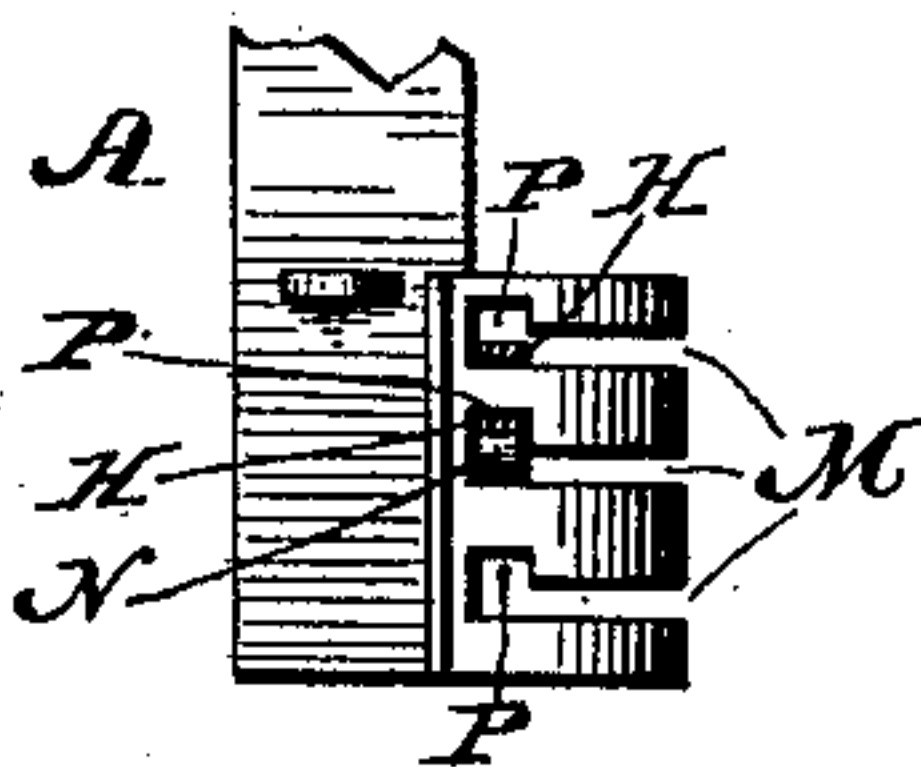
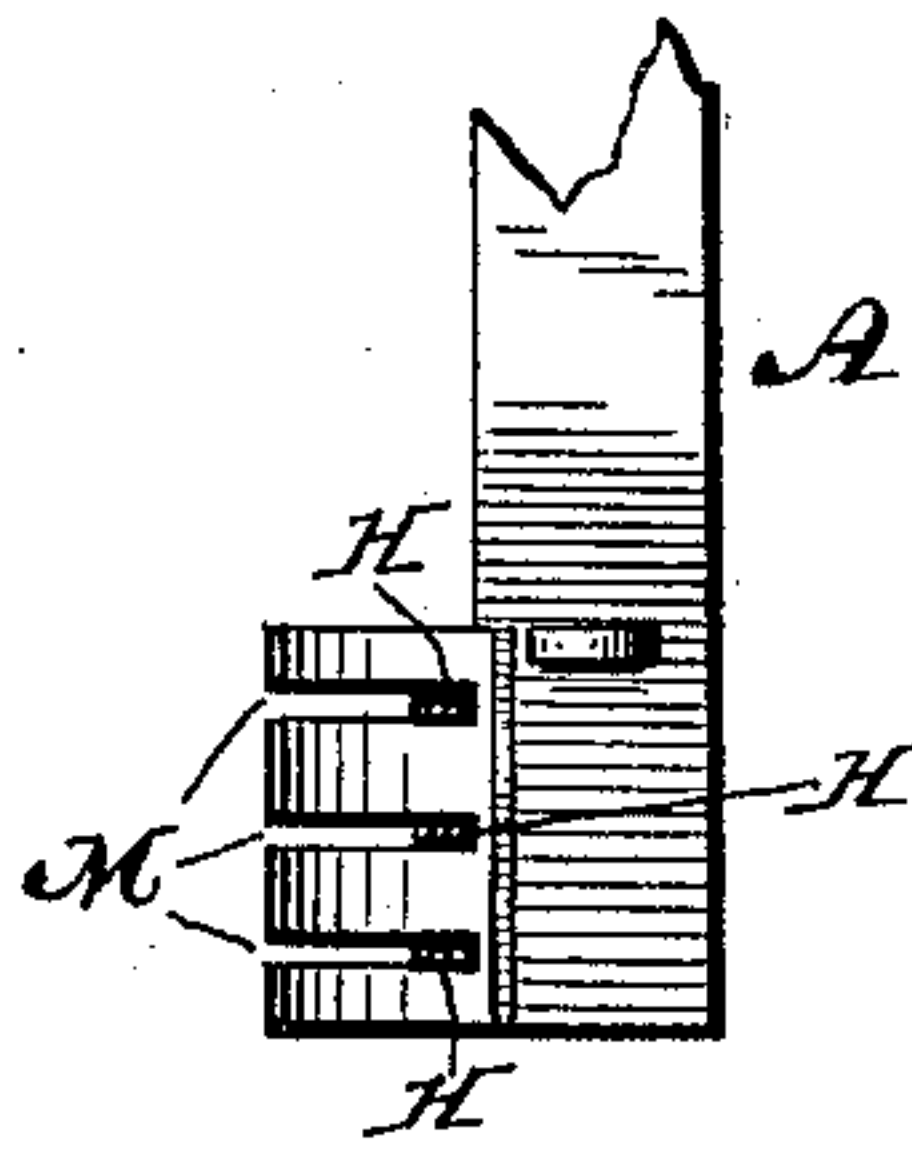


fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS M. EYNON AND THOMAS J. EYNON, OF PHILADELPHIA, PENNSYLVANIA.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 442,367, dated December 9, 1890.

Application filed April 23, 1890. Serial No. 349,060. (No model.)

To all whom it may concern:

Be it known that we, THOMAS M. EYNON and THOMAS J. EYNON, citizens of the United States, both residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Music-Leaf Turners, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention relates to improvements in music-leaf turners; and it consists, first, of a leaf-turner provided with two or more oscillating arms having a common center or pivot; second, of novel means, substantially as described, for operating said arms, and, third, of the combination of parts herein set forth.

Figure 1 represents a front view of a music-leaf turner embodying our invention. Fig. 2 represents a partly vertical and partly side view on line *x x*, Fig. 1. Fig. 3 represents a vertical section, on an enlarged scale, of the mechanism for rotating the supporting-shafts of the arms. Fig. 4 represents an end view of one of the spring-clasps for engaging the leaf. Figs. 5 and 6 represent detail views of a portion of the frame, showing the notched slots for the keys. Fig. 7 represents a section on line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a frame provided with bearings B for the shaft C, which latter has the surrounding tubular shafts D E adapted to rotate thereon, so that the said shafts C, D, and E have a common center. The said shafts C, D, and E are of different lengths, the inner one being the longest and the outer being the shortest, and on each, at or near the lowest end thereof, is secured a pinion F, meshing with the teeth of a segmental rack G, which is connected with or formed on the side of the inner end of a key H. The said keys H are pivotally secured in the frame A by means of a vertical cylindrical pin J, which passes through the openings K in the said keys, and is fastened in fixed position by means of a screw L in a threaded portion on the lower end thereof, and which bears against the under side of the frame A. The pin J is of such diameter as to

permit a slight vertically-rocking movement of the front end of each of the keys when the same are pressed downward, for a purpose afterward explained. The front end of the said keys work in horizontal slots M, formed one above the other in the said frame, and each has on its under side a spring N, which is secured thereto, forcing it upward and into a notch P in the frame A.

To each of the segments G is secured one end of a coil-spring Q, the other end of each of the said springs being secured to the pin J.

On the upper end of each of the shafts C, D, and E are the radially-projecting arms R, each of which has pivoted thereto an extensible arm S, formed of two parts, adapted to slide one on the other, so as to either lengthen or shorten the said arm, and thereby adapt it for longer or shorter leaves. To the outer end of the said arm S is pivotally attached a spring-clasp T, having each of its jaws or side pieces of bifurcated form, whereby it may grasp the leaf in two places, and thus avoid any wrinkling or twisting of the same when being turned.

The manner of using the device is as follows: The leaves are placed on the turner, the spring-clasps T engaging the same. When it is desired to turn a leaf, a key is pressed downward, and the front end of the key is lowered so that the same is disengaged from the notch P, whereby, owing to the tension of the spring Q, the segmental rack of said key is caused to turn on the pin J and the pinion F of a shaft is partially rotated, and thereby the shaft and its arms R and S and the clasp T moved, and thus the leaf connected with said clasp turned. By having the shafts inclosed one within the other, so as to have a common center, all of the leaves are turned from the same center, and so are moved the same distance to the one side of the common pivot as they were on the other side before being turned, thereby having the edges of the leaves uniform and smooth when turned. The telescopic parts of the extensible arm S may be provided with a clamping-screw or other means for binding the same together, or they may be constructed or fitted so closely as to avoid the necessity of a clamping de-

vice. By arranging the keys vertically or one above the other any mistake or striking of a wrong key is avoided, as the upper key in line is always the proper one to be operated on.

5 The keys can readily be returned to their normal position by a single movement or by a separate movement, as is easily understood.

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

10 1. A leaf-turner having two or more arms, each provided with a shaft and having an extensible arm pivoted thereto, the said shafts being inclosed one within another, whereby a common pivotal center is provided for said arms, substantially as described.

2. A leaf-turner having two or more shafts and having extensible arms pivoted thereto, inclosed one within another, arms secured to said shafts, provided with clasp devices, and mechanism, substantially as described, for operating said shafts, said parts being combined substantially as described.

3. A leaf-turner having two or more shafts inclosed one within another, arms connected with said shafts, extensible arms pivotally attached to the aforesaid arms and provided with clasps for engaging the leaves to be turned, pinions on said shafts, oscillating segmental racks engaging said pinions, and means, substantially as described, for locking said racks, said parts being combined substantially as described.

4. A leaf-turner having two or more shafts with turning arms secured thereto, pinions on said shafts, segmental racks engaging said pinions, keys connected with said racks, locking-springs on said keys, and operating-springs on said racks, said parts being combined substantially as described.

5. A leaf-turner consisting of two or more shafts of unequal length and one within another, a turning arm secured to the upper end of each shaft, a pinion on the lower end of each shaft, keys with segmental racks having a common vertical pivot in the frame of the device, a locking-spring for each key adapted to engage the key in a notch in the frame, and an operating-spring for each key, secured to the segmental rack and the pivoted pin, said parts being combined substantially as described.

6. In a leaf-turner, a radial arm having an

extensible arm pivotally connected therewith, the latter provided with a clasp adapted to engage the leaf to be turned, substantially as described.

7. In a leaf-turner, a radial turning arm having an extensible arm pivotally connected therewith, provided with a spring-clasp having bifurcated jaws or side pieces, substantially as and for the purpose set forth.

8. In a leaf-turner, the combination of a shaft with a turning arm, a pinion on said shaft, a key with segmental rack, a spring on the under side of said key and adapted to engage said key in a notch in the frame of the device, and a vertical pivotal pin for said key, the said pin being of such diameter as to permit a slight vertically-rocking movement of the part of the key engaged in the said notch, so as to disengage the same therefrom, substantially as and for the purpose set forth.

9. In a leaf-turner, a series of keys having a common pivotal pin and arranged in horizontal slots, one above the other, combined with a series of radially-turning arms having extensible arms pivotally connected therewith, substantially as described.

10. In a leaf-turner, two or more shafts with turning arms, pinions on said shafts, keys having racks engaging said pinions, a common pivotal pin for said keys and operating coil-springs secured to said segments and pin, and means, substantially as described, for clamping or securing said pin in adjustable fixed positions, whereby the tension of the said coil-springs may be regulated, said parts being combined substantially as described.

11. In a leaf-turner, a pivotal pin for the operating-keys thereof, in combination with a coil-spring secured to said pin and the said operating-keys, substantially as described.

12. In a leaf-turner, a horizontally-moving operating-key for a turning arm, in combination with a vertical pin, the latter being of such diameter as to permit a slight vertical rocking or oscillation of the key thereon, substantially as and for the purpose set forth.

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