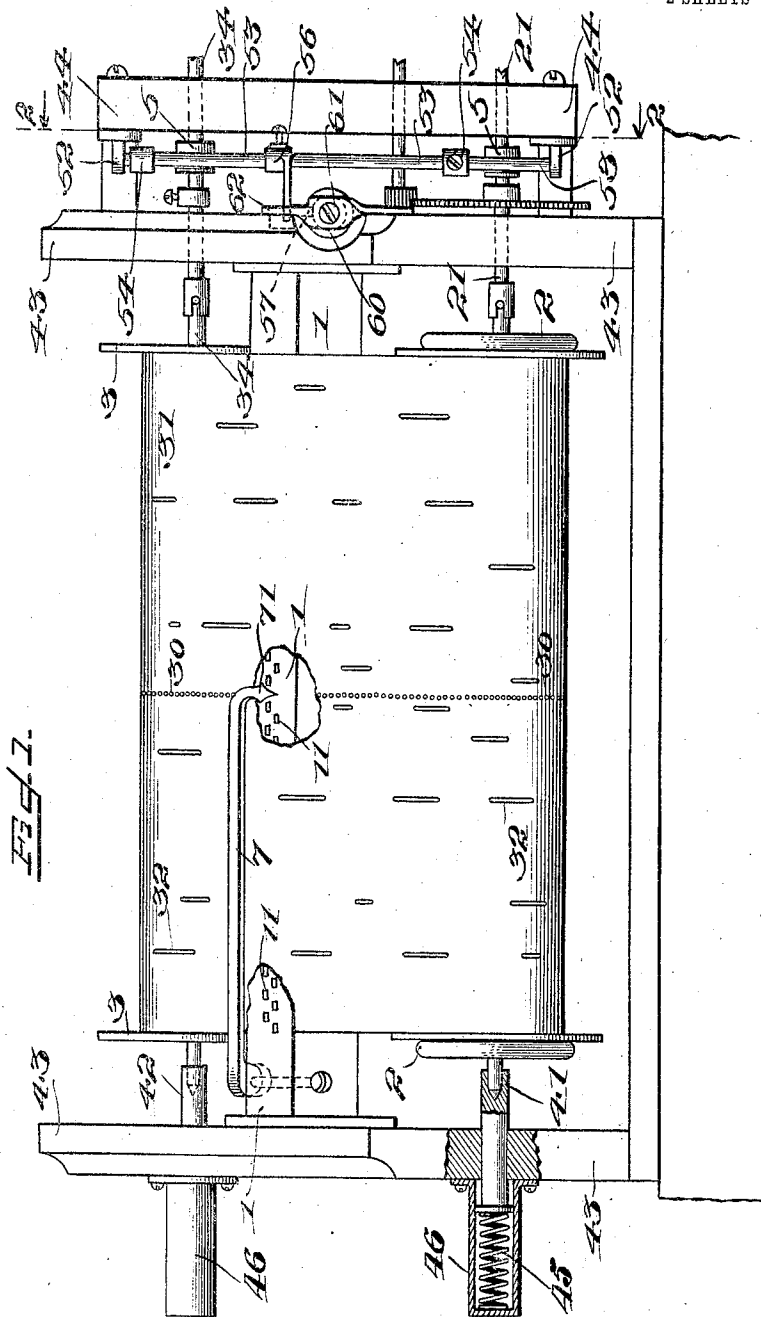


No. 819,135.

PATENTED MAY 1, 1906.

J. W. HEINS.
MUSIC SHEET INDICATOR.
APPLICATION FILED JUNE 24, 1905.

2 SHEETS—SHEET 1.



Attest:
Edw. Mitchell
Edw. Ashley

Inventor:
JOHN W. HEINS
by *Dickerson, Brown, Rargner & Birney*
Attys.

No. 819,135.

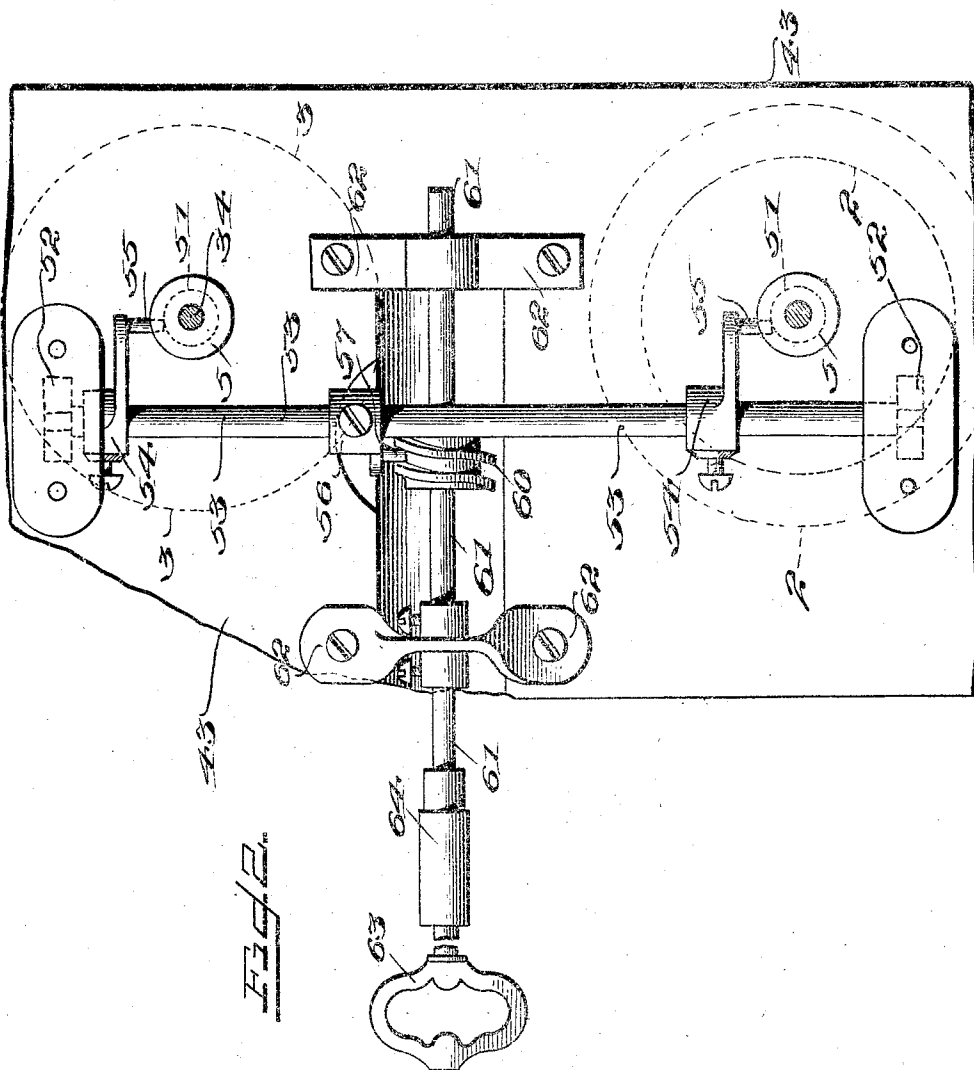
PATENTED MAY 1, 1906.

J. W. HEINS.

MUSIC SHEET INDICATOR.

APPLICATION FILED JUNE 24, 1905.

2 SHEETS—SHEET 2.



Attest:

W. Mitchell
W. T. Ashley

Inventor:

JOHN W. HEINS

by *Dickerson, Brown, Raegener & Birney*
Attys.

UNITED STATES PATENT OFFICE.

JOHN W. HEINS, OF CRANFORD, NEW JERSEY, ASSIGNOR TO THE AEOLIAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF CONNECTICUT.

MUSIC-SHEET INDICATOR.

No. 819,135.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed June 24, 1905. Serial No. 266,732.

To all whom it may concern:

Be it known that I, JOHN W. HEINS, a citizen of the United States, and a resident of Cranford, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Music-Sheet Indicators, of which the following is a specification.

My invention relates to mechanical musical instruments and to mechanical players for such musical instruments and to the perforated music-sheets used in connection therewith, and has for its main object the provision of simple means for accurately indicating when the music-sheet is in or out of exact alinement with the tracker-ducts and for readily readjusting it to proper alinement.

In the drawings, Figure 1 represents in front elevation so much of a mechanical musical instrument or mechanical instrument-player as is necessary to show the invention. Fig. 2 is a transverse vertical section through the line 2 2 of Fig. 1 looking to the left.

As my device is adapted to be used in connection with many different forms of mechanical musical instruments or players therefor, it is not necessary to show the instrument at large.

1 designates a tracker-board provided with the usual duct-apertures 11, one at the middle of the board being omitted, leaving a space approximately equal to the width of one aperture between them.

2 designates a take-up roll rotated by a shaft 21, which is turned by suitable and well-known means. (Not shown.)

3 designates a music-roll which carries the ordinary music-sheet 31, provided with the usual note-perforations 32 for coöperating with the ducts 11 to actuate the sound-producing devices. In addition to the perforations 32 the sheet 31 is provided with an alining or centering guide-line 30, running longitudinally of the sheet and located midway of its width. As shown, this guide-line is composed of a series of minute perforations which can be advantageously and accurately cut at the same time that the perforations 32 are cut and by the same machine. The music-roll 3 is detachably secured to a rotary shaft 34, which may be provided with the ordinary means (not shown) for rotating

the shaft when it is desired to rewind the sheet 31 on the roll 3. The take-up roll 2 and music-roll 3 are shown as supported at their left-hand ends in bearings 41 and 42, respectively, which are preferably forced toward the rolls, in the present instance by springs 45, mounted in casings 46.

In my device the driving-shafts 21 and 34 are longitudinally adjustable in their bearings in the partition-walls 43 and 44. On each of the shafts 21 and 34 is mounted a collar 5, in which is a peripheral groove 51. Supported in bearings 52, shown as secured to the partition 44, is a rock-shaft 53, on which are secured collars 54, having depending lugs 55, which engage in the grooves 51 in the collars 5. Also mounted on the rock-shaft 53 is another collar 56, having a depending lug 57. This, as clearly shown in Fig. 2, engages in a worm 60, mounted on a horizontal shaft 61, supported in suitable bearings 62. As shown, the shaft 61 projects vertically forward toward the operator and carries on its forward end a key or handle 63, which may detachably engage with the shaft by means of a collar 64.

It will be seen that the operator by turning the key 63 in either direction may, through the worm 60 and lug 57, turn the rock-shaft 53, which in turn acts through the lugs 55, engaging in the grooves 51 of the collars 5, to adjust the shafts 21 and 34 simultaneously and equally in either direction longitudinally of the tracker-board 1, or, in other words, laterally of the path of motion of the music-sheet 31, which travels over the tracker. It will be observed that this lateral movement of the sheet may be produced at any time, whether or not the sheet is in operation.

Fig. 1 shows the indicator-arm 7, which forms an important feature of the invention. It is shown as pivotally mounted on the tracker 1, although it is obvious that it might be mounted on any other convenient part of the instrument which is in fixed relation to the tracker-board. When in its operative position, its pointed end 71 exactly corresponds with the guide-line 30 on the sheet 31, providing that the sheet is in proper adjustment with the tracker, in which case the per-

forated guide-line 30 will run accurately over the imperforate space between the two series of ducts 11 in the tracker. By means of this indicator the operator is enabled to immediately note the slightest variation of the music-sheet from its true lateral position with relation to the tracker and by means of the key 63 to instantly correct the same.

It is of course understood that while the instrument is being played the indicator 7 is stationary, so that its point 71 always occupies the same position relative to the tracker. For convenience, however, the indicator may be pivoted, as in Fig. 1, so that it can be swung up away from the sheet for convenience in placing the music-roll 3 in position or in removing the same from the instrument.

It is of course obvious that other devices than that shown may be used to secure the relative movement of the music-sheet or its supporting-rolls and the tracker-board to provide the required lateral adjustment.

It is clear that by the word "line" or the phrase "guide-line" as used herein I intend to include as equivalents a broken line either of perforations or imprinted upon the sheet in the form of a series of marks made at intervals thereon.

What I claim is—

1. In a mechanical musical instrument, in combination, a tracker, a music-sheet, means for supporting and moving the sheet over said tracker, means for giving relative adjustment between the music-sheet and said tracker laterally of the path of movement of the music-sheet, and an indicator having a fixed operative position relatively to the tracker-board, said sheet having a line which registers with the said indicator when the sheet is in accurate alinement on the tracker, substantially as set forth.

2. In combination, a tracker and an indicator in fixed relation thereto when in operation, a music-sheet having a line which registers with the indicator when the sheet is in accurate alinement on the tracker, means for supporting and actuating the said sheet, and means for giving relative adjustment between the sheet and the tracker to aline them, substantially as set forth.

3. In combination, a tracker and an indicator in fixed relation thereto when in operation, a music-sheet having a line which registers with the indicator when the sheet is in accurate alinement on the tracker, means for supporting and actuating the said sheet, and means for giving relative adjustment between the sheet and the tracker to aline them, said indicator being mounted to move away from said fixed relation to permit the introduction and removal of music-sheets.

4. In combination, a tracker and an indicator in fixed relation thereto when in operation,

a music-sheet having a line which registers with the indicator when the sheet is in accurate alinement on the tracker, means for supporting and actuating the said sheet, and means for giving relative adjustment between the sheet and the tracker to aline them, said indicator and said line being substantially in the center of the sheet width.

5. In combination, a tracker and an indicator in fixed relation thereto when in operation, a music-sheet having a line which registers with the indicator when the sheet is in accurate alinement on the tracker, means for supporting and actuating the said sheet, and means for giving relative adjustment between the sheet and the tracker to aline them, said line consisting of a row of perforations distinct from and additional to the note-perforations of the sheet.

6. In combination with a music-sheet having a longitudinal alining guide-line, the tracker and sheet-moving means, an indicator fixed relatively to the tracker and extending over and adjacent to the music-sheet to cooperate with said guide-line, and means for giving said tracker and said music-sheet relative movement laterally of the latter.

7. In combination with a music-sheet having a longitudinal alining guide-line, the tracker, sheet-moving means, an indicator supported to extend over and adjacent to the music-sheet in fixed relation to the tracker and to cooperate with said guide-line, and means for giving said sheet-moving means and said tracker relative adjustment laterally of the line of travel of said music-sheet.

8. In combination with a music-sheet having a longitudinal guide-line, the tracker, sheet-moving means, an indicator supported in fixed relation to the tracker to extend over and adjacent to the music-sheet and to cooperate with said guide-line, and means for laterally adjusting said sheet upon the tracker.

9. In combination with a music-sheet having a longitudinal guide-line, the tracker, rolls, and rotatable roll-supports, an indicator supported to extend over and adjacent to the music-sheet and to cooperate with said guide-line, and means for laterally adjusting said rolls, whereby said music-sheet may be moved laterally of said tracker.

10. In combination with a perforated music-sheet having a longitudinal line of perforations in addition to those for controlling the sounding devices, the tracker and sheet-moving means, means for laterally adjusting the sheet while in motion, and an indicator supported to extend over and adjacent to the music-sheet and to cooperate with said guide-line.

11. In combination with a perforated music-sheet having a central longitudinal line of perforations in addition to those for controlling the sounding devices, the tracker and

sheet-moving means, said tracker having
its duct-apertures arranged with an extra
interval or imperforate space at the middle
of said tracker, and an indicator supported in
5 said instrument for indicating the superposi-
tion of said line of perforations accurately
over said imperforate space.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

JOHN W. HEINS.

Witnesses:

E. C. THOMPSON,
D. C. HEINS.