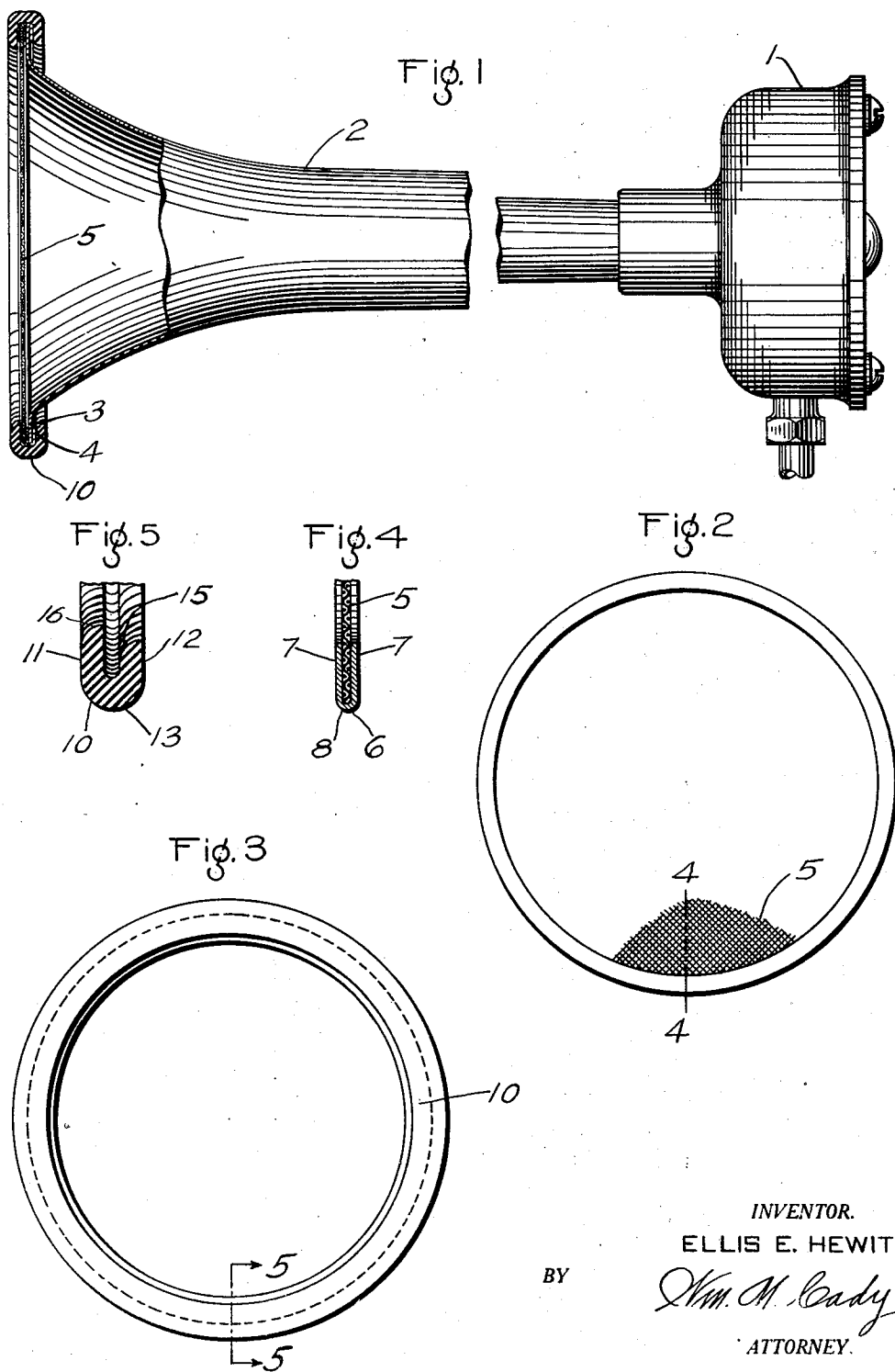


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E. E. HEWITT
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SOUND PRODUCER HORN

Ellis E. Hewitt, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

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1 Claim. (Cl. 116—137)

This invention relates to a horn or warning device adapted for use on motor or other vehicles and particularly to means to secure a screen over the open end of the bell to prevent the entrance of dirt or foreign matter into the bell.

As is well known motor or other vehicles are provided with horns or warning devices which, as usually constructed, have a bell leading from the diaphragm or other noise producing means, the large end of the bell facing towards the front of the vehicle and usually being located in an exposed position. When the vehicle is operated particles of foreign matter such as dirt and insects will be blown into the bell unless the open end of the bell is covered with a suitable protective means such as a screen. The protective means employed must be of such a nature, however, as not to interfere with the vibrations of the air column in the bell and should be secured in place in such a manner that it can be readily removed for cleaning when desired, while it should be held rigidly so that it will not be noisy and so that it will not become lost.

It is an object of the present invention to provide means for holding a protective screen over the open end of the bell of a horn or other warning device.

A further object of the invention is to provide means for holding a protective screen over the open end of the bell of a horn or other warning device and which will hold the screen rigidly and securely while permitting the screen to be easily and quickly removed and replaced.

Another object of the invention is to provide means for holding a protective screen over the open end of the bell of a horn or other warning device and which can be constructed cheaply and easily and which can be installed readily.

Other objects of the invention and features of novelty will be apparent from the following description taken in connection with the accompanying drawing in which

Fig. 1 is a side elevational view of a horn provided with a protective screen secured over the open end of the bell by the means provided by my invention, a portion of the bell having been broken away to conserve space and a portion of the bell, screen, and securing means having been broken away and shown in section in order to more clearly reveal other parts;

Fig. 2 is an elevational view of the screen employed in the horn shown in Fig. 1;

Fig. 3 is an elevational view of the securing member employed in the horn shown in Fig. 1;

Fig. 4 is an enlarged fragmentary sectional

view taken substantially along the line 4—4 of Fig. 2; and

Fig. 5 is an enlarged fragmentary sectional view taken substantially along the line 5—5 of Fig. 3.

Referring to the drawing I have illustrated in Fig. 1 one form of horn or warning device equipped with a protective screen secured in place by the means provided by my invention. As shown in the drawing the horn comprises a horn element or means for producing vibrations of an air column. The horn element is indicated generally by the reference character 1 and may be of any well known construction. The horn is provided with a bell indicated at 2, and leading from the horn element. The bell may be constructed of any suitable material, such as sheet metal, and is substantially circular in cross section, the diameter of the bell increasing away from the horn element. The large end of the bell terminates in a substantially radially extending portion 3, while the marginal portion of the bell is turned radially inwardly as at 4 to reinforce the bell.

The screen employed in this horn is illustrated in Fig. 2 and as shown comprises a substantially circular piece of screen 5 of a suitable mesh, as for instance 80 mesh per inch. The screen is surrounded by a ring to protect the raw edges of the screen and prevent displacement of the wires of which the screen is constructed. As shown in the drawing the ring comprises a sheet metal member indicated generally by the reference character 6 and having a pair of radially inwardly extending flange portions 7 joined at their radially outer portion by an intermediate portion 8. The flanges 7 are located on opposite sides of the screen 5 and are pressed down firmly against the screen so that the edge of the screen is completely enclosed and protected by this ring. The screen and protecting ring are preferably of substantially the same diameter as the radially extending portion 3 of the bell on which the screen is to be installed.

In order to hold the screen in position over the end of the bell I have provided the securing member indicated generally by the reference character 10, and which as shown in the drawing, comprises an annular member substantially U-shape in cross section and having a pair of radially extending flange portions or outer and inner legs 11 and 12, respectively, which are connected at their radially outer ends by an intermediate portion 13. The securing member 10 is constructed of yielding or elastic material such as rubber

or rubber composition, and has the flanges or outer and inner legs 11 and 12 spaced apart a distance less than the combined thickness of the marginal portion of the protective screen and the radially extending portion of the bell, while it is of such diameter that it will fit snugly around these members.

In order to facilitate the installation of the securing member the inner face and the flange engaging face of the inner leg or flange 12 is curved or beveled as at 15. This enables the protective ring to be slipped over the end of the bell more easily than if the flange is not beveled as shown, but is of uniform thickness throughout.

The outer leg or flange 11 may also be beveled or curved adjacent its radially inner margin as at 16 in order to improve the appearance of the protective ring when it is in position. Also the flange 11 may extend radially inwardly somewhat farther than the flange 12 if desired, so that this flange will completely cover and mask the peripheral portion of the protecting screen.

In order to install the screen and the securing means, the screen is held in position over the end of the bell on the horn and the securing member 10 fitted over a portion of the circumference of the bell with the inner leg or flange 12 engaging the rear face of the radially extending portion 3 on the end of the bell, while the outer leg or flange 11 engages the exposed face of the protective screen. The securing member 10 can then be stretched so as to be fitted around the end of the bell, the securing member being sufficiently elastic so that it can be stretched and the flange 12 worked over the radially extending portion of the bell. The installation of the securing member is facilitated by the construction of the inner leg or flange 12, which has its radially and axially inner margin beveled so that it will slip readily over the edge of the bell. When the securing member is in position the flanges 11 and 12 are drawn radially inwardly, while the legs or flanges 11 and 12 are urged together due to the inherent resilience of the ring. This force may be increased by making the securing member slightly undersize so that it is always under tension when it is in position.

Because of the fact that the flanges 11 and 12 are always urged together, the screen is at all times firmly held over the end of the bell and

will not rattle. As the screen is held only by the securing member 10, which can be easily removed, the screen can be readily detached for cleaning or other purposes.

From the foregoing it will be seen that I have provided means to secure a screen over the end of the bell of a horn and that this means is of very simple design, can be constructed at a small cost, is easily installed or removed, and holds the screen securely so that it will not rattle or become lost.

While I have illustrated and described in detail one embodiment of the securing means provided by my invention, it should be understood that the invention is not limited to these details of construction, and that numerous changes and modifications can be made without departing from the scope of the following claim.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:

In combination, a sound producing device comprising a horn bell having an open end surrounded by an outwardly extending annular flange, a protecting screen member adapted to extend over the open end of the horn bell and lie against the outer face of said flange, and means for detachably securing the screen in position against said flange, said means comprising an annular elastic member substantially U-shape in cross section with the inner and outer legs thereof directed towards the center of the member, said inner leg engaging the rear face of the flange on the horn bell and said outer leg being longer than said inner leg and engaging said screen member to hold the screen member in place against the flange on the horn bell, said elastic member being formed of smaller diameter than said flange whereby the elastic member is under tension when in position on said flange, the inner face and the flange engaging face of the inner leg of said member being joined by a beveled portion of such construction that the inner face extends a greater distance toward the center of the screen member than the flange engaging face, said outer leg having an outer face and a flange engaging face joined by a beveled portion extending in the same direction as the first beveled portion to facilitate installation of the said member.

ELLIS E. HEWITT.