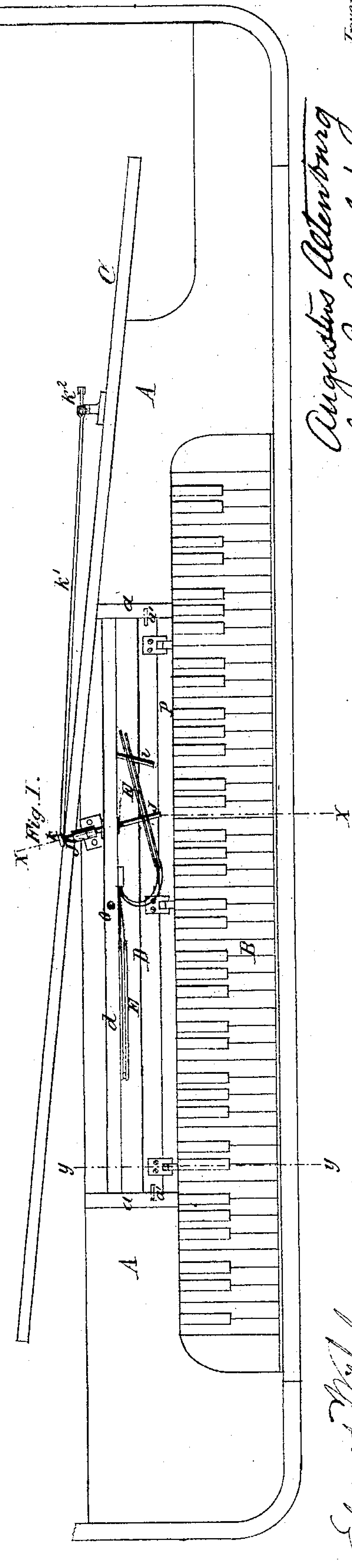
2 Sheets--Sheet 1.

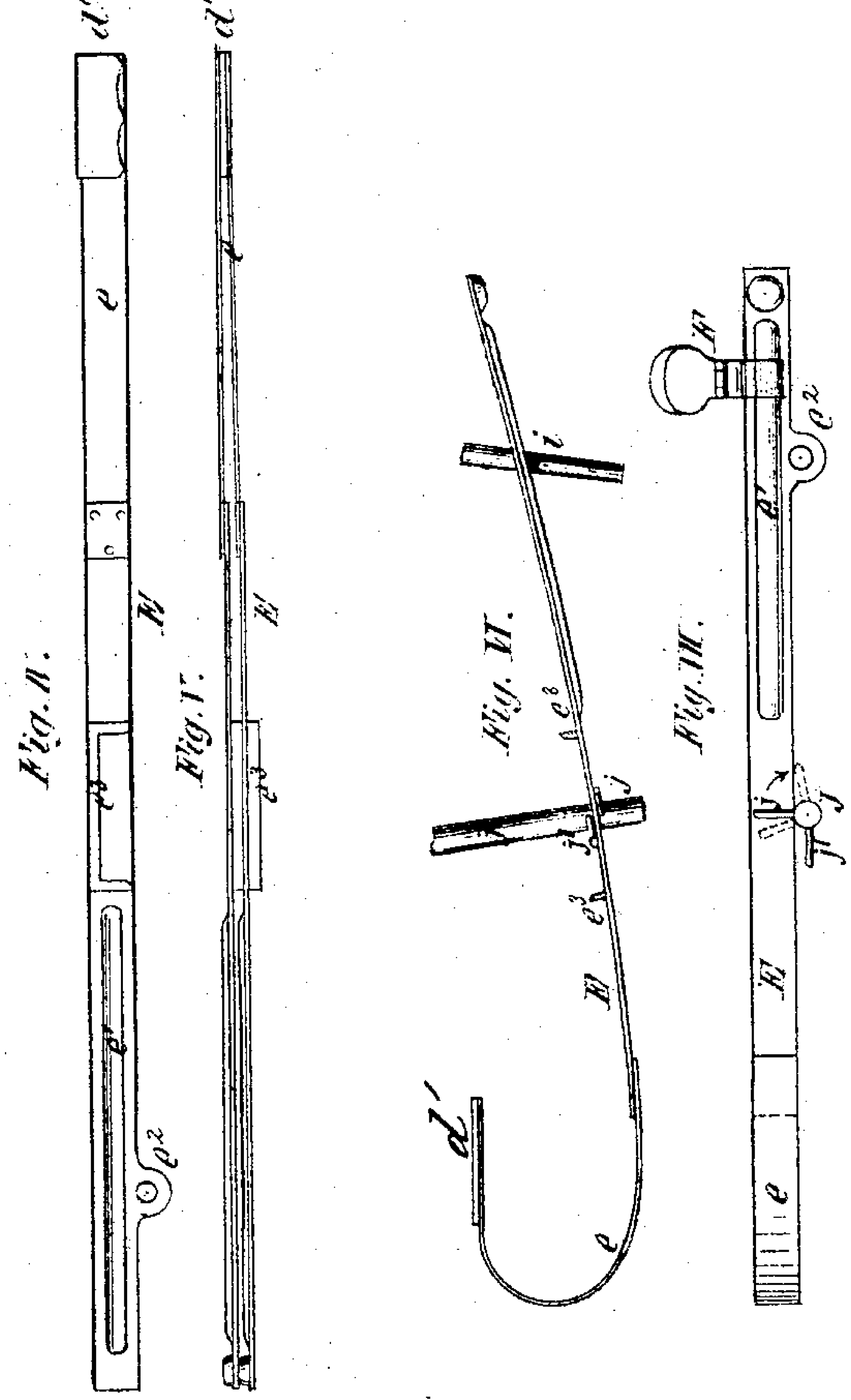
No. 119,810.

Patented Oct. 10, 1871.

Imp'd. Apparatus for Turning Leaves of Music.

Augustus Altenburg.
and
George J. Lambrix.
Buffalo, N.Y.





Inventors. Augustus Altenburg. Geo. J. Lambrix. by Fattrash & Hyatt Attys.

Witnesses. Edward Wilhelm. Jno. J. Bonner.

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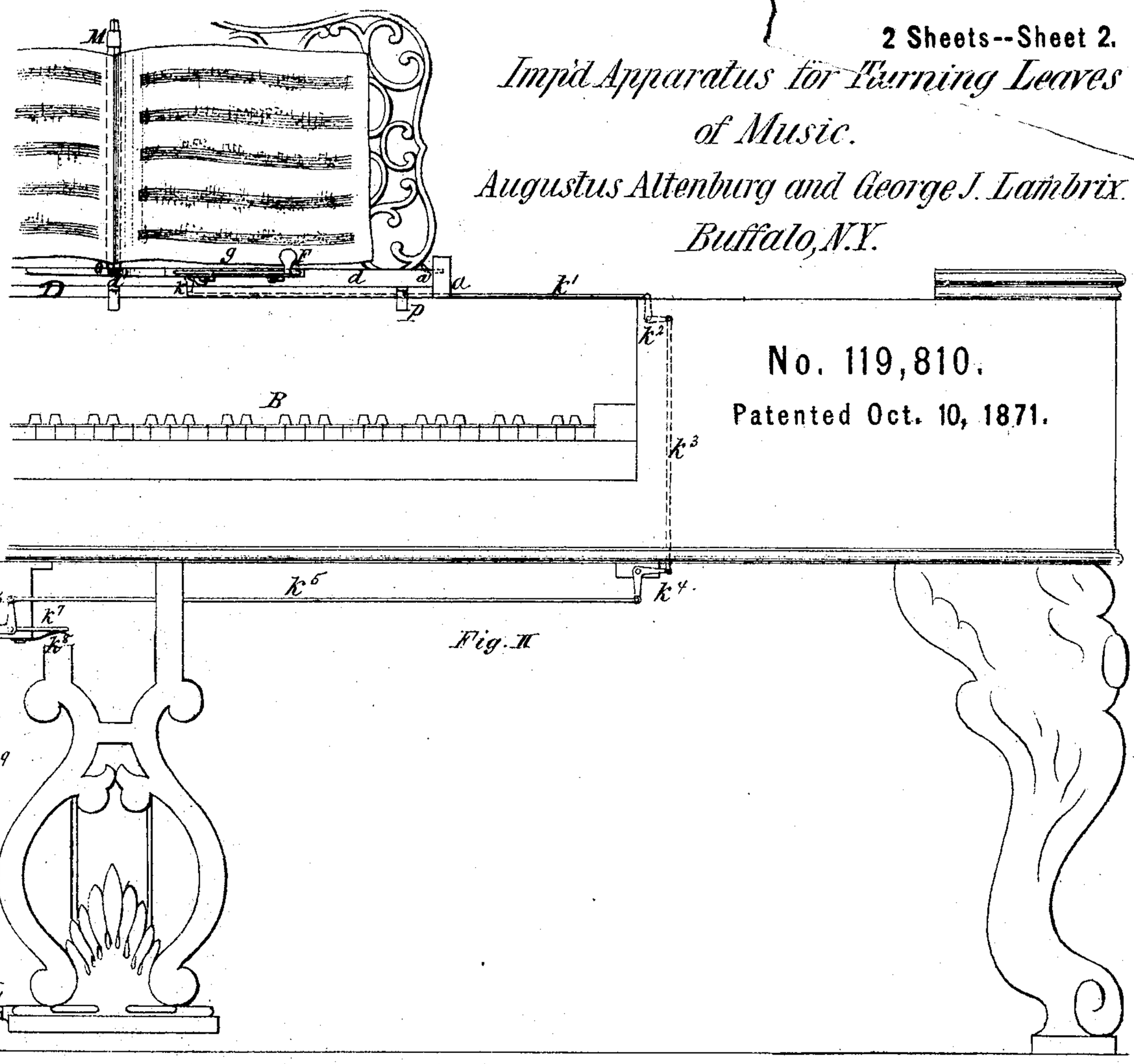
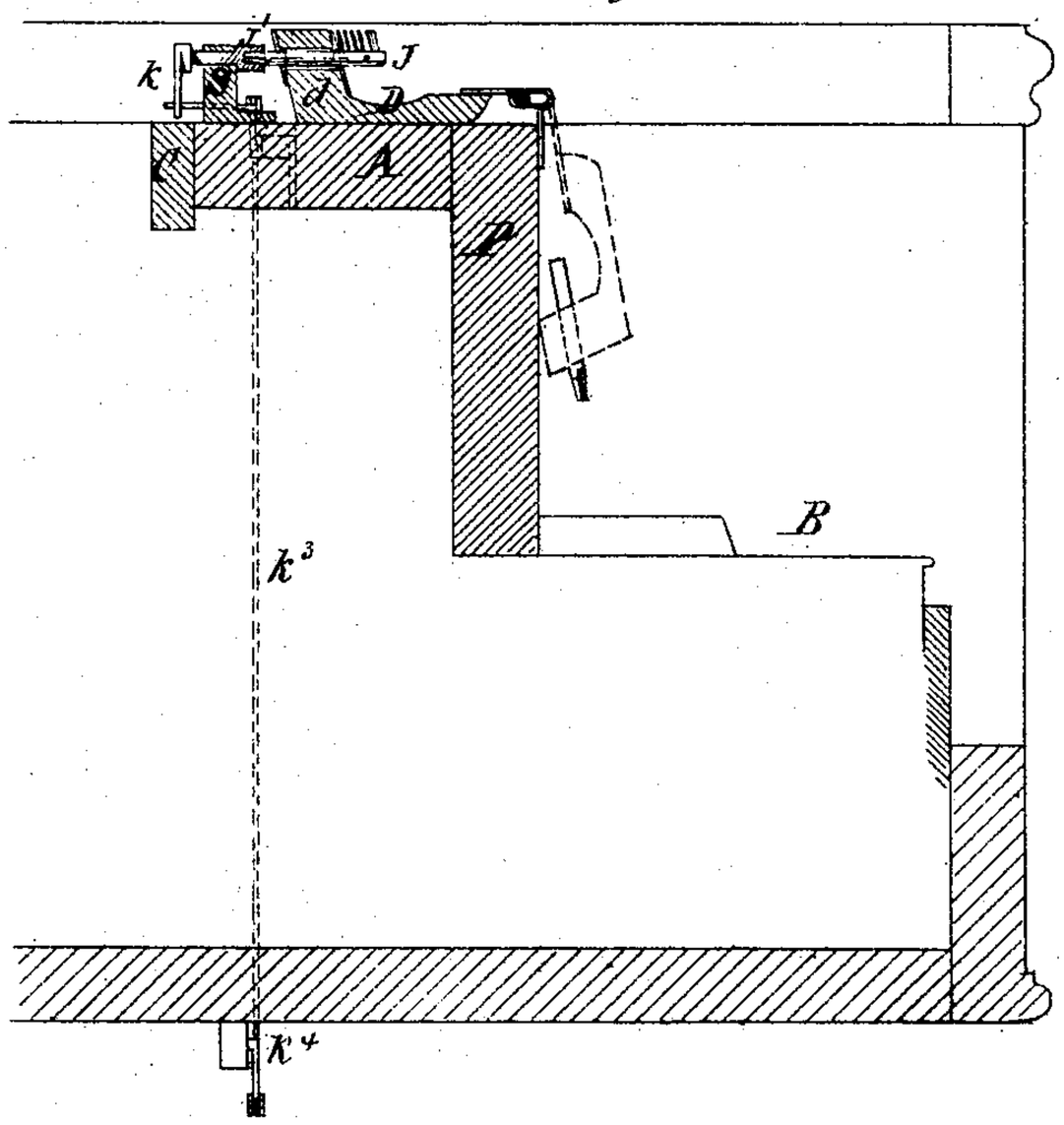


Fig. II

Fig. III.



Augustus Altenburg
Geo. J. Lambrix ..... Inventors
by Forbush & Hyatt Attys.
Edward Wilhelm
Jno. J. Donner } Witnesses

119,810

UNITED STATES PATENT OFFICE.

AUGUSTUS ALTENBURG AND GEORGE J. LAMBRIX, OF BUFFALO, NEW YORK, ASSIGNORS TO CHARLES SPARK, OF SAME PLACE; SAID SPARK ASSIGNOR TO HIMSELF, AUGUSTUS ALTENBURG, AND CHARLES LOUIS MASSING.

IMPROVEMENT IN APPARATUS FOR TURNING LEAVES OF MUSIC.

Specification forming part of Letters Patent No. 119,810, dated October 10, 1871.

To all whom it may concern:

Be it known that we, AUGUSTUS ALTENBURG and GEORGE J. LAMBRIX, both of the city of Buffalo, in the county of Erie and State of New York, have invented Improved Apparatus for Turning Leaves of Music, of which the following is a specification:

Our invention consists: First, of a series of spring arms, to which the leaves of the music are attached, arranged with a guide-rod, and an oscillating shaft or arm escapement provided with projecting pins, and connected with a pedal, whereby the said arms and leaves attached thereto can be readily released and turned as required. Second, in the arrangement of the two radial pins of the escapement-shaft with the spring arms for turning the leaves and separating-blocks attached thereto, so that, as the escapement-shaft is oscillated, one of its radial pins will pass between the outer and next to outer arm at the same time that the outer arm is released, and thereby retain the rest of the arms in place.

In the accompanying drawing, consisting of two sheets, Figure I is a plan of the front portion of a piano provided with my improved device. Fig. II is a front elevation. Fig. III is a transverse section in line *x x*, Fig. I. Fig. IV is an elevation of one of the spring arms which turn the leaves, detached; Fig. V, a plan view thereof. Fig. VI is a plan view of the same in the compressed position in which it holds a leaf. Fig. VII is an elevation of the latter figure with the clamp for holding the leaf attached thereto.

Like letters indicate like parts in each of the figures.

A is the top board of the frame of a piano, to which our improved apparatus is represented as applied; B, the key-board; and C, a string tension-bar. D (Figs. I, II, and III) is our base-board and support for the music and spring arms, arranged on the top of the board A, and between the transverse cleats or ways *a a*, so as to slide back and forth when required, being retained in place by slide-pins *a'*, which fit in holes in the ways *a*, as shown in Figs. I and II. This board has an upwardly-projecting ledge, *d*, at the back edge, to the front edge of which, in any suitable manner, is permanently fastened at one end (*d'*) the series of flat spring arms E, Figs. IV and V. These arms are preferably made with the portion *e* next to the fastening *d'* of flat steel, with the remainder of brass, or other cheaper metal, and are arranged one against the other, after the manner of the leaves of a book, so as to lie against the ledge *d* and point to the left when in their free position, or that of a leaf turned, as shown in Fig. I. The free end of these arms is provided with a spring clamp, F, which projects upward from the edge of the arm so as to clamp the under edge of a leaf, *g*, of music, as shown in Fig. II. Near the other end of the arms E is formed an eye, e^2, at the lower edge, as shown in Fig. IV. To the right of the central fastening *d'* of the arms is arranged the guide-rod *i*, which projects forward from the ledge *d*, in which it is secured, (Fig. I,) at such a point as to permit the eyes e^2 of the arms, as the latter are compressed by turning them to the right, to pass over the rod, as represented in Figs. I and VI, so as to retain them in their proper relative position when thus compressed. J is the oscillating escapement-shaft, passing horizontally, or nearly so, through the ledge *d* which forms its bearing, and from which it projects on both sides, as clearly shown in Figs. I and III. The forward end of this shaft is arranged so that when the arms E are turned back or compressed the shaft will project underneath the edges thereof. (Figs. III and VI.) Near the forward end this shaft is provided with two radial pins, *j j'*, arranged at right-angles, or nearly so, with each other, with the former a little in front of the other so as to permit of the arrangement of one of the arms between them, as shown in Fig. VI. To the inner side of the arms E, when in a compressed position, are attached, so as to come on each side of the shaft J, separating-blocks or pieces e^3, of such thickness as to keep the arms when compressed at a distance from each other at this point a little greater than the diameter of the pins *j j'*, for a purpose presently to be described, Figs. IV, V, VI. When my apparatus is attached to a piano the shaft J is made to couple with an extension, J', thereof, which passes through and has its bearing in the upper edge of the standard S, attached to the top board A, the two shafts being coupled together by the end of the one being made of a square or other-shaped tapering form, fitting in a correspondingly formed socket in the end of the other, as clearly shown in Fig. III, so as to permit of the ready coupling or uncoupling of the same when the board D is slid forward preparatory to being turned down out of the way of the cover

of the instrument. The rear end of the shaft J′ is provided with a crank, k, from which a horizontal rod, k^1, connects with a bell-crank, k^2, from whence descends a vertical rod, k^3, connecting with a bell-crank, k^4, underneath the bottom of the instrument, whence a rod, k^5, connects with a bell-crank, k^6, provided with an arm, k^7, and a reacting spring, k^8, from which descends the rod k^9, that is attached to a pedal, L, that operates the escapements. The leaves g are successively inserted in the clamps of the series of spring arms E when the arms with the leaves attached are turned open or toward the right, and successively engaged back of the pin j, and the eyes e^2 passed over the guide-rod i. The connection between the shaft J and the pedal with the spring k^8 is such as to cause the pin j j' to assume as a normal position that shown in Fig. VII, with the outer pin extending upward and holding the spring arms in place.

When a leaf is required to be turned, the pedal L is depressed, which causes the shaft J to make about a quarter revolution in the direction of the arrow in Fig. VII, which releases the pin j from engagement with the outer arm, while it causes the inner pin j' to pass upward between the outer and next to the outer arm, (which the blocks e^3 keep separate for the purpose,) so as to retain the other arms in place, and permit of the escape of only the outer one, which, being freed, swings back toward the left to its normal position, turning with it the leaf of music attached thereto, which it now holds in an open position, as it was before held closed. The foot being removed from the pedal the spring k^8 returns the parts to their first position, so as to disengage the inner pin j' from the arms, which are still retained by the outer pin j, as at first, and leaves the second arm ready to be released when the next leaf is required to be turned, and so on until the piece is finished.

We are aware of various devices having been heretofore patented in which arms actuated by springs have been employed for turning the leaves of music; such spring arms, broadly, we do not claim.

What we claim as our invention is—

1. The combination and arrangement of the series of spring arms E with the guide-rod i and oscillating escapement J j j', operated by a pedal, substantially as and for the purpose hereinbefore set forth.

2. The separating blocks or flanges e^3, attached to the arms E, combined with the pins j j' of the oscillating shaft J, as and for the purpose hereinbefore set forth.

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Witnesses:
JAY HYATT,
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