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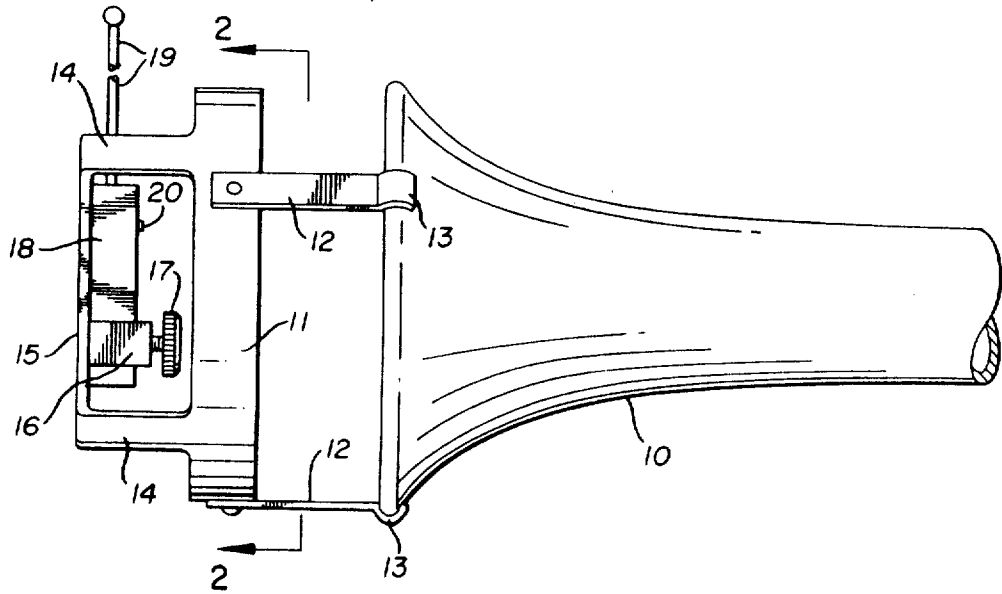
[54] **MUSICAL INSTRUMENT MOUNTING FOR RADIO TRANSMITTERS**
4 Claims, 4 Drawing Figs.

[52] U.S. Cl. **325/102,**
84/1, 84/1.01, 179/1 M, 325/111, 325/119

[51] Int. Cl. **H04b 1/02**

[50] Field of Search 325/66,
102, 111, 119, 105; 179/1 M, 1 R, 1 C, 1.1;
D26/14.7; 84/1, 1.01, 1.16, 83

ABSTRACT: The combination of a mounting structure and a miniaturized radio transmitter mounted thereby on a musical instrument such as a trumpet or trombone for picking up and transmitting the sounds of the musical instrument without detracting from the appearance or function of the musical instrument.



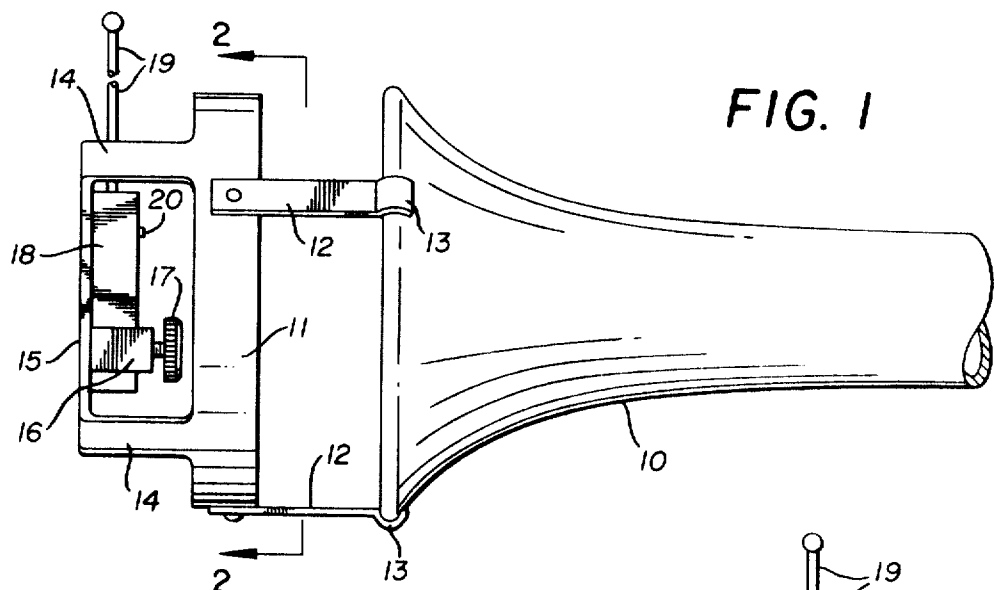


FIG. 1

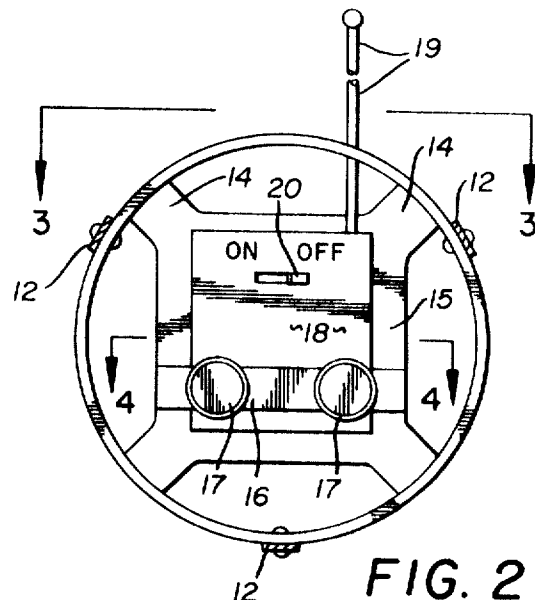


FIG. 2

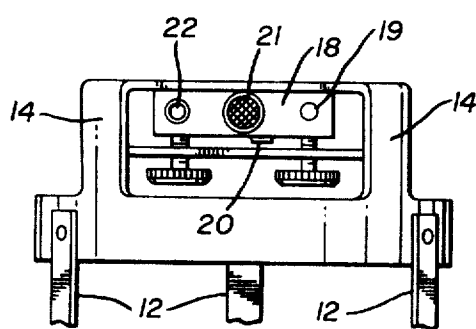


FIG. 3

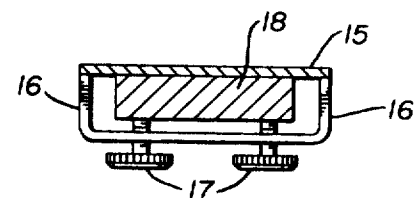


FIG. 4

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MUSICAL INSTRUMENT MOUNTING FOR RADIO TRANSMITTERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a mounting structure capable of holding a miniaturized frequency modulation radio transmitter in operative position on a musical instrument.

2. Description of the Prior Art

The prior art devices are limited to microphone mountings on musical instruments, the microphones being of the wired type requiring the use of an electrical conductor leading to an amplifier and loud speaker. U.S. Pat. Nos. 2,574,591 and 3,144,801 are typical of the known prior art.

SUMMARY OF THE INVENTION

The invention comprises a small lightweight-mounting structure in combination with a miniaturized frequency modulation radio transmitter and associated power source for attachment to the bell of a trumpet or trombone or similar musical instrument so that sounds of the musical instrument may be picked up in an advantageous location and transmitted by the frequency modulation radio transmitter to a remote receiver and public address system. A marching band equipped with the devices of the invention can thus march about a field or other area with each of the instruments in effect directly connected with a public address system so that all of the spectators hear all of the music all of the time.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation (with parts broken away) of a portion of a musical instrument showing the mounting device and radio transmitter positioned thereon.

FIG. 2 is a plan view (with parts in cross section) taken on line 2-2 of FIG. 1.

FIG. 3 is a top plan view (with parts broken away) taken on line 3-3 of FIG. 2.

FIG. 4 is a cross-sectional elevation on line 4-4 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In its simplest form the mounting structure and miniaturized frequency modulation radio transmitter are carried on the bell end of a musical instrument such as indicated at 10 in the drawings. The mounting structure includes an annular frame 11 a plurality of circumferentially spaced resilient arms 12, each of which has an arcuate configuration 13 on its outermost end. The annular frame 11 also has a plurality of secondary arms 14 circumferentially positioned thereon and which arms 14 extend in an opposite direction with respect to the resilient arms 12 and the ends of the secondary arms 14 are inturned and join a centrally disposed attaching body member 15 which in turn is provided with a mounting bracket 16 through which clamping fasteners 17 are positioned. The mounting bracket 16 and the inner surface of the body member 15 are adapted to receive and retain a miniaturized frequency modulation radio transmitter 18.

By referring to FIGS. 1, 2 and 3 of the drawings, it will be seen that the transmitter 18 is provided with an antenna 19, an off-on switch 20, a microphone 21, and a jack 22 which is provided for the reception of conductors of auxiliary microphones. It will be observed that the antenna 19 is spaced forwardly of the annular frame 11 and that it extends freely through the opening defined between the outer surface of the annular frame 11 and the inner surface of the body member 15. It will also be seen that the fasteners 17 apply sufficient frictional engagement against the transmitter 18 to hold it securely in position.

Those skilled in the art will observe that if desired cushion members not shown may be incorporated to isolate the transmitter from vibrations which may be transmitted from the musical instrument.

In operation, the miniaturized frequency modulation radio transmitter 18 is mounted on the body member 15 of the mounting structure, the arms 12 are distorted to permit their arcuate ends 13 to engage the extremity of the bell of the instrument and as at such time as it is desired to transmit the musical tones of the instrument to a remote receiver and speaker system the off-on switch 20 is moved to the on position and the instrument played in the usual manner.

It will occur to those skilled in the art that the combination of the mounting structure and transmitter disclosed herein may be readily adapted to various instruments by modifying the attachment means and that in practice an entire marching band may be equipped with the devices and a plurality of receiving antennas positioned around and about the area in which the band is to perform so that the individual transmitters on the instruments are in desirable operating range of the receiving stations at all times regardless of their position on the field or area in which the band performs.

Those skilled in the art will observe that the miniaturized frequency modulation radio transmitter 18 is a self-contained commercially available unit which operates on the 88 to 108 megacycle band and has a transmitting range of from 175 to 225 feet. The commercially available unit includes a space for 9-volt battery which comprises a power supply and of which is adequate to operate the solid state circuitry of the unit for several hours. The transmitter is of the type authorized by the Federal Communications Commission for operation without a license on the indicated frequencies.

All though but one embodiment of the present invention has been illustrated and described, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit of the invention or from the scope of the appended claims.

I claim:

1. A compact, self-contained radio transmitter and associated mounting structure for mounting the transmitter to a musical instrument having a bell to detect and broadcast sound from the musical instrument to a remote receiver and speaker system, comprising: a compact housing containing therein a microphone, a power source and a radio transmitter with associated antenna; a mounting structure including an annular frame means, a plurality of spaced resilient arms secured at one end thereof to circumferentially spaced locations on said annular frame means, the other end of said arms having means thereon for readily removably mounting said mounting structure to said bell, an attaching body member connected to said annular frame means, a mounting bracket connected to said attaching body member and having a portion thereof spaced from said attaching body, and at least one clamping fastener carried by said mounting bracket for removably clamping said housing to said mounting structure between said bracket and said body.

2. A transmitter and mounting structure as in claim 5, wherein said resilient arms extend axially away from said frame, the other end of said arms being clamped on said bell, said body member held in axially spaced relationship to said bell by said arms, and said housing is clamped between said body member and said bracket.

3. A compact, self-contained radio transmitter mounted on a musical instrument having a bell for detecting sounds from said musical instrument and broadcasting them to a remote receiver and speaker system, comprising a mounting structure having means thereon readily removably mounting said mounting structure to said bell in spaced relationship thereto; a housing readily removably mounted to said mounting structure, and a microphone, a power source and a radio transmitter confined within said housing, said mounting structure comprising an annular frame, an attaching body member connected to said frame, a mounting bracket connected to said body member, and means on said bracket clamping said housing to said body member.

4. A radio transmitter and musical instrument as in claim 3, wherein the microphone is disposed perpendicularly to the longitudinal axis of the bell of the musical instrument.