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2,971,423

BRACE FOR MUSICAL INSTRUMENT

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Fig. 1.

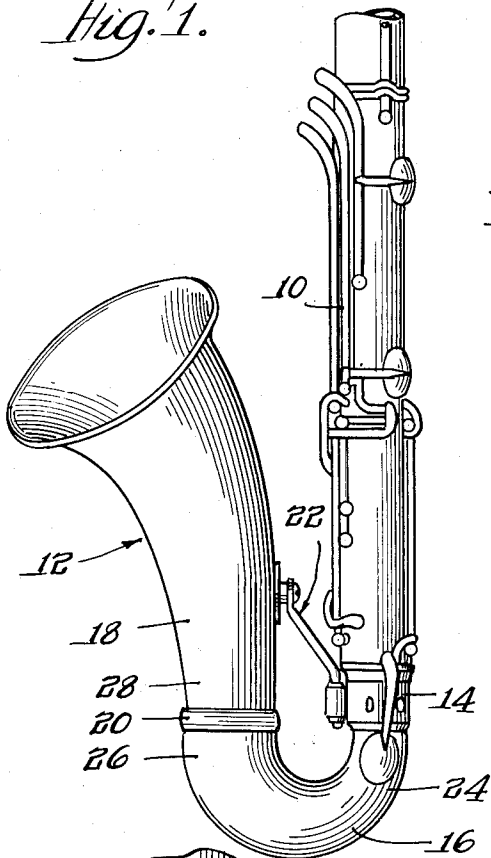


Fig. 2.

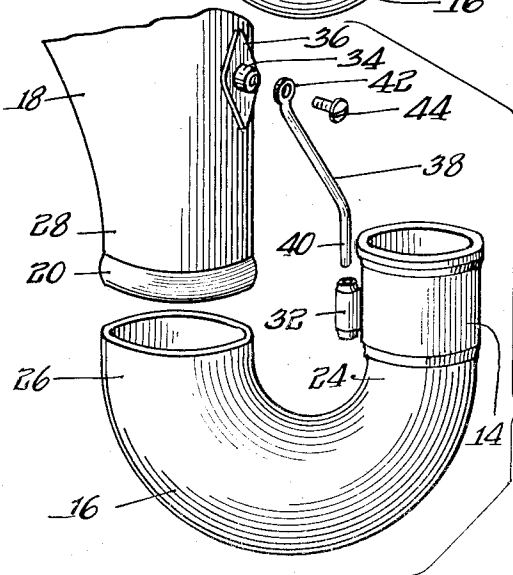
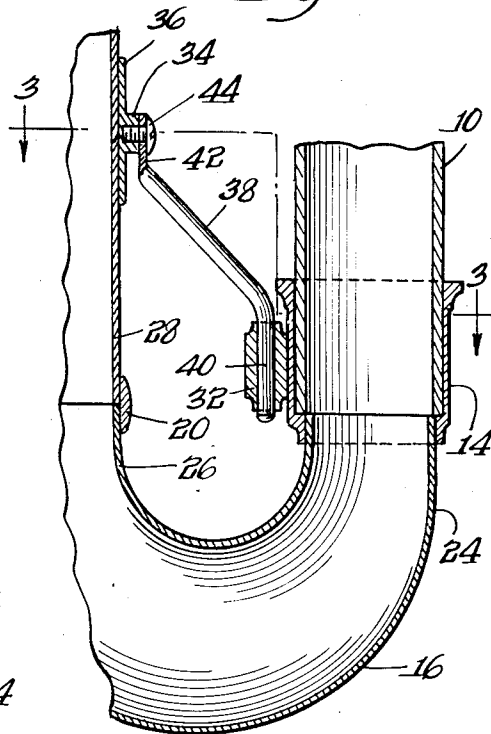


Fig. 3.

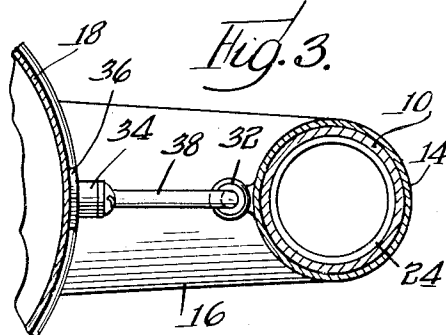


Fig. 4.

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## BRACE FOR MUSICAL INSTRUMENT

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4 Claims. (Cl. 84—380)

This invention relates to an improved construction for musical instruments and more particularly to a detachable brace which is used for reinforcing the bell of a musical instrument such as a bass clarinet.

A musical instrument such as a bass clarinet or a saxophone has a bell which constitutes a part of the instrument. Often the bell includes a brace extending between the receiver and the flare of the bell. However, the bowl of the bell occasionally is dented or otherwise damaged, and must be removed in order for repairs to be made. In the usual construction of the bell, the bowl is brazed to a ferrule which connects the bowl with a flare. The brace also is usually brazed to the flare and to the receiver. In order to separate the parts of the bell, the bowl must be detached from the ferrule and the brace must also be released. The removal of the brace and subsequent reattachment of that brace often discolors the flare or receiver so that they must be refinished. Other times, these parts may warp or deform from the heat of brazing.

One of the objects of the instant invention is to provide a readily releasable brace for the bell of a musical instrument.

Another object of the present invention is to provide a reinforcing brace for a bell of a musical instrument which brace is secured in place by a single threaded fastener.

Other objects and advantages of the present invention will become apparent to those skilled in the art upon a reading of the following description in view of the accompanying drawings, in which:

Fig. 1 is a side view of a portion of a bass clarinet including a detachable brace embodying the instant invention;

Fig. 2 is an enlarged sectional view of a portion of the bell shown in Fig. 1 showing the details of construction of the brace;

Fig. 3 is a sectional view taken on line 3—3 in Fig. 2; and

Fig. 4 is an exploded view of the detachable brace and a portion of the bell.

Looking now in greater particularity to the drawings, Fig. 1 shows a portion of a bass clarinet including the lower part of a body 10 and a bell, generally indicated by numeral 12. The bell includes a receiver 14, a generally U-shaped bowl 16 brazed to said receiver, and a flare 18 which is connected to the bowl by a ferrule 20 which is brazed to both the bowl and the flare. The bell is reinforced by a brace 22 which connects the flare with the receiver to increase the strength and rigidity of the bell.

The bowl includes a pair of arms 24 and 26, the arm 24 being brazed to the receiver 14 and the arm 26 being brazed to the ferrule. Flare 18 has a throat 28 which is brazed to the ferrule 20, thereby connecting the bowl and the flare.

The aforementioned brace includes a cylindrical flange 32 which is parallel to and brazed to the side of the re-

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ceiver 14. A boss 34 which has a flange 36 thereon, is brazed to the side of the flare. A brace rod 38 has an angularly disposed end portion 40 and an angularly disposed eyelet 42 at the other end. The offset end portion 40 is slidably received in the cylindrical bore 32 as is shown in Figs. 1 and 2. The eyelet 42 is adapted to receive a screw 44 which threads into a tapped recess in boss 34 and fixes the brace rod to the flare. The brace rod may be removed from the bell by removing the screw 44 and sliding the bracket out of the cylinder.

In order to repair the bowl, the brace rod is removed in the manner described above, and the ferrule 20 is removed from arm 26. The receiver is then removed from arm 24 thus leaving the bowl, which then may be easily repaired. After the necessary repairs are made, the bell is reassembled. The receiver and ferrule are brazed or sweated back onto the bowl and end portion 40 is inserted into the cylindrical flange 32. The screw is passed through the eyelet 42 and is threaded into boss 34 thereby releasably locking the brace rod to the receiver and the flare to reinforce the bell. It is evident that the instant brace rod may be applied and removed without the use of heat, which may damage or discolor parts of the bell.

Although the instant brace rod has been shown as applied to a bass clarinet, it is evident that the instant invention may be used with saxophones and other instruments having curved bells. It is to be understood that modifications may be made without departing from the spirit and scope of the present invention as defined in the appended claims.

I claim:

1. In a musical instrument having a bell, said bell including a flare, a substantially U-shaped bowl secured at one end to said flare, a receiver fixed to the opposite end of said bowl adapted to releasably hold a body of the instrument, a bracket on said receiver having a bore therein, a bracket on said flare having threaded anchor means, an elongated diagonal brace, said brace having an angularly disposed end portion received in said bore, the opposite end of said brace having an eyelet, and threaded fastening means cooperable with said threaded anchor means, one of said threaded means extending through said eyelet.

2. In a musical instrument having a bell, said bell including a flare, a substantially U-shaped bowl secured at one end to said flare, a receiver fixed to the opposite end of said bowl adapted to releasably hold a body of the instrument, a bracket on said bore having a vertical bore therein, a bracket on said flare having a horizontal tapped aperture therein, an elongated diagonal brace having a vertically deflected end portion received in said vertical bore, the opposite end of said brace having an eyelet, and a threaded stud extending through said eyelet and threaded into said tapped aperture.

3. In a musical instrument having a bell, said bell including a flare, a substantially U-shaped bowl secured at one end to said flare, a receiver fixed to the opposite end of said bowl adapted to releasably hold a body of the instrument, anchor means on said bell adjacent the flare end thereof, anchor means on said bowl adjacent the receiver end thereof, and an elongated brace extending between said anchor means to have its opposite ends disengageably fastened thereto, wherein one of the anchor means has a cylindrical aperture and the other anchor means has a tapped aperture, said brace being diagonal and having an angularly disposed cylindrical end releasably received in said cylindrical aperture, the other end of said brace comprising an eyelet, and a screw extending through said eyelet and into said tapped aperture.

4. In a musical instrument having a bell, said bell including a flare, a substantially U-shaped bowl secured at

one end to said flare, a receiver fixed to the opposite end of said bowl adapted to releasably hold a body of the instrument, anchor means on said flare, anchor means on said receiver, and an elongated brace extending between said anchor means to have its opposite ends disengageably fastened thereto, wherein one of the anchor means has a cylindrical aperture and the other anchor means has a tapped aperture, said brace being diagonal and having an angularly disposed cylindrical and releasably received in said cylindrical aperture, the other end of said brace comprising an eyelet, and a screw extending through said eyelet and into said tapped aperture.

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