(No Model.)

E. S. RUSSELL.

WHISTLE.

No. 408,539. Patented Aug. 6, 1889.

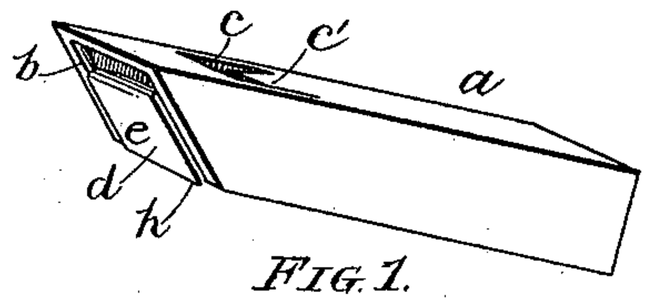

FIG. 1.

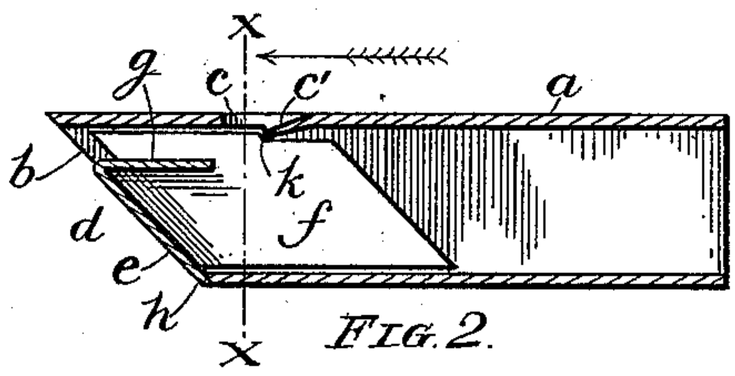

FIG. 2.

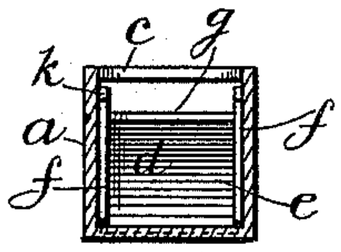

FIG. 3.

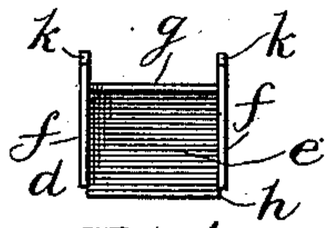

FIG. 4.

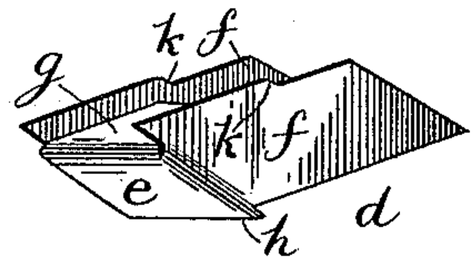

FIG. 5.

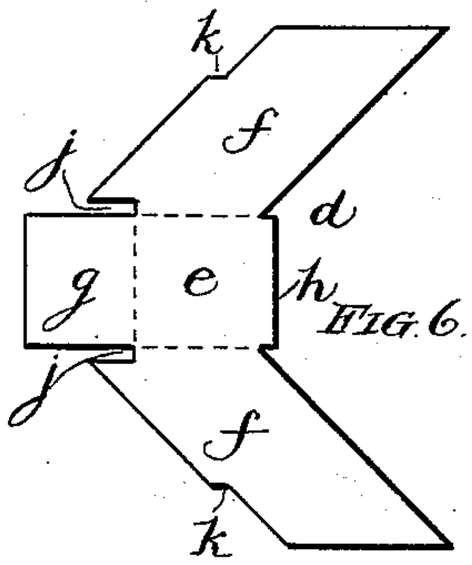

FIG. 6.

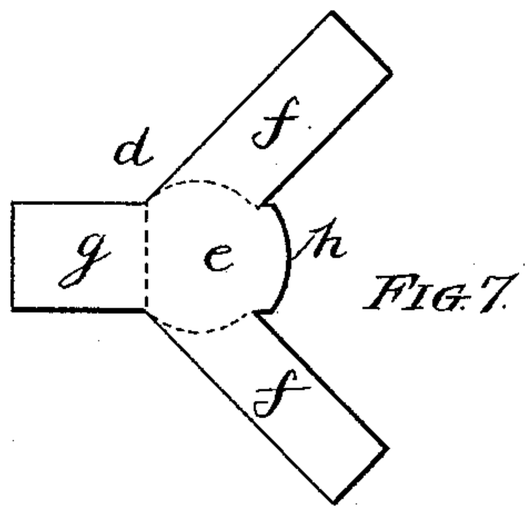

FIG. 7.

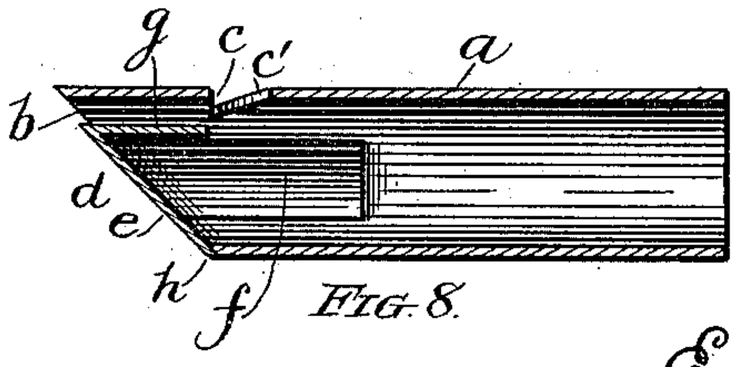

FIG. 8.

Witnesses:
J. Halpenny
David Stevens.

Inventor:
Edward S. Russell,
By Bradley & Fletcher,
his Attys.

UNITED STATES PATENT OFFICE.

EDWARD S. RUSSELL, OF WORCESTER, MASSACHUSETTS.

WHISTLE.

SPECIFICATION forming part of Letters Patent No. 408,539, dated August 6, 1889.

Application filed January 22, 1889. Serial No. 297,131. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. RUSSELL, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Whistles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of my improved whistle. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view taken upon the line *x x*, Fig. 2, viewed in the direction of the arrow there shown. Fig. 4 is a rear view in detail of the removable tongue or block of said whistle. Fig. 5 is a perspective view of the same. Fig. 6 is a plan view of the blank from which said tongue is formed. Fig. 7 is a like view of a modified form of blank, and Fig. 8 is a vertical longitudinal sectional view of a modification of said invention.

Like letters of reference in the different figures indicate like parts.

The object of my invention is to so construct a whistle from sheet metal that it may be manufactured at a minimum cost, while it may be durable in its construction and neat and attractive in appearance.

To this end my invention consists in the combination of elements hereinafter more particularly described and claimed.

Referring to the drawings, *a* represents the body of the whistle, which is preferably made from brass or other sheet-metal tubing, either polygonal or round in cross-section, as desired; but I prefer to make it square, as shown in Figs. 1, 2, and 3. One end of said body or tube is beveled or cut obliquely to the plane of its axis, as shown at *b*, and in the side upon which the "nose" is formed is the usual notch or opening *c*, the lip *c'* of which is sharpened to a knife-edge, so that the air impinging thereon may aid in the production of sound. Within the beveled end of said tube I place what I term a "tongue" *d*, which takes the place of the usual "block," in the peculiar construction of which tongue and its combination with the tube lies the novelty of my invention. Said tongue, if employed with a square tube, is made from a blank cut from spring-brass or other sheet metal, preferably in the form shown in Fig. 6, which consists of a central part *e*, wings *f f*, flanges *g* and *h*, notches *j j*, Fig. 6, and shoulders *k k*. The wings *f f* are swaged or bent at right angles to the part *e*, while the flange *g* is bent at an acute angle thereto, as shown in Fig. 2, said bends being made upon the dotted lines shown in Fig. 6. When properly formed, said tongue presents the appearance more clearly shown in Fig. 5. The wings *f f* form springs, which, when the tongue is placed in the tube, exert an elastic pressure against the walls of the tube and hold the tongue securely in place, while at the same time it may be removed, if desired, by moderate pressure. The part *e* is oblique to the plane of the axis of the whistle, and conforms to the shape of the part *b*, while the short flange *h* serves as a stop which abuts against the tube (see Figs. 2 and 8) and prevents the tongue or block from being pushed in too far. The flange *g* preferably lies substantially parallel with the top of the tube, and the space between it and the tube forms the "throat," through which the air is blown to impinge upon the lip *c'*, and thus produce the desired sound.

In Fig. 7 I have shown a metal blank adapted to be formed so as to fit within a round tube. The wings of said blank are swaged and bent upon the dotted lines, and the finished tongue presents the appearance shown in Fig. 8.

The advantage of my improvement lies mainly in the fact that it enables whistles to be constructed at a minimum cost. A large number of the mouths or openings *c* may be "milled" or otherwise formed at a single operation in a tube of indefinite length. The tube may be cut into short lengths to conform thereto at a second operation, when the tongues, which are also cut and swaged in quantities, may be inserted therein, thus completing the product.

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

1. The combination, with a whistle-body, of a tongue formed from a single piece of sheet metal, and having the elastic wings *f f* to press against the walls of the body and

hold said tongue in place, substantially as described.

2. The combination, with the tubular body of a whistle, of the sheet-metal tongue *d*, having oblique body *e*, flanges *g h*, and elastic wings *f f*, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 10th day of December, 1888.

EDWARD S. RUSSELL.

Witnesses:
D. H. FLETCHER,
DAVID STEVENS.