Jan. 31, 1950 F. P. SCULLY 2,496,134

GAS FLOW INDICATOR

Filed April 9, 1947

Fig. 1.

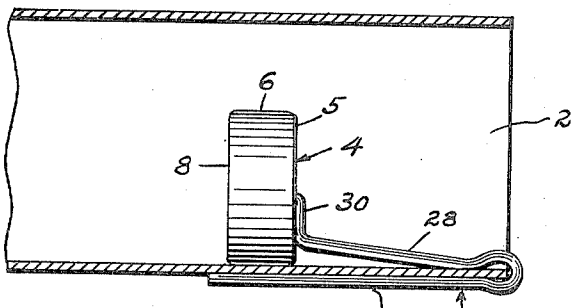
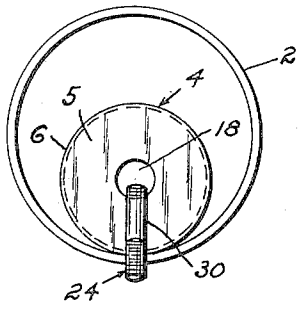


Fig. 2.



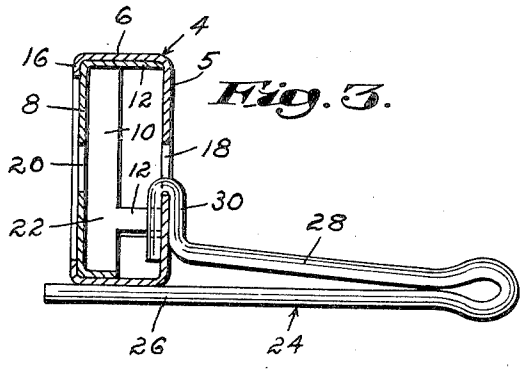


Fig. 3.

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Patented Jan. 31, 1950 2,496,134

UNITED STATES PATENT OFFICE

2,496,134

GAS FLOW INDICATOR

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Application April 9, 1947, Serial No. 740,400

6 Claims. (Cl. 116—112)

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This invention relates to indicators and is particularly concerned with an audible signal for indicating the flow of gas.

In the present invention, the signaling means is in the form of a whistle and is used specifically to give an indication of gas flowing through a pipe. The whistle is of the button type which is capable of giving an audible sound under very low pressure conditions. The invention includes not only the combination of the whistle with the pipe but also the whistle and whistle securing means per se.

The invention will be more particularly described hereinafter with the aid of the accompanying drawings, in which

Fig. 1 is a cross-sectional elevation of a pipe showing the whistle unit mounted therein.

Fig. 2 is a side elevation looking from the right of Fig. 1.

Fig. 3 is a vertical section through the whistle alone on a somewhat enlarged scale over that shown in Fig. 1.

In the drawings, 2 illustrates a pipe of any given dimension through which gas may flow; 4 indicates an audible signaling device which, in the present invention, is in the form of a typical button type whistle. In the present disclosure the whistle consists of two telescoping portions, the outer part comprising a face 5 and a flange 6. The inner part comprises a face 8 and a shallow flange 10 from which extend three legs 12, spaced 120 degrees apart, two of which are shown in Fig. 3. The ends of legs 12 rest against the inner side of the face 5 to give proper spacing to the two faces 5 and 8.

The outer circumferential flange portion 6 is turned inwardly at 16 to overlie the outer edge of face 8, thereby locking the two telescoping members securely together. Both faces have centrally located apertures 18 and 20. These apertures are in alignment and of such size in relation to the internal whistle cavity 22 that a plainly audible whistling sound will be caused by the flow of gas therethrough in either direction at very low pressure.

The means for anchoring whistle 4 to the pipe is plainly shown in the figures. The construction shown constitutes one convenient form, but other connectors may be used if they seem more expedient. In the present instance a long U-shaped clip 24 in the form of a large cotter pin has a lower horizontal leg 26, an upper leg 28, and an inverted U-shaped hook 30. Hook 30 is positioned so that the inner end passes through aperture 18 to lie inside the whistle. The two

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legs of the hook 30 are crimped tightly together so that a secure frictional grip on face 5 is obtained. The reduction in the area of aperture 18 caused by hook 30 passing therethrough does not affect to any appreciable extent the whistling quality of the unit.

The unit consisting of the whistle and the securing means 24 may then be readily attached to the end of a pipe by inserting it to the position shown in Fig. 1, with the whistle 4 within the pipe and leg 26 of the clip outside. The frictional engagement between leg 26 on the outside of the pipe and whistle 4 and leg 28 on the inside is sufficient to eliminate any possibility of the whistle being blown loose from its position, regardless of the gas direction or velocity.

The size of the pipe with which the indicating unit is used is immaterial. The only point to be considered is that the whistle itself must not be so large as to fill an undue proportion of the cross-sectional area of the pipe, as this would partially block the flow of gas and might set up undesirable back pressures.

In the illustration shown, the whistle occupies less than half the cross-sectional area of the pipe. This reduction in area has been found unobjectionable and results in the whistle operating under very low pressure conditions.

The whistle in combination with the pipe may be used to give either of two indications. If, for example, gas is normally flowing through the pipe, the whistle will give a continuous sound. When the flow ceases, the sound will cease to give the desired indication. Conversely, if gas does not normally flow through the pipe, then the whistle will normally be silent, with whistling commencing the instant the gas starts to flow.

The whistle and attaching device constitute a small compact unit, which may readily be carried to any location where an indication is desired, and applied by hand to the end of the pipe without the use of tools or any other equipment.

The invention, while shown in a preferred form, is not to be limited thereby but only by the appended claims.

I claim:

1. A whistle assembly adapted to be inserted and releasably secured within the end of an open tube comprising, in combination, a button type whistle and means for detachably securing said whistle within said tube at right angles to the longitudinal axis of said tube, said means comprising an elongated U-shaped clip with one leg of said clip substantially parallel to the axis of said whistle and lying exteriorly of the whistle

circumference, and the other leg of said clip being attached to said whistle.

2. A whistle assembly comprising, in combination, a whistle having spaced opposed faces with apertures therethrough defining a gas passage at right angles to said faces and means for securing said whistle to a rigid surface with the said faces at right angles to said surfaces, said means comprising an elongated U-shaped clip, one leg of said clip being substantially parallel to the axis of the said gas passage, the other leg of said clip terminating in a U-shaped hook, the free end portion of which is positioned within the body of said whistle against the inner side of one of said faces, and the juxtaposed portion lies closely against the outer side of said one face.

3. A whistle assembly adapted to be inserted and releasably secured adjacent the end of an open tube comprising, in combination, a button type whistle having closed ends and centrally aligned apertures, and means for detachably securing said whistle at right angles to the longitudinal axis of the said tube, said means comprising an elongated U-shaped clip, one leg of said clip being substantially parallel to the axis of said whistle and resting against the outer circumferential wall of said whistle, the other leg of said clip being in clamping engagement with a portion of said whistle.

4. The combination of a pipe of uniform diameter and a whistle assembly positioned therein near the end of said pipe, said whistle being of the button type and substantially smaller in cross-sectional area than said pipe and detachably secured to said pipe by a clip, said clip comprising an elongated U-shaped member generally parallel to the gas passage through said whistle, one leg of said member lying outside said pipe in frictional engagement therewith and substantially parallel to the axis thereof and the other leg lying within said pipe in frictional engagement with the interior thereof, said other leg being secured to said whistle.

5. The combination of a pipe of uniform diameter and a whistle assembly positioned therein near the end of said pipe, said whistle being of the button type and substantially smaller in cross-sectional area than said pipe and detachably secured to said pipe by a clip, said clip comprising an elongated U-shaped member generally parallel to the gas passage through said whistle, one leg of said member lying outside said pipe in frictional engagement therewith and substantially parallel to the axis thereof, and the other leg lying within said pipe, said other leg being secured to said whistle in such manner that the whistle itself is likewise in frictional engagement with the interior of the pipe.

6. The combination of a pipe and a button type whistle substantially smaller than the cross-sectional area of said pipe, said whistle being located near the end of said pipe and at right angles thereto with the gas passages parallel to the axis of said pipe so that gas flowing through said pipe will flow in part through said whistle, and means attached to said whistle and straddling the end wall of the pipe for removably securing said whistle in said position within said pipe.

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