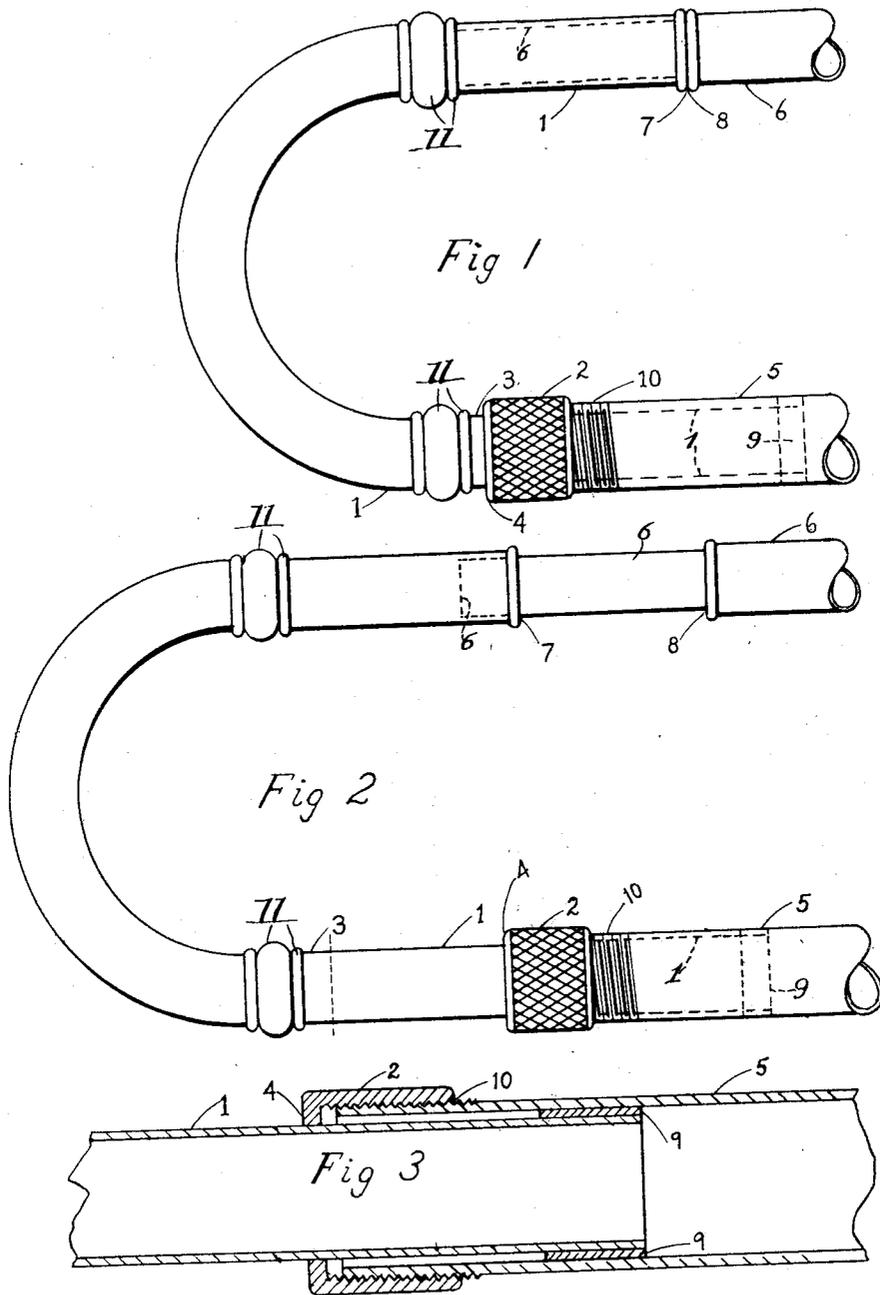


W. C. KIDDER.
BRASS WIND INSTRUMENT.
APPLICATION FILED MAR. 24, 1913. RENEWED JUNE 1, 1915.

Patented Dec. 5, 1916.

1,206,858.



WITNESSES:
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BRASS WIND INSTRUMENT.

1,206,858.

Specification of Letters Patent.

Patented Dec. 5, 1916.

Application filed March 24, 1913, Serial No. 756,452. Renewed June 1, 1915. Serial No. 31,620.

To all whom it may concern:

Be it known that I, WILLIAM C. KIDDER, a citizen of the United States, residing at Town Line, in the county of Erie and State of New York, have invented a new and useful Improvement in Brass Wind Instruments, of which the following is a specification.

This invention relates to the so-called quick-change slides of cornets and similar instruments which are employed for transposing the instrument from high to low pitch or vice versa, for example, from B-flat to A. Its object is the provision of a neat, simple and compact stop-device for the quick change slide which can be readily adjusted to regulate the movement of said slide, in order to insure accurate tuning of the instrument both in the inner and outer positions of said slide, without necessitating repeated adjustment of the tuning slide with which such instruments are commonly provided in addition to the quick-change slide.

In the accompanying drawings, Figure 1 is a side elevation of the quick-change slide and the cooperating tube-members of a cornet embodying the invention, showing said slide in its inner or high-pitch position. Fig. 2 is a similar view showing the quick-change slide partly drawn out. Fig. 3 is a fragmentary longitudinal section, on an enlarged scale, of the tube carrying the adjustable stop-nut and the slide-member telescoping into the same.

Similar characters of reference indicate corresponding parts throughout the several views.

1 indicates the quick-change slide which is bifurcated or U-shaped, as usual. Its parallel members or legs are telescopically connected with the customary fixed tubes 5 and 6 of the cornet, and in the preferred construction shown in the drawings, one of said members is fitted upon the fixed tube 6, while its other member is fitted into the fixed tube 5. One of the fixed tubes, say the tube 6, is provided with a stop or bead 8 and the beaded end 7 of the corresponding slide-member forms a stop which bears against said stop when the slide is in its innermost or high-pitch position, as shown in Fig. 1. These cooperating stops thus determine the inner position of the slide. The other straight member of the slide carries a stocking or shoulder 9 arranged to

encounter a stop-flange or collar 4 extending inwardly from an adjustable nut 2 which engages the externally threaded end portion 10 of the corresponding fixed tube 5. The shoulder 9 and cooperating flange 4 thus determine the outward stroke of the quick-change slide which may be varied or regulated, as required, by adjusting said stop nut on the tube 5. Said slide usually has beads or enlargements 11 at the junction of its straight and curved portions. The location of the stop nut 2 relative to the opposing bead 11 is such that when the slide is shifted to its extreme inner position, as shown in Fig. 1, a space 3 is left between said nut and bead in all adjustments of the nut, in order that said bead may not strike the nut and prevent complete closing of the slide. By this arrangement, the stop-nut 2 while limiting the outward movement of the slide, does not limit or interfere with its inward movement, the latter function being confined to the stops 7 and 8 on the other slide member and the cooperating fixed tube 6.

The arrangement of the fixed tube and the companion slide-member may obviously be reversed, the slide-member surrounding said tube and carrying the adjustable-nut 2 and said tube carrying the stocking or shoulder 9. This reversal will be easily understood by regarding the tube 5, in Fig. 3, as the slide member and the tube 1 as the fixed tube.

The operation of the improvement is as follows: When the quick-change slide is shifted to its extreme inner position, as shown in Fig. 1, the instrument is transposed to high pitch, or say B-flat. If, in this position of said slide, the instrument is not in accurate tune with other instruments with which it is used, it is properly tuned by leaving the quick-change slide in that position and drawing the customary tuning slide (not shown) more or less, as required. The quick-change slide is next pulled out until its stocking 9 strikes the stop-flange 4 of the adjustable nut. Then, by screwing the nut backward or forward on the fixed tube 5 and at the same time keeping the stocking tightly against said stop-flange, the instrument can be accurately tuned to the desired low pitch, say the key of A. The instrument will then always be in perfect tune both in the inner and outer posi-

tions of the quick-change slide, without requiring further or repeated adjustment of the other or tuning slide.

It will thus be understood that after effecting the above-mentioned single adjustment of the tuning slide and the single adjustment of the stop-nut, the instrument can be changed from one key or pitch to the other by simply shifting the quick-change slide in or out to the limit of its movement.

As the adjustable nut surrounds one of the tubes of the instrument, it is neat and compact and presents no unsightly projection. The improvement is, moreover, exceedingly simple in construction and convenient in use, and its cost is but nominal.

I claim as my invention:

1. A brass wind instrument having fixed tubes and a U-shaped quick-change slide having its parallel members telescopically connected with said tubes, one only of said slide-members and the corresponding fixed tube having a pair of cooperating stops which limit the inward movement of the slide and the other slide-member and the corresponding fixed tube having a pair of cooperating stops which limit the outward movement of the slide, a stop of one of said pairs surrounding the adjacent tube-member and being longitudinally adjustable thereon.

2. A brass wind instrument having fixed tubes and a U-shaped quick-change slide having its parallel members telescopically connected with said fixed tubes, one only of said slide-members and the corresponding fixed tube having cooperating stops to determine the inner position of the slide, the other slide-member and the corresponding fixed tube being provided with stop-means

to determine the outer position of the slide, said stop-means comprising a shoulder on one of the two last-named telescopic parts and an adjustable nut surrounding and engaging the other of said parts and having a flange cooperating with said shoulder.

3. A brass wind instrument having fixed tubes and a U-shaped quick-change slide having its parallel members telescopically connected with said fixed tubes, one only of said slide-members and the corresponding fixed tube having cooperating stops to determine the inner position of the slide, the other slide-member having a shoulder, and an adjustable nut surrounding and engaging the fixed receiving tube of the last-named slide-member and having a flange cooperating with said shoulder to determine the outer position of the slide.

4. A brass wind instrument having fixed tubes and a U-shaped quick-change slide having its parallel members telescopically connected with said fixed tubes, means to limit the inward movement of said slide relatively to said tubes, and one of said slide members having a stocking and its corresponding tube having an elongated stop in telescopic connection with said slide member opposite said stocking and longitudinally adjustable on said tube to limit the outward movement of said slide in variable degree and permit the instrument to be accurately tuned to the desired low pitch by moving the stop backward or forward on the fixed tube and at the same time keeping the stocking tightly against said stop.

WILLIAM C. KIDDER.

Witnesses:

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