

(No Model.)

H. ESBACH.
CORNET.

No. 417,671.

Patented Dec. 17, 1889.

Fig: 1

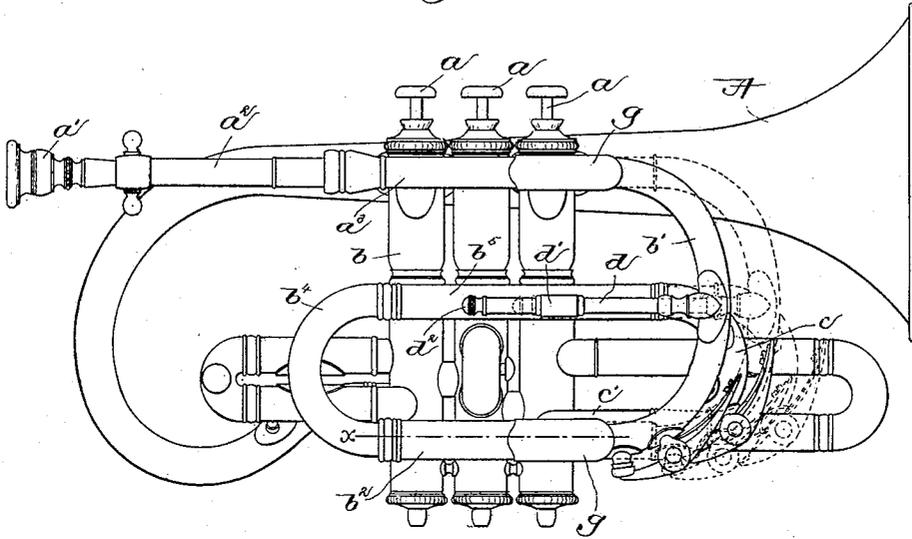


Fig. 2.

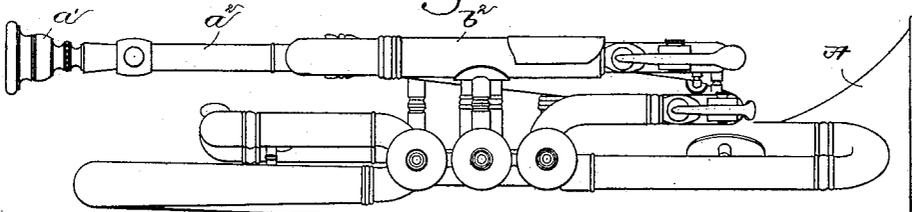


Fig. 3.

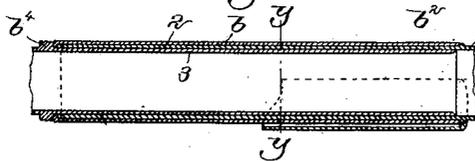


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY ESBACH, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE BOSTON MUSICAL INSTRUMENT MANUFACTORY, OF SAME PLACE.

CORNET.

SPECIFICATION forming part of Letters Patent No. 417,671, dated December 17, 1889.

Application filed July 25, 1889. Serial No. 318,647. (No model.)

To all whom it may concern:

Be it known that I, HENRY ESBACH, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in
5 Cornets, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to cornets, and has
10 for its object to construct the cornet, as will be described, whereby it may be quickly changed from a cornet of one key, as a B-flat cornet, to a cornet of another key, as an A
cornet.

15 In orchestral work it frequently happens that the score changes from B-flat to A, and the performer is obliged to change his cornet to adapt it to the key. With cornets as now commonly constructed and known to me this
20 change from a B-flat to an A cornet is accomplished by removing the mouth-piece and the set-piece, with which it is connected, and substituting for the said set-piece a longer set-
25 piece, which requires time, and in practice frequently occasions vexatious and annoying delays; and so, also, I am aware that it has been attempted to effect the change from one
30 key to another by making the set-piece so as to slide in a stationary tube. This form of cornet is objectionable, inasmuch as the diameter of the air-passage is made irregular when the set-piece is drawn out, and as a result the correctness of the scale is impaired.
35 So, also, when the set-piece is drawn out it is supported at its end only, and the bearing or supporting surface for the said set-piece being thus largely diminished, the said set-piece in use is apt to wobble and the supported end is quickly worn out, and the light-
40 ness of the fit necessary for the perfect working of the instrument is destroyed.

It is the object of this invention to construct the cornet, as will be described, whereby it may be changed substantially in an
45 instant from one key, as B-flat, to another key, as A, and vice versa, without removing any of the sliding tubes and substituting therefor other tubes of a different length to obtain the desired tone or key, and at the same time
50 maintaining the diameter of the air-passage the same in both positions of the instrument.

In accordance with my invention one or more of the heads or coils of the tubes or pipes remote from the mouth-piece are made
extensible, so as to slide, preferably, within
55 fixed or stationary tubes or pipes, so that when in one position, as the innermost position, the cornet will be a B-flat cornet, and when in another position, as its outermost
60 position, the said cornet will be an A cornet, a suitable gage or stop being provided by which the outward movement of the said sliding tube may be limited, whereby the said
sliding tube or pipe may be quickly pulled
65 out to the required position to obtain the desired tone without the need of extra precaution or care to obtain the required adjustment on the part of the performer, the said
70 sliding tubes being made, as will be described, so that the diameter of the air-passage will remain the same in both positions of the said sliding tubes.

My invention therefore consists, essentially, in a cornet provided with a key-slide and a
75 gage to limit the movement of the said slide in one direction, substantially as will be described.

Figure 1 is a side elevation of a cornet embodying my invention, it being shown by full
80 lines in the cornet or usual position for playing, as a B flat cornet; Fig. 2, a bottom or plan view of the cornet shown in Fig. 1; Fig. 3, a longitudinal section on line $x x$, Fig. 1, through one of the extensible tubes or pipes; and Fig. 4, a cross-section on line $y y$, Fig. 3. 85

The cornet A, provided with the usual valves or keys a , the mouth-piece a' , and set-
90 piece a^2 may be of any usual or well-known construction. The set-piece a^2 is secured to or forms part of a tube or pipe a^3 , fastened, as herein shown, to the valve tubes or casings
95 b . The tube or pipe a^3 in accordance with my invention is connected by a sliding curved or bent tube b' with a tube or pipe section b^2 , fastened to the lower part of the valve
100 tubes or casings b . The stationary pipe-section b^2 is connected at its other end by a bent tube or pipe section b^4 to a pipe-section b^5 , fastened to the valve casing or tubes b , the bent pipe-section b^2 being hereinafter designated by me as the "tuning-slide" in contradistinction from the key-slide b' . The sta-

tionary pipe-section b^5 is connected at its opposite end by a curved or bent pipe-section c to a short pipe-section c' , secured to and communicating with the valve-casing b , the

5 pipe-section c in the present instance also constituting a key-slide. The key-slide b' has secured to it one end of a rod d , extended through a sleeve or eye d' on the stationary

10 pipe-section b^5 , and provided at its end preferably with a screw-threaded cap d^2 , which engages the said sleeve or eye when the sliding tube b' is drawn out into its adjusted position to change the cornet from one key to another, as a B-flat cornet to an A cornet, the

15 said rod and cap constituting a gage for the instrument.

The change from one key to another may be effected by means of the key-slide b' alone; but I prefer to employ the two key-slides b'

20 c , as with this construction the said slides need be drawn out only one-half the distance one tube would have to be drawn out if only one tube were used as the key-slides, and consequently the said key-slides need only

25 be substantially one-half as long.

In order to preserve the freeness and quality of the tone of the instrument, the substantially straight ends or arms of the sliding key-slides (marked 2 in Figs. 3 and 4) will be

30 made substantially long and will be made large enough in diameter to permit the straight arms of the tuning-slide b^4 (marked 3) to be inserted into them, as clearly shown in Figs. 3 and 4. It will thus be seen that

35 when the key-slide b' is drawn out the desired or required distance to effect the change in the key the arms 3 of the tuning-slides b^4 will still remain within the runs 2 of the key-slide and the continuity of the passage will remain unbroken, thereby preserving the

40 quality and tone of the instrument. It will be noticed that even when the key-slides are drawn out, as above described, a substantially long bearing is afforded by the tubes b^2

45 and a^3 , thus obviating wobbling and wearing away of the slides.

The key-slides $b' c$ may be provided with the usual water-valves $d^3 d^4$, herein shown as operated by a single lever d^5 , pivoted as at d^6 .

By means of the gage the key-slide may be 50 so adjusted that the cornet may be made to accord with any pitch, either sharp or flat.

In practice the key-slides will be lubricated with any suitable or usual lubricant, and in order to protect the garments or clothing of 55 the performer when the instrument is laid down—as, for instance, across the knees—I have secured to the said slide shields g , herein shown as a semi-tubular pipe, of such diameter as to pass or slide over the stationary 60 tubes $b^2 a^3$.

I claim—

1. The herein-described cornet, provided with a key-slide, and a gage consisting of a rod d and sleeve d' , to limit the movement of the 65 said slide in one direction, substantially as and for the purpose specified.

2. The herein-described cornet, provided with two key-slides, and a gage consisting of a rod d and sleeve d' , to limit the outward 70 movement of the said slides, substantially as described.

3. The herein-described cornet, having a key-slide and tuning-slide, fitted one within 75 the other, the said key-slide having substantially long arms to maintain the diameter of the air-passage uniform in both positions of the said key-slide, substantially as described.

4. The herein-described cornet, provided with a key-slide and a gage to limit the move- 80 ment of the said slide in one direction, and a shield secured to said key-slide, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY ESBACH.

Witnesses:

JAS. H. CHURCHILL,
FREDERICK L. EMERY.