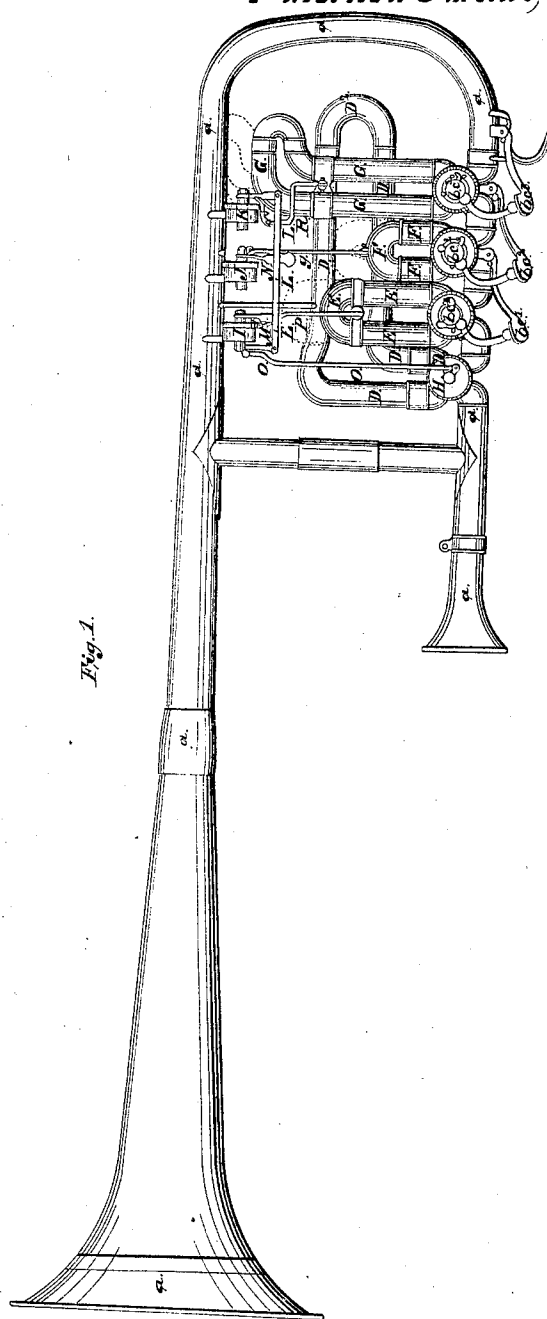


C. H. Eisenbrandt

Cornet.

N^o 19/87.

Patented Jan. 26, 1858.



UNITED STATES PATENT OFFICE.

C. H. EISENBRANDT, OF BALTIMORE, MARYLAND.

MUSICAL WIND INSTRUMENT.

Specification of Letters Patent No. 19,187, dated January 26, 1858.

To all whom it may concern:

Be it known that I, CHRISTIAN H. EISENBRANDT, of the city of Baltimore and State of Maryland, have invented, made, and used certain new and useful Improvements in Brass Wind Musical Instruments, which improvements I designate as the "Transposing Instrument;" and I do hereby declare that the following is a full, clear, and accurate description of the same, reference being had to the accompanying drawing, making a part of this specification.

Figure 1 is a longitudinal view of the instrument, a sax horn, E flat soprano.

The nature of my improvements consists in constructing a brass or other metallic, wind musical instrument, possessing within itself, the inherent quality or principle of instantaneous convertibility or transposition from one tonic or key note, into that of another or a different tonic or key note, and vice versa and at the will of the performer, without removing the instrument from the mouth of the performer; and also without the appliance or addition of separate distinct, attachable, slides, crooks or joints, as is commonly required, when the music modulates, or changes from a major, to a minor, or from one flat key, to another flat key.

Another principle pertaining to my improvements, is that it possesses the qualities and properties of two different instruments. That is, in its natural or original key, it is an E flat soprano sax horn, and in its convertibility it becomes a B flat cornopean, and again too through my improvements, in changing from B flat to E flat, the compass in the range of high notes increases two and a half tones, while in changing from E flat, to B flat, two and a half tones more are added to the lower range or compass.

All performers on brass wind instruments constructed in the ordinary manner and having extra separate crooks and slides, know full well the necessary delay and trouble, consequent upon the changing, attaching and detaching of the several required parts essential to the use of the instrument, in the transposition from one key to another different key. Besides too, it most frequently occurs in this attaching and detaching of the various parts, that the tones or degrees of sound in each respective key, are imperfect, too flat, or too sharp. But through my improvements, all these

great objections, difficulties, imperfection in tone, and inconveniences, are entirely prevented; thus rendering most facile and perfect, the execution of the performer.

In the drawing Fig. 1, *a, a, a, a, a, a, a, a, a* represents an ordinary sax horn, with its three key valves *b c¹, b c², b c³*. The parts marked D, E, F, G, are the new formations or compensating crooks, and sliding tubes, and H is the auxiliary, transition valve; I, J, K, are the barrel or additional coiled springs, to actuate the new, sliding tubes. L, L, is the key bar, through which, motion is imparted to the secondary keys M, N and the connecting rods O, P, Q, R, and arms S, T, U, V.

The crook D, D, D, D, is connected, and communicates with the auxiliary, transition valve H. The sliding tube E communicates with the valve *b c¹*, and the sliding tube F, communicates with the valve *b c²*, and the crooked sliding tube G, G, G, communicates with the valve *b c³*. The crook D, D, D, D is also made with an extension bend D².

To enter more minutely into the general mechanical construction of my improvements or to give an analytical, scientific description of the rationale, or musical philosophy of the required formations and their mechanical arrangement, is deemed unnecessary as every skillful constructor of wind musical instruments, is thoroughly familiar therewith.

The use, or application of the instrument is in the most ready and simple manner. The performer as is usual holds the instrument in the ordinary manner by both hands, and the original key or tonic, of the instrument as shown, in using the keys and valves *b c¹, b c², b c³*, is the key of E flat soprano. But when it is desired to transpose or change from the original, to B flat the key bar L, L is pressed down to its utmost extent by the fingers of the left hand, and in this pressing down of the bar L, L, the secondary keys M N, and the connecting rods O, P, Q, R, open the auxiliary transition valve H, and draw out or extend the sliding tubes E, F, G, as indicated by the dots, and this extension of said sliding tubes must be continued in, or the key bar L, L, must be held down so long as the transposed key is required. Then when the original key is desired all that is necessary to do, is to relax the pressure from off the key bar L, L, when the sliding tubes E, F, G will resume their original places by

closing into their sockets, while the original key is performed in, solely by the right hand working the keys and valves $b c^1$, $b c^2$, $b c^3$.

Having thus fully and clearly set forth
5 the nature, and design of my improvements
what I claim as new and of my own invention
and desire to have secured by Letters
Patent of the United States, is as follows:

The construction and arrangement of
10 wind musical instruments by the addition of
compensating sliding extension crooks or

curved tubes D, E, F, G,—the auxiliary
transition valve H,—the key bar L, L,—
the secondary keys M, N,—the connection
actuating rods and arms O, P, Q, R,—S, T, 15
U, V, together, and in combination with the
valves, tubes, and pipes substantially as
herein set forth, shown and described.

CHRISTIAN HENRY EISENBRANDT. [L. s.]

Attest:

WM. MCKINLEY,
E. G. BAXTER.