L. B. DOMAN.

TRACKER BAR.

APPLICATION FILED NOV. 28, 1908.

1,039,659. Patented Sept. 24, 1912.

Fig. 1.

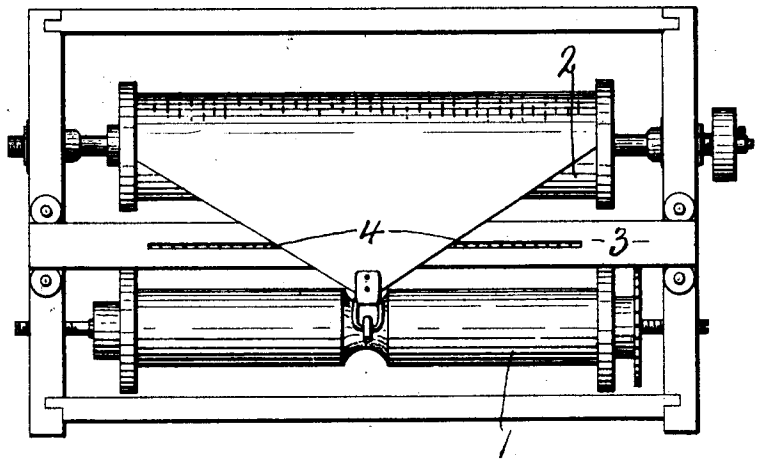

Fig. 2.

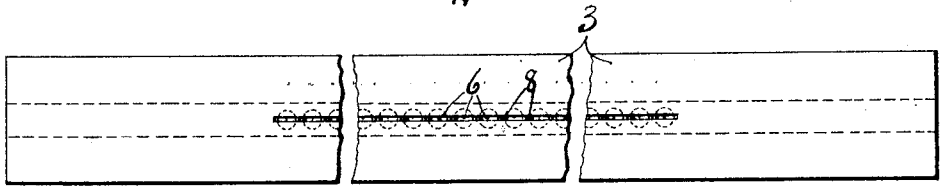

Fig. 3.

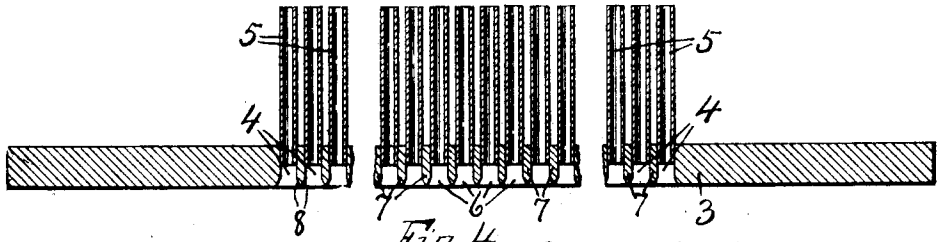

Fig. 5.

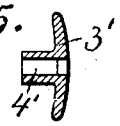

Fig. 4.

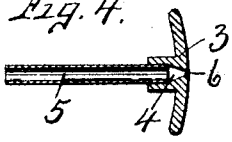

Fig. 6.

WITNESSES.

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TRACKER-BAR.

1,039,659. Specification of Letters Patent. Patented Sept. 24, 1912.

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To all whom it may concern:

Be it known that I, LEWIS B. DOMAN, of Elbridge, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Tracker-Bars, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in tracker bars for pneumatic self-playing musical instruments in which a perforated music sheet is movable across the tracker bar in such manner that its perforations register with the corresponding ducts of such tracker bar to control the action of the sound producing devices. These perforations and ducts are usually very small in order that a large number may be brought into as compact a space as possible and, therefore, any slight disturbance of the normal relation of these parts produces more or less inefficiency in the sound producing action.

In all the tracker bars with which I am familiar the necessary partitions between the ducts are at least as wide at the face across which the music sheet is drawn as the remaining portions of the partitions between the ducts while the portions of the web or sheet between the contiguous lines of perforations must be at least as wide as the portion of the partitions at the tracker face but are necessarily quite narrow so that the slightest lateral shifting of either the tracker bar and music sheet will cause the perforations to overlap adjacent ports thereby resulting in frequent discords until the normal relation of the tracker bar and sheet is restored. My invention seeks to overcome this difficulty by reducing to a minimum, the width of the partition at the face of the tracker bar across which the music sheet is drawn or rather by widening the mouth of the tracker ducts to a maximum so that the difference in widths of the mouths of the tracker ducts and perforations in the music sheet is more pronounced.

In other words the main object of my present invention is to increase the width of the mouths of the ducts at the tracker face without increasing the distance from center to center of the ducts whereby the music sheet may have a greater range of lateral shifting without throwing its perforations out of registration with its corresponding ducts.

In the drawings—Figure 1 is a front elevation of what is commonly known as the music box of a self-playing musical instrument showing my improved tracker bar therein. Fig. 2 is an enlarged face view of the detached tracker bar, portions thereof being broken away. Fig. 3 is a longitudinal sectional view through the ducts of the tracker bar seen in Fig. 2, and Fig. 4 is a transverse sectional view of the same tracker bar. Figs. 5 and 6 are sectional views similar to Fig. 4 showing modified forms of ducts.

The music box shown in Fig. 1 is adapted to contain a winding roller —1—, a rewinding roller —2— and a tracker bar —3—, which latter is usually located between the rollers —1— and —2— with its front face projecting slightly in advance of the front faces of the rollers to cause the music sheet to fit closely against such face in traveling from one roller to the other. This tracker bar is preferably made of a single piece of metal having transverse parallel ducts —4— extending therethrough from its front face to its rear face. The greater portions of the ducts —4— extending from the rear side of the tracker bar forwardly are bored or circular in cross section for receiving corresponding tubes —5— which are usually connected by flexible pipes to the primary pneumatics of the sound producing action, not shown.

The front ends of the ducts —4— terminate in narrow elongated slots —6— forming the mouths of the ducts and are made of greater length than the diameter of the bores by beveling off the front edges of the partitions as —7— which are parallel separate the ducts —4— one from the other. The front ends of the partitions —7— are, therefore beveled or tapered at —8— to nearly a sharp edge, such edges being, however, coincident with the front face of the tracker bar across which the music sheet is drawn, and, therefore, come in contact with the webs or imperforate portions of the music sheet between the adjacent lines of perforations so as to maintain the individuality of the ducts separate from the others throughout their entire lengths from front to rear and at the same time affording

a maximum width for the mouths of the ducts lengthwise of the tracker bar considerably greater than the corresponding widths of the perforations in the music sheet.

The front ends or mouths of the tracker ducts are of substantially the same width as the distance between the centers of adjacent portions which divide said ducts and are preferably flaring in the direction of length of the bar thereby affording a wider range for lateral shifting of the sheet without disturbing the normal relation between the sheet and tracker bar and at the same time maintaining effective division between the ducts at the tracker face.

I do not wish, however, to limit myself to the circular bore nor to the flaring mouths of the ducts because the essential feature of my invention is making the mouths of the ducts longer in the direction of length of the bar than the remaining portions of such ducts in which the tubes are inserted, it being understood that it is necessary to form the partitions thick enough to effectively separate the ducts one from the other especially where the tubes are inserted therein.

In Fig. 5 the mouth of the duct is of the same transverse width as the bore or inner end of the duct although flaring laterally or lengthwise of the bar as shown in Fig. 3.

In Fig. 6 the sizes of the inner end of the duct is somewhat less than that shown in Figs. 1 to 4 inclusive but the mouth of the duct is flaring transversely as well as longitudinally of the bar, the effect being to make the mouth of the duct of greater area than that of its inner end.

What I claim is:

1. A one-piece metal tracker bar having parallel note ducts and intervening parallel partitions, the outer edges of said partitions being wedge-shape, and the corresponding portions of all of the note ducts flaring lengthwise of the bar.

2. A one-piece tracker bar having parallel note ducts and interposed partitions, the rear ends of all of the note ducts being circular and their front ends contracted transversely of the bar, the front ends of the partitions being wedge-shape, and the corresponding ends of all of the note ducts flaring lengthwise of the bar.

In witness whereof I have hereunto set my hand this 13 day of November 1908.

L. B. DOMAN.

Witnesses:

W. E. JOHNSON,

FRED C. CARPENTER.