I. Fiske,

Cornet,

No. 59,204. Patented Oct. 30, 1866.

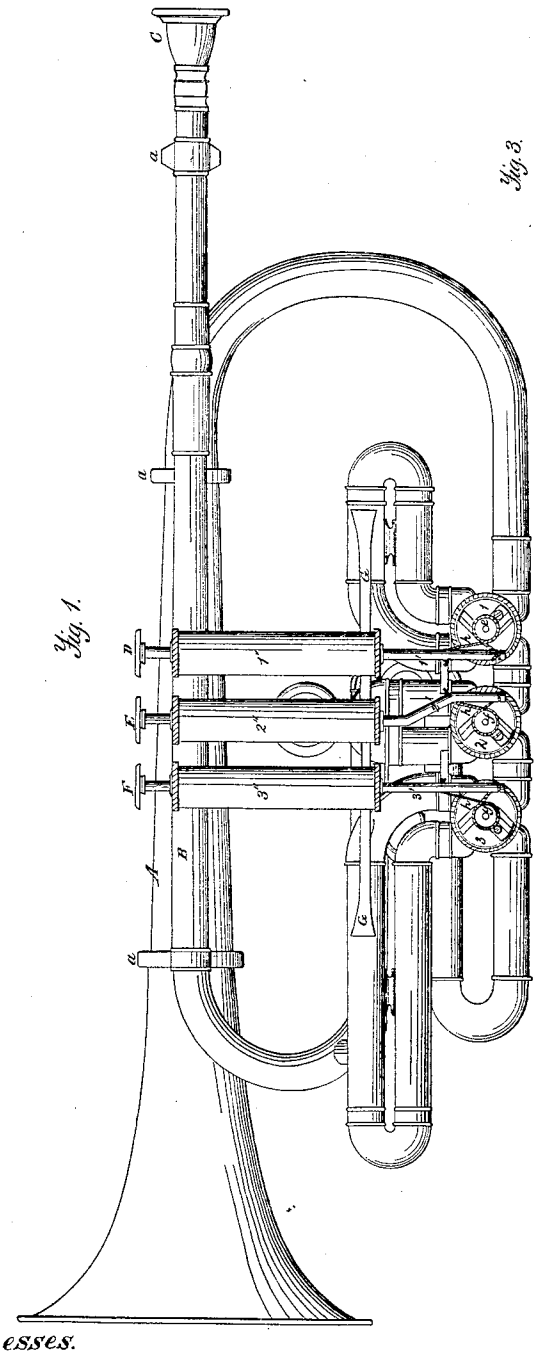

Fig. 1.

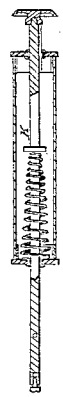

Fig. 3.

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

ISAAC FISKE, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN CORNETS AND OTHER WIND-INSTRUMENTS.

Specification forming part of Letters Patent No. **59,204**, dated October 30, 1866.

To all whom it may concern:

Be it known that I, ISAAC FISKE, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Cornets and other Wind-Instruments; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view of a cornet with my improvements applied thereto. Fig. 2 represents a perspective view of the instruments. Fig. 3 represents a section of a detached part.

To enable those skilled in the art to which my invention belongs to make and use my improvements, I will describe the same.

In the drawings, A represents the bell; B, the main pipe, through which the wind is conveyed from the mouth-piece C to the valves in cases 1, 2, and 3.

So far as the general construction of the instrument is concerned, it is similar to those in common use, and therefore I shall confine my description principally to the various parts more nearly connected with my improvements.

My invention relates, first, to a new mode of attaching the main pipe B to bell A; second, to a new mode of arranging the piston-rods by which the valves in cases 1, 2, and 3 are operated; and, third, to a new mode of supporting the lower ends of the cylinders through which the piston-rods work.

As cornets and other similar wind-instruments have heretofore been constructed the main pipe B has been attached to the bell A by soldering or other rigid metal connections. This mode of attaching affects the sound and tone of the instrument. To obviate this difficulty I employ one or more rings or loops, *a*, which are securely fastened to the main pipe B by soldering or otherwise, and which ring or rings pass around the bell, with pieces of rubber *b* or other suitable elastic substances interposed between the ring or rings and the bell, as indicated in the drawings.

Instead of pieces *a*, pieces of rubber tubing may be employed, and extend entirely around the bell, the rings or loops *a* being made concave upon their under side to receive and hold the rubber tubings. By this mode of attachment the vibrations of the bell are more full and the tone of the instrument greatly improved.

With a view to render the operation of the valves more convenient and easy, I arrange the cylinders 1″, 2″, and 3″, in respect to valve-stems *e*, *f*, and *g*, as shown in the drawings. It will be seen that by this arrangement of the parts the valve-stems *e*, *f*, and *g* can be operated by means of the pistons 1′, 2′, and 3′, with their upper ends at equal distances apart—that is, the finger-pieces D and F are each the same distance from the finger-piece E—which enables the player to finger the instrument much easier than he could if the finger-pieces were at unequal distances apart, while the valve-stems can be operated by the piston-rods 1′, 2′, and 3′ without the interposition of anything between the rods and valve-stems *e*, *f*, and *g*, except the cords *h*, which are applied to and operate the stems of the valves in the usual manner so far as the cords are concerned; but the cords have never before been operated directly from the ends of the rods which carried the finger-pieces, and which finger-pieces, when in operation, always moved in straight lines and parallel to each other.

It is a well-known fact that a player prefers to press with his fingers a surface that moves in a straight line rather than a rolling surface.

The construction of the valves, their cases 1, 2, and 3, and the tuning-pumps are of common construction.

To support the lower end of the cylinders 1″, 2″, and 3″, a bar, G, is so placed that it affords a support for all of them, and to which they are all attached. The ends of the bar are attached to the pipe on each side of the cylinders, as indicated in the drawings.

The middle piston-rod, 2′, has a double bend. The end of the rod to which the cord is attached moves, however, in a line parallel to the line of motion of the ends of the other rods. This will be fully understood by reference to Fig. 1.

In Fig. 3 is shown a central section of one of the cylinders. The piston-rod has a pin or projection, *k*, against which a spiral spring presses to force back the rod after it has been depressed by the player. The bearings in which the rod works are babbitted; but rawhide may be substituted with good results.

I have shown my improvements applied to a cornet; but they are alike applicable to many other wind-instruments.

Having described my improvements, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. Interposing rubber or some other suitable elastic substance between the attachments or attachments of the main pipe with the bell and the bell of a wind-instrument, to give greater freedom to the vibrations of the bell, substantially as set forth.

2. The combination of ring or rings *a* and rubber *b* or its equivalent, with the bell A and main pipe B, substantially as set forth.

3. The combination and arrangement, in a wind-instrument, of the cylinders in which the piston-rods work and the valve-stems, in such a manner as to obviate the necessity of interposing anything between the valve-stems and piston-rods, in order to operate the stems and valves, except a cord, substantially as described.

4. The special arrangement and combination of the valve-stems *e*, *f*, and *g*, and rods 1′, 2′, and 3′, and cylinders 1″, 2″, and 3″, whereby the valves, cylinders, and finger-pieces are of equal distances from each other, and yet all of the valve-stems and valves are operated by cords attached directly to the ends of the rods, which move in a line parallel to each other, substantially as set forth.

5. The combination and arrangement, with the cylinders 1″, 2″, and 3″, of the supporting-bar G, as shown and described.

ISAAC FISKE.

Witnesses:
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D. L. MILLER.