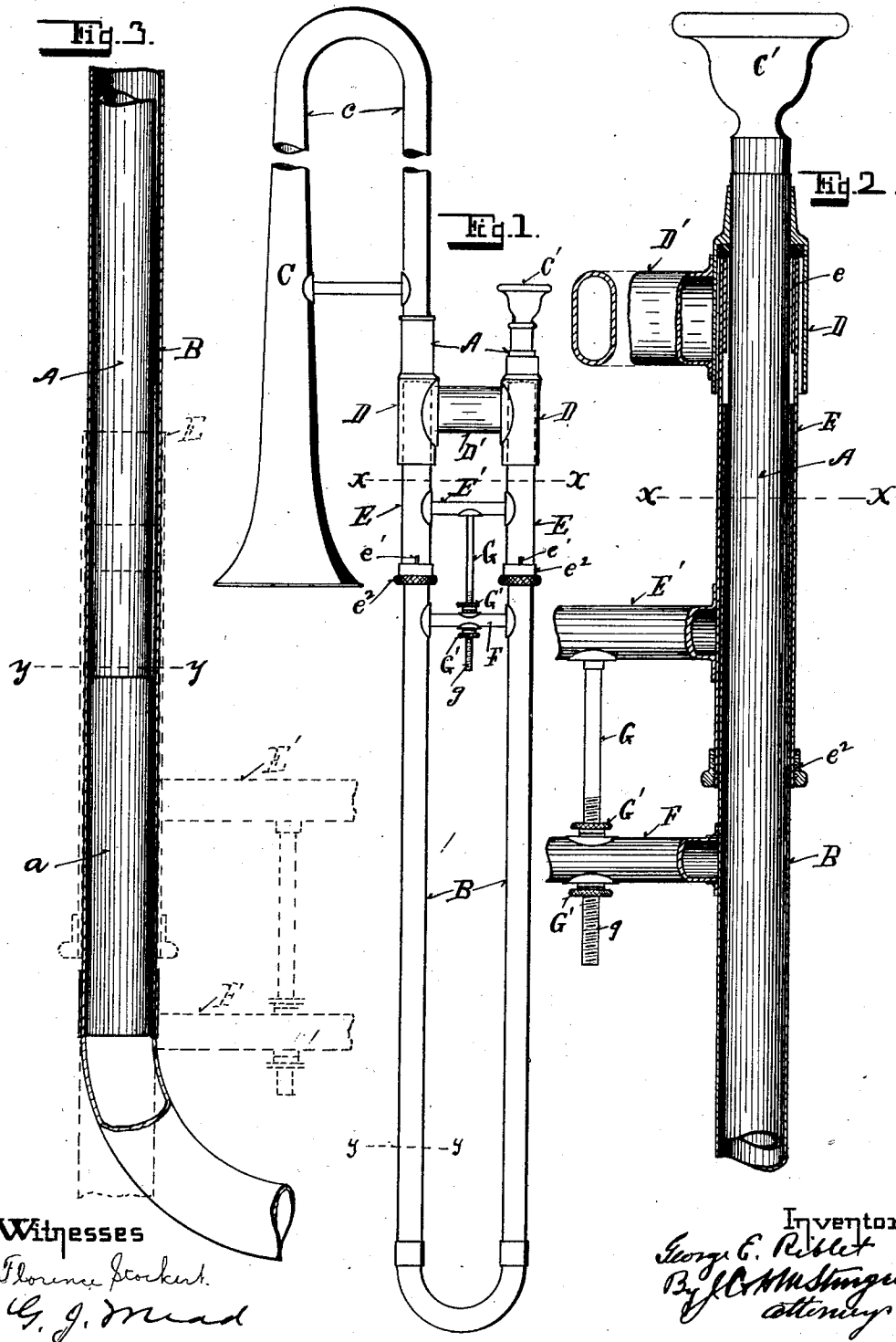


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SLIDE TROMBONE.

APPLICATION FILED APR. 26, 1911.

1,021,890.

Patented Apr. 2, 1912.



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UNITED STATES PATENT OFFICE.

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SLIDE-TROMBONE.

1,021,890.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed April 26, 1911. Serial No. 623,418.

To all whom it may concern:

Be it known that I, GEORGE E. RIBLET, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Slide-Trombones; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in slide trombones and consists in the construction and combination of parts substantially as shown and described and particularly pointed out in the claims.

The features of my invention are hereinafter shown and described and illustrated in the accompanying drawings in which:

Figure 1 is a view in elevation of a slide trombone embodying my invention with portions thereof broken away. Fig. 2 is an enlarged sectional view of a portion thereof embodying my invention. Fig. 3 is a like view of the lower end of one of the telescoping tubes thereof.

In these drawings, A, indicates the inside parallel tubes of the telescopic slide; B, indicates the outside U-shaped tube thereof; and C, indicates the bell portion of the instrument which is inserted into one of the tubes, A; and C', the mouth-piece inserted into the other of the tubes, A. The broken line, $x-x$, in Figs. 1 and 2 indicates the location of the upper ends of the U-shaped tube, B, as ordinarily constructed, when the same is in what trombonists call the first position and the broken line, $y-y$, in Fig. 3, indicates the position of the upper ends of said U-shaped tube, B, when the same is in what is known as the seventh position, in trombones as ordinarily constructed. The tubes, A, are of somewhat less outside diameter than the inside diameter of the outside U-shaped tube, B, of the slide, and on the lower ends of the tubes, A, are bushings, a , commonly called stockings which form air tight bearings with the inside surfaces of the U-shaped tube, B. These stockings, a , are usually about three inches in length and it is therefore obvious when U-shaped tubes, B, are extended to the seventh position thereof as indicated by the broken

line, $y-y$, in Fig. 3, that, mechanically, such construction is faulty in operation, and is liable to cramp and stick on the stockings, a .

One of the objects of my invention is, therefore, to obviate this liability to cramp and stick, which I have endeavored to do without at the same time increasing or diminishing the inside length of the instrument.

Again in trombones as ordinarily constructed the key-note pitch thereof is regulated by means of a tuning-slide which is usually located at the point, e , of the bell-portion, C, of the instrument, which is constructed of telescopic tubes which makes it necessary to form that part of the bell-portion of the instrument of somewhat thicker metal, to the detriment of the quality of tone, and which also causes greater exertion on the part of the performer in playing the instrument.

Another object of my invention therefore, is to improve the tone of the instrument and render it more easy to play by removing the tuning-slide from the bell-portion, C, and placing it at a point in the instrument where it will not affect the tone or render the instrument more difficult to perform upon.

In carrying out the objects of my invention I place upon the upper ends of the tubes, A, preferably thimbles, D, D, and make the same integral therewith by means of brazing or soldering, and then I place between the thimbles, D, D, a hand-grip consisting of a tubular brace D', and preferably oval in cross-section, as illustrated in Figs. 1 and 2 in order to give said hand-grip greater strength. In the ordinary construction of trombones, a shallow thimble or stop is placed upon the tubes, A, at approximately the point indicated by the broken line, $x-x$ in Figs. 1 and 2, and the hand-grip or brace, D', is brazed directly to the tubes, A. It will be seen, therefore, that by my improved construction of the thimbles, D, D, and hand-grip, D', I have cleared the outside surface of the tubes, A, usually occupied by said thimbles and hand-grip, so that the same may be utilized for the purposes of my invention. I then construct the U-shaped tube, B, of the slide so that the arms of the same extend somewhat above the line, $x-x$ which marks the upper ends of said U-shaped tube as ordinarily con-

5 constructed, and I place thereon closely fitting
 telescopic tubes, E, E, adapted to extend up-
 ward into the thimbles, D, D, when the
 slide is in the first position as shown in
 10 Figs. 1 and 2, and within the upper ends of
 these tubes, E, E, I braze bushings, *e*, of
 sufficient inside diameter to pass over the
 stockings, *a*, on the lower ends of the tubes,
 A. Between the telescopic tubes, E, E, I
 15 place a cross-brace, E' and braze or solder
 the ends thereof to said tubes, so that said
 tubes, E, E, and brace, E', form one in-
 tegral structure, adapted to be moved lon-
 gitudinally on the upper ends of the U-
 20 shaped tube, B, by means of which the key-
 note pitch of the trombone may be varied.
 In order to secure the tubes, E, E, at such
 point as may be desired by the pitch of the
 instrument, I braze or solder a cross-piece,
 25 F, between the arms of the U-shaped tube,
 B, and extending from the brace, E',
 through an opening in the brace, F, is a
 rod, G, provided with screw-threads, *g*, and
 having thereon a nut G', on each side of
 30 the cross-brace, F. I also may split the
 lower ends of the tubes, E, E, as shown at
e', in Fig. 1, and place thereon screw-nuts,
e² e², by means whereof said tubes, E, E,
 may be given a binding fit on the ends of
 the U-shaped tube, B, when desired.

In playing a trombone the instrument is
 supported by the hand-grip, D', in the left
 hand of the performer who, with his right
 hand grasps the cross-brace, E', between the
 35 tubes, E, E, and as in trombones of ordinary
 construction the hand grips for the right
 and left hands of the performer are always
 located in substantially the same position
 near the upper ends of the U-shaped tube
 40 B. It will be seen by reference to the draw-
 ings that, while I have by means of my
 improved construction, lengthened the arms
 of the U-shaped tube, B, so that the same
 may extend nearly to the upper ends of the
 45 tubes, A, I have not lessened the distance
 between the outer extremity of the mouth-
 piece C', and the cross-braces, E' and D',
 thereby not having changed the first and
 seventh positions of the brace, E', with re-
 50 ference to the outer extremity of the mouth-
 piece, C', as the same are now in trombones of
 ordinary construction. It will further be seen
 that when the U-shaped tube, B, and brace,
 E', are in the seventh position, as indicated
 55 by broken lines, in Fig. 3, the upper end of
 the tubes, E, E, on the U-shaped tube, B,
 will be approximately two inches above the
 upper ends of the tube, B, as indicated by
 the broken line $\gamma-\gamma$, which gives a bearing
 60 between the U-shaped tube B, and the par-
 allel tubes, A, of approximately five inches,

instead of three inches as in trombones of
 ordinary construction.

From the foregoing description it is ob-
 65 vious therefore that I have herein shown
 and described mechanism whereby I accom-
 plish the objects of my invention. It is ob-
 vious, however that many modifications of
 my invention can be made by those skilled
 in the art without departing from the spirit
 70 of my invention.

Therefore what I claim as new, and desire
 to secure by Letters-Patent is:

1. A slide trombone comprising a tele-
 scopic-tube mounted upon the upper end of
 75 each arm of the return-bend sliding-tube
 thereof, a transverse brace extending be-
 tween and rigidly uniting said telescopic-
 tubes, and means to secure said telescopic
 tubes in adjusted position with relation to
 80 said return-bend sliding tube substantially
 as set forth.

2. A slide trombone comprising a tele-
 scopic-tube mounted upon the upper end of
 each arm of the return-bend sliding-tube
 85 thereof, a cross brace extending between
 and rigidly uniting said telescopic-tubes
 and screw mechanism adapted to secure said
 telescopic-tubes in adjusted position with
 relation to said return-bend sliding tube,
 90 substantially as set forth.

3. The combination in a slide trombone
 of a U-shaped tube, a telescopic extension
 upon the upper end of each arm thereof, a
 bushing ring in the upper end of each of
 95 said extensions, a cross brace extending be-
 tween and uniting said extensions, and
 means adapted to secure said extensions
 against longitudinal movement with rela-
 tion to said U-shaped tube, substantially as
 100 set forth.

4. In a slide trombone the combination of
 a return-bend sliding tube, a telescopic tube
 mounted upon the upper end of each arm
 thereof, a cross-brace extending between and
 105 uniting said telescopic tubes, means to se-
 cure said telescopic tubes against longitu-
 dinal movement with relation to said tube,
 parallel tubes inserted in the arms of said
 tube through the telescopic-tubes mounted
 110 thereon, a sleeve on the upper end of each
 of said parallel tubes having enlarged por-
 tions adapted to embrace the telescopic-
 tubes on the tube, and a hand-grip brace ex-
 tending between and uniting said sleeves,
 115 substantially as set forth.

In testimony whereof I affix my signa-
 ture, in presence of two witnesses.

GEORGE E. RIBLET.

Witnesses:

W. R. HUGHES,
 C. MILBNER.