July 16, 1940. B. F. RYAN 2,207,823

MICROPHONE UMBRELLA

Filed Oct. 3, 1938

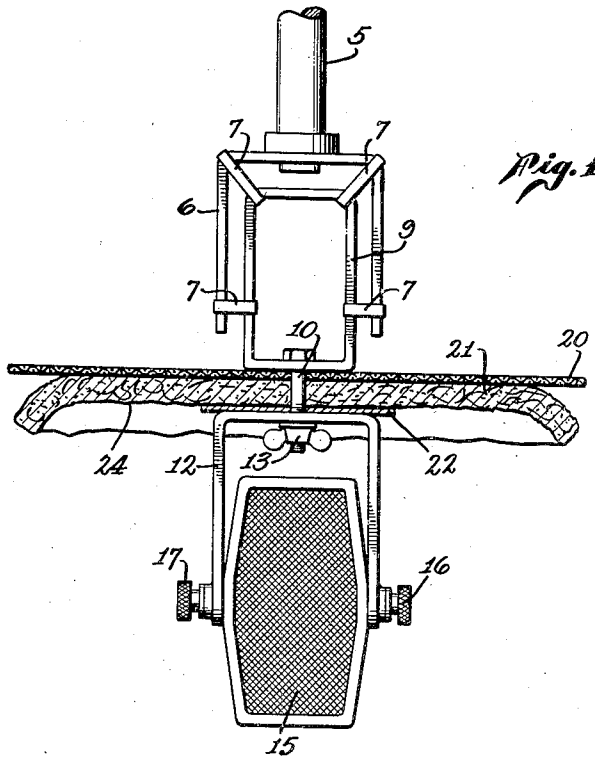


Fig. 1.

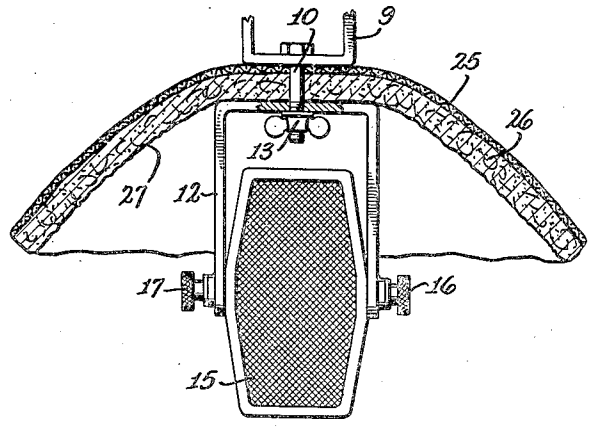


Fig. 2.

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MICROPHONE UMBRELLA

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7 Claims. (Cl. 179—184)

This invention relates to sound detecting apparatus and particularly to an attachment or device associated with a microphone for eliminating noises caused by falling fluids, such as rain.

In many instances in the production of motion pictures, the sets are out-of-doors and the pictures with their concomitant sound are taken in the rain. Rain scenes are also made within a studio by creating an artificial storm on the set. In these particular cases it has been found that raindrops striking the associated microphone produce extremely loud sounds which are not those of falling rain but which are, of course, recorded upon the sound track.

An object of the present invention, therefore, is to protect a microphone used in the rain from being adversely affected thereby.

Another object of the invention is to efficiently dissipate the kinetic energy of falling rain drops so as to prevent their reaction upon a microphone circuit and to protect the microphone itself from the moisture.

The above objects are accomplished by the use of a rain umbrella as part of the microphone unit which consists of an energy dissipating medium for finely dividing the raindrops and absorbing them, while preventing any leakage thereof onto the microphone itself. By the use of an absorbent material, sound-wave reflections and echo effects are minimized.

Although the novel features which are believed to be characteristic of this invention are pointed out with particularity in the claims appended herewith, the manner of its organization and the mode of its operation will be better understood by referring to the following description read in conjunction with the accompanying drawing forming a part thereof, in which

Figure 1 is an elevational view of a microphone showing one embodiment of the invention; and

Figure 2 is an elevational view of a second embodiment of the invention.

Referring now to Fig. 1, a rod or shaft 5 supports a yoke member 6, to which it is attached, while the other end of the rod 5 may be connected to the end of a microphone boom (not shown), as is well known in the art. Suspended by resilient rubber bands or springs 7 within the yoke 6, but not in contact therewith, is a rectangular member 9 carrying a microphone suspension bolt 10 on the lower side thereof. The bolt 10 passes through a microphone yoke 12 and is fastened by a wing nut 13. The yoke 12 supports a microphone 15 between its two ends and is held thereto by nuts 16 and 17.

Mounted between the upper portion of the yoke 12 and the lower portion of member 9 is a screen and felt combination 20—21, respectively, the screen 20 extending horizontally, while the felt 21 is curved at the ends. The felt or other similar absorbing material may be attached to the screen by glue, rivets or the like. The screen and felt 21 may be circular in form or of any other appropriate configuration. The screen 20 is of fine mesh, sufficient to dissipate the kinetic energy of the falling raindrops and to break them into small particles which are absorbed by the felt 21. Plate 22 aids in maintaining the felt in position. To protect the microphone from moisture which might seep through the felt, the lower surface 24 thereof is coated with shellac.

This device has enabled a microphone to be used in heavy rain scenes without disturbance by the rain, the felt not only absorbing the rain, but also serving as a sound-wave absorber to prevent reflections and echo effects.

In Fig. 2, a different form of rain umbrella for the microphone 15 is shown, this umbrella, however, being similar in construction to that shown in Fig. 1 since it has the same type of screen 25 and felt 26 with a shellac under-surface 27. There is some advantage in this modification, inasmuch as the sloping sides of the umbrella aid in breaking up the water drops and thus dissipating the energy before absorption by the felt. The moisture may also drain off at a definite point thereof. This modification may also be circular, polygonal, or any other suitable shape.

I claim as my invention:

1. An attachment for protecting a microphone from falling fluids comprising an upper screen and an underlayer of absorbing material having one side thereof impervious to moisture, said screen and absorbing material being positioned to intercept said fluid.

2. A rain umbrella for a microphone comprising a fine mesh screen for first contacting the raindrops and an adjacent moisture absorbent material for absorbing said drops after division by said screen, and a layer of moisture-proof material on the lower side of said material.

3. A raindrop silencer comprising a fine mesh screen for first contacting said raindrops, a layer of felt attached to the undersurface of said screen for absorbing said rain, and moisture-proof material on the under-surface of said felt.

4. A raindrop silencer according to claim 3 in which the moisture-proof material on the under-surface of said felt is shellac for preventing said

rain from passing through the underside of said felt.

5. A raindrop silencer in accordance with claim 3 in which the sides of said screen are at a slight downward angle to the horizontal to aid in dissipating the kinetic energy in said raindrops.

6. A raindrop silencer for attachment to a microphone comprising a layer of fine mesh screen interposed between said microphone and a source of said rain for finely dividing said raindrops, and a layer of moisture absorbing material attached to the underside of said screen for absorbing said moisture, the lower side of said screen being shellaced to prevent passage of said moisture to said microphone.

7. A raindrop silencer for a microphone used in the rain comprising a fine mesh screen and a layer of felt attached to said screen, the lower surface of said felt having a coat of material impervious to moisture, said screen and felt being positioned directly above said microphone.

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