

No. 707,671.

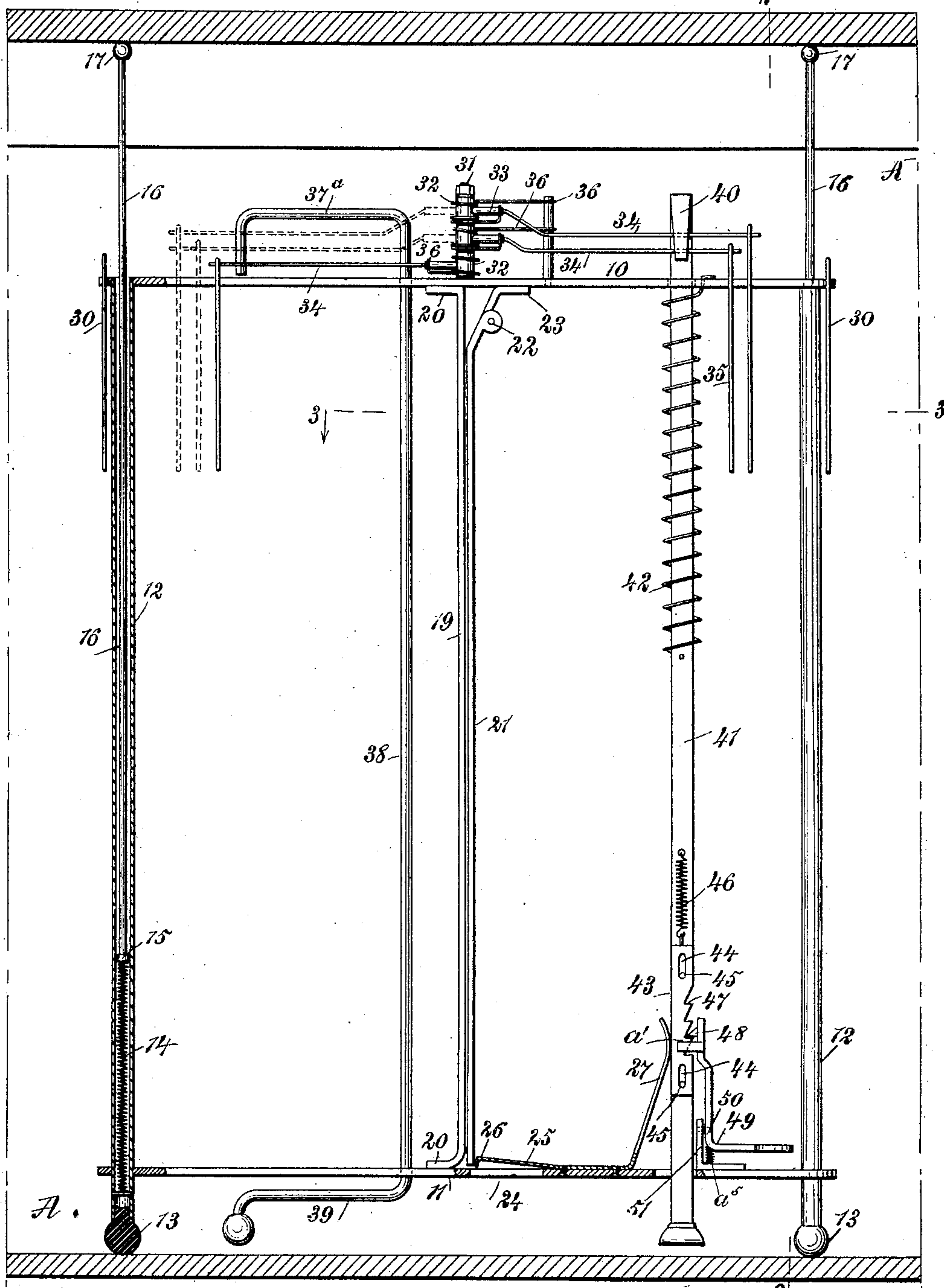
Patented Aug. 26, 1902.

G. E. ADAMS.
MUSIC LEAF TURNER.

(Application filed Aug. 23, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Fig. 1

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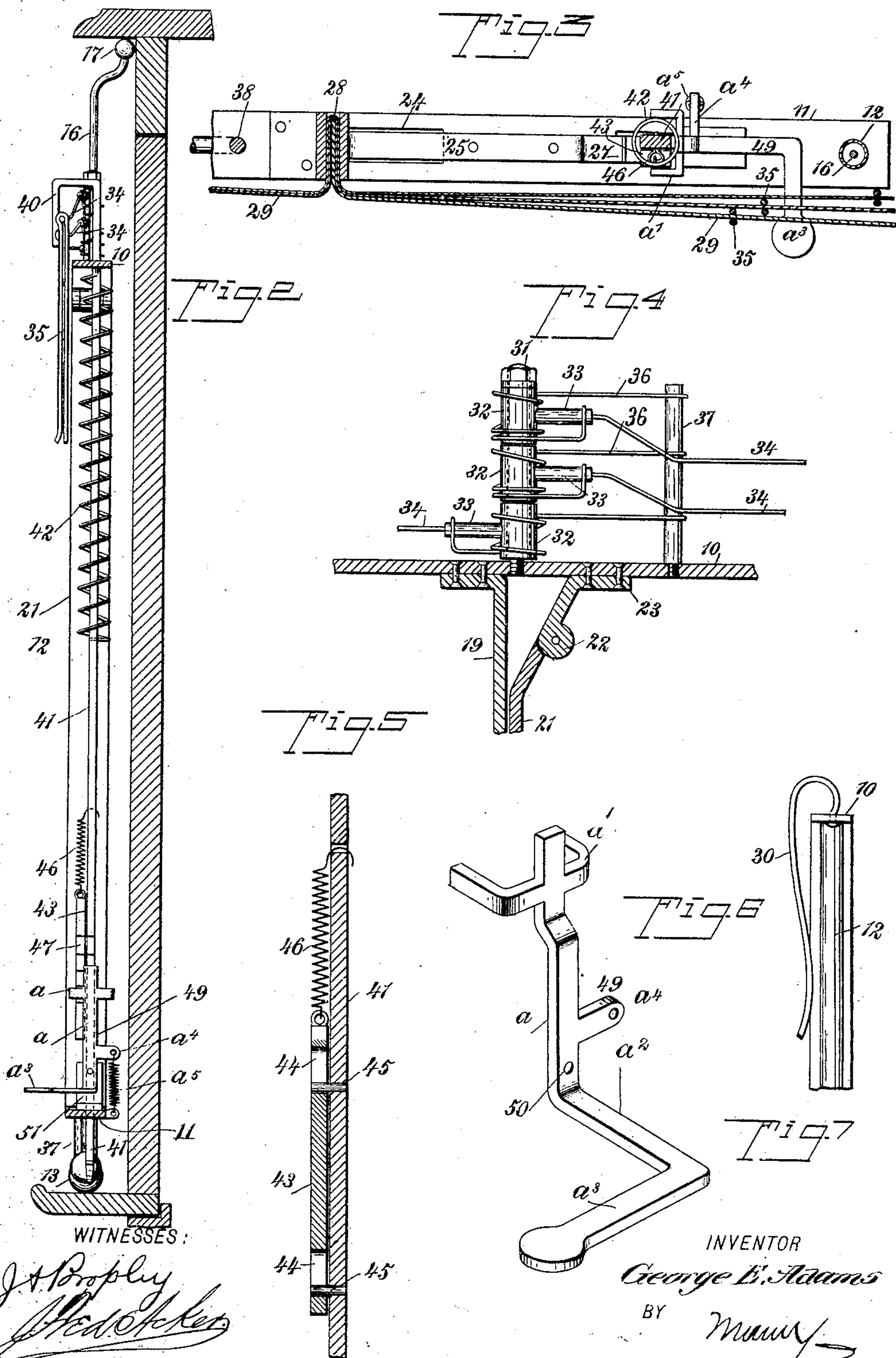
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(No Model.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

GEORGE E. ADAMS, OF GLENS FALLS, NEW YORK, ASSIGNOR TO WILLIAM D. EARL, OF LOWELL, MASSACHUSETTS.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 707,671, dated August 26, 1902.

Application filed August 23, 1901. Serial No. 73,007. (No model.)

To all whom it may concern.

Be it known that I, GEORGE E. ADAMS, a citizen of the United States, and a resident of Glens Falls, in the county of Warren and State of New York, have invented a new and Improved Music-Leaf Turner, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide a simple and durable form of a music-leaf turner adapted for convenient and expeditious attachment to the music-rack of a piano or a music-rack used in connection with other instruments and, furthermore, to so construct the device that but few parts will be employed and whereby the leaves or sheets of music may be fixed in position to a series of music-carrying arms and held in position after turning until the music-carrying arms are purposely released, which is accomplished by simply touching a device controlling the same with a finger of a hand, although foot-power may be employed, if desired, and to so construct the music-carrying arms that when released from their retaining device they will automatically assume a position at the opposite side of the body or frame of the device, thus turning a leaf or sheet to which the arm may be connected.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improved device applied to a music-rack of a piano or organ, a portion of the rack and parts of the device appearing in section. Fig. 2 is a vertical section taken practically on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken practically on the line 3 3 of Fig. 1. Fig. 4 is an enlarged view of the upper central portion of the rack, illustrating the manner in which the sheet-carrying arms are rendered spring-controlled and are supported on the frame. Fig. 5 is a detail vertical section through the lower portion of the retaining-bar for the music-carrying arms and the slide carried by said bar. Fig. 6 is a detail per-

spective view of the lever which regulates the movement of the bar controlling the movement of the sheet-carrying arms from right to left; and Fig. 7 is a side elevation of the upper portion of the device at one side, illustrating the means employed for holding the covers of a book in position upon the device.

The frame of the machine consists of an upper cross-bar 10 and a lower cross-bar 11, together with tubular side bars 12, which are fitted into suitable openings in the top and bottom bars 10 and 11 at or near their ends. At the lower end of each tubular side bar 12 a foot 13 is located, preferably of rubber and of substantially spherical form, and each foot is provided with a shank which extends up into a tubular side bar 12, as is shown at the left in Fig. 1. A spring 14 rests upon the inner end of the shank of each foot 13, and an enlargement 15 at the lower end of a rod 16 rests upon the upper portion of each spring 14, since a rod 16 is provided for each tubular side bar 12, and these rods extend out beyond the upper cross-bar 10 of the frame, terminating, preferably, in a head 17 of any desired shape. The object of this construction is to hold the frame of the machine firmly on the music-rack A by reason of the feet 13 resting upon the bottom flange of the rack and the heads 17 bearing against the upper flange of the rack, the springs 14 being placed under compression when the device is thus located on the rack. It will be observed that under such a construction the device may be expeditiously and conveniently applied to a rack without detriment thereto in any manner, as both the feet 13 and heads 17 may be covered with a soft material or may be constructed entirely of a pliable material.

A bar 19 is located vertically and centrally in the frame, extending from the bottom to the top cross-bars thereof, being secured to said bars by integral brackets 20, as is shown particularly in Fig. 1. Adjacent to and practically parallel with the bar 19 a second bar 21 is located. This bar 21, however, is not attached to the lower cross-bar 11 of the frame, stopping short of the said cross-bar, and at the upper end of the second longitudinal bar 21 said bar is attached to a bracket 23, secured to the upper cross-bar 10, so that the longitudinal or vertical bar 21 may be swung out-

ward from the corresponding bar 19. These two bars are clamping-bars and are adapted to receive between them the central portion 28 of sheets of music 29, as is shown in Fig. 3.

5 3. The movable binding-bar 21 is held in clamping position with the central portion of the sheets of music by a spring 25, which is secured to the upper face of the lower cross-bar 11 and has a head 26, which bears against the lower or foot portion of the movable clamping-bar 21, as is shown in Fig. 1. When this movable clamping-bar is to be carried away from the stationary clamping-bar 19 to release the music, the head of the spring 25 is carried downward into an opening 24, made in the lower cross-bar 11 of the frame. This spring 25 has an upward extension 27, adapted for use in connection with a controlling-bar, to be hereinafter described.

10 20 At each end of the upper cross-bar 10 spring-hooks 30 are located, which extend downward and forward and are adapted to receive between them and the adjacent tubular side bars 12 the boards of a book or the covers of sheets of music. At the central portion of the upper cross-bar 10 a vertical upwardly-extending post 31 is located, (shown in detail in Fig. 4,) and on this post a series of sleeves 32 is mounted to turn, each sleeve being provided with a lateral extension 33. The extensions 33 of the sleeves 32 receive the inner ends of leaf-turning bars 34, which bars at their free or outer ends are provided with clamps 35 to hold the sheets of music, and each clamp, as is shown in Fig. 3, preferably consists of two downwardly-extending parallel rods, one rod of a clamp passing down at one face of a sheet and the corresponding clamp at the opposite face of a sheet of music, as is also shown in Fig. 3. Springs 36 are attached to the sleeves 32 and are coiled around the said sleeves, engaging with their extensions 33, and the said springs are carried also to an engagement with a post 37, also secured upon the upper cross-bar 10, at one side of the center, preferably the right-hand side. These springs tend to force the music-carrying arms to the left-hand side of the frame, as is shown in dotted lines in Fig. 1, and when the arms are in this position they engage with the upper curved section 37^a of a reversing-bar 38, mounted to turn in the top and bottom cross-bars of the frame and located at the left-hand side of its center.

50 55 The reversing-bar 38 terminates at its lower end in a handle 39, preferably in the form of a crank-arm, so that when all of the music-carrying arms are at the left-hand side of the frame by manipulating the handle 39 all of these arms may be carried to the right-hand side of the frame and the springs 36 placed under tension, and when this is done the music-carrying arms are held at the right-hand side of the frame by a hook 40 at the upper end of a controlling-bar 41, usually flat, which controlling-bar has sliding movement in the upper and lower cross-bars of the frame between the center and the right-hand side bar. A spring 42 is coiled around the upper portion of the said controlling-bar, which spring is attached to the upper cross-bar 10 of the frame and to the controlling-bar at a point between its center and upper end, as is best shown in Fig. 1. A slide 43 is mounted upon the front face of the controlling-bar 41, near its bottom portion, and the spring 27, heretofore referred to, bears against one longitudinal edge of the slide 43, and in the opposite longitudinal edge of said slide teeth 47 are produced, which are adapted to register with corresponding teeth in the corresponding longitudinal edge of the controlling-bar 41. The slide 43 is provided at its top and bottom with longitudinal slots 44, through which pins 45 extend, attached to the controlling-bar 41. A spring 46 is secured to the upper end of the slide 43 and to the front face of the controlling-bar 41. The teeth on the slide or the corresponding teeth on the controlling-bar 41 are adapted to be engaged by an offset 48 from an angle-lever 49, which angle-lever is shown in detail in Fig. 6. This angle-lever consists of an upper member a , a yoke section or member a' at the upper portion of the vertical member, a horizontal section a^2 at an angle to the vertical section, and another horizontal or finger section a^3 at an angle to the intermediate horizontal section a^2 . This lever 49 is pivoted, by means of a pin passed through an aperture 50, in the lower portion of the vertical member of the lever, and when the finger section or member a^3 is pressed the vertical member of the lever has rocking movement on its pivot, the rocking movement being controlled by the yoke a' , the members of which extend at the front side of the slide 43 and at the rear side of the controlling-bar 41. The said lever 49 is provided at or near the junction of the vertical member a with the intermediate horizontal member a^2 with an arm a^4 , and to this arm a spring a^5 is attached, which spring is also secured to the bottom cross-bar 11 of the frame.

115 In the operation of the device, supposing all of the sheet-carrying arms to have been taken over to the right-hand side of the frame and engaged by the hook 40 of the controlling-bar, when the notes upon the sheet of music carried by the uppermost arm have been played the finger member a^3 of the lever 49 is pressed, whereupon the projection 48 from the lever, which normally engages with a tooth in the controlling-bar, will be carried to a corresponding tooth on the slide 43, enabling the spring 42 to carry the controlling-bar upward a sufficient distance to release the hook 40 from the lowermost music-carrying bar, permitting it to be carried by its spring to the left-hand side of the frame, and as soon as the finger is removed from the said lever 49 the extension 48 of the lever will engage with a second tooth in the controlling-bar and the spring 46 will draw the slide

43 upward to such position that its teeth will register with the teeth on the controlling-bar, as when the controlling-bar is carried upward by the spring 42 the pins 45 move up the length of the slots 44 and are prevented from moving farther because of the projection from the lever 49 being in engagement with a tooth of the said slide; but when the projection 48 of the lever 49 is carried from the slide 43 to a tooth on the controlling-bar 41 the spring 46 will draw the slide upward, so as to make the teeth in the slide engage with the teeth on the controlling-bar, so that when the same action is repeated with reference to the lever 49 the second lower sheet-carrying arm may be released, and so on. If at any time in order to repeat earlier passages of music it is desirable to throw one or more of the music-carrying arms to the right, the crank 39 is turned by the first finger of the right hand, thus returning to the right-hand position such arms as had been released, and by pressing with the middle finger of the same hand the L-shaped projection on the bottom of the bar 41 the bar is lowered and the swinging arms engaged by the hook 40, the bar being retained in this lowered position by the hook 48.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a music-leaf turner, a frame comprising upper and lower cross-bars, tubular side bars connecting the cross-bars and a spring-controlled rod located in each side bar, each rod extending beyond the upper portion of the frame and terminating in a head, and a foot located at the lower end of each tubular side bar, for the purpose set forth.

2. In a music-leaf turner, a frame, a post carried by the frame, a series of spring-controlled music-turning arms mounted to turn on said post, clamps carried by the said arms, a sliding controlling-bar adapted to engage and hold the said arms at one side of the frame, a spring for the controlling-bar and tending to move said bar upward out of engagement with the turning-arms, and a releasing device connected with the controlling-bar for releasing the said bar to permit it to be moved upward by its spring at predetermined intervals, as set forth.

3. In a music-leaf turner, the combination, with a frame, a post carried by the upper portion of the frame, spring-controlled music-carrying arms mounted on the said post, and clamps carried by the said arms, the clamps consisting of downwardly-extending parallel rods, of a controlling-bar mounted to slide in the frame, extending above and below it, a spring exerting an upward tension on the said controlling-bar, a hook located at the upper portion of the said controlling-bar, engaging with the music-carrying arms when at the right-hand side of the frame, a slide having limited movement on the controlling-bar, which slide is provided with teeth in one of

its longitudinal edges, corresponding with teeth produced in a corresponding edge of the controlling-bar, a laterally-reciprocating releasing-lever provided with a yoke which receives between its members the slide and the controlling-bar, the said lever having a projection adapted for engagement with the teeth on the slide or the teeth on the controlling-bar, and a spring attached to the controlling-bar and to the said slide, adapted to draw the slide upward after the controlling-bar has been moved in the same direction.

4. In a music-leaf turner, the combination, with a frame having an opening in its lower portion, a central clamping-bar attached to the top and bottom of the frame, a parallel clamping-bar free at its lower end and having hinged connection with the frame at its upper end, and a spring secured to the frame adjacent to the opening thereof and adapted for engagement with the free end of the second clamping-bar to hold it in close relation to the fixed clamping-bar, as and for the purpose specified.

5. In a music-leaf turner, the combination with a frame, and a plurality of spring-controlled turning-arms mounted on the frame, of a sliding and spring-pressed controlling-bar mounted in the frame and adapted to hold the turning-arms at one side of the frame, a spring-pressed slide having limited movement on the bar, and an operating-lever adapted to engage either the bar or slide, as and for the purpose set forth.

6. In a music-leaf turner, the combination with a frame, and a plurality of spring-actuated turning-arms mounted on the frame, of a sliding and spring-pressed controlling-bar mounted in the frame and adapted to hold the turning-arms at one side of the frame, said bar being provided with teeth, a spring-pressed slide having limited movement on the bar and provided with teeth adapted to register with the teeth of the bar, and an operating-lever provided with a projection or tooth adapted to engage the teeth of either the bar or slide, as set forth.

7. In a music-leaf turner, the combination with a frame, and a plurality of turning-arms mounted on the frame, of a sliding and spring-pressed bar provided with a hook at its upper end with which the turning-arms engage, and with teeth at its lower portion, a spring-pressed slide mounted on the bar to have limited movement thereon, and a pivoted and spring-pressed operating-lever having a yoke at its upper end between the members of which the bar and slide extend, and with a projection adapted to engage the teeth of either the bar or slide, as set forth.

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

GEORGE E. ADAMS.

Witnesses:

FRANK M. BURNHAM,
HELEN S. BUSWELL.