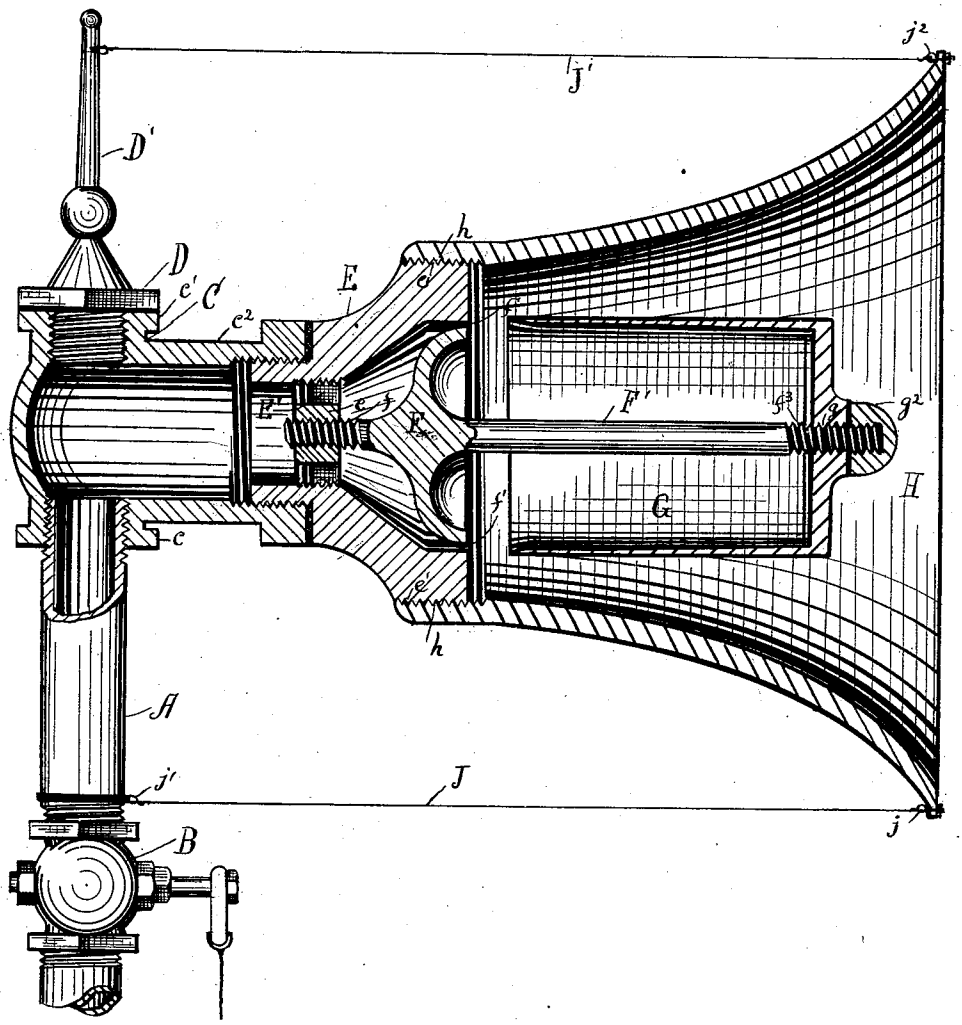
No. 606,668. Patented July 5, 1898.

S. H. HUNTER.

FOG WHISTLE.

(Application filed Dec. 1, 1897.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

SILAS H. HUNTER, OF CLEVELAND, OHIO.

FOG-WHISTLE.

SPECIFICATION forming part of Letters Patent No. 606,668, dated July 5, 1898.

Application filed December 1, 1897. Serial No. 660,341. (No model.)

To all whom it may concern:

Be it known that I, SILAS H. HUNTER, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Fog-Whistles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to fog-whistles; and it consists in the peculiar construction of the same, as will be hereinafter fully set forth and claimed.

In the drawing the figure is a view in vertical section of a whistle embodying my invention.

A represents a steam-pipe leading from a steam-boiler and provided with a valve B, operated in the usual manner. To the upper end of pipe A is secured a pipe T-fitting C, the branches *c c'* being so secured to pipe A as to be vertical and the branch c^2 being preferably formed larger than branches *c c'* and extending in a horizontal direction. The branches *c*, *c'*, and c^2 of the T-fitting are screw-threaded, and the lower branch *c* is screwed on pipe A. The branch *c'* is provided with a plug D, screwed therein, the aforesaid plug D extending upward, forming a shaft D', the function of which will be hereinafter fully set forth.

Screwed into the branch c^2 of the T-fitting C is a flaring hollow casting E, provided at its contracted end with a spider E', the hub *e* of which is internally screw-threaded to receive the screw-threaded stem *f* of the flaring diaphragm F. The outer circumference of the upper end of diaphragm F is slightly less than the inner circumference of the upper end of the casting E, thus forming the steam-ports *f'* of the whistle. The bell or sounding-cylinder G is secured in proper relation to the port *f'* by means of a spindle F', which extends out from diaphragm F and is screw-threaded at its outer end f^3. The bell G is provided with a female screw-thread *g*, which engages the screw-thread f^3, and a jam-nut g^2, securing the parts tightly together and in proper relation.

H represents a trumpet formed steam or air tight except at its mouth or outlet, which surrounds the whistle-bell G, thus intensifying the sound and projecting it in the desired direction. The object or purpose of surrounding the whistle with a steam or air tight metallic drum or cover is the forcing or projecting the sound of the whistle through the dense atmosphere which is caused by a fog. After a number of experiments it has been found that the forcing or projecting of the sound from a steam-whistle is best accomplished by providing a steam-tight trumpet or cover which surrounds the whistle and which is greater in length than the whistle-bell and extends beyond the said bell. The base or contracted end of the trumpet H is screw-threaded internally, as at *h*, the said screw-thread *h* engaging an external screw-thread *e'* on the exterior of casting E, thus making the casting E the base of the trumpet and holding the same in position and in relation to the bell G. By the above construction and arrangement the sound of the whistle is concentrated and projected in the desired direction, and also the trumpet being formed of sonorous metal, such as copper or aluminium, the vibration of the sounding cylinder or bell is imparted to the trumpet, and thus the sound is intensified.

Inasmuch as the force of the steam as it issues from the port *f'* is very great and the vibrations are also very high, I find it necessary to provide guys J J', the lower guy J being secured at one end to the mouth of the trumpet, as at *j*, and at the other end to the steam-pipe A, as at *j'*. The upper guy J' is secured at one end to the mouth of the trumpet, as at j^2, and at the other end is secured to the upper end of shaft D'. The guys brace the trumpet and keep it steady, or, as far as possible, free from undue vibration.

In a fog-whistle constructed according to my invention the distance to which the sound is carried in a given direction is far greater than in whistles of the ordinary construction, and the whistle being projected in a horizontal direction and surrounded by the trumpet the sound is intensified and is also projected in the desired direction.

What I claim is—

1. A fog-whistle comprising a steam-feed pipe, a suitable steam-port and a bell or sounding-cylinder, the said bell or sounding-cylinder being inclosed by a trumpet, said

trumpet being open only at its mouth or forward end, substantially as and for the purpose shown and described.

2. In a fog-whistle, the combination with the whistle-bell of a steam or air tight trumpet open only at its mouth or forward end, said trumpet surrounding the said bell, substantially as and for the purpose shown and set forth.

3. In a fog-whistle, the combination with the whistle including the sounding-bell and a steam-supply pipe and suitable ports, of a steam or air tight trumpet surrounding the said bell or sounding-cylinder, the trumpet provided with sustaining-guys secured at the mouth of said trumpet at one end and at the opposite end to suitable supports substantially as and for the purpose shown and described.

4. In a fog-whistle, the combination with the whistle proper, of a trumpet surrounding the bell of the said whistle, the said trumpet being internally screw-threaded at its inner or contracted end, and an external screw-thread on the whistle proper, and engaging the internal screw-thread of the trumpet, whereby the trumpet is held in proper relation to the whistle proper, substantially as shown and described.

5. In a fog-whistle, the combination with the pipe A, T-fitting C, plug D with shaft D′ fitting into the upper end of the T-fitting, casting E and diaphragm F, bell G and trumpet H surrounding the bell G, and provided with guys J J′ connected at one end to the mouth of the trumpet and at the other end, respectively, to the steam-pipe A and the shaft D′, all operating substantially as and for the purpose shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 10th day of November, 1897.

SILAS H. HUNTER.

Witnesses:
W. E. DONNELLY,
ELLA E. TILDEN.