J. B. TARR.

Fog and Alarm Whistle.

No. 209,200. Patented Oct. 22, 1878.

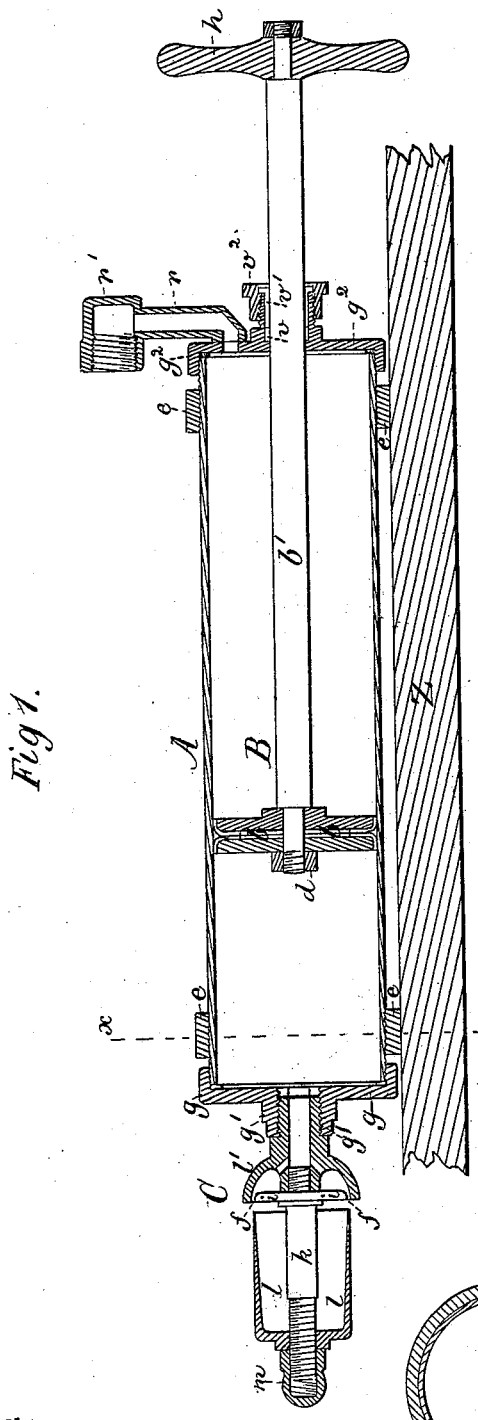

Fig 1.

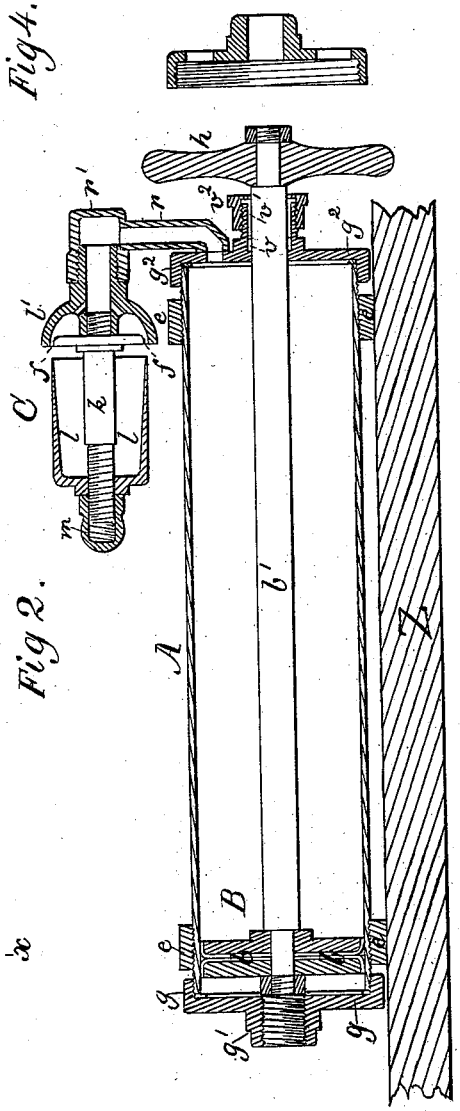

Fig 2.

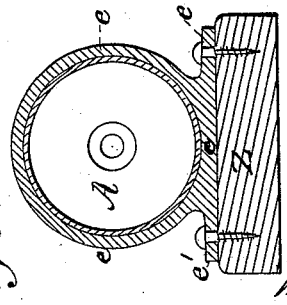

Fig 3.

Fig 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN B. TARR, OF FAIRHAVEN, MASSACHUSETTS.

IMPROVEMENT IN FOG AND ALARM WHISTLES.

Specification forming part of Letters Patent No. **209,200**, dated October 22, 1878; application filed September 23, 1878.

To all whom it may concern:

Be it known that I, JOHN BLAKE TARR, of Fairhaven, Bristol county, State of Massachusetts, have invented a new and Improved Fog and Alarm Whistle; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this my specification of said improvement.

The object of my invention is, first, the production of a fog and alarm whistle which can be operated by a single individual or manpower, and in which no valve or reed of any kind is employed; second, the production of a fog and alarm whistle of a construction so simple that it is not liable to get out of repair under ordinary usage, and which can be put upon the market at a low cost; third, the production of a fog and alarm whistle which shall be particularly adapted for use upon small craft, which have but little spare room, such as fishing-vessels, yachts, canal-boats, and the like, and which can be readily and firmly fixed in position for use, either upon the top or side of the cabin or upon the rail of the vessel, and either in a horizontal, perpendicular, or inclined position, to suit the place and persons who are to operate it; and, finally, the production of a fog and alarm whistle to which the full power of a man may be applied to operate it, either by a pushing power or by a pulling power.

Figure 1 is a longitudinal vertical central section of my improved fog and alarm whistle, with the whistle proper attached to the end of the air-cylinder which is farthest from the handle of the piston. Fig. 2 is a like view with the whistle proper connected with that end of the air-cylinder which is nearest to the handle of the piston or nearest to the operator of the machine. Fig. 3 is a transverse section, in the line *x x* of Fig. 1, of one of the threaded bolt-rings which support the cylinder fixedly in place, and also support all of the parts of the machine connected with the cylinder.

Corresponding letters indicate the same parts in the several figures.

The nature of my invention consists in a manual-power fog and alarm whistle which allows an operator to exert the full power of his body directly upon the handle of the piston, grasped with both of his hands, in the act of sounding an alarm, and also affords means for retaining said fog and alarm whistle in an applied fixed position during such act.

In the figures, A is a metal cylinder, the interior of which is made smooth and true; and B is a metal piston, having at its inner end a packed piston-head, *b*, which is secured upon a reduced portion of the piston-rod *b'* by a screw-nut, *d*, as shown, and at the outer end a two-handed handle, *h*, secured in like manner to the piston-rod *b'*. The cylinder A has a male screw-thread around its exterior surface, from both ends inwardly a sufficient distance to have female threaded bolt-rings *e e* screwed thereon, as indicated in Figs. 1 and 2, which bolt-rings afford means for retaining my fog and alarm whistle in such fixed or permanent position in which it may have been applied, while the full power of an operator, by a grasp of his two hands upon the handle *h*, is exerted directly upon the piston in the act of sounding an alarm. These bolt-rings have extensions or flanges *e'* at their base, through which bolts may be driven into any proper foundation, Z—as, for instance, the rail of a vessel or the top or side of a vessel's cabin.

The cylinder A, as shown in Fig. 1, is at its forward end provided with a cylinder-head, *g*, having a threaded tubular extension, g^1, fitted to receive the screw-threaded shank of a whistle proper, C, as shown. This whistle is provided with a thin-edged circular deflecting-plate, *i*, an upper cup, *l*, of elongated form, a lower cup, *l'*, and a circular opening, *f*, between the upper edge of the cup *l'* and the deflecting-plate *i*, which opening *f* communicates with the interior of the cylinder A through its cylinder-head *g*, as shown in said Fig. 1.

The elongated cup *l* is made adjustable upon a stem, *k*, of the whistle C, as shown, and is held in any desired position by the screw-nut *m*.

By screwing down the cup *l* toward the deflecting-plate *i* the shrillness of the whistle is increased, and by screwing it away from the plate *i* the reverse effect is produced.

The rear end of the cylinder A is also provided with a cylinder-head, g^2, having a cen-

tral tubular extension, through which the rod b' of the piston B extends, as shown.

The outer end of the piston-rod b' is provided with a two-handed handle, h, constructed as shown, so as to be grasped by both hands of an operator, and so allow him to exert the full power of his body directly upon the piston B during the act of sounding the whistle C.

The central tubular extension of the cylinder-head g^2, through which the piston-rod passes, is provided with a packing in the ordinary manner of packing steam piston-rods.

The packing which surrounds the piston-rod b' is indicated at v; and v^1 is the packing-ring, and v^2 the screw-nut, to press the ring against the packing, and so prevent the escape of air around the piston-rod b' during the operation of the machine.

The cylinder-head g^2 is also provided with an upwardly-projecting tube, r, having an upper enlarged portion, r', screw-threaded on its inside, as shown, and adapted to have the whistle proper, C, screwed therein, as clearly shown in Fig. 2.

When the whistle C is applied to the end of the cylinder A, as shown in Fig. 1, the whistle is sounded by first drawing out the piston B its whole stroke, more or less, as desired. This act draws the air into the cylinder through the permanently unobstructed opening f, and fills the cylinder with air in front of the piston B, the air contained in the cylinder in rear of the piston-head b during this act escaping through the tube r r'. This being done, the operator then pushes upon the handle h with the full power of his body, having both hands grasping the double-handed handle, and forcibly expels the air in front of the piston through the opening f, thus sounding an alarm.

If the power of the operator can be more advantageously exerted, as with many persons is the case, by pulling directly upon the piston B for the purpose of sounding a signal, then the whistle proper is removed from the cylinder-head g (shown in Fig. 1) and screwed into the tube r r' of the cylinder-head g^2, as shown Fig. 2.

Fig. 2 shows the piston B ready to be pulled out a full stroke or less, as desired, in order to sound the whistle proper, the air contained in the body of the cylinder being by such act forced out of the cylinder through the tube r r' and on through the opening f, thus sounding an alarm. In this case the air in rear of the piston-head b during the movements of the piston will pass in and out the cylinder A through the tubular extension g^1 of the cylinder-head g, from which the whistle C was removed.

If an operator of my fog and alarm whistle should prefer, for any considerable length of time, to sound alarms or signals by a pushing power exerted directly upon the piston B, then the whistle C might remain for such time in position as shown in Fig. 1; and in such case, if the operator desired it, the packed cylinder-head g^2 (shown in said figure) might be removed, and an unpacked and perforated cylinder-head, as shown in section in Fig. 4, be made to temporarily supply its place.

The air, being drawn through the permanently fully-open channel f of the whistle C in order to charge the cylinder A, and then immediately forced out of the cylinder through such opening f in the act of sounding the alarm, effectually keeps the whistle C clean and ready for use, the whistle thus serving, in its combination with the cylinder and piston, the double purpose of an unobstructed inlet and outlet for the air into and out of the cylinder during the operation of the machine. I thus dispense with the use of valves, which it is common to employ in this class of machines, as well as the reed always used in fog-horns, and which are liable to become clogged with dust, and for other causes get of repair, and so render a machine for sounding alarms useless.

When my fog and alarm whistle is sounded by a pulling power, the means are provided, in connection with the cylinder-head g^2, as shown in Fig. 2, whereby the whistle proper may be applied so as to be sounded by such power, and still have its air-blast and sound take a direction from the operator, the same as when the whistle proper is sounded by a pushing power in the position as shown in Fig. 1. Thus in either case the disagreeable effect of the blast of air and deafening effect of the sound is in a direction from the operator, and not toward him.

I am aware that machines for sounding alarms and signals have been constructed in which a horn is employed having a vibrating sounding-reed in its small end, and also with a valve to admit air into an air-cylinder from which the air is expelled from the horn. But in my machine I do not use a horn, nor a reed, nor a valve. They are all objectionable, for the reason that the horn is liable to become bent, or indented, or bruised by use, and thus rendered inoperative, while at the same time its reed is liable to clog with dust as well as the valve, and so render the machine useless; and besides this, a horn is objectionable, in that its flaring form so diffuses the air-blast at its delivery end that its sound can only be heard at comparatively short distances.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a fog-alarm, the air-cylinder A, constructed substantially as described, provided with the piston B, piston-rod b', and handle h, in combination with the whistle C, constructed as described, attached to the end of the cylinder and in the longitudinal plane of the piston-rod, substantially as and for the purpose set forth.

2. The cylinder A, provided at each of its ends with an air inlet and outlet, and with means whereby an alarm-whistle proper may be applied at will at either end, in combination with a piston which operates to sound an alarm either by a pushing stroke or by a pulling stroke, substantially as described.

3. In a fog and alarm whistle, the threaded bolt-rings *e*, in combination with the threaded cylinder A, substantially as and for the purpose described.

4. In a fog and alarm whistle, an air-cylinder, A, provided at both ends with mechanism whereby the whistle proper, C, when sounded either by a pushing power or by a pulling power, shall have its air-blast and sound projected in a direction away from the operator, substantially as described.

5. In a fog and alarm whistle, in combination with an air-cylinder, A, having an air-opening in each of its ends and a screw-thread at each end, a whistle proper, C, at one of its ends, a piston, B, having its stem *b'* extending through a rear cylinder-head and provided with a handle, *h*, and a threaded bolt-ring, *e*, at each end of said cylinder, whereby the said fog and alarm whistle can be retained fixedly in an applied position during the act of sounding a signal by manual power applied directly to the handle *h*, substantially as described.

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Witnesses:

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