

3 Sheets—Sheet 1.

No. 424,155.

Patented Mar. 25, 1890.

Fig. 1.

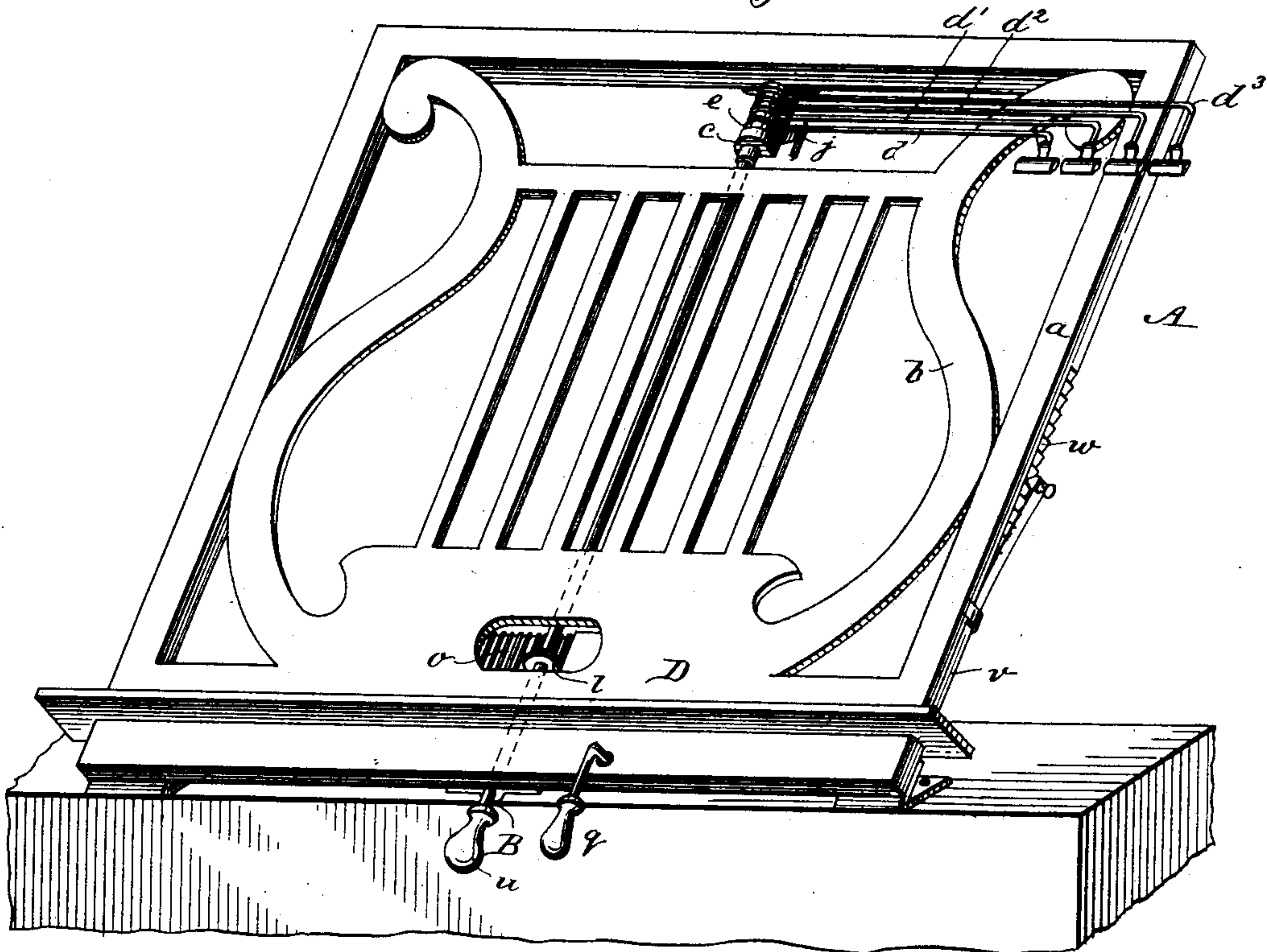
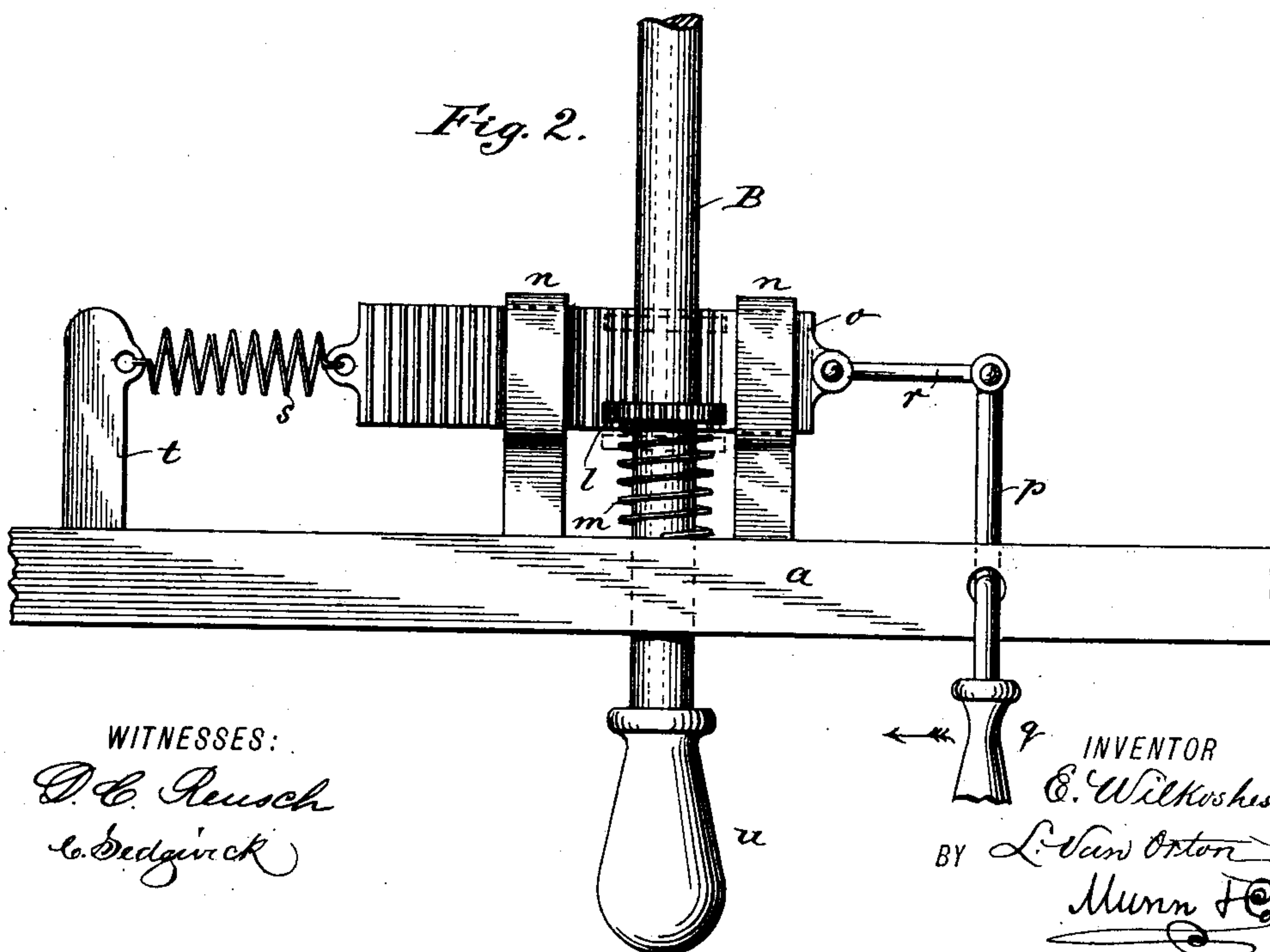


Fig. 2.



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(No Model.)

3 Sheets—Sheet 2.

E. WILKOSHESKY & L. VAN ORTON.

LEAF TURNER.

No. 424,155.

Patented Mar. 25, 1890.

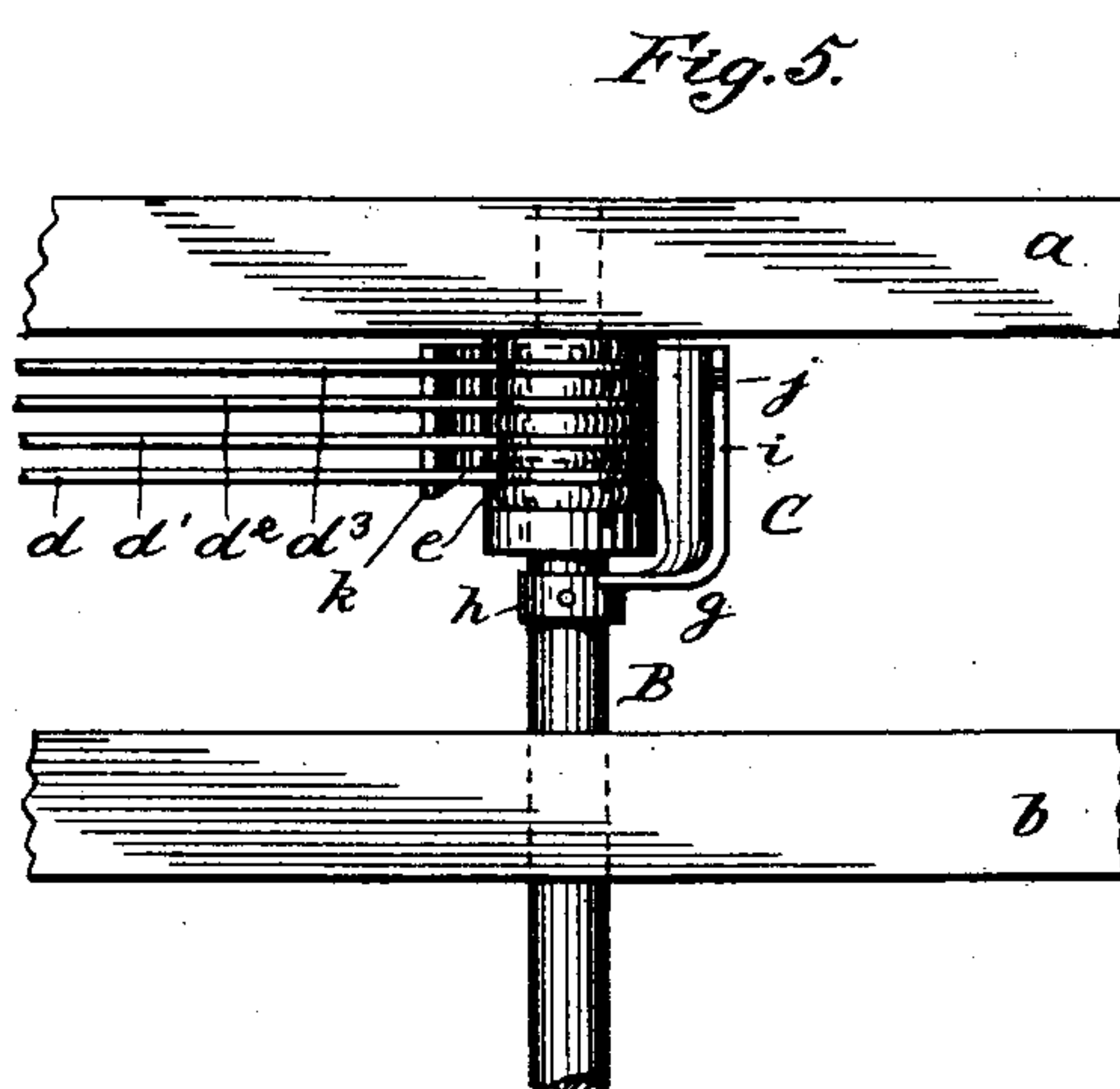
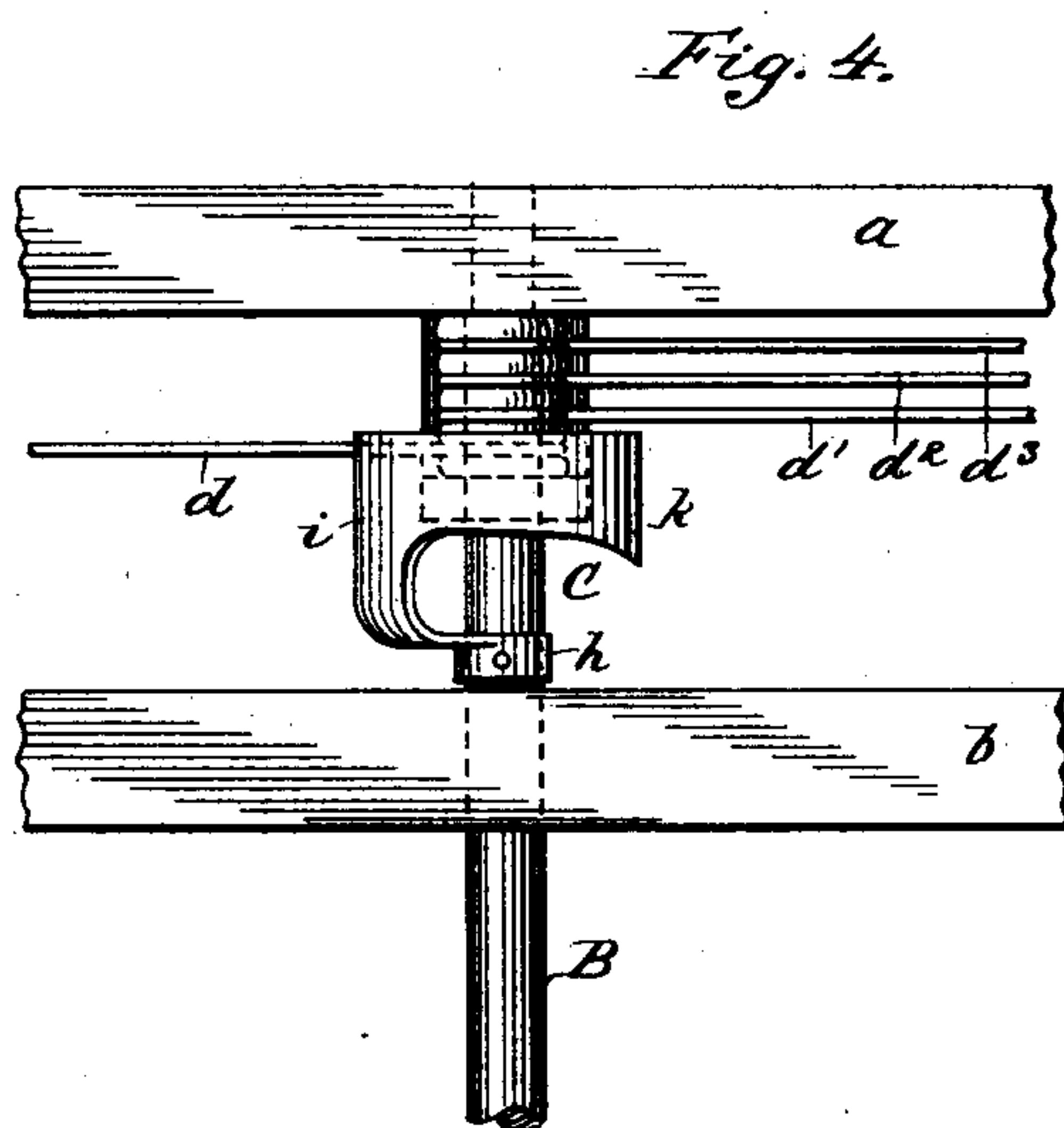
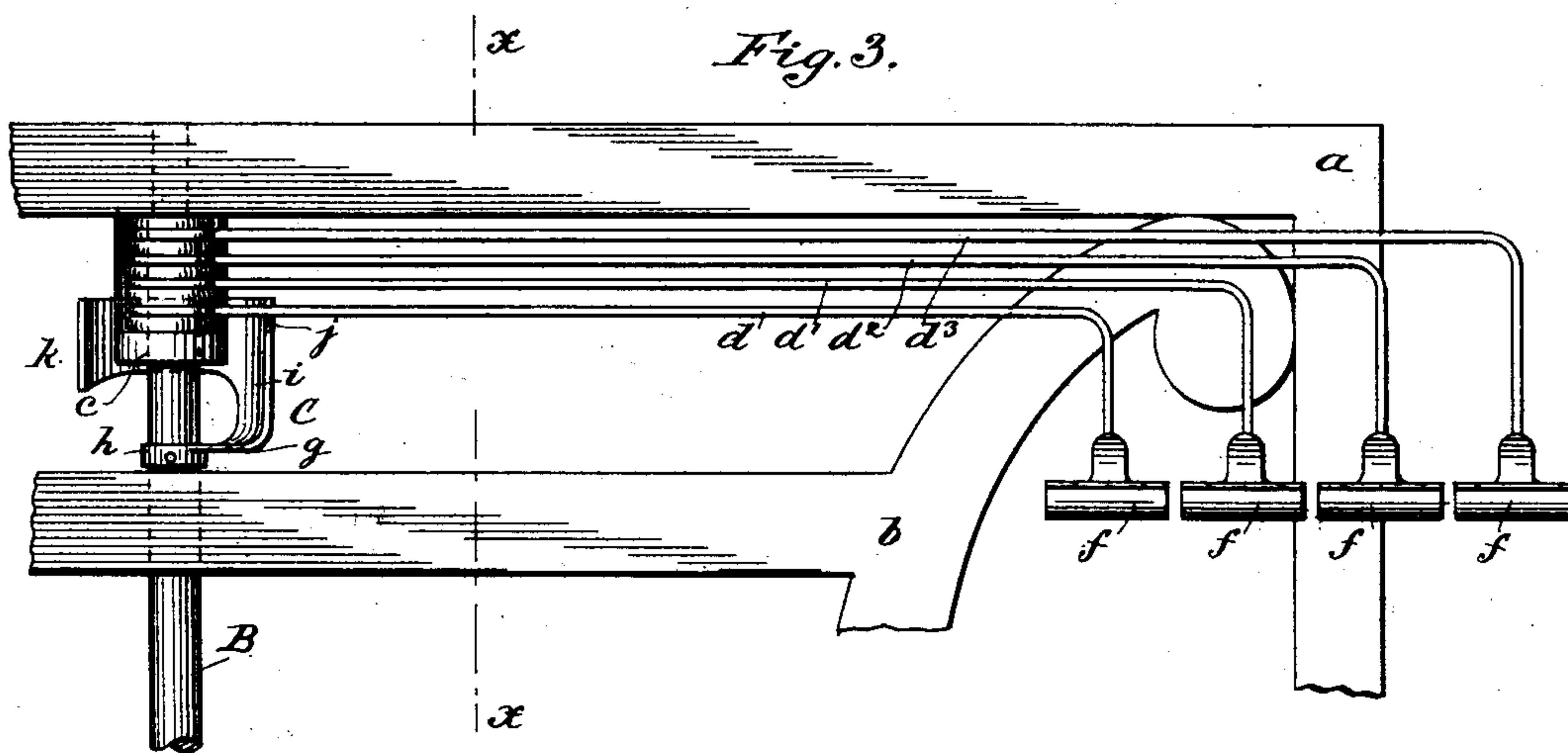
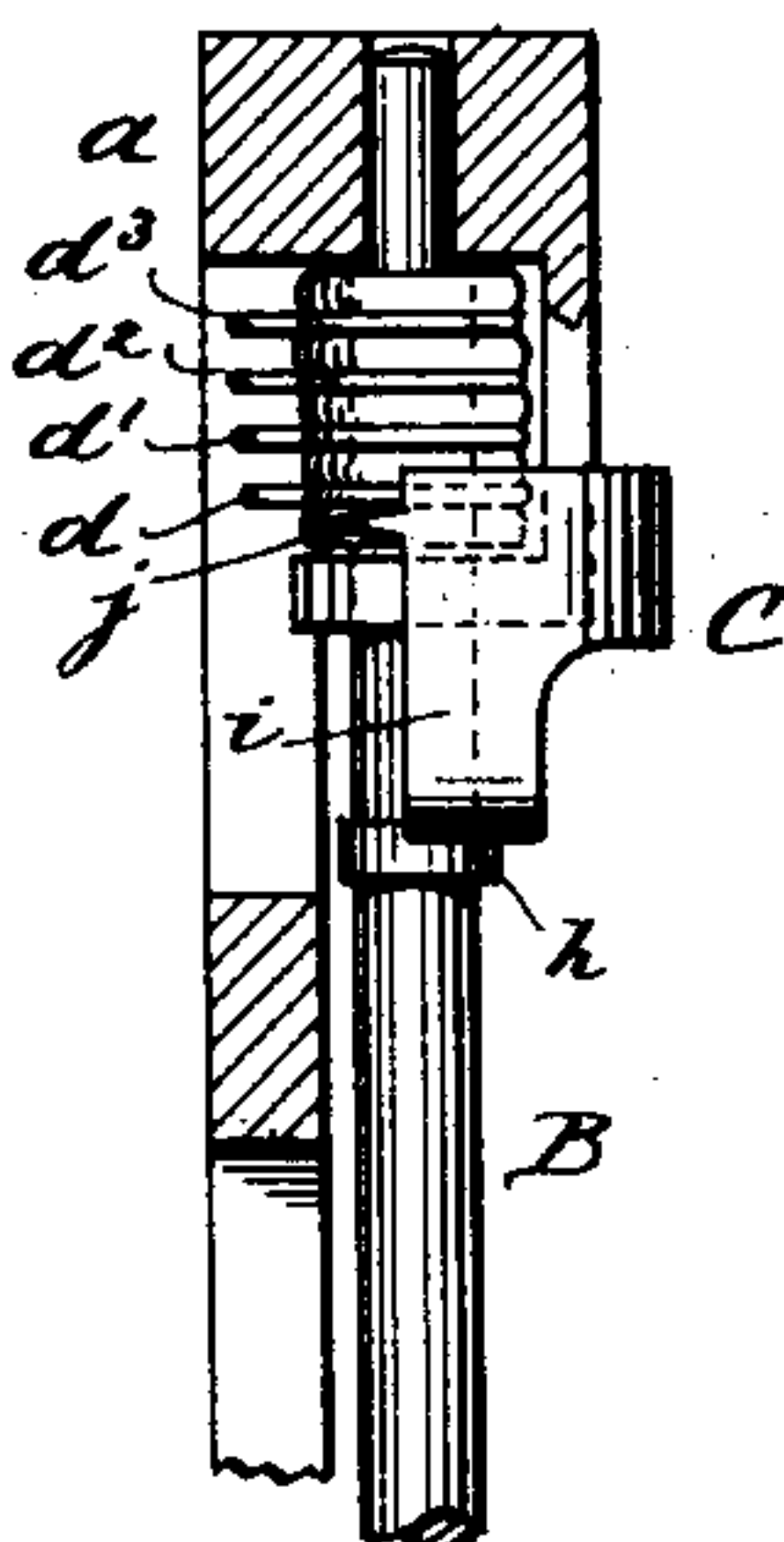


Fig. 6.



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3 Sheets—Sheet 3.

LEAF TURNER.

Patented Mar. 25, 1890.

Fig. 7.

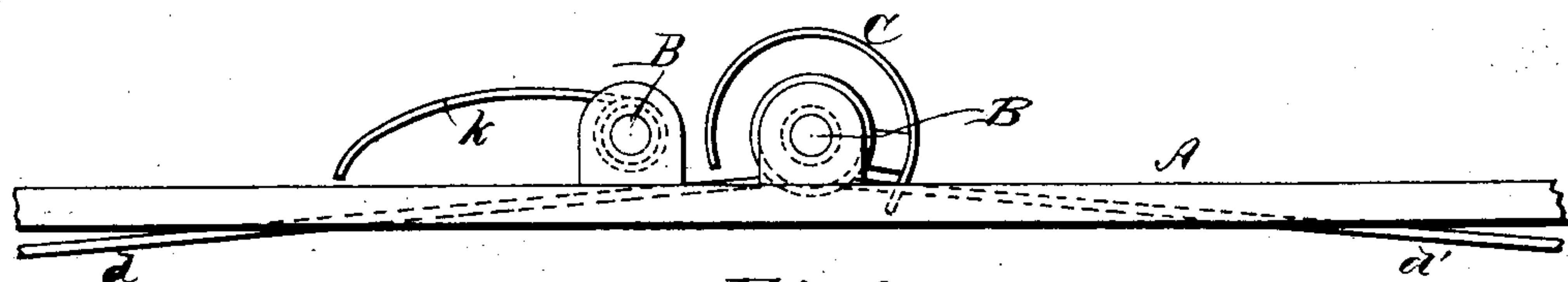


Fig. 8.

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UNITED STATES PATENT OFFICE.

EDMUND WILKOSHESKY AND LEE VAN ORTON, OF BUTTE CITY, MONTANA.

LEAF-TURNER.

SPECIFICATION forming part of Letters Patent No. 424,155, dated March 25, 1890.

Application filed April 27, 1889. Serial No. 308,797. (No model.)

To all whom it may concern:

Be it known that we, EDMUND WILKOSHESKY and LEE VAN ORTON, both of Butte City, in the county of Silver Bow and Territory of Montana, have invented a new and Improved Leaf-Turner, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a perspective view of our improved leaf-turner. Fig. 2 is a detail view of a part of the leaf-turning mechanism. Fig. 3 is a front elevation of the escapement and leaf-carrying arms, showing the device in position to engage the first arm of the series. Fig. 4 shows the position of the device after the first arm has been carried over. Fig. 5 shows the position of the parts when all of the arms have been carried over and the carrier is in position to return them to the point of starting. Fig. 6 is a transverse section taken on line $x-x$ in Fig. 3, looking in the direction indicated by the arrow. Fig. 7 is a front elevation of a leaf-turner provided with mechanism for returning the arms, and Fig. 8 is a plan view of the same.

Similar letters of reference indicate corresponding parts in all the views.

The object of our invention is to construct an instrument for turning the leaves of books, music, and other papers for the use of pianists, organists, and for attachment to orchestral music-stands.

Our invention consists in a rack of any desired form supported by a frame, in the center of which is journaled a shaft, upon the upper end of which are loosely pivoted arms provided at their outer ends with clips for engaging the upper edges of the sheets, and in the combination, with the said series of arms and shaft, of a carrier attached to the shaft and adapted to engage the several arms in succession and carry them over, so as to turn the leaves as required.

The invention also consists in the combination, with the shaft, of a pinion attached thereto and a rack and lever for turning the pinion, and thus, through the medium of the shaft, turning the sheets.

It also consists in the combination, with the rack, of an adjustable shelf for holding books and papers at different heights.

Although our improved leaf-turner is de-

signed for use in connection with all kinds of printed matter, music, manuscripts, &c., we shall describe it as turning the leaves of music.

The rack A, which forms the support of our improved leaf-turner, consists of the frame a and the scroll-work panel b . In the center of the frame a , behind the scroll-work panel b , is journaled a shaft B, the upper end of which extends through a bracket c and through the top of the frame a . Upon the upper portion of the shaft B, between the bracket c and the upper part of the frame a , are placed arms d d' d^2 d^3 , which are separated by washers e . The outer ends of the arms d d' d^2 d^3 carry spring-clips f , which are adapted to engage the edges of the leaves of music.

To the shaft B, below the bracket c , is secured a carrier C, which is formed of a section of a hollow cylinder arranged concentric with reference to the shaft B and attached to the shaft by an arm g and boss h . The edge i of the carrier C is provided with a finger j , which is located a short distance from the upper edge of the carrier. The opposite edge k is of sufficient width to engage the entire series of arms d d' d^2 d^3 , in the manner presently to be described.

To the shaft B, near the lower end thereof and within the frame a , is attached a pinion l , between which and the said frame a is arranged a spiral spring m . In guides n , attached to the frame a , is placed a rack o , which is capable of engaging the pinion l .

In the frame a is journaled a lever p , which is formed of a rod bent twice at right angles or offset, the outer and lower arm being provided with a handle q , the inner and upper arm being connected by a link r with one end of the rack o . The opposite end of the said rack is connected with one end of the spring s , the opposite end of which is connected with the stud t , inserted in the lower part of the frame a . The lower end of the shaft B is provided with a handle u , by which it may be drawn down or turned, as may be required.

To the frame a is fitted a movable shelf D, carrying at opposite ends spring-catches v , which are adapted to engage rack-bars w on opposite edges of the frame a and hold the shelf D at any desired height.

The music is placed upon the shelf D and

its leaves are engaged by the clips *f*. The carrier *C* being in engagement with the arm *d*, the lever *p* is tilted in the direction indicated by the arrow. This operation, through
 5 the engagement of the rack-bar *o* with the pinion *l*, turns the shaft *B* and causes the carrier *C* to carry the arm *d* from the right toward the left of the music-rack. The said arm *d*, being in engagement with the leaves
 10 of music, carries the first leaf over with it. The spring *s* returns the rack-bar to the point of starting, and in so doing turns the carrier *C* backward, so as to bring it into engagement with the arm *d'*, the spring *m* of the shaft *B*
 15 serving to push the shaft upward and bring the finger of the carrier into engagement with the said arm. The second movement of the lever *p* turns the second leaf of music, and so on.

20 When it is desired to return all of the leaves to the point of starting, the rack *o* is drawn to the right by means of the handle *q* until the pinion *l* is out of engagement with the rack-bar *o* when the shaft *B* is turned, bringing the edge *k* of the carrier *C* against the
 25 arms *d d' d² d³*, thus turning them all back to the point of starting. The shaft *B* is then turned into the position it occupies after turning a leaf. When the handle *u* is released,
 30 the springs *s m* return the shaft *B* to its original position and bring the carrier *C* again into engagement with the first arm *d*, when the operation just described may be repeated.

The adjustment of the shelf *D* up or down
 35 upon the rack *A* is for the purpose of accommodating the leaf-turner to leaves and books of different sizes.

In the form shown in Figs. 7 and 8 an auxiliary shaft *B'* is journaled in the frame *a*,
 40 the said shaft being provided at its upper end with an arm *k'*, adapted to engage any or all of the arms *d d'*, &c., and having at its lower end a lever *q'*, by which it may be turned. The said auxiliary shaft *B'* is fur-
 45 nished at or near its mid-length with a pinion *l'*, which is engaged by a rack *o'*, arranged to move in the guide *m'*. The rack *o'* is connected at one end with the retractile spring *s'*, and is provided at the opposite end with
 50 a cam *j'*, which is capable of engaging a pin *r'* projecting from the shaft *B*. The arm *k'* is curved, as shown in Fig. 8, to enable it to engage the arms *d d'*, &c., and carry them back to the point of starting.

55 The operation of this part of our device is as follows: After a leaf has been turned, if it

is desired to turn it back, the lever *q'* is turned, thus bringing the arm *k'* into engagement with the leaf-turning arm to be turned back. In its forward movement the cam *p'*,
 60 carried by the rack *o'*, engages the pin *r'*, projecting from the shaft *B*, and pushes the said shaft *B* downward, so that the leaf-turning arm may pass the carrier *C*. After turning the shaft *B'* in the manner described it is re-
 65 turned to the position of starting by the retractile spring *s'*.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

70 1. In a music-leaf turner, the combination, with the shaft *B* and the arms *d d' d² d³*, mounted loosely thereon, of the carrier *C*, furnished with the finger *j*, and the spring *m*, adapted to move the shaft *B* longitudinally,
 75 substantially as specified.

2. The combination of the shaft *B*, the arms *d d' d² d³*, mounted loosely upon the said shaft, the carrier *C*, adapted to engage the said arms, the spring *m*, the pinion *l*, the rack
 80 *o*, and the lever *p*, substantially as specified.

3. The combination of the shaft *B*, the arms *d d' d² d³*, mounted loosely on the said shaft, the carrier *C*, adapted to engage the said arms, the spring *m*, the pinion *l*, the rack
 85 *o*, the spring *s*, and the lever *p*, substantially as specified.

4. In a music-leaf turner, the combination, with the shaft *B*, provided with the carrier *C*, and leaf-turning arms adapted to be operated
 90 by the said carrier, of the auxiliary shaft *B'*, furnished with the arm *k'*, the lever *q'*, and pinion *l'*, and the spring-actuated rack *o'*, arranged to engage the pinion *l'*, substantially
 95 as specified.

5. In a music-leaf turner, the combination, with the shaft *B*, provided with the carrier *C*, the pin *r'*, and leaf-turning arms adapted to be operated by the said carrier, of the aux-
 100 iliary shaft *B'*, furnished with the arm *k'*, the lever *q'*, and pinion *l'*, the spring-actuated rack *o'*, arranged to engage the pinion *l'*, and the cam *p'*, substantially as specified.

6. The combination, with the frame *a* and shelf *D*, of the rack-bars *w*, attached to the
 105 frame, and spring-catches *v*, connected with the shelf, substantially as specified.

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