

T. M. COTTRELL.
SHEET MUSIC TURNER.
APPLICATION FILED JULY 31, 1909.

Patented Dec. 6, 1910.

2 SHEETS-SHEET 1.

977,785.

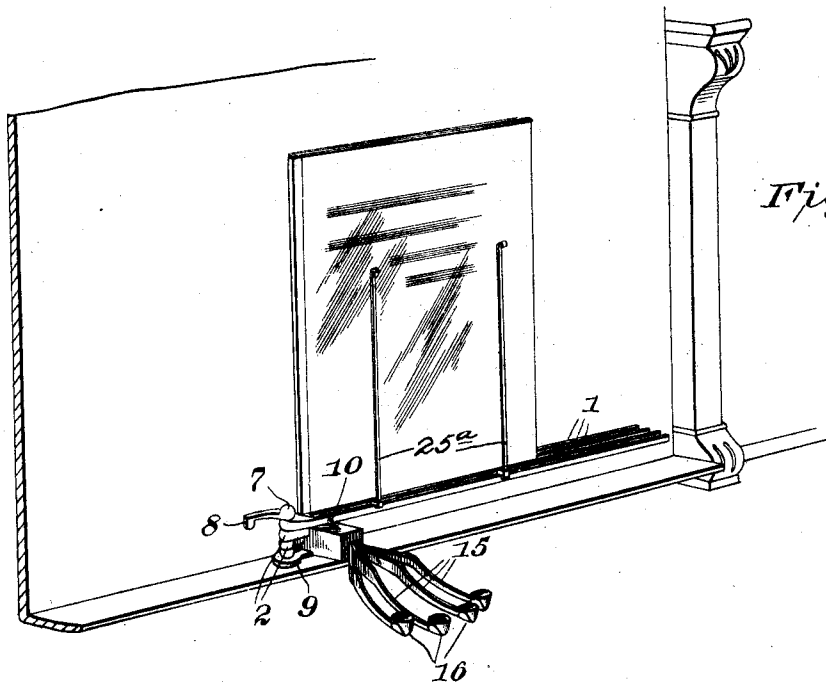


Fig. 1.

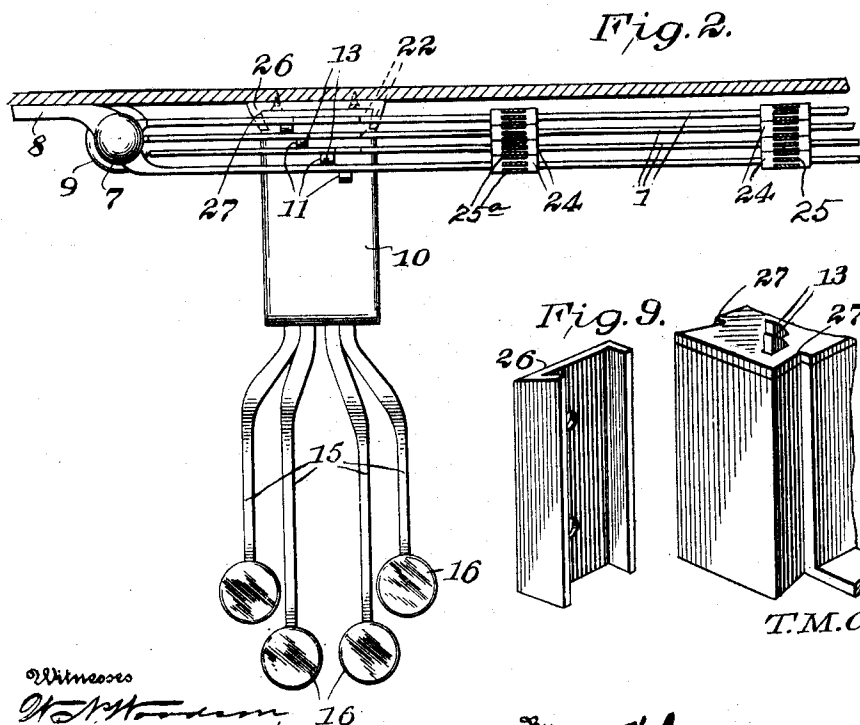


Fig. 2.

Fig. 9.

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2 SHEETS—SHEET 2.

977,785.

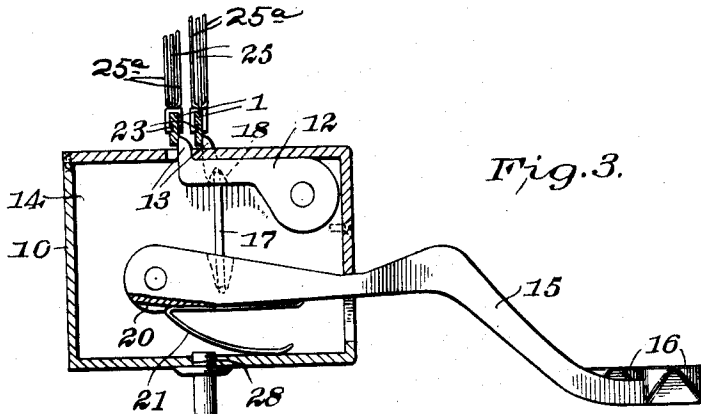


Fig. 3.

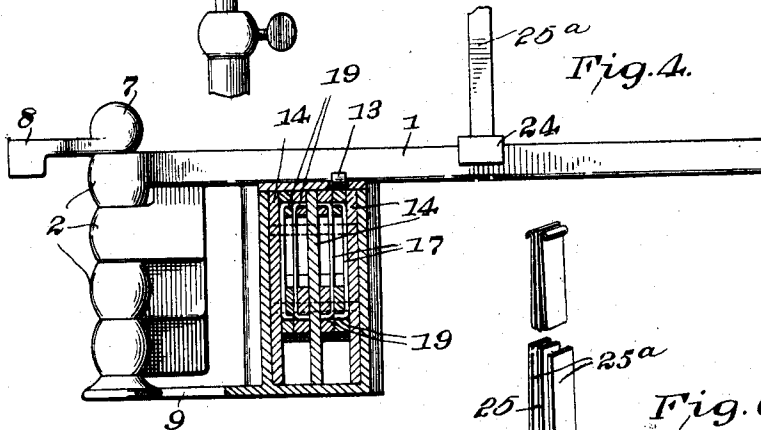


Fig. 4.

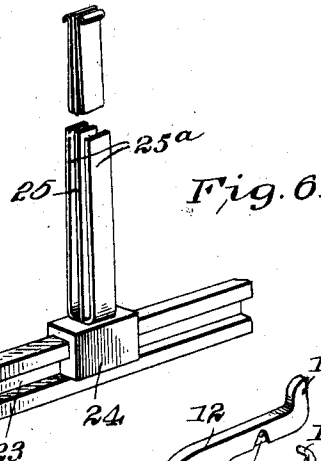


Fig. 6.

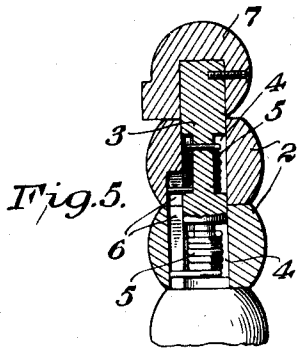


Fig. 5.

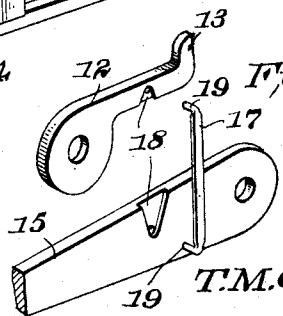


Fig. 7.

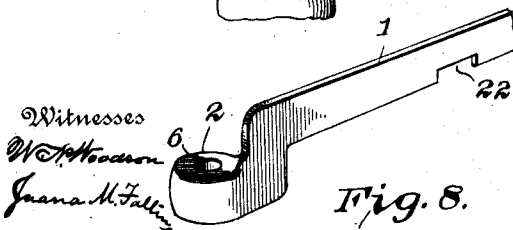


Fig. 8.

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SHEET-MUSIC TURNER.

977,785.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, THOMAS M. COTTRELL, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sheet-Music Turners, of which the following is a specification.

The primary object of this invention is a simple, durable and efficient construction of device for turning the leaves of sheet music and the like, the device being arranged to be secured to a piano case or music stand and actuated by depressing levers so as to release the leaf carrying arms at the desired time whereby they may be swung about their axes under the influence of springs so as to turn the leaves over one at a time as the composition is being played, without the necessity of grasping the leaf by hand which, as is well known, is a slow process and usually seriously interferes with the continuity of the music.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a perspective view illustrating the application of my improved music leaf turner; Fig. 2 is a top plan view thereof; Fig. 3 is a transverse sectional view of the device; Fig. 4 is a vertical longitudinal section with parts in front elevation; Fig. 5 is a detail sectional view of the connection between the leaf turning arms and their supporting spindle; Fig. 6 is a detail perspective view of one of the arms illustrating particularly the connection of the leaf holding devices therewith; Fig. 7 is a detail perspective view of one of the details and the actuating lever therefor; Fig. 8 is a detail perspective view of one of the leaf turning arms; and, Fig. 9 is a perspective view of parts of the box or casing in which the detents are located.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

My improved music leaf turner embodies any desired number of arms 1 that are formed at one end with knuckles 2 adapted to be slipped over a vertically disposed spindle 3 upon which the arms are mounted to turn or swing. The knuckles 2 are mounted one above the other upon the spindle 3, and the arms 1 are so offset at their attached ends, as clearly illustrated in the drawings as to bring all of them substantially in the same horizontal plane. The arms 1 are spring pressed to turn from right to left. In the present instance, the spindle 3 is formed with a series of annular grooves or recesses 4 each of which contains a coiled spring 5, one end of the several springs being passed through or otherwise secured to the spindle, while the other end of each spring is secured in a groove 6 in one of the hubs or knuckles 2. By this means, it is evident that the arms may be easily detached and put back into place, it being only necessary to slip the knuckles one after the other upwardly on the spindle 3, the grooves 6 passing the outturned extremities of the several springs 5 as one arm after another is detached. As the relatively free extremities of the springs 5 are mounted in the grooves 6 when the knuckles 2 are in place upon the spindle 3, it is evident that tension will be placed upon the springs as the arms are swung from left to right, the action of the springs when the arms are released serving to swing the arms from right to left in order to turn the leaves. After the arms have been slipped over the spindle 3, they may all be secured in place by a cap piece 7 slipped upon the upper end of the spindle above and in contact with the uppermost knuckle 2, said cap piece being secured in place by a set screw or the like as shown, and being provided with an arm 8 which extends laterally therefrom so as to constitute a stop to limit the movement of the arms 1 after they have turned the leaves.

The spindle 3 is supported on a bracket 9 which projects laterally from the bottom of a box or casing 10. The top of the casing 10 is formed with a series of apertures 11 arranged in diagonally stepped relation to each other, and detents 12 are mounted in the casing and are formed with upwardly projecting extremities 13 protruding through the respective apertures 11 and designed for engagement with the respective arms 1 at

the lower edge thereof, whereby to hold the arms under tension until it is desired to release the same. In the present instance, the detents 12 are mounted on shafts that are secured in partition plates 14 that are mounted in the casing. Each detent is secured to an actuating lever 15, and all of the actuating levers extend forwardly and in preferably offset relation to each other in front of the casing 10, being preferably provided at their free extremities with keys or finger pieces 16 by which they are intended to be depressed. In the present instance, the detents are severally connected to their corresponding actuating levers by means of links 17 that lie in side recesses 18 formed in the levers and detents as shown, the links having hooked extremities 19 entering sockets in the detents and levers, this arrangement affording a secure connection between the detents and the levers while at the same time economizing in space. Each actuating lever 15 is formed in its lower edge with a groove 20 and a hooked spring 21 is secured at one end in the lower edge of the lever and lies partially within the groove 20, the free lower end of the spring bearing against the bottom of the casing and thereby serving to hold the lever and its detent in raised position. When the device is set the arms 1 are in engagement with the respective detents 13 and may be easily actuated by depressing the actuating levers 15 one after the other so that the arms will be swung around in succession at the desired intervals and turn the leaves of the musical composition. Obviously all of the arms except the first are formed in their lower edges with recesses 22 to provide a clearance for the detents of the preceding arms.

In order to hold the leaves, I have provided in the present instance, each arm 1 with a longitudinally extending groove 23 in one side, and attaching devices are provided with grooved heads 24 adapted to engage in the grooves 23 so that they may be slipped on and adjusted along the arms. Preferably there is a pair of leaf attaching devices for each arm. In addition to the heads 24, these leaf attaching devices in the present embodiment of the invention comprise two side strips 25^a and an intermediate strip 25, said strips being secured at one end to the head 24 as shown and preferably formed integral therewith. Preferably the strips 25 are of spring metal so that they may properly engage the leaf which is slipped between them, thereby adapting the attaching devices for use with sheets of different sizes. It is preferred that the upper ends of the side strips 25^a be curled more or less so as to enable the leaves to be slipped downwardly into place without any danger of tearing them.

From the foregoing description in connection

with the accompanying drawing, it is believed that the operation of my improved music leaf turner will be obvious.

In the practical use of the device, it may be secured in any desired way to the piano case or music stand of any character. For instance, I may provide a dovetailed bracket 26 and secure the same to the ordinary music stand of a piano or similar instrument and form the casing 10 with a dovetailed rear end as indicated at 27 by which it may be slipped easily into the bracket 26 and as easily detached therefrom when the device is not desired for use. Or, if desired, I may, in addition to the above named attaching means or in substitution therefor, form the casing with a bottom opening 28 by which it may be screwed on a spindle or stud 29 of an ordinary collapsible music stand. After the apparatus has been secured in place, the leaves may be secured in the attaching devices between the strips 25 in any desired way according to the number of leaves to be turned, and the arms may then be swung over to the right and engaged with their respective detents 12. When it is desired to turn a page, it is only necessary to depress one of the actuating levers 15 so as to disengage the detent from its arm 1 and permit the same to swing around under the influence of its spring 5.

It is evident that the parts of the device are comparatively few, and of simple construction that may be easily and cheaply manufactured and readily assembled, and that their arrangement is such as to render them durable and positive in operation and not liable to get out of order.

It is to be understood that my device may be made in any desired size, and that various other changes may be made in the constructions and arrangements and proportions of parts without departing from the scope of the invention as defined by the appended claims.

Having thus described the invention, what is claimed as new is:

1. In a music leaf turner, a casing formed in its top with a series of apertures, detents mounted in said casing and formed with upturned extremities adapted to protrude through said apertures, levers fulcrumed in said casing, the levers and detents being formed with side recesses and sockets, links mounted in said recesses and formed with hooked extremities entering said sockets whereby to operatively connect the levers and detents, springs in the casing arranged to hold the detents and levers elevated, a spindle carried by said casing, and spring pressed arms secured to said spindle and arranged to swing over the top of the casing and adapted for engagement by said detents.

2. In a music leaf turner, a vertically disposed spindle formed with annular grooves,

5 springs encircling the spindle in the grooves, the springs being secured at one end to the spindle and having offset free extremities, arms formed with apertured knuckles adapted to be slipped over the spindle, and in registry with the grooves, the knuckles being formed with grooves in which the free extremities of the springs are adapted to lie, a cap piece secured to the top of the spindle and adapted to hold the knuckles thereon, means for holding the arms against movement by their springs, and means for releasing the holding means.

15 3. In a music leaf turner, a vertically disposed spindle formed with annular grooves, springs encircling the spindle in the grooves, the springs being secured at one end to the spindle and having opposite free extremities, arms formed with apertured knuckles adapted to be slipped over the spindle and in registry with the grooves, the knuckles being formed with grooves in which the free extremities of the springs are adapted to lie, a cap piece secured to the upper end of the spindle and adapted to hold the knuckles thereon, said cap piece being formed with a stop arm projecting laterally therefrom arranged to engage the first named arms, means for holding said arms against move-

ment by their springs, and means for releasing said holding means. 30

4. In a music leaf turner, a casing provided with a top which is formed with a series of apertures, partitions adapted to be slipped into the casing, transverse shafts secured to said partitions, horizontally extending detents mounted on said shafts between the partitions and formed with upwardly extending ends adapted to protrude through said apertures, the detents being formed in their side edges with sockets, horizontally extending levers fulcrumed in the casing below said detents and formed in their side edges with recesses, links formed with laterally projecting ends mounted in said recesses and sockets whereby to operatively connect the levers with the detents, springs acting on said levers to raise the same to the detents, a spindle connected to said casing, and spring pressed leaf turning arms mounted on said spindle and adapted to be engaged by said detents. 40 45 50

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

THOMAS M. COTTRELL. [L. S.]

Witnesses:

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MARK P. GRINER.