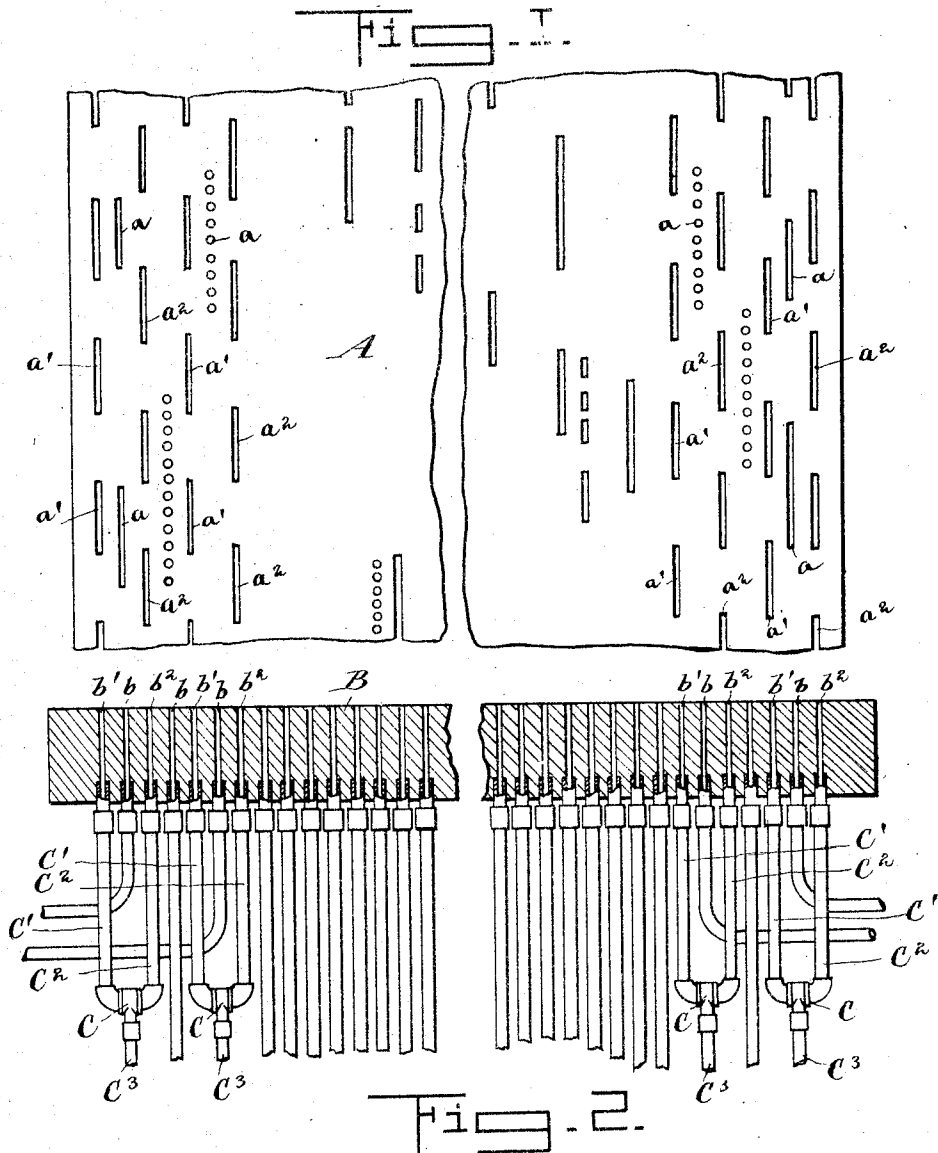


J. WAUTERS.
 AUTOMATIC MUSICAL INSTRUMENT.
 APPLICATION FILED APR. 15, 1911.

1,042,732.

Patented Oct. 29, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

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AUTOMATIC MUSICAL INSTRUMENT.

1,042,732.

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Patented Oct. 29, 1912.

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To all whom it may concern:

Be it known that I, JOSEPH WAUTERS, a subject of the King of Belgium, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a certain new and useful Improvement in Automatic Musical Instruments, of which the following is a specification.

The invention relates to the music-sheet and the tracker-board with which the sheet coöperates in controlling the admission of air to the pneumatics, and thus initiates the movements of the music-producing mechanisms.

The invention is designed more particularly for service with self-playing instruments of the violin class in which a bowing device is provided for each violin string and in which it is sometimes necessary for one or more of such bowing devices to be held in contact with its string for continuous periods of considerable length. By the usual methods of preparing such sheets this necessity requires very long slits in the music-sheet tending to weaken the latter and render it unmanageable in the feeding mechanism. The object of this invention is to overcome this difficulty and permit the bowing devices or other music-producing mechanisms to be held continuously in operative positions for indefinitely long periods without weakening the sheet.

The invention consists in certain novel features of construction and arrangement by which the above object is attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show the manner in which the invention has been carried out in practice.

Figure 1 is a face view of a portion of a music-sheet or roll perforated in accordance with the invention, and Fig. 2 is a longitudinal vertical section, partly in elevation, showing a portion of a tracker-board and its connected tubes, constructed to serve with such sheet.

The sheet A and tracker-board B may be arranged for operating various automatic music-producing mechanisms, but for the purposes of this description they will be assumed to be arranged for operating the pneumatics for the bowing devices, fingering

mechanism, and other portions, not shown, of an apparatus for playing a violin automatically, in which there are four bowing devices, one for each string of the violin. Each bowing device is given two apertures b^1 b^2 in the tracker-board B, from which extend tubes C^1 C^2 joined below the tracker-board to the branches of a T C from the stem of which extends a single bow-controlling tube C^3 .

The sheet A is formed with two series of perforations a^1 a^2 for each bow, matching to the apertures b^1 b^2 in the tracker-board. These perforations may be individually of moderate lengths not sufficient to weaken the paper materially nor permit its distortion, and are staggered or so arranged relatively to each other that a perforation or slot a^1 in one row or series will open its tracker-board aperture b^1 at the instant or a little before the perforation a^2 of the other row or series has closed its aperture b^2 , thus supplying air through the tubes C^1 C^2 alternately, or for very brief periods through both at once, to the T C and tube C^3 continuously as long as the two series of perforations continue.

By thus alternating the slots or perforations the weakening due to extremely long slots is avoided. To lessen the weakening still further the series of perforations a^1 a^2 for the bows are not formed side by side but are separated by a row of perforations a controlling other devices or portions of the playing mechanism, through the apertures b b in the tracker-board. Thus arranged the bowing devices may be operated for as long periods as may be required without affecting the sheet either by weakening it or detracting from the stiffness necessary to successful feeding.

I claim:

1. In an automatic instrument player, a tracker-board, a music-sheet therefor having two separated adjacent series of perforations therein for actuating the same player mechanism, the perforations of one series alternated with and overlapping those of the other, both of said series arranged to co-act with means carried by said tracker-board for inducing continuous operation of said player mechanism.

2. In an automatic instrument player, a

tracker-board, a music-sheet therefor having two separated adjacent series of perforations therein for actuating a single player mechanism, the perforations being relatively short with those of one series staggered relatively to those of the other, and connections from each of two points on said tracker-board corresponding to said two series of perforations, for actuating said player mechanism.

3. In an automatic instrument player, a tracker-board having apertures therein, a music-sheet therefor having two separated adjacent series of perforations therein for actuating a single player mechanism, two of said apertures matching said two series of perforations, a tube from each of said two apertures, a T joining said tubes, and a single tube leading from said T to such player mechanism.

4. The music-sheet described having two separated adjacent series of perforations therein for actuating a single player mechanism, the perforations of one series staggered relatively to and overlapping those of

the other series, and adapted to serve with a tracker-board having two apertures matching said two series, both of said apertures arranged to operate such single player mechanism.

5. The music-sheet described having two separated adjacent series of perforations therein for actuating a single player mechanism, the perforations of one series staggered relatively to those of the other series, one or more rows of music perforations in the space between said two series, the perforations of said series adapted to serve with a tracker-board having two apertures matching the perforations of said series, both of said apertures arranged to operate such single player mechanism.

In testimony that I claim the invention above set forth I affix my signature, in presence of two witnesses.

JOSEPH WAUTERS.

Witnesses:

E. L. BURNS,
NELLIE DUFFY.