

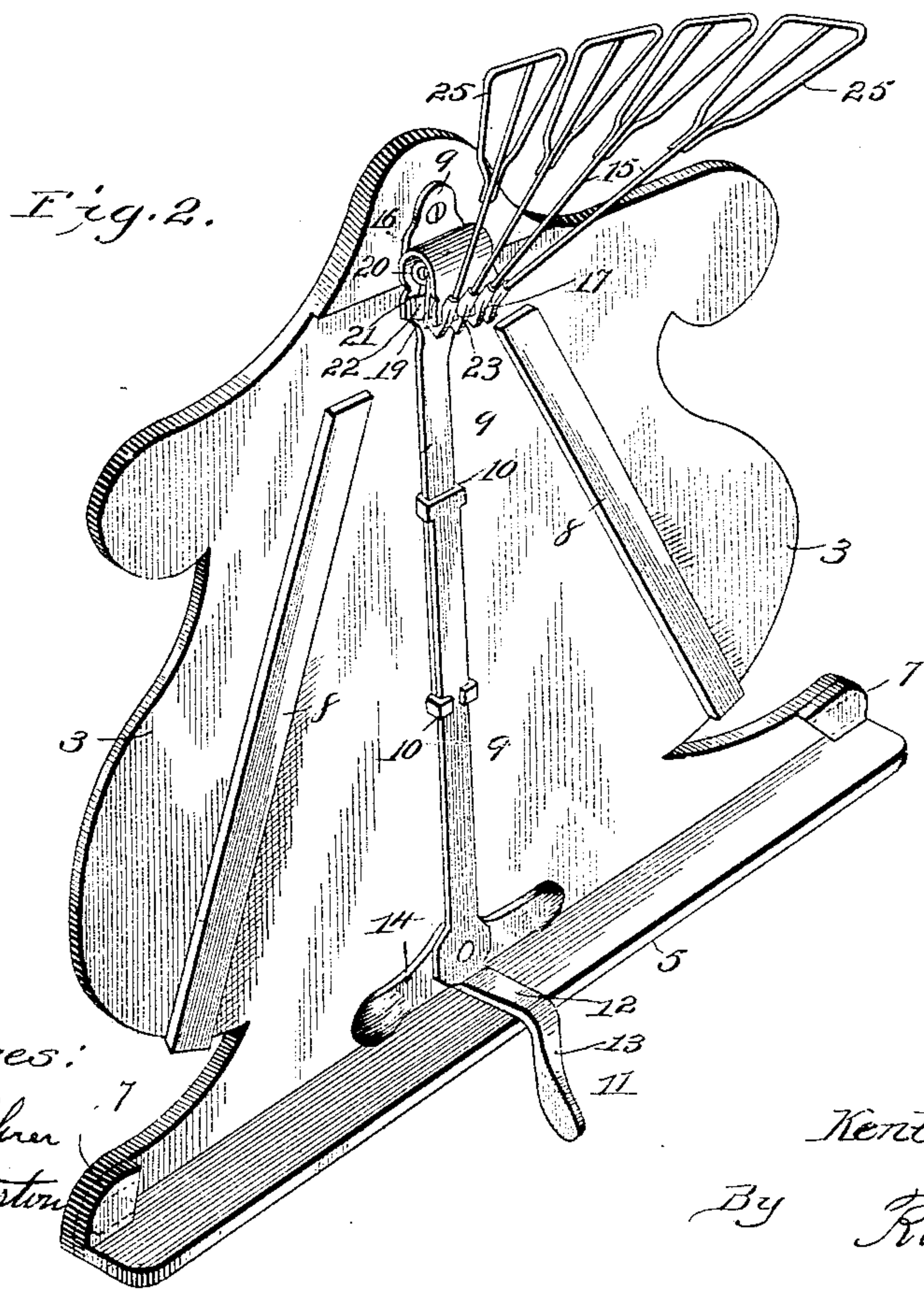
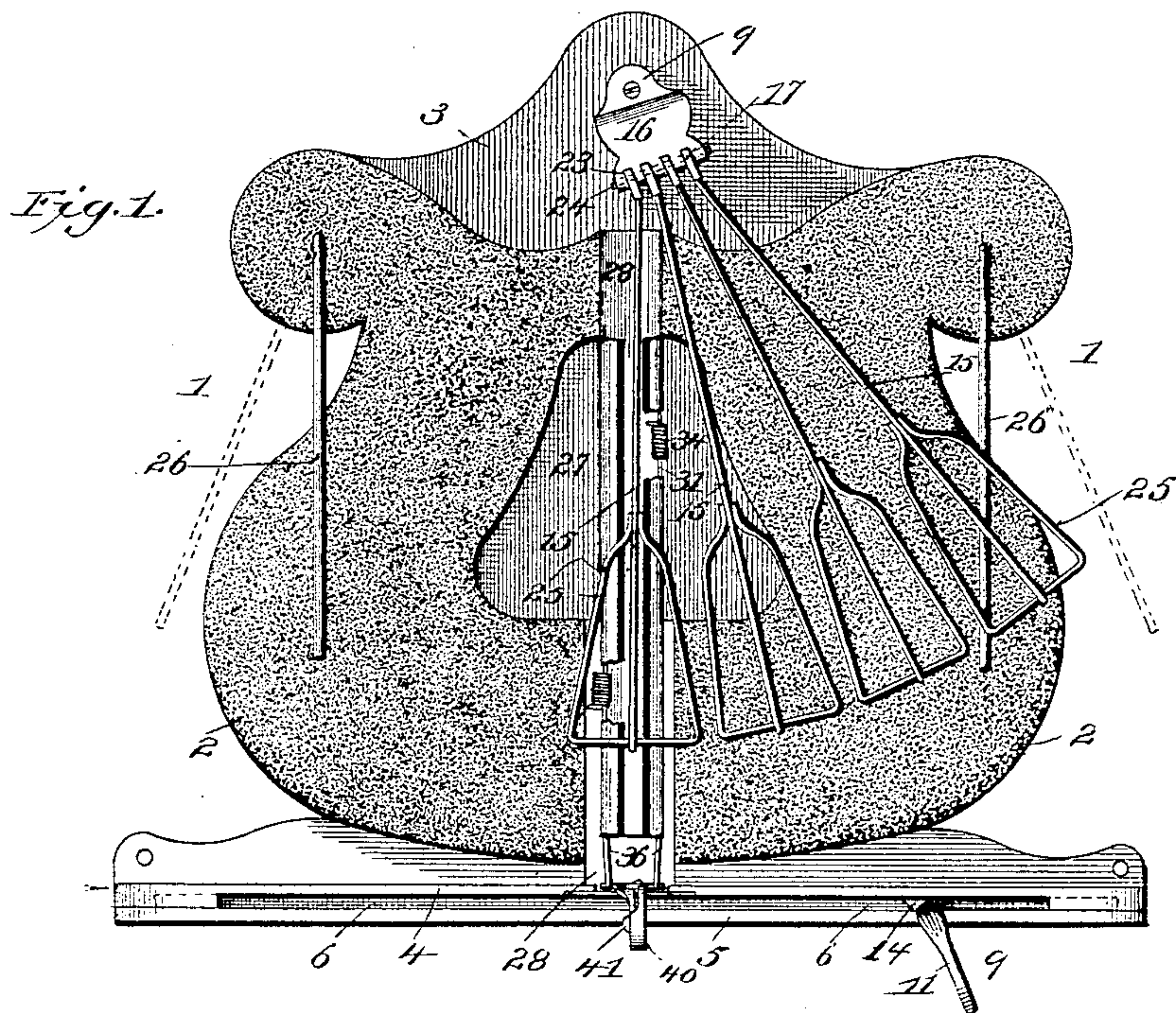
(No Model.)

2 Sheets—Sheet 1.

K. B. PIERCE.
MUSIC LEAF TURNER.

No. 494,690.

Patented Apr. 4, 1893.



Witnesses:

Henry S. Parker
Fletcher Johnston

Inventor-

Kent B. Pierce.

By Robert Mason,
Atty.

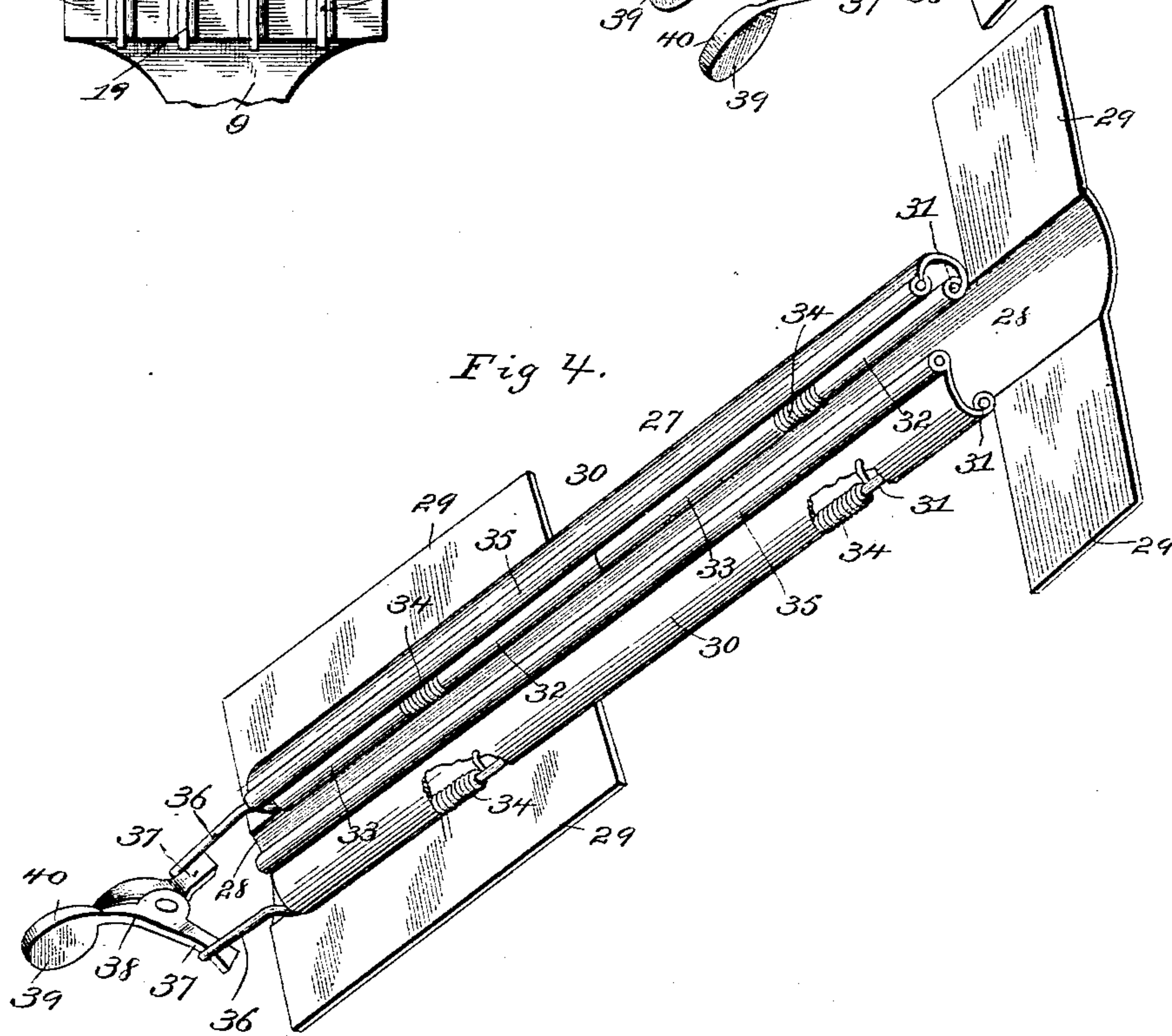
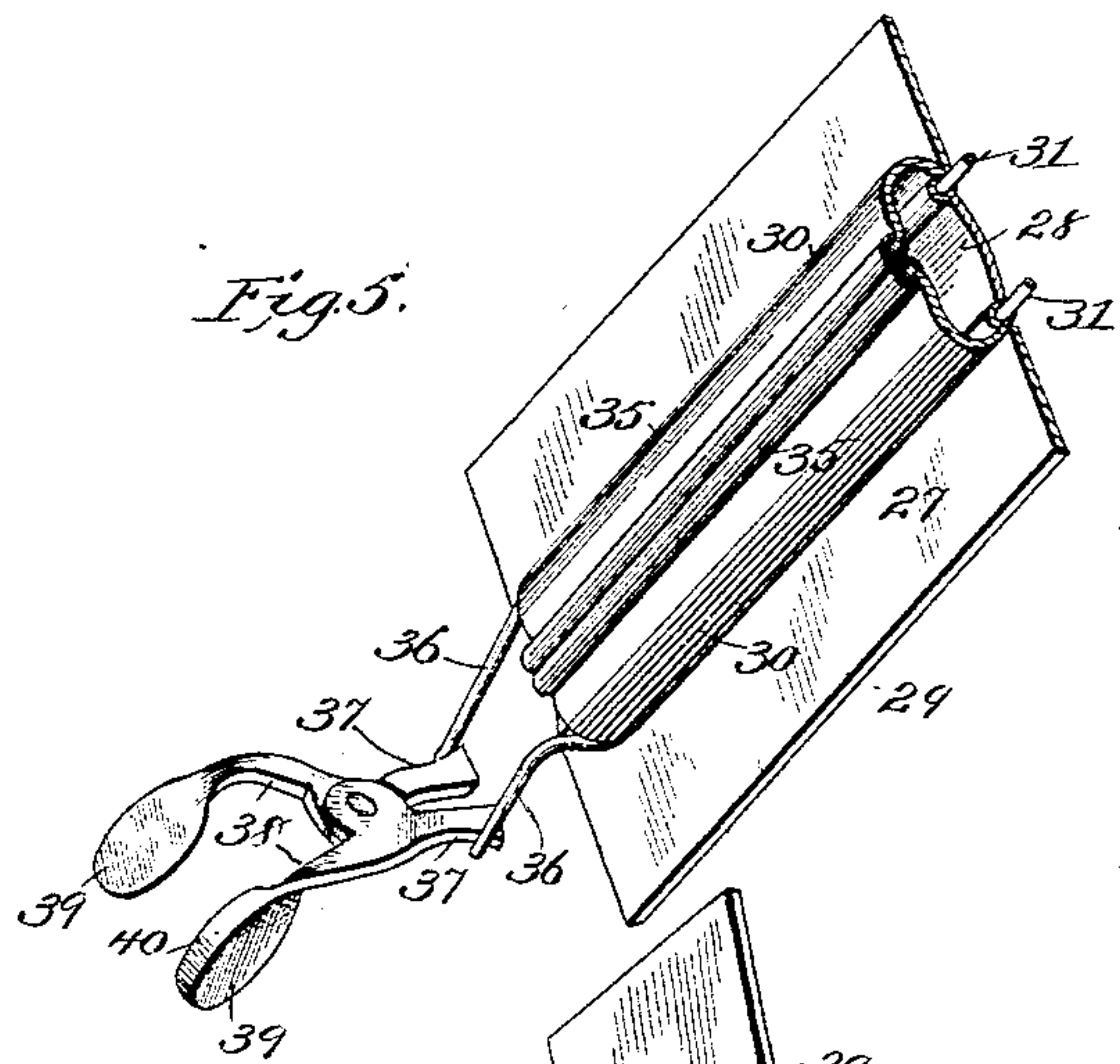
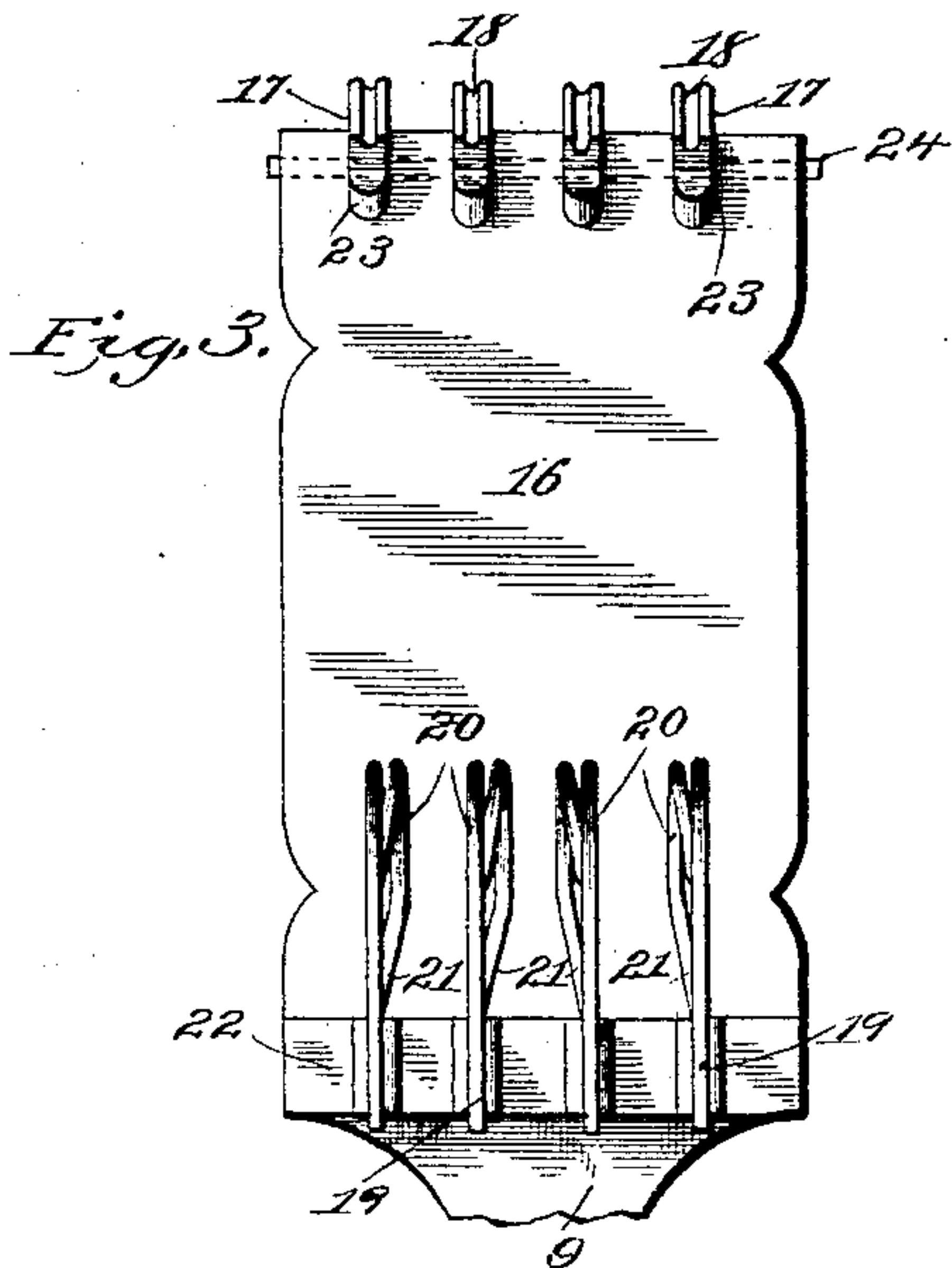
(No Model.)

2 Sheets—Sheet 2

K. B. PIERCE.
MUSIC LEAF TURNER.

No. 494,690.

Patented Apr. 4, 1893.



witnesses:
Harry S. Rohrer.
Fletcher Johnston.

Inventor—
Kent B. Pierce.

By Robert Mason,
Att'y.

UNITED STATES PATENT OFFICE.

KENT B. PIERCE, OF MANISTEE, MICHIGAN.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 494,690, dated April 4, 1893.

Application filed September 22, 1892. Serial No. 446,541. (No model.)

To all whom it may concern:

Be it known that I, KENT B. PIERCE, a citizen of the United States, residing at Manistee, in the county of Manistee and State of Michigan, have invented certain new and useful Improvements in Music-Leaf Turners; and I do hereby 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, generally, to improvements in music-leaf turners for use in connection with pianos, organs and similar musical instruments and, particularly, to improvements in that class thereof in which each is provided with a holder for firmly supporting or securing the backs of music books and unbound sheets of music when in use and, also, for easily and quickly releasing the same for removal, when necessary or desired; and it consists in the peculiarities of construction and arrangement or combination of parts and features hereinafter fully disclosed in the description, claims and drawings.

The objects of my invention are, first, to provide a music-leaf turner in which all the arms or turners are laterally and simultaneously movable in the same plane or direction, and in the arc of a circle, by the operation of a single, laterally-movable hand-lever, whereby the performer or musician can turn the leaves or sheets of music intermittently or successively and with but little effort or loss of time; second, to provide novel construction in and improved means for supporting and operating said hand-lever and arms or turners; third, to provide novel and improved means for mounting and permitting of the easy raising and lowering of the arms or turners and for firmly holding them in their raised and lowered positions; fourth, to provide a new and improved construction of holder for the backs of music books and unbound sheets of music and means or devices for opening and closing the clamping-jaws of said holder and, fifth, to provide other novel and important parts and features which are accessorial to the attainment of these ends or results, and which tend to overcome some of the objections or defects in the construction and operation of existing inventions of this character. These objects are accomplished by the peculiarities of con-

struction and arrangement or combination of the parts and features illustrated in the accompanying drawings forming part of this specification, in which the same reference numerals indicate the same or corresponding parts, and in which—

Figure 1 represents a front view of my improved music-leaf turner, with its parts in operative position for turning the leaves of book or sheet music, the clamping-jaws of the holder being open and broken away in parts; Fig. 2, a perspective view of the rear board of the support or frame of said music-leaf turner, showing the construction of the hand-lever and its connections and, also, the arms or turners for the leaves or sheets of music in their raised or inoperative positions; Fig. 3, a detail, plan view of the curved support at the upper end of said hand-lever for holding the upper ends of said arms or turners, the upper portion of said support being turned backwardly or upwardly to show the coiled springs beneath and, also, the enlarged, flattened and grooved sleeves for holding the upper ends of said arms or turners, the lower portions of the latter being broken away or omitted; Fig. 4, a detail, perspective view of the book or sheet-music holder, looking downwardly, with one of its clamping-jaws broken away, and showing, also, the finger-levers in position for holding said jaws open, and, Fig. 5, a similar view of the lower portion of said holder, with both of its jaws closed and said finger-levers in position for opening them.

In the drawings the numeral 1 indicates the support or frame of my improved music-leaf turner, which is preferably made of wood and in two parts, or of the front and rear boards 2 and 3, which are removably secured together by screws or like means, so as to permit access to the inner sides or faces thereof for assembling some of the parts and for repairs and the like. The form of this support or frame, as shown, is that of a harp, but its shape is of very little consequence, except for the purpose of ornament, and to further this end or effect the outer sides or faces of its front and rear boards are covered with velvet, velveteen or other nicely-colored cloth, which will render the music-leaf turner very attractive in its general appearance, especially when supported in the usual inclined position against

a music stand or support upon a piano or similar musical instrument. The front and rear boards 2 and 3 of the support or frame 1 are respectively provided along their lower ends or edges with the forwardly-projecting ledges or flanges 4 and 5, the upper flange being cut away or recessed along its lower surface, from points near its ends, so that, in connection with the lower flange, the long guide-slot 6 will be formed, as shown in Fig. 1; also above the ends of said lower flange and to the ends of the lower part or edge of the rear board 3 of the support or frame 1 are secured the recessed blocks 7, the inner ends of which are in alignment with the inwardly-inclined and upwardly-converged stop-bars 8, which are fastened to the front face of the rear board of said support or frame for limiting the throw or movement of the hand-lever 9 to the left or right, as shown in Fig. 2.

To the upper, central and curved portion of the rear board 3 is pivoted the enlarged upper end of the hand-lever 9, which is made in two parts that are lapped along its central portion and movable or adjustably connected by the upwardly and downwardly bent lugs 10; also, the lower end of this hand-lever is provided with the angular handle 11, consisting of the horizontally and vertically projecting arms 12 and 13, and with the elongated slide 14, which is pivotally connected to the rear side thereof and in rear of said handle, and which is adapted to be reciprocated over or along the upper surface of the lower flange 5 and against the inner lower edge of the rear board 3 by the movement of said handle. This elongated and pivoted slide is also guided or held in proper place during its back-and-forth movements by the horizontal arm 12 of the handle 11, which passes forwardly through the guide-slot 6, and by the ends of said slide entering the recessed blocks 7 at the ends and in rear of said slot. This pivotal connection of said slide to the lower end of the two-part hand-lever 9 and the passage of the horizontal arm 12 of its handle 11 through said guide-slot 6 and, also, the movable or adjustable connection of the lapped portions of said two-part hand-lever all contribute to the automatic and gradual lengthening of said lever after it has been moved to the left or right beyond a vertical line drawn through the center of the support or frame 1; also, during the return movement of said hand-lever from left to right, or vice versa, it will be automatically and gradually shortened in length until it reaches said central line. These movements or automatic adjustments of said hand-lever are necessary to the lateral and simultaneous movement of all the arms or music-leaf turners 15 in the same plane or direction, and in the arc of a circle, which I have found to be very desirable, practically, as tending to lessen the time and effort ordinarily required of the musician for separately operating such arms or turners.

Upon the enlarged upper end of the hand-

lever 9 is riveted or otherwise suitably secured the downwardly-curved, sheet-metal support 16 for the leaf or sheet operating arms or turners 15, which are made of solid round wire, steel, aluminium or other smooth metal, and which are converged toward their upper ends, which are secured within the enlarged metallic sleeves 17, which have flat and wide sides and flat and narrow lower edges and upper ends, these edges and ends being formed with the guide-grooves 18, into which project the upper extensions or arms 19 of the coiled springs 20, the lower arms 21 thereof being rigidly secured to the transverse plate 22, which is attached to the rear edge of said downwardly-curved support 16, the front edge of which is formed with the slots 23 and provided with the transverse rod or shaft 24, within and upon which fit and turn the enlarged sleeves 17. Under this construction and arrangement of parts and features, the music leaf or sheet turners 15 are so mounted and journaled at their upper ends as to permit the musician to easily and quickly raise and lower them in vertical planes, when necessary or desired, and, when so placed in either of these positions, they will be firmly held against accidental displacement by the upward pressure of the upper arms 19 of the coiled springs 20, which fit or rest within the guide-grooves 18 formed in the upper ends and lower edges of the enlarged sleeves 17, these spring-arms and grooves being shown in contact in Fig. 2 and disconnected in Fig. 3; also, along their lower portions, these leaf or sheet turners are provided with the large, fan-shaped loops 25, which are made of such width and arranged at such distances apart that, when moved laterally and in the arc of a circle by the operation of their said turners 15, by the two-part automatically-adjustable hand-lever 9 and by the handle 11 at the lower end thereof, they will turn the leaves or sheets of music one by one or successively. As shown in the drawings there are four of these leaf or sheet turners having said large, fan-shaped loops, which, when properly placed between a corresponding number of leaves or sheets of music, are capable of turning and exposing to view ten pages thereof, but no limit is made to the number of these devices that may be employed. The steel or other spring wires 26, which are pivoted in the upper, curved left and right corners of the front board 2 of the frame 1, are turned and placed over the first and last leaves or sheets of music for holding them in place while being played and while the other or intermediate leaves or sheets are being turned.

The turning of the leaves or sheets of music one by one or successively by the simultaneous movement of the arms or turners 15, which have the enlarged, fan-shaped loops 25 along their lower portions, is due to the facts that said arms or turners are secured at their upper ends to the downwardly-curved

support 16, which is mounted upon the upper end of the two-part, automatically-adjustable hand lever 9, and that, when said arms or turners and their enlarged loops have been placed in their proper positions between said leaves or sheets of music, as hereinafter described, the movement of said hand-lever a slight distance to the left, equal to the width of one of said fan-shaped loops, will cause all of said arms or turners and their loops to be moved simultaneously in the same direction and to the same distance, or until the first leaf or sheet has been turned to the left by the first arm or turner and its loop; then further movement of said hand-lever and the turners and their loops will be temporarily suspended, or until the music thus exposed has been played; then said hand-lever with the arms or turners and their loops will be again moved simultaneously in the same direction and to the same distance as before, or until the next leaf or sheet has been turned to the left by the second arm or turner and its loop, and then this operation will be repeated as many times as the number of said arms or turners and their loops will require.

My improved construction of holder for the backs of music books and unbound sheets of music is shown in its operative position, relative to the leaf or sheet arms or turners 15 and their supporting and operating mechanism, in Fig. 1 of the drawings, and in detail views in Figs. 4 and 5, in which the numeral 27 indicates the holder, proper, which is vertically arranged within the central portion of the front board 2 of the main frame and provided with the tin or other sheet-metal back-piece 28, which is slightly curved forwardly for providing proper space for the backs of books and the folds of loose-sheet music, and which has the rectangularly-shaped extensions 29 along its lower and upper portions for attachment to the rear side of said front board 2 by means of tacks or screws. Along the front and sides of this back-piece of the holder are mounted the clamping-jaws 30, which are inwardly curved or in the shape of the segment of a circle in cross section, and which are hinged along their rear edges upon the rock-shafts 31, which are journaled in the long bearings 32 and 33 formed, respectively, along the sides of said back-piece and the rear edges of said jaws, the bearings 32 being stationary upon said back-piece and the bearings 33 movable with said jaws and rock-shafts.

At suitable distances from their upper and lower ends, the rock-shafts 31 are surrounded by the two pairs of spiral springs 34, the projecting ends of which respectively bear upon said back-piece and against the outer sides of the rear edges of said jaws, so that the resiliency of said springs will tend to normally turn said rock-shafts inwardly and thus force the front edges of said jaws toward each other, whereby the backs of music books and unbound sheets of music, when in use, will be

rigidly clamped and supported, this result being largely contributed to by the rounded and enlarged front edges of said jaws having a rubber facing or being covered with the sheet-rubber 35. The lower ends of the rock-shafts 31 are bent forwardly and downwardly or angularly, as at 36, and project against the outer edges of the angular inner ends of the rear arms of the centrally-fulcrumed finger-levers 37, the outer or front arms 38 thereof being bent or curved downwardly and formed at their ends with the vertically-flat and oval enlargements 39, the one on the right being formed with the laterally and inwardly projecting flange 40 along its front edge and with the laterally and inwardly extending detent 41 at its rear edge. The left one of these enlargements is made slightly smaller in breadth than the one on the right, but it is so formed as to fit tightly against the side thereof and closely between its flange and detent, whereby a "catch" is formed, which, on being pressed slightly downward with the thumb and finger, will open and permit the two pairs of spiral springs 34 to turn the rock-shafts 31 inwardly and force the front edges of the clamping-jaws 30 in the same direction, as and for the purpose before explained; also, by reversing this operation, or by pressing the two parts of said "clamp" together and automatically fastening them by the flange 40 and the detent 41, the rear arms of the centrally-fulcrumed finger-levers 37 will, in the meantime, act upon the angularly-shaped lower ends 36 of said rock-shafts and turn them outwardly, and thus overcome the resilient force of said spiral springs and force the front edges of said clamping-jaws into open position for the ready removal or insertion of the backs of music books or the folds of sheet music, as desired.

In addition to what is obvious and already explained in relation to the advantages and operation incident to my invention, it need only be further stated that, when the arms or turners are raised or out of operative position and the back of a music book or sheet music is secured between the clamping-jaws of the holder, the pages or sheets are opened at the desired place, or at the last page or sheet of music to be played; then the pivoted steel wire at the upper right corner of the front board of the frame is turned laterally and to the left and placed over this last page or sheet, near its right edge, for holding it firmly in place; then the first arm or turner, or the one on the right, is lowered or drawn into operative position upon this page or sheet, over its right edge; then the next page or sheet to the left is turned over by hand to the right and over this first arm or turner; then the next arm or turner on the left is drawn down upon this page or sheet at a point slightly distant from its right edge; then the next page or sheet is turned over to the right and then the next or third arm or turner on the left is lowered thereon at a point

still more distant from the right edge thereof than the arms or turners preceding, and this operation is repeated as many times as the number of the arms or turners employed requires, or until the first page or sheet of music to be played has been reached, when the pivoted steel wire at the upper left corner of said front board will be turned laterally and to the right for holding said first page or sheet in place. While four of these arms or turners and their large, fan-shaped loops, when moved laterally and simultaneously to the left and in the arc of a circle, are capable of turning and exposing to view ten pages or sheets of music, it is obvious that a reverse or right movement of said arms or turners, when effected by the operation of the single, two-part, automatically-adjustable hand-lever and its described connections, will result in the turning of one or all of said pages or sheets backwardly or to the right and exposing the same music to view for playing a part or all thereof a second time, as may be desired.

Having thus fully described the construction and arrangement or combination of the several parts and features of my invention, its advantages, capabilities, and operation, what I claim as new is—

1. In a music-leaf turner, the combination, with a support or frame, of a series of laterally and simultaneously movable arms or turners and a single hand-lever, which is pivoted at its upper end and upon which said arms or turners are mounted for effecting their operation, substantially as described.

2. In a music-leaf turner, the combination, with a support or frame, of a series of laterally and simultaneously movable arms or turners and a single hand-lever for operating the same, which is formed in two, automatically adjustable or movable parts, substantially as described.

3. In a music-leaf turner, the combination, with a support or frame, of a series of laterally and simultaneously movable arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end, formed in two movable parts and provided with a handle at its lower end, substantially as described.

4. In a music-leaf turner, the combination, with a support or frame, of a series of laterally and simultaneously movable arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end, formed in two movable and lapped parts having upwardly and downwardly bent lugs and provided with a handle at its lower end, substantially as described.

5. In a music-leaf turner, the combination, with a support or frame provided with a long guide-slot along its lower portion, of a series of arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end and provided with an angular

handle at its lower end projecting through said guide-slot, substantially as described.

6. In a music-leaf turner, the combination, with a support or frame provided with a long guide-slot along its lower portion, of a series of arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end and provided with an angular handle at its lower end projecting through said guide-slot and an elongated slide pivoted to the lower rear portion of said hand-lever, substantially as described.

7. In a music-leaf turner, the combination, with a support or frame provided with a long guide-slot along its lower portion, with recessed blocks and with inclined stop-bars, of a series of arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end and provided with an angular handle at its lower end projecting through said guide-slot, substantially as described.

8. In a music-leaf turner, the combination, with a support or frame provided with a long guide-slot along its lower portion, of a series of arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end and provided with an angular handle at its lower end projecting through said guide-slot, and which is formed in two adjustable or movable parts, substantially as described.

9. In a music-leaf turner, the combination, with a support or frame provided with a long guide-slot along its lower portion, of a series of arms or turners and a single hand-lever for operating the same, which is pivoted at its upper end and provided with an angular handle at its lower end projecting through said guide-slot, and which is formed in two movable and lapped parts having upwardly and downwardly bent lugs, substantially as described.

10. In a music-leaf turner, the combination, with a support or frame, of a series of arms or turners, a single hand-lever for operating the same and means for journaling said arms or turners at their upper ends and permitting of their being raised and lowered in vertical planes, substantially as described.

11. In a music-leaf turner, the combination, with a support or frame, of a series of laterally and simultaneously movable arms or turners, a single hand-lever for operating the same and means for journaling said arms or turners at their upper ends and permitting of their being raised and lowered in vertical planes, substantially as described.

12. In a music-leaf turner, the combination, with a support or frame, of a series of arms or turners, a single hand-lever for operating the same and means for journaling said arms or turners at their upper ends and permitting of their being raised and lowered in vertical planes, said means comprising a transverse rod or shaft and a support therefor, substantially as described.

13. In a music-leaf turner, the combination, with a support or frame, of a series of arms or turners, a single hand-lever for operating the same and means for journaling and holding said arms or turners at their upper ends and permitting of their being raised and lowered in vertical planes, said means comprising a transverse rod or shaft, a downwardly-curved support therefor and a series of coiled springs, substantially as described.

14. In a music-leaf turner, the combination, with a support or frame, of a series of arms or turners, a single hand-lever formed in two adjustable or movable parts for operating the same, and means for journaling and holding said arms or turners at their upper ends and permitting of their being raised and lowered in vertical planes, said means comprising a transverse rod or shaft, a downwardly-curved support therefor and a series of coiled springs, substantially as described.

15. In a music-leaf turner, the combination, with a support or frame, of a series of arms or turners having enlarged, flattened and grooved sleeves at their upper ends, a single hand-lever for operating the same, and means for journaling and holding said arms or turners and sleeves at their upper ends and permitting of their being raised and lowered in vertical planes, said means comprising a transverse rod or shaft, a downwardly-curved support therefor having a series of slots formed in its front edge, and a series of coiled springs having arms arranged to press against said sleeves and firmly hold said arms or turners in their lowered and raised positions, substantially as described.

16. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, and spiral springs surrounding said shafts for forcing the front edges of said jaws inwardly or toward each other, substantially as described.

17. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, a forwardly-curved back-piece, and spiral springs surrounding said shafts for forcing the front edges of said jaws inwardly or toward each other, substantially as described.

18. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws having enlarged, rounded and rubber-covered front edges, rock-shafts for movably supporting them along their rear edges, and spiral springs surrounding said shafts for forcing the front edges of said jaws inwardly or toward each other, substantially as described.

19. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, a forwardly-curved back-piece having rectangularly-shaped extensions along its upper and lower portions, and spiral springs surrounding said shafts for forcing the front edges of said jaws inwardly or toward each other, substantially as described.

20. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, a forwardly-curved back-piece having rectangularly-shaped extensions along its upper and lower portions, stationary and movable bearings for supporting said shafts and jaws, and spiral springs surrounding said shafts for forcing the front edges of said jaws inwardly or toward each other, substantially as described.

21. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping jaws, rock-shafts for movably supporting them along their rear edges, two pairs of spiral springs surrounding said shaft, and means at the lower ends of said shafts for opening and closing said jaws, substantially as described.

22. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, two pairs of spiral springs surrounding said shaft, and means at the lower ends of said shafts for opening and closing said jaws, said means comprising angular parts at the lower portions of said shafts, and centrally-pivoted, angular finger-levers for operating the same, substantially as described.

23. In a music-leaf turner, a holder for the backs of music books and sheets of music provided with inwardly-curved clamping-jaws, rock-shafts for movably supporting them along their rear edges, two pairs of spiral springs surrounding said shaft, and means at the lower ends of said shafts for opening and closing said jaws, said means comprising angular parts at the lower portions of said shafts, and centrally-pivoted, angular finger-levers for operating the same having a catch formed on the outer or front arms thereof, substantially as described.

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

KENT B. PIERCE.

Witnesses:

THOS. SMURTHWAITE,
J. L. SIBBEN.