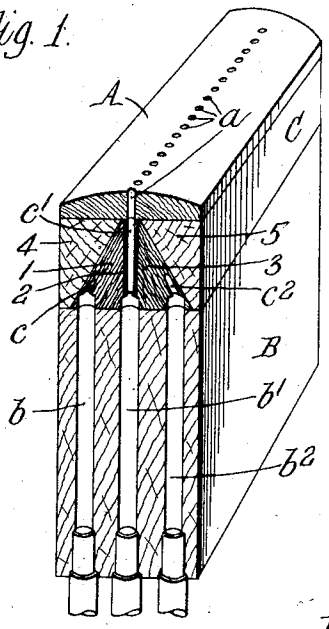
No. 890,288. PATENTED JUNE 9, 1908.

C. MAERTEN, JR.

TRACKER BOARD FOR MUSICAL INSTRUMENTS.

APPLICATION FILED FEB. 13, 1908.

Fig. 1.



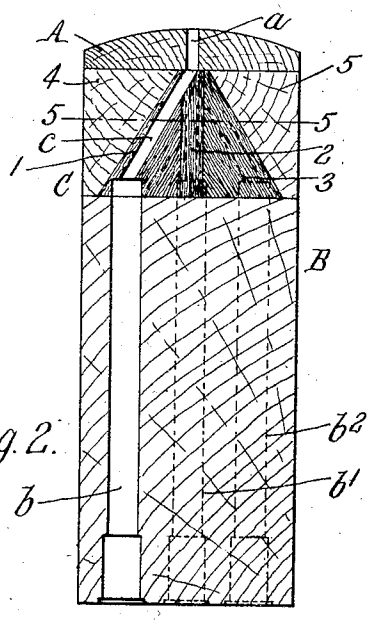


Fig. 2.

Fig. 3.

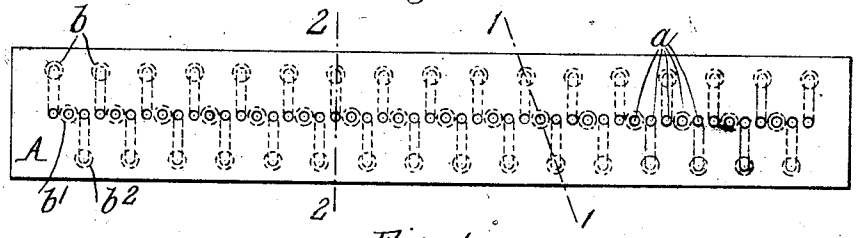


Fig. 4.

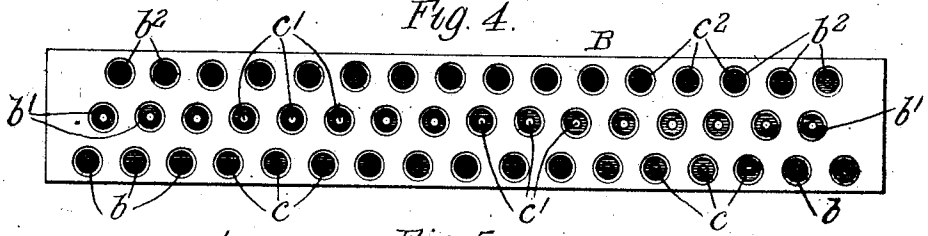
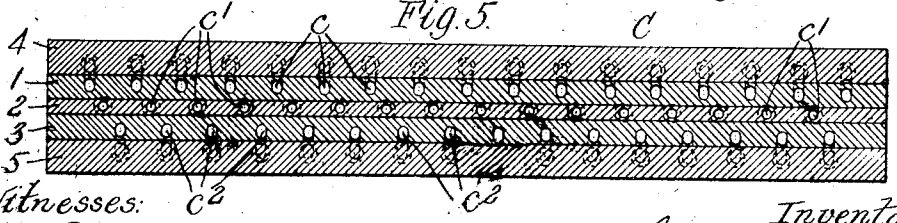


Fig. 5.



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UNITED STATES PATENT OFFICE.

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TRACKER-BOARD FOR MUSICAL INSTRUMENTS.

No. 890,288. Specification of Letters Patent. Patented June 9, 1908.

Application filed February 13, 1908. Serial No. 415,636.

To all whom it may concern:

Be it known that I, CHRISTIAN MAERTEN, Jr., a citizen of the United States, residing at North Tonawanda, in the county of Niagara and State of New York, have invented a new and useful Improvement in Tracker-Boards for Musical Instruments, of which the following is a specification.

This invention relates to tracker-boards for mechanical musical instruments of that type in which the speaking or sound producing devices are operated by a pneumatic action or mechanism controlled by a perforated note sheet which travels over the tracker-board for opening and closing the air ducts or passages therein. Some of these instruments have a large number of speaking devices, and, as there must be a correspondingly large number of ducts in the tracker-board, it is desirable to have the ends of the ducts which register with perforations of the music sheet, and which are arranged in a single row, close together in order to permit of the use of a relatively narrow note sheet. A narrow note sheet is preferable to a wide one, because, among other reasons, it is easier to properly guide it and insure a perfect registration of its perforations with the ducts of the tracker, and a narrow sheet is less liable to be injured or changed by expansion and contraction, and less room is also required in the instrument for it and its operating mechanism. The opposite ends of the tracker ducts should, however, be spaced far enough apart to afford ample room for the connection therewith of the tubes leading to the pneumatic devices, and these tube ends of the ducts are preferably about equal in diameter to the internal diameter of the tubes, or much larger than the other ends thereof, to afford as free a passage as possible for the air. It is therefore customary to form the large portions of the ducts in several rows and in staggered relation to each other. The ducts, whose large ends are not in line with the small ends thereof, must therefore have intermediate portions which extend more or less crosswise of the tracker-board, or at an angle to their end portions. A wooden tracker-board is desirable, because of the greater facility with which it can be made, but if the passages cross the grain of the wood and are located close together the air is apt to leak from one passage to another through the pores of the wood to such an extent as to seriously interfere with the operation of the instrument.

The primary object of this invention is to produce a tracker-board composed of pieces or sections so constructed and arranged that the air ducts can be bored with facility and accuracy and so that those portions of the ducts which are close together will not intersect the grain of the sections in such manner as to allow the leakage of air from one to another of the ducts through the pores of the wood. To this end, the tracker-board is composed of separate upper, lower and intermediate sections or pieces firmly glued together. The upper section has a row or line of small holes through it for registration with the perforations of the note sheet, the lower section has larger holes through it arranged in different rows or in different planes to afford the necessary room for attaching the air tubes, and the intermediate section has holes through it arranged in rows and extending in the necessary directions to connect the large holes of the lower section with the small holes of the upper section to form continuous air ducts through the tracker-board. The intermediate section of the tracker-board consists of separate strips of wood glued together through each of which strips one of the rows of holes of the intermediate section passes, and these strips are made and arranged so that the grain of the wood in each piece extends as nearly parallel as practicable with the holes therein.

In this specification the terms "upper" and "lower" as applied to the tracker-board and the ends of the air ducts are used for convenience in description, but the tracker-board can be arranged in other than an upright position, and the term "upper" is to be understood to refer to the ends of the ducts and the portion of the tracker-board next to the note sheet, and the term "lower" to the opposite ends of the ducts and the corresponding portion of the tracker-board.

In the accompanying drawings: Figure 1 is a transverse sectional perspective view of a tracker-board embodying the invention, the section being taken in the oblique line 1—1, Fig. 3. Fig. 2 is a transverse section thereof, on an enlarged scale, in line 2—2, Fig. 3.

Fig. 3 is a plan view thereof. Fig. 4 is a bottom plan view thereof. Fig. 5 is a horizontal section thereof, in line 5—5, Fig. 2.

Like letters of reference refer to like parts in the several figures.

A represents the upper section of the tracker-board through which extend small holes *a* arranged in the same line or row and relatively close together, and B the lower section having holes *b b' b²* extending through it and preferably arranged in three rows and in staggered relation to each other, as shown in Fig. 4 and indicated by the dotted lines in Figs. 3 and 5, whereby the holes can be of relatively large diameter and spaced a considerable distance apart. Between the upper and lower sections is an intermediate section C preferably consisting of three inner strips or pieces 1, 2 and 3 provided with rows of holes *c c' c²*, respectively, and opposite outer or face-pieces 4 and 5 between which the three inner pieces are confined. There is a hole in the upper section for each hole in the lower section, and each row of holes in the intermediate section is arranged to connect one row of holes in the lower section with corresponding holes in the upper section. Each of the inner strips 1, 2 and 3 of the intermediate section contains one row of holes, and the pieces are made and arranged, as most clearly shown in Fig. 2, so that the grain of each strip runs substantially parallel with the holes therein. Thus the grain runs crosswise of the length of these strips, the grain in the middle piece 2 running substantially straight up and down, while the grain of the pieces 1 and 3 extends at an inclination corresponding to the inclination of the holes *c c²*. The tracker-board shown in the drawings has three rows of holes in the lower section and consequently there are three rows of holes and three inner strips 1, 2 and 3 in the intermediate section, but the invention is not restricted to this particular number of rows. The intermediate section should, however, to produce the best results, have the same number of rows of holes as the lower section, each row of holes being formed in a separate piece with the grain running parallel with the holes, as then the holes can be located very closely together without danger of the air leaking through the wood from one hole to another. The strips composing the intermediate section are preferably glued together before the holes are bored, and the outer or face-strips 4 and 5, in which the grain runs lengthwise, serve to strengthen the intermediate section and prevent the same from splitting in the manufacture and use of the tracker-board. These face pieces 4 and 5 with the grain running lengthwise thereof also insure better glue joints between the intermediate and upper and lower sections and give a better and more finished appearance to the tracker-board. While the facing strips are preferably used, for the reasons stated, they are not absolutely essential and could be omitted and the inner pieces 1 and 3 extended to the sides of the tracker-board.

I claim as my invention:

1. A tracker-board comprising upper and lower sections provided with holes, and an intermediate section connecting said upper and lower sections and composed of a plurality of connected strips provided with holes registering with the holes in the upper and lower sections to form continuous air ducts, the holes in each strip of said intermediate section extending in substantially the direction of the grain of said strip, substantially as set forth.

2. A tracker-board comprising an intermediate section composed of a plurality of connected strips having the grain running crosswise thereof and each having holes therein extending substantially in the direction of its grain, and sections connected to said intermediate section and provided with holes joining the opposite ends of said holes in the intermediate section to form continuous air ducts, substantially as set forth.

3. A tracker-board comprising an upper section provided with a single row of holes, a lower section provided with a plurality of rows of holes, and an intermediate section connecting said upper and lower sections and composed of a plurality of connected strips of wood each provided with a row of holes joining the holes of one row of the lower section with holes in the upper section and extending substantially in the direction of the grain of said strip, substantially as set forth.

4. A tracker-board comprising upper, lower and intermediate connected sections, said upper section having a single row of holes, said lower section having three rows of holes, and said intermediate section being composed of three connected inner strips of wood with the grain running crosswise thereof and each having a row of holes substantially parallel with its grain and joining the holes of one row of the lower section with holes in the upper section, and outer or face strips between which said inner strips are located, substantially as set forth.

5. A tracker-board comprising connected sections with registering holes forming continuous air ducts, one of said sections comprising a plurality of connected strips of wood having the grain thereof running crosswise of the length of the strips, the holes in said section extending substantially in the direction of the grain of the strips in which they are located, substantially as set forth.

Witness my hand, this 6th day of February, 1908.

CHRISTIAN MAERTEN, Jr.

Witnesses:
C. W. Parker,
C. B. Hornbeck.