

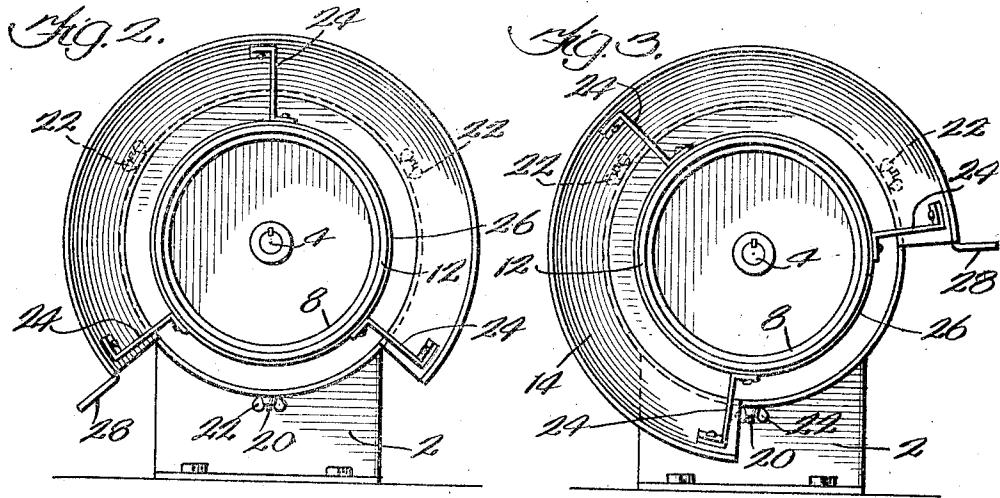
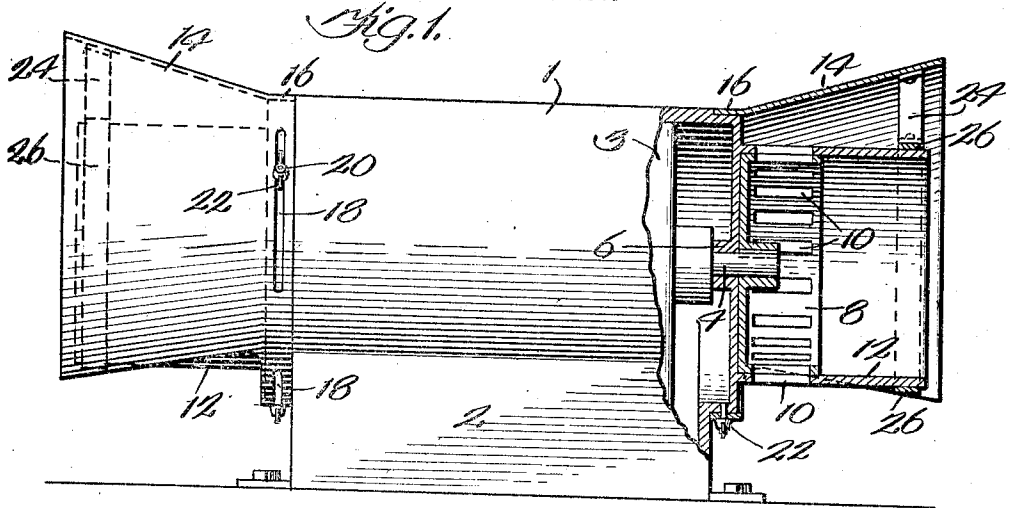
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D. R. WEBB, JR

SIREN

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Inventor:
Dudley R. Webb, Jr.
By Chewer & Cox *attys.*

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DUDLEY R. WEBB, JR., OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO FEDERAL ELECTRIC COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SIREN.

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My invention relates to sirens, and the object of the invention is to provide means by which the sound may be sent in various directions from a siren which is stationary.

5 Sirens of course are for various purposes, one of which is for giving alarm to a wide territory. For example, sirens are commonly used in small communities for sounding an alarm of fire. These sirens are mounted

10 in fixed position, usually at considerable elevation, and it has been found that in some localities, especially where the country is hilly, the sound is cut off prematurely, in some directions more than in another. The

15 purpose of this invention is to remedy this defect and provide means for varying the volume in different directions as local conditions may require. A contributory object is to accomplish the purpose without

20 complicating the apparatus to any appreciable degree. The type of siren almost universally employed has a rotor which revolves about a horizontal axis, and in accomplishing my purpose I have taken this into account and have provided a sound-directing

25 element which itself is adjustable angularly about an axis coincident with the axis of the rotor. Another object is to utilize the directional control mechanism for protecting

30 the sound producing parts from the weather. I accomplish my objects by the mechanism illustrated in the accompanying drawing in which—

35 Figure 1 is an assembly view in side elevation, partly in axial section, showing the siren and sound directing elements.

Figure 2 is an end view looking toward the right in Figure 1.

40 Figure 3 is an end view looking toward the left in Figure 1.

Like numerals denote like parts throughout the several views.

In the form shown in the drawings there is a main housing 1 standing on a base 2

45 and enclosing the motor 3. The motor shaft 4 is supported within bearings 6 in the housing 1. It is extended at the ends for attachment to the hubs of the siren rotors 8. Each rotor rotates within a stator 10 which is concentric with it. The rotor and stator are slotted in the usual manner to produce sound

50 when the rotor revolves. The parts thus far described are of ordinary construction.

Each stator 10 is extended horizontally at

55 the end, thus forming a hollow cylinder through which the stream of air enters the rotor. Mounted partly upon this cylindrical extension and partly upon the casing 1 is a hood 14 which is intimately concerned with the invention. The hood flares outward and

60 at the inner end has a flange 16 which is cylindrical and fits over the cylindrical end of the casing 1. This flange has annular slots 18 for accommodating studs 20 which radiate at intervals from the housing 1 at

65 the ends thereof. These studs are threaded at the outer ends where they are provided with wing nuts 22 by which the hoods may be secured in any position to which they

70 have been angularly adjusted.

Near the outer end of each hood are radial arms 24 fastened at the outer end to the inside of the hood and at the inner end to a ring 26 which fits slidingly upon the extension 12. As a result of this construction,

75 when the wing nuts 22 are backed off the hoods may be adjusted angularly to any desired position.

The hoods have an opening in the side, that is, they have a sector removed through

80 which the sound produced by the siren may issue readily. The cut-away sector may vary in size, but experience teaches that an opening of approximately 90 degrees is appropriate. While not essential, it is desirable

85 that a lip or flange 28 be formed at one margin of the opening of each hood for the purpose of better controlling the direction and conserving the volume of sound.

In practice, it is first determined by tests

90 or otherwise what direction it is desired to have the major portion of the volume of sound pursue. Practically speaking, it is never desired to have the sound travel upward, as it would be merely dissipated.

95 Therefore the opening in the side of the hood is almost always adjusted partially downward, that is, below the horizontal. In Figure 2 I have shown the hood at the left

100 of the siren with its opening straight down and in Figure 3 I have shown the hood at the right end of the siren extending downward toward the right. In the first named adjustment the sound will be directed partly

105 out through the end of the hood and partly in a downward direction. In the last named adjustment the sound will travel horizontally outward with a considerable portion traveling obliquely downward and toward

the side. It has been found that by properly

110

adjusting these hoods the travel of sound
may be controlled to a remarkable degree.
The sound from one rotor may be thrown
horizontally in one direction and from the
5 other rotor in the opposite direction, and
many combinations may be produced, thus
making it possible to direct the sound either
to points where it is mostly required or to-
ward points where trees, hills or other ob-
10 structions cut down the volume and hence
an increased proportion is necessary for
compensation. Thus as a result of my in-
vention it is possible to control quite accu-
rately the distribution of the sound and it
15 will be observed that this distribution is con-
trolled by hoods which rotate about the
same axis as the motor and are of very
simple construction.

The hoods do not add particularly to the
20 space required by the apparatus, and they
perform the additional function of protect-
ing from the weather the sound producing
parts of the machine. Thus the hoods com-
bine the effect of protections for keeping the

apparatus in good working condition and 25
conservation and control of the sound which
the apparatus produces.

Having thus described my invention what
I claim as new and desire to secure by Let- 30
ters Patent is:

1. A siren having a stator and a rotor,
and a hood surrounding a portion only of
the rotor, the hood being rotatably adjust-
able about a horizontal axis for controlling
the direction of the sound. 35

2. A siren having a stator and rotor hav-
ing a common horizontal axis, a flaring hood
circumferentially arranged around the rotor
and covering the upper portion thereof for
protecting it from the weather, the hood be- 40
ing open at the end and also at the lower
portion, and means for angularly adjusting
the hood about the rotor axis for controlling
the direction of the sound.

In witness whereof, I have hereunto sub- 45
scribed my name.

DUDLEY R. WEBB, JR.