

(No Model.)

D. T. FOX.
MUSIC LEAF TURNER.

No. 546,519.

Patented Sept. 17, 1895.

Fig. 1.

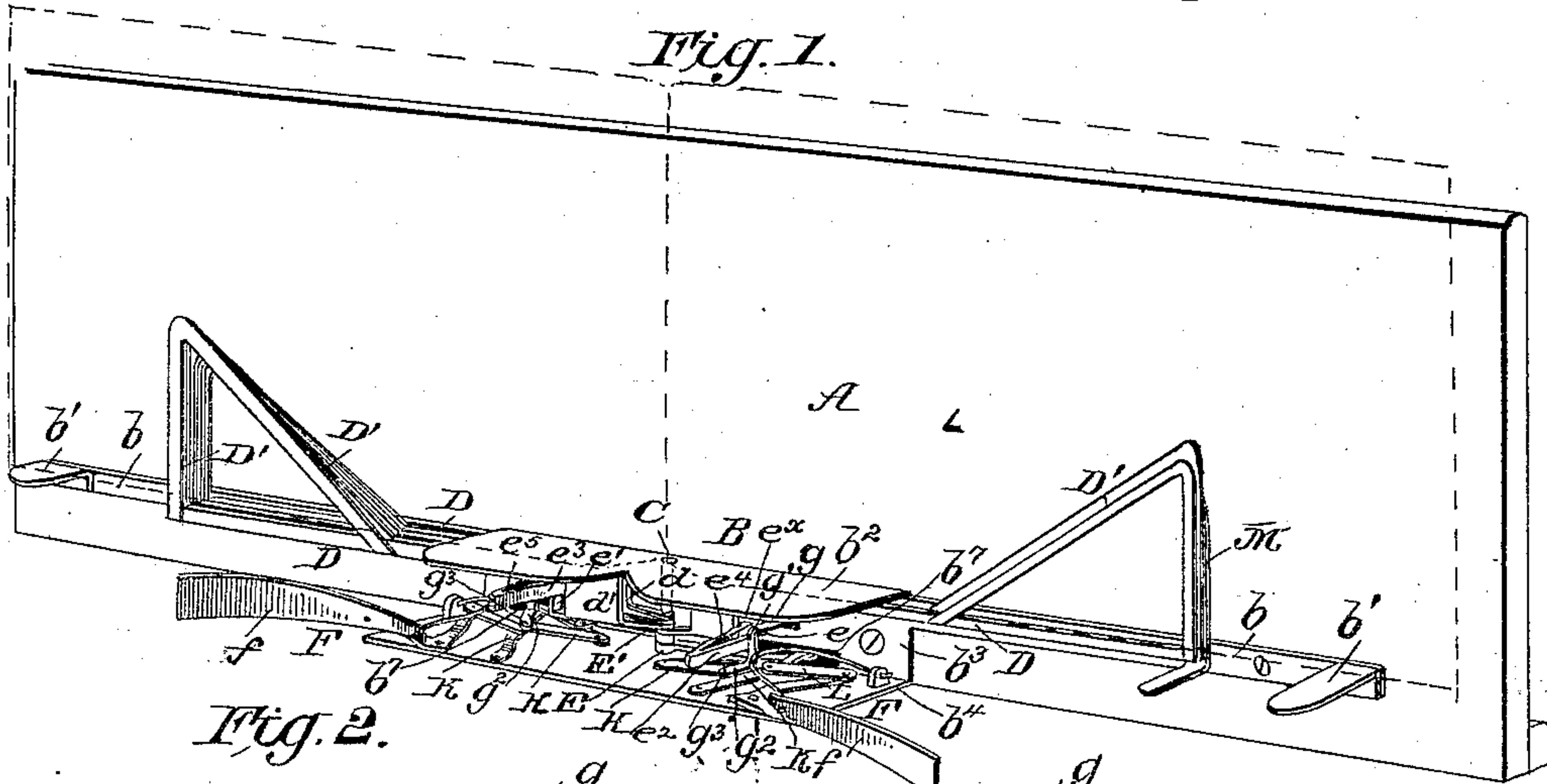


Fig. 2.

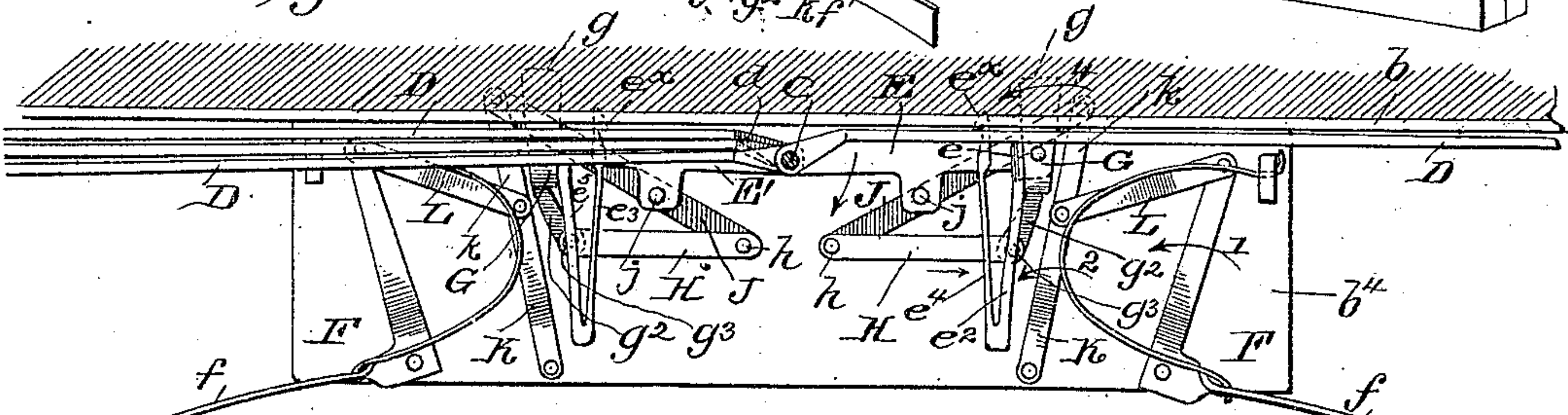


Fig. 3.

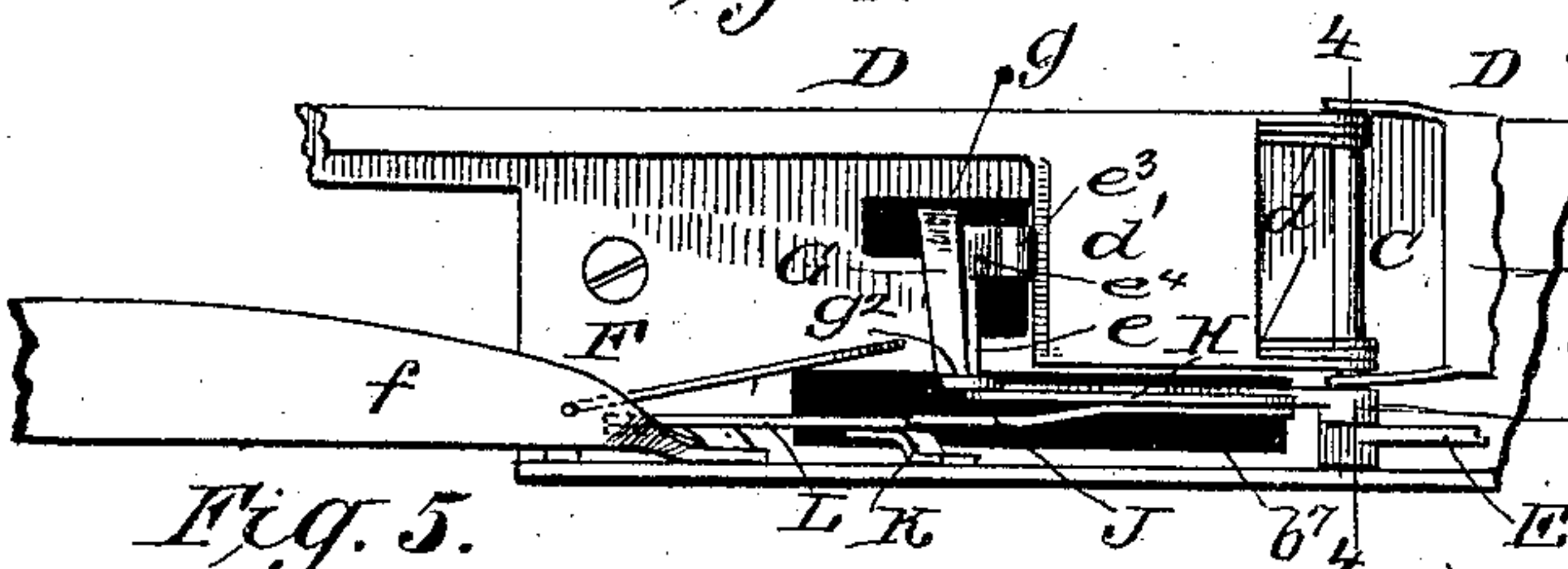
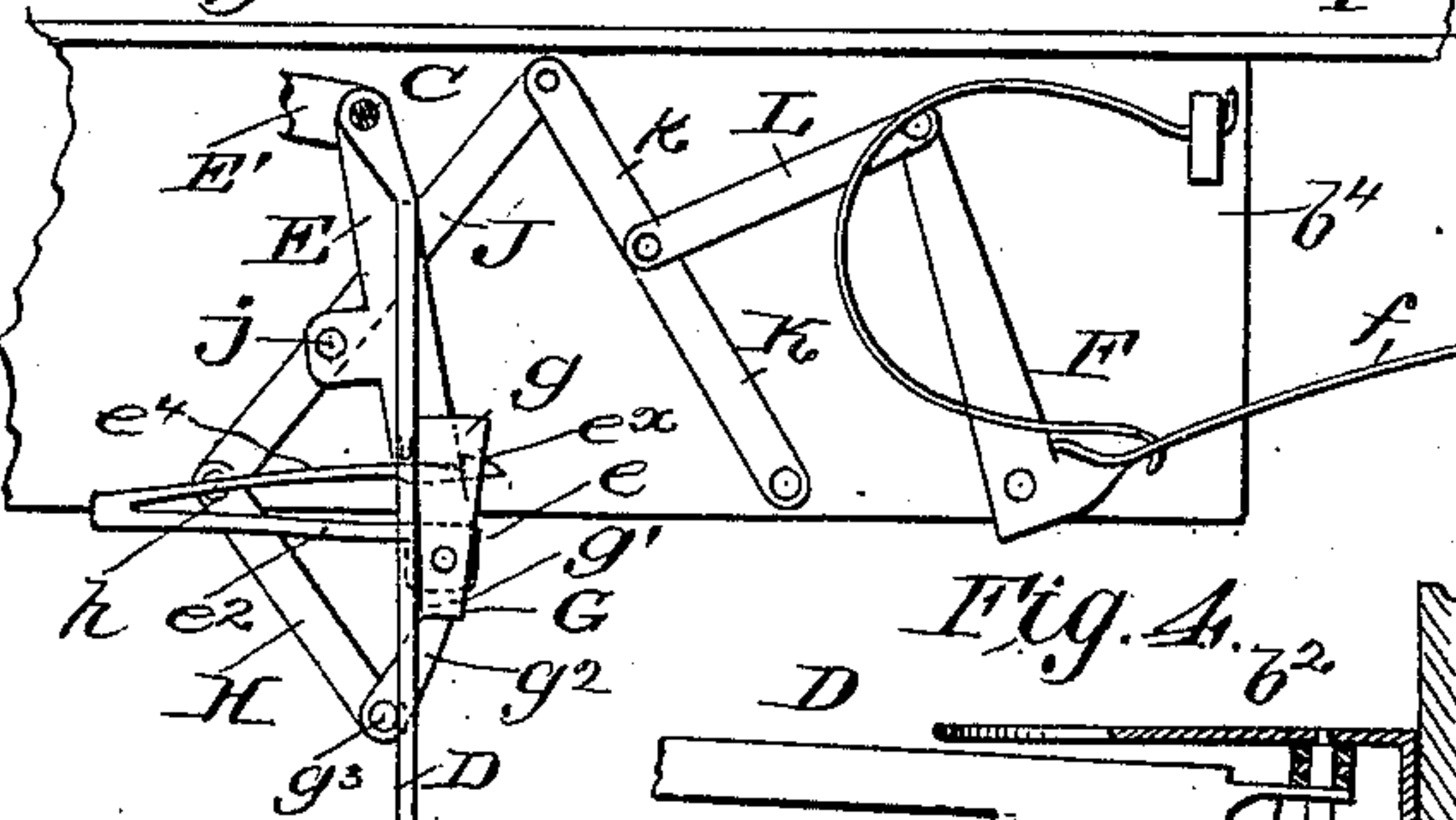


Fig. 5.



WITNESSES:

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Fig. 4.

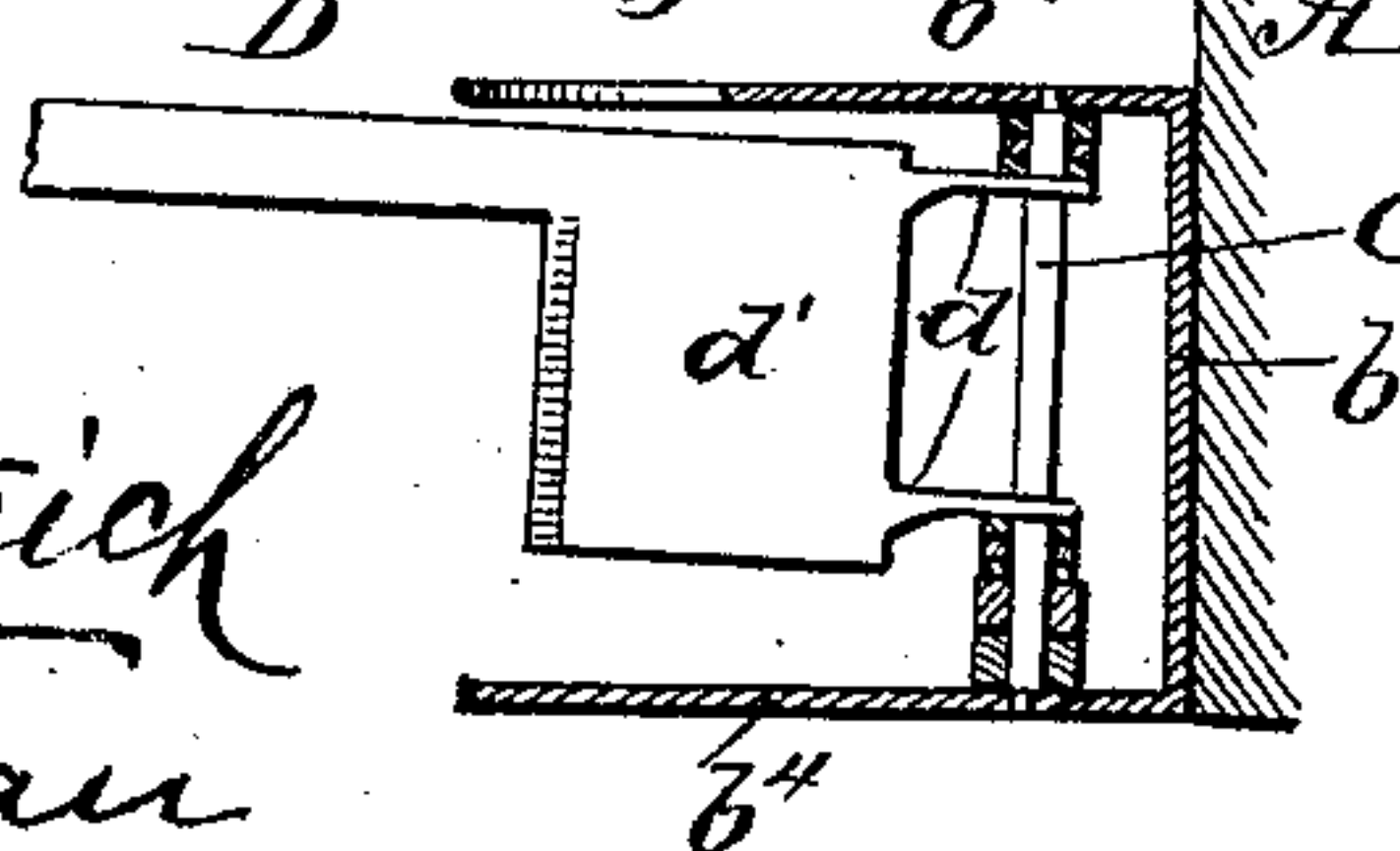


Fig. 8.

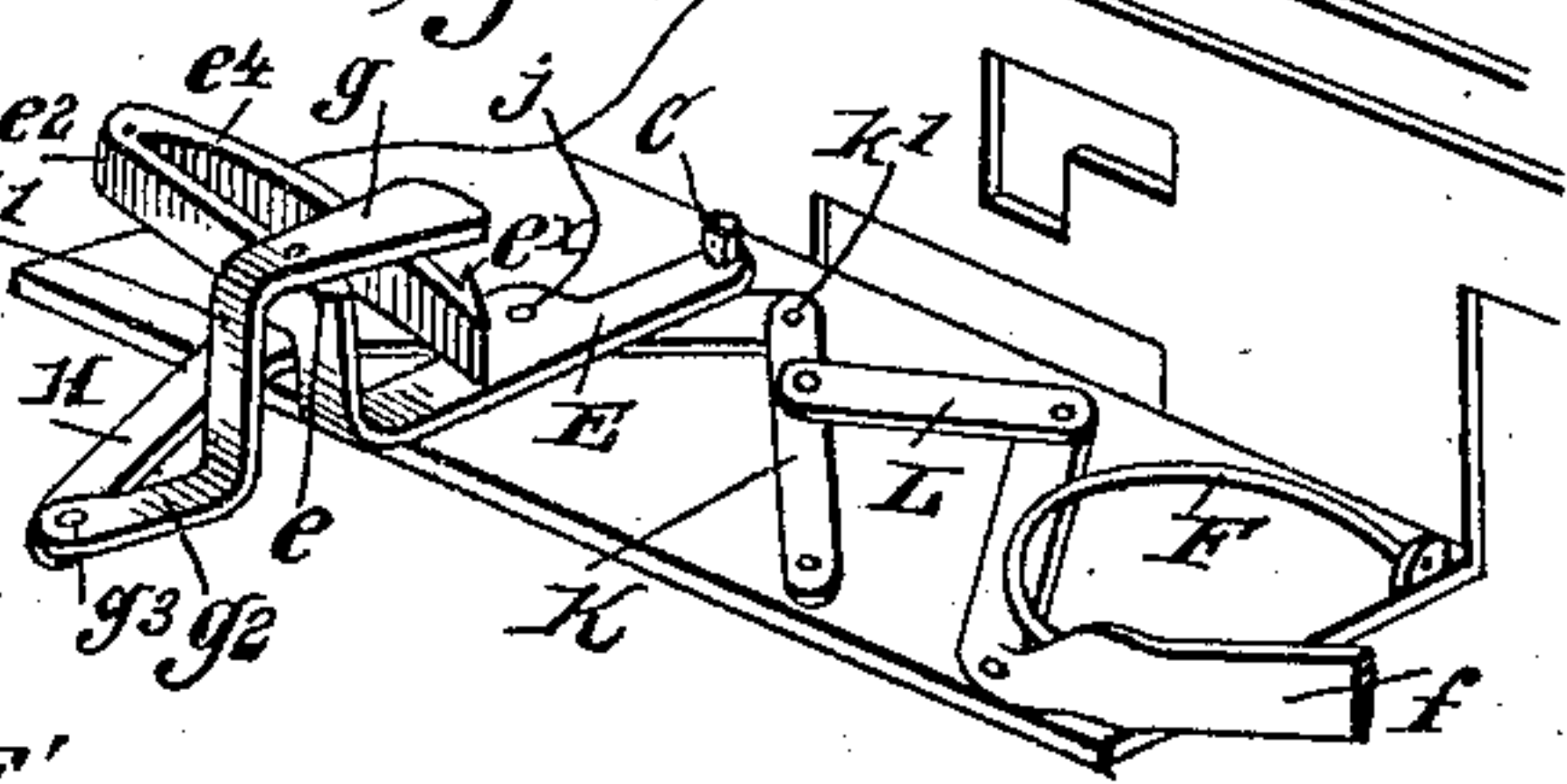


Fig. 6.

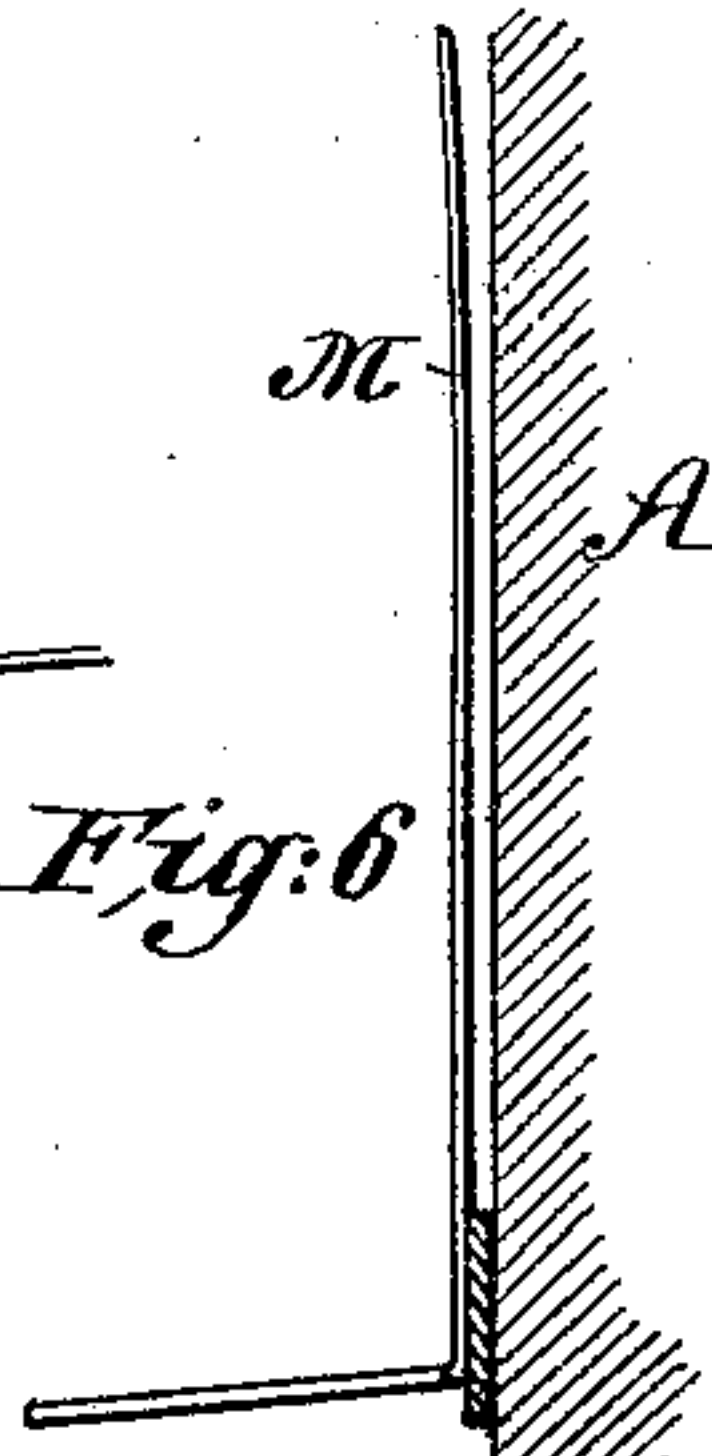


Fig. 7.



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DANIEL T. FOX, OF MOUNT PLEASANT, PENNSYLVANIA.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 546,519, dated September 17, 1895.

Application filed January 25, 1895. Serial No. 536,241. (No model.)

To all whom it may concern:

Be it known that I, DANIEL T. FOX, residing at Mount Pleasant, in the county of Westmoreland and State of Pennsylvania, have invented a new and Improved Music-Leaf Turner, of which the following is a specification.

My invention is in the nature of a music-leaf-turning device arranged to be operated by the finger of the player, and it primarily has for its object to provide a device of this character of a simple and inexpensive construction in which the several parts are so arranged that the music-leaves may be quickly connected therewith and in which the turning action is accomplished in a gentle but positive manner without the danger of tearing or otherwise mutilating the music-sheets.

My invention also has for its object to provide a music-leaf turner having turning-arms and the operating means therefor so arranged that the arms when operated will be caused to move with increased speed as they reach the final portion of their movement.

With these and other objects in view, which hereinafter will be referred to, my invention consists in novel features of construction and peculiar combination of parts, such as will be first described in detail and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my music-leaf turner, showing the parts arranged in position for use. Fig. 2 is a plan view thereof with the upper or center rest-plate removed. Fig. 3 is an enlarged front elevation of a portion of the said devices. Fig. 4 is a detail cross-section taken on the line 4 4 of Fig. 3. Fig. 5 is a detail plan view showing the arm-carrying pawl, one of the arms swung outward, and the tripper or releasing member as having just released the arm from the pawl. Fig. 6 is a detail view hereinafter referred to. Fig. 7 is an end view of one of the sheet-carrying arms, and Fig. 8 is a detail view of one of the swinging arms and the trip member hereinafter referred to.

In the practical application of my invention my improved leaf-turning devices may be attached directly to the music-rack or music-supporting portion of the piano, or they may

be secured upon a separate supporting member adapted to be set on the music-rack or other music-rest.

In the drawings, A indicates a supporting member, and B the main frame of the turning device, which comprises a narrow longitudinal bar *b*, terminating at the outer ends in out-turned horizontal rest portions *b'* *b'*, which are adapted to support the outer ends of the music-sheets, an upper bearing-plate *b*², upon which the centers of the music-sheets are adapted to rest, a back or housing plate *b*³, and a lower horizontal member *b*⁴, which forms a base to which the arm-throwing devices are pivotally connected.

The bar *b*, (which is secured to the support A by screws or otherwise,) the portions *b'* *b'*, the plates *b*² *b*³, and member *b*⁴ are preferably formed integral and bent up from a sheet-metal body, it being obvious, however, that the several parts may be formed separate and joined in any desired manner. At a point near the plate *b*³ is disposed a pivot-post C, which connects with the upper and lower members *b*² *b*⁴, and such post, as will be clearly seen by reference to Fig. 4, is held inclined inward from the bottom to the top for a purpose presently described.

Upon the post C are pivoted the swinging or throw arms D, the inner ends of which are bifurcated, as at *d*, and arranged to lap each other, as most clearly shown in Fig. 3, and at a point in advance of the bifurcated portion each of such arms is formed with a pendent catch member *d'*, with which the carrier or throw devices, presently referred to, engage. Each of the arms D has at the outer end a pair of vertically-disposed guide members *D'*, between which the music-sheet is inserted. These members, it should be stated, are held spaced apart, as clearly shown in Fig. 7, to permit of a free movement of the sheet longitudinally within the said guides.

By inclining the pivot-post C, as heretofore stated, the arms D will be inclined slightly upward from their pivotal point, and as the guides are spaced apart it follows that the music-sheet will be inclined rearward and be thereby the more positively held in position, the danger of the upper end curling over being thereby also reduced to a minimum. Furthermore, as the arms and the sheet have rela-

tively a free independent movement longitudinally the sheet will maintain a straight flat condition as it is turned, thereby overcoming the bulging or curling of the sheet, which would occur were the guides made to clamp the sheet. It should also be stated that by providing for a free movement of the sheet between the guides D' a careful setting of the sheet upon the rest b^2 is not absolutely necessary. As the arms D are capable of being swung in reverse directions, I provide two sets of throw and tripper devices, each of which comprises a bell-crank lever F, the member f of which extends outward to form a finger portion, which portion, it should be stated, is preferably formed of thin spring metal, providing, as it were, a yielding pivot or finger member to overcome a too sudden jar or impact force of the throw devices upon the arms D.

E E' indicate the throw members proper, which are pivotally secured on the post C, and which extend in opposite directions therefrom and terminate at their ends in upturned portions $e e'$, from which project outwardly-extending horizontal arms $e^2 e^3$, to which are connected the inwardly-extending spring pawls or dogs $e^4 e^5$, the outer faces of which have prong or offset members e^x , which are adapted to automatically move into locked engagement with the pendent members d' of the arms D, when the members E E' are returned to their normal position, as will hereinafter appear.

To the inner end of each of the outwardly-extending horizontal portions of the arms E E' is pivoted a trip member G, formed of an upper or pawl portion g , a vertical portion g' , which extends down on the outside of the said horizontal portion of arm E, and a foot portion g^2 , which extends outward and is pivoted at g^3 to a link-arm H extended inward toward the post C, and which in turn is pivoted at h to a lever-arm J, pivoted near its outer end, as at j , to the corresponding arm E or E', while its inner end extends through a slot b^7 in the back plate of the main frame B, which end is pivotally connected with the inner end k of a long swinging lever-arm K, pivoted at its outer end near the front end of the bottom plate b^4 . The lever-arms K are connected with the finger operating or angle levers by pivoted link-rods L L. By referring now more particularly to Fig. 2 of the drawings it will be readily understood that owing to the peculiar manner in which the arms E and E' are connected with the finger-levers, such levers when pressed on will swing the said arms E E' outward, and as they move outward their speed of movement will be increased after the arms K pass beyond a straight line, taken transversely of the device on the line of the pivot of such lever. The nearer the outer end of the said levers K approaches the post C the greater relatively will be the speed or throw movement of the arms D. It will also be seen by reference to the

said Fig. 2 that the upper or pawl portions of the trippers when in their normal position also extend through the slots of the back plate b^2 .

The object of connecting the trip-pawls with the carrier members as shown is to provide a means whereby at the proper time such carrier members are positively released from engagement with the throw-arms.

In Fig. 4 I have shown one of the arms D as being thrown over and as having just been released from engagement with the spring-pressed carrier, such releasing operation being effected as follows: When pressure is applied to the finger-piece, the crank portion thereof swings inward, as shown by the arrow marked 1. This causes the long lever K to swing in the direction indicated by arrow 2, which in turn through the lever J swings the arm E outward, which carries with it one of the arms D. During this movement the trip or pawl G, owing to its peculiar connection with the lever J, will be moving in the direction indicated by arrow 4. When the arm D is nearly to its outermost swing, such pawl will bear against the pendent portion of the arm D and force it free from engagement with the carrier member, overcoming, as it were, the frictional spring tension of such carrier on the said pendent member.

To overcome the danger of turning over the outer or cover sheets of the music by suction as the last sheet is turned, I provide supplemental clamp members M near each end of the bar b , behind which such cover-sheets are slipped when the music is fitted in place.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for the purposes described, a supporting or body portion having a series of swinging sheet carrying arms pivotally connected thereto, finger operated throw devices arranged when pressed upon to throw the carrying arms, such devices including lever members arranged to impart a speed movement to such arms which is accelerated when the arm reaches a predetermined position, as set forth.

2. In a device for the purposes described, the combination with the sheet carrying pivoted swinging arms, of a finger operated lever mechanism having a spring pressed carrier member adapted to successively grip the said arms, and a trip pawl operated by the movement of the carrier and finger operated mechanism to release the carrier at a predetermined point, as and for the purposes described.

3. In a device for the purposes described, the combination with the body portion, a series of reversely swinging arms pivotally connected therewith having pendent members near their pivot ends, of a bell crank finger operated lever, a throw lever pivoted on the swinging arm pivot post, having a spring actuated grip member, adapted when the throw lever moves to its normal position to engage and grip one of the said pendent portions, and a trip pawl carried by the throw arm, and a series of piv-

oted lever connections between the pawl, the throw arm and the finger operated crank lever arranged substantially as shown whereby when the lever is pressed the throw lever will first carry the swinging arm over and in turn be released from the said arm by the trip pawl, as and for the purposes described.

4. As an improvement in music leaf turners, the combination with the main frame, the pivot swinging arms and the pivoted throw arms arranged substantially as shown, of the levers K pivoted at their outer ends to the

main frame, the levers J pivotally connected with the outer end of such levers K and to the throw arms, the trip members G, the levers H connecting such members and the levers J, the finger operated bell crank devices and the link members L, all arranged substantially as shown and described.

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Witnesses:

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