T. J. WOOLCOCKS.

Speaking-Tube Whistle.

No. 103,406. Patented May 24, 1870.

Fig. 2.

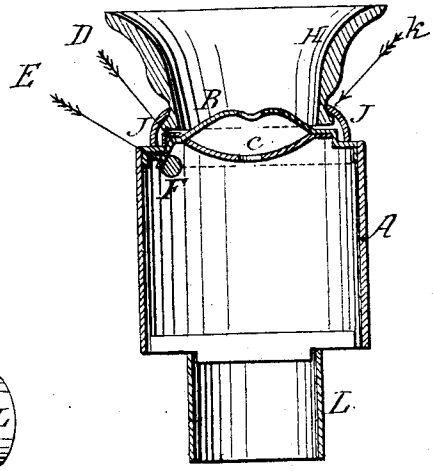


Fig. 4.

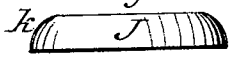


Fig. 1.

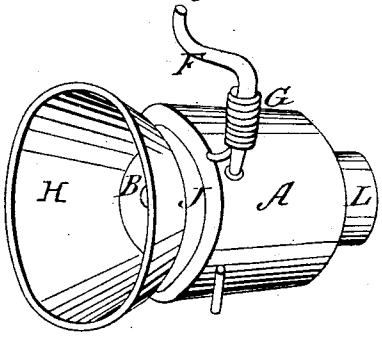
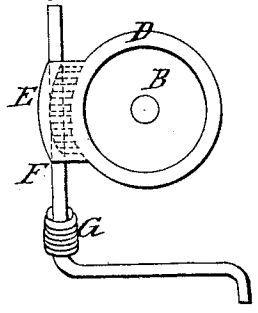


Fig. 3.



Witnesses.

Charles L. Smith

Franklin Baruth

Inventor;

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UNITED STATES PATENT OFFICE.

THOMAS J. WOOLCOCKS, OF NEW YORK, N. Y.

IMPROVEMENT IN SPEAKING-TUBE WHISTLES.

Specification forming part of Letters Patent No. **103,406**, dated May 24, 1870.

To all whom it may concern:

Be it known that I, THOMAS J. WOOLCOCKS, of the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Speaking-Tube Whistles; and I do hereby declare that the following is a full description of the same.

My invention relates to certain improvements in the manufacture of speaking-tube whistles for which a patent was granted to myself and partner May 4, 1852, and extended for the term of seven years from and after the 4th of May, 1866.

In the invention thus patented the barrel was made square and the spring attached to the rod for operating the whistle secured to the inside of the barrel, thus making it difficult to get at the whistle to repair should the spring break, and at the same time requiring a large unsightly barrel or box (more properly) to admit of the working of the spring thus arranged within it; also, in the original invention the mouth-piece was of metal. Since then porcelain mouth-pieces have been substituted, but, owing to the difficulty of securing them to the barrel by a cheap and simple device, have added considerably to their cost. My invention therefore contemplates the overcoming of all these several objections in the manufacture of speaking-tube whistles, and the nature of which consists, first, in applying the spring to the rod or stem for operating the whistle on the outside of the cylindrical barrel, so as to be accessible at all times for repairing without taking the whistle-barrel to pieces; second, in forming a solid flange or hinge to the edge of the valve or top plate of the whistle, for supporting or holding the spring rod or stem when attached thereto, in contradistinction to the old method of making the valve-plate of the whistle by soldering an independent flange or hinge thereto.

But to describe my invention more particularly, I will refer to the accompanying drawings, forming a part of this specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a perspective view of the apparatus. Fig. 2 is a vertical cut section of the same. Fig. 3 is a detached plan view of the valve and spring rod or stem attached thereto. Fig. 4 is a detached side view of the band or collar for securing the mouth-piece to the barrel of the whistle.

Letter A represents the barrel of the whistle, which is made cylindrical in form, in contradistinction to the box or square form, for the following reasons: first, economizing metal; second, labor in forming up the barrel; third, making it stronger, in consequence of its arched formation; and, fourth, making it more tasteful in finish and design, and therefore less objectionable as a fixture in the side walls of parlors, rooms, offices, and other places where used.

Within the barrel is arranged a valve-whistle composed of two concave perforated disks of metal, B and C. The upper one of these disks, B, is called the "valve-plate," having a marginal flange, D, all around it, of about an eighth of an inch in width, except at one side of it, as shown at E, where the flange is doubled in width. The object of this is to obtain a solid hinge-piece, to which the stem F, for operating the whistle, may be attached.

In the valve-plate formerly made only the flange D was formed, and the hinge-piece E formed separately and soldered to the edge of the flange D. The consequence was that when soldering the stem F to the hinge-piece it often unsoldered the hinge-piece from the flange, or softened the solder so as to warp it, and thus, when the whistle was put together, prevented the valve from making a perfect fit.

By my improvement the flange and hinge-piece are formed from one piece of metal, and the hinge-piece bent or beveled off so as to leave a flat marginal rim or flange, D, to form the valve, and at the same time at such an angle to the plane of the flange that the stem F, when attached to its lower side, will throw the whistle entirely back and out of the way of the free passage of the sound through the tube.

For the purpose of reacting the whistle or keeping it in the mouth of the tube, a spiral spring, G, is secured to the stem on the outside of the barrel A. The object of attaching the spring to the stem in this manner is to make it accessible at all times for repairs. In the whistle, as originally made, the spring was attached to the stem on the inside of the box.

If any accident happened to it, therefore, it had to be taken all to pieces for repair. By my improvement this difficulty is entirely overcome.

Letter H is a porcelain mouth-piece, which is secured to the barrel A by means of a bend or collar, J, fitted upon the neck of the mouth-piece, and then soldered to the head of the barrel. To make this band fit the neck of the mouth-piece, to hold it firmly and neatly, one edge of it, as shown at *k*, is swaged up or contracted by means of a die and press, into which each separate band, before its ends are soldered together, is formed. It will thus be seen that the band thus formed can be applied to the neck of the mouth-piece with great facility, making a perfectly secure fixture to hold it, and at the same time an elegant finish to the work.

Letter L is a section of the speaking-tube attached to the barrel of the whistle.

Having now described my improvements in the manufacture of speaking-tube whistles, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States, premising, however, that I do not make any claim to making speaking-tube whistles, irrespective of the improvements in the manufacture of the same described by me, as speaking-tube whistles, as described in the patent granted to myself and partner, have been a long time previously known; but

What I do claim is—

1. In combination with the cylindrically-formed barrel A, the stem F, having the reacting spring G attached to it, and operating on the outside of the barrel, as hereinbefore described, and for the purposes set forth.

2. The disk B, having a solid flange, D, and hinge-piece E attached thereto, as hereinbefore described, and for the purposes set forth.

THOMAS J. WOOLCOCKS.

Witnesses:

CHARLES L. BARRITT,

FRANKLIN BARRITT.