

(No Model.)

2 Sheets—Sheet 1.

C. A. VOLKE.

SIGNAL HORN.

No. 337,098.

Patented Mar. 2, 1886.

Fig. 1

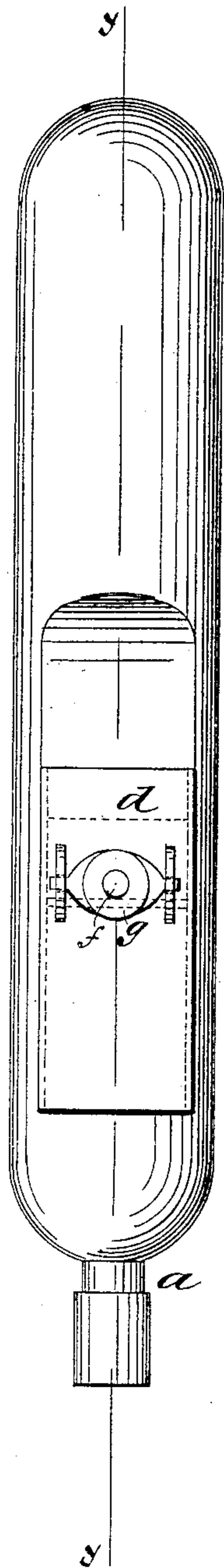


Fig. 2

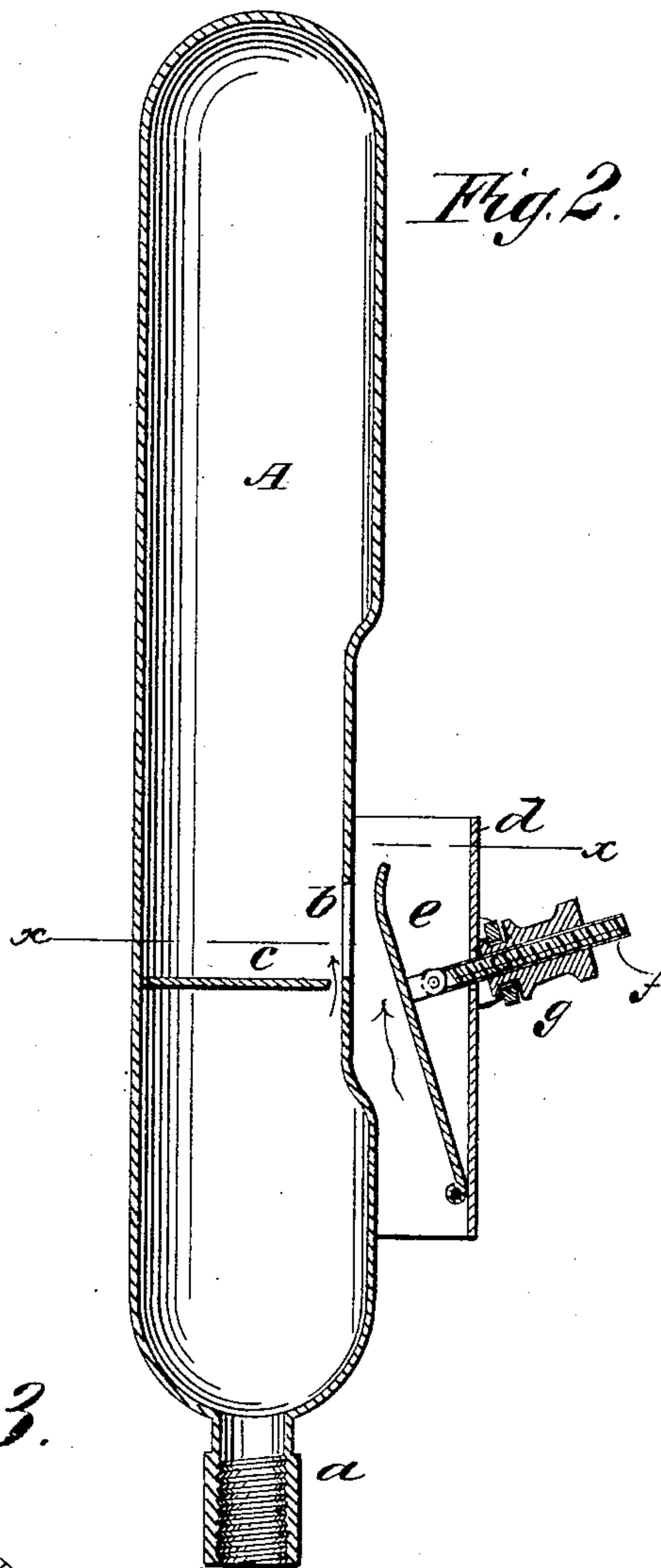
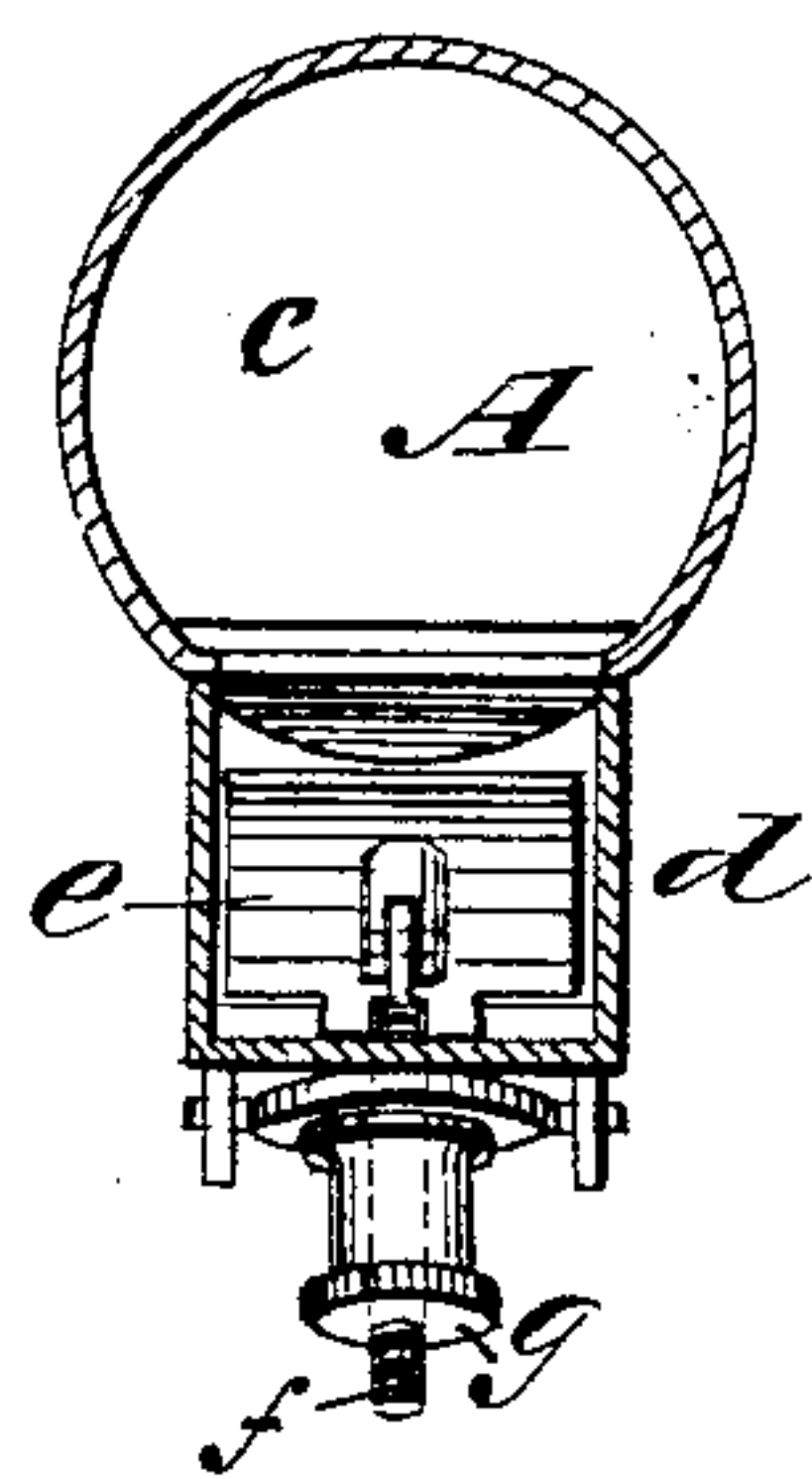


Fig. 3



WITNESSES:

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C. Sedgwick

INVENTOR:

C. A. Volke

BY

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(No Model.)

2 Sheets—Sheet 2.

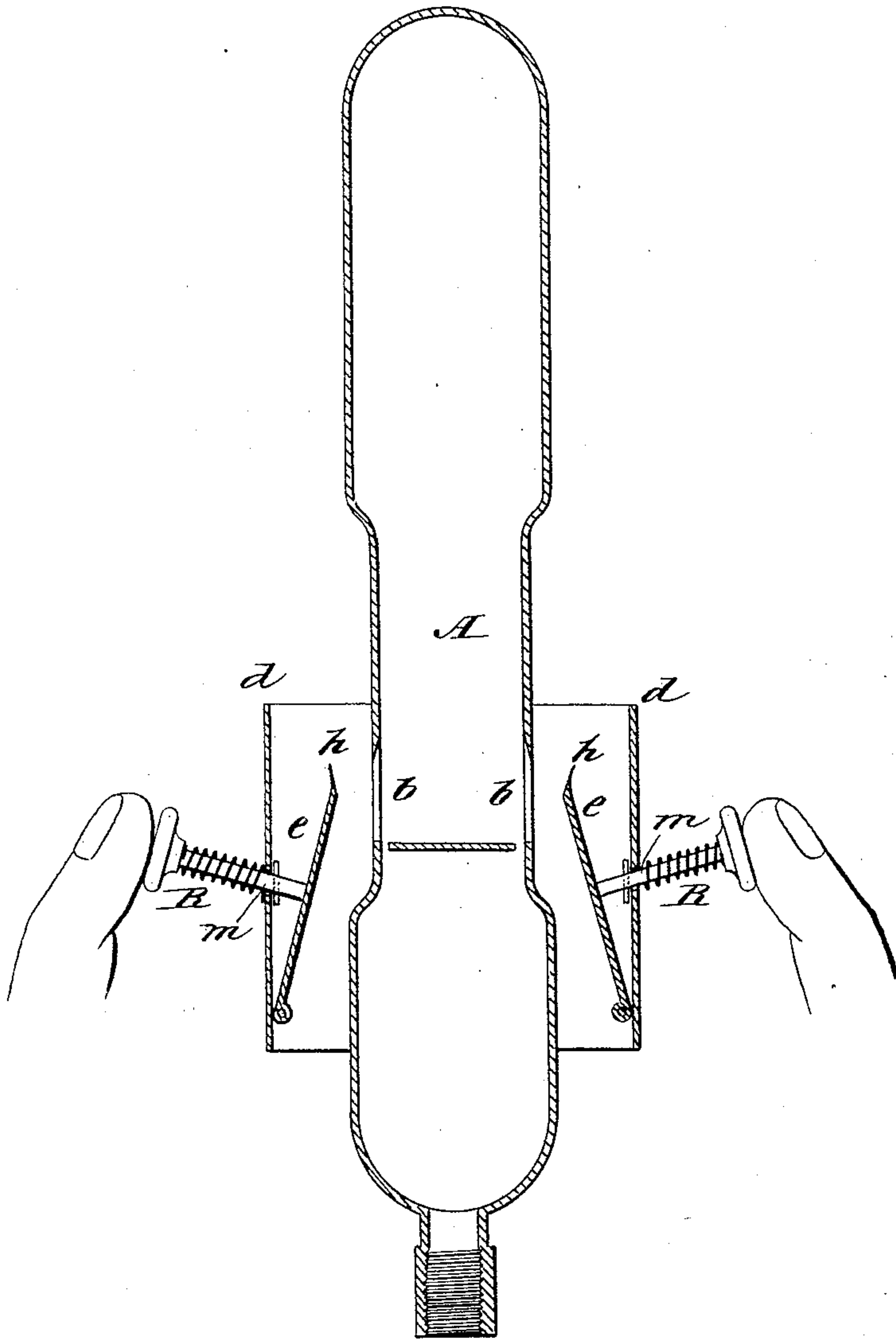
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Fig. 4.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES A. VOLKE, OF STAPLETON, NEW YORK.

SIGNAL-HORN.

SPECIFICATION forming part of Letters Patent No. 337,098, dated March 2, 1886.

Application filed November 12, 1884. Serial No. 147,727. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. VOLKE, of Stapleton, in the county of Richmond and State of New York, have invented a new and Improved Signal-Horn, of which the following is a full, clear, and exact description.

My invention consists in a horn for operation by steam or air, constructed with an air-passage that acts to induce a strong blast, and also with an adjustable valve for varying the tone, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of the horn; Fig. 2, a central longitudinal section through Fig. 1, line *y y*; and Fig. 3 is a cross-section on the line *x x* in Fig. 2; Fig. 4 a modification of construction, representing two valves and their corresponding openings, one on either side of the pipe inclosed in its hood or cap and provided with spiral spring adjustments to be operated by hand.

A is a tube of suitable diameter and length, closed at one end and formed with a neck, *a*, at the other end, for its connection to a steam or air supply pipe. The tube has a mouth, *b*, at one side, and below the mouth it is divided by a bridge, *c*, so that there are formed an upper and lower chamber, and the two chambers are connected by a narrow slit in the bridge.

Upon the outside of tube A a cap or hood, *d*, is attached over the mouth *b*, so as to form a passage for air across the mouth, and in this hood is a gate or valve, *e*, which is hinged at one end. A screw, *f*, jointed to valve *e*, passes out and through a nut, *g*, that is hung between lugs on the outside of the hood, whereby the moving end of the valve can be adjusted to and from the mouth *b*, so as to vary the size of the air-passage between the valve and the lip at the outer side of the mouth. When air or steam is admitted under pressure to the receiving-chamber of the tube, it passes through the slot in bridge *c*, and thence out at mouth *b*. This current has the effect to induce a current of air through the hood, which is directed by valve *e* toward the mouth, and the two

currents, uniting, strike the knife or edge, so that a clear and powerful sound is produced. The adjustment of the valve varies the sound from a shrill to a deep tone. There may be more than one opening and valve, and so arranged as to admit steam or air to one or both. By the induction of the auxiliary air-current, as described, much less steam is required to obtain a loud and clear note, and there is consequently a saving of steam and fuel.

This horn is adapted for use on steamboats, light-houses, and signal-stations, and for use as a signal-instrument in the army and navy, and also as a musical instrument. The tone can be changed quickly and readily for the purpose of any prearranged system of signals. The adjustable valve may also be provided with a knife, and in place of the screw for adjustment of the valve a push-pin acting against a spring may be employed.

In Fig. 4 two openings, *b*, in the pipe A are represented with two separate and independent hoods or caps, *d*, and valves *e* on the outside of the pipe A, the valves *e* having knife-edges *h*, where the currents of air or steam unite in the separate hoods or caps, as described, and in place of the screw adjustment of the valves, as in Fig. 1, a push-pin, *m*, operating against a spring, *R*, may be employed. In this form of construction, Fig. 4, each valve *e* is provided with a separate hood or cap, *d*, to inclose it, so that each valve, with its hood or cap, is independent of the other valves and hoods on the same pipe, and notwithstanding one column of air or steam through the pipe A may operate through all the openings *b* simultaneously. Each valve and its hood or cap is independent, and not connected with the other valves.

It is evident that any number of openings *b*, valves *e*, and hoods or caps *d* may be added, as in Fig. 4, either to increase the volume of the same sound or note, or to produce a number of different sounds or different notes in harmony, and by adjusting the valves *e* to increase or diminish the openings *b* the sound will be raised or lowered accordingly.

It is evident that these valves *e* may be operated by hand, as shown, or suitable mechan-

ism may be provided therefor to vary the same sound higher or lower, or to produce a number of sounds or notes in harmony, thereby producing music.

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

1. The signal-horn, constructed, substantially as described, with an interior bridge, a
10 mouth, and a hood or cap over the mouth, for the purpose set forth.

2. In a signal-horn, the adjustable valve *e*

and hood or cap *d*, combined with tube *A*, having mouth *b*, substantially as described.

3. In a signal-horn, the combination, with 15 the pipe *A*, of two or more hoods or caps and valves, the pipe having openings for each valve and hood, substantially as shown and described, whereby a single pipe may deliver more than one note, as set forth.

CHARLES A. VOLKE.

Witnesses:

M. V. WULLFERONA,
PETER KLEE.