

916,615.

W. SCHWARZ.
MUSIC LEAF TURNER.
APPLICATION FILED JUNE 23, 1908.

Patented Mar. 30, 1909.
3 SHEETS—SHEET 1.

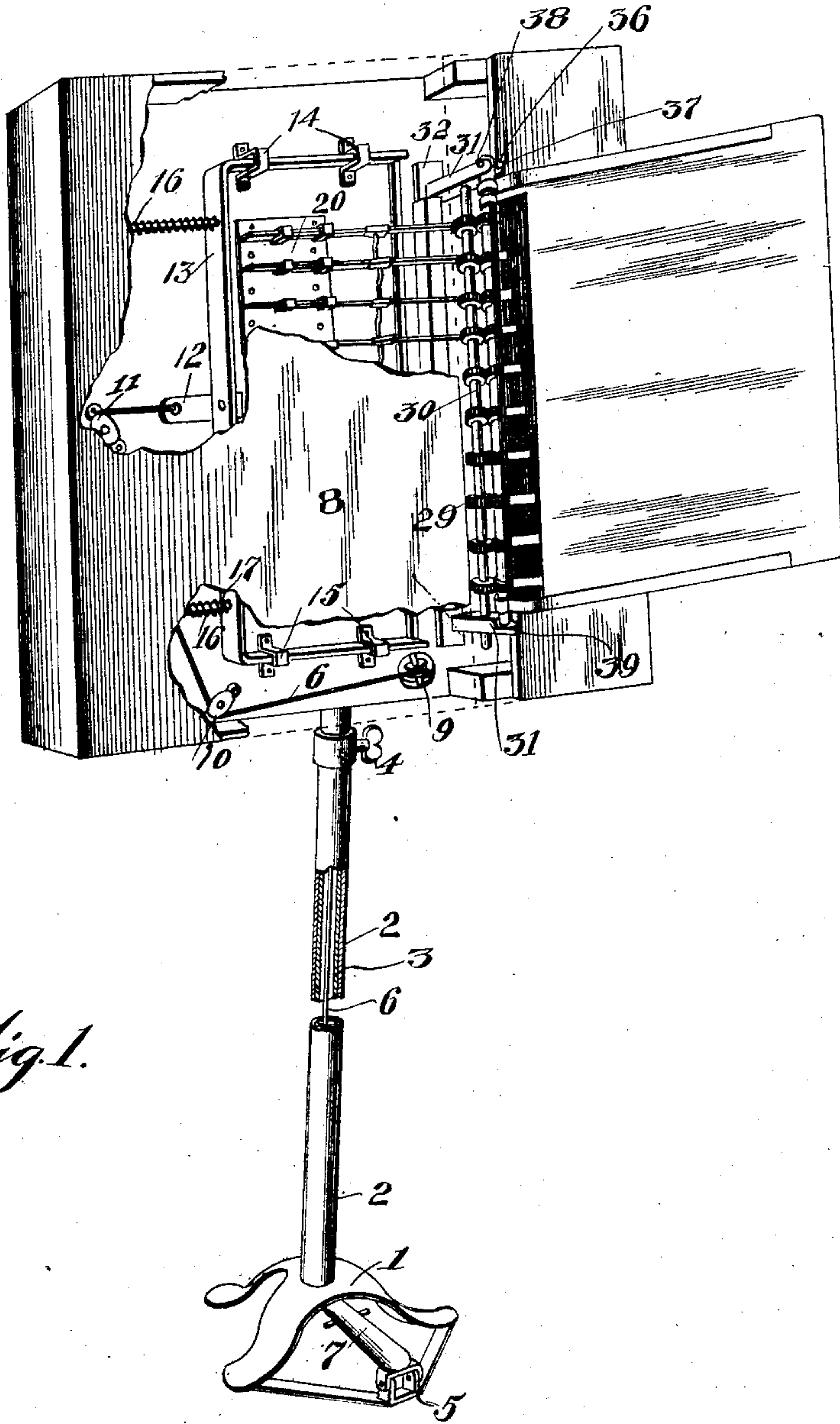


Fig. 1.

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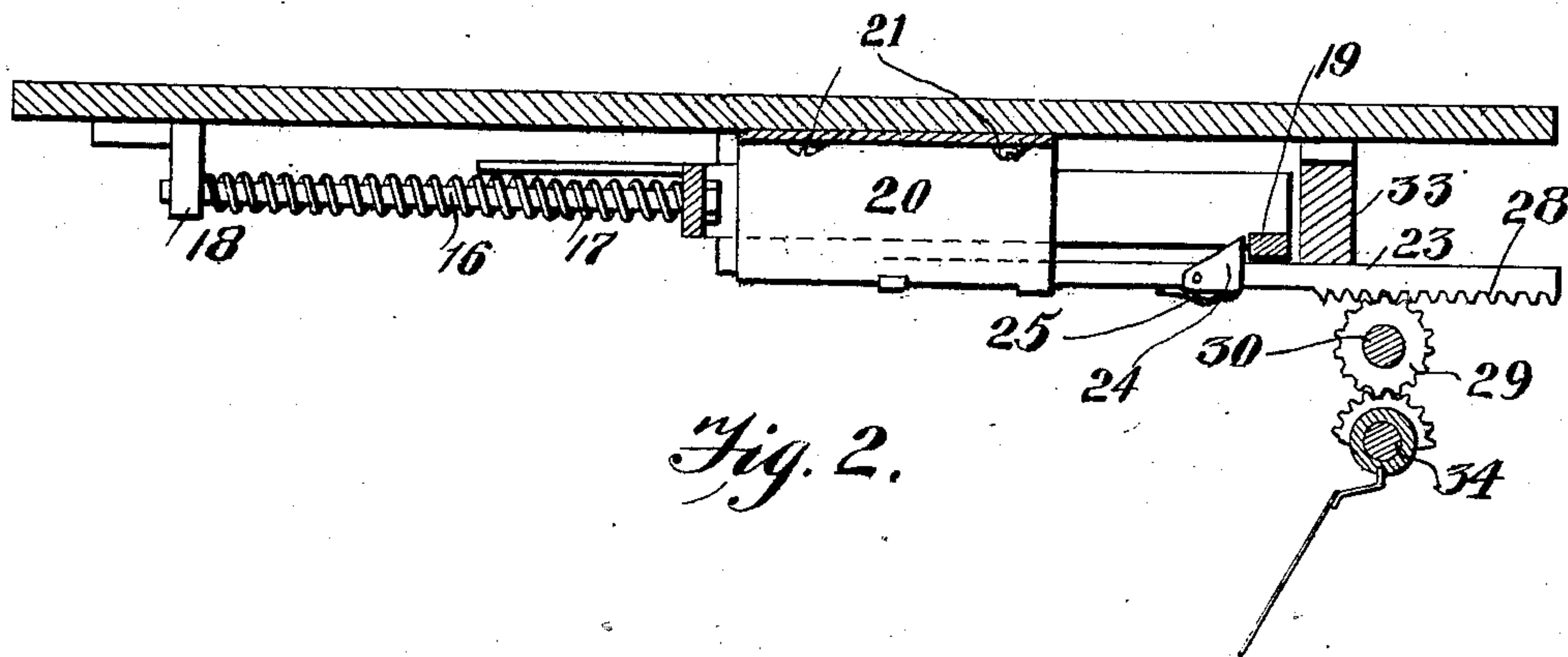


Fig. 2.

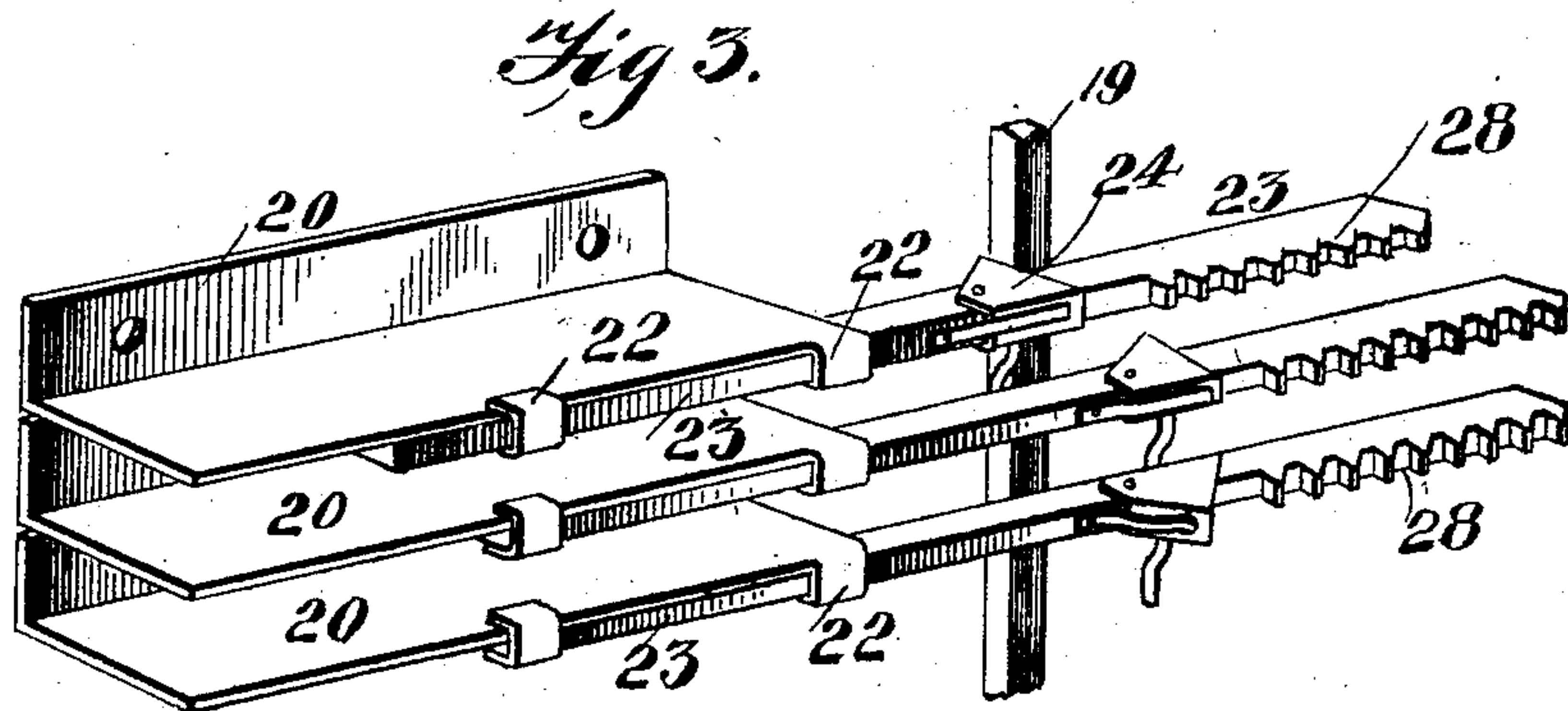


Fig. 3.

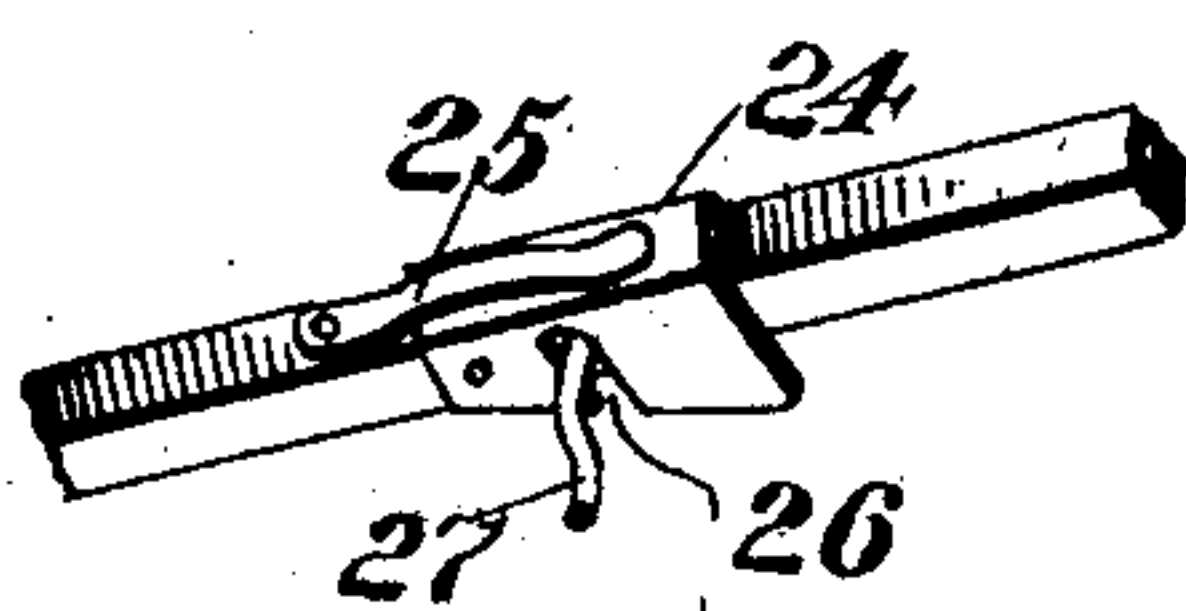


Fig. 4.

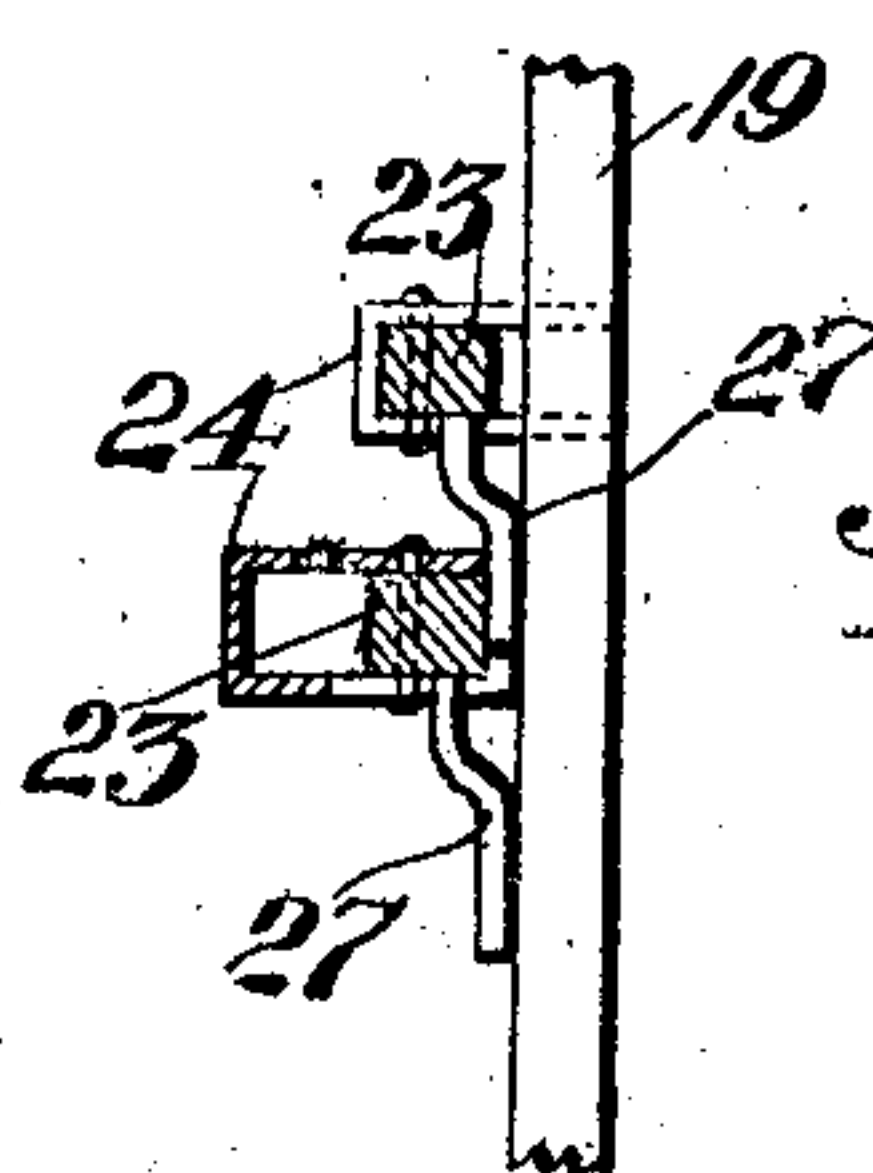


Fig. 5.

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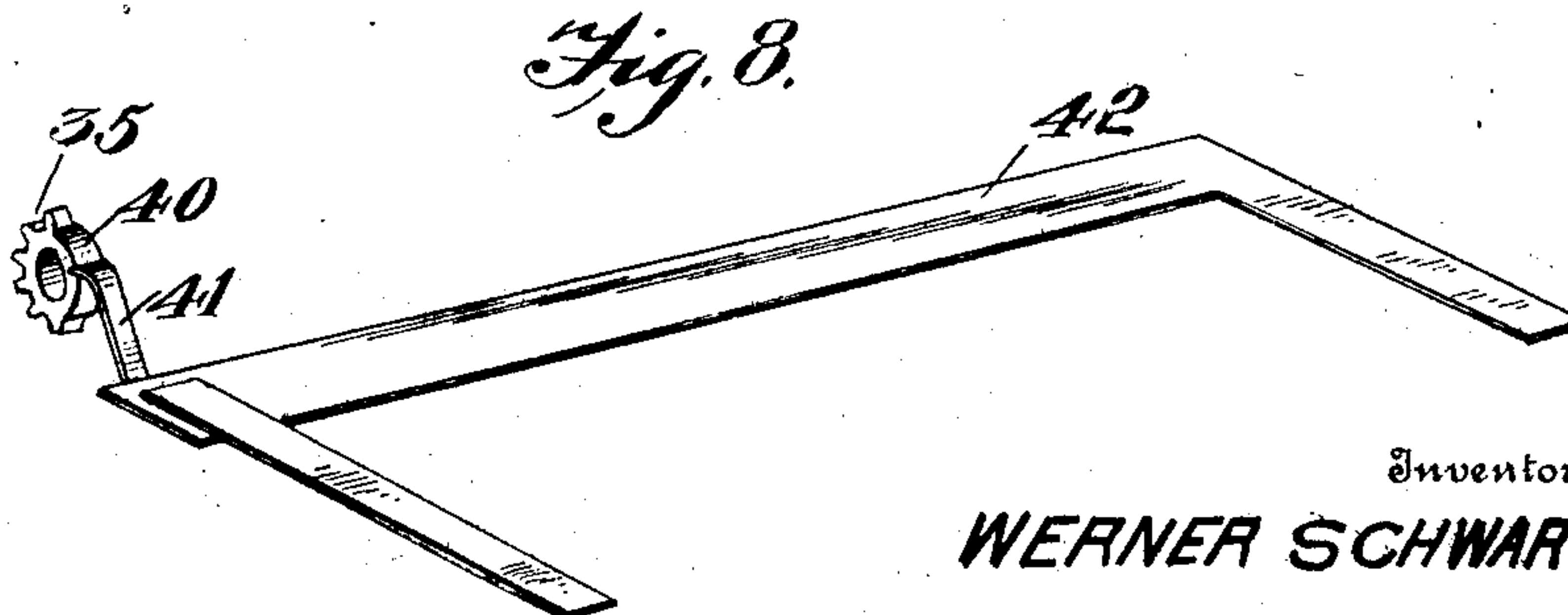
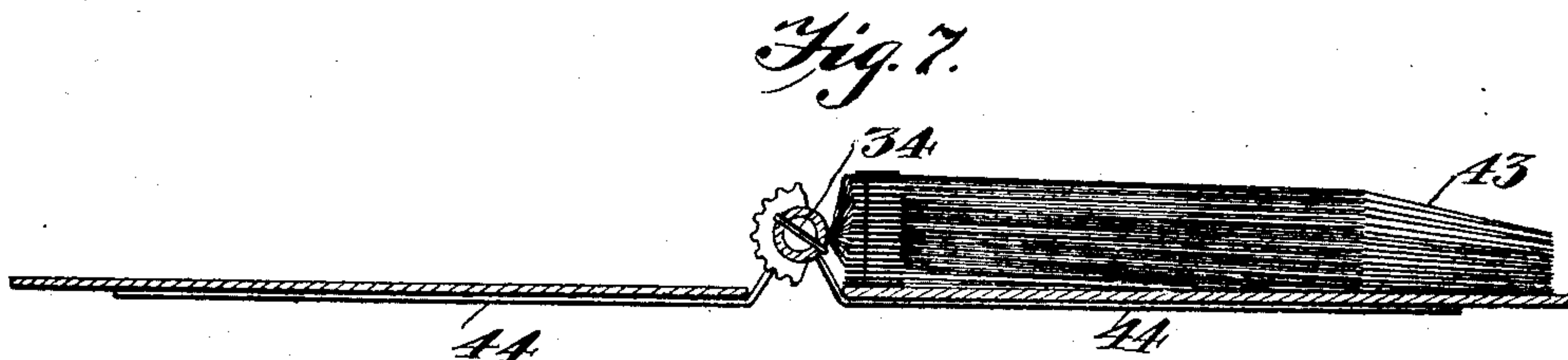
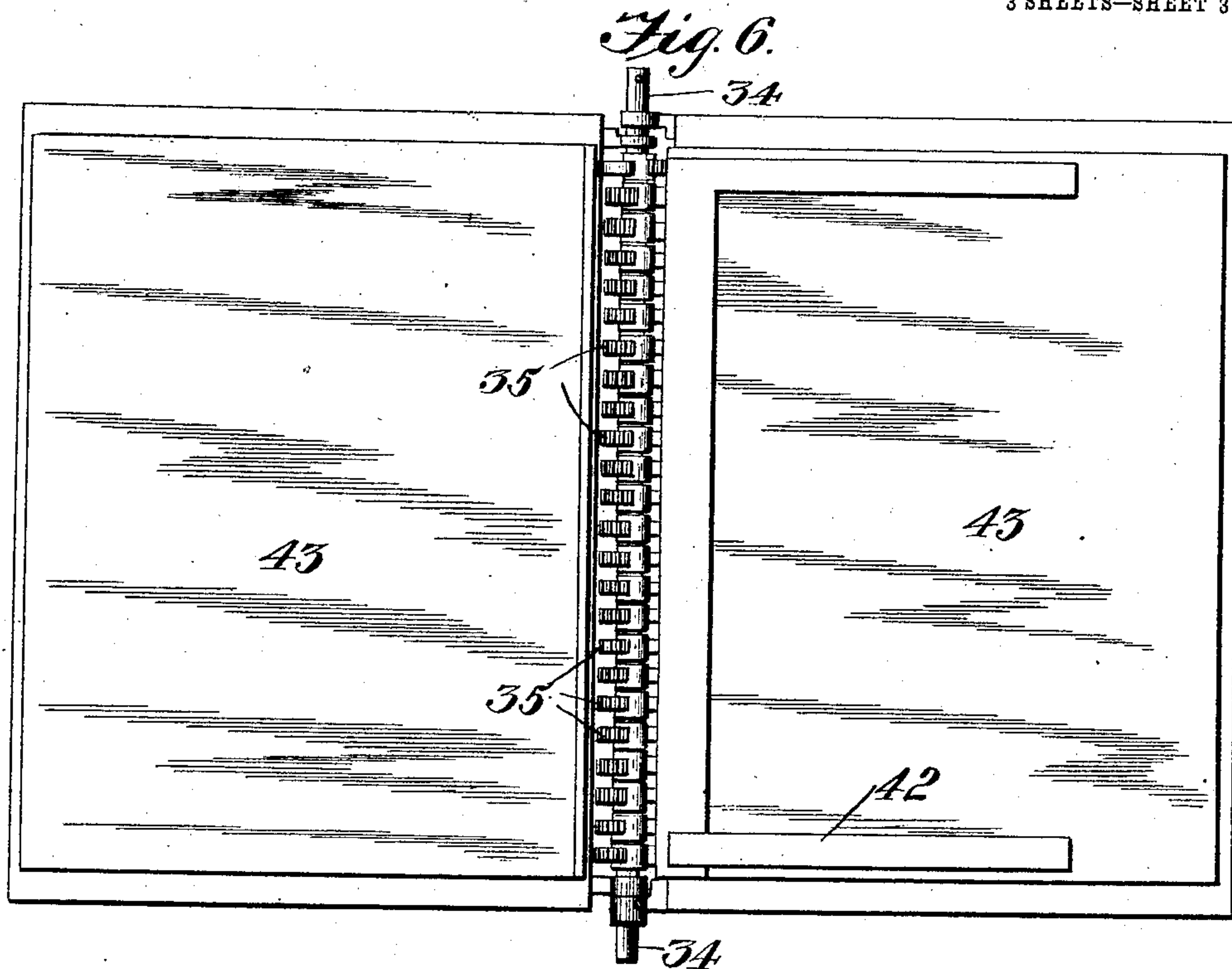
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WERNER SCHWARZ, OF NEW YORK, N. Y.

MUSIC-LEAF TURNER.

No. 916,615.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed June 23, 1908. Serial No. 439,952.

To all whom it may concern:

Be it known that I, WERNER SCHWARZ, a subject of the Emperor of Germany, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

This invention relates to improvements in music-leaf turners, and the object thereof is to promote the efficiency of devices of this character.

To the accomplishment of the recited object, and others coördinate therewith, the preferred embodiment of the invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claims.

In said drawings:—Figure I is a perspective view of the invention, certain parts thereof being broken away to more clearly disclose the mechanism. Fig. II is a longitudinal section of a portion of the operating mechanism. Fig. III is a fragmentary perspective view of portions of the actuating elements. Fig. IV is a detailed perspective view, illustrating the manner of mounting one of the dogs with respect to the rack-bar. Fig. V is a transverse sectional view indicating the relations assumed by the rack-bars and appurtenances. Fig. VI is an elevation of the particular form of book employed, and connections therefor, and Fig. VII is an end elevation of the same, and Fig. VIII is a detailed perspective of one of the leaf retaining devices.

Similar numerals of reference indicate corresponding parts throughout the several forms.

At the outset I will state that my invention is equally as well adapted to be incorporated as a component part of a piano, while in the drawings it is shown mounted upon a suitable stand or support, the type of the latter, with the exception of a few details, being of well known and obvious construction. This stand comprises a base support 1 and a vertically extending tubular member or casing 2, the latter being adapted to accommodate a similar casing 3, of slightly less diameter so that the said casing 3 may be moved and adjusted to any desired height with respect to the casing 2, the adjustment being secured by means of a suitable thumb screw 4.

Having one terminal suitably connected to the base support 1, as at 5, and its other terminal attached to the cord 6, is the pedal 7, which is pivotally mounted in the base support, below the tubular portion thereof, in such a manner that a depressing movement of the pedal is essential to actuate the cord, and whereby the device as a whole is readily operated by the foot of the performer, the said cord projecting upwardly through the hereinbefore mentioned casing 3, and making its exit at the rear of the inclosure 8, and thence passing over the pulleys 9, 10, 11, which are mounted in any convenient position relatively to the inclosure, and is finally secured to the projection 12 of the yoke 13. The said yoke is arranged substantially medially of the rear of the inclosure and is guided by pairs of brackets 14 and 15, the same being located at suitable distances apart from each other at the top and bottom of said yoke. In order to maintain the yoke in its normal position I have constructed the same with removably attached rods 16, which are designed to carry the coil springs 17, the outer ends of the rods being connected to brackets, as at 18. The forward part of the yoke has integrally formed therewith a vertically disposed rod 19, preferably of square or rectangular contour in cross section.

Mounted within the hereinbefore mentioned yoke are a plurality of detachable angle plates 20. All of these plates are identical in construction and are superimposed so as to be in perfect vertical alinement, being retained in this relation by screws 21. Formed with, or attached to each of said angle plates is a pair of downwardly and inwardly bent braces 22 which serve to guide the rack-bars 23, having mounted thereon a pivoted dog 24 pressed by the flat spring 25 against the outer side of the rack-bar. Depending from the rack-bar and protruding through the slot 26 on the under side of the dog 24 is a curved projection 27, the function of which will be hereinafter set forth. The outer ends of the series of rack-bars, or in other words the racks proper 28 are adapted to engage the pinions 29, which are rotatably mounted on the vertically extending shaft 30, rigidly fixed intermediate of the laterally projecting ends 31 of the brackets 32. To preclude any liability of the rack-bars becoming displaced I have provided a support or rest 33, the under sides of the said rack-bars being

adapted to freely engage the outer surface thereof. In conjunction with this arrangement and construction I have devised a book which comprises in its make up a vertically
 5 extending rod 34 having a number of rotatable segmental racks 35 corresponding to the number of rack-bars and pinions, and being adapted to be engaged by the latter when the complete device is positioned on the terminal
 10 portions of the brackets 32 and the rack-bar actuated, the upper bracket being bifurcated, as at 36, and recessed at 37 to detachably receive the pin 38 of the rod 34, and the lower bracket being rabbeted as at 39, to serve as
 15 a journal for said rod.

The collar 40 of each segmental rack has formed, as a part thereof, a horizontally arranged flange or extension 41, the latter being connected in any convenient manner to the
 20 leaf retaining frame 42. It will be noted in this connection that when the several segmental racks are properly positioned with respect to the shaft 34 that the flanges or projections 41 will be disposed in echelon and
 25 that each of the leaves 43 is free to move, independent of the other leaves. The leaves are attached to the frames 42 by any suitable adherent material, and the covers of the book are supported by braces 44 which are
 30 located adjacent on the top and bottom thereof and rotatably mounted on the shaft 34.

With the foregoing explication the operation of the invention will now be described. Upon operating the pedal 7, through the
 35 medium of the connection 6, the yoke 13 will be withdrawn horizontally against the action of the coil springs 17, the rod 19 carried by said yoke engaging the inner terminal of the pivoted dog 24, thus forcing the topmost rack-
 40 bar backward until it assumes the position exhibited in Fig. III of the accompanying drawings, and through the intermediate pinion and segmental rack connections, oscillate the first page of the book, to an open position,
 45 the said page turning approximately 180°. By this movement, the depending projection 27, which previously held the dog 24 of the subjoined rack-bar, will be disengaged thus permitting the latter to be pressed by the
 50 action of the spring 25 inwardly so that the inner terminal will present an abutment for the rod 19 upon the subsequent movement of the yoke 13. This operation is carried on until all of the pages have been turned in
 55 their proper sequence, when by rotating the book as an entirety the several rack-bars are caused to resume their normal positions relative to the pinions, and the turning operation is again resumed. It is obvious that I
 60 may employ any number of rack-bars and intermediate connections, the illustrations in the drawings being only of suggestive scope sufficient to afford full explanation of the principles of my invention.

65 It should be understood that in its broader

aspects my invention comprehends the employment not only of the various means described, but of equivalent means for performing the recited functions. While the arrangement shown is thought, at the present time, 70 to be preferable, I desire to reserve the right to effect such modifications and variations thereof as may come fairly within the scope of the appended claims.

Having thus described the invention, what 75 is claimed, is:

1. In a music-leaf turner, the combination of an adjustable support, an inclosure carried by said support, a spring pressed slidable yoke located within said inclosure and having 80 a bar, a plurality of rectilinearly movable rack-bars, detachable holders for the leaves, a segmental rack connected to each of said holders, a shaft having intermediate connections for said rack-bars and segmental 85 racks, means carried by each of the rack-bars and adapted to be engaged by the yoke-bar for causing a successive turning of leaves, and means at the base of said support and connected to the yoke for operating the latter. 90

2. In a music-leaf turner, the combination of an adjustable support, an inclosure carried by said support, a spring pressed slidable yoke located within said inclosure and having 95 a bar, a plurality of rectilinearly movable rack-bars, detachable holders for the leaves, a segmental rack connected to each of said frames, a shaft having intermediate connections for said rack-bars and segmental racks, means carried by each of the rack-bars and 100 adapted to be engaged by the yoke-bar for causing a successive turning of leaves, means actuated by the reverse movement of the leaves as an entirety, adapted to place the rack-bars in their normal position to be again 105 engaged by the yoke-bar, and means at the base of said support and connected to the yoke for operating the latter.

3. In a music-leaf turner, the combination of a support, an inclosure carried by said sup- 110 port, a spring pressed slidable yoke located within said inclosure and having a bar, a plurality of rectilinearly movable rack bars, leaf holders, a segmental rack connected to each of said holders, a shaft having intermediate 115 connections for said rack-bars and segmental racks, spring pressed interlocking means adapted to be forced into the path of movement of said yoke bar for causing a successive turning of leaves, and means for operat- 120 ing the yoke.

4. In a music-leaf turner, the combination of a support, an inclosure carried by said sup- 125 port, a spring pressed slidable yoke located within said inclosure and having a bar, a plurality of rectilinearly movable rack-bars, leaf holders, a segmental rack connected to each of said holders, a shaft having inter- 130 mediate connections for said rack-bars and segmental racks, spring pressed interlocking

means carried by said rack-bars and adapted to be forced into the path of movement of said yoke bar for causing a successive turning of holders, and means for operating the yoke.

5 5. In a music-leaf turner, the combination of a support, an inclosure carried by said support, a spring pressed slidable yoke located within said inclosure and having a bar, a plurality of rectilinearly movable rack-bars, leaf
10 holders, a segmental rack connected to each of said holders, a shaft having intermediate connections for said rack-bars and segmental racks, spring pressed interlocking means carried by said rack-bars adapted to be forced
15 into the path of movement of said yoke bar for causing a successive turning of the leaf holders, said interlocking means being adapted to resume their normal positions upon the reverse movement of the leaves as an entirety, and means for operating the yoke.

20 6. In a music-leaf turner, the combination of a support, an inclosure carried by said sup-

port, a spring pressed slidable yoke located within said inclosure and having a bar, a plurality of rectilinearly movable rack-bars, leaf
25 holders, a segmental rack connected to each of said holders, a shaft having intermediate connections for said rack-bars and segmental racks, spring pressed interlocking means carried by said rack-bars adapted to be forced
30 into the path of movement of said yoke bar for causing a successive turning of the leaf holders, a tubular support connected to said inclosure, a cord passing through said support, and a pivotally mounted pedal at the
35 base of the support connected to said cord and adapted, when depressed to pull the cord thereby actuating said yoke.

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

WERNER SCHWARZ.

Witnesses:

BRUNO HARDY,
HENRY L. SMITH.