

1,056,821.

Patented Mar. 25, 1913.

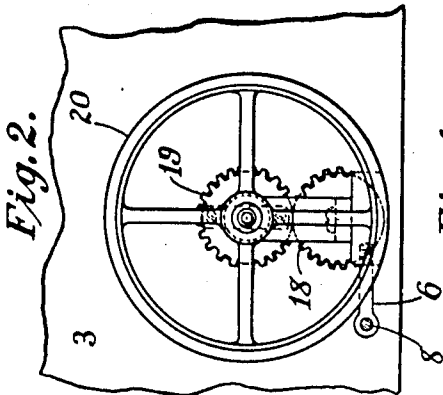


Fig. 2.

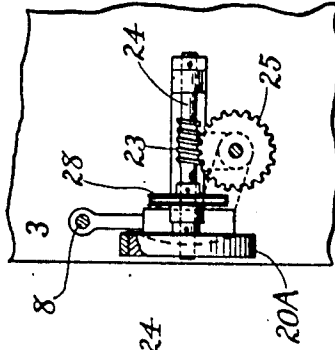


Fig. 4.

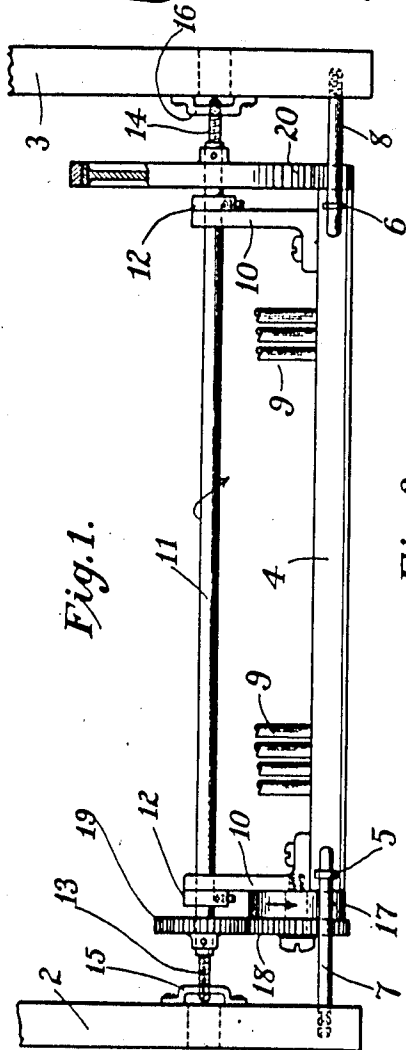


Fig. 1.

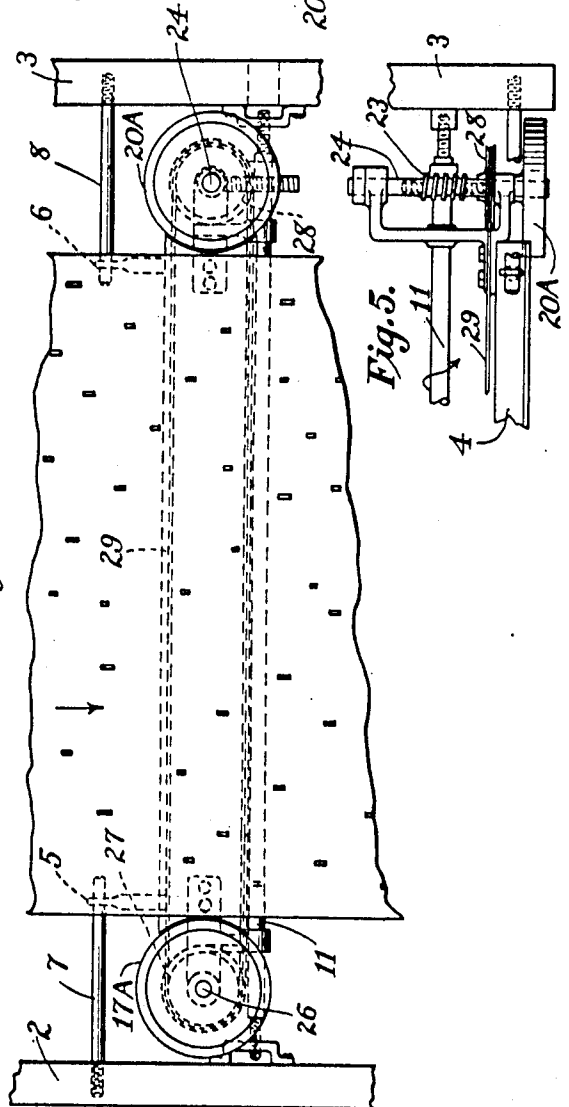


Fig. 3.

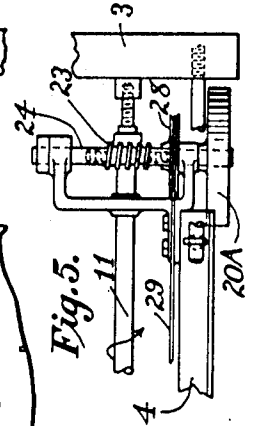


Fig. 5.

Witnesses:  
 Arthur I. Frisch  
 Chas. W. La Rue

Inventor:  
 James O'Connor  
 by Wilbur M. Stone  
 Attorney.

# UNITED STATES PATENT OFFICE.

JAMES O'CONNOR, OF NEW YORK, N. Y.

NOTE-SHEET-GUIDING DEVICE.

1,056,821.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed June 4, 1912. Serial No. 701,575.

*To all whom it may concern:*

Be it known that I, JAMES O'CONNOR, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Note-Sheet-Guiding Devices, of which the following is a specification.

This invention relates to note-sheet guiding devices for automatic musical instruments and has for its object to provide a device of the class specified efficient in operation and simple in construction.

With these ends in view my improvements comprise parts and combinations of parts illustrated in the accompanying drawing in which I have shown the preferred embodiment of my invention.

Figure 1 is a plan view of my improved device and Fig. 2 is an end view thereof. Fig. 3 is a front elevation of a modified form of my improvements. Fig. 4 is an end elevation thereof and Fig. 5 is a fragmentary plan view corresponding therewith.

My improvements may be mounted in the usual note-sheet supporting frame comprising opposite walls 2, 3 between which the usual tracker-bar 4 is supported for movement in the direction of its length, by the ears 5, 6 thereof being in sliding engagement with pins 7, 8, projecting inwardly from frame members 2, 3, respectively. Said tracker-bar 4 may be provided with the usual connecting tubes 9 and with supports such as brackets 10, 10, for shaft 11, lying parallel with said tracker-bar. Said shaft is free to turn in said brackets, but is constrained against endwise movement relatively thereto by some convenient means as collars 12, 12. The opposite ends of said shaft 11 are provided with screw threads 13, 14, in engagement with nuts 15, 16 fixed to frame members 2, 3, respectively. Said threaded ends are of the same hand and pitch, whereby, when said shaft is rotated, one end thereof is screwed into its corresponding nut the same distance that the other end is screwed out of its corresponding nut. Said screw threads being illustrated as right hand, if shaft 11 is rotated in the direction of its arrow, said shaft and tracker-bar 4 will be moved to the right, Fig. 1; if said shaft is rotated in the direction opposite to that of its arrow, it and said tracker-bar

will be moved to the left. Means for causing said shaft to rotate in one direction or the other, in accordance with lateral deviation of the note-sheet from its normal path of travel over the tracker-bar, comprise the following parts: Pivoted in bracket 10, with its axis parallel to shaft 11, is wheel 17 for frictional engagement with one edge face of the note-sheet when that sheet deviates to the left, Fig. 1, from its normal path of travel. The peripheral face of said wheel at its point of contiguity with the end of the tracker-bar is substantially in line with the face of said tracker-bar or slightly above that face. I preferably provide said wheel with a rim of rubber or similar material so that as the traveling note-sheet engages therewith said wheel is caused to rotate in the direction of its arrow. Fixed to said wheel is gear 18, driving gear 19 fixed to shaft 11. Thus, when wheel 17 is rotated in the direction of its arrow by engagement with the note-sheet as it deviates to the left, Fig. 1, said shaft 11 is caused to rotate in the direction opposite to that indicated by its arrow, whereby said shaft and tracker-bar are moved to the left. This movement continues until wheel 17 has moved to the left a sufficient distance to pass out from under the note-sheet, whereby said tracker-bar is restored to its normal relation relatively to the note-sheet. At the other end of said tracker-bar, wheel 20, similar to wheel 17, but larger, is fixed directly to shaft 11. Said wheel 20 is of sufficient diameter to present its periphery in continuity with the face of tracker-bar 4. Thus, when the traveling note-sheet deviates to the right, Fig. 1, it will ride over onto the periphery of said wheel 20 and rotate that wheel and shaft 11 in the direction of the arrow on that shaft, thereby moving said shaft and tracker-bar 4 to the right. This movement will continue until wheel 20 has moved out from under said note-sheet when the tracker-bar will have been restored to its normal relation relatively to the note-sheet.

In some cases I prefer to mount the friction wheels on axes normal to the plane of the path of travel of the note-sheet, whereby said wheels are caused to rotate when engaged by the edge of the note-sheet as it deviates laterally in its path of travel. By this arrangement it is convenient to make the said friction wheels 17<sup>A</sup> and 20<sup>A</sup> of the

same diameter, and the transmission means from said wheels to shaft 11 may comprise worm 23 on shaft 24 of wheel 20<sup>A</sup> in engagement with worm wheel 25 fixed to shaft 11. Shaft 26 of wheel 17<sup>A</sup> has fixed thereon pulley 27 connected by belt 29 with a similar pulley 28 fixed to shaft 24. By this arrangement when wheel 17<sup>A</sup> is rotated in clockwise direction, Fig. 3, by the engagement of the edge of the note-sheet therewith, shaft 24 is caused to rotate in a similar direction, thereby rotating shaft 11, Fig. 5, in a direction opposite to that indicated by its arrow, Fig. 5, whereby the tracker-bar is moved to the left, Fig. 3, thereby restoring normal relations between said tracker-bar and note-sheet. If, on the other hand, said note-sheet deviates to the right into operative engagement with the edge of wheel 20<sup>A</sup> said wheel will be rotated in anticlockwise direction, whereby shaft 11 is rotated in the direction of its arrow and the tracker-bar moved to the right, Figs. 3 and 4, thereby restoring the normal relation between the tracker-bar and the note-sheet.

My improved mechanism is exclusively mechanical as distinguished from pneumatically actuated mechanism and said mechanism may be very light in construction and sensitive in action, whereby a very slight frictional engagement of either of the opposite friction wheels by the note-sheet will rotate that wheel to restore the disturbed relations to the normal.

I claim:

1. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a rotatable member mounted in one end of said tracker-bar for movement therewith and arranged to be rotated by the note-sheet when that sheet deviates laterally from its normal path of travel into engagement with said rotatable member, means mechanically actuated by the rotation of the rotatable member for moving said tracker-bar in the direction of deviation of said note-sheet, and means for moving said tracker-bar in the other direction.

2. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a rotatable member mounted in each end of said tracker-bar for movement therewith, said members being arranged to be rotated, respectively, by the note-sheet when that sheet deviates laterally from its normal path of travel into engagement with one or the other of said rotatable members, and means for moving said tracker-bar by the rotation of the rotatable members, respectively, in the direction of deviation of said note-sheet.

3. A note-sheet guiding device including

in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a rotatable member mounted in each end of said tracker-bar for movement therewith, said members being arranged to be rotated, respectively, by the note-sheet when that sheet deviates laterally from its path of travel into engagement with one or the other of said rotatable members, and rotatable means actuated by said rotatable members for moving said tracker-bar in the direction of deviation of said note-sheet.

4. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a pivotally mounted wheel for frictional engagement with the edge of the note-sheet, means connecting said tracker-bar and frame for moving said tracker-bar relatively to said frame, means mechanically connecting said pivotally mounted wheel with said tracker-bar moving means, and means for moving said tracker-bar in the opposite direction.

5. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a pivotally mounted wheel for frictional engagement with the edge of the note-sheet, rotatable means connecting said tracker-bar and frame for moving said tracker-bar relative to said frame and rotatable means mechanically connecting said pivotally mounted wheel with said tracker-bar moving means, and means for moving said tracker-bar in the opposite direction.

6. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a rotatable member mounted for rotation in one plane in one end of said tracker-bar and arranged to be rotated by the traveling note-sheet when that sheet deviates laterally from its normal path of travel into engagement with said rotatable member, means actuated from said rotatable member for moving said tracker-bar in the direction of deviation of said note-sheet, and means for moving said tracker-bar in the other direction.

7. A note-sheet guiding device including in combination, a supporting frame, a tracker-bar mounted for movement in the direction of its length in said frame, a rotatable member mounted in one end of said tracker-bar and arranged to be rotated by the note-sheet when that sheet deviates laterally from its normal path of travel into engagement with said rotatable member, a rotatable shaft carried by said tracker-bar and in threaded engagement with said frame, means for rotating said shaft from the rotatable member for moving said

70  
75  
80  
85  
90  
95  
100  
105  
110  
115  
120  
125

tracker-bar in the direction of deviation of said note-sheet, and means for moving said tracker-bar in the other direction.

8. A note-sheet guiding device including  
 5 in combination, a supporting frame, a  
 tracker-bar mounted for movement in the  
 direction of its length in said frame, a ro-  
 tatable member mounted in each end of said  
 tracker-bar, said members being arranged  
 10 to be rotated in one plane respectively by  
 the note-sheet when that sheet deviates lat-  
 erally from its path of travel into engage-  
 ment with one or the other of said rotatable  
 members, and means for moving said  
 15 tracker-bar from the rotatable members re-  
 spectively.

9. A note-sheet guiding device including  
 in combination, a supporting frame, a  
 tracker-bar mounted for movement in the

direction of its length in said frame, a ro-  
 tatable member mounted in each end of said  
 tracker-bar, said members being arranged  
 to be rotated respectively by the note-sheet  
 when that sheet deviates laterally from its  
 path of travel into engagement with one or  
 the other of said rotatable members, a ro-  
 tatable shaft carried by said tracker-bar and  
 in threaded engagement with said frame,  
 and means for rotating said shaft from  
 either of said rotatable members.

Signed at New York, N. Y., this 27th day  
 of May, 1912, before two subscribing wit-  
 nesses.

JAMES O'CONNOR.

Witnesses:

F. G. CORYELL,  
 ARTHUR CONROW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
 Washington, D. C."