

W. U. MOWLL AND A. T. PALMER.
 SHEET MUSIC TURNER.
 APPLICATION FILED NOV. 8, 1916.

1,305,829.

Patented June 3, 1919.
 2 SHEETS—SHEET 1.

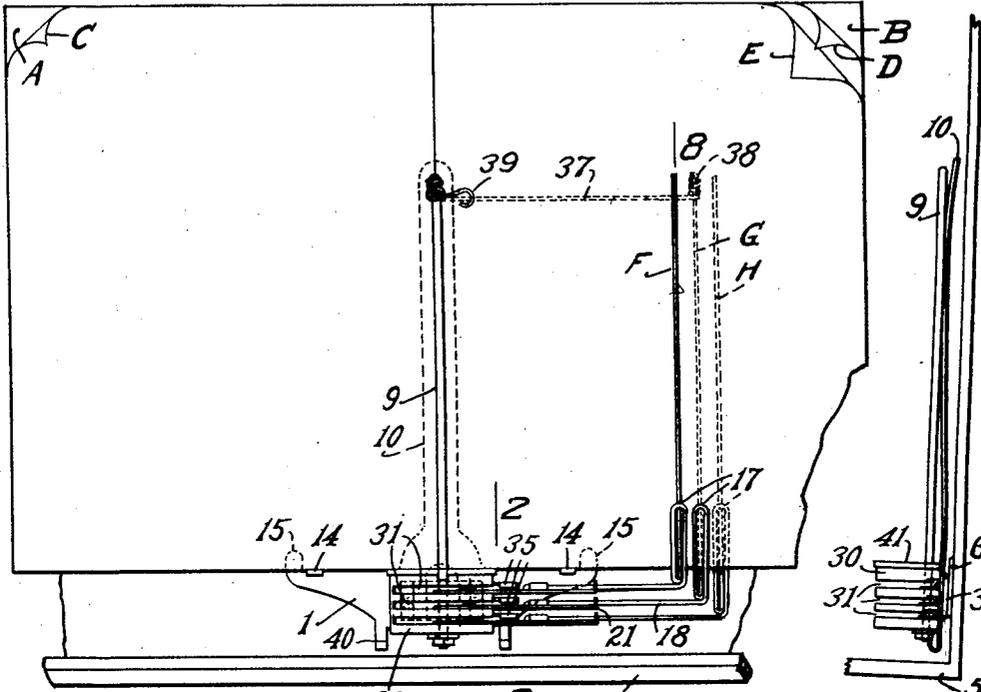


FIG. 1

FIG. 2

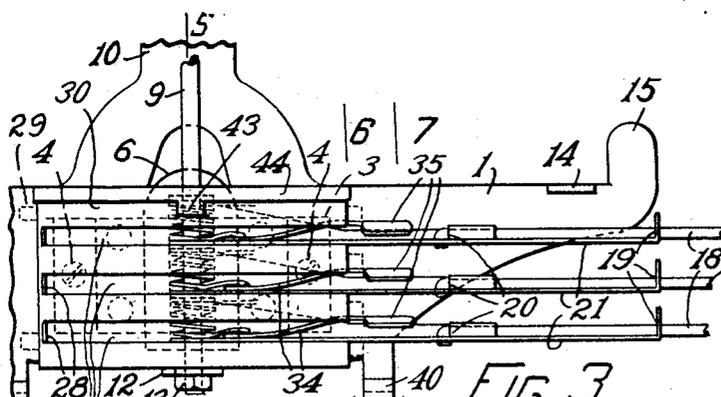


FIG. 3

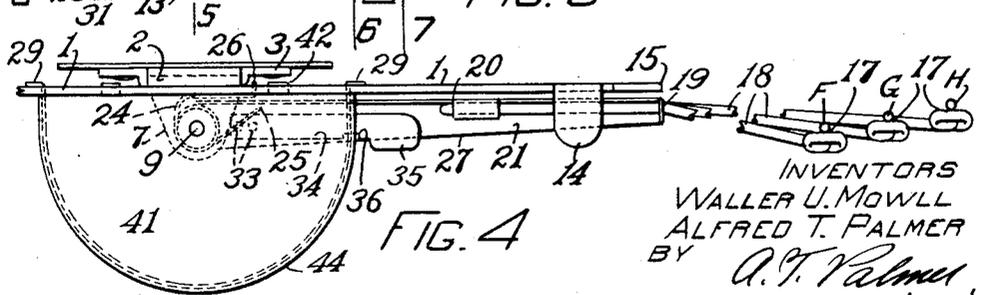


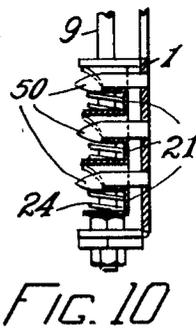
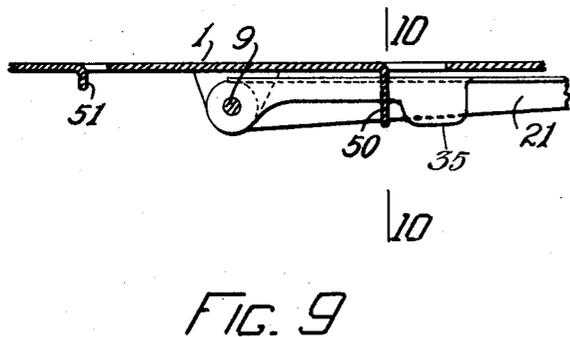
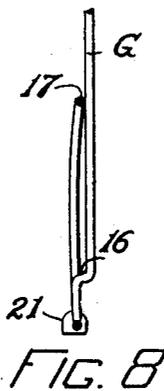
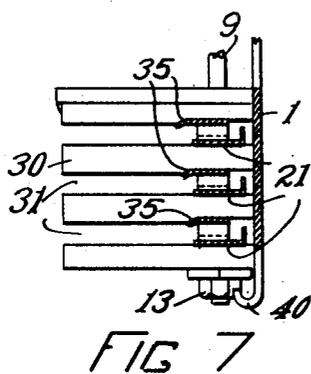
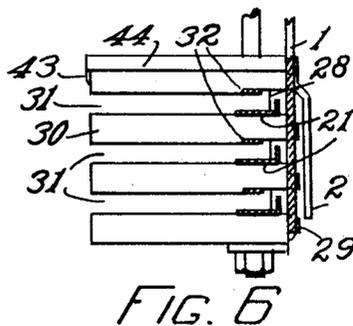
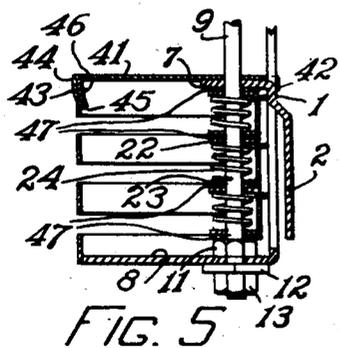
FIG. 4

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UNITED STATES PATENT OFFICE.

WALLER U. MOWLL, OF KINGSTON, AND ALFRED T. PALMER, OF MEDFORD, MASSACHUSETTS; SAID PALMER ASSIGNOR TO SAID MOWLL.

SHEET-MUSIC TURNER.

1,305,829.

Specification of Letters Patent.

Patented June 3, 1919.

Application filed November 8, 1916. Serial No. 130,167.

To all whom it may concern:

Be it known that we, WALLER U. MOWLL and ALFRED T. PALMER, citizens of the United States, and residents, respectively, of Kingston, in the county of Plymouth, and Medford, in the county of Middlesex, both in the Commonwealth of Massachusetts, have invented new and useful Improvements in Sheet-Music Turners, of which the following is a specification.

This invention relates to mechanism for turning the leaves of sheet-music on a pianoforte and its need is so apparent to those skilled in the musical art that no extended introduction is required.

The several objects attained in this invention are:—

First,—A turning agency that will handle any sheet efficiently, whether new and crisp or old and limp.

Second,—A substantial rest for the music which may be removed from the piano at will.

Third,—Means whereby the shifting lever for each sheet covers that for the succeeding sheet and thus prevents improper manipulation.

Fourth,—Means whereby the said shifting lever may be swung aside to uncover that for the succeeding sheet.

Fifth,—Auxiliary means for turning a loose central sheet.

Sixth,—Simplicity and cheapness of construction without impairment of efficiency.

These, with minor features to be later explained, are illustrated, as one embodiment of our invention, by the accompanying drawings which form part of this specification and in which,

Figure 1 is a view of our invention in place on a music-rack.

Fig. 2 is an edge view of Fig. 1.

Fig. 3 is a partial, enlarged view of Fig. 1.

Fig. 4 is a plan view of Fig. 3.

Fig. 5 is a section on line 5—5 of Fig. 3.

Fig. 6 is a section on line 6—6 of Fig. 3.

Fig. 7 is a section on line 7—7 of Fig. 3.

Fig. 8 is a section (partial) on line 8—8 of Fig. 1.

Fig. 9 shows a modification.

Fig. 10 is a section on line 10—10 of Fig. 9.

Our device is illustrated as having three turning arms although it is understood that we do not limit ourselves to this number,

which may be made greater or less, as desired.

These three arms will accommodate a piece of sheet-music comprising two folios and a loose central sheet such as is illustrated in Fig. 1 where A and B represent the outer folio which is not to be turned, C and D the inner folio and E the loose central sheet, the last three of which may be turned by arms F, H and G, respectively.

In Fig. 1, all the arms are shown in position for turning although C, the first sheet to be turned, has been swung to turned position without its arm F, for purposes of greater clearness in the description which follows.

Our device consists, primarily, of a frame 1 provided with a series of ears or lugs, one of which, 2, is adapted to engage a socket formed in a bracket 3, the latter being secured, as by screws 4, to the ordinary music-rest 5. Ear 2 is designed to snugly engage bracket 3 to hold frame 1 firmly but removably in place; while an extension 6, on bracket 3, acts as a guide for ear 2 and also prevents marring of the woodwork of the rest 5 while ear 2 is being inserted.

Two other ears 7 and 8 are bored to receive a rod or pivot 9 which is prolonged upwardly to act, in conjunction with blade 10, as a grip to hold the center fold of the folios in place. The lower end of rod 9 is threaded to receive three nuts 11, 12 and 13, the first above and the two last below ear 8, thus firmly securing rod 9 to frame 1. Other ears 14, 14 are bent to form auxiliary rests for the music sheets and ears 15, 15 project upwardly to help form a back support for said sheets.

The arms F, G and H are similarly shaped but different in length, although this difference is not essential. A description of arm G will suffice for all three, as they are all pivotally connected to rod 9.

Arm G is preferably formed of a metal rod which extends upwardly behind the sheet it is to turn and has convolutions near the foot of the sheet for the double purpose of providing a rest 16 and a yielding grip 17. (Fig. 8.) Although this grip 17 is shown in the preferred form of our invention and is a desirable feature, it might be modified in the construction shown in Figs. 9 and 10 so as to form simply a cradle for the music-sheet, as will be later explained.

The horizontal extension 18 of arm G is firmly united at 19 and 20 to a pressed metal swing-arm 21 which is formed with two ears 22 and 23 that pivotally engage rod 9. Between ears 22 and 23 and surrounding rod 9 is a coiled spring 24, one end of which is secured to swing-arm 21 at 25, the other end being secured to frame 1 at 26. (Fig. 4.) Spring 24 is under sufficient tension to carry arm G, with its sheet E, when released, from the position illustrated to thrown position where the edge 27, of swing-arm 21 will abut against a stop 28 to bring arm G to rest in thrown position. The means for retaining arm G in unthrown position and the means for releasing same will now be described.

In front of frame 1 and secured to it by a series of turned lugs 29, is a curved metal casing 30 formed with a series of horizontal slots 31 which are open at the right, each with a notched portion 32 (Fig. 6) and closed at the left to form the stop 28.

The free end of swing-arm 21 is adapted to project through slot 31 and rest and move along the lower edge thereof. Secured to swing-arm 21, as by rivets 33, is a leaf-spring 34 which, at its free end, is provided with a finger-hold or key 35 and, intermediately, with a notch 36 adapted to engage the notched portion 32 of slot 31 so that, in swung position, the edge 27 is sure to take the impact of the blow against stop 28 and thus prevent undue wear on rivets 33 as would ensue if the spring 34 should directly engage the stop 28.

It will be noticed, in Fig. 7, that the finger-holds 35 are in superimposed position, the upper projecting more than the other two and the lower being the shortest. To understand the reason for this it is necessary to discuss the form of blow required to release the arms.

When a performer has his mind centered on the notes of the music he is playing, it is desirable to present as little distraction as possible in the turning movement. For this purpose, we have superimposed the keys 35 so that the performer's finger may go to the same spot for each turn; and no particular feat of selection is required as he can reach but the key desired. The motion is a quick downward blow which carries leaf-spring 34 away from its notch 32, the finger slipping forward and downward out of the path of swing-arm 21. Before the leaf-spring 34 can recover from the blow, coiled spring 24 has carried it forward and away from notch 32, after which, for the balance of the throw, leaf-spring 34 travels in contact with the upper edge of slot 31 and, itself, meets no other stop, the swing being checked when edge 27 contacts with stop 28, as previously explained. To re-set the arm, it is manually swung to the right until leaf-spring 34 auto-

matically reengages notch 32, there being a slight play, in that position, between swing-arm 21 and the frame 1, as seen in Fig. 4.

To prevent the finger from accidentally striking the key beneath the one struck and thus releasing two arms at once, we form the lower keys 35 shorter in succession so that, to reach them inadvertently a performer would have to make a second distinct advance of his finger, which motion is very unlikely to happen. In this way we insure the turning of but one arm at a time and that the one desired; for, to engage arm G before arm F, the motion of the finger must be distinctly forward rather than downward and this forward thrust would be poorly calculated to clear the path of the released arm before its leaf-spring 34 could reengage its notch 32.

In Fig. 2, it will be noticed that blade 10 is formed or shaped to lightly contact the upper extension or free end of rod 9, to present a frictional grip at the center of the folio to be turned. This grip, with that formed at 17, serves to keep the folio properly alined so that the turn is neatly made around rod 9 as a pivot.

These grips are sufficiently light to avoid any tendency toward tearing the paper, but, in turning a loose central sheet E, the grip of rod 9 is absent and we find it desirable to provide a special, auxiliary grip to cooperate with grip 17. One such grip is seen in Fig. 1 and comprises a stiff spring-wire arm 37 having at its outer end a wound socket 38 adapted to loosely envelop the tip of arm G and at its inner end a similar socket for the tip of rod 9, the latter being supplemented with an extra turn of the wire to form the snap 39 to grip the sheet. As rod 9 is stationary, snap 39 is made to follow the sheet E as it turns by the wire connection 37 to arm G. With these two grips, diagonally disposed across sheet E, the latter is held in position while turning. In Fig. 1, sheet E is shown so held and ready to turn, liberty having been taken, as before explained, to "set" arm F without its sheet C.

If the music has no central sheet, the wire-arm 37 may be deposited at the base of frame 1, within the two hooks 40, the nut 13 being sufficiently in the way to cause a slight twist in arm 37 to insert and remove. This locking feature is well illustrated in Fig. 7.

As seen in the drawings, frame 1, with its various ears, is preferably formed from a single piece of sheet metal and the casing 30, with its open-ended slots 31, is adapted to fit into place after the arms have been assembled upon rod 9, the lugs 29 passing through openings in frame 1 and clenched behind the same. We also prefer to provide a cover for casing 30 in the form of a semi-circular cap 41 perforated for the passage of rod 9 and secured to frame 1 by lugs 42. To obviate the necessity of soldering this

cap in position and thus prevent rapid disassembling, we form a lug 43 on the downturned edge 44 of cap 41, said lug having a lip or catch 45 at its extremity that will readily engage the lower edge of an inturned lug 46 formed integral with casing 30. This is best seen in Fig. 5.

A series of washers 47 are preferably interposed between the ears 22 and 23 of the adjoining arms 21, as seen in Fig. 5.

In Figs. 9 and 10 is shown a modified form which dispenses with casing 30 and leaf-spring 34 and substitutes therefor a series of notched lugs 50 bent outward from the frame and a modification in the shape of swing-arm 21 wherein the upper leaf of said arm forms the catch and key and, to release, the entire arm must be depressed by warping slightly on pivot-rod 9, the same coiled spring 24 serving as the turning agency and the stop 28 being replaced by an ear 51 on the frame. In this form the grip 17 must be sufficiently weak to avoid any permanent derangement of the music sheet about its pivot rod 9 when the arm is warped to release the catch.

It will be noticed that arms F, G and H extend upwardly above the center of the sheets. While this is not essential, it is preferable where old music has become limp and would, otherwise, tend to buckle and fold while turning.

We do not limit ourselves to the precise form of construction illustrated.

What we claim is:

1. A sheet music turner comprising a frame; an arm pivotally mounted in connection with said frame; a casing inclosing said pivotal mounting and provided with a slot for the projection of the free end of said arm; a notch near one end of said slot; a key on said arm and movable in relation

thereto; an attachment for securing said key to said arm, said attachment being adapted to occupy said notch; and means for swinging said arm when said key is manipulated to free said attachment from said notch.

2. In a sheet music turner, a plurality of pivotally mounted arms; means for separately swinging each arm; a key attached to each arm, each key being superimposed with relation to its successor; and a hooded portion connected with each key and positioned to protect its successor against untimely manipulation; in combination with a detent for each arm that is adapted for release through the manipulation of its key.

3. A plurality of swinging arms; a detent for each arm; independent means for swinging each arm; a key mounted on each arm and in movable relation thereto; means for causing each key, upon receipt of a downward blow from the finger of the operator, to release its arm from its detent; and protective means, mounted in connection with each arm and positioned to guard its successor against untimely release by said blow.

4. A swinging arm adapted to turn a sheet of music; means for swinging said arm; a detent for said arm; a key mounted on said arm and positioned to receive a downward blow of the operator's finger, when said arm is held by said detent; and means for causing the release of said arm from said detent, through the agency of said blow.

In testimony whereof, we have affixed our signatures in the presence of two witnesses.

WALLER U. MOWLL.
ALFRED T. PALMER.

Witnesses:

CONRAD B. SHEVLIN,
GEORGE LIBBY.