No. 637,261. Patented Nov. 21, 1899.

J. A. IRVING.

MULTIPHONE.

(Application filed Feb. 3, 1899.)

(No Model.)

Fig. 1.

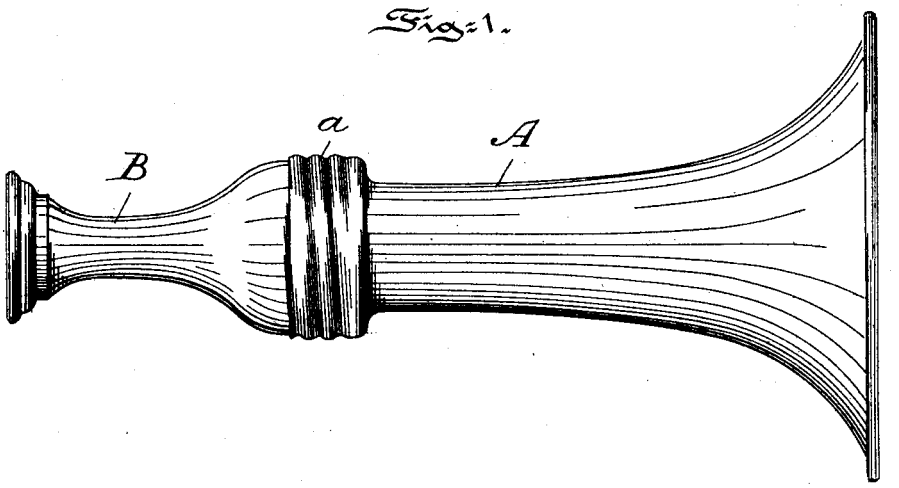
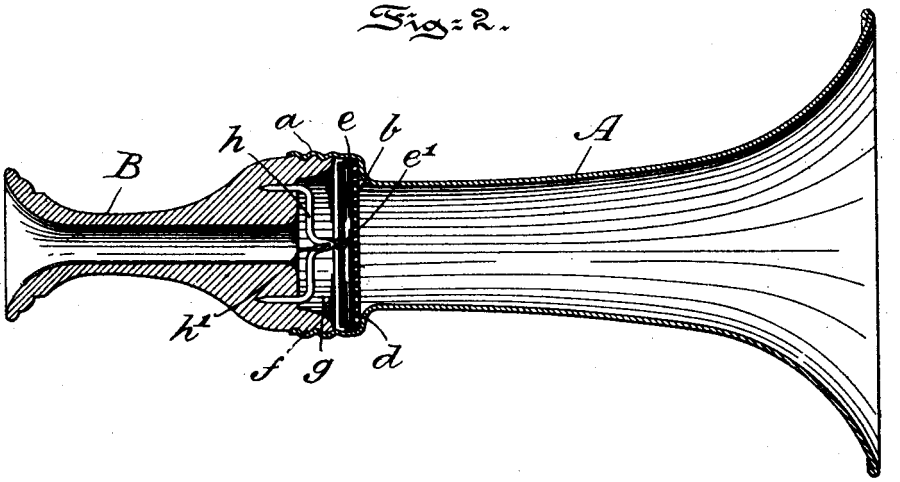


Fig. 2.



Witnesses:
Thomas M. Smith.
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UNITED STATES PATENT OFFICE.

JAMES A. IRVING, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE M. BURNS, OF SAME PLACE.

MULTIPHONE.

SPECIFICATION forming part of Letters Patent No. 637,261, dated November 21, 1899.

Application filed February 3, 1899. Serial No. 704,365. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. IRVING, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Multiphones, of which the following is a specification.

My invention relates to a wind musical or similar sound instrument, designated as a "multiphone," and in such connection it relates particularly to the construction and arrangement of such an instrument for use as a toy or for other purposes.

The principal object of my invention is to provide a comparatively simple and economical wind instrument adapted to be used successfully by any person capable of uttering sound for producing variable musical intonations, according to the skill exercised in production of sound-wave amplifications through the intervention of a disk within the body of the instrument sensitive to vibrations and which are separated and distributed through perforations of a diaphragm within a sonorous bell-shaped metal horn to produce musical or similar tones of variable composition.

My invention, stated in general terms, consists of a musical wind instrument, designated as a "multiphone," when constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevational view of an instrument embodying the particular features of my invention, and Fig. 2 is a longitudinal central section through the same.

Referring to the drawings, A represents a bell-shaped horn provided with a rear offset portion internally threaded and forming a socket *a*, adapted to receive and hold a perforated metal or other diaphragm *b*, through which sound-waves are separated and finely distributed into the bell-shaped horn A, thereby producing tones which are both mellow and musical, as hereinafter more fully explained. Around about the wall of the socket *a*, on the inside above the perforated diaphragm *b*, is placed a ring or washer *e*, upon which rests a varnished paper or other disk *d*, provided with a central brass or other type of headed pin *e'*.

B is the detachable hollow mouthpiece of the horn A, offset in front and externally threaded at *f* to fit into the socket *a*, and in the front or head of the offset portion of the mouthpiece is formed a recess or chamber *g*, in which is mounted a spanning strip or wire *h*, with a projecting centrally-arranged point *h'*, adapted to contact with the head of the pin *e'* of the paper or other disk *d*. The point *h'* of the spanning piece *h* when pressed against the metallic point *e'* of the disk *d* serves to support said disk upon the ring *e*, so that it will reproduce sound-waves set up by singing into the mouthpiece *b*. These reproduced sound-waves are strained and distributed by the perforated diaphragm *b* and then enter the horn A, through which they pass in their finely-divided state and are amplified by the said horn and from which they emerge in mellow and musical reproductions of the vibrations set up by the disk *d*. By screwing the mouthpiece *b* into the socket *a* to a more or less extent the tension on the disk *d* may be increased or decreased to change or vary the pitch and power of the instrument.

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

1. In an instrument of the character described, provided with a mouthpiece, a perforated diaphragm located at or near the exit end of said mouthpiece, a flexible disk located between the perforated diaphragm and the other end of said mouthpiece, and an elastic washer interposed between the periphery of the disk and the periphery of the diaphragm, said washer separating the disk from the diaphragm and flexibly supporting the disk on said diaphragm, substantially as and for the purposes described.

2. In an instrument of the character described, provided with a mouthpiece, a perforated diaphragm located at or near the exit end of said mouthpiece, a flexible disk lo-

cated between the perforated diaphragm and the other end of said mouthpiece, an elastic washer interposed between the periphery of the disk and the periphery of the diaphragm and separating the same and means carried by the mouthpiece for causing said disk to approach or recede from the diaphragm, substantially as and for the purposes described.

3. A multiphone, comprising a bell-shaped horn with a socket, a perforated diaphragm mounted therein, a disk with a metal point mounted in said socket and separated from said diaphragm by a washer or ring, a mouthpiece having the offset portion arranged so as to detachably turn in said socket, and a projecting pin adapted to be brought into contact with the metal point of said disk, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JAMES A. IRVING.

Witnesses:
J. WALTER DOUGLASS,
THOMAS M. SMITH.