

No. 783,316.

PATENTED FEB. 21, 1905.

D. R. & W. H. SACKMAN.
MUSIC LEAF TURNER.

APPLICATION FILED MAY 2, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

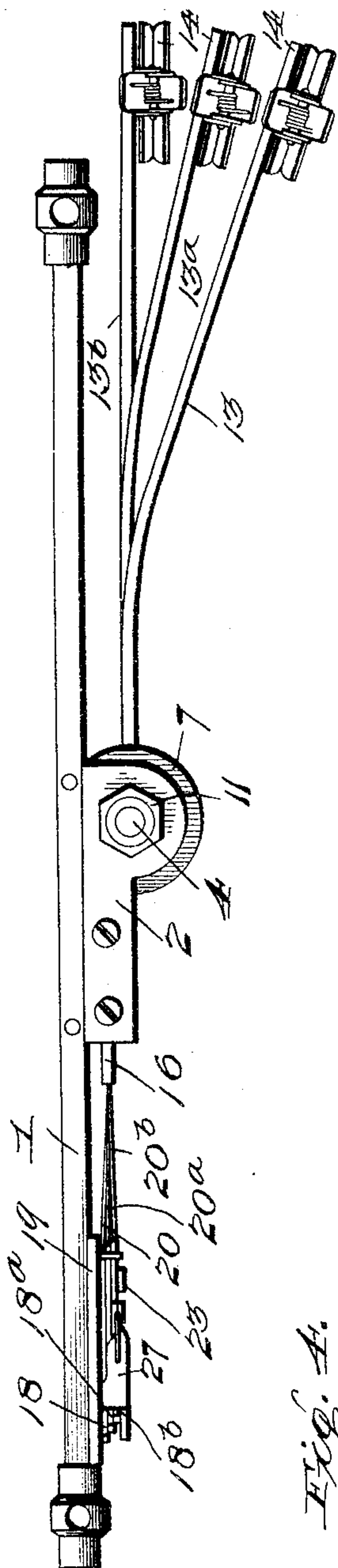


Fig. 2.

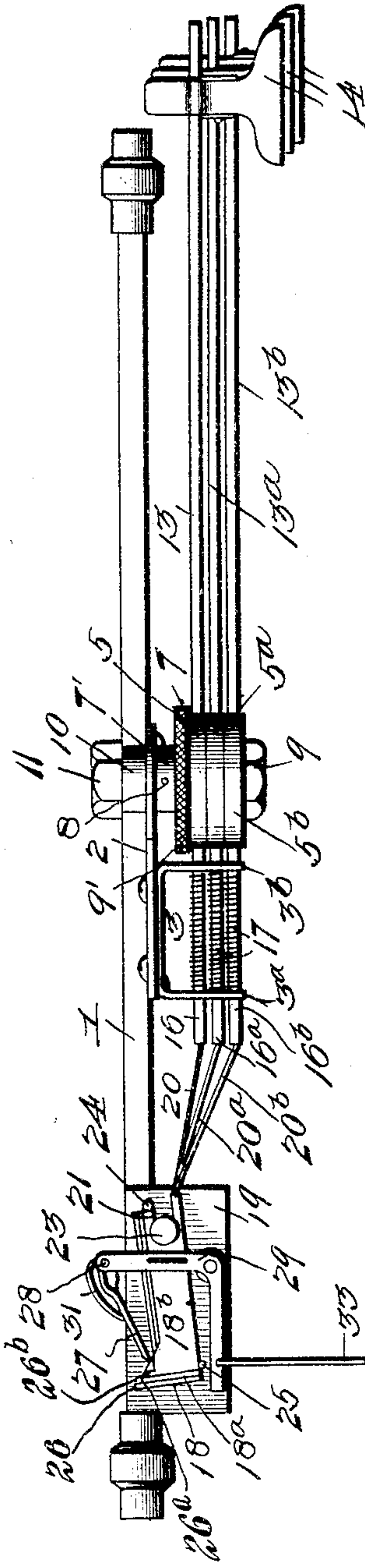
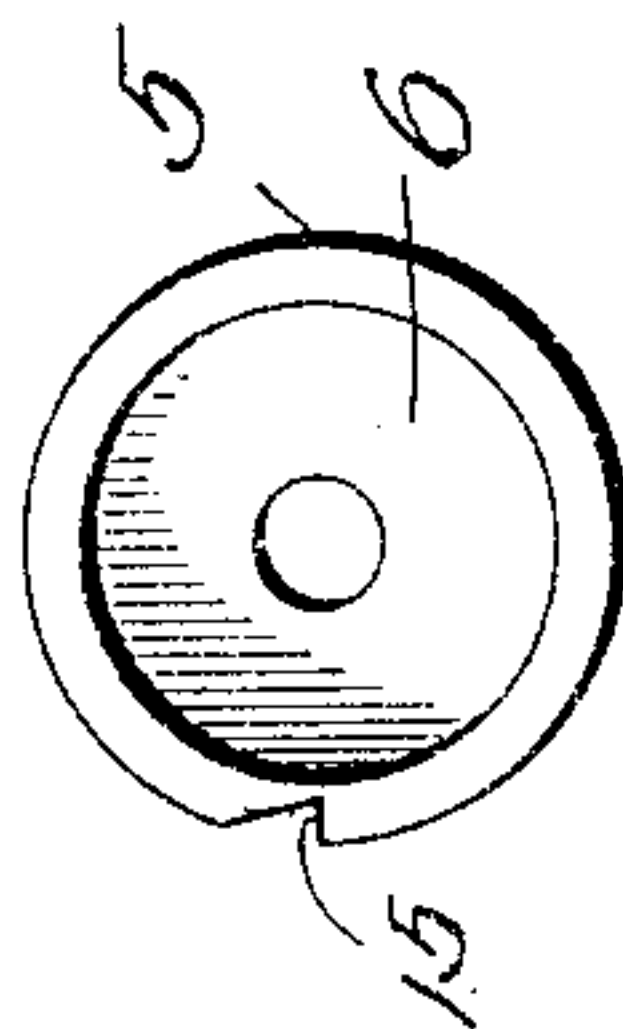


Fig. 4.



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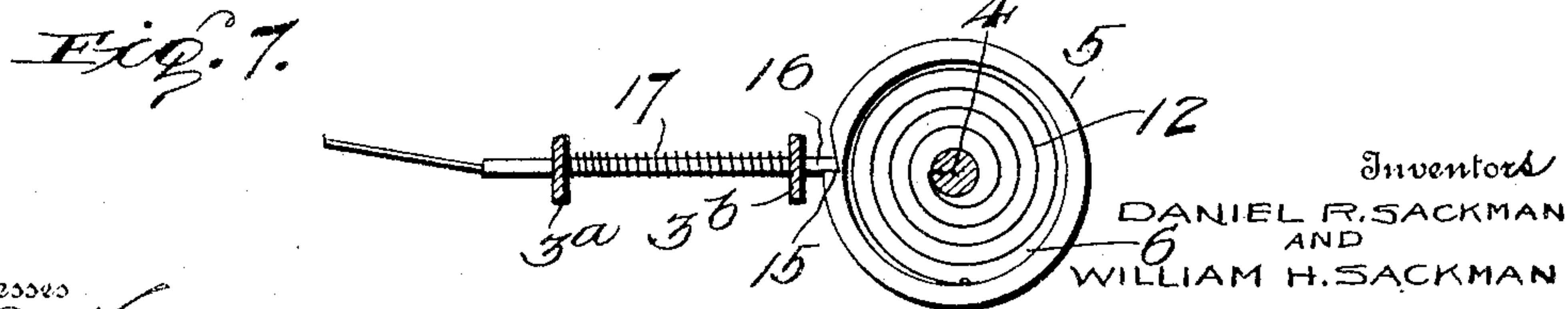
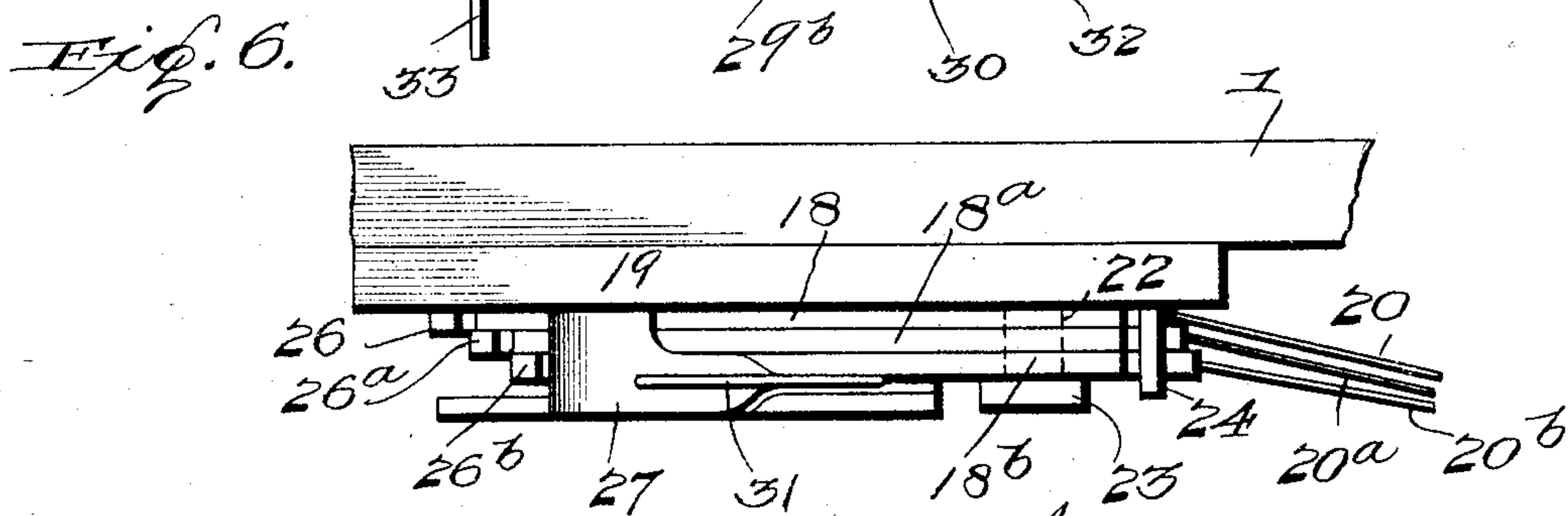
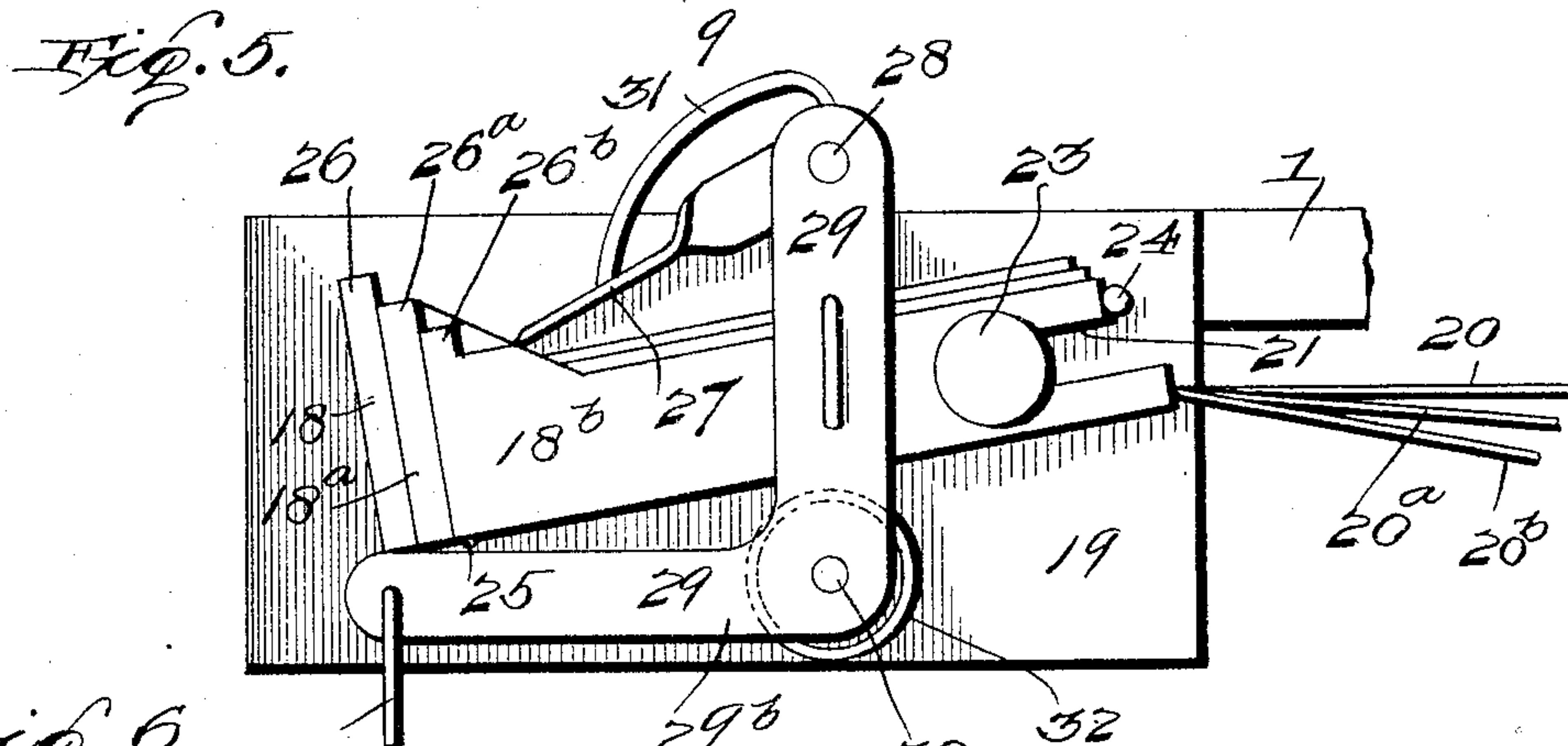
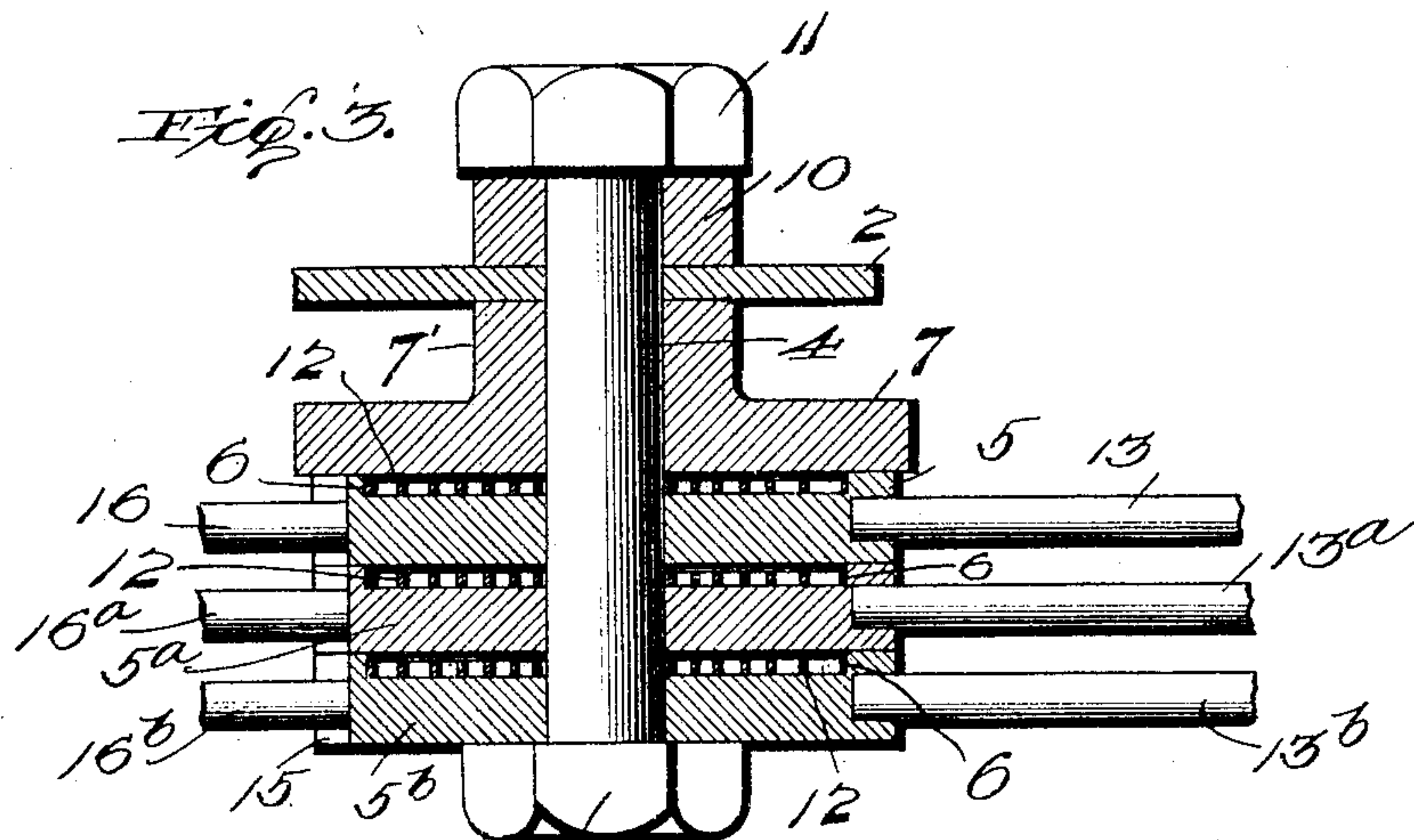
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2 SHEETS—SHEET 2.



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MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 783,316, dated February 21, 1905.

Application filed May 2, 1904. Serial No. 206,059.

To all whom it may concern:

Be it known that we, DANIEL R. SACKMAN and WILLIAM H. SACKMAN, citizens of the United States, residing at East Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Music-Leaf Turners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to music-leaf turners, and particularly to operating and releasing mechanism for the sheet or leaf turning arms of such devices.

The object of the invention is to provide mechanism for the purpose stated which is simple of construction, efficient in use, and comparatively inexpensive of production and in which the construction of the releasing mechanism is such as to permit of the successive release of the arms through the means of a single actuating device or lever.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of a music-leaf turner embodying our invention, showing only so much of the frame as is necessary to the disclosure of the invention. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section through the spring-barrels. Fig. 4 is a detail view of one of the disks or barrels. Fig. 5 is a front elevation of the releasing device on an enlarged scale. Fig. 6 is a top plan view thereof; and Fig. 7 is a detail sectional view showing one of the disks, its spring, and spring-pressed detent.

Referring to the drawings, 1 represents a supporting-bar, carrying a bracket 2, from which depends a hanger 3. Extending through said bracket is a stud-bolt 4, on which are journaled a series of spring-barrels or disks 5 5^a 5^b, of which any desired number may be employed, three being shown in the present instance. Each of these disks is bored or

hollowed out to form a chamber 6 open on its upper side, the said chamber of each disk being closed against access of dust and dirt by the closed side of the disk above it, with the exception of the chamber of the upper disk, which is closed by a head 7, having a collar 7', fixed by a pin or key 8 to the bolt 4. On the lower end of the bolt 4 is a head 9, which supports the series of spring barrels or disks, which are free to turn or oscillate upon the bolt. The collar 7' bears against the under side of the bracket 2, and engaging the upper surface of the bracket is a washer 10. A nut 11 on the upper end of the bolt forces this washer against the plate and draws the collar 7' against the under side thereof, thus clamping the bolt against movement.

In the chamber 6 of each disk 5 is a coiled spring 12, one end of which is fixed to the disk and the other end to the bolt 4, so that when the disk is given approximately a half-revolution to the right the spring 12 will be wound up to turn the disk in the reverse direction. It will be observed that the head 7 is of greater diameter than the disks 5 and has a knurled or milled edge 9'. By this means said head may be readily turned to adjust the bolt 4 when the nut 11 is slackened to enable the springs to be tightened when required to maintain a desired tension. Leaf-turning arms 13 13^a 13^b are fixed at their inner ends to the respective disks 5 5^a 5^b and are provided at their outer ends with clips 14 to engage the edges of the leaves to be turned.

The disks 5 5^a 5^b have stop-shoulders 15, which are adapted to be engaged by the inner ends of detents 16 16^a 16^b when the disks are turned to the right to wind up their actuating-springs, thereby locking the arms 13 13^a 13^b in position to swing said arms from right to left, as will be readily understood. Said detents 16 16^a 16^b slide in openings in the arms 3^a and 3^b of the hanger 3, and surrounding each detent is a coiled spring 17, one end of which is fixed thereto and the other end arranged to bear against the arm 3^a of the hanger 3, whereby the spring normally serves to project the detent to the right to engage the shoulder 15 of the contiguous disk. The position of the arms when arranged for turning the

leaves is shown in Fig. 1. The means for releasing the arms one by one comprises a set of sliding keys or retractors 18 18^a 18^b, arranged upon a bracket-plate 19, fixed to the bar 1, said keys being connected at their inner ends by wires or like flexible connections 20 20^a 20^b to the outer ends of the detents 16 16^a 16^b and being formed at said ends with slots 21 21^a 21^b, receiving a pin or stud 22, fixed to the plate 19, whereby said keys are slidably and pivotally mounted, outward movement and displacement of the keys from the pin or stud being prevented by a head 23 on said pin or stud. Inward movement of the keys is limited by a pin 24 on the plate 19 and downward movement of the same by a pin 25 on said plate. On the upper outer edges of the keys are contact-lugs 26 26^a 26^b, so arranged as to lie in different vertical planes or at different distances from the pin or stud 22, so as to be engaged at different points in the path of movement of a releasing-finger 27. The finger 27 is pivoted at 28 upon one arm 29^a of a bell-cranked trip-lever 29, pivoted at its angle upon a pivot-post 30, carried by the plate 19, and the free end or edge of said finger is pressed into engagement with the upper edges of the keys by a spring 31, suitably mounted upon said lever 29. The lever is normally maintained in the position shown in Fig. 1 by a spring 32, coiled about the post 30 and secured at one end to the plate 19 and at the other end to the arm 29^b of the lever. The said spring 31 thus draws the arm 29^b upward, and such motion of said arm is limited by the pin 25. A cord, wire, or other connection 33 extends from the arm 29^b and may be connected with a suitable operating device (not shown) or directly pulled to manipulate the lever, as will be readily understood.

In operation it will be apparent that when the cord 33 is first pulled upon the finger 27 will engage the lug 26 of the key 18 and slide it outwardly, thus drawing on the connection 20 to retract the detent 16 and allow the arm 13 to swing to the left. A second pull upon the cord 33 will cause the finger to engage the lug 26^a of key 18^a and retract the detent 16^a, while a third pull will cause the finger to engage the lug 26^b of key 18^b and retract the detent 16^b, thus allowing the arms 13^a and 13^b to swing one after the other to turn the leaves of the music sheet or book.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion,

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A music-leaf turner comprising a suitable support, spring-actuated arms pivotally-mounted upon said support, sliding, spring-projected detents for holding the arms from movement, a series of movable keys for retracting the detents, said keys being provided with contacts arranged to be successively engaged, and a trip-lever having a pivoted spring-actuated finger for engaging said contacts to actuate the keys, substantially as described.

2. In a music-leaf turner, the combination of a plurality of angularly-movable arms, detents to lock them in initial position, a plurality of movable keys connected, respectively, to the said detents and having operating devices arranged to be successively engaged, a trip device, and a finger operated by the trip to successively engage the operating devices of the keys and cause the latter to successively release the detents from the angularly-movable arms.

3. A music-leaf turner comprising a supporting-bar, having a bracket provided with a depending hanger, a pivot depending from said bracket, a plurality of disks mounted on said pivot for angular movement and each having an angularly-movable arm carried thereby and a detent-notch, springs to turn the said disks and arms in one direction, spring-pressed detents guided and supported by the hanger and adapted to engage the detent-notches of the disks, a bracket-plate secured to the supporting-bar, a plurality of keys mounted on said bracket-plate for sliding movement and provided with operating devices adapted to be successively engaged, connections between the respective keys and the detents to actuate the latter by the former, a trip-lever pivotally mounted on the bracket-plate, and a spring-pressed finger carried by the trip-lever and adapted to successively engage and operate the keys, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

DANIEL R. SACKMAN.
WILLIAM H. SACKMAN.

Witnesses:

ROBERT S. PAUL,
MARY PAUL.