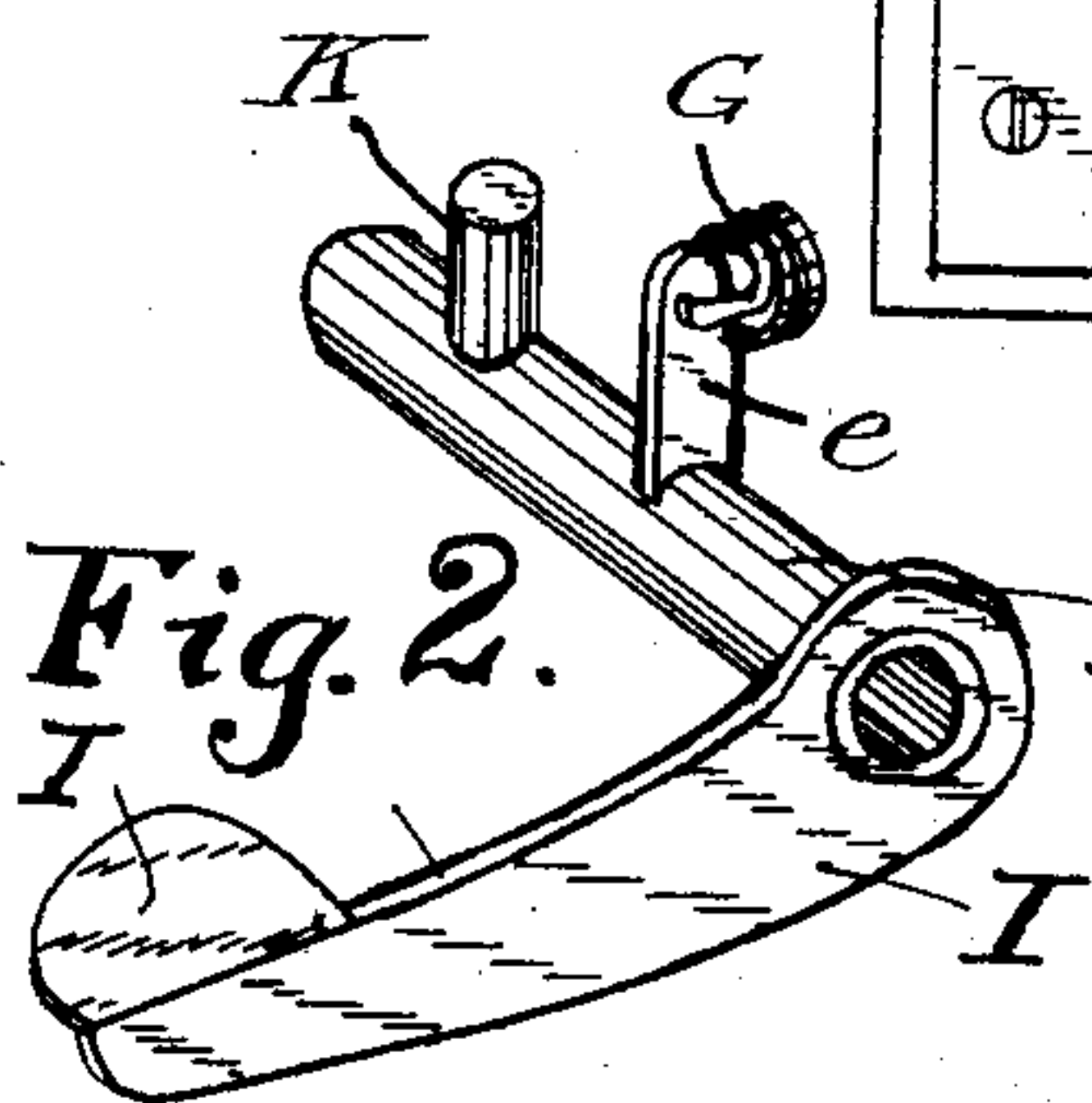
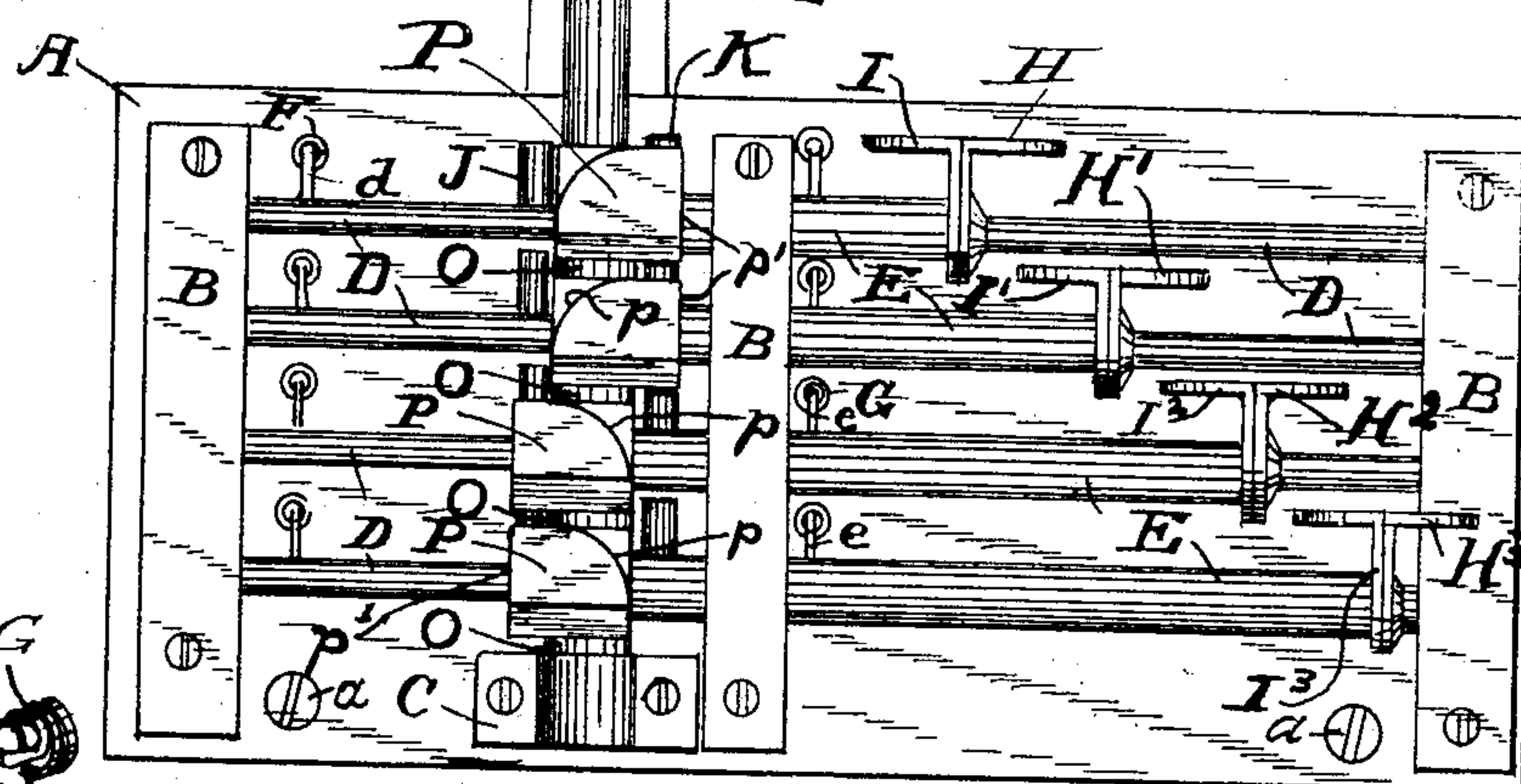
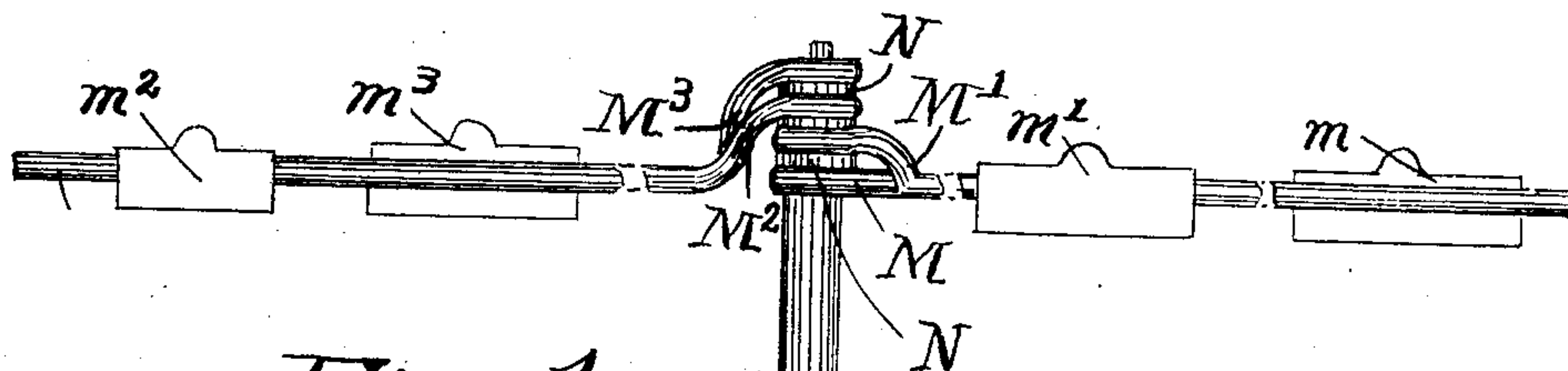


No. 859,854.

PATENTED JULY 9, 1907.

A. F. SUCKOW.
LEAF TURNER.

APPLICATION FILED MAR. 22, 1907.



Witnesses:

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LEAF-TURNER.

No. 859,854.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed March 22, 1907. Serial No. 363,841.

To all whom it may concern:

Be it known that I, AUGUST F. SUCKOW, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Leaf-Turners, of which the following, when taken in connection with the drawing accompanying and forming a part hereof, is a full and complete specification sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to leaf turners which are principally used to turn the leaves of sheet music.

The object of the invention is to obtain a leaf turner of simple construction, containing but few parts, not easily broken or gotten out of order; and by means of which a limited number of leaves can be turned in either direction, that is, forward or backward.

I have illustrated a leaf turner embodying my invention in the drawing referred to wherein

Figure 1 is a front elevation of the leaf turner. Fig. 2 is a perspective of a key, a horizontal tube, and a spring forming elements in the leaf turner. Fig. 3 is a perspective of a vertical tube and a head secured on the lower end thereof, forming an element of the leaf turner, and Fig. 4 is a top plan view of a part of one of the horizontal tubes and wire therein forming elements in the leaf turner, showing a vertical tube in section and the head secured to the lower end of the tube.

A reference letter applied to designate a given part is used to indicate such part throughout the several figures of the drawing wherever the same appears.

A is the base of the leaf turner.

B, B, and C, C are respectively journal bearings.

D, D, are horizontal rods or wires rotatably mounted in bearings B, B.

E, E, are tubes rotatably mounted on rods or wires D, D, respectively.

F, F, and G, G, are springs. One end of the spring F is attached to a pin *d* on one of the rods or wires D, D, and the other end of such spring is attached to base A; and one end of a spring G is attached to pin *e* on one of the tubes E, E, and the other end of such spring is attached to base A. Springs F and G yieldingly hold the rods or wires D, D, and the tubes E, E, in the position thereof illustrated in Fig. 1 of the drawing.

H, H', H², H³, are keys secured to rods D, D; and I, I', I², I³, are keys secured to tubes E, E. On depression of a key of the H or I series a corresponding rod D or tube E is turned and on releasing the depressed key it (and the rod or tube on which it is secured) is returned to its initial position by the corresponding spring F or G.

J, K, are pins respectively secured in rods and tubes D and E.

L, L', L², L³ are tubes rotatably mounted in bearings C, C.

L³ may be a tube or a rod, as preferred.

M, M', M², M³ are arms respectively secured to tubes L, L', L², L³ and *m*, *m'*, *m*², *m*³ are spring catches on arms M, M', M², M³, respectively.

N, N, and O, O, are washers.

P, P, are heads secured on the lower ends of tubes L, L', L², and L³, respectively. Heads P, P, are substantially duplicates and each thereof is preferably provided with the curved shoulders *p*, *p*.

p' is the back of head P with which the pins J and K alternately come in contact in the operation of the machine.

The manner of operation of the device is as follows;— Assuming the arms M, M', M² and M³ to be in the position in which they are illustrated in Fig. 1, and any one of such arms is to be moved. Arms M, M', being on the right hand side, as viewed, may be singly or jointly moved over to the left hand side, as viewed, by depressing keys I or I'. That is, if key I is depressed the arm M is moved over to the right side, carrying ahead of it the arm M', which is, as illustrated, in front of arm M. If the key I' is depressed the arm M', being the front arm of arms M, M', is moved to the left side. When arm I is depressed pin K thereon is turned against the head P adjacent thereto thereby turning the tube L, such head P being rigidly secured to such tube L, and as the tube L turns such pin K comes into contact with the curved face *p* adjacent thereto, thereby continuing the turning movement of the tube L, and as the key I is further depressed the pin K is brought into contact with the back *p'* of such head P, thereby turning the tube L one half of a revolution. When the key I is released it is returned to its initial position by the spring *e* as hereinbefore described. To turn any one of the arms M², M³ on the right side of Fig. 1 to the left side thereof, one of the keys H², H³ is depressed and thereby the corresponding one of the pins J, J, is turned against the head P adjacent thereto. The action of any pin J on the head P adjacent thereto, when a corresponding key is depressed, is identical with the action of the pin K on the head P adjacent thereto when the key corresponding to such pin K is depressed, but turning the head in the opposite direction.

The several tubes L, L', L², and rod L³ are of sufficient length to permit the sheet whereof the leaves are to be turned by the device to be attached to the spring catches *m*, *m'*, *m*², and *m*³ and come between such spring catches and the base A.

When the device is used for turning music on a piano the base A is rigidly secured to the piano by any suitable means, or such base is made of metal of sufficient weight to rest on the piano without being overturned when a given key is depressed. When the base is secured to the piano screws *a, a*, may be used for such purpose.

1. An upright rotatable shaft, an arm on the upper end of the shaft, and a head on the lower end thereof, a shaft and a tube on the shaft, such tube and shaft rotatably mounted at right angles to the upright shaft, a pin fixed to the shaft and a pin fixed to the tube on the shaft, such pins located adjacent to the head, keys fixed to the shaft and tube, respectively, and means to yieldingly maintain the keys in an initial position, substantially as described.

2. The combination of a series of upright tubes arranged one within the other to permit turning of any one thereof, an arm secured to the upper end of each of such tubes and a head secured to the other end of each thereof, a plurality of series of keys, each series provided with a key corresponding to a tube of the series of tubes, a plurality of series of pins arranged with a pin of both series adjacent to each head, such series of pins corresponding to the series of keys, and connections between each of the pins of one series and a key of a corresponding series; substantially as described.

3. The combination of a series of upright tubes arranged one within the other to permit turning of any one thereof, an arm secured to the upper end of each of such tubes and a head secured to the other end of each thereof, a plurality of series of keys, each series provided with a key corresponding to a tube of the series of tubes, a plurality of series of pins arranged with a pin of both series adjacent to each head, such series of pins corresponding to the series of keys, connections between each of the pins of one

series and a key of a corresponding series, and means to yieldingly maintain the keys in an initial position; substantially as described.

4. A series of upright rotatable shafts consisting of a rod and tubes concentric to the rod, an arm on the upper end of the respective upright shafts, and a head on the lower end thereof, each of such heads provided with curved portions on corners adjacent to the rear face of such head, shafts and a tube on the shafts, respectively such tubes and shafts rotatably mounted at right angles to the upright shafts, a pin fixed to each of the shafts and a pin fixed to each of the tubes on the shafts, a pin of both series of pins located adjacent to the head to contact successively with the side thereof, a curved portion and the rear face of such head when the corresponding tube or shaft is turned, keys on the shafts and tubes, respectively, and means to yieldingly maintain the keys in an initial position, substantially as described.

5. A base, a series of upright concentric shafts rotatably mounted on the base, an arm on the upper end of the respective upright shafts, and a head on the lower end thereof, each of such heads provided with curved portions on corners adjacent to the rear face of such head, shafts and a tube on the shafts respectively, such tubes and shafts rotatably mounted on the base at right angles to the upright shafts, pins fixed to the shafts and tubes thereon, respectively, such pins each located adjacent to one of the heads to contact with the side, a curved portion and a rear face of such head when the corresponding tube or shaft is turned, keys on the shafts and tubes, respectively, and means to yieldingly maintain the keys in an initial position, substantially as described.

AUGUST F. SUCKOW.

In presence of—

GUY C. WHITE,

CHARLES TURNER BROWN.