

BEST AVAILABLE COPY

J. SCHWERTNER.

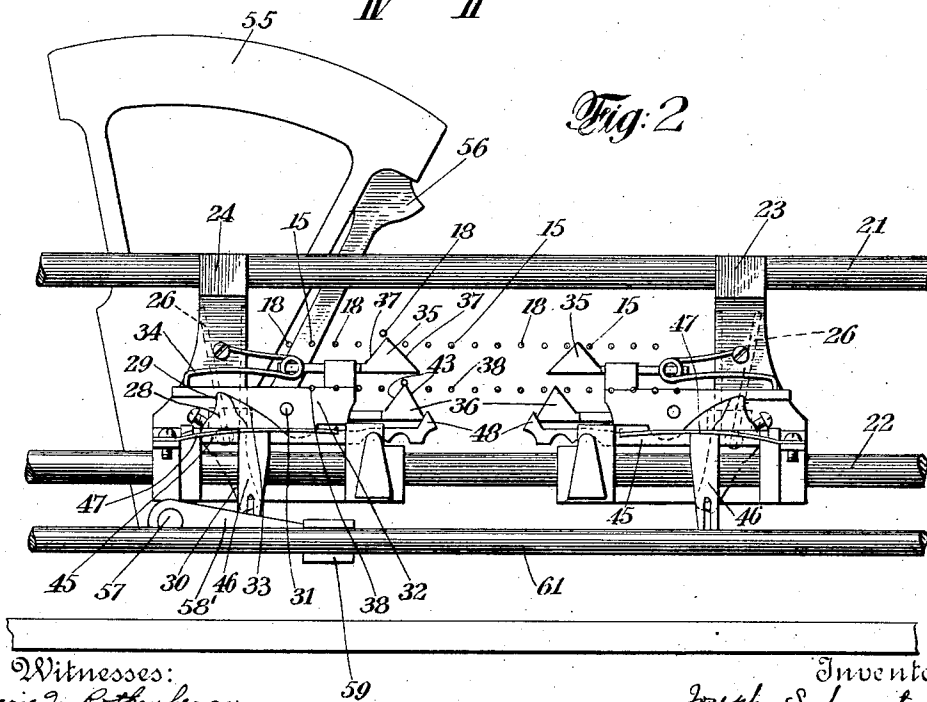
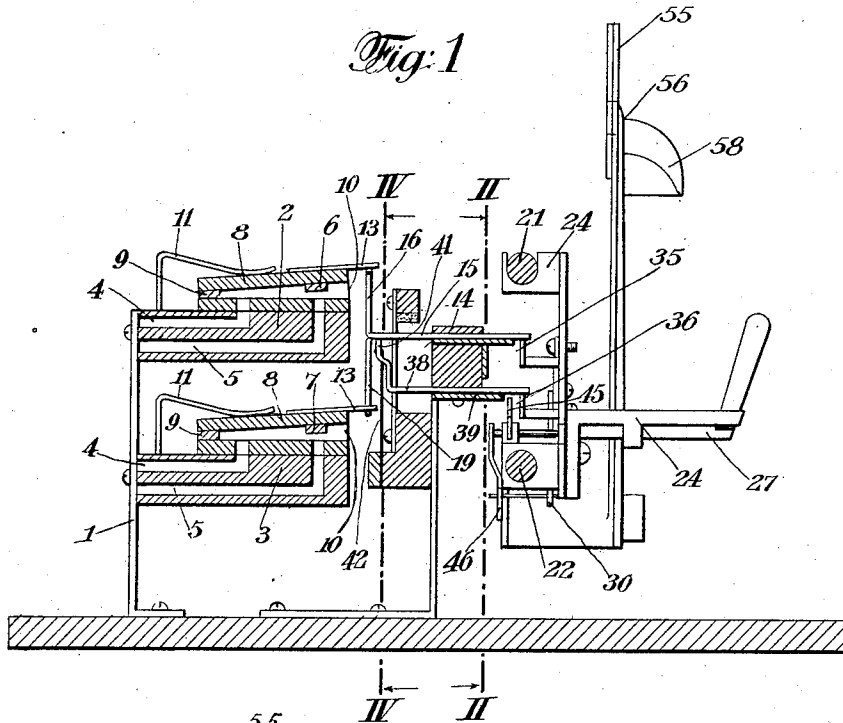
CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.

APPLICATION FILED JUNE 17, 1911.

1,060,032.

Patented Apr. 29, 1913.

5 SHEETS—SHEET 1.



Witnesses:
Marie W. Rothberger
George Schlatt

Inventor
Joseph Schwertner
By his Attorneys
Kempson & Kempson

J. SCHWERTNER.
 CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.
 APPLICATION FILED JUNE 17, 1911.

1,060,032.

Patented Apr. 29, 1913.

5 SHEETS—SHEET 2.

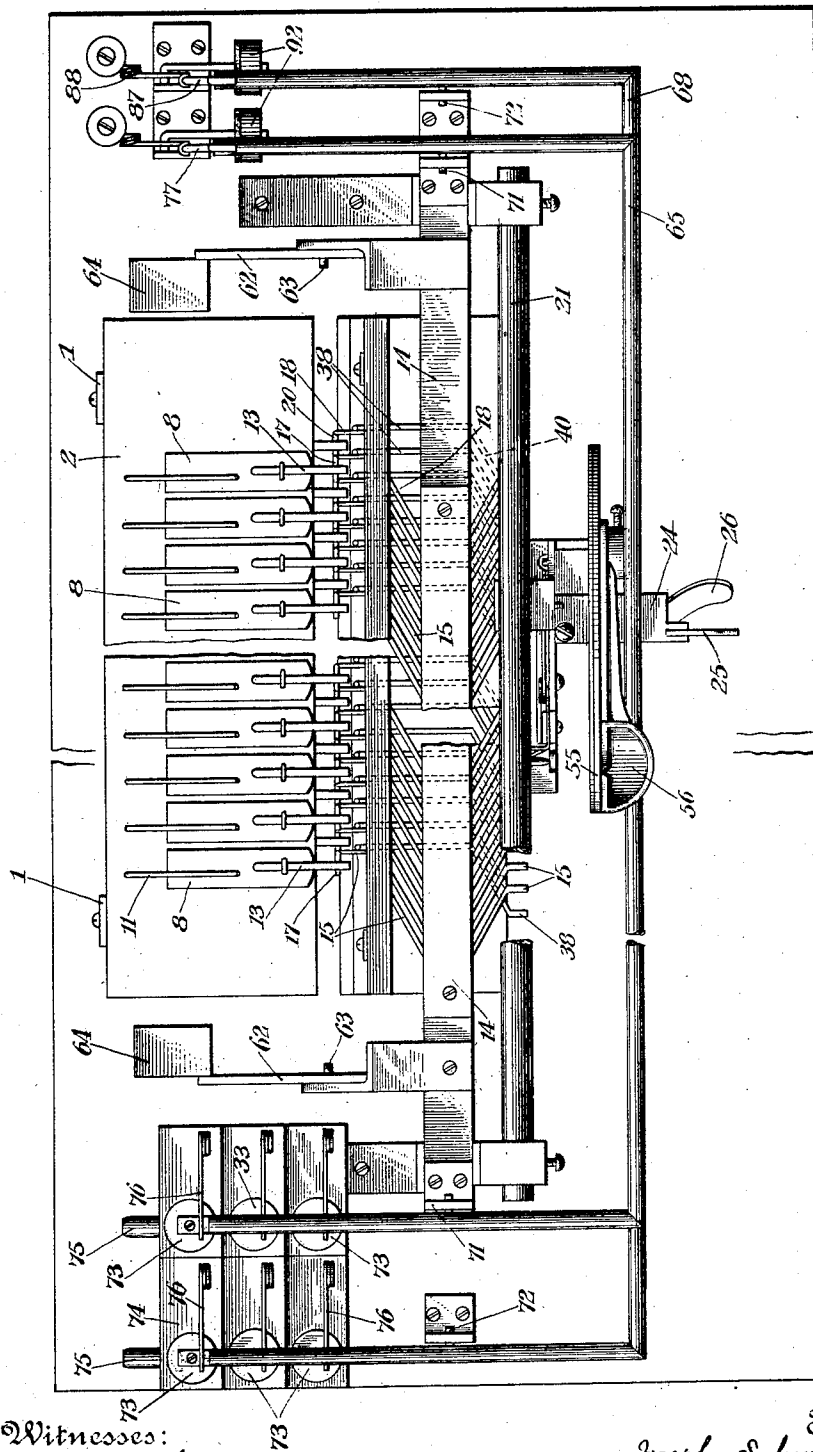


Fig. 3

Witnesses:
 Marie W. Rottenberger
 George Schlatt

Inventor
 Joseph Schwertner
 By *His Attorneys*
 Kenyon Kenyon

J. SCHWERTNER.
 CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.
 APPLICATION FILED JUNE 17, 1911.

1,060,032.

Patented Apr. 29, 1913.

5 SHEETS—SHEET 3.

Fig. 4

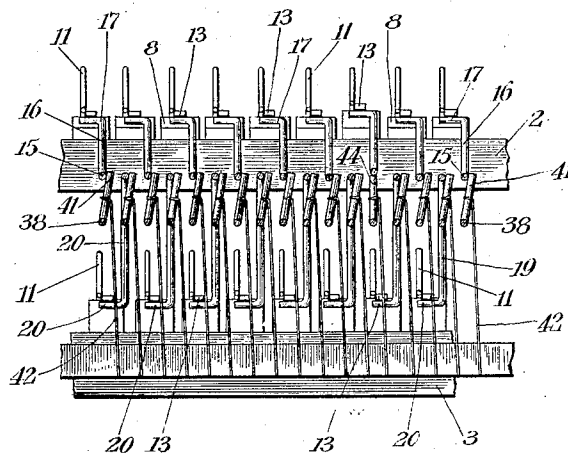
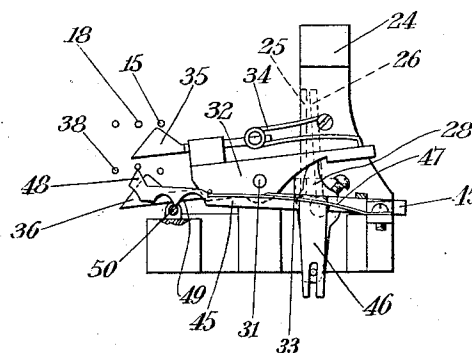


Fig. 5



Witnesses:
 Marie M. Rothberger
 George Schlatt.

Inventor
 Joseph Schwertner
 By his Attorneys
 Kenyon Kenyon

J. SCHWERTNER.
 CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.
 APPLICATION FILED JUNE 17, 1911.

1,060,032.

Patented Apr. 29, 1913.

5 SHEETS—SHEET 4.

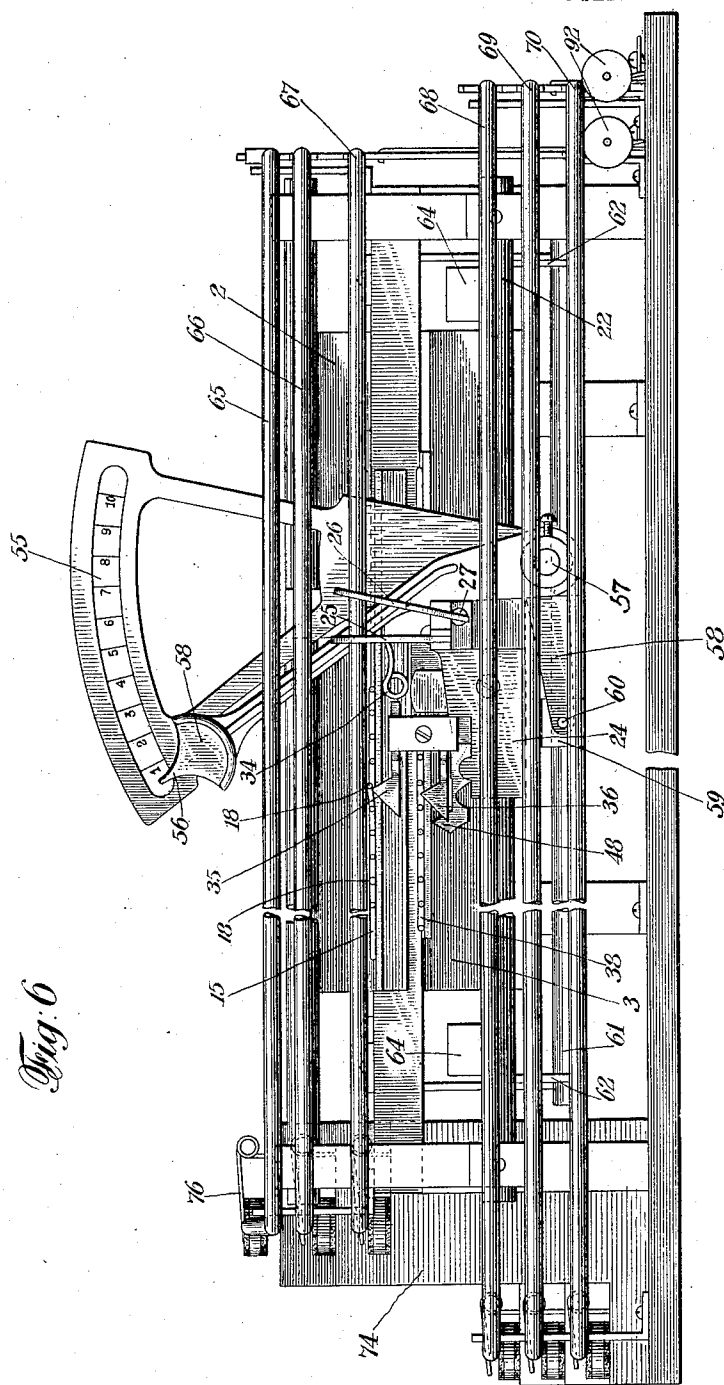


Fig. 6

Witnesses:
 Marie W. Rothenberger
 George Schlatt.

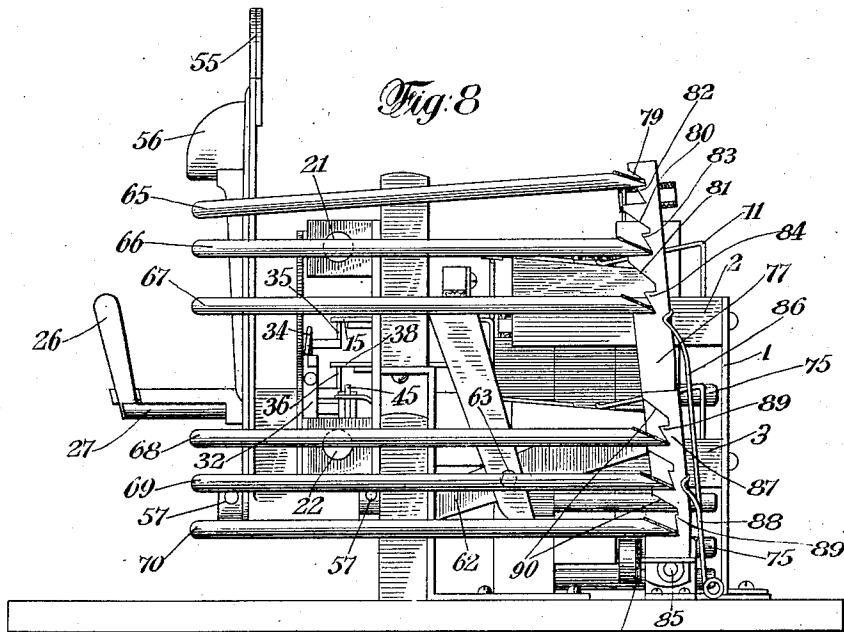
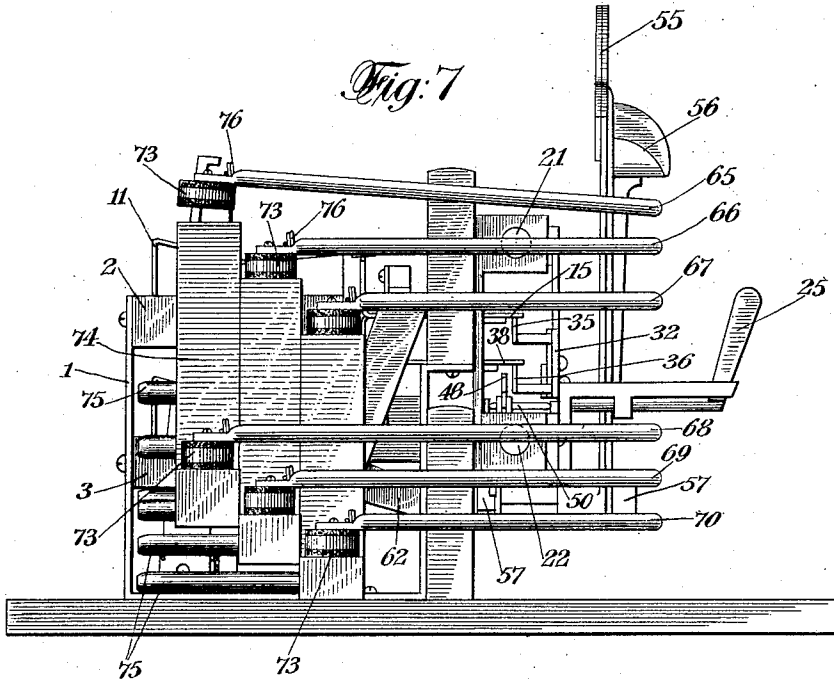
Inventor
 Joseph Schwertner
 By his Attorneys
 Kenyon & Kenyon

J. SCHWERTNER.
 CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.
 APPLICATION FILED JUNE 17, 1911.

1,060,032.

Patented Apr. 29, 1913.

5 SHEETS—SHEET 5.



Witnesses:
 Marie W. Rotleuberger
 George Schlatt.

92 Inventor
 Joseph Schwertner
 By his Attorneys
 Kenyon Kenyon

UNITED STATES PATENT OFFICE.

JOSEPH SCHWERTNER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HEERWAGEN COMPANY, A CORPORATION OF NEW YORK.

CONTROL DEVICE FOR AUTOMATIC PLAYING INSTRUMENTS.

1,060,032.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed June 17, 1911. Serial No. 633,753.

To all whom it may concern:

Be it known that I, JOSEPH SCHWERTNER, a citizen of the United States, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Control Devices for Automatic Playing Instruments, of which the following is a specification.

My invention relates to improvements in automatic playing instruments, and it is especially designed as an improved means for the manual controlling of the accentuating or solo devices of automatic pneumatic playing instruments.

One object of my invention is to provide an improved arrangement whereby any note or set of notes may be selected at will, for the purpose of accentuation, and whereby these notes or sets of notes which are to be accented may be changed at will, and whereby a plurality of such notes or sets of notes may be selected at will for simultaneous accentuation.

Further objects, features and advantages will more clearly appear from the detailed description given below, taken in connection with the accompanying drawings which form a part of this specification.

My invention in its broader aspects, was previously described in my prior application, Serial No. 535,585, filed December 30, 1909.

Referring to the drawings, Figure 1 is a transverse vertical section through the main operating parts of my improved arrangement. Fig. 2 is a longitudinal vertical section taken on the line II—II of Fig. 1. Fig. 3 is a plan view of the parts shown in Figs. 1 and 2, certain parts being omitted to save space. Fig. 4 is a detail section taken on the line IV—IV of Fig. 1. Fig. 5 is a detail view of parts shown in Fig. 2. Fig. 6 is a front elevation of parts shown in Figs. 1, 2 and 3. Fig. 7 is an end view of the same, and Fig. 8 is an opposite end view of the same.

Referring to the drawings, 1 represents suitable frame work supporting the blocks 2 and 3. The blocks 2 and 3 are provided with a plurality of air passages 4 and 5, as shown in Fig. 1. On top of the blocks 2 and 3 are arranged a series of valves, 6 and 7, arranged to close the ends of the wind ducts 5. The valve closures 6 and 7 are carried

upon movable arms 8, fulcrumed at 9, and entirely surrounded by a flexible membrane 10, so that a plurality of small bellows are formed, which cover the upper ends of the wind passages 4 and 5. Each valve closure 6 and 7, is designed to open and close the wind passage 5, to connect and disconnect it with its corresponding wind passage 4, opening into the same small bellows. Springs 11 normally force the valve closures 6 and 7 downwardly so as to close the valves. Each of the members 8 is provided with a member 13, rigid therewith.

Fulcrumed in the frame work at 14, and arranged in a horizontal plane, are a plurality of wire lever members 15. Each wire lever member 15 is bent upwardly, as at 16 (see Fig. 4), and then bent longitudinally, as at 17. The bent over ends 17 engage beneath the projecting arms 13, as clearly shown in Fig. 4. On each side of the fulcrum 14 the wire lever members 15 are bent in a U or V shape form, as clearly shown in Fig. 3. At the extreme front end of the wire lever members 15, they are bent straight out, as shown in Fig. 3. It will therefore be clear that by pushing up on the front ends of the wire lever members 15, the portions 17 thereof will be forced upwardly, and thus raise the valve closures 6 to open the valves. In a similar manner in operating the valve closures 7, there are provided a plurality of lever members 18, fulcrumed in the same plane at 14, as the lever members 15, but having their inner ends bent downwardly, as at 19, and then longitudinally, as at 20, to engage the under side of the arms 13, for operating the valve closures 7. In other respects the lever members 19 are similar to the lever members 15. The lever members 15—18, are fulcrumed by passing them through openings between two plates, at 14.

Sliding upon two fixed rods 21 and 22, are two frames 23 and 24. Each frame 23 and 24, carries a fixed handle as at 25, and a movable handle as at 26, cooperating therewith. In the frame 24 the movable handle is secured to an oscillating rod 27, journaled in the frame. The oscillating rod 27 has secured to its opposite end a member 28, carrying a cam face 29, and an arm 30. Pivoted to the frame 24, at 31, is a rocking arm 32 having a cam face 33 thereon. The cam face 29 is adapted to engage with the cam

face 33, so as to rock the arm 32 against the action of the spring 34. The opposite end of the arm 32 has two thin steel members 35 and 36, attached thereto, as clearly shown in Fig. 2. The member 35 is provided with cam faces 37 for engaging the front ends of the wire lever members 15 and 18. It will therefore appear that by moving the frame or member 24, the cam faces 37 will engage the front ends of the lever members 15 and 18, to raise the same, and thereby raise the opposite ends of the lever members 15 and 18, so as to raise the corresponding valve closures 6 and 7.

In order to lock the valve closures 6 and 7 in open position, I provide a plurality of lever members 38, fulcrumed in the frame at 39 (see Fig. 1), and having their front ends bent to the left, as at 40, and then straight outward, as shown in Fig. 3. The inner ends of the lever members 38 are bent upwardly as at 41, and springs 42 engage these upwardly extending portions, and normally tend to force them toward the left, in Fig. 4, that is, they normally tend to force the upright portions 41 beneath the lever members 15 and 18, after they have been raised. This is for the purpose of locking the lever members 15 and 18 in their raised positions, to lock the valve closures 6 and 7 in their open positions, respectively. The steel member 36 carried by the sliding member 24, is provided with cam faces 43, which engage the lever members 38 for the purpose of operating the same, as the frame or carriage 24 is moved back and forth upon the rods 21 and 22.

The carriage 23 carries exactly the same parts as already described upon the carriage 24, except that the parts are reversed, as shown in Fig. 2. It is therefore unnecessary to further describe the same parts which are on the carriage 23.

Referring to Fig. 2, and the lever members 18, 15, and 38, as shown thereupon, and beginning at the left hand end of the rows of lever members 18, 15 and 38, the first lever member 18 is locked by means of the first lever member 38. It will therefore be seen that upon moving the carriage 24 in a left hand direction, the cam 36 strikes the lever member 38, a short time before the cam 35 strikes the lever member 18. Therefore the lever member 38 will be rocked before the lever 18, and in a similar manner, when moving the carriage in a reverse direction, the lever member 18 will be rocked after its corresponding lever member 38 has been rocked. Therefore, upon moving the carriage 24 to the left, in Fig. 2, the cam 35 raises the lever members 15 and 18, and consequently the valve closures 6 and 7, and the springs 42, force the locking lever members 38, with their upright extensions 41, beneath the lever members 15 and 18, as shown

at 44, in Fig. 4, and thereby lock the valves in open position. Since in this part of the operation the cam 36 acts before the cam 35, the lever members 15 and 18 remain locked in the upper position. If now, the carriage 24 is moved in the opposite direction, to the right in Fig. 2, the cam 35 operates first, but since the lever members 15 and 18, to the right of it, are already in raised position, and locked in that position, there is nothing for the cam 35 to do. It therefore merely passes under the front ends of these lever members. However, the cam 36 following in its action, rocks the lever members 38 against the action of the springs 42, so that the upright portions 41 are withdrawn from underneath the lever members 15 and 18, so that the lever members 15 and 18, drop to their original position under the action of the springs 11. It will therefore be seen that by moving the carriage 24 to the left, in Fig. 2, all valves 6 and 7, left behind it, will be opened, and locked in open position, but upon moving the carriage 24 in the opposite direction these valves will be consecutively closed. The carriage 23 operates in a similar manner to open and close the valves corresponding to lever members 15—18, but acts in the reverse direction, so that ordinarily, if we start with the cams 35 directly behind one another, there may be no lever members 15 or 18 raised, and no valves opened. Then upon separating the carriages 23 and 24, all valves will be opened corresponding to the lever members 15 and 18, between the cams 35. These carriages may be moved back and forth in order to select any of the valves 6 or 7, which it is desired to open. In case it is desired to move the carriages without operating the lever members 15—18, and the unlocking members 38, it is only necessary to press the handle 26 toward the fixed handle 25, thereby rocking the shaft 27, and the member 32, so that the cams 35 and 36 are rocked downwardly out of engagement with the lever members 15—18 and 38. The cams in this rocked position are shown clearly in Fig. 5. Slidably mounted in each frame work 23 and 24, is a sliding bar 45, which has rigidly secured thereto a depending arm 46. A pin on the arm 30, secured to the rocking shaft 27, engages a slot on the depending arm 46, so that as the member 28 is rocked, the depending arm 46 is moved longitudinally, so as to slide the sliding bar 45 back and forth. Each bar 45 slides in suitable guide ways in the frames 23 and 24. Each bar 45 is normally pressed downwardly by a spring 47. At one end the bar 45 carries a projection 48 which is designed to engage at certain times, the wire lever members 38 instead of the cam 36. Upon the rocking of the shaft 27, in order to throw downward the cams 35 and 36, the

bar 45 is thrown to the right, in Fig. 5. The bar 45 is provided with a cam face 49, which engages a cooperating cam face or roller 50, so that the left hand end of the bar 45 is raised, as shown in Fig. 5. Thus it will be seen that supposing the carriage 24 is stationary, as in Fig. 5, the mere operating of the handle 26, to rock the member 28, will lower the cams 35 and 36, and raise the projection 48. Thus, referring to Fig. 5, if the wire lever member 15 be locked in its upper position, the projection 48 will move upwardly and strike the corresponding lever member 38 to unlock the lever member 15. Upon releasing the handle 26 under the action of the spring 34, the cam 35 moves upwardly to engage the lever member 15, to raise it. At the same time the projection 45 moves downwardly and the cam 36 moves upwardly. But the cam 36 being spaced longitudinally from the cam 35 so that it does not act until either before or after the cam 35 has acted in the longitudinal movement of the carriage 24, the cam 36 will not, while the carriage 24 is stationary, operate upon the proper locking lever 38 to unlock the lever 15. It will therefore appear that with the carriage 24 stationary, the cam 35 may be used to raise any one of the lever members 15 or 18, and then the same member unlocked without moving the carriage 24, by merely throwing the handle 26, when the projection 48 will move upwardly, to engage the corresponding lever member 38, to unlock the lever member 15 or 18, as the case may be.

The operation of the parts so far mentioned, may be described as follows: The raising of one or more of the valves 6, 7, &c., causes the corresponding wind passages 4 and 5 to be connected, and this causes a corresponding note or set of notes to be accented, whenever these notes are caused to be played by the perforated music sheet or similar device. Means whereby a perforated music sheet will cause the production of notes are well known, and therefore need not be described here. Also any well known means for accenting certain notes being played may be used. However, I prefer to use arrangements such as shown in my prior application, Serial No. 596,196, filed December 8, 1910, or Serial No. 614,593, filed March 15, 1911, or Serial No. 617,968, filed March 30, 1911. By the use of any of these arrangements, the raising of any one of the valve closures 6, 7, &c., may be made to cause the corresponding note or notes to be accented when it is played. In order to select the notes to be accented, it is therefore only necessary to select certain of the valves 6, 7, and open the same. For this purpose the carriages 23 and 24 are moved by means of the handles 25, so that a certain number of the

wire lever members 15, 18, &c., are included between the cams 35. With the cams 35 working in their normal raised positions all of the lever members between these cams will be raised, and thus all of the notes corresponding to the lever members between these cams will be accented, since the lever members are held locked in their raised positions by means of the lever members 38. Thus any note or set of notes may be selected at will, at any part of the register of the instrument, whether in the bass or treble. If now it is desired to accent a certain note or set of notes in the bass, and also an independent note or set of notes in the treble, then the carriages 23 and 24 are moved to the bass portion of the register and separated, to select the desired notes there for accentuation, then the handles 26 are pressed, thus withdrawing the cams 35 from operation, and then the carriages 23 and 24 are moved to the treble portion of the register. This movement does not operate any of the lever members 15 and 18, because the cams 35 are withdrawn from operation. After the carriages 23 and 24 have been moved to the treble portion of the instrument they are then separated to select the set of notes which it is desired to accent at that portion of the register. If it is only desired to accent one note at a time at the treble portion of the register, only the carriage 24 need be moved to that portion of the register, when upon releasing the handle 26 thereof, its cam 35 will be moved upwardly, and may be made to engage the proper lever member 15 or 18, so as to cause the corresponding note to be accented. Ordinarily, the mere pressing of the handle 26, which causes the cams 35 and 36 to be moved downwardly, does not unlock the particular lever member 15 or 18, which has been raised. This is because the cam 36 is displaced as to the cam 35, with respect to the corresponding lever members. But even with the carriage 24 stationary, the particular lever member 15 or 18, which happens to be raised, may be unlocked by movement of the handle 26, because movement of the handle 26 raises the projection 48, to engage the locking lever member 38, so as to unlock the particular lever member 15 or 18, which happens to be raised. This is shown clearly in Fig. 5. It will thus be seen that by means of the devices described one is enabled to select any notes which it is desired to be accented, and also one may select a note or set of notes at one portion of the instrument, and also a note or a plurality of sets of notes at another portion of the instrument, for simultaneous accentuation.

In order that means may be provided for conveniently regulating the tempo of the instrument, I provide a scale 55, carried

by a carriage 24, and rigid therewith. Sliding over the scale 55 is a pointer 56. The pointer 56 is rigid with a shaft 57, and has a thumb piece 58 at its upper end. The shaft 57 is journaled in the carriage 24, and extends rearwardly. Rigidly secured to the rear end of the shaft 57 is an arm 58', which carries on its outer end a forked member 59 (see Fig. 2). The forked member 59 is pivotally connected to the end of the arm 58', by means of a pin 60 (see Fig. 6). The forked member 59 engages a rod 61, which has rigidly secured to each end thereof, arms 62. The arms 62 are pivoted to the frame work, as at 63 (see Fig. 3), and at their opposite ends carry weights 64. It will thus appear that by moving the pointer 56 over the scale 55, the shaft 57 is rocked, thereby moving the arm 58' up and down, and with it the forked member 59. The forked member 59 thus carries the rod 61 up and down, thereby rocking the arms 62 about their pivots 63. Any suitable means may be connected to the arm 62, in order to regulate the tempo of the instrument, such means being well known in the art. By the arrangement just described, the tempo may be regulated directly from the carriage 24 although the hands of the operator may be both busily engaged, one upon the carriage 24, and the other upon the carriage 23, it will be seen that the tempo may be regulated without removing the hands from the carriages. In other words, as the carriage 24 is moved horizontally from place to place, the forked member 59 slides along the rod 61, but does not move the rod. But upon movement of the pointer 56 while the carriage is in any position, or even while it is moving, the rod 61 is moved up and down, thereby rocking the arms 62, to regulate the tempo, in any well known manner.

In order that means may be conveniently provided for varying the amount of accenting, or the volume of the notes being accented, and also the volume of the accompaniment notes, I provide a series of lever members 65, 66, 67, 68, 69 and 70. These lever members are made of strong wire, bent in a U shaped form, as shown in Fig. 3. Each of these lever members is pivoted to the frame, as at 71 and 72. Referring to Figs. 3, 6, and 7, each of the lever members, at its left hand end, carries a valve closure 73, each designed to cover the outer end of a wind passage in the wooden frame work, at 74. These passages in the wooden frame work at 74, terminate in wind ducts 75. Springs 76 normally force the valve closures 73, downwardly, to close the opening of the wind passages in the wooden frame 74. The other ends of the lever members 65, 66, 67, are engaged by a rocking member 77 (see also Fig. 8),

which is provided with a plurality of cam faces 79, 80 and 81, and also with a plurality of projections 82, 83 and 84. Thus referring to Fig. 8, if we force the left hand end of the lever member 67 downwardly, the right hand end moves upwardly, forcing to the right the member 77, which is pivoted at 85, until the right hand end of the member 77 goes above the projection 84, when the spring 86 will force the member 77 to the left, with the projection 84 underneath the lever 67, thereby locking the lever member 67 in this thrown position. As shown in Fig. 8, the lever 65 is shown locked in its thrown position, being held there by engagement with the projection 82. It will be seen that by throwing either of the levers 65, 66, 67, its corresponding valve closure 73 is raised, and locked in its upper position. If now the lever 65 is thrown, and locked in its thrown position, as shown in Fig. 8, and then it is desired to operate the lever 66, and at the same time release the lever 65, the left hand end of the lever 66 is pressed downwardly, thereby throwing the right hand end of the lever upwardly until it engages above the projection 83. This action throws the member 77 backwardly, sufficient to allow the end of the lever 66 to pass the projection 83. This movement of the lever 77 upwardly, may be sufficient to release the lever 65, by withdrawing the projection 82 from beneath its right hand end. But if it is not sufficient for this, a slight further movement of the lever 66, causes its right hand end to engage the cam face 80, so that a slight further movement of the lever 66, rocks the member 77 still further backward, until the projection 82 is withdrawn from beneath the lever 65, thereby releasing the same and allowing its corresponding valve 73 to close. Thus by pressing down, or throwing, any one of the levers 65, 66 or 67, any other one of these levers which happens to be locked in its thrown position, will be released. In a similar manner I provide a rocking member 87, pivoted at 85, normally held in its forward position, by a spring 88, and provided with projections 89, and cam faces 90, for coöperating with the inner ends of the lever members 68, 69, 70. These operate in the same manner as the lever members 65, 66, 67, so that any one of these lever members 68, 69, 70, may be thrown, and locked in its thrown position, and upon the operation of any other one of these lever members, the first will be released. The operation of the lever members 65, 66, 67, is designed to throw into operation any one of three different pressures or degrees of exhaust for operating the power pneumatics for the notes being accented, thereby controlling the volume of the accentuation. This may be done by means of any

suitable pneumatic apparatus controlled by raising of the valve closures 73. Such an arrangement is shown in my prior application, Serial No. 631,409 filed June 5, 1911.

Of course if my improvements are used in connection with organs the usual organ devices for varying the volume will be used instead of those usual in automatic pianos and other instruments. In like manner the operation of the lever members 68, 69, 70, may be made to cause any one of three different pressures or degrees of exhaust, to be thrown into operation with respect to the accompaniment notes, in order to vary the volume of the accompaniment.

Stops 92 are provided, for limiting the movement of the members 77 and 87, in a forward direction, in case the lever members 65, &c., should all become disengaged therefrom.

Although I have described my improvements in great detail, nevertheless I do not desire to be limited to such details, except as clearly specified in the appended claims, since many changes and modifications may well be made without departing from the spirit and scope of my invention in its broadest aspects.

Having fully and clearly described my improvements, what I claim as new and desire to secure by Letters Patent, is:

1. In a device of the class described, means for accenting various notes and means for selecting the notes to be accented, said last mentioned means embracing a valve for each note to be accented, two independently movable members for controlling the operation of said valves, and means for locking said valves in operative position to cause corresponding notes to be accented, said last mentioned means being controlled by the two independently movable members.

2. In a device of the class described, means for accenting various notes and means for selecting the notes to be accented, said last mentioned means embracing three or more valves controlling the accenting of the notes, a sliding member controlling the operation of said valves, and means for locking said valves in operative position to cause corresponding notes to be accented, said last mentioned means being controlled by the sliding member in its movement.

3. The combination of means for accenting various notes and means for selecting at will the notes to be accented, said last mentioned means embracing three or more independently operating valves the operation of which causes corresponding notes to be accented, two independently movable hand operated members for mechanically controlling the opening and closing of said valves, and means for holding said valves open when opened by said controlling members.

4. The combination of means for auto-

matically producing notes, means for accenting various notes, and means for selecting at will the notes to be accented, said last mentioned means including three or more valves the operation of which causes corresponding notes to be accented, independent means for each valve to operate the same and two independently movable hand operated members each by a single continuous movement controlling a plurality of said independent means for the valves to open and close the same.

5. In a device of the class described, means for accenting various notes, and means for selecting the notes to be accented, said last mentioned means including a plurality of valves for the notes to be accented and two relatively movable members having a continuous sliding movement, said valves being operated, some by the continuous movement of one member, and some by the continuous movement of the other member.

6. In a device of the class described, means for accenting various notes and means for selecting notes to be accented, said last mentioned means embracing a plurality of valves controlling the accenting of the notes, and a sliding member having a continuous movement, continuous movement of said member in one direction causing a plurality of said valves to open and remain open, and continuous movement of said member in another direction causing a plurality of said valves to close and remain closed.

7. In a musical instrument, means for accenting various notes, means having a continuous movement, means whereby continuous movement of said movable means in one direction selects certain notes to be accented, means whereby continuous movement of said movable means in another direction causes the selected notes to be unaccented, and means whereby said movable means may be given continuous movement in either direction without selecting notes to be accented.

8. In a musical instrument, means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a member continuous movement of which in one direction causes a plurality of notes to be selected for accentuation, and means whereby said member may be given the same continuous movement without causing notes to be selected for accentuation.

9. The combination of means for accenting various notes and means for selecting the notes to be accented, said last mentioned means including three or more valves and a hand operated movable member for causing the operation of said valves, means for holding said valves in operative position responsive to the operation of said hand operated member and means whereby said member

may be moved without causing the operation of said valves.

10. In a musical instrument, means for accenting various notes, and means for selecting the notes to be accented, said last mentioned means including a member continuous movement of which may cause a plurality of notes to be selected for and maintained selected for accentuation, and means whereby said member may be given the same continuous movement without causing the selection of notes for accentuation.

11. The combination of means for accenting various notes and means for selecting the notes to be accented, said last mentioned means including three or more valves and a hand operated movable member, a cam for operating said valves by continuous movement of said movable member, and means for withdrawing said cam from operation, whereby the member may be moved without operating said valves.

12. The combination of means for accenting various notes and means for selecting the notes to be accented, said last mentioned means including three or more valves and a hand operated movable member, a cam for operating said valves and controlled by said movable member, means for holding said valves in position after operated by said cam, and means for withdrawing said cam from operative relation to said valves whereby the member may be moved without operating said valves.

13. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves the operation of which causes the notes to be accented, a movable member controlling the operation of a plurality of said valves by continuous movement thereof, and a second independently movable member for controlling by continuous movement thereof the operation of a plurality of said valves.

14. In a musical instrument, means for accenting various notes and means for selecting at will the notes to be accented, said last mentioned means including three or more valves, pivotally mounted members for each valve for opening and closing the same, a spring for each valve for maintaining said member normally in one position and two independently movable hand operated members each by continuous movement thereof mechanically acting upon a plurality of said pivotally mounted members to move the latter to another position to select the notes to be accented.

15. In a musical instrument, means for accenting various notes, means for controlling said accenting means, said controlling means including three or more valves controlling

the accenting of corresponding notes, and two hand operated members for opening said valves to accent various notes and means controlled by said hand operated members for locking said valves in open position.

16. In a musical instrument, means for accenting various notes, means for controlling said accenting means, said controlling means including a plurality of valves controlling the accenting of corresponding notes, two movable hand operated members, means on each of said members for opening and closing said valves as the members are moved to and fro, and means for causing each of said last mentioned means to be inoperative to open said valves when the members are moved to and fro.

17. In a musical instrument, means for accenting various notes, means for controlling said accenting means, said controlling means including a plurality of valves, two movable hand operated members, means on each of said members for opening and closing said valves by the movement to and fro of said members, and a lever for withdrawing said opening means from operative position when it is desired to move the members to and fro without operating the valves.

18. In a musical instrument, pneumatic means for controlling the accenting of various notes, said means including a plurality of valves controlling the accenting of the notes, a movable member, means on said member for causing the operation of the valves to accent notes when the member is moved in one direction, and locking means for holding the valves in operative position to accent notes as said member continues its movement in the same direction.

19. In a musical instrument, pneumatic means for controlling the production of various notes, said means including a plurality of valves, a movable member, means on said member for opening the valves when moved in one direction, locking means for holding the valves open as said member continues its movement in the same direction, and means connected with said member for unlocking said valves when the member is moved in the opposite direction.

20. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member for operating said valves, means for locking said valves in operative position, and means carried by said member for unlocking said valves.

21. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves con-

trolling the accenting of the notes, a hand operated movable member for operating said valves, means for locking said valves in operative position, means carried by said member for unlocking said valves, and a second means carried by said member for unlocking said valves.

22. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member for operating said valves, means for locking said valves in operative position, means carried by said member for unlocking said valves, a second means carried by said member for unlocking said valves, and a hand operated member carried by said first mentioned member for operating said last mentioned means.

23. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, a cam carried by said member for operating said valves, means for locking said valves in operative position, and a cam carried by said member for unlocking said valves.

24. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, a cam carried by said member for operating said valves, means for locking said valves in operative position, a cam carried by said member for unlocking said valves, and a second means carried by said member for unlocking said valves.

25. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, a cam carried by said member for operating said valves, means for locking said valves in operative position, a cam carried by said member for unlocking said valves, and means for withdrawing said cams from operative position.

26. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, a cam carried by said member for operating said valves, means for locking said valves in operative position, a cam carried by said member for unlocking said valves, means for withdrawing said cams from operative position, and

an independent means carried by said member for unlocking said valves.

27. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, a cam carried by said member for operating said valves, means for locking said valves in operative position, a cam carried by said member for unlocking said valves, means for withdrawing said cams from operative position, independent means for unlocking said valves, and means for automatically throwing said independent means into operative position when said cams are withdrawn from operative position.

28. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, means carried by said member for operating said valves, means for locking said valves in operative position, means carried by said member for unlocking said valves, and a second means on said member normally in inoperative position for unlocking said valves.

29. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, means carried by said member for operating said valves, means for locking said valves in operative position, means carried by said member for unlocking said valves, a second means on said member normally in inoperative position for unlocking said valves, and means for withdrawing said second unlocking means from operative position and throwing said second unlocking means in operative position.

30. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, two hand operated movable members, means carried by each member for operating said valves, means for locking said valves in operative position, means carried by each member for unlocking said valves, and a second means on each member normally in inoperative position for unlocking said valves.

31. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand operated movable member, means carried by

said member for operating said valves, means for locking said valves in operative position, and means for unlocking said valves when the member is moved in one
5 direction.

32. The combination of means for accenting various notes and means for selecting notes to be accented, said last mentioned means including a plurality of valves controlling the accenting of the notes, a hand
10 operated movable member, means carried by said member for operating said valves,

means for locking said valves in operative position, means for unlocking said valves when the member is moved in one direction, 15 and means for unlocking a valve when the member is stationary.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOSEPH SCHWERTNER.

Witnesses:

GORHAM CROSBY,
EDWIN SEGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."