J. E. ORI.

PNEUMATIC CALLIOPE.

APPLICATION FILED SEPT. 6, 1913.

1,197,302.

Patented Sept. 5, 1916.

3 SHEETS—SHEET 1.

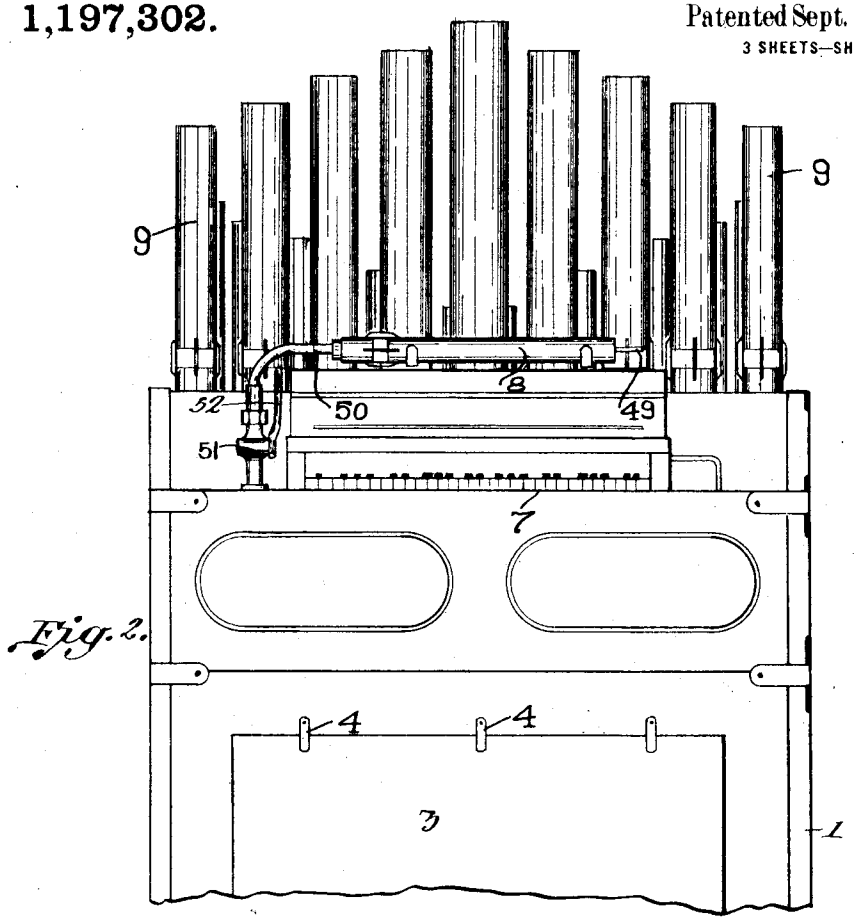

Fig. 2.

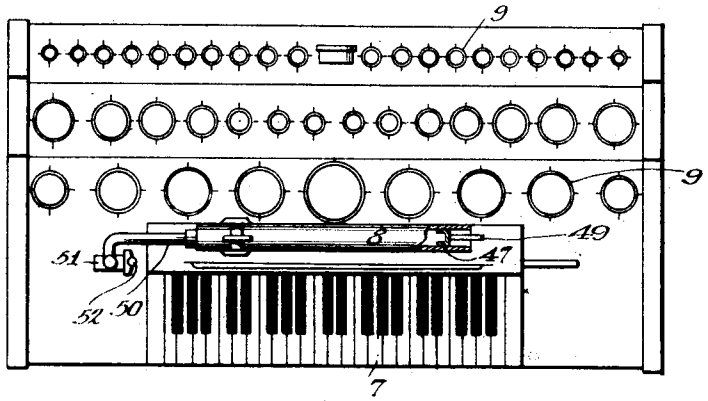

Fig. 1.

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3 SHEETS—SHEET 2.

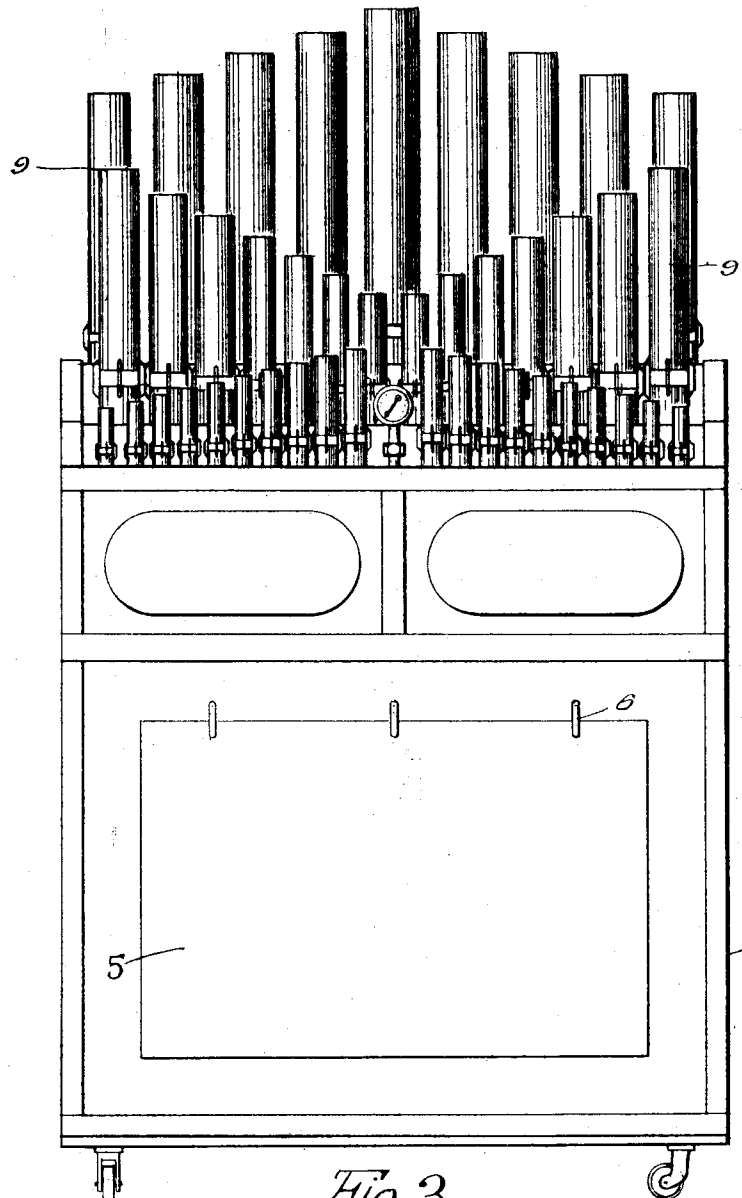

Fig. 3.

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3 SHEETS—SHEET 3.

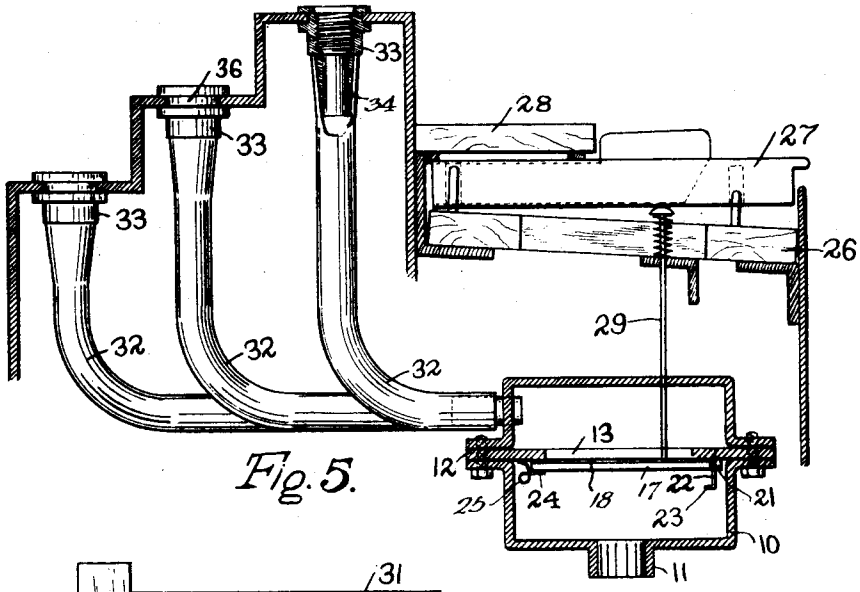

Fig. 5.

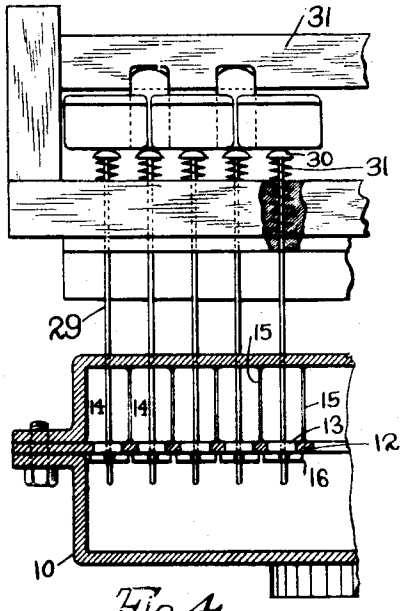

Fig. 4.

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PNEUMATIC CALLIOPE.

1,197,302. Specification of Letters Patent. Patented Sept. 5, 1916.

Application filed September 6, 1913. Serial No. 788,478.

To all whom it may concern:

Be it known that I, JOSEPH E. ORI, a citizen of the United States, residing at Bloomfield, in the county of Essex, State of New Jersey, have invented new and useful Improvements in Pneumatic Calliopes, of which the following is a specification.

My invention relates to a pneumatic calliope and has as its principal object the provision of a novel instrument comprising a plurality of single tone whistles in combination with a variable pitch whistle.

A further object of my invention is to provide a whistle organ having a plurality of single tone whistles in combination with a variable pitch whistle so arranged that the variable pitch whistle may be under the immediate manual control of the operator.

A final object of my invention resides in the particular arrangement and combination of parts hereinafter described.

In the accompanying drawing forming a part of this specification: Figure 1 is a top view of a calliope made according to my invention, and showing the keyboard and whistle. Fig. 2 is a front view of the apparatus shown in Fig. 1. Fig. 3 is a rear view of the apparatus shown in Figs. 1 and 2. Fig. 4 is a detail view, partly in section, showing the valve box and keyboard. Fig. 5 is a side view, partly in section, showing the valve box, keyboard and also the connecting tubes for the whistle.

Throughout the separate views the same part is designated by the same reference character.

Referring more particularly to the drawings, 1 is a suitable case or cabinet, preferably mounted upon rollers such as 2. The cabinet 1 is provided with an aperture in its front face covered by a cover plate 3 which is normally held in place by latches 4—4. The rear face of the cabinet 1 is also provided with a similar aperture normally covered by a plate 5 which is held in place by latches 6—6. As shown in Figs. 1 and 2, the upper portion of the cabinet 1 supports a keyboard 7 of conventional type, and in the rear of the keyboard is a variable pitch whistle 8 and also a number of whistles of different pitch which are controlled by the keys of the keyboard, and indicated by characters 9—9. Within the cabinet 1 I mount a valve box 10 which is provided with an aperture in its bottom surrounded by a flange 11 which is intended to be connected by suitable tubings or piping to an air compressor, the air compressor being driven by an electric motor or other suitable motor. I prefer to mount such air compressor and motor within the cabinet 1 for purposes of greater convenience, but the particular position of the air compressor is immaterial to my invention.

The valve box 10 is divided by a horizontal partition 12 which is provided with a plurality of apertures such as 13—13, one for each of the whistles 9. The upper part of the box, above the partition 12, is divided into chambers 14—14 by means of partitions 15—15, there being one of these small chambers 14 for each of the apertures 13. The apertures 13 are normally closed by means of valves such as 16, which are illustrated in detail in Figs. 4 and 5. The valves 16 comprise a back plate 17 and a facing of leather or other suitable material 18. The facing 18 is secured to the plate 17 in any suitable manner. As clearly shown in Fig. 5, one end of the plate 17 and facing 18 is cut away to form a notch such as 21. Referring again more particularly to Fig. 5, it will be seen that the notch 21 is designed to fit around a pin 22, a number of which are carried in the partition 12 near one side thereof and which are bent at their free ends as indicated at 23 so as to limit the downward movement of the valves 16 when the instrument is being operated. At the end of each of the valves 16, from the notch 21, I provide a spring such as 24, both ends of which are fastened to the plate 17, and then coiled and bent outwardly to form a loop 25. Each loop 25 is fastened to the under side of the partition 12 and the action of the spring is such that the valve 16 is normally pressed up against the under face of the partition 12, whereby the layer 18 forms a tight joint and prevents air from passing into the chambers 14.

Above the box 10 is a frame 26 which is mounted on the cabinet 1 in any suitable manner, and on which is carried a keyboard 27 of conventional type. Above the keyboard 27 is a board 28 which assists in retaining the keys in place and protecting the rear end thereof. Each of the keys in the keyboard 27 is mounted directly above one of the valves 16, there being a key for each valve, and a rod 29 is provided intermediate each key and its corresponding valve 16. The rods 29 have their lower ends resting

on the upper face of the valves 16, from which point they extend vertically through the frame 26 and, at their upper ends, are provided with knobs 30 which rest against the under faces of the keys. Springs 31 are provided intermediate the knobs 30 and the frame 26, which normally maintain the rods 29 of the keyboard 27 in their uppermost positions.

From each of the small chambers 14 leads a connecting tube such as 32, one end of which is arranged vertically and is belled out to receive the lower end of a plug such as 33, illustrated in detail in Fig. 5, the plugs 33 being set in the top of the cabinet 1. The lower end of the plug 33 is tapered and grooved as shown at 34 so as to provide an air tight joint with the enlarged ends of the tubes 32. The upper ends of the plugs 33 are relatively enlarged as compared to the lower ends thereof, and are provided with two horizontal flanges 35—35 forming therebetween a groove 36 shown in Fig. 5, for receiving the edge of the top piece of the cabinet 1, so that the plugs 33 are held securely in place. As clearly shown in Fig. 5, the interior of the plugs 33 are threaded and this is in order that they may form connection with the nipples not shown fixed to the whistles 9—9 and by means of which the whistles are supported.

Referring again to Fig. 2, it will be understood that the special whistle 8 is constructed in the same manner as the whistles 9, the construction of which has just been given in detail, but it is provided with a rod 49 which is seen projecting from one end of the special whistle and which, it will be understood is connected to a movable plug 47 slidably mounted within tube 8. It will be seen moreover, that the end of the special whistle opposite the rod 49 is connected to a tube 50 which is connected to a cock 51, the handle 52 of which may be operated by hand when desired, and it will be understood that the cock 51 is connected directly to the lower portion of the valve box 10 by connections not shown. Consequently, air may be admitted to the special variable whistle when desired independently of the keyboard and the note emitted by the special whistle may be varied at will by pushing the rod 49 to and fro.

The operation of my device will be obvious from the foregoing description, but for purposes of convenience, it will be stated that in operating my improved calliope, the attendant presses on the keys of the keyboard 27 as if playing on a piano or organ, whereupon the valves 16, corresponding to the keys pressed, are opened by means of the rods 29. Thereupon air passes from the lower part of the valve box 10 into the small chambers 14 in the upper part thereof and then through the corresponding tubes 32 which deliver the air to the corresponding whistles and cause the same to be sounded.

It will be understood that while I have shown and described the preferred form of my invention, I do not wish to be limited thereto but contemplate all modifications and and rearrangements thereof which are mechanically equivalent to the forms shown and described herein.

Having thus described my invention, what I claim is:—

1. A calliope comprising in combination, a plurality of whistles, a keyboard for controlling said whistles, a special whistle whose pitch may be changed as desired, and a valve for controlling said variable pitch whistle placed adjacent said keyboard and having a control within reach of the operator.

2. A calliope comprising in combination a plurality of pneumatic whistles, a keyboard for controlling said whistles, a variable pitch whistle immediately in the rear of said keyboard and having a horizontal control rod parallel to the back of the keyboard within each reach of the operator when at the keyboard, and a cut-off valve for said variable pitch whistle also placed within easy reach of the operator at the keyboard.

3. A calliope comprising in combination a plurality of single-tone whistles, a key-board for controlling said whistles, a variable pitch whistle having means for controlling the pitch thereof under the control of an operator seated at said keyboard, and a valve for said variable pitch whistle having operating means also under control of the operator at the keyboard.

In testimony whereof I affix my signature in the presence of two witnesses:

JOSEPH E. ORI.

Witnesses:—
DOMINIC IAROLI,
BRUNO REICHELT.