

Oct. 21, 1924.

1,512,023

W. E. HIGGINS

MUSICAL WIND INSTRUMENT

Filed July 23, 1921

Fig. 1

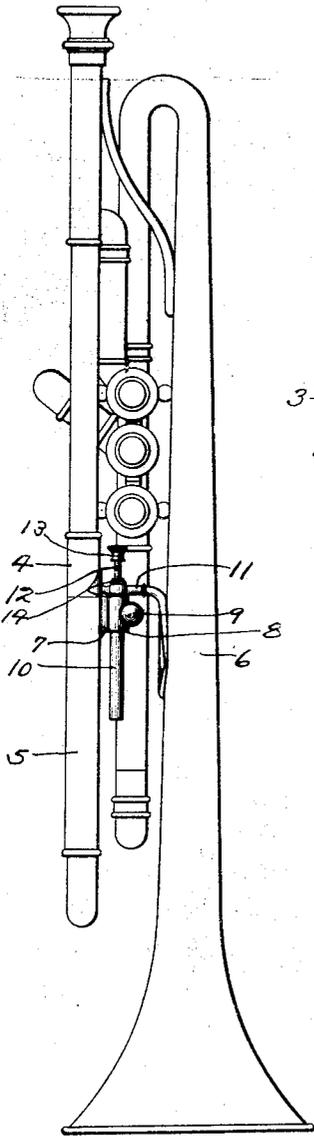


Fig. 2

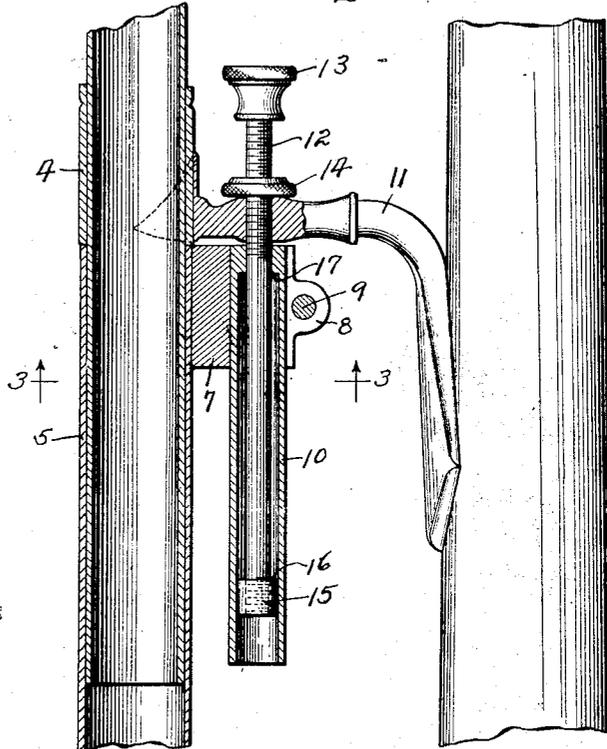
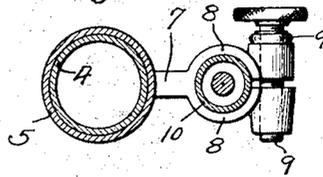


Fig. 3



Inventor:

William E. Higgins.

By Nissen & Crane

Attys

UNITED STATES PATENT OFFICE.

WILLIAM E. HIGGINS, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO FRANK HOLTON & CO., OF ELKHORN, WISCONSIN, A CORPORATION OF ILLINOIS.

MUSICAL WIND INSTRUMENT.

Application filed July 23, 1921. Serial No. 486,955.

To all whom it may concern:

Be it known that I, WILLIAM E. HIGGINS, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Musical Wind Instruments, of which the following is a specification.

This invention is an improvement over the device of my United States Patent No. 1,141,960, dated June 8, 1915.

My invention relates to musical wind instruments, and more particularly to means for changing the pitch of such instruments.

One of the objects of the invention is to provide simple and efficient means for quickly and easily changing the pitch of a musical wind instrument.

A further object is the provision of a device such as mentioned capable of tuning in the different pitches.

Other objects will appear hereinafter.

An embodiment of my invention is illustrated in the accompanying drawing, forming a part of this specification, and in which—

Fig. 1 is a plan view of a musical wind instrument equipped with my invention;

Fig. 2 is an enlarged view, partly in section, showing the application of my improvement to a musical wind instrument; and

Fig. 3 is a section taken on line 3—3 of Fig. 2.

My improvement is particularly applicable to cornets, trumpets, and similar wind instruments. An important feature is the arrangement so that the tuning slide may be adjusted to change the pitch of the instrument and have a positive stop for limiting the slide in both pitches. Another important feature is being able to tune the instrument in both of its pitches.

Referring more particularly to the drawing, in Fig. 1 I have illustrated an ordinary cornet or like instrument having a tubular portion 4 in which a tuning slide 5 is mounted. The cornet is also provided with a bell pipe 6. The other parts of the cornet are not affected by my improvement. Attached to the tuning slide 5 is a short arm 7 having its outer end formed with a clamp 8. The clamp 8 may be of any desired form. One form may be the split clamp illustrated with a screw 9 passing through one of its parts

and threaded in the other in the usual manner. Mounted within the clamp 8 is a cylindrical tube 10 having its outer surface arranged so as to slide through the clamp 8 when the latter is in open condition.

Extending between and secured to the tubular portion 4 and the bell pipe 6 is a brace member 11 in which is threaded a rod 12. The rod 12 may be provided with a thumb-wheel 13 for rotating it and a lock nut 14 for holding it in adjusted positions. The rod 12 has an enlargement or head 15 which provides a shoulder 16 at its upper end, as viewed in Fig. 2, adapted to engage a shoulder 17 at the end of a counterbore or restriction in the tube 10.

In the operation of the device the horn is arranged so that when the tuning slide 5 is pressed inwardly toward the tubular portions 4 such horn will be in one pitch. The rod 12 is adjustable in the brace member 11 so that when the tuning slide is pulled out until shoulder 16 engages shoulder 17 the instrument will be in its other pitch. The rod 12 may be adjusted in brace 11 for facilitating the tuning of the horn when the slide is pulled out. Also, the tube 10 may be adjusted in the clamp 8 to facilitate the tuning of the instrument itself, or tuning the instrument to other instruments.

Also, an important feature of the device is providing the tube 10 so that upon opening clamp 8 the tube 10 may slide out of the clamp to remove the tuning slide from the instrument. When the tuning slide is placed back in position on the tubular portion 4 the tube 10 can be entered in the clamp 8 again and locked up by the screw 9 at a desired position.

I claim:—

1. A musical wind instrument comprising two tubular portions telescoped together; an arm extending laterally from each of said tubular portions; a rod attached to one of said arms; a tube slidably mounted on said rod; a head on said rod in the tube; a shoulder within the tube adapted to engage the head on said rod for limiting the relative movements of the rod and tube in one direction; and a clamp on one arm engaging said tube.

2. A musical wind instrument comprising two tubular portions telescoped together; an arm extending laterally of one of said tubular portions; a clamp on the other of

- said tubular portions; a rod secured to said arm; a tube adjustably mounted in said clamp and telescoping said rod, said tube being of equal cross-section throughout its length and easily slidable through the clamp when the latter is loosened; a shoulder within the tube adjacent one end of the latter; and an enlargement on the rod adapted to engage the shoulder in said tube.
3. A musical wind instrument comprising two tubular portions telescoped together; an arm extending laterally from each of said tubular portions; a clamp on one of said arms; a rod attached to the other arm and extending through said clamp; a tube mounted in the clamp and telescoped over said rod; and shoulders on the rod and in the bore of the tube limiting relative movements thereof in one direction.
4. A musical wind instrument comprising a bell pipe; a tubular portion adjacent the bell pipe; a brace disposed between and attached to said tubular portion and bell pipe; a tuning slide having a part telescoped in said tubular portion; arms on the tuning slide and tubular portion; a clamp on one of said arms; a tube adjustably mounted in said clamp; a rod threaded in said brace and telescoped in said tube; and means associated with the rod and tube adapted to limit relative movements thereof in one direction.
5. A musical wind instrument comprising a bell pipe; a tubular portion adjacent the bell pipe; a brace disposed between and attached to said tubular portion and bell pipe; a tuning slide having a part telescoped in said tubular portion; arms on the tuning slide and tubular portion; a clamp on one of said arms; a tube adjustably mounted in said clamp; a rod threaded in said brace and telescoped in said tube; a lock nut threaded on said rod; a restricted portion at one end of the tube; and a head on the rod adapted to engage said restricted portion.
6. A musical wind instrument comprising two tubular portions telescoped together; an arm attached to one tubular portion; a clamp having a cylindrical bore and attached to the other tubular portion; a tube having its outer periphery cylindrical and disposed in the clamp; the tube being easily slidable out of the clamp when the latter is loosened; a rod attached to said arm and slidable in the tube; a head on the rod with its diameter not greater than the tube, said head being adapted to hold the tube on the rod when said tube is disconnected from the clamp.
7. A musical wind instrument comprising a tuning slide and guides therefor; a bell tube; a base attached to said bell tube and one of said guides; a clamp fixed on said tuning slide to move therewith; a tube clamped in said clamp; and a rod connected with said base and slidably mounted in the last-mentioned tube with means within the tube engaging a portion of said rod for serving as a limit stop for said tuning slide.
8. A musical wind instrument comprising a stationary tubular portion; a tuning tube connected thereto; brackets, one extending laterally from said tubular portion and said tube respectively; a clamp on one of said brackets; a limit stop device adjustably mounted in said clamp and having an abutment at that end nearer the bracket secured to the stationary tubular portion; an abutment within said adjustably mounted stop device and means adjustably secured to the last-named bracket for co-acting with said limit stop device to limit the sliding movements of said tuning tube.
9. A musical wind instrument comprising a stationary tubular portion; a tuning slide having a telescoping connection with said tubular portion; bracket arms on the tubular portion and the tuning slide; and interconnecting parallel members having an abutment at one end and an abutment within one member for engagement to form a limit stop when said slide is extended.
10. In a wind instrument a wind tube, a limit stop mechanism comprising a base having a wind tube engaging portion at each end; a support having a tuning slide engaging portion at one end; and telescoping members attached to the base and stopping means associated with said telescoping members for facilitating the control of the movements of said tuning slide.
11. In musical wind instruments, the combination with two spaced wind pipes and a tuning slide, of a support disposed between and attached to said wind pipes; a support attached to the tuning slide; and a collapsible telescopic limit stop connection between said supports.
- In testimony whereof I have signed my name to this specification on this 20th day of July, A. D. 1921.

WILLIAM E. HIGGINS.