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E. WILLIAMS

SLIDE TROMBONE

Filed Dec. 29, 1925

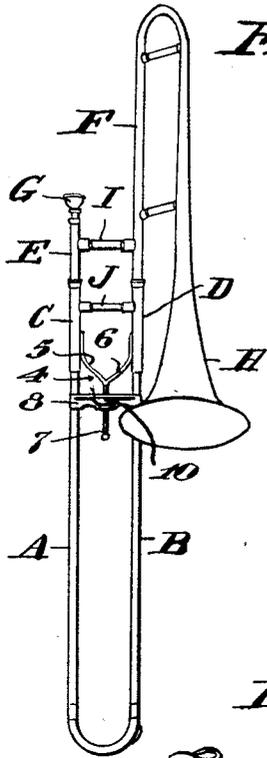


Fig. 1.

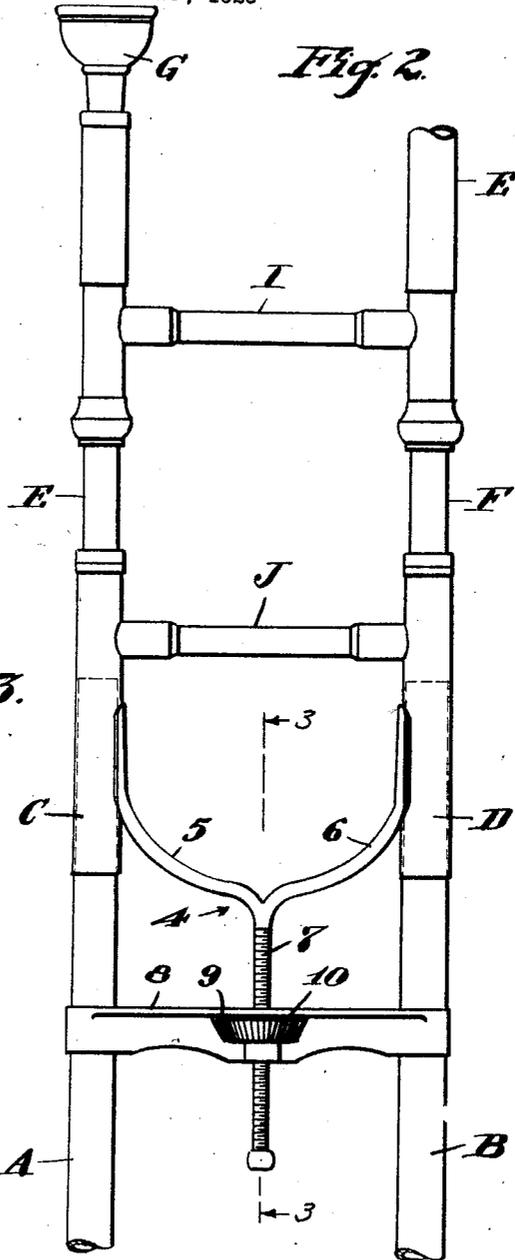


Fig. 2.

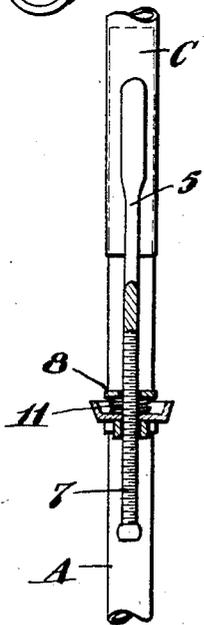


Fig. 3.

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SLIDE TROMBONE.

Application filed December 29, 1925. Serial No. 78,104.

This invention relates to slide trombones and particularly pertains to improvements in an adjustable tuning device therefor.

The primary object of the invention is to provide a tuning device in a slide trombone which is so constructed as to stabilize the sliding parts of the instrument in such manner as to effectively prevent cramping of these parts and maintain the slide tubes in proper alignment and in true parallel relation so as to facilitate accurate manipulation of the slides.

Another object is to provide a device of the above character so arranged as to permit freedom of movement of the hands.

Another object is to provide a tuning device which is so constructed as to combine lightness in weight together with strength and to afford a substantial brace for the united parts.

Another object is to provide the tuning device with a yieldable connection operable to absorb shocks and to inhibit accidental displacement of the tuning adjustment after tuning has been accomplished.

A further object is to provide a tuning device which may be manipulated to effect tuning while playing the instrument so as to avoid any necessity of alternately adjusting the tuning device and testing to determine the result of the adjustment.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides generally in the provision of a substantially Y-shaped brace, the forked end portions of which are attached to the tuning slides and in which the stem portion is screwed into engagement with a spring tensioned nut carried by a transverse brace affixed to the slide tube.

The invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a slide trombone showing the invention as applied;

Fig. 2 is a detail in side elevation of the tuning device;

Fig. 3 is a detail in section and elevation as seen on the line 3—3 of Fig. 2.

Referring to the drawings more specifically, A and B indicate the parallel tubes of the U-shaped slide of a trombone; C and D denote the tuning tubes slidably encompassing the tubes A and B; and E and F designate tubes telescopically encompassed by the tubes A—C and B—C respectively.

The tube E carries the usual mouthpiece G and the tube F is fitted with the usual bell portion of the instrument. The tubes E and F are connected together by the usual hand-hold I and the tuning tubes C and D are connected together by the usual hand-hold J.

In carrying out my invention I provide a substantially Y-shaped member 4 embodying forked end portions 5 and 6 and a stem portion 7. The forked portions 5 and 6 are engaged with the tuning tubes C and D adjacent the lower end portions of the latter with the threaded stem 7 extending downwardly intermediate the tubes A and B parallel therewith. The threaded stem projects through a transverse brace bar 8 affixed at its ends to the tubes A and B and is longitudinally slidable relatively thereto. The bar 8 is preferably of general T-shape in cross section and is formed with a slot 9 in which is located a knurled nut 10 screwed on the threaded stem 7; the nut being held in place on the bar 8 between the side walls of the slot 9 and being operable on rotation of the nut to effect longitudinal movement of the stem 7 and of the slide tubes C and D. The nut 10 is of a thickness slightly less than the vertical width of the slot 9 so as to permit a slight longitudinal movement of the threaded stem 7 relatively to the bar 8 and also afford a slight relative movement of the tubes A and B relatively to the tuning tubes C and D, and interposed between the nut 10 and the upper margin of the slot 9 is a spring 11 which extends into a recess in the upper face of the nut and yieldably opposes longitudinal sliding movement of the stem 7 and normally maintains the stem in a fixed position. This spring serves as a cushion to absorb shock imposed longitudinally of the tubes A and B, such, for example, as is occasioned by standing the instrument on end, thus relieving the threaded connections between the stem and the nut of excessive strain due to such forces. The spring further serves to retain the nut 10 in close frictional contact with the lower wall of the slot 9 so as to inhibit free rotation of the nut and thereby minimize accidental displacement or turning thereof.

It is to be observed that by effecting a forked connection between the threaded stem 7 and the tuning tubes C and D through the medium of the members 5 and 6 an unobstructed space is afforded beneath the hand-hold J so as to occasion no interference with

the fingers of the operator during manipulation of the trombone slide.

While I have shown and described a specific embodiment of my invention, I do not limit myself to the exact details of construction nor the arrangement shown but may employ such changes and modifications in the parts and their construction as occasion may require coming within the scope of the appended claims.

I claim:—

1. In a tuning device for slide trombones, the combination with the parallel tubular members of the trombone slide and telescoping tuning tubes slidably carried thereon, of a slotted transverse bar connecting the parallel slide members, a threaded stem, diverging members affixed to said stem connecting with the tuning tubes, a nut in screw engagement with said threaded stem turnably supported in the slot in said transverse bar, said threaded stem and nut being capable of movement relative to said transverse bar in a direction of the length of said threaded stem, and a spring for yieldably opposing said movement, there being a clear space between said diverging members to provide room for the musician's hand.

2. In tuning a device for slide trombones, the combination of a U-shaped slide member of the trombone and a pair of tuning tubes slidably telescoping the slide members of

said slide, of a Y-shaped member, the forked ends of which are affixed to said tuning tubes and the stem portion of which is threaded and projects downwardly between the side members of the slide, a transverse bar carried by the slide through which said threaded stem passes and with relation to which said threaded stem is slidably longitudinally, a nut screwed on said stem arranged in a slot in said transverse bar, and a spring interposed between said nut and one margin of said slot operable to yieldably oppose longitudinal slidably movement of said threaded stem and acting to yieldably oppose turning movement of said nut.

3. In a tuning device for slide trombones, the combination with the parallel tubular members of the trombone slide and telescoping tuning tubes slidably carried thereon, of a transverse bar connecting the parallel tubular members of the trombone slide, a threaded stem carried by the tuning tubes extending through said transverse bar and slidably longitudinally relatively thereto, a nut screwed on said threaded stem and a spring interposed between said nut and said transverse bar, said stem being capable of limited longitudinal movement in opposition to said spring.

In testimony whereof, I have affixed my signature.

EARL WILLIAMS.