

(No Model.)

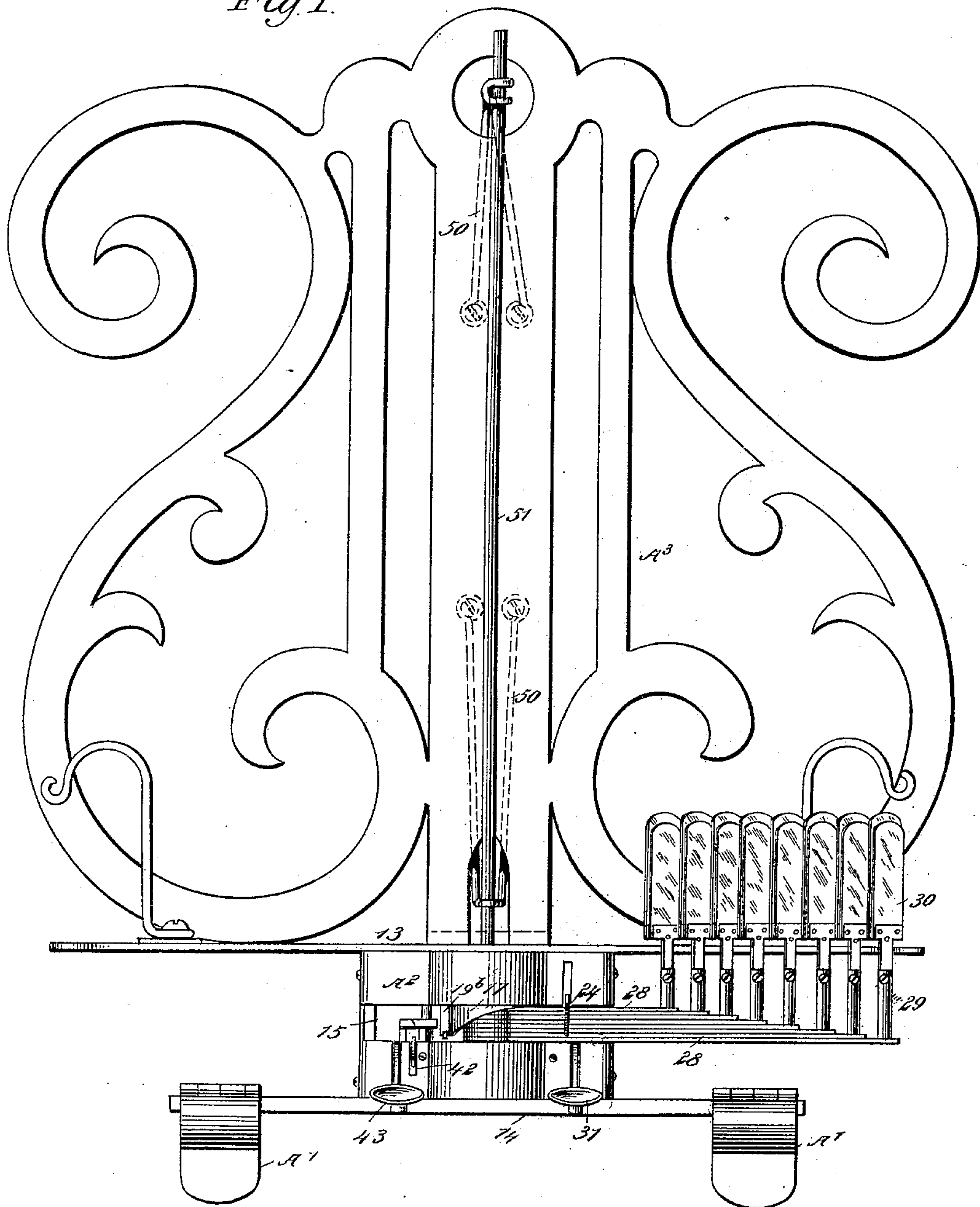
3 Sheets—Sheet 1.

G. VIX.
MUSIC LEAF TURNER.

No. 550,145.

Patented Nov. 19, 1895.

Fig. 1.



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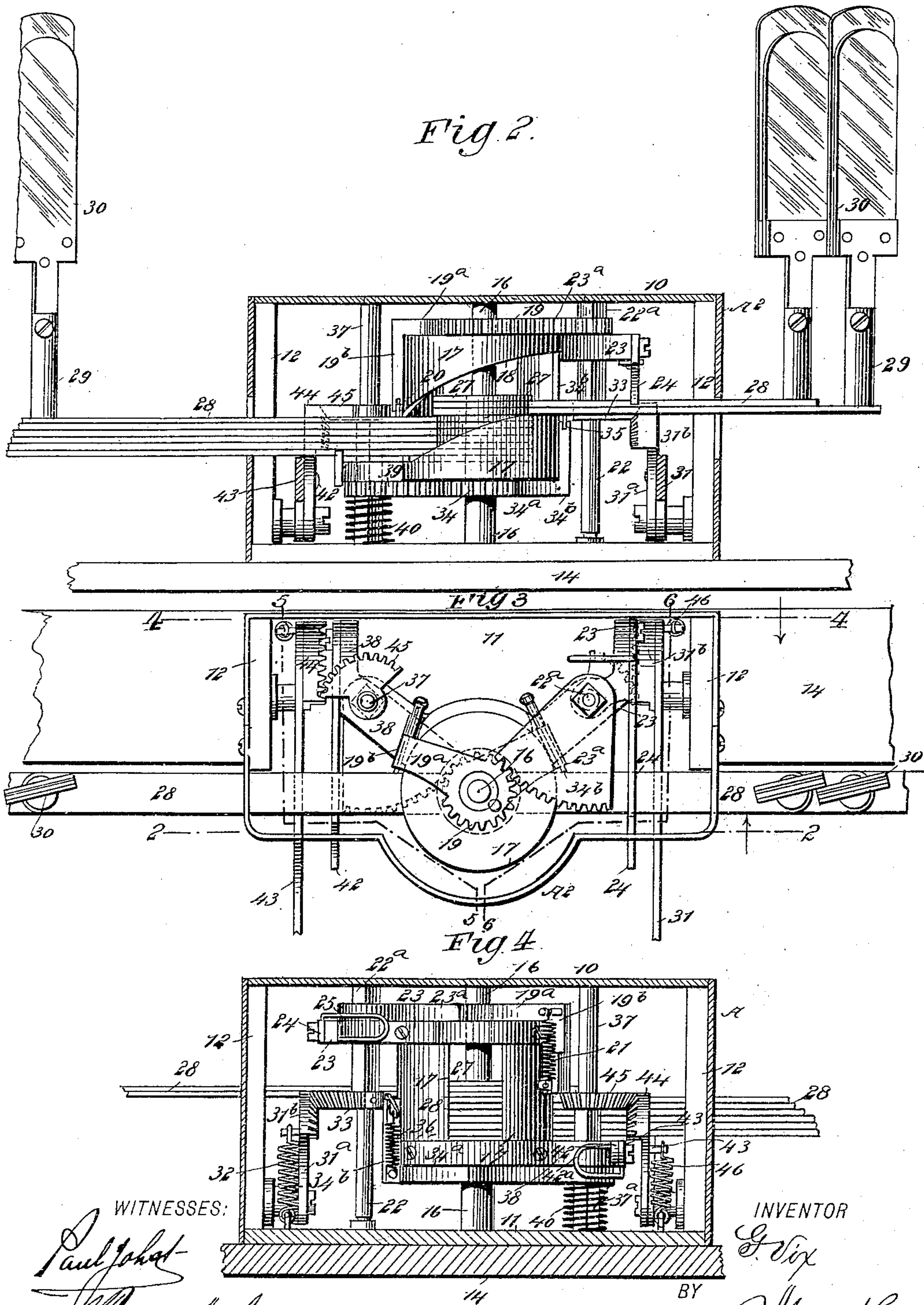
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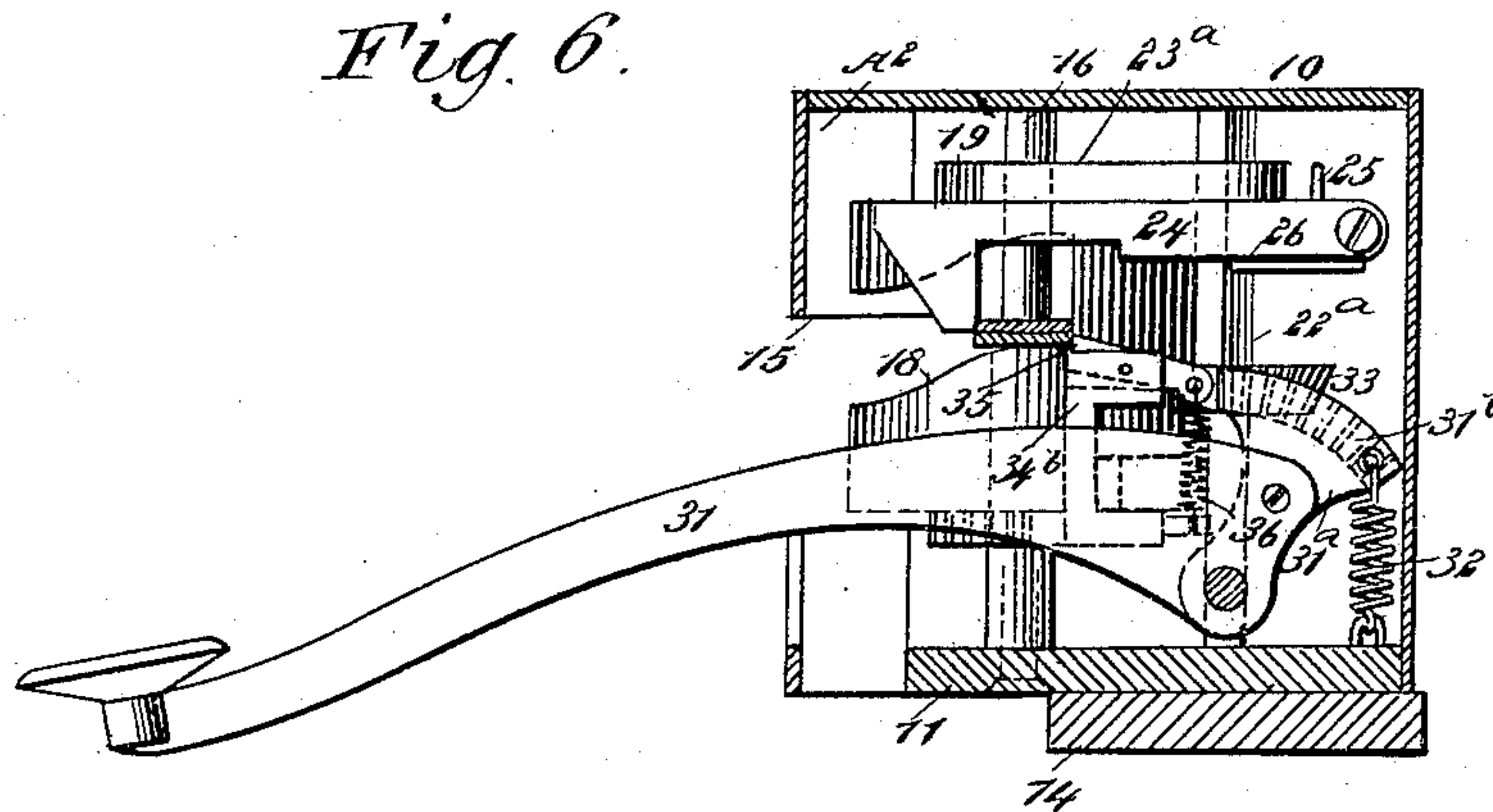
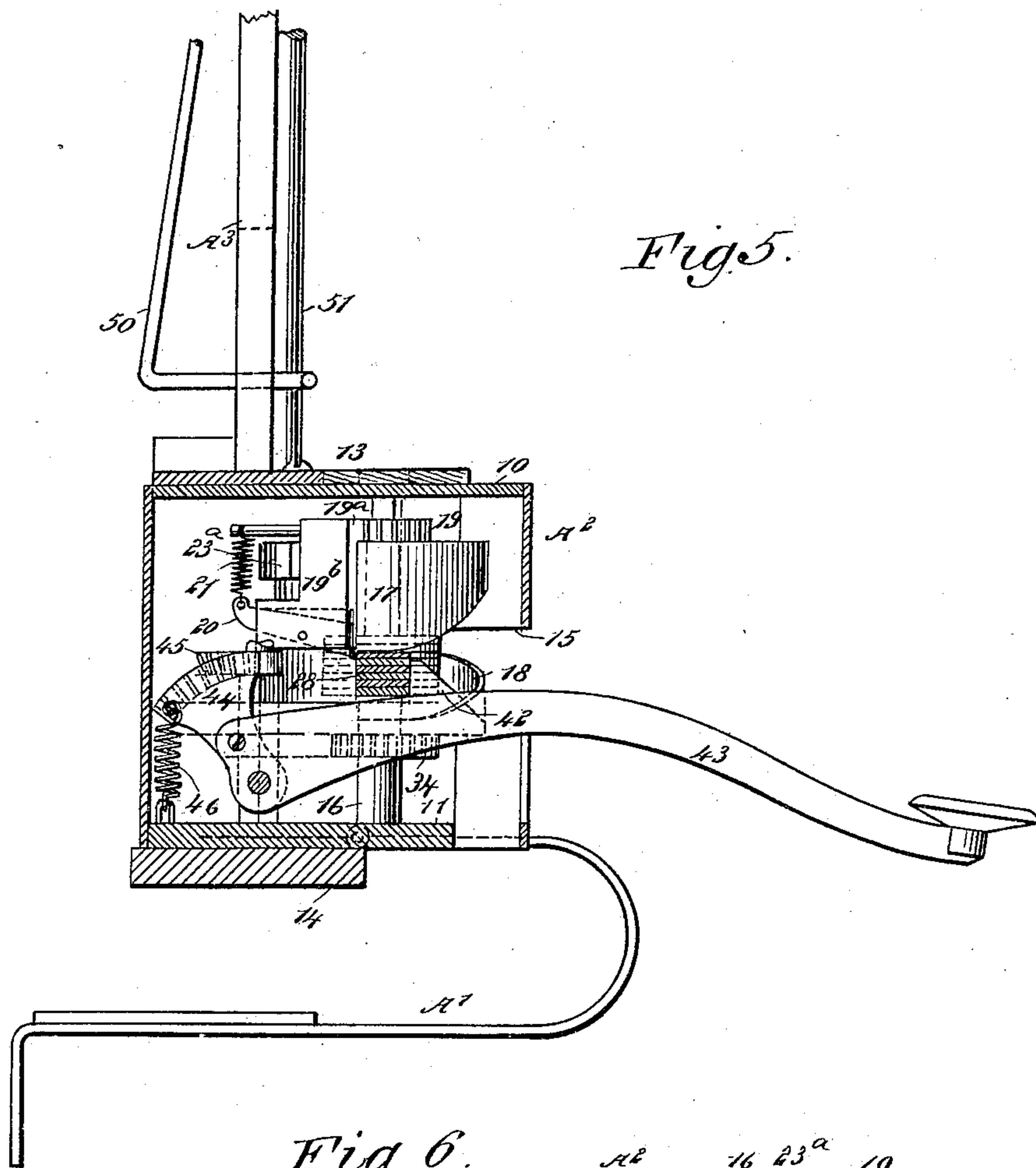
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UNITED STATES PATENT OFFICE.

GEORGE VIX, OF UNION, NEW JERSEY.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 550,145, dated November 19, 1895.

Application filed April 16, 1895. Serial No. 545,867. (No model.)

To all whom it may concern:

Be it known that I, GEORGE VIX, of the town of Union, in the county of Hudson and State of New Jersey, have invented a new and Improved Music-Leaf Turner, of which the following is a full, clear, and exact description.

My invention relates to an improvement in music-leaf turners; and it has for its object to provide a device of this character which may be attached to any music stand or instrument, such as a piano or organ, and manipulated with ease by the performer, the construction being such that the sheets of music may be turned from right to left or from left to right, two keys being employed for the purpose, and whereby also each time a key is struck a leaf-turning arm will respond, being brought into immediate action; and a further object of the invention is to so construct the leaf-turning arms that after they have all been turned in one direction they will have been placed in position to be reversed.

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 figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improved music-leaf turner. Fig. 2 is a section taken longitudinally substantially on the line 2 2 of Fig. 3. Fig. 3 is a plan view of the leaf-turning mechanism, the top of the casing having been removed. Fig. 4 is a longitudinal vertical section through the casing, taken substantially on the line 4 4 of Fig. 3, showing in rear elevation the mechanism for turning the leaves. Fig. 5 is a transverse section taken substantially on the line 5 5 of Fig. 3, and Fig. 6 is a section taken substantially on the line 6 6 of Fig. 3.

In carrying out the invention the main casing A of the machine consists of a top plate 10, a bottom plate 11, and uprights 12, connecting the said plates, as shown in Fig. 4. A bottom board 14 is attached to the bottom of the main casing A, and said board is adapted

to rest upon the instrument and is provided with clips A' to hold the device upon the instrument, being adapted for engagement with the base of a music-rack. A top board 13 is secured upon the upper portion of the machine, the said board being made to support a lyre A³, or its equivalent, against which the music is to rest.

An outer casing A² is made to inclose the main casing A, and is provided with a horizontal opening 15 at the front thereof and likewise in the sides. In the front of the main casing A, at or near the center, a shaft 16 is journaled, and upon the said shaft a hollow cylinder 17 is loosely mounted, and said cylinder has a spiral opening 18 produced in its front face, extending well to the sides. This hollow cylinder is adapted to be normally pressed upward by means of a spring to be hereinafter described. A gear 19 is likewise loosely mounted on the shaft 16, immediately above the hollow cylinder, being adapted to move upward and downward with the cylinder, and the said gear is provided with an arm 19^a, which extends over the left-hand side of the hollow cylinder, and is connected with a shifting-arm 19^b, the said arm being vertically located, and it is provided at its lower end with a dog 20, extending normally downward below the forward portion of the shifting-arm, and the under face of the said dog is beveled, the dog being held in its lower position at the front by means of a spring 21, as is best shown in Fig. 5. This shifting-arm is adapted to act in turning the sheets of music from left to right. This movement is controlled by mechanism located at the right-hand side of the machine within the frame A, the said mechanism comprising a shaft 22, journaled in the main frame at the back of the main shaft 16, and the upper part of a shaft 22^a is squared or polygonal in cross-section, in order that an arm 23, which is attached to the upper right-hand side of the cylinder 17, near the back, may be slid freely upon the polygonal section of the said shaft and yet not turn with it, since the shaft, where it passes through the arm 23, is provided with a suitable bushing turning loosely in the said arm, yet squared to take the shaft, and a toothed segment 23^a is likewise mounted to

slide on the squared portion of the shaft 22 and to turn with said shaft, the segment being made to mesh with the gear 19 at the top of the cylinder. A latch-arm 24 is pivoted to the fixed arm 23 of the cylinder, the head of the latch-arm being made to extend forwardly substantially in alignment with the slot 18 in the cylinder, and the latch-arm is normally held in a lower or horizontal position by means of a spring 25, the arm resting on a lip 26 from the cylinder-arm 23, as shown in Fig. 6.

The shaft 16 is a stationary shaft, and within the cylinder 17 two collars 27 are secured upon the shaft, and between these two collars the hub ends of any desired number of music-leaf-turning arms 28 are mounted to loosely turn. These arms are placed one above the other and are graduated in length, the lowest arm being the longest, and each arm is usually provided at its free end with a post 29, upon which a clip 30 of any approved construction is secured, being adapted to receive and hold the marginal portion of a music-sheet.

The music-leaf-carrying arms are turned from left to right by the manipulation of a key 31, located at the right-hand side of the machine, the said key extending outward through a suitable slot in front of the inclosing casing A², as shown in Figs. 1 and 6, and the key at its outer end is provided with a suitable thumb-piece, while at its inner end it is fulcrumed upon a support within the main frame A, and at its pivot end an arm 31^a is attached, which extends upward at an angle to the key-lever and terminates in a toothed segment 31^b, the said segment engaging with a gear 33, located on the round portion of the aforesaid shaft 22.

The mechanism for reversing the music-leaf-carrying arms is substantially the same as that heretofore described for carrying them from left to right, and the said mechanism for carrying the leaves from right to left consists of a gear 34, which is mounted to turn on the fixed shaft 16 and travels with the cylinder. This gear is provided with an arm 34^a, which extends rearward and in direction of the right-hand side of the machine, and carries an upwardly-extending shifting-arm 34^b, which is at the right-hand side of the cylinder and is provided at its upper end with a dog 35, normally extending above the shifting-arm at its forward end, the upper surface of the dog being beveled, and the said dog is held in this position by means of a suitable spring 36, as shown in Fig. 4. At the left of the cylinder a shaft 37 is mounted to turn in the main casing A of the machine, being substantially the counterpart of the shaft 22, except that the lower section 37^a of this left-hand shaft is squared or polygonal instead of the upper section, and it is mounted to turn in an extension 38 from the cylinder, and below this extension a segment 39 is carried by the squared portion of the shaft 37,

and said segment bears against the bottom of the cylinder and meshes with the lower gear 34 thereon, the segment being held in an upper position by means of a spring 40, which surrounds the squared portion of the said left-hand shaft, as shown in Fig. 4, the said spring serving likewise to exert a constant upward tension on the cylinder. At the left-hand side of the extension-arm 38 of the cylinder a lock-latch 42 is journaled, being held by a spring 42^a in a horizontal position with its head extending upward. The right-hand shifting-arm is manipulated by means of a left-hand key-lever 43, which is fulcrumed at its rear end within the main casing A and at its pivoted end is provided with an upwardly-extending toothed segment 44, meshing with a gear 45, placed on the left-hand shaft 37 and serving to turn the same, the key-lever being held in normal position, or in such position that it can be depressed, by means of a spring 46.

In the operation of this device, supposing all of the leaf-turning arms to be over at the left-hand side of the machine, and it is desired to carry them and the sheets of music attached to them over to the right-hand side of the machine, all of the music-carrying arms being in the extreme lower portion of the cylinder-slot 18, the spring 40, controlling this cylinder, will have forced it to its extreme upper position, and the left-hand lock-latch 42 will hold the lowermost leaf-turning arms from passing over to the right, and the dog of the left-hand shifting-arm will be in engagement with the rear edge of the uppermost leaf-turning arm. It is therefore evident that by depressing a right-hand key-lever the segment 23^a will be revolved and will turn the gear 19, compelling the left-hand shifting-arm to travel in a circle forwardly in front of the cylinder and over to the right-hand side thereof, taking with it the uppermost leaf-carrying arm, which in passing over to the right will bear to such an extent on the bottom surface of the upper section of the cylinder-slot 18 as to press down the cylinder a sufficient degree against the tension of its spring 40 to bring the dog of the aforesaid left-hand shifting-arm in engagement with the next uppermost leaf-turning arm at the left, while at the same time the dog of the right-hand shifting-arm will have engaged with the leaf-carrying arm carried to the right, enabling that arm to be returned to the left by simply pressing downward on the left-hand key-lever, and as the leaf-turning arms are carried one after the other from left to right, each leaf-turning arm will in its turn serve to depress the cylinder a distance corresponding practically to the thickness of the arm, causing the uppermost left-hand music-turning arm to be constantly engaged by the dog of the left-hand shifting-arm, and the dog of the right-hand shifting-arm to be in engagement with the rear edge of the lowermost music-turning

arm at the right-hand side of the machine. Thus it is evident the parts are constantly in a position to cause the leaf or music turning arms to respond instantly and positively to the movement of either of the key-levers.

The sheet-music may be held upon the lyre or other support provided in any approved manner, as, for example, as shown in Fig. 1. Spring clips or sockets 50 may be secured to the back of the lyre and may extend forwardly through suitable openings to hold a rod 51, the said rod being placed in engagement with the sheets of music at their center or seam portion, and I desire it further to be understood that the cylinder 17 is virtually a spring-controlled carriage for the aforesaid music-turning arms.

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

1. In a music-leaf turner, pivoted leaf-turning arms, a spring-controlled carriage provided with a spiral opening through which the said leaf-turning arms pass, key levers, shifting arms located at opposite sides of the said carriage, and a connection between the shifting arms and key levers, whereby the shifting arms may be brought in engagement with the leaf-carrying arms, as and for the purpose set forth.

2. In a music-leaf turner, a carriage having sliding movement and provided with a tension device acting to force the carriage in one direction, the said carriage being provided with a cam slot, music-turning arms pivotally mounted within the said carriage and independent thereof, the said arms extending outward through the said cam slot, a shifting arm provided with a spring-controlled dog located at each side of the carriage, both adapted for engagement with the music-turning arms and operating independently of each other, key levers, and a mechanism, substantially as described, connecting the said levers with the said shifting arms, imparting thereto a rocking movement, as and for the purpose set forth.

3. In a music-leaf turner, the combination, with a cylindrical carriage having a cam slot in its side and mounted to slide on a fixed support, and leaf-turning arms loosely mounted within the carriage, extending out through its cam slot and having movement independent of the carriage, of gears mounted at the top and at the bottom of the said carriage, moving therewith yet turning independently thereof, shifting arms connected with the said gears, extending in opposite directions at opposite sides of the carriage, both shifting arms being adapted for engagement with the music-turning arms, and key levers operating the said

shifting arms through the said gears, as and for the purpose set forth.

4. In a music-leaf turner, the combination, with a hollow carriage having a cam slot in one of its sides, a support upon which said carriage has sliding movement, and a spring exerting tension on the said carriage in a certain direction, of leaf-turning arms loosely mounted within the carriage and moving independently thereof, the said arms extending outward through the cam slot of the carriage, shifting arms located at opposite sides of the carriage, extending in opposite directions and having spring-controlled dogs for engagement with the music-turning arms, and key levers operating the said shifting arms, as and for the purpose set forth.

5. In a music-leaf turner, the combination, with a hollow carriage having a cam slot in one of its sides, a support upon which said carriage has sliding movement, and a spring exerting tension on the said carriage in a certain direction, of leaf-turning arms loosely mounted within the carriage and moving independently thereof, the said arms extending outward through the cam slot of the carriage, shifting arms located at opposite sides of the carriage, extending in opposite directions and having spring-controlled dogs for engagement with the music-turning arms, key levers operating the said shifting arms, and spring-controlled lock latches connected with the carriage, located at opposite sides and extending in opposite directions, being adapted for engagement with the said music-turning arms, as and for the purpose specified.

6. In a music-leaf turner, a carriage provided with a spiral opening, the said carriage having spring-controlled end movement upon a support, music-turning arms mounted upon the support within the carriage and extending outward through the said spiral slot, lock latches supported by the carriage and adapted for engagement with the said leaf-turning arms, shifting devices located at opposite sides of the carriage and extending in opposite directions, one of the shifting devices engaging with the leaf-turning arms at the top and the other at the bottom of said arms, keys, and a connection, substantially as described, between the keys and the shifting arms, whereby the latter are rotated around the carriage, moving from one side to the other, and means, substantially as described, for returning the shifting arms to their normal position, as and for the purpose set forth.

GEORGE VIX.

Witnesses:

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A. LURCOTT.