H. C. MARTIN.
WIND MUSICAL INSTRUMENT.
APPLICATION FILED FEB. 6, 1911.

1,071,526. Patented Aug. 26, 1913.

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY CHARLES MARTIN, OF ELKHART, INDIANA.

WIND MUSICAL INSTRUMENT.

1,071,526.


Application filed February 6, 1911. Serial No. 606,907.

To all whom it may concern:

Be it known that I, HENRY CHARLES MARTIN, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Wind Musical Instruments, of which the following is a specification.

My invention relates to certain new and useful improvements in wind musical instruments, such as trumpets, cornets, trombones, baritones, basses, saxophones; and in fact, all wind instruments in which tapered tubing may be used, whether they be for band or orchestra or otherwise.

The object is to produce an easier blowing instrument, one that will respond more readily to the efforts of the performer with full and clear tones.

To this end the instruments embodying my invention are constructed of tapered tubing, said tubing being thinnest at the point where the mouthpiece enters, and gradually increasing in thickness to the outer end of the instrument which is known as the bell or flare portion. In adapting this construction to cornets or other instruments employing valves, my idea necessitates a slight modification, the tubing being thinnest at the mouthpiece and gradually increasing in thickness to the valves which are constructed as is usual, with straight tubing; the taper or gradual increase in thickness of tubing is then employed in the part of the instrument leading from the valves to the atmosphere or outer end thereof.

By practical experiments I have found that the above described construction results in the production of an instrument which is very easy to blow and which responds readily to the efforts of the performer with clear full tones.

Referring to the drawing, I show a sectional elevation of a cornet illustrating my invention as applicable to cornets and all other wind musical instruments where conic tapered tubing may be employed, and in which the numerals 1, 2, 3, and 4 refer to tubing leading from the mouthpiece to the valves 5, 6, and 7.

The numerals 8—8 and 9 indicate the tubing leading from the air valves to the atmosphere.

The numerals 2, 3, 8—8 and 9 represent the portion of the tubing which is usually made tapered, the said tubing gradually enlarging in diameter from the beginning of the tubing marked 2 to the end of the tubing marked 3, and from the beginning of the tubing marked 8 to the end of the tubing known as the bell or flare and marked 9.

Having described my invention, I claim:

1. A valved wind musical instrument having tapered tubing the wall increasing in thickness with the diameter of the tubing, said tubing being smallest at the mouthpiece and increasing in diameter to the valves.

2. A valved wind musical instrument having tapered tubing the wall increasing in thickness with the diameter of the tubing, said tubing being smallest at the mouthpiece and increasing in diameter to the valves, and a valved portion having cylindrical tubing of uniform thickness.

3. A valved wind musical instrument having tapered tubing the wall increasing in thickness with the diameter of the tubing, said tubing being smallest at the mouthpiece and increasing in diameter to the valves; a valved portion having cylindrical tubing of uniform thickness and tubing of increasing diameter and thickness leading from the valved portion to the rim of the bell where the maximum diameter and thickness is reached.

4. A valved wind musical instrument having tapered tubing the wall increasing in thickness with the diameter of the tubing, said tubing being smallest at the mouthpiece and increasing in diameter to the valves; a valved portion having cylindrical tubing of uniform thickness and tubing of increasing diameter and thickness leading from the valved portion to the rim of the bell where the maximum diameter and thickness is reached.

5. A wind musical instrument having tapered tubing the wall increasing in thickness with the diameter of the tubing, said tubing being smallest at the mouthpiece and increasing in diameter throughout its entire length to the rim of the bell.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY CHARLES MARTIN.

Witnesses:

ROBERT J. MARTIN,
BESSIE G. KUHN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."