

No. 744,052.

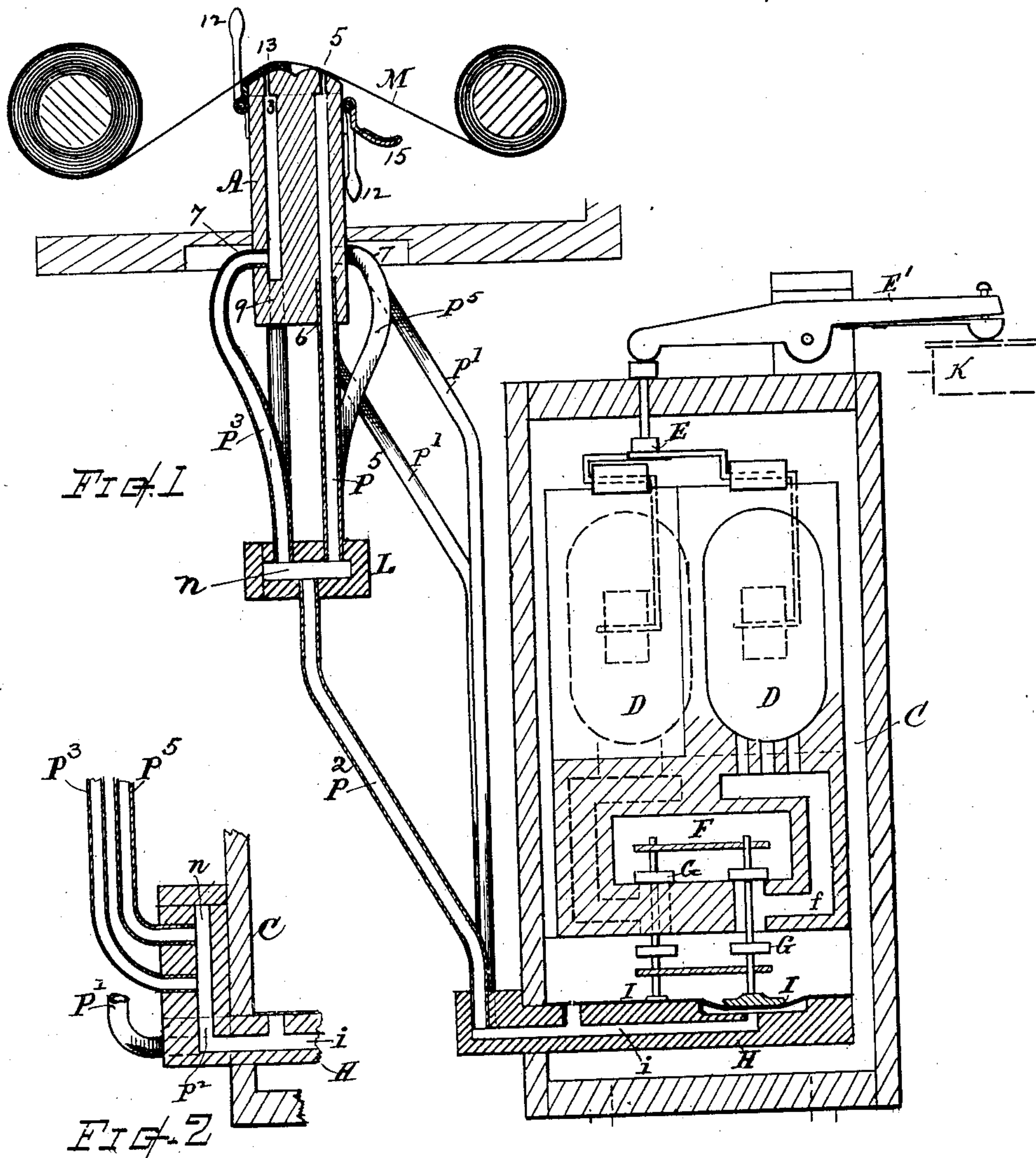
PATENTED NOV. 17, 1903.

C. L. DAVIS.
MECHANICAL MUSICAL INSTRUMENT.

APPLICATION FILED MAR. 27, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



Witnesses.
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Simon C. King

Inventor.
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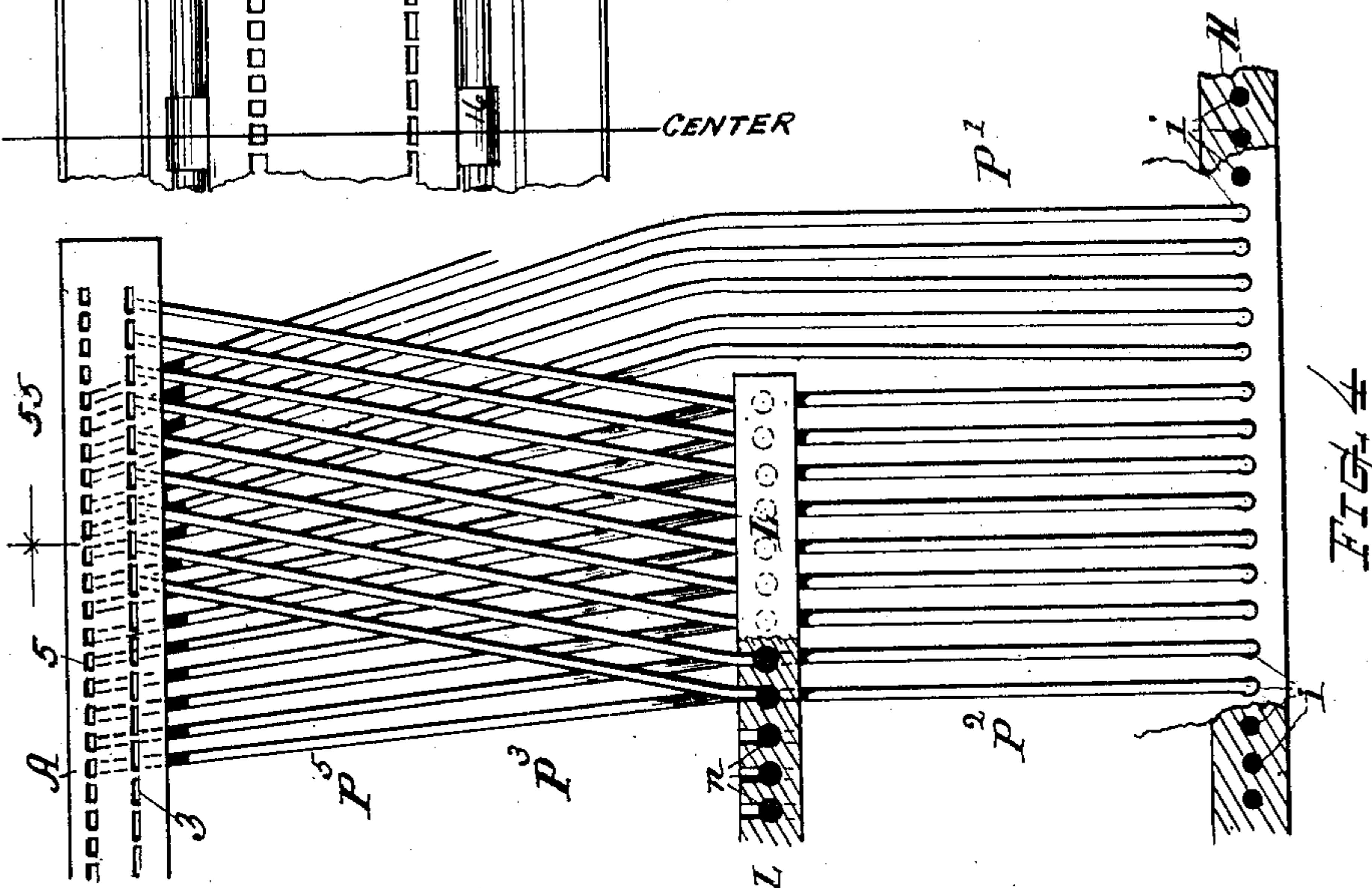
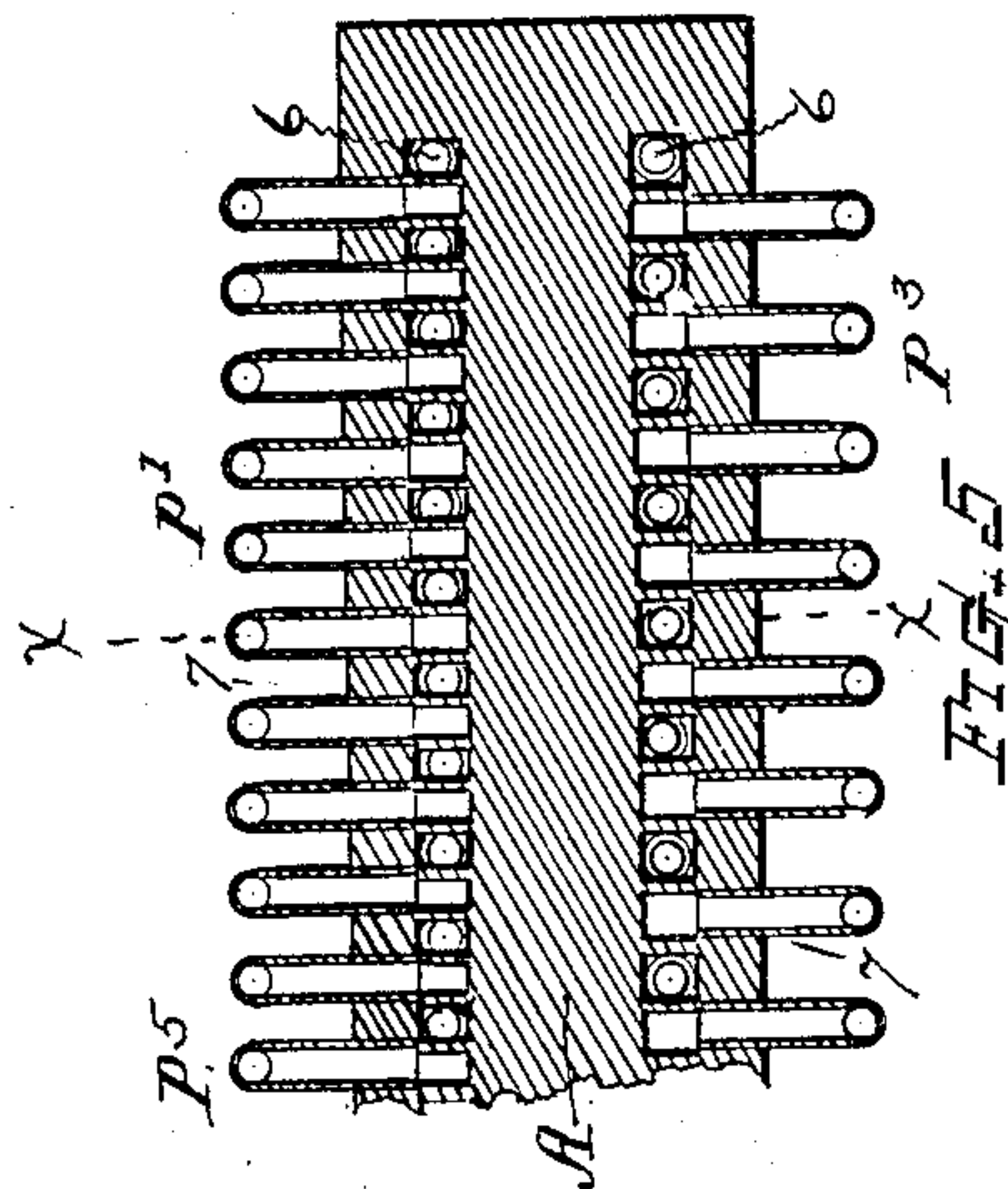
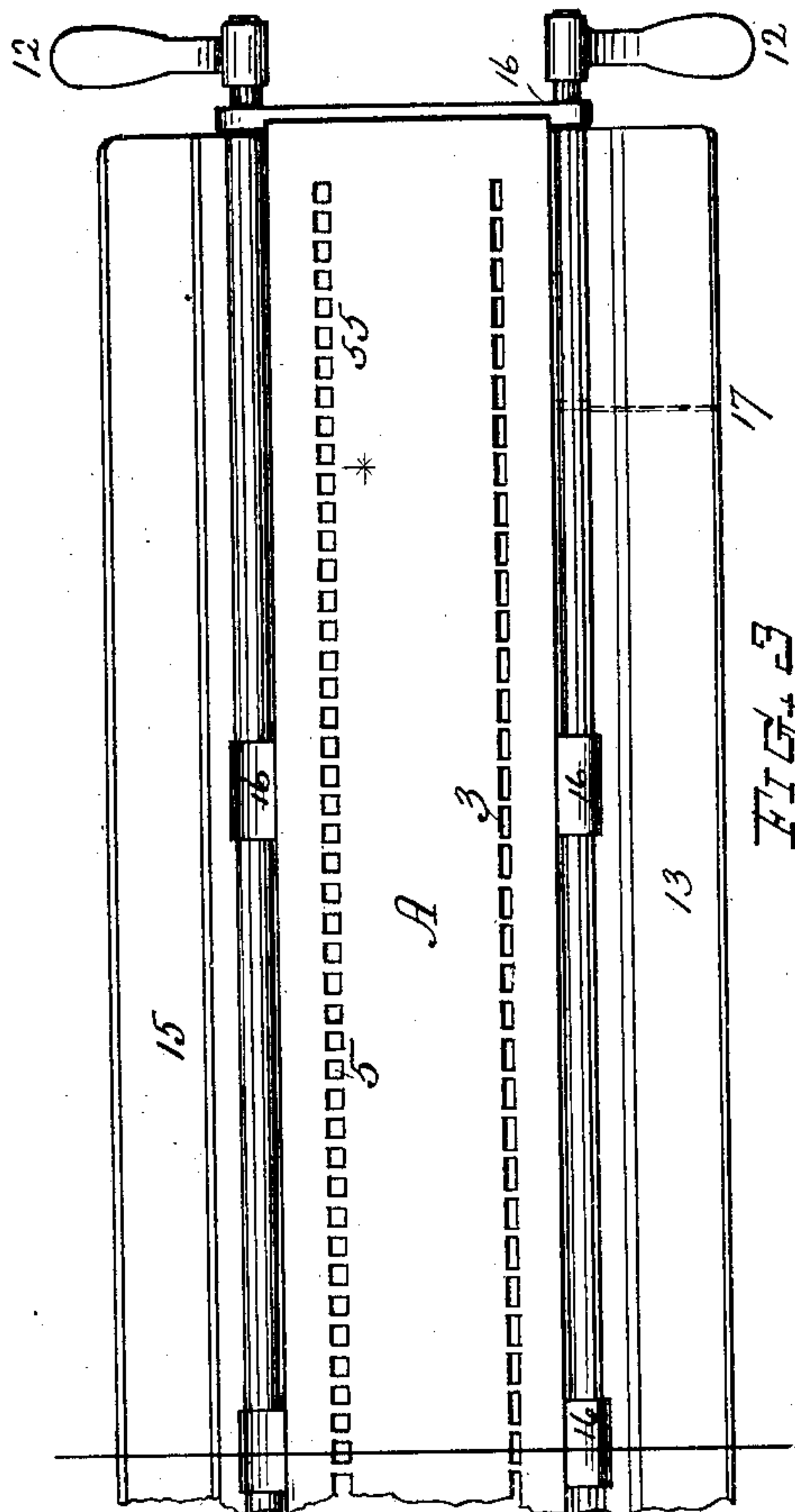
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2 SHEETS—SHEET 2.



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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 i the air-passages in the pneumatic-bed II, 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—

5 rately and are brought together and joined
 by a union member or combining-section L,
 disposed between the tracker and the pri-
 mary pneumatics, and from said union mem-
 10 ber the pipes or conduits P^2 lead singly into
 the passages i of the respective primary
 pneumatics. From those tracker-ducts of the
 greater-numbered scale 5, which are in ex-
 15 cess 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
 20 the series of playing-actions. The union
 member L may be of any suitable form for
 uniting the conduits or pipes P^3 and P^5 in
 pairs. A preferable construction therefor con-
 sists of a combining bar or section provided
 with a series of cells or passages n , into which
 25 the dual pipes P^3 and P^5 connect and from
 which the pipe P^2 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
 30 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
 35 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.
 40 In connection with the tracker I arrange
 shut-off devices for independently stopping
 communication between the primary pneu-
 matics and the respective series or rows of
 tracker-orifices. Said devices preferably
 45 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
 50 on Fig. 1, so that either of the tracker-scales
 can be used at will, accordingly as the mu-
 sic 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
 55 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 han-
 dle 12 or means to facilitate the shifting of
 the same from open to closed position, and
 60 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 ori-
 fices. The stop-plates may extend the full
 length of the tracker or in other instances,
 65 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 con- 70
 forming to some one of these scales and num-
 ber of notes may be found in the market;
 but it will be understood that I do not con-
 fine my invention to these exact numbers and
 dimensions, as the different scales may in 75
 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 instru- 80
 ment, 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 communi-
 cating from the respective ducts of said dif- 85
 ferent scales to the respective primary pneu-
 matics, and means for stopping communica-
 tion through either series of tracker-orifices
 to the primary pneumatics.

2. In a music-playing instrument, a tracker 90
 provided with two rows of openings, the open-
 ings in the respective rows being formed on
 different scale, a set of pneumatic valve-ac-
 tuating devices, and means for the control of
 said pneumatic devices from either row of 95
 said tracker-openings independently of the
 other row.

3. In a pneumatically-operated music-play-
 ing instrument, the combination with the pri-
 mary or valve-controlling pneumatic, of a 100
 tracker provided with dual series of orifices
 which are ranged on different scale, a con-
 duct-combiner or uniting member having cells
 or passways therein, dually-arranged pipes
 or conduits leading from corresponding note- 105
 orifices of the dual tracker series into said
 cells, and singly-arranged pipes or conduits
 leading from said combiner-cells to the re-
 spective primary pneumatic, for the purpose
 set forth. 110

4. A tracker, for the purpose specified, hav-
 ing 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 differ- 115
 ent rows with a single airway or connection
 into the primary or valve-controlling pneu-
 matic, and means for separately shutting off
 the several rows of ducts or tracker-orifices.

5. The combination, with the series of pneu- 120
 matic-actions, the tracker having dual series
 or rows of ducts with orifices ranged on dif-
 ferent scales in the respective rows, and the
 conduits therefrom to the respective primary
 pneumatics united for corresponding note- 125
 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. 130

6. The combination, in a pneumatic music-
 playing action, of a series of pneumatic de-
 vices, 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.