

No. 811,225.

PATENTED JAN. 30, 1906.

G. HUBERT.
LEAF TURNER.

APPLICATION FILED NOV. 19, 1904.

Fig. I.

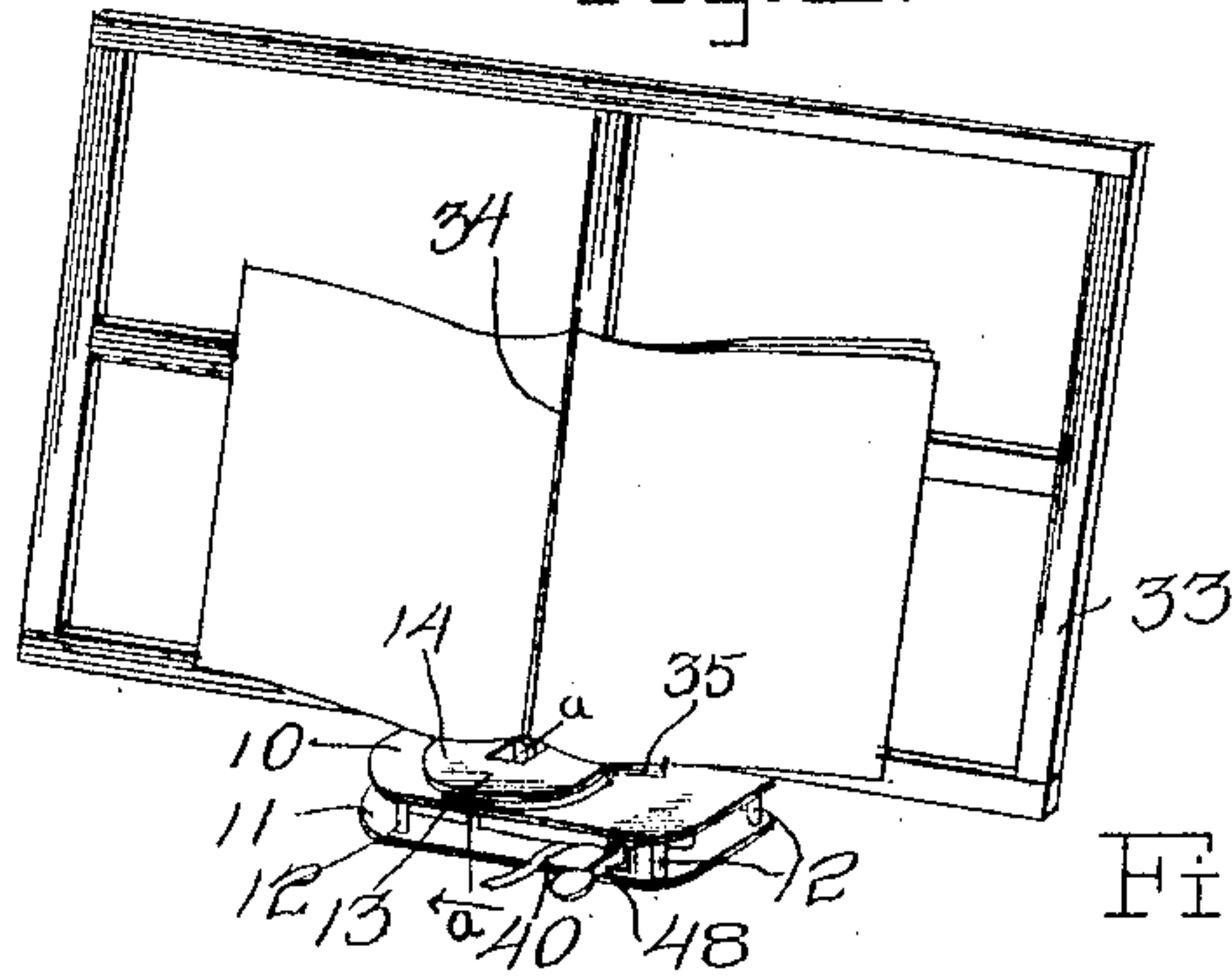


Fig. 2.

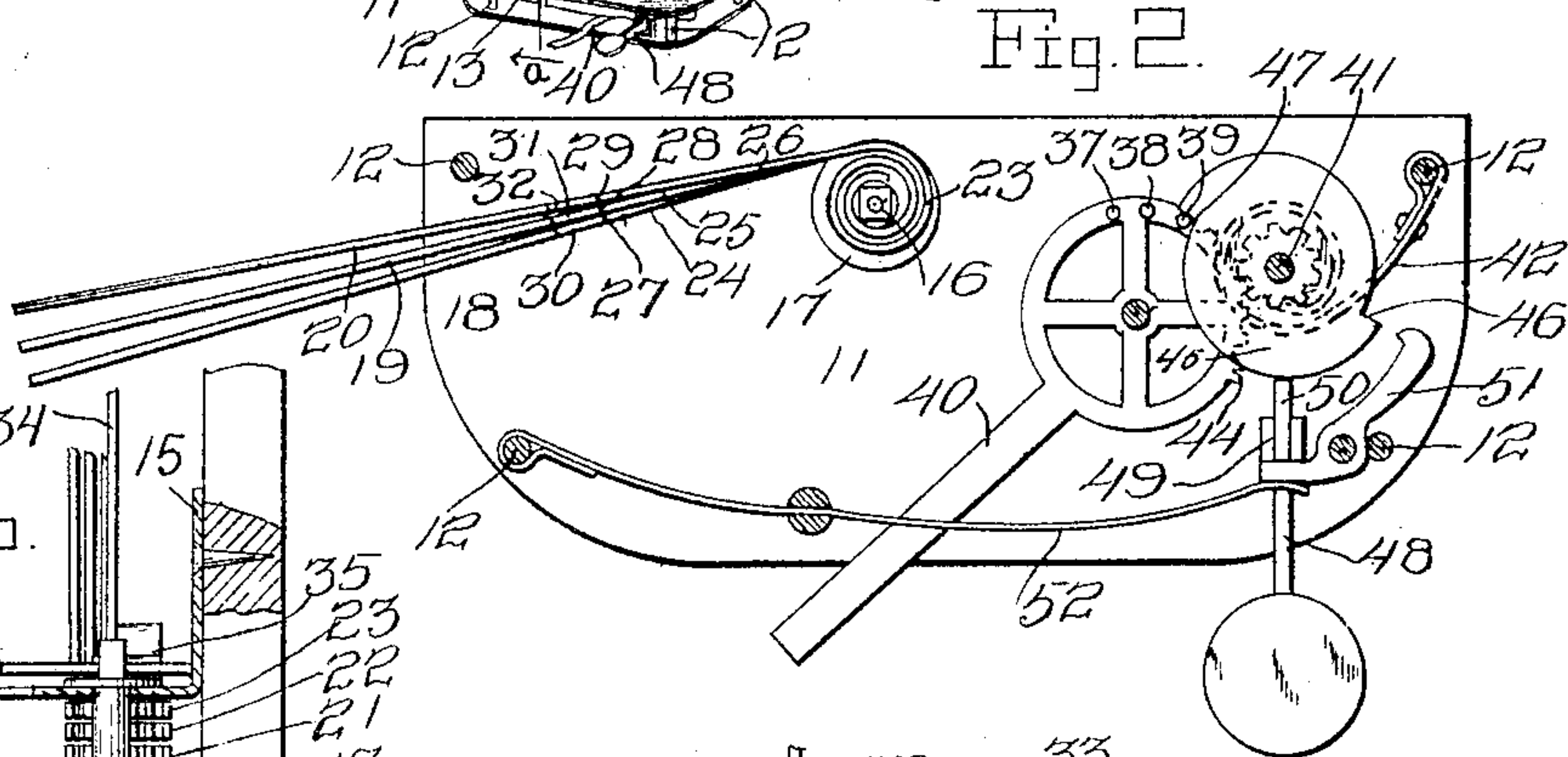


Fig. 3.

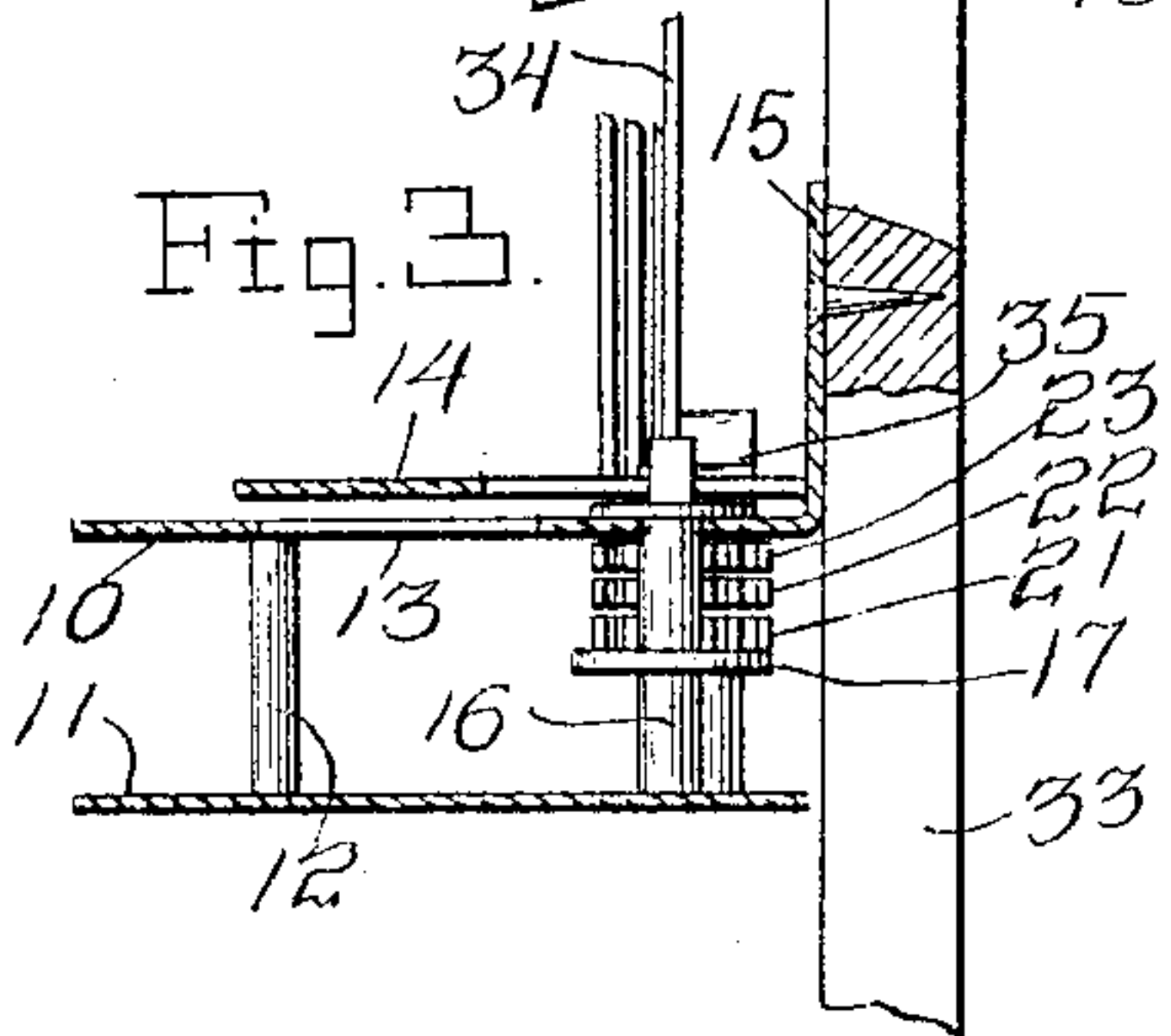


Fig. 5.

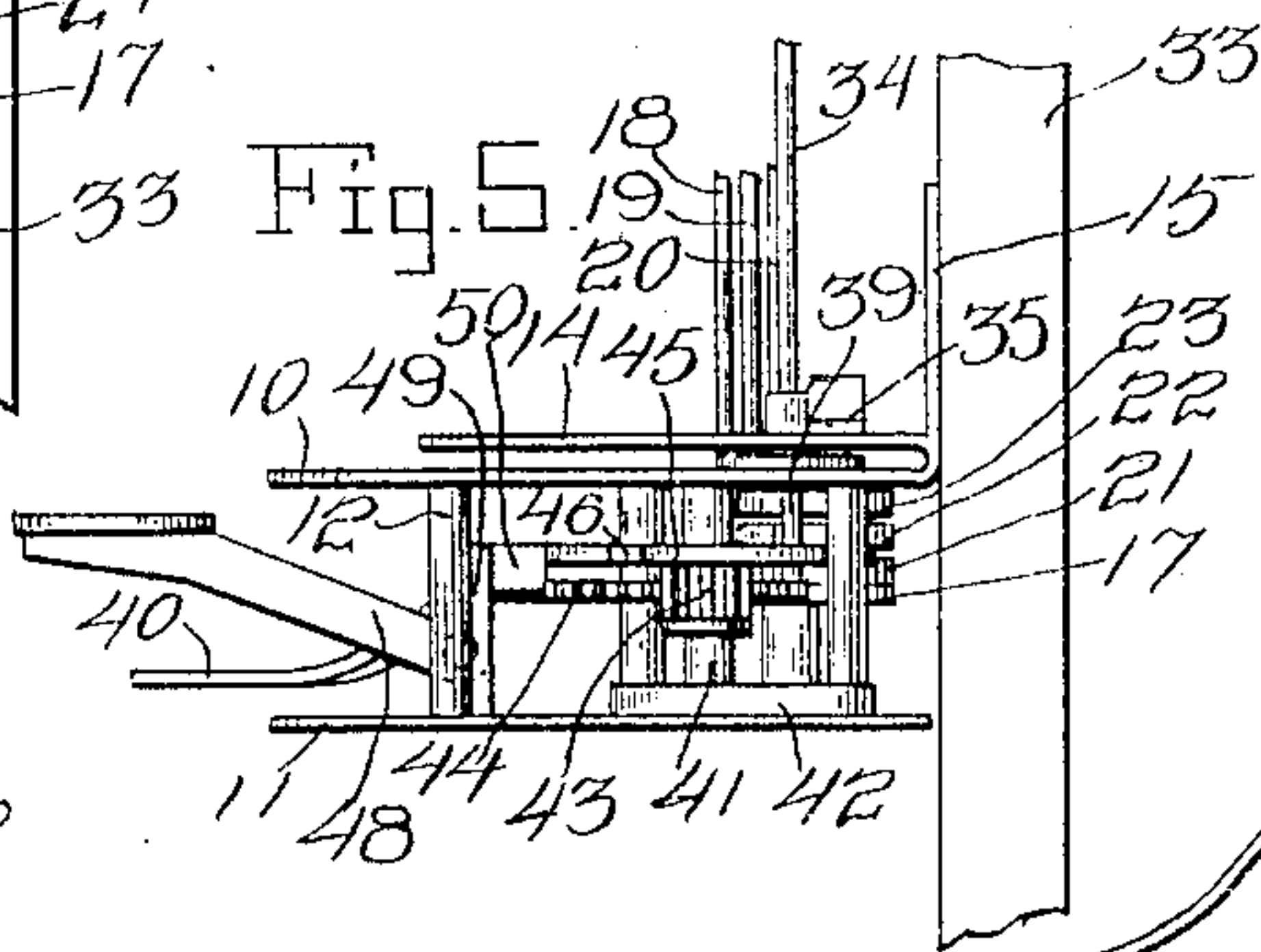


Fig. 7.

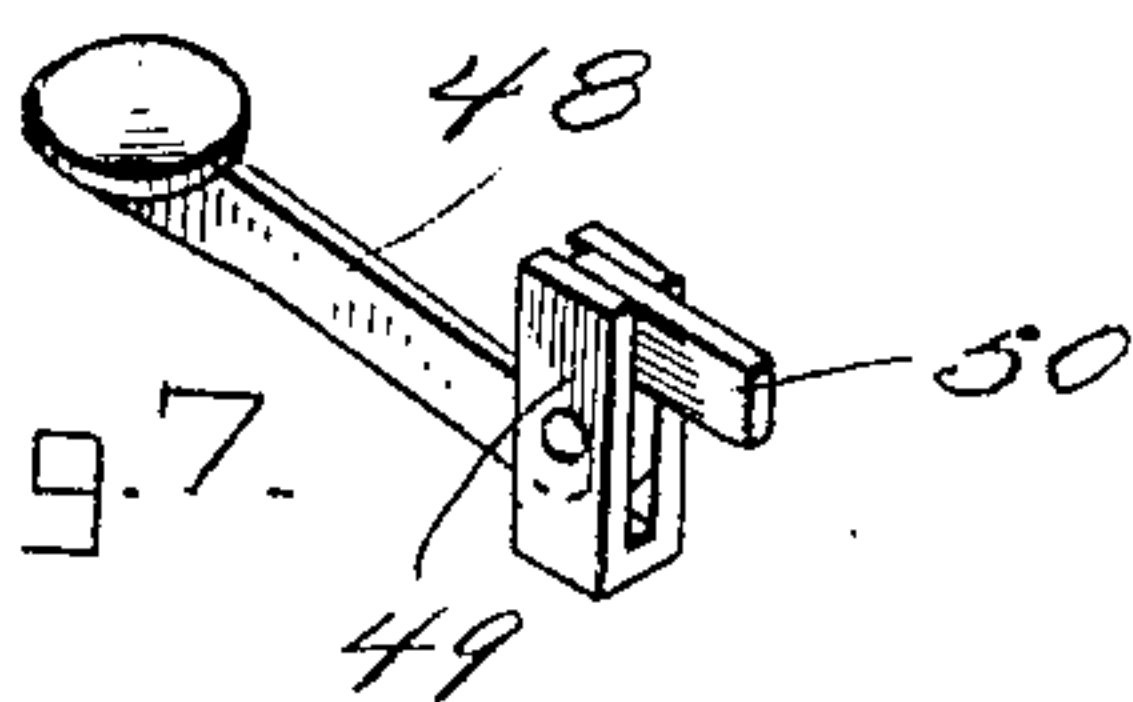


Fig. 4.

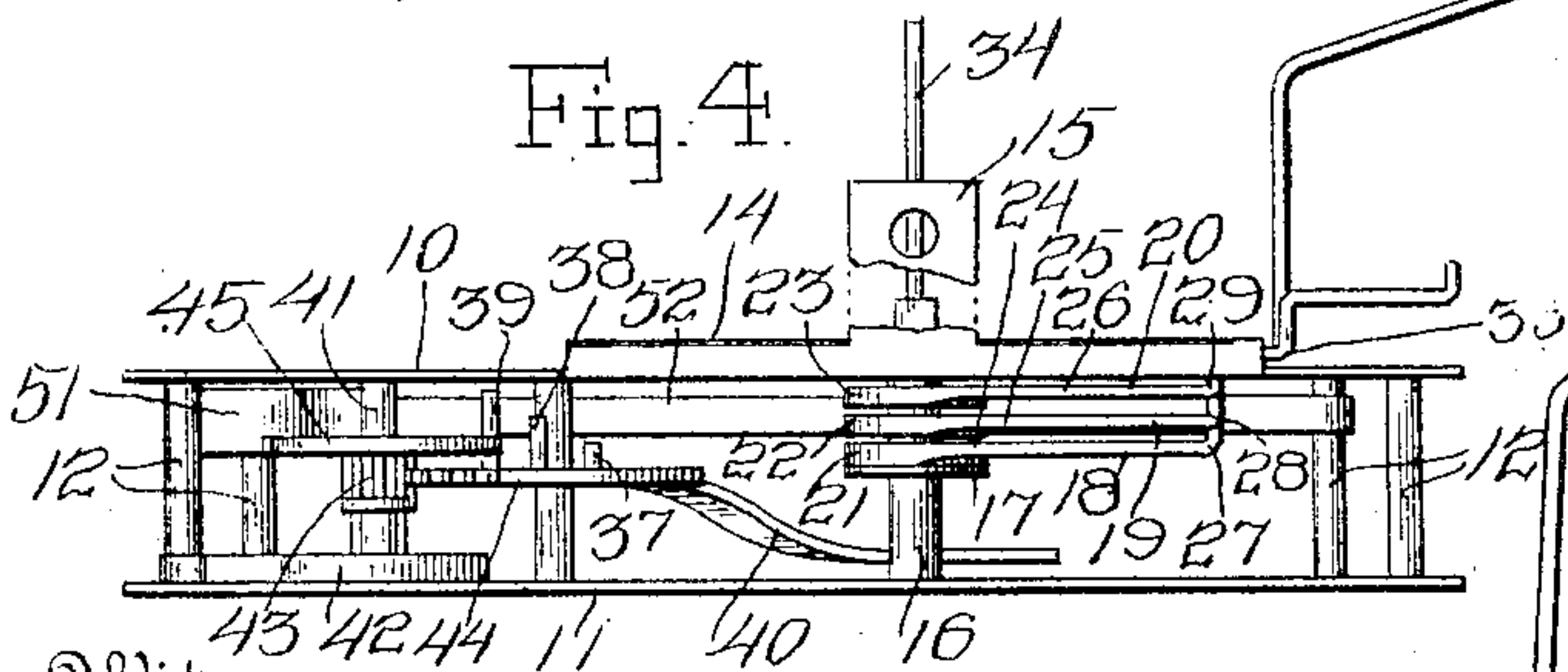
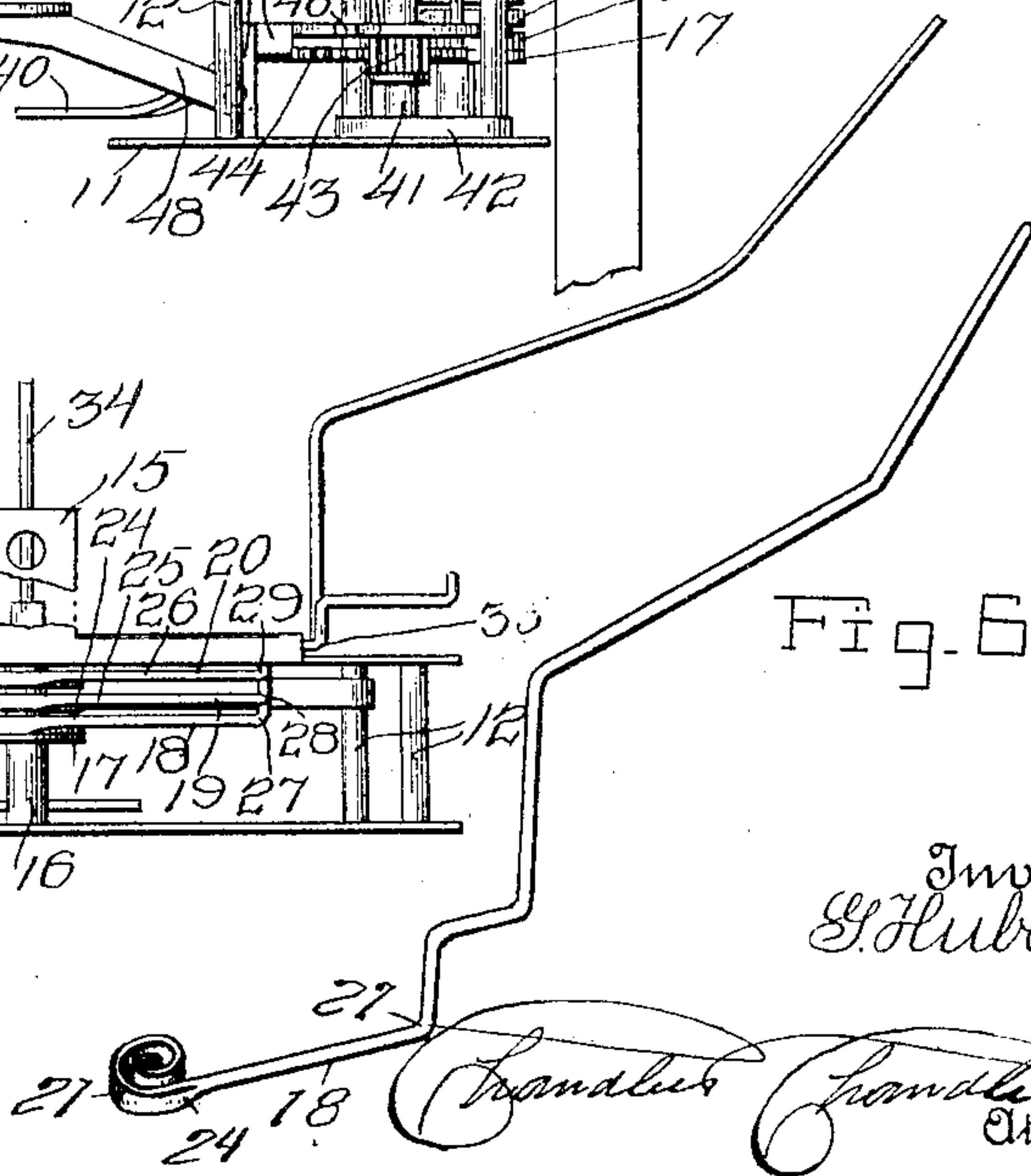


Fig. 6.



Witnesses
C. K. Reichenbach
E. M. Casford

Inventor
G. Hubert
by

Handwritten signature of G. Hubert
Handwritten signature of C. K. Reichenbach
Handwritten signature of E. M. Casford
Handwritten signature of C. K. Reichenbach
Handwritten signature of E. M. Casford
Attorneys.

UNITED STATES PATENT OFFICE.

GUSTAV HUBERT, OF BARABOO, WISCONSIN.

LEAF-TURNER.

No. 811,225.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed November 19, 1904. Serial No. 233,500.

To all whom it may concern:

Be it known that I, GUSTAV HUBERT, a citizen of the United States, residing at Baraboo, in the county of Sauk, State of Wisconsin, have invented certain new and useful Improvements in 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.

This invention relates to a device for turning the leaves of music-books.

One object of the invention is to provide a simple, inexpensive, durable, and efficient device of the character named.

Another object of the invention resides in the provision of a light mechanism capable of being supported and operated by the performer without loss of time or energy.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the present invention.

In the drawings, Figure 1 is a perspective view of the invention applied to a music-rack, illustrating a book positioned and ready for the turning of leaves. Fig. 2 is a top plan view of the invention with the upper casing part thereof removed. Fig. 3 is a transverse sectional view on the line *a a* of Fig. 1 looking from the right. Fig. 4 is a rear elevation. Fig. 5 is an end elevation with the retaining-pawl removed. Fig. 6 is a view of one of the arms detached. Fig. 7 is a detail view of the lever-arms and post detached.

Referring now to the drawings, there is shown a music-leaf turner comprising upper and lower plates 10 and 11, which are connected by means of posts 12 or in any other suitable manner, the plate 10 having an arc-shaped slot 13 formed therein, and above which lies the guide 14 in the form of a leaf stamped from a sheet of metal with the plate 10 and bent to lie over it. From the guide-plate 14 is struck up an ear 15, which is perforated to receive an attaching-screw by means of which the apparatus may be secured to any suitable support.

In the portion of the plate 10 lying within the curvature of the slot 13 is engaged the squared upper end of a post 16, the lower end of which is engaged in the bottom plate 11, and on the post between the plates 10 and 11 is formed a circumscribing flange 17. Leaf-turning arms 18, 19, and 20 are provided, one end of each of which is in the form of a spiral spring, (illustrated at 21, 22, and 23, respectively,) the centers of these spiral springs being attached to the post 16.

The arms 18, 19, and 20 have members 24, 25, and 26, respectively, that lie in relatively higher planes in the order named. At the outer ends of the portions 24, 25, and 26 the arms extend upwardly, as shown at 27, 28, and 29, then outwardly at right angles, as shown at 30, 31, and 32, and then upwardly and finally outwardly, as illustrated, the last-named portion being designed to engage behind the leaves of music to turn them. The portions 27, 28, and 29 of the arms pass upwardly through the slot 13, while the portions 30, 31, and 32 lie between the plate 10 and the guide-plate 14, the arms extending upwardly at the edge of the guide-plate, which latter is curved concentric to the slot 13 and the post 16. The springs 21, 22, and 23 hold the arms normally and yieldably at the left-hand end of the slot 13, the arms being shifted to the opposite end of the slot and engaged behind the leaves of music to be turned, the music being held in place between the music-support, to which the turner is attached and illustrated at 33, and the rod 34, which is engaged in the top of the post 16. To move the turning-arms against the actions of their springs, a lever 35 is pivoted upon the upper end of the post 16, and passing beneath the guide-plate 14 projects from between it and the top plate 10, where it is provided with a handle, as illustrated. When the handle is grasped and swung to the right, the lever carries the turning-arms with it.

To hold the turning-arms at the right-hand end of the slot 13 and in position to turn the leaves when released, retaining-pins 37, 38, and 39 are provided and are carried by a pivoted lever 40, one end of which projects forwardly from between the plates 10 and 11. The pins 37, 38, and 39 are of gradually-increasing heights in the order named, and when the forward end of the lever is swung to the right these pins lie in the paths of movement of the portions 24, 25, and 26, re-

spectively, of the turning-arms. If the lever be swung to the left, the pin 39 will first move from in front of the member 26, the pin 38 will then move from in front of the member 5 25, and the pin 37 will finally move from in front of the member 24, thus permitting the arms to successively move to the left-hand end of the slot 13 and carry the corresponding leaves of music with them. To move the 10 lever 40 step by step to release the arms successively and at the proper times, a key-controlled mechanism is employed.

The key-controlled mechanism comprises a rotary shaft 41, to which is attached one end 15 of a spiral spring 42, having its outer end attached to one of the posts connecting the plates 10 and 11, the spring being under tension, so that it tends to rotate the shaft in one direction. Upon the shaft is fixed a pin- 20 ion 43, with which engages the segmental gear 44, carried by and concentric with the pivot of the lever 40, so that when the shaft 41 turns the lever is swung, it being understood that the movement of the lever by the 25 spring and the intermediate gearing is in a direction to carry the retaining-pins successively out of the paths of movement of the turning-arms.

The shaft 41 carries a plate 45, which at 30 diametrically opposite points has the shoulders 46 and 47. An angular lever 48 is pivotally mounted in a post 49, secured to the plates 10 and 11, and has a finger 50, which at one limit of pivotal movement of the lever is in position to engage either of the shoulders 46 and 35 47, depending upon the position of the plate 45. When the outer end of the lever 48 is depressed, which end lies forwardly of the plates 10 and 11, the finger 50 is withdrawn 40 from the engaged shoulder of the plate 45, and the latter is permitted to rotate until such shoulder comes in contact with the pawl 51, which is pivoted to the under side of the plate 10. This permits of movement of the lever 45 40 a definite angular distance, but not sufficiently far to carry the pin 39 from in front of the member 26 of the arm 20. The outer end of the pawl 51 is in the path of outward movement of the upwardly-extending portion 50 of the angular lever 48, so that when said lever is actuated by depression of its outer end it engages and moves the pawl from engagement with the plate 45. The pawl is held normally and yieldably in disengaging position by means of a leaf-spring 52, which 55 presses against its outer end and holds the pawl against the releasing-lever, so that the latter is in turn held yieldably in engagement with the plate 45. When, then, the lever is 60 released, the leaf-spring serves to move it against the periphery of the plate 45 and into the path of the next shoulder of the plate, while the pawl is swung out of engagement with the plate, thus permitting it to rotate 65 until it is again stopped by contact of the next

shoulder with the lever. This second step in the rotation of the plate carries the pin 39 out of the path of the member 26, and the latter is swung by its spring 23 to turn the leaf of music. When the releasing-lever is next de- 70 pressed, the plate 45 is permitted to rotate the same angular distance as before and in two steps, which carries the second pin 38 out of its holding or retaining position, and when the lever is depressed the third time the plate again 75 rotates and the third pin 37 is carried from its active position.

It will be understood that in practice modifications of the specific construction shown may be made and any suitable materials and 80 proportions may be used for the various parts without departing from the spirit of the invention.

When the last pin has passed from in front of the member 24, the first pin 39 has passed 85 into the path of movement of a shoulder of the plate 45, and thus serves as a stop to prevent subsequent rotation and consequent total unwinding of the rotating spring of the plate 45 if the releasing-lever be actuated after the 90 arms have turned the music. When the arms are swung back in position to turn the music, the lever is again swung to the right and in its movement serves to rewind the spring 42.

What is claimed is— 95

1. A music-leaf turner comprising a plurality of movable turning-arms, individual means for moving the arms, a retaining device including upstanding projections for holding each of the arms against the action of its mov- 100 ing means, means for shifting the projections successively out of active position, and means for controlling the shifting means.

2. A music-leaf turner comprising a plurality of movable turning-arms, a retaining device including upstanding projections for holding each of the arms against the action of its moving means, a carrier upon which the projections are mounted and with which they are movable successively into inactive position, spring-actuated means for shifting the carrier and means for releasing the shifting means. 110

3. A music-leaf turner comprising a plurality of movable turning-arms, a rotatable carrier, upstanding retaining-pins upon the carrier and movable therewith successively into and out of engagement with their respective arms, means for shifting the carrier, an escapement mechanism for controlling the de- 115 gree of movement of the shifting means, and means for operating the escapement mechanism. 120

4. A music-leaf turner comprising a plurality of movable turning-arms, individual means 125 for moving the arms, a retaining device including upstanding pins for holding each of the arms against the action of its moving means, means for shifting the projections successively out of active position, means for con- 130

trolling the shifting means, and means for moving the arms simultaneously into position for engagement by their retaining means.

5 5. A music-leaf turner comprising a plurality of movable turning-arms, a rotatable carrier, upstanding retaining-pins upon the carrier and movable therewith successively into and out of engagement with their respective arms, means for shifting the carrier, an escapement mechanism for controlling the degree of movement of the shifting means, means for operating the escapement mechanism, and means for moving the arms simultaneously into position for engagement by their retaining means.

15 6. A music-leaf turner comprising a plural-

ity of movable turning-arms, a rotatable carrier including a lever, upstanding retaining-pins mounted upon the carrier and movable therewith successively into and out of engagement with their respective arms, the said retaining-pins being of different length, a wheel mounted adjacent the carrier for cooperation with the said pins, a pawl arranged for contact with said wheel, and a lever arranged for manipulating the pawl. 20 25

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

GUSTAV HUBERT.

Witnesses:

WILLIAM C. MILLER,
OSCAR L. GUST.