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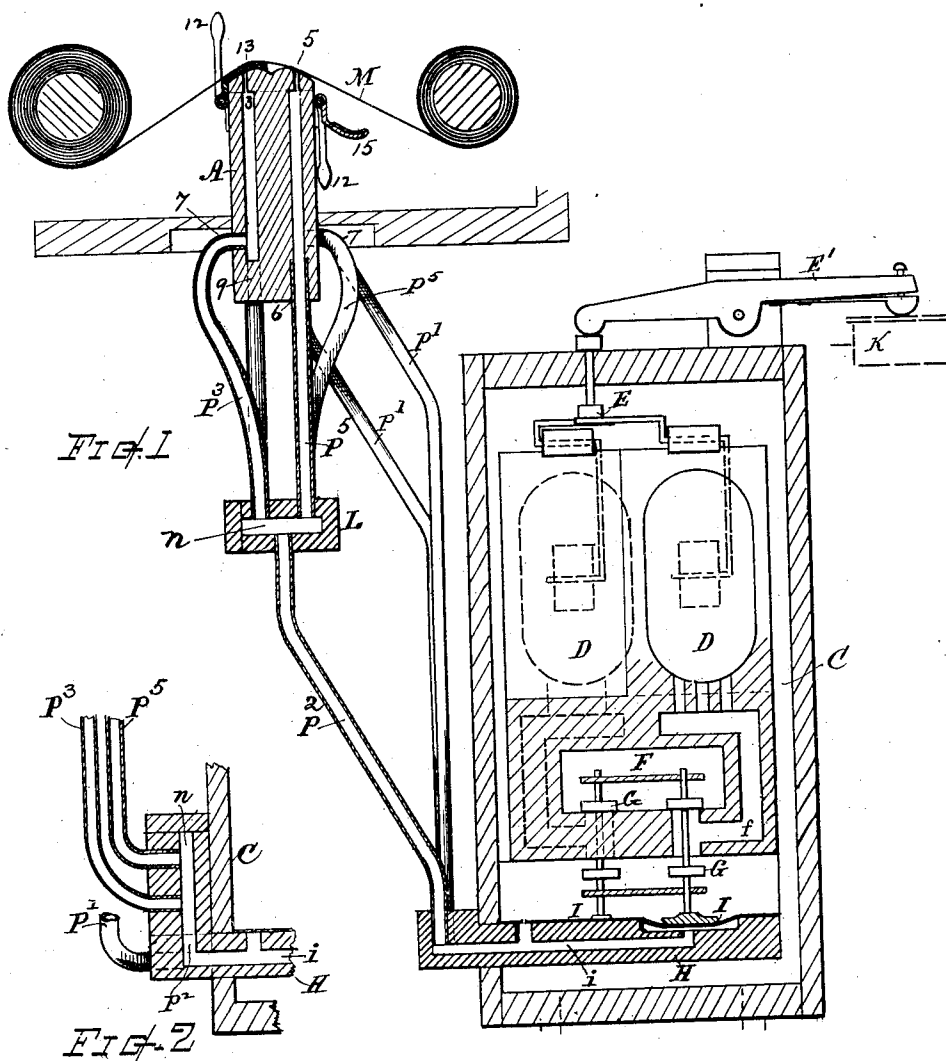
C. L. DAVIS.

MECHANICAL MUSICAL INSTRUMENT.

APPLICATION FILED MAR. 27, 1903.

NO MODEL.

2 SHEETS--SHEET 1.



Witnesses.
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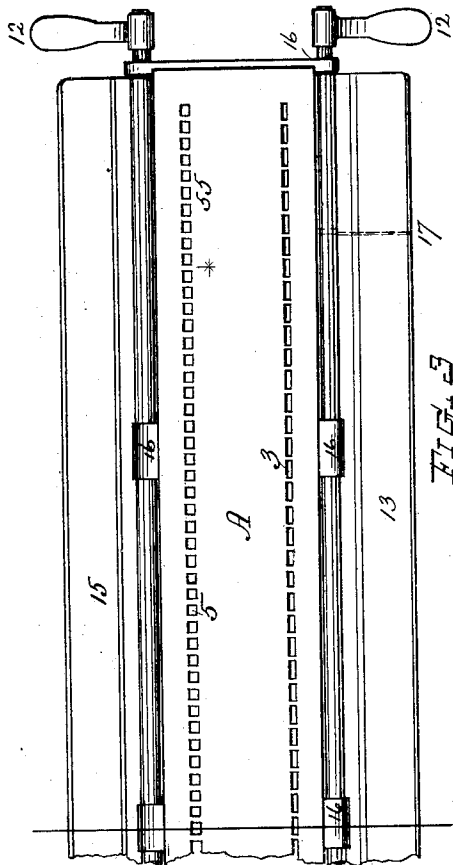
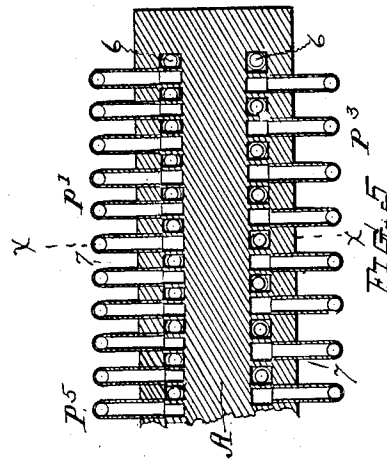
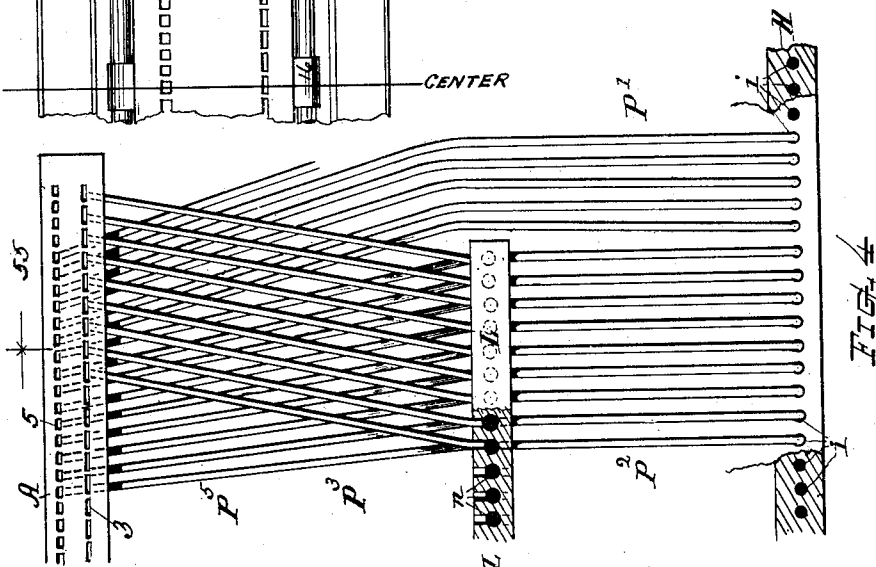
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UNITED STATES PATENT OFFICE.

CHARLES L. DAVIS, OF MERIDEN, CONNECTICUT, ASSIGNOR TO WILCOX & WHITE COMPANY, OF MERIDEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 744,052, dated November 17, 1903.

Application filed March 27, 1903. Serial No. 149,824. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. DAVIS, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Mechanical Musical Instruments, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The objects of my present invention are, first, to provide a pneumatically-operated music-playing instrument with means whereby it is adapted for using thereon music sheets or rolls of approximating widths, but in which the note-perforations are formed on different scales or spacings; second, to provide a tracker for the purpose specified having a plurality of rows of ducts with orifices arranged on different scales in the respective rows and means whereby the conduits or air-ducts for the corresponding note-orifices in the several scales are united for controlling the respective pneumatic-actions as a single system.

Another object is to provide, in a pneumatically-operated music-playing instrument, having a tracker provided with a plurality of rows of inlet-orifices, each row being of different scale or spacing, means for separately shutting off the rows of orifices or tracker-ducts pertaining to the several scales.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a transverse vertical section of a pneumatic music-playing action with tracker and connecting conduits embodying my invention. Fig. 2 illustrates a modification in the form and location of the conduit-combining section. Fig. 3 represents a top plan of one-half of a tracker constructed in accordance with my invention. Fig. 4 is a fragmentary diagram illustrating in elevation the manner of arranging the pipes or conduits from the different sets of tracker-orifices to their respective primary pneumatics. Fig. 5 is a horizontal section of a portion of the tracker, showing a convenient

manner of connecting the conduit-pipes with the ducts in the tracker-body.

In the drawings, Fig. 1, my invention is illustrated as combined with a well-known type of pneumatic music-playing action; but it will be understood that the invention is applicable to and may be employed with other styles of primary and operating pneumatics or music-playing actions without substantial change in the nature and operation of the invention.

The reference-letter A indicates the tracker. C denotes the wind-chest, from which air is exhausted in usual manner. D indicates the operating-pneumatics that actuate music-playing devices E of any suitable kind; F, the air-supply trunk or flushing-leader; G, the flushing-valves; I, the primary pneumatics for actuating said valves, and the air-passages in the pneumatic-bed H, leading into the respective primary pneumatics, all of which parts may be arranged for operation in well-known or suitable manner.

The series of pneumatic-actions correspond in number with the number of notes provided for in the range of the tracker, the controlling or primary pneumatics being arranged in a unitary series according with the music-notes.

The tracker A, in accordance with my present invention, is provided with a plurality of rows or series of ducts with orifices opening at the face thereof, each row having its orifices formed on a different scale from that of the other—as, for instance, the row of orifices 3 comprising sixty-five note-orifices formed on a scale of six to the inch, and the row of orifices 5 comprising eighty-five note-orifices formed on a scale of eight to the inch, which gives in the range of the tracker two rows of approximately the same length, but different in their scale or spacing and in number of notes in each row or series.

Connected with each tracker-duct there is a pipe or conduit for the passage of air to flush the respective primary pneumatics I. These pipes I arrange in the following-described manner: From corresponding note-ducts in the different tracker-scales 3 and 5 the pipes or conduits P³ and P⁵ lead off separately

rately and are brought together and joined by a union member or combining-section L, disposed between the tracker and the primary pneumatics, and from said union member the pipes or conduits P² lead singly into the passages *i* of the respective primary pneumatics. From those tracker-ducts of the greater-numbered scale 5, which are in excess of the ducts in the lesser-numbered scale 3, the pipes or conduits P' lead singly from the tracker to their primary pneumatics, which latter may be arranged in extension of the series at the bass and treble ends of the series of playing-actions. The union member L may be of any suitable form for uniting the conduits or pipes P³ and P⁵ in pairs. A preferable construction therefor consists of a combining bar or section provided with a series of cells or passages *n*, into which the dual pipes P³ and P⁵ connect and from which the pipe P² communicates with the pneumatic-passage *i*, as best shown in Fig. 1. The combining-section or union member L may be located as in Fig. 1 or as in Fig. 2 or at other convenient position. To provide space for the connection of the conduit-pipes with the tracker-body A without interfering with each other, each alternate pipe may be inserted vertically into the tracker-duct, as at 6, while the intervening pipes are inserted into the body laterally, as at 7, and the lower end of the duct stopped within the body, as at 9. This arrangement is best shown in Figs. 1 and 5.

In connection with the tracker I arrange shut-off devices for independently stopping communication between the primary pneumatics and the respective series or rows of tracker-orifices. Said devices preferably consist of valves or stop-plates 13 and 15, suitably hinged at 16 and adapted to be turned up over the face of the tracker, as shown at the left on Fig. 1, or to be turned down out of the way, as shown at the right on Fig. 1, so that either of the tracker-scales can be used at will, accordingly as the music sheet or strip M may be perforated for a sixty-five or an eighty-five note scale, (or such other numbered scales as may in any case be adopted.) The stop-plates 13 and 15 are best provided at the end of the tracker or at other convenient position with a handle 12 or means to facilitate the shifting of the same from open to closed position, and vice versa. The stop-plates 13 and 15 are best made with a padded face to form a close fit upon the face of the tracker for securely closing the tracker-orifices, while the back or outer side of the stop-plate is shaped to form a smooth runway for the music-sheet M while operating on the adjacent row of orifices. The stop-plates may extend the full length of the tracker or in other instances, if desired, may be divided into two or more separately-movable sections, as indicated by dotted lines at 17, Fig. 3.

In this specification I have referred to

scales of six to the inch and eight to the inch, also to sixty-five notes in a scale and eighty-five notes in a scale, since music-sheets conforming to some one of these scales and number of notes may be found in the market; but it will be understood that I do not confine my invention to these exact numbers and dimensions, as the different scales may in some instances be made more or less without departing from the nature of the invention.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. In a pneumatic music-playing instrument, the combination, of a unitary series of primary pneumatics, a tracker provided with dual series of ducts with orifices ranged on different scales, conduits or pipes communicating from the respective ducts of said different scales to the respective primary pneumatics, and means for stopping communication through either series of tracker-orifices to the primary pneumatics.

2. In a music-playing instrument, a tracker provided with two rows of openings, the openings in the respective rows being formed on different scale, a set of pneumatic valve-actuating devices, and means for the control of said pneumatic devices from either row of said tracker-openings independently of the other row.

3. In a pneumatically-operated music-playing instrument, the combination with the primary or valve-controlling pneumatic, of a tracker provided with dual series of orifices which are ranged on different scale, a conduit-combiner or uniting member having cells or passways therein, dually-arranged pipes or conduits leading from corresponding note-orifices of the dual tracker series into said cells, and singly-arranged pipes or conduits leading from said combiner-cells to the respective primary pneumatic, for the purpose set forth.

4. A tracker, for the purpose specified, having a plurality of rows of ducts, the orifices of which are formed on different scales for the respective rows, means uniting the ducts or conduits of corresponding notes in the different rows with a single airway or connection into the primary or valve-controlling pneumatic, and means for separately shutting off the several rows of ducts or tracker-orifices.

5. The combination, with the series of pneumatic-actions, the tracker having dual series or rows of ducts with orifices ranged on different scales in the respective rows, and the conduits therefrom to the respective primary pneumatics united for corresponding note-orifices; of shutters or stop-plates hinged at the sides of the tracker and adapted to swing over and from the face thereof for separately closing and opening the respective rows of orifices, substantially as set forth.

6. The combination, in a pneumatic music-playing action, of a series of pneumatic devices, a tracker provided with a plurality of rows of ducts with orifices ranged on differ-

ently-spaced scales and comprising different numbers of ducts, a conduit-combiner having uniting-passages with single conduits communicating therefrom to the corresponding
5 primary pneumatics, the pipes or conduits from corresponding note-orifices in the different scales leading to said combiner-passages, and single pipes or conduits from those
10 tracker-orifices of the greater-numbered scale which are in excess of the lesser-numbered scale, arranged direct from the tracker to their primary pneumatics.

7. A tracker for the purpose specified, having on a single range two series of ducts, one
15 series of sixty-five ducts, the orifices of which are formed on a scale of six to the inch, and a second series of eighty-five ducts, the orifices of which are formed on a scale of eight to the inch.

20 8. The combination with a tracker-body provided with two rows of ducts or orifices ranged on front and rear lines, of the con-

duit-pipes connected with the tracker-ducts, each alternate pipe disposed in approximately direct alinement with the ducts, and the in-
25 tervening pipes disposed in connection with the sides of the ducts in their respective rows along the opposite sides of the tracker-body, substantially as set forth.

9. A tracker for the purpose specified, hav-
30 ing on a single range two series of ducts, one series of a certain number of ducts the orifices of which are formed on a scale of a definite number to the inch, and a second series
35 of a greater number of ducts than the first-named series and the orifices of which are formed on a scale of a greater number to the inch than the first-named series.

Witness my hand this 20th day of March, 1903.

CHARLES L. DAVIS.

Witnesses:

F. C. WHITE,
F. E. BEMIS.