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A. O. PAULSON.

CORNET.

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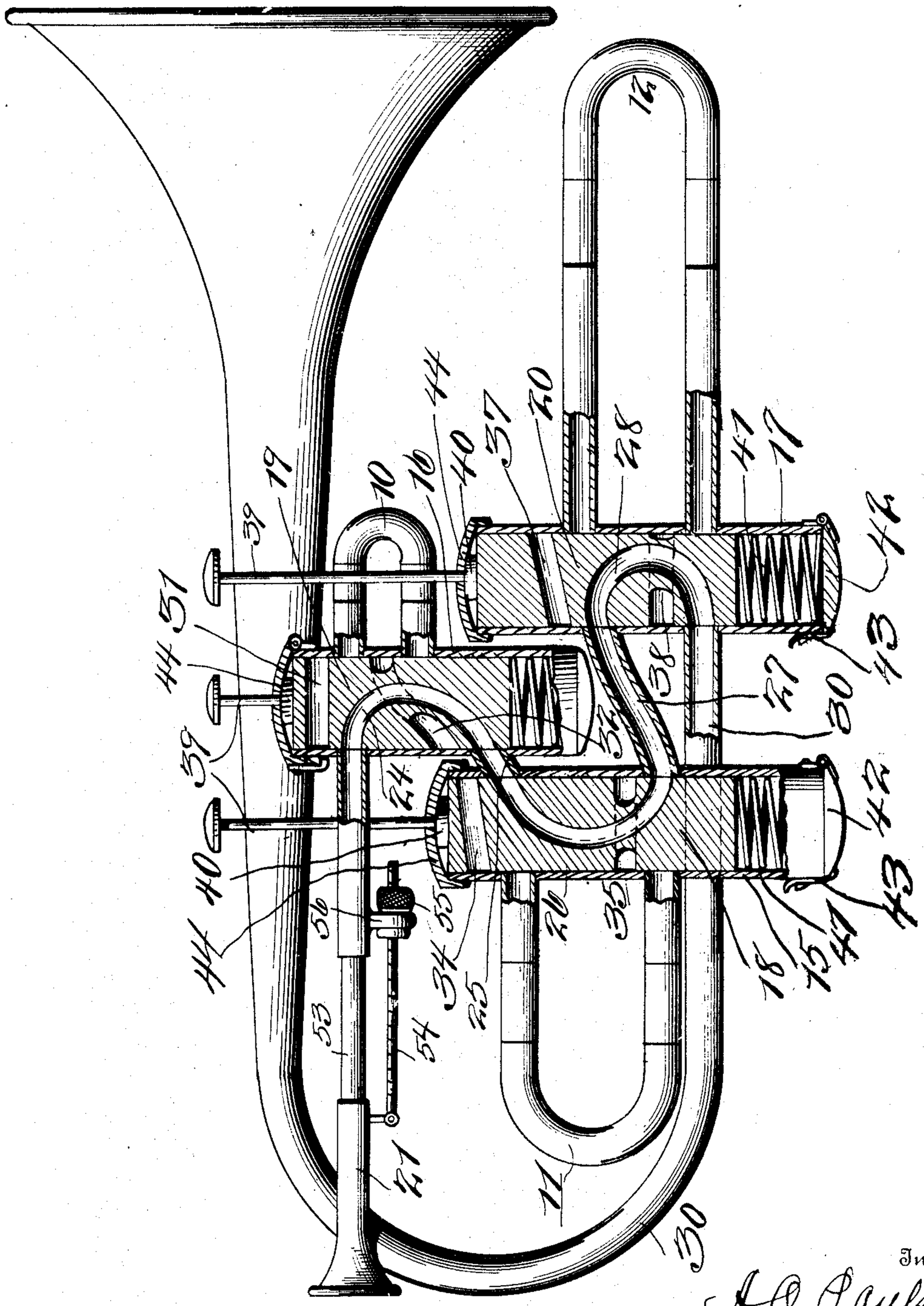

Witnesses

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CORNET.

No. 887,120. Specification of Letters Patent. Patented May 12, 1908.

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To all whom it may concern:

Be it known that I, ALBERT O. PAULSON, a citizen of the United States, residing at Sharon, in the county of Steele and State of North Dakota, have invented a new and useful Cornet; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of the invention is to improve and simplify the construction of cornets; to reduce the cost and to render all the pistons or plungers readily accessible.

With these and other objects in view, the invention consists in the novel construction and arrangement of parts, hereinafter described and shown and particularly pointed out in the appended claims.

In the drawings accompanying this specification, a sectional elevation of a cornet constructed in accordance with this invention, is shown.

In carrying out the invention, the semitone, tone, and three semitone crooks or bends, 10, 11 and 12, are arranged as usual, and are connected by tubing respectively to the second, first and third, valve cylinders, 16, 15 and 17. In these cylinders are arranged piston valves 18, 19 and 20 respectively, each valve being provided with passages so arranged that there will be precisely the same number of turns, no matter what the position of the valves may be, thus retaining the purity of note, and permitting the playing of the instrument, with less exertion than usual.

The mouth pipe 21 leads directly to the cylinder 16 of the second valve, and this valve has a curved passage 24 approximately semi-circular in form, the lower end of said passage being normally connected by a tube 25, to the cylinder 15 of the first valve. The valve 18 is also provided with a curved passage 26, which is normally connected to the third cylinder, by a pipe 27. The third valve 20 is likewise provided with a curved passage 28, which is normally in communication with the bell pipe 30. It will be observed that when all of the piston valves are in the elevated position as illustrated in the drawings, the air-current must make three turns, each of about 180 degrees, between the mouth tube and the bell tube, and this condition remains, no matter what, the position of the valves may be.

When the semitone crook 10 is to be brought into play the valve 19 is depressed and a straight passage 31 in said valve places the mouth tube in communication with the crook, a second passage 32 of this valve then placing the tube leading from crook 10, in communication with the short connecting tube 25, and from thence the air-current passes through the first and third valves to the bell tube.

When the crook 11 is required, the first piston 18 is depressed, and a passage 34, is then placed in communication with tube 25, and with the tube leading to the said crook 11, while the lower passage 35, conducts the current of air from the crook 11 to the tube 27, and from thence through the passage 28, of the third valve to the bell tube 30.

When the third crook 12 is to be brought into play, the third piston is depressed and the air-current from the pipe 27 is led through a passage 37 to the crook 12 and the return current passes through a lower passage 38 which is then placed in communication with the bell tube. It will be seen that any of the valves may be depressed to bring any desired crook into play, without either increase or decrease in the number of turns.

In constructing the cylinders and piston valves, each of the piston stems 39 is formed of a separate piece of metal having an enlarged head or disk 40 that bears on top of the piston or plunger, and each of the pistons is held in elevated position by a suitable compression spring 41. The first and third cylinders are provided with hinged bottom disks 42 which may be locked into place by small spring clips or latches 43, and when these bottom members are open the springs and pistons can be readily removed. The second piston is removable from the top of the plunger, the cylinder in this case having a hinged or detachable cover 44 a hinged cover being shown in the drawings.

In manufacturing the cylinders and plungers, it is preferred to make them of elliptical or other non-circular form in cross-section in order to avoid the necessity of the usual grooves and guiding pins thus preventing the accumulation of dirt and permitting free action of the valves.

The tuning crook may be placed on the

mouth tube as shown in the drawing; the slide 53 being connected to a threaded rod 54 which extends through an adjusting nut 55, said nut being supported by a bracket 56 depending from the mouth tube.

What I claim is:

1. In a wind instrument, a cylinder, a piston arranged therein, and a finger-actuated stem separate from and contacting with the piston and serving as an operating means therefor.

2. In a wind instrument, a cylinder, having a pivoted end member, a plunger arranged within the cylinder, a plunger elevating spring and a finger actuated stem separate from and contacting with said plunger.

3. In a wind instrument, a mouth tube comprising a tuning slide, a threaded rod connected thereto, an adjusting nut, and a bracket carried by the mouth tube and supporting the nut.

4. A cornet having three valve cylinders located successively along the main tube; a piston in each cylinder; each piston having a U-shaped passage and two substantially straight passages; a mouth tube leading directly into the middle cylinder, comprising a tuning slide; a threaded rod connected thereto; an adjusting nut; a bracket carried by the mouth tube and supporting the nut; a direct connecting pipe by which the valve in the middle cylinder with its U-shaped passage directs the wind current back toward the mouth tube, to one of the outside cylinders; a direct connecting pipe by which the valve in the outside cylinder nearest the mouth tube, with its U-shaped passage directs the wind current forward and into the other outside cylinder; a bell pipe leading from the last named outside cylinder and communicating with the U-shaped passage of the valve therein; each cylinder having a U-shaped wind pipe connected thereto, with which the substantially straight passage may register.

5. A cornet having three valve cylinders, located successively along the main tube and provided with pivoted end members; a piston and a piston elevating spring arranged within each cylinder; finger actuated stems guided by said end members and separate from and contacting with said pistons; each piston having a U-shaped passage and two substantially straight passages; a mouth tube having a tuning slide leading directly into the middle cylinder; a direct connecting pipe by which the valve in the middle cylinder, with its U-shaped passage, directs the wind current back toward the mouth tube, to one of the outside cylinders; a direct connecting pipe by which the valve in the outside cylinder nearest the mouth tube, with its U-shaped passage directs the wind current forward and into the other outside cylinder; a bell pipe leading from the last-named outside cylinder and communicating with the U-shaped passage of the valve therein; each cylinder having a U-shaped wind pipe connected thereto, with which the substantially straight passages may register.

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

ALBERT O. PAULSON.

Witnesses:
DEAN SWIFT,
WM. S. TORBERT.