ABSTRACT OF THE DISCLOSURE

A music rack is provided with a generally vertical shaft mounted for rotation on the standard. At one end of the shaft there is a gripping arm which extends horizontally above a book of music, the arm including a pair of downwardly extending members for engaging a page of music. At the other end of the shaft there is a series of outwardly protruding arms which the musician can manipulate with his knee to effect turning of the shaft, gripping arm, and page of music. The arms are arranged such that the musician may turn the page by using his knee to effect a 180° turn of the shaft.

BACKGROUND OF THE INVENTION

This invention relates to a device for turning either a page of music secured in a book of music, a loose sheet of music, or a loose insert in a book of music from one side of a music rack to the other. This operation has in the past commonly been performed either by the hand of the musician as he is playing, which usually necessitates interruptions, or by a floor pedal mechanism operable by the musician's foot. A need exists for a page turning device which will eliminate the necessity of turning a page by hand and which has more flexibility and maneuverability than a pedal mechanism, and which will completely release the hands and feet of the musician for the purpose of playing his instrument and keeping tempo.

SUMMARY OF THE INVENTION

A primary object of the present invention is to provide a device for turning a page of music from one side of a music rack to the other without utilizing the hands or feet of the musician.

An important object of the present invention is to provide a device which is operable by the knees of the musician.

Another important object of the invention is to provide a device which can turn a page of music which is loosely inserted within a book of music.

The objects are attained by modifying a standard music rack to support a rotatable shaft having at the upper end a gripping arm adapted to hold a page of music and at the other end a series of arms adapted to be operated by a knee of the musician to rotate the shaft and thereby turn the page of music. The gripping arm includes a pair of downwardly extending finger members such that a page of music may be inserted therebetween. The gripping arm may also include a friction mounted loose-page gripper affixed thereto between the downwardly extending finger members.

Other objects and advantages of the present invention will be apparent from the following description, the accompanying drawings and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the music page turner in combination with a book of music;

FIG. 2 is a partially cutaway view showing the shaft mounted at the top of the standard and between the support arms of a standard music rack, the gripping arm, and the knee-operable arms;

FIG. 3 is a side view of the entire shaft assembly showing in cut away fashion its engagement with the standard and knee-operable arms;

FIG. 4 is a partially cut away view in cross-section along line 4—4 in FIG. 3 which also illustrates the grooves in each of the music rack support arms which form the slot that receives the shaft;

FIG. 5 is a cross sectional view of the shaft along line 5—5 of FIG. 3 showing the interlocking engagement of said shaft with the slot at the top of the standard;

FIG. 6 is a cross sectional view of the shaft along line 6—6 of FIG. 3 showing the orientation of the three knee-operable arms connected to the bottom of the shaft;

FIG. 7 is a partially cut away view showing the assembly of the shaft and its corresponding bearing at the top of the standard;

FIG. 8 is a partially cut away view showing the assembly of the shaft and its corresponding bearing at the bottom of the standard;

FIG. 9 is a partially cut away view showing the assembly of the three arms connected to the bottom of the shaft;

FIG. 10 is a top view of the gripping arm;

FIG. 11 is a partially cut away view showing the loose-page gripper frictionally mounted on the gripping arm;

FIG. 12 is a partially cut away view of a page retainer frictionally mounted on the end of an upper arm;

FIG. 13 is a schematic view of the top of the music page turner showing in dotted lines a mode of operation of the three knee-operable arms;

FIG. 14 is a schematic view from the top of the device as showing another possible mode of operation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. 1 and 2, a music rack generally indicated at 20 is shown as including a standard 22, a pair of supporting arms 24 and 26 pivotally connected to the lower portion of the standard and adapted to be extended out therefrom or folded up against the same, a pair of upper arms 28 and 30 pivotally connected to the standard at approximately the midpoint thereof, links 32 and 34 connecting the upper arms with the supporting arms and movable therewith when the arms are folded or extended, an adjustable support 40 connected to the back of the standard 22 and including tripod legs 42 and tripod links 44 connecting the legs 42 to the support 40, all in the conventional manner. The support 40 generally consists of a series of telescoped tubes. Tube 50 is thus telescopically inserted within tube 52 and the latter is telescopically inserted within tube 54. Pressure snaps 56 and 58 serve to hold the support tubes in a vertical position to suit the musician.

For this invention the aforementioned music rack is modified by including a flange 60 at the top of the standard which extends forwardly and is formed with a slot 62 therein (FIG. 7). The supporting arms 24 and 26 are provided with symmetrical grooves 65 and 67 which define a slot 70 when the arms are in extended position (FIGS. 4 and 8).

As shown in FIGS. 1, 2 and 3, a generally vertical shaft 75 is provided with a pair of bearings 80 and 85. As more clearly shown in FIGS. 7 and 8, the bearing 80 is provided with a circumferential groove 81 for interfitting engagement with groove 62 of flange 60. Similarly, bearing 85 is provided with a circumferential groove 87 for interfitting engagement with the slot 70 defined by the grooves 65 and 67. The bearings 80 and 85 may be secured to the shaft 75 by any conventional means such as by pins 82 and 89 which extend through their respec-
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As shown in FIGS. 2, 7 and 10, a gripping arm 90 is connected to the top of the shaft 75 and extends horizontally above the upper arms 28 and 30. The gripping arm 90 is provided with a pair of finger members 95 and 97 extending downwardly and spaced from each other. Finger members 95 and 97 may be connected to the gripping arm 90 by welds 98 and 99 as shown in FIG. 3, and are preferably fixed on opposite sides of arm 90. The end of the arm 90 may be provided with a plastic or rubber cover 100. The gripping arm 90 thus extends horizontally above the book of music 102 (FIG. 1) and in typical fashion, the finger member 95 is positioned behind the page of music 104 and the gripping arm 97 is positioned in front of the page 104. Stated differently, page 104 is inserted between the finger members 95 and 97.

As shown in FIGS. 2, 3, 6 and 9, a bearing 110 having three threaded holes 112, 114 and 116 therein is positioned at the bottom of the shaft. The bearing 110 is secured to the shaft by pin 118. Threaded arm members 120, 122 and 124 are threaded into corresponding holes 112, 114 and 116. Each of the arm members are preferably connected at right angles to the bearing 110 and disposed at right angles with respect to each other, Arm member 124 is positioned such that it will rest against the support 40 when gripping arm is in the right position, as shown in FIGS. 1, 13 and 14. Thus, arm member 120 is aligned with arm member 124. Arm member 122 is equally disposed between arm member 120 and arm member 124 such that all three arms may swing approximately 180° when the gripping arm is rotated from one side of the music rack to the other. Arm members 120, 122, and 124 are preferably provided with a knee-engaging member 128 such as a downwardly disposed half circle at their outer extremity.

An added feature of the instant invention is a member 130 which is frictionally and rotatably mounted on gripping arm 90, preferably between the downwardly extending finger members 95 and 97. As shown in FIG. 11, the member 130 is formed with a vertical portion, 132 and a horizontal portion 134 and may be rotated to a removed position (dotted lines) or to an operable position whereby the horizontal portion 134 will apply pressure against member 97 for holding a loose page of music 136 therebetween.

Since the book of music 120 is preferably inserted between the shaft 75 and standard 22, it will not generally move horizontally on the supporting arms 24 and 26 as a page is being turned. Another added feature of the invention, however, is a pair of retainer members 140 frictionally mounted at the outer extremity of the upper arms 28 and 30 of the music rack. Members 140 are particularly useful in retaining music consisting of only a few pages and in preventing movement of an entire book of music as the pages are turned.

The knee-engaging music page turner may be used in several ways. For example, as shown in FIG. 13, a page of music 104 may be inserted between finger members 95 and 97 on the right side of the music rack and a second sheet of music 150 allowed to rest against the finger member 97. In this fashion, the musician will be able to read the exposed side of page 150 and then move arm member 120 with his right hand to the left position (dotted lines) thereby turning the page 150 to the left side of the rack. He can then move arm member 124 with his left knee to reverse the direction of the shaft and return it to its right side position. The musician can then read the nonexposed side of pages 150 and 104. Next, as shown in FIG. 14, the musician can again move arm member 120 to the left and permit it to remain in its rotated position (dotted lines) in order to read the back side of page 104 and the front side of page 160. In this manner the invention may be used to read in uninterrupted fashion five sheet faces of music by gripping only a single sheet of music with the finger members 95 and 97. While the form of apparatus herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of apparatus, and that changes may be made therein without departing from the scope of the invention.

What is claimed is:

1. In a music rack including a vertical support, means for supporting said vertical support on the floor, a standard mounted on the vertical support, and a supporting frame connected to the standard for supporting pages of music thereon, improved page turning apparatus comprising a generally vertical plate positioned for rotation on the standard and having a lower end disposed below the supporting frame and accessible to the knee of the musician and an upper end disposed above the supporting frame, a control member connected to the upper end of said shaft, means connected to said control member for controlling a page of music and at least one of said arms pivotally connected to the lower end of said shaft for manipulation by the musician's knee and positioned such that, when the control member is turned from one side of the supporting frame to the other, one of said arms rests against the right side of the support when the control member is on the right side of the rack and the other rests against the left side of the support when the control member is on the left side of the rack.

2. Apparatus as defined in claim 1 wherein said supporting frame includes supporting arms pivotally connected to each side of the standard at the bottom thereof for pivotal movement between horizontal supporting positions and vertical storage positions, upper arms pivotally connected to each side of said standard above said supporting arms, and links pivotally connecting said upper arms with said supporting arms and movable therewith when said arms are moved between said horizontal and vertical positions, said apparatus further including a flange extending forwardly from the top of said standard, means defining a first slot in said flange, means defining a notch in each of said supporting arms, said notches defining a second slot aligned with said first slot when said arms are in their horizontal supporting positions, and a pair of bearings attached to said shaft having circumferential grooves for mounting said shaft in said first and second notches.

3. Apparatus as defined in claim 2 including retainer members frictionally mounted on said upper arms at the outer extremities thereof for preventing pages of music from moving outwardly while a page is being turned.

4. Apparatus as defined in claim 1 wherein said arm means comprises three arms connected to and extending at right angles from the bottom of the shaft and disposed at right angles with respect to each other, said arms being arranged on the bottom of the shaft such that a first arm will rest against the right side of the support when the control member is on the right side of the rack and a second arm aligned with the first arm will rest against the left side of the support when the control member is on the left side of the rack, the third arm being positioned between said first and second arms such that said arms will swing approximately 180° when the control member is rotated from one side to the other.

5. Apparatus as defined in claim 1 wherein said arm means comprises three arms connected to and extending at right angles from the bottom of the shaft and disposed at right angles with respect to each other, said arms being arranged on the bottom of the shaft such that a first arm will rest against the right side of the support when the control member is on the right side of the rack and a second arm aligned with the first arm will rest against the left side of the support when the control member is on the left side of the rack, the third arm being positioned between said first and second arms such that said arms will swing approximately 180° when the control member is rotated from one side to the other.

6. In a music rack including a vertical support, legs for supporting said vertical support on the floor, a standard mounted on the vertical support and having a flange extending forwardly from the top thereof, and a supporting frame connected to said standard consisting of supporting arms pivotally connected to each side of the standard at the bottom thereof, upper arms pivotally connected to each side of said standard above said supporting arms, and links pivotally connecting the upper arms with said supporting arms.
said supporting arms, said supporting frame being adapted to pivot between a horizontal supporting position and a vertical storage position, improved music page turning apparatus comprising:

- means defining a first slot in said flange,
- means defining a notch in each of said supporting arms, said notches defining a second slot aligned with said first slot when said arms are in their horizontal supporting positions,
- a generally vertical shaft extending from a lower position spaced below said supporting frame and accessible to the knee of the musician to an upper position above said supporting frame,
- first and second bearings attached to said shaft each having a circumferential groove for rotatably mounting said shaft on said standard in said first and second slots,
- a control member connected to the top of said shaft and extending generally horizontally above the supporting frame,
- a pair of downwardly extending and spaced finger members for receiving a page of music therebetween, and

at least two arms connected to the bottom of said shaft which are positioned such that one of said arms will rest against the right side of the support when the control member is on the right side of the rack and the other will rest against the left side of the support when the control member is on the left side of the rack.

References Cited

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Patent No.</th>
<th>Date</th>
<th>Inventor(s)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>228,600</td>
<td>6/1880</td>
<td>Burkart et al.</td>
<td>84—503</td>
</tr>
<tr>
<td>486,573</td>
<td>11/1892</td>
<td>Vorce</td>
<td>84—502</td>
</tr>
<tr>
<td>832,172</td>
<td>10/1906</td>
<td>Sieger</td>
<td>84—503</td>
</tr>
<tr>
<td>1,581,892</td>
<td>4/1926</td>
<td>Van Dyke</td>
<td>84—502</td>
</tr>
<tr>
<td>2,225,548</td>
<td>12/1940</td>
<td>Byrne</td>
<td>84—516</td>
</tr>
</tbody>
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