

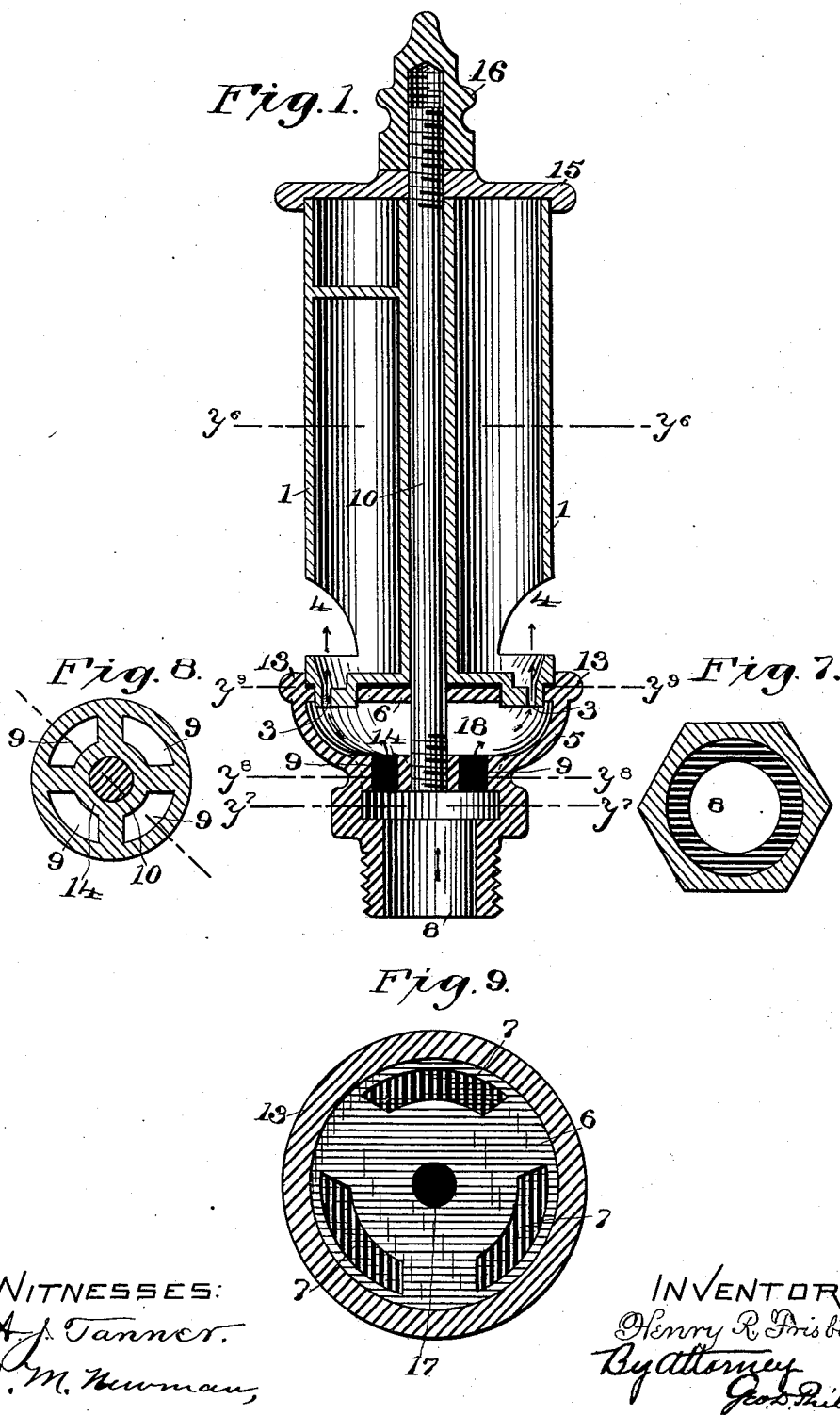
(No Model.)

2 Sheets—Sheet 1.

H. R. FRISBIE.
STEAM WHISTLE.

No. 466,403.

Patented Jan. 5, 1892.



(No Model.)

2 Sheets—Sheet 2.

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STEAM WHISTLE.

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Fig. 2.

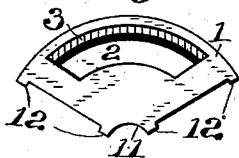


Fig. 3.

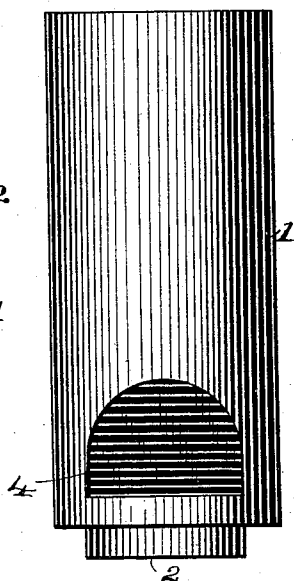


Fig. 4.

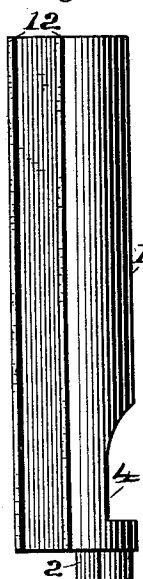


Fig. 6.

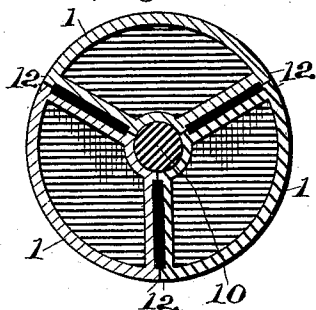
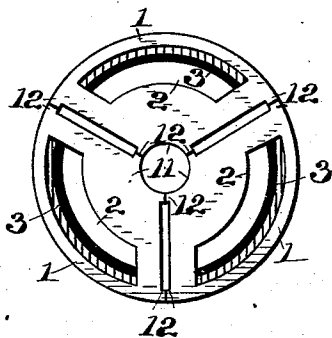


Fig. 5.



WITNESSES.
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UNITED STATES PATENT OFFICE.

HENRY R. FRISBIE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO FRANK KINSLEY, OF SAME PLACE.

STEAM-WHISTLE.

SPECIFICATION forming part of Letters Patent No. 466,403, dated January 5, 1892.

Application filed July 27, 1891. Serial No. 400,880. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. FRISBIE, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Steam-Whistles, of which the following is a specification.

My invention relates to steam chime-whistles; and it consists in grouping two or more separate and distinct whistles or reeds about a supporting-standard projecting from the steam-bowl, each reed provided with a flageolet mouth-piece whose projecting lip is inserted into a correspondingly-shaped opening in the upper surface of the steam-bowl, thereby firmly securing the lower end of each of said reeds, while their upper ends are held to the central stud by means of a cap embracing the entire group. The blowing-orifice of the lip conveys the steam directly to the sounding-orifice without loss, thus utilizing all of the steam, and thereby enable the chime to be sounded at comparatively a low pressure.

In order to enable others to understand my said invention, I will proceed to describe the construction and operation of the device whereby I obtain the above results, and subsequently point out in the appended claims such characteristic features as I believe to be novel.

Referring to the accompanying drawings, Figure 1 represents a vertical central section of the whistles or flageolets; also steam-bowl, cap, and full view of the central stud. Fig. 2 is a bottom plan view of the lower end or mouth-piece of one of the flageolets; Fig. 3, a front elevation of the same; Fig. 4, a side elevation of Fig. 3; Fig. 5, a plan view of the lower end of three flageolets grouped together with the central stud removed. Fig. 6 is an upper section of the bell through line y^6 of Fig. 1. Fig. 7 is a section, looking downward, through y^7 of Fig. 1. Fig. 8 is a section, looking downward, through y^8 of Fig. 1. Fig. 9 is a plan view of the upper surface of the steam-bowl through line y^9 of the beading of the bowl.

Its construction and operation are as follows:

1 represents the flageolets; 2, the lip; 3, the blowing-orifice; 4, the sounding-orifice; 5, the

steam-bowl; 6, upper plate or surface of the steam-bowl; 7, openings in plate; 8, steam-supply passage from the boiler; 9, steam-openings leading from larger passage 8 to the interior of the steam-bowl; 10, the central stud.

The several flageolets when grouped together will constitute a cylinder, each flageolet representing the cylinder divided longitudinally into equal sections or parts having, when assembled, the appearance of a single whistle-bell.

In constructing the chime each flageolet is cast separately, the projections 12 faced off, the three put together, (see Fig. 5,) and the grooves 11 trued out to fit the central stud, and the outer cylindrical surface of all three finished together. The outer and inner cylindrical surface of the lip 2 are also turned to fit the openings 7 (see Fig. 9) in the plate 6 of bowl 5.

In assembling the instrument the lips are inserted into the openings 7 of plate 6, as before mentioned; said plate situated below the top of the beading 13 of the bowl. The central stud 10 is screwed into the web 14 of the bowl 5 and the whole surmounted by the cap 15, which cap embraces the upper end of the flageolets, holding said ends firmly in position. The nut 16, mounted on the upper threaded end of stud 10, firmly secures the whole combination, making thereby a cheap and simple construction. The hole 17 in plate 6 of bowl 5 also assists in supporting central stud 10. The steam is admitted through the passages 9 to the interior 18 of the bowl 5. (See Fig. 1.) Thence it will pass through the narrow blowing-orifices 3 of the lips 2 and upward to the sounding-orifices 4 of the flageolets.

In my device, as before mentioned, the flageolets are all inclosed and made steam-tight, except the sounding-orifices 4. Therefore the sound will be produced before condensation can take place, whereby the force or volume of the steam is reduced in consequence of such condensation.

Partitions 19 (see Fig. 1) may be placed at proper distances in the different flageolets to vary the tone. As this feature is not new for this purpose, it does not, therefore, form part of my invention.

The sides of whistle-bells are generally made as thin as possible and in consequence are liable to fracture, thereby destroying the tone. In my construction the flageolets are all turned off together and to a gage. Therefore should one of them become fractured it can easily be replaced.

The lips 2 could be dispensed with and the end of the flageolets placed upon the plate 6 of the steam-bowl and the recess, bounded by the beading 13, utilized to hold their lower ends together. Such an arrangement would give no good result. On the contrary, it would afford means whereby steam would leak around the flageolets. I prefer to employ the projecting lip 2 and to fit the same snugly into the openings in the top plate of the steam-bowl, effectually preventing the escape of steam, except throwing the blowing-orifice of said lips.

From the foregoing description of the construction of the device it will readily be seen that it possesses many advantages both to the user and the manufacturer. Each flageolet is so shaped that the number that may be grouped together will be determined only by the diameter of the cylinder of which they form a section, as they constitute in outward appearance, when grouped and finished, a single and complete cylinder.

I am aware that a plain cylindrical bell having longitudinal chambers is not new. Therefore I do not claim it. Such a construction, even if each chamber were provided with a flageolet mouth-piece, would be inferior to my arrangement, owing to the fact that the device is inseparable, in which case if one of the chambers is fractured in testing (where a large per cent. of whistle-bells are broken, due to imperfections not seen in finishing) the whole device must be thrown away, while with my construction the defective reed is simply replaced by another. The peculiar shape of each flageolet will enable this to be done and still preserve the cylindrical symmetry of the whole structure.

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

1. In a steam chime-whistle, the combination of the steam-bowl 5, having plate 6,

with openings 7 therein, with the flageolet 1, having lips 2 to fit the opening in the plate, blowing-orifices 3, passing through said lips, combined with the sounding-orifices 4 in the cylindrical surface of said flageolets, as set forth.

2. The combination, in a steam chime-whistle with a steam-bowl and a vertical central stud projecting therefrom, of a series of longitudinal sections, each section constituting a separate and distinct reed or whistle having a flageolet mouth-piece, all of said reeds or flageolets grouped about and secured to the central stud and forming when so assembled a cylindrical body, as set forth.

3. The combination, in a steam chime-whistle, of the flageolets or reeds 1, each of which forms a longitudinal section of a cylinder, projecting lips 2, blowing-orifices 3 through said lips, sounding-orifice 4 in the cylindrical surface of each of the flageolet-sections, with the steam-bowl 5, having plate 6, openings 7 therein to receive the lips 2 of the flageolet-sections, thereby firmly securing the lower end of said sections, and central stud 10, projecting from said bowl, about which stud the several flageolet-sections are grouped and fastened thereto, substantially as shown, the plurality of the flageolet-sections forming when thus assembled a cylindrical body, as shown and set forth.

4. The combination, in a steam chime-whistle, of the longitudinal sections 1, having flageolet mouth-pieces consisting of the downward-projecting lips 2, blowing-orifices 3, sounding-orifices 4, with the steam-bowl 5, having plate 6, with openings 7 therein to receive the projecting lips of the flageolets, internal web 14, central stud 10, supported therein, said flageolets grouped about said stud, cap 15, surmounting and inclosing the upper end of the flageolets, and nut 16 to hold said cap in place, all as shown and described.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 18th day of July, A. D. 1891.

HENRY R. FRISBIE.

Witnesses:

E. S. PHILLIPS,
FRANK KINSLEY.