No. 780,356. PATENTED JAN. 17, 1905.

G. B. KELLY.

GUIDING AND TENSION MEANS FOR MUSIC SHEETS.

APPLICATION FILED SEPT. 23, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

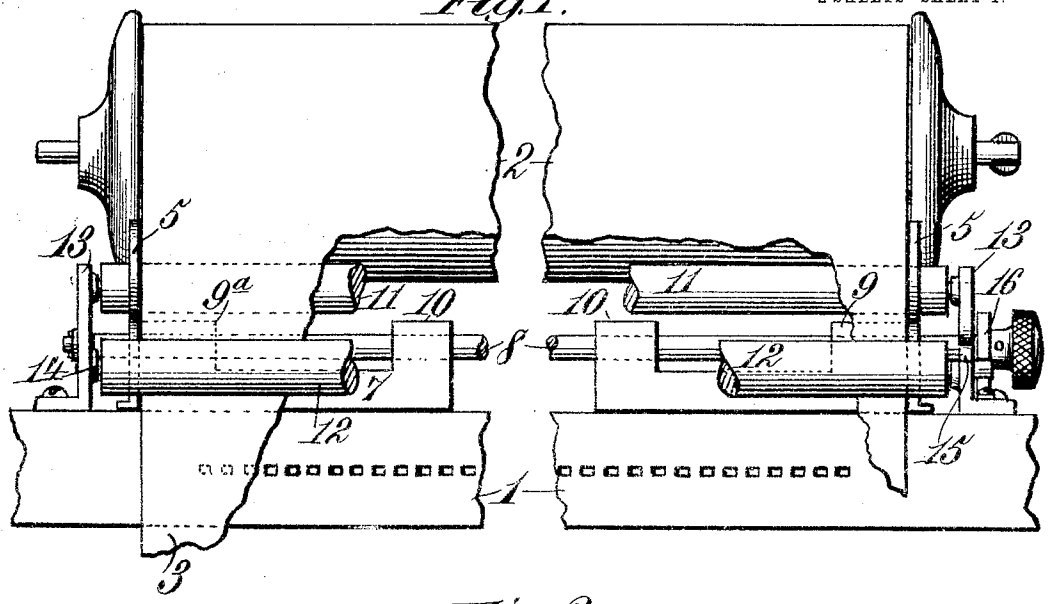


Fig. 2.

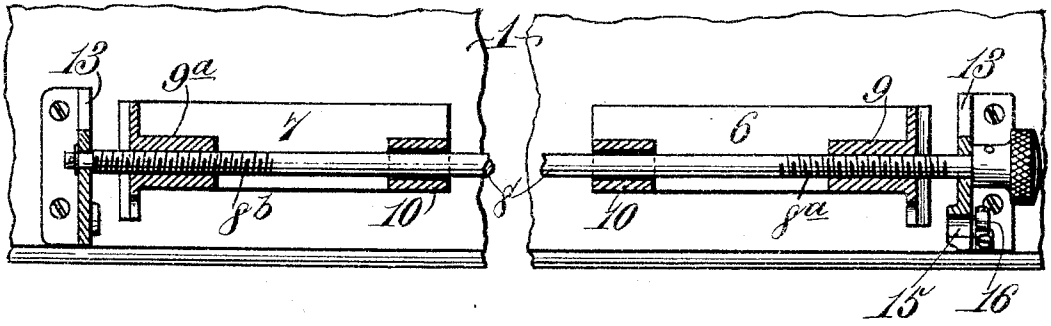
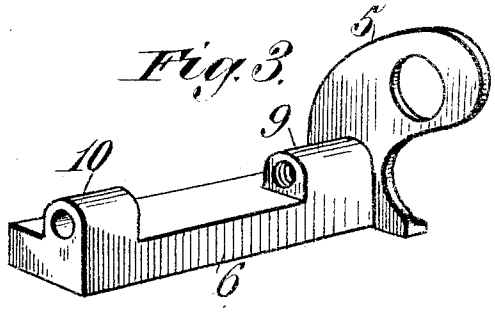


Fig. 3.



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GUIDING AND TENSION MEANS FOR MUSIC SHEETS.

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2 SHEETS—SHEET 2.

Fig. 3.

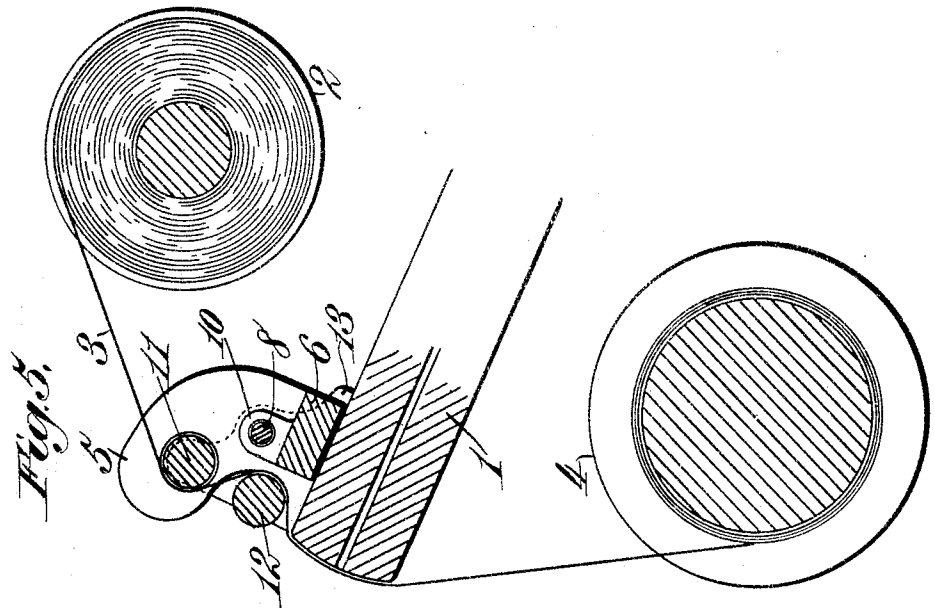
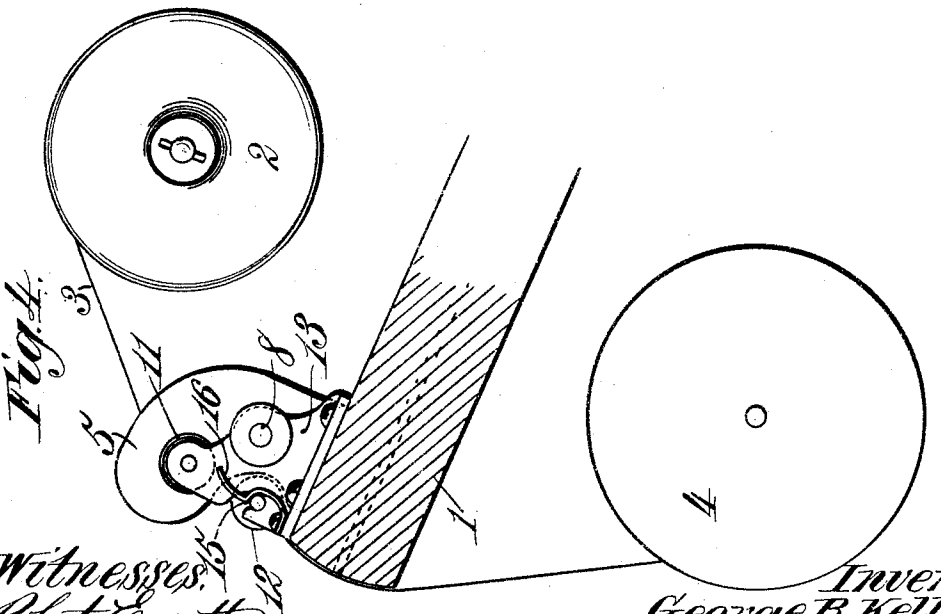


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE B. KELLY, OF JAMAICA PLAIN, MASSACHUSETTS, ASSIGNOR TO THE AEOLIAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF CONNECTICUT.

GUIDING AND TENSION MEANS FOR MUSIC-SHEETS.

SPECIFICATION forming part of Letters Patent No. 780,356, dated January 17, 1905.

Application filed September 23, 1904. Serial No. 225,640.

To all whom it may concern:

Be it known that I, GEORGE B. KELLY, a citizen of the United States, residing at Jamaica Plain, Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Guiding and Tension Means for Music-Sheets, of which the following is a specification.

My invention relates to means for guiding a perforated music-sheet in its travel over a tracker-board of a mechanical musical instrument or instrument-player to secure accuracy of register of the note perforations of the sheet with the ducts of the tracker-board.

The invention has also for its object to provide means which while so guiding the perforated music-sheet will impart thereto a tension to hold the sheet in a smooth condition without wrinkles, so that said sheet in its passage over the tracker-board will sustain proper coöperative relation to the latter in all respects.

To the ends stated my invention consists in the means hereinafter described, reference being made to the accompanying drawings for purpose of illustration thereof.

That which I regard as new will be set forth in the appended clauses of claim.

In the accompanying drawings, illustrating, as the statute requires, the best-known embodiment of my invention, Figure 1 is a front elevation, a part of the music-sheet and other elements being broken away to illustrate the relative arrangement. Fig. 2 is a sectional view taken through the music-sheet guides, illustrating the guide-adjusting mechanism. Fig. 3 is a detail perspective view of one of the music-sheet guides and the slide to which it is connected. Fig. 4 is an end elevation of the music-sheet guide and tension mechanism, showing the tracker-board in section. Fig. 5 is a sectional view of the same elements.

In the said drawings, the reference-numeral 1 designates a tracker-board; 2, a music-roll—that is to say, the roll upon which the sheet 3 of perforated music is initially wound and upon which it is introduced into the instrument and from which it is unwound in the act of performing a piece of music. 4 designates the take-up roll, upon which the music-sheet is wound after its passage over the tracker-board. The mode of operation of these elements is well understood in the art and need not be described in detail. The construction and relative arrangement thereof are optional and may be any of well-known constructions and relative arrangements.

Interposed between the music-roll and the tracker-board is a sheet-guiding and tension arrangement comprising guides in the form of plates 5, between which guides the perforated music-sheet in its passage from the music-roll to the tracker-board passes and by which it is accurately directed, so that the note perforations thereof will accurately register with the ducts in the tracker-board. In order to compensate for variations in the width of music-sheets due to climatic changes or to accommodate music-sheets of different initial widths, the guides are made adjustable to and from each other in the following manner: The said guides are connected to slides 6 7, mounted in the present example of my invention upon the tracker-board and arranged to move, together with the guides, toward and from each other in a rectilinear path, whereby the guides may be adjusted, as stated, to accommodate different width music-sheets. To effect the adjustability referred to, a rod 8 is provided, journaled at or about its ends in the hereinafter-referred-to standards 13 and provided with screw-threads 8^a and 8^b, adapted to engage the correspondingly screw-threaded nuts 9 9^a, operatively connected to or formed with the slides 6 7 or the guides 5. To insure that the slides and guides connected thereto shall always maintain the correct alinement, the slides are provided at or near their inner ends with ears or lugs 10, through bores or perforations in which the rod 8 passes. In the manner and by the substantial means referred to the sheet of music-paper as it passes from the music-roll onto the take-up roll over the tracker-board is guided in its passage over the latter, so that the perforations thereof will register accurately with the

ducts in said tracker-board, and by manipulation of the adjusting-rod the guides may be adjusted to and from each other to compensate for variations due to climatic changes or otherwise in the width of music-sheets.

In order to provide for imparting the proper tension to the music-sheet, so that it may be maintained in a smooth or taut condition without wrinkles and held down into close coöperative contact with the tracker-board in its passage thereover, tension-rollers 11 12 are provided. These rollers are journaled in suitable journal-standards 13 in such manner that they will rotate in contact with the music-sheet and impart tension to the latter. As shown, one of the tension-rollers, 11, is passed through openings therefor in the guides 5, so that the latter may be adjusted to and from each other along said roller. The other tension-roller, 12, is arranged to be removable and replaceable with convenience to facilitate proper establishment of the music-sheet in operative connection with the other elements in the instrument, avoiding the tedious operation of threading the same in between the tension-rollers. This is accomplished by mounting the tension-roller 12 at one end in a journal-socket 14 and at the other end in an open journal 15, in which journal it may be retained by means of a spring 16, as shown, or this removability of said roller may be accomplished in other specific manners, as will be obvious to the skilled mechanic. When the tension-roller 12 is made removable, as described, the perforated sheet of music may be partially unwound from the music-roll, passed over the tension-roller 11 between the guides 5, and attached to the take-up roll in any usual manner, and then the tension-roller 12 introduced into its journal-bearings, the then relative arrangement of the elements being shown in Fig. 4 of the drawings, with the guides directing the movement of the music-sheet and the tension-rollers imparting the requisite tension thereto and maintaining the sheet in a smooth unwrinkled condition and in proper close cooperative relation to the tracker-board in its travel thereover. During the rewinding of the sheet upon the music-roll, which is accomplished with rapidity, the tensioning function is not needed, and therefore during this operation the roller 12 may be removed.

Having thus described the invention, what I claim is—

1. The combination with a music-roll, a take-up roll and a tracker-board, of slides interposed between the music-roll and the tracker-board and arranged to be adjusted upon the latter, guides operatively connected to said slides, and a rod having screw-threaded engagement with said slides and guides for adjusting the same to and from each other, substantially as described.

2. The combination with a music-roll, a take-up roll and a tracker-board, of slides interposed between said music-roll and the tracker-board and arranged to slide upon the latter, music-sheet guides connected to said slides, means for adjusting said slides and guides to and from each other and means for maintaining the same in alinement, substantially as described.

3. The combination with a music-roll, a take-up roll and a tracker-board, of slides interposed between the music-roll and the tracker-board and arranged to slide upon the latter, music-sheet guides operatively connected to said slides, screw-threaded nuts connected to said slides, alinement-lugs for said guides and a screw-threaded rod for engagement with the screw-threaded nuts and the alining lugs, substantially as described.

4. The combination with a music-roll, a take-up roll and a tracker-board, of adjustable guide-plates interposed between the music-roll and the tracker-board, and a music-sheet tension device along which said guides are adjusted, substantially as described.

5. The combination with a music-roll, a take-up roll and a tracker-board, of guide-plates interposed between the music-roll and the tracker-board, a music-sheet tension-roll passing through said guides and journaled in standards, and means for adjusting said guides to and from each other, substantially as described.

6. The combination with a music-roll, a take-up roll and a tracker-board, of music-sheet tension-rolls interposed between the music-roll and the tracker-board and mounted in standards, one of said rolls being removable, and guide-plates interposed between the music-roll and tracker-board, substantially as described.

7. The combination with a music-roll, a take-up roll and a tracker-board, of music-sheet tension-rolls interposed between the music-roll and the tracker-board and mounted in standards, one of said rolls being removable, and adjustable guide-plates interposed between the music-roll and tracker-board, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE B. KELLY.

Witnesses:
E. C. THOMPSON,
W. C. MANSFIELD.