

(No Model.)

A. RICHARDS, Sr.

LEAF TURNER.

No. 344,861.

Patented July 6, 1886.

Fig. 1.

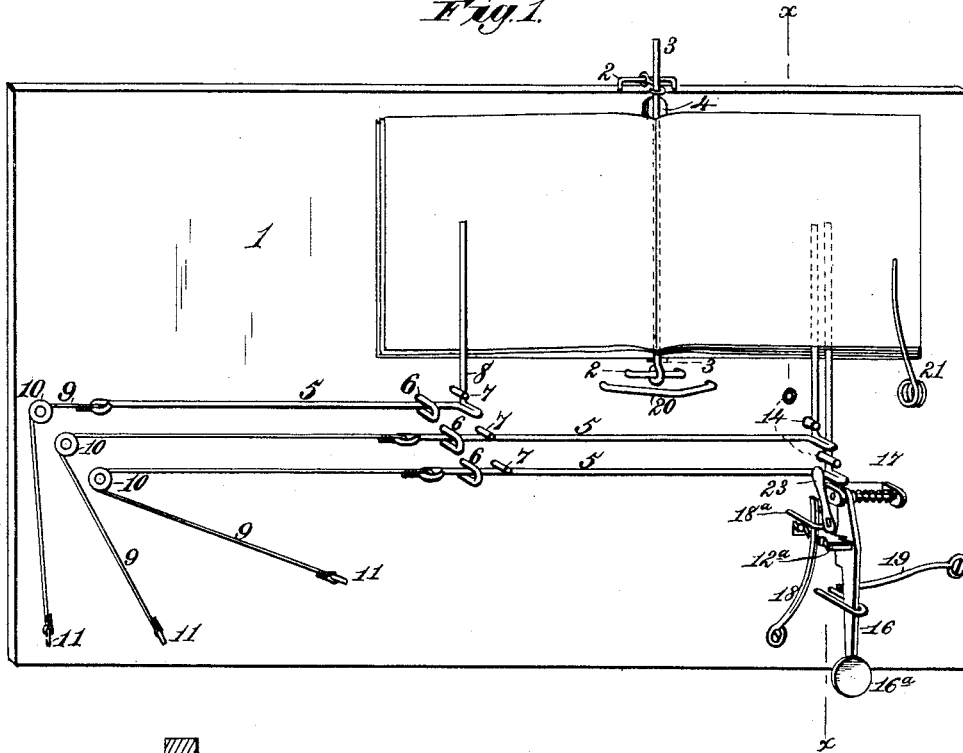
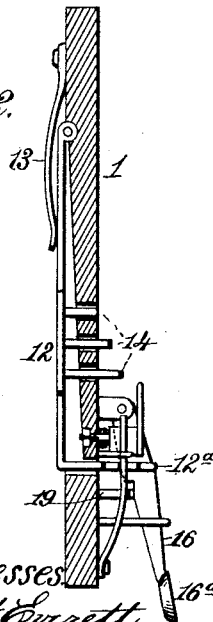


Fig. 2.



Witnesses
Robert Everett.
Dennis Lumby.

Fig. 3.

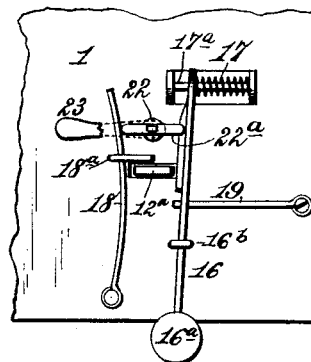
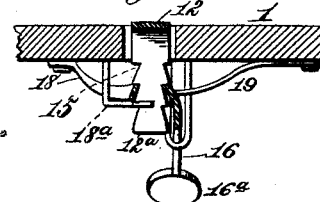


Fig. 4.



Inventor.

Augustus Richards, Sr.

By James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

AUGUSTUS RICHARDS, SR., OF WILLIS, TEXAS.

LEAF-TURNER.

SPECIFICATION forming part of Letters Patent No. 344,861, dated July 6, 1886.

Application filed September 10, 1885. Serial No. 176,699. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS RICHARDS, Sr., a citizen of the United States, residing at Willis, in the county of Montgomery and State of Texas, have invented new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

My invention relates to apparatus for automatically turning the leaves of music, and the purpose thereof is to effect certain improvements in the apparatus heretofore employed for such purposes, whereby the turning arms or standards are caused to travel horizontally, or substantially so, over the face of the rack.

It is also the purpose of my invention to simplify and improve the construction and operation of devices of this class; and the invention consists in the several novel features of construction and combination of parts, hereinafter fully set forth, and definitely pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating my invention. Fig. 2 is a vertical transverse section taken in a plane one side of the releasing-post. Fig. 3 is a detail plan view of the releasing arm and post, the disengaging device, and a portion of the rack on which they are mounted. Fig. 4 is a detail section, showing the manner of operating the releasing-post.

In the said drawings, the reference-numeral 1 designates the rack upon which the music is laid. Instead of the shelf usually employed upon the music-rack, I mount thereon two parallel wire brackets, 2 2, rising somewhat above the surface of the rack, and of suitable length to support leaves of varying size. Upon the lower bracket a wire, 3, is pivotally mounted in such manner that it may be connected with and disconnected from the upper bracket. This wire serves to retain the book or music in place, and a shallow channel, 4, may be formed in the rack beneath the wire 3, into which the central fold of a thin leaf or leaves of music will be pressed.

Upon the face of the music-rack, beneath the lower bracket 2, are mounted rods 5, running freely in guide-staples 6 and between guiding-pins 7. These arms are arranged in substantial parallelism with each other, and upon the right-hand end of each is mounted

a turning-finger, 8, the arrangement being such that the end of each of said rods projects somewhat beyond the preceding rod. To the opposite end of each rod is firmly attached an elastic cord, 9, which may pass over a pulley, 10, journaled upon a stud on the face of the rack, and the end of which is attached to a pin, 11, as many of the elastic cords being employed as there are separate rods 5.

Upon the back of the rack 1 is arranged a releasing-arm, 12, pivoted or hinged at its upper end to the rack. This arm, not far from its central portion, is widened, and crossing said portion diagonally is a series of pins, 14, which are of increasing length relatively to each other. These pins project through openings in the rack and engage with the several turning-fingers 8, holding them somewhat to the right of the central wire, 3, of the holding-brackets 2 and beneath the same. In this position the several fingers 8 lie beneath the successive leaves, the upper or first leaf lying upon the finger engaging with the shortest pin 14, the following leaf upon the finger engaging with the next succeeding pin, &c.

The lower end of the releasing-arm 12 is curved sharply upward and passes through an opening in the rack 1, the end projecting above the surface of the rack. This projecting portion or post 12^a is provided upon opposite sides with notches, and upon one side of said post is a drop-lever, 16, pivoted upon the rack and thrown into positive engagement with the notches of the post by a spiral or other spring, 17. Upon the opposite side of the post is placed a spring-catch, 18, which engages with the notches 15 upon that side and prevents the post from rising after each downward movement. It should be stated at this point that the distance between any two adjacent notches on the releasing-post is equal, or thereabout, to the difference in height of the pin 14, and the drop-lever key 16 is so constructed and arranged that when it is depressed by pressing on the thumb-piece 16^a it will move far enough to drop the post 12^a the distance of a single notch and no farther. The lever after each stroke is restored to position by a spring, 19.

Nearly in line with the lower bracket 2, and arranged centrally with relation thereto,

is an upwardly-curved wire, 20, over which the fingers 8 ride as they are drawn from right to left, the purpose thereof being to carry the finger-bar enough above the central fold of the book or music to enable the fingers to draw the leaves over without too sharp a fold being formed and with the least possible resistance. The elasticity of the turning rods 5 causes the fingers carried by them to hug this wire or bridge-piece closely.

Between the holding spring or catch 18 and the drop-lever 16 is pivotally mounted a stud, 22, carrying a double cam, 22^a, which, upon the rotation of the stud, bears against both the pivoted end of the drop-lever 16 and the adjacent edge of the spring-catch 18, the lever being pivoted upon an elongated bearing, 17^a, around which is coiled the spring 17, which normally throws the end of the lever toward the double cam 22. A staple, 18^a, planted near the releasing-post 12^a, retains the spring-catch 18 in position to engage with the notches of the post and hold it in each of the several positions to which it is successively dropped by the lever, while the spring 17 and elongated bearing 17^a permit the lever to yield as it rises to engage with the next succeeding notch of the releasing-post, the power end of said lever being retained from lateral movement by a guide-staple, 16^b.

The operation of the apparatus is evident. The music being placed upon the rack, as shown in Fig. 1, and the fingers being arranged beneath the leaves and set, a stroke of the drop-lever 16 will release the first finger, which will, by means of the draft produced by the elastic cord 9, travel over the face of the music, riding upon the curved bridge-piece 20, and turning the leaf, which it also holds after it is turned, as shown in Fig. 1. A second stroke of the lever carries the releasing-post down a second notch, throwing the second finger off the second pin 14, and so on throughout the series. A spring-holder, 21, may be employed, as usual, to retain the leaves in place until they are turned. When the traveling fingers have all been operated, the device is set by revolving the stud 22 by means of a lever, 23, thereby throwing both the spring-catch 18 and the drop-lever 16 off the notches of the releasing-post, which is immediately thrown up by the spring 13 upon the back of the rack.

What I claim is—

1. The combination, in a music-leaf turner,

of a rack having attached guides, the horizontally-slidable rods arranged in said guides, one above the other, the leaf-turning fingers carried by one end of said rods, the elastic cords connected with the other ends of said rods for retracting the fingers, devices for holding the rods against the tension of the cords, and a finger-piece for successively disengaging said holding devices, substantially as described.

2. In a music-leaf turner, the combination, with a series of carrying-rods, of a releasing-arm pivoted or hinged upon the back of the rack, and carrying pins projecting through openings in said rack, a releasing-post mounted on said arm and projecting above the face of the rack, and a lever and catch by which said post is thrown downward and held down after each movement, substantially as described.

3. In a music-leaf turner, the combination, with a series of carrying-rods, elastic cords by which said rods are moved horizontally over the face of the rack, and fingers carried by said rods, of a bridge-piece composed of an upwardly-curved wire having substantially a central arrangement relatively to the supporting-bracket, substantially as described.

4. In a music-leaf turner, the combination, with a rack, of carrying-rods sliding in guides mounted on said rack, elastic cords giving longitudinal movement to said rods, a releasing device pivotally mounted on the back of the rack and carrying pins of different lengths which project through openings in the rack, a releasing-post mounted on said arm and having notches on opposite sides, a lever engaging with the notches on one side, a catch engaging with those upon the other, a bridge-piece arranged below the central part of the bracket, and fingers mounted on the carrying-rods, substantially as described.

5. In a music-leaf turner, the combination, with a notched post having an arm carrying releasing-pins of varied length, a drop-lever pivoted on an elongated bearing and thrown by a spring into engagement with the post, a spring-catch engaging with the latter, and a double cam mounted between said catch and lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUSTUS RICHARDS, SR.

Witnesses:

E. D. T. WOOLDRIDGE,

E. T. COOK.