No. 775,799. PATENTED NOV. 22, 1904.

I. J. CLARKE.

MUSIC LEAF TURNER.

APPLICATION FILED FEB. 15, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

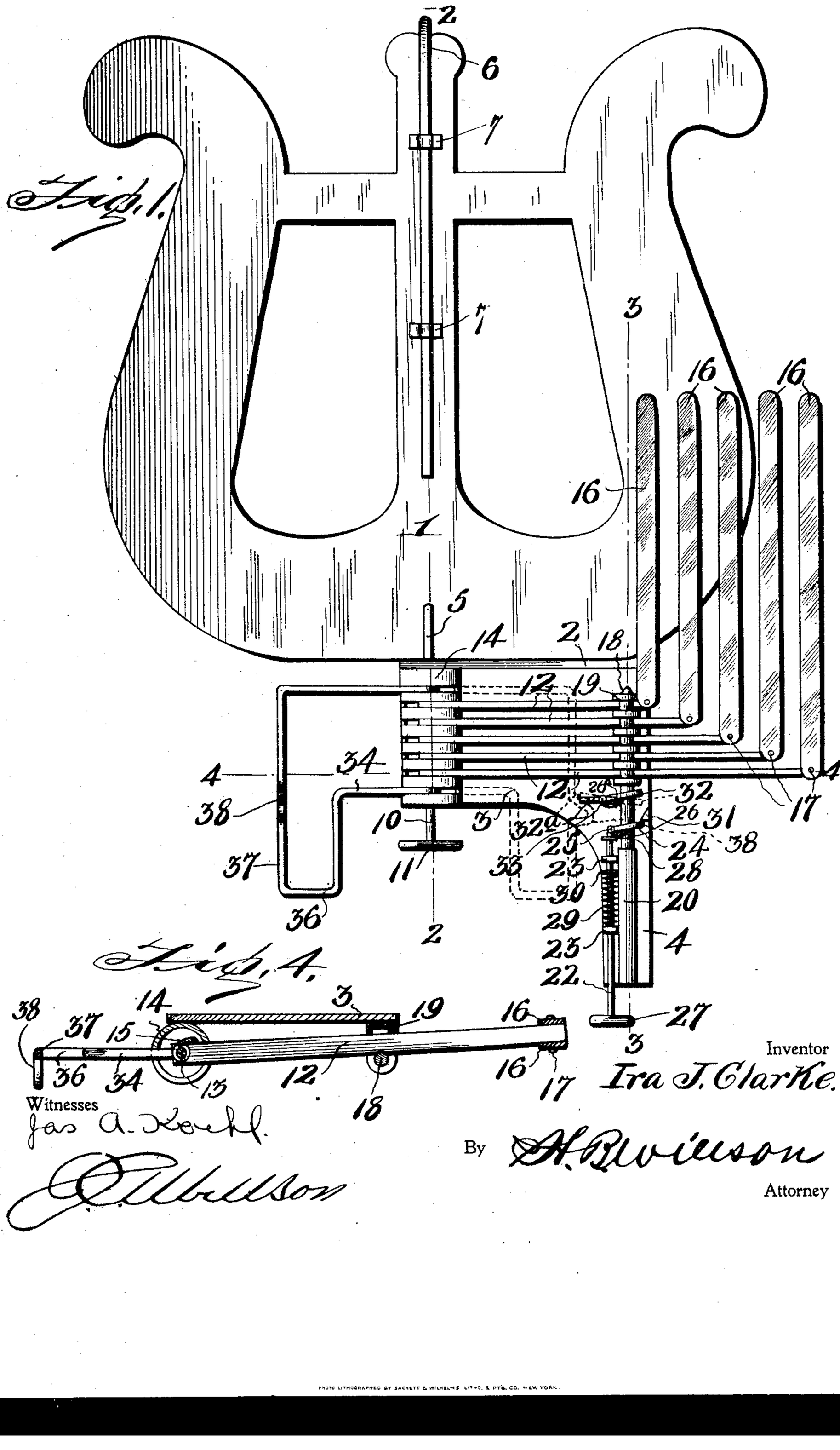

Fig. 4.

Witnesses
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

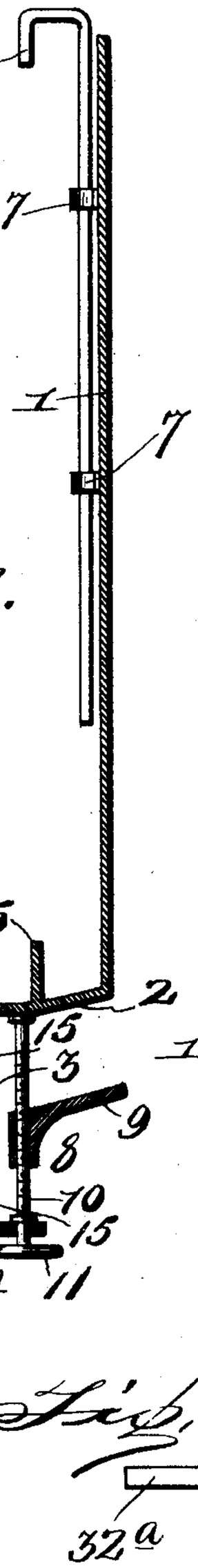

Fig. 3.

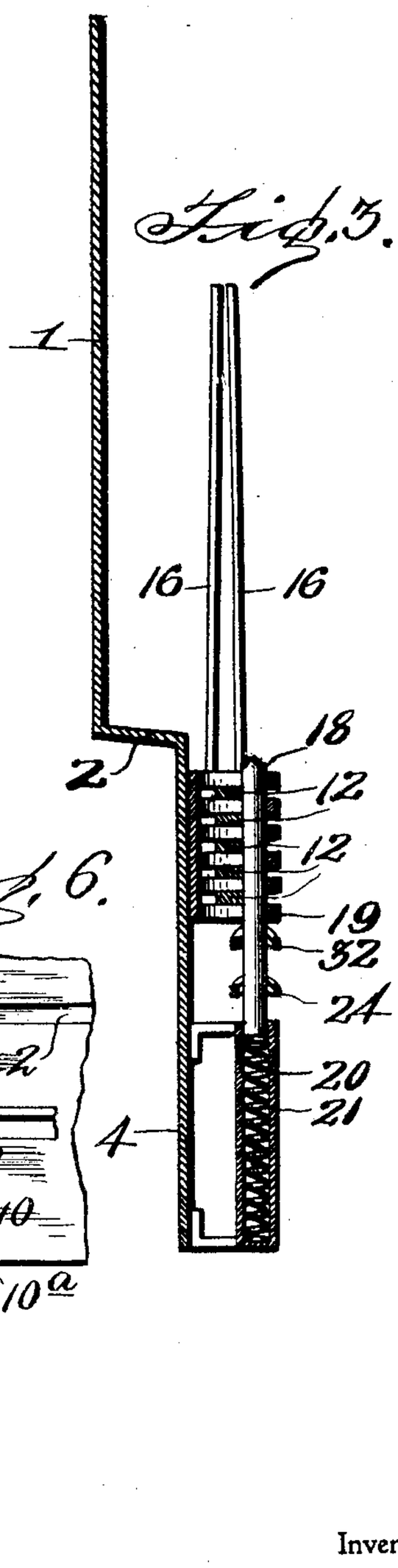

Fig. 4.

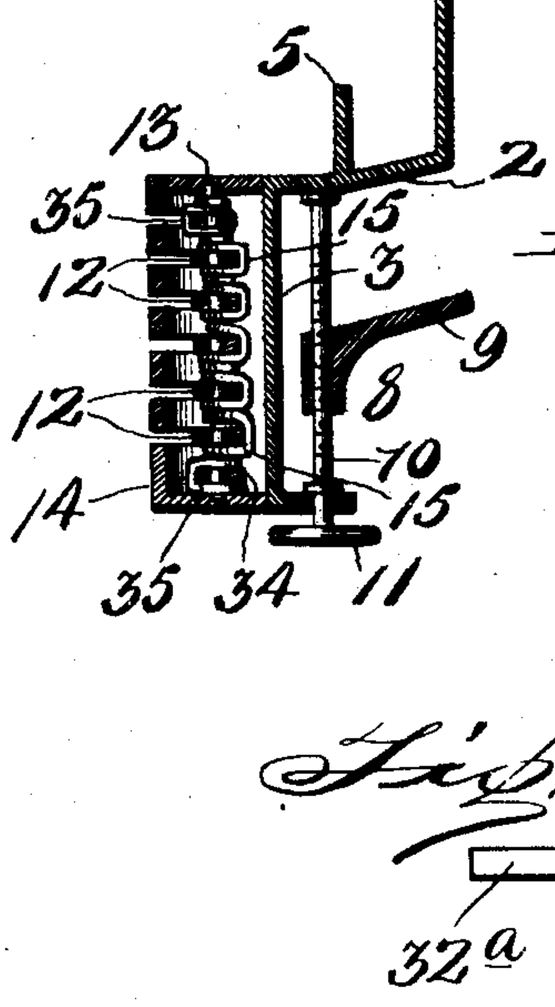

Fig. 6.

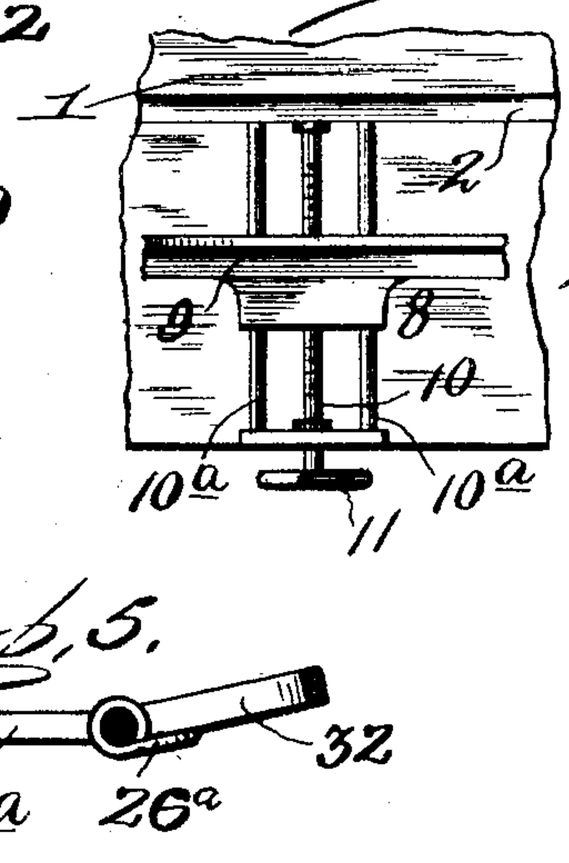

Fig. 5.

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No. 775,799. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

IRA J. CLARKE, OF WELCOME, MINNESOTA.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 775,799, dated November 22, 1904.

Application filed February 15, 1904. Serial No. 193,724. (No model.)

To all whom it may concern:

Be it known that I, IRA J. CLARKE, a citizen of the United States, residing at Welcome, in the county of Martin and State of Minnesota, have invented certain new and useful Improvements in Music-Leaf Turners; and I 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.

My invention relates to improvements in music-leaf turners.

The object of my invention is to provide a device of this character which will be simple in construction, durable in use, efficient in operation, and comparatively inexpensive to manufacture.

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 front elevation of my improved leaf-turning device, showing the two positions of the resetting-lever in full and broken lines. Fig. 2 is a vertical section through the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a detail vertical section taken on the line 3 3 of Fig. 1. Fig. 4 is a detail horizontal section taken on the line 4 4 of Fig. 1. Fig. 5 is a detail sectional view through one of the clutch-rings. Fig. 6 is a detail view of a portion of the rear of the back or support, showing the clamp for securing the device to the instrument.

In the embodiment of my invention illustrated in the drawings, the numeral 1 denotes the back or support, preferably constructed of metal and in the form of a lyre, as shown. The lower edge of said back is bent substantially at right angles to form a shelf 2 to support the folio or book, and a portion of the front edge of this shelf is bent downwardly at right angles, as at 3, and is formed with a depending portion 4, upon which and the portion 3 the leaf-turning mechanism is mounted.

In order to retain the music book or folio upon the shelf 2, I provide a stop-pin 5 upon the center of the shelf to engage the bottom of the book and a sliding adjustable hook 6 to engage and hold the top of the same. The said hook slides vertically in guides 7 upon the front side of the back 1 and is retained in an adjusted position by its frictional engagement with said guides. The device is adapted to be removably attached to an organ, piano, or other instrument by means of a clamp 8, comprising a movable jaw 9, made adjustable toward and from the under side of the shelf 2, which forms the fixed jaw of the clamp, by means of a swiveled screw 10, operated by a knob or hand-wheel 11, as clearly seen in Fig. 2. Said movable jaw 9 slides upon and is guided by vertical guide-rods 10^a, which are disposed as shown in Fig. 6. If desired, the jaws of the clamp, the rear side of the back 1, and any other parts of the device which come in contact with the instrument may be covered with felt or any other suitable material to prevent scratching or marring of the instrument.

The leaf-turning mechanism comprises a series of parallel arms 12, arranged one above the other and having their inner ends pivoted upon a centrally-disposed pin or post 13, mounted in a cylinder bracket or casing 14, secured upon the portion 3 of the back 1. The said arms 12 swing in slots formed in said casing 14 and are actuated by springs 15, which are coiled about the post 13 and then looped over said arms, as shown. The arms are graded in length, and each is provided at its outer end with a pair of fingers 16, between which the leaves of the folio or book are held. The said fingers are preferably made of celluloid or other transparent material and are pivotally attached to the arms by rivets or the like 17, the tension or friction of which being sufficient to hold them at any desired angle.

The tendency of the springs 15 is to throw the arms from the right to the left side of the back 1, and in order to hold them on the right side and to release them one by one, as desired, I provide a retaining and releasing pin 18, which slides in a slotted cylindrical casing 19, secured upon the portion 3 of the base at right angles to the said parallel arms 12. The said arms are adapted to enter the slots in said casing and to be retained therein by said pin 18.

The lower portion of the pin 18 slides in a tubular casing 20, secured upon the depending portion 4 of the back 1, and is engaged by a coil-spring 21, confined in said casing 19 and tending to project the pin 18 upwardly across the path of the arms 12. In order to move said pin downwardly to release one of the arms 12, I provide an operating-rod 22, which is slidably mounted in guides 23 upon the portion 4 of the back 1, with a clutch device in the form of a ring 24, which surrounds the pin 18 and has its internal diameter slightly greater than that of the said pin. The said ring is pivoted, as at 25, to the upper end of the rod 22 and is held elevated and in contact with the pin 18 by a spring 26, as shown. It will be seen that when the rod 22 is moved downwardly by pressing upon the finger-piece or knob 27, provided on its lower end, the pin 18 will also be moved down, owing to the engagement of the clutch-ring 24 with it. A stop-collar 28 is provided upon the rod 22 to engage the upper guide 23 and limit the downward movement of the rod, and hence the pin, so that the latter moves just enough to release one of the arms 12. The rod 22 is restored to its normal position as soon as released by a spring 29, coiled about the same and confined between the lower guide 23 and a fixed collar 30 upon said rod. When the rod 22 is in its elevated or normal position, the clutch-ring 24 is held out of engagement with the pin 18 by a stop 31, which engages the end of the clutch-ring and depresses the same against the tension of the spring 26. When the pin 18 is thus released by the clutch-ring 24, it is caught by a similar clutch-ring 32, pivoted, as at 33, upon the portion 4 of the back 1 and held pressed up by a spring 26^a and provided with a projection 32^a, for a purpose presently explained.

It will be seen that each time the operating-rod 22 is depressed the pin 18 will be lowered sufficiently to clear one of the arms 12, and upon being released it will return to its original position, while the pin will be held in its lowered position by the clutch-ring 32. By repeatedly depressing and releasing the operating-rod 22 the arms 12 may be successively released until all of them are on the left side of the device.

In order to return the arms 12 to the right side and to reset the device, I provide a resetting-lever 34, formed of a piece of metal rod bent, as seen in Fig. 1, and having its ends pivoted upon the post 13 above and below the arms 12. The said lever is held normally upon the left side of the device by springs 35, coiled about said post 13 and engaged with the lever, and a depending bent portion 36 of the latter forms a handle, by means of which it may be swung from the left to the right side. The vertical portion 37 of said lever, which engages the arms 12, is bent to form a right-angularly-projecting trip 38, which is adapted to engage the projection 32^a on the clutch-ring 32 and release the latter from the pin 18 when the lever has been swung over to the right side, as shown in dotted lines in Fig. 1, and has forced the arms 12 down into the slots in the casing 19 below the travel of the said pin. As soon as the pin 18 is thus released the spring 21 forces it up across and in front of the arms 12 and prevents them from swinging back to the left side with the lever when the latter is released.

The operation of my invention is as follows: The book or folio of music or the like is placed upon the shelf 2 between the stop 5 and the hook 6, and the leaves which are to be turned by the device are inserted between the transparent fingers 16, as will be readily understood. By pressing down upon the knob 27 the clutch-ring 24 will enage the pin 18 and move the latter down until the stop-collar 28 engages the upper guide 23, at which time the pin will have been moved down sufficiently to permit its pointed upper end to clear the uppermost arm 12. The latter, owing to its spring 15, will be swung over to the left side as soon as released and will carry the leaf held between its pair of fingers over with it. As soon as the knob 27 is released the spring 29 will return the operating-rod to its original position, and the clutch-ring 32 will hold the pin 18 against upward movement. After all the leaves held by the fingers 16 have been turned by repeatedly depressing the knob 27 the arms are swung back and again secured by the pin 18 by means of the lever 34, as previously explained.

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 my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a leaf-turner, the combination of a back, means for supporting a book or folio upon the same, spring-actuated arms mounted to swing upon said back, means for engaging said arms with the leaves of said book or folio, a spring-actuated retaining-pin mounted to slide across the path of movement of said arms, a sliding operating-rod, a spring-actuated clutch-ring pivoted upon said rod and surrounding said pin, means for holding said clutch-ring normally out of engagement with said pin, and a second pivoted spring-actuated clutch-ring for said pin adapted to prevent retrograde movement of the same, substantially as described.

2. In a leaf-turner, the combination of a

back or support, a series of movable leaf-turning arms upon the same, a movable retaining-pin for said arms, a retaining-clutch device for said pin, a reset-lever for said arms, and means carried by said lever for releasing said retaining-clutch device, substantially as described.

3. In a leaf-turner, the combination of a back, a series of spring-actuated leaf-turning arms mounted to swing upon said back, a spring-actuated retaining-pin for said arms slidably mounted upon said back, a clutch for said pin, a reset-lever for said arms, and means upon said lever for operating said clutch, substantially as described.

4. In a leaf-turner, the combination of a back, a series of spring-actuated leaf-turning arms mounted to swing upon said back, a spring-actuated retaining-pin for said arms slidably mounted upon said back, a pivotally-mounted spring-actuated clutch-ring for said pin, a projection upon said clutch-ring, a reset-lever for said arms, and a trip on said lever adapted to engage the projection upon said clutch-ring to release the latter from the pin, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

IRA J. CLARKE.

Witnesses:
JOHN WOLFORD,
A. W. GAMBLE.