

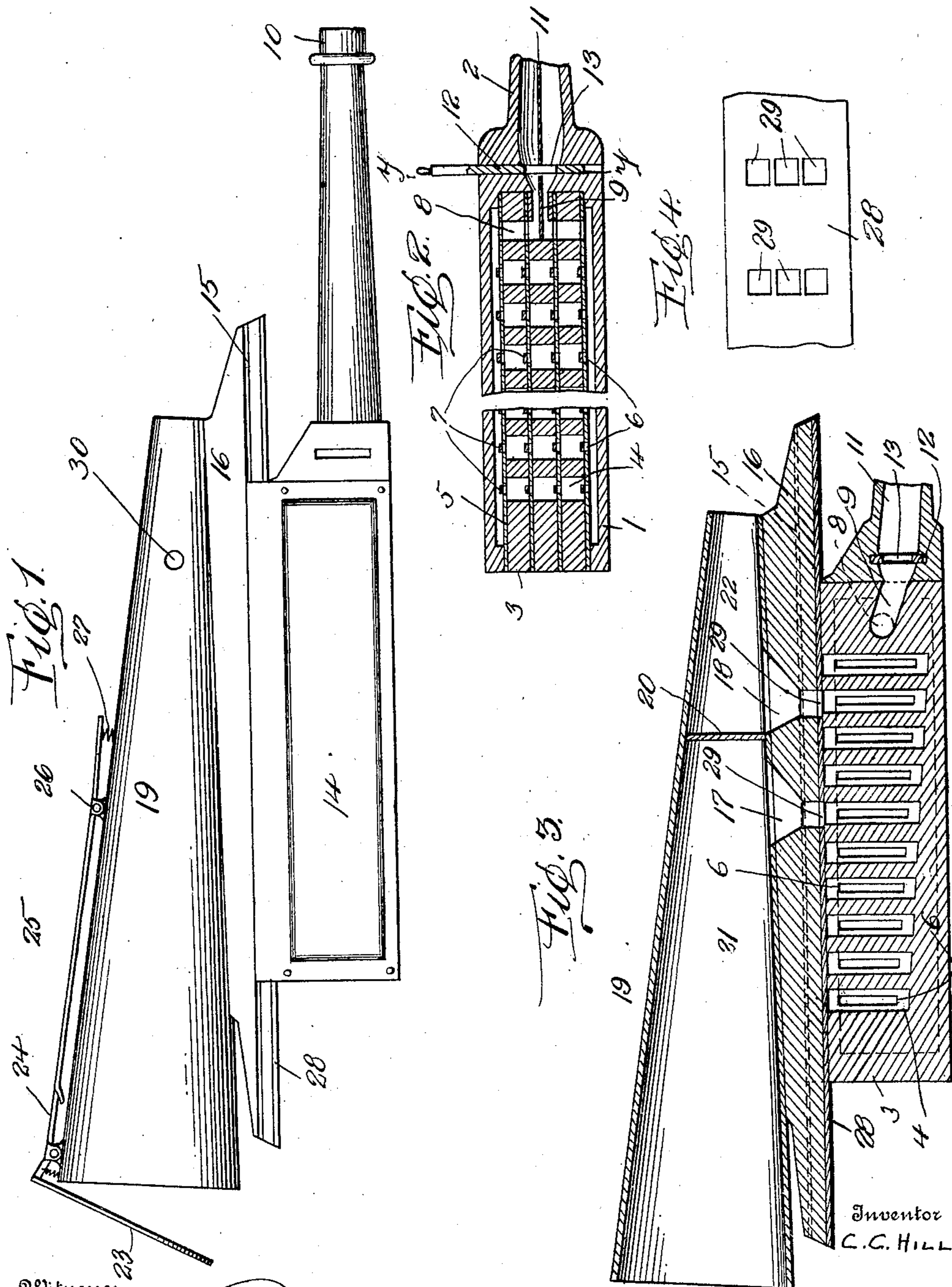
C. C. HILL.  
MUSICAL INSTRUMENT.

APPLICATION FILED JUNE 22, 1908. RENEWED NOV. 26, 1910.

995,967.

Patented June 20, 1911

2 SHEETS-SHEET 1.



Witnesses

Samuel Payne.  
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By

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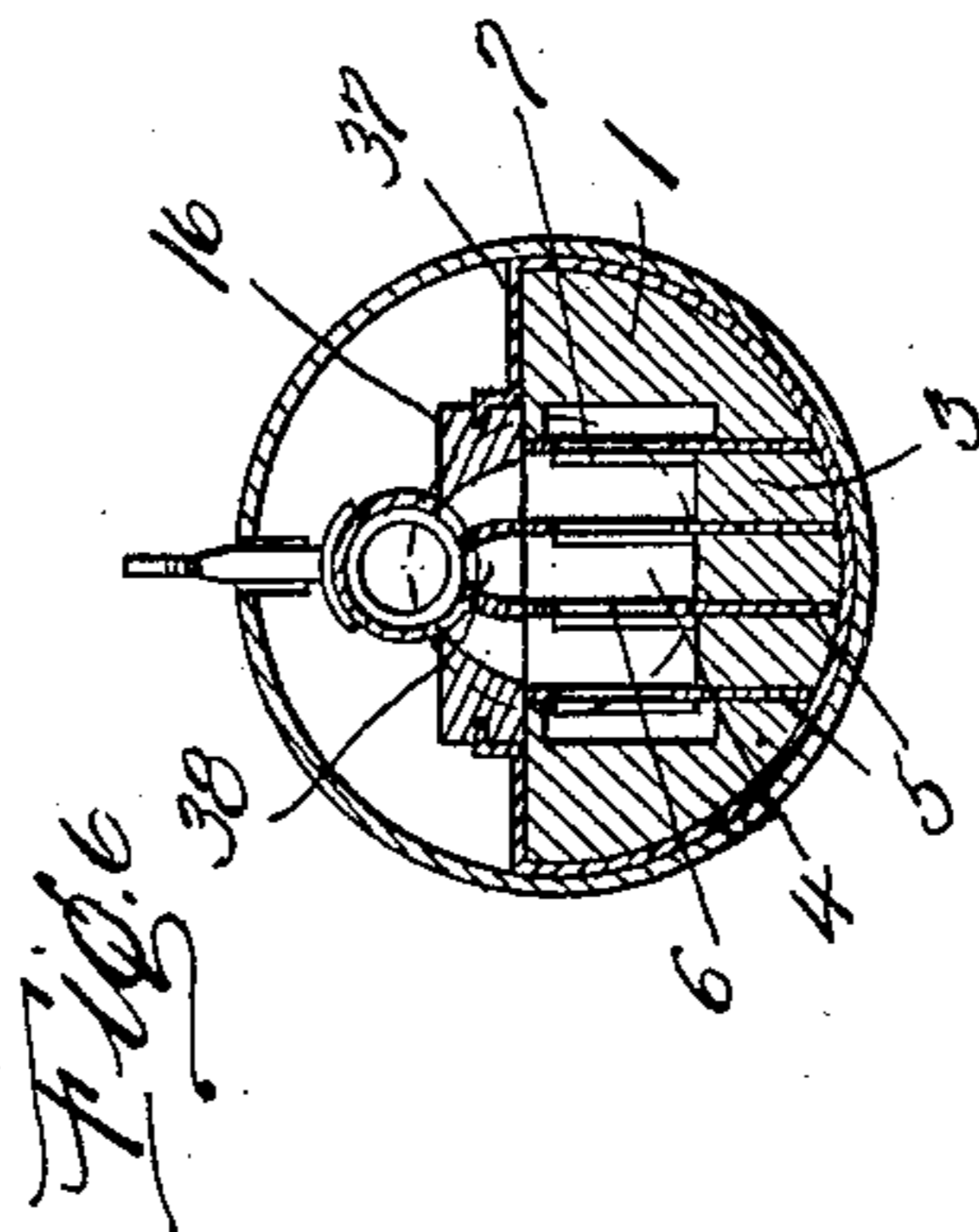
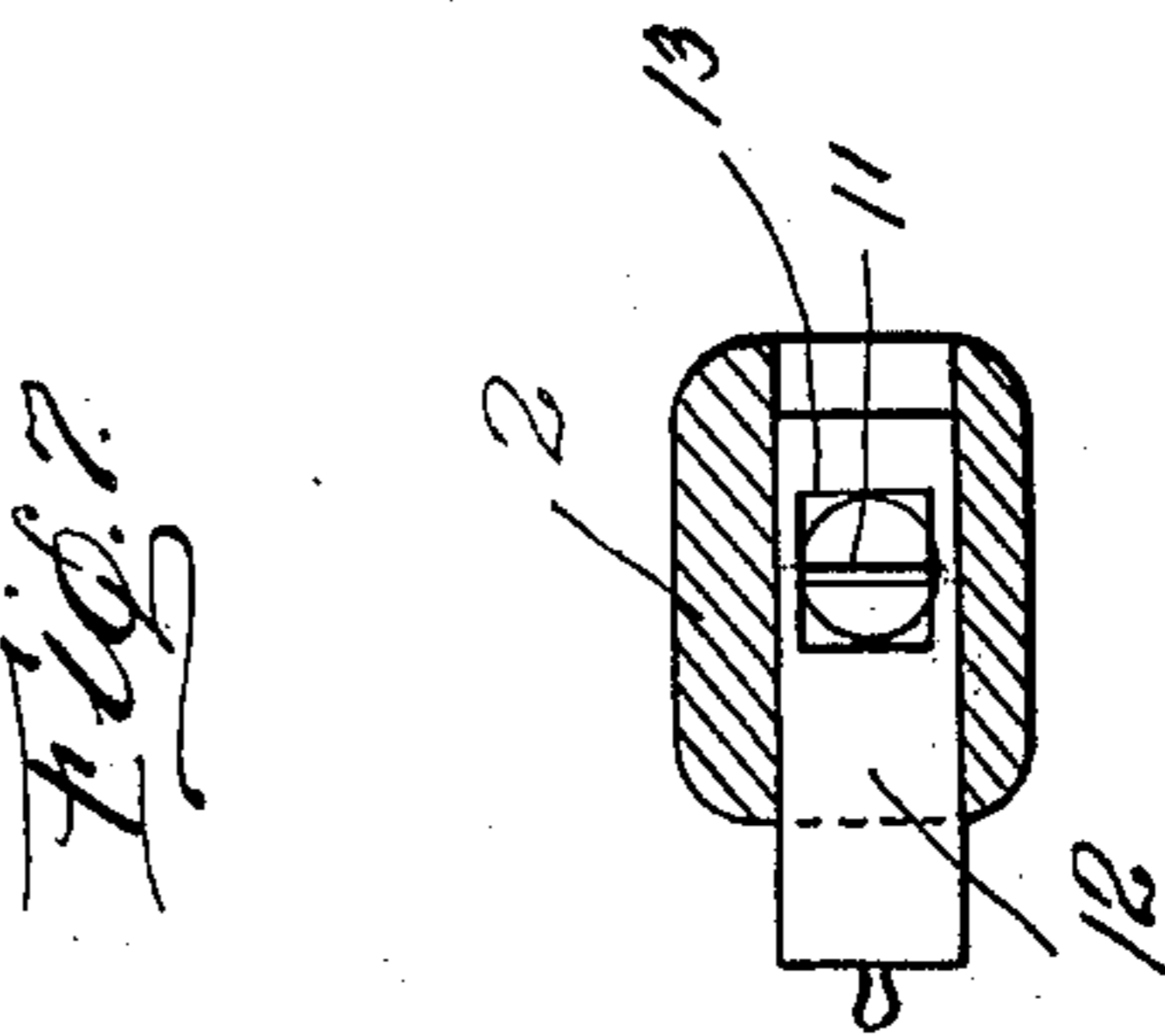
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# UNITED STATES PATENT OFFICE.

CHESTER C. HILL, OF EAST LIVERPOOL, OHIO, ASSIGNOR OF ONE-HALF TO WILMER H. STARR, OF EAST LIVERPOOL, OHIO.

## MUSICAL INSTRUMENT.

995,967.

Specification of Letters Patent. Patented June 20, 1911.

Application filed June 22, 1908, Serial No. 439,723. Renewed November 25, 1910. Serial No. 594,216.

*To all whom it may concern:*

Be it known that I, CHESTER C. HILL, a citizen of the United States of America, residing at East Liverpool, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Musical Instruments, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to musical instruments of that class commonly known as harmonicons, seraphines, and mouth-organs.

The primary object of my invention is to provide a wind instrument of the above type blown from a single mouth-piece, the reeds vibrated being determined by a sliding valve having a funnel-shaped outlet for increasing the volume of tone emitted by the instrument.

Another object of this invention is to provide a wind instrument for producing the music of a mouth-organ, without the necessity of moving the instrument crosswise of the mouth to vibrate the various reeds thereof.

A further object of this invention is to provide a simple, durable and inexpensive musical instrument consisting of comparatively few parts quickly assembled.

With the above and other objects in view which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described, and then specifically pointed out in the appended claims.

In the drawings: Figure 1 is a side elevation of an instrument constructed in accordance with my invention, Fig. 2 is a horizontal sectional view of a portion of the same, Fig. 3 is a longitudinal sectional view of the instrument with the mouth-piece and flap thereof broken away, Fig. 4 is a plan of a portion of a valve, Fig. 5 is a longitudinal sectional view of a modified form of construction, Fig. 6 is a cross sectional view taken on the line  $x-x$  of Fig. 5, and Fig. 7 is a similar view taken on the line  $y-y$  of Fig. 2.

In the accompanying drawings, 1 designates a reed chamber having a blow pipe 2. In the chamber 1 is mounted blocks 3 having air openings 4. Interposed between said blocks and between the inner side walls of said chamber are reed plates 5 having reed

openings 6 with a reed 7 adjacent to each opening. The blocks 3 and the reed plates 5 at the inner ends thereof are provided with alining transverse openings 8, said openings communicating with a port 9 formed in the central block 3, said port establishing communication between the reed chamber 1 and the blow pipe 2.

Fitting upon the blow pipe 2 is a mouth-piece 10 having a central vertical partition 11 extending rearwardly in the blow pipe 2, through the port 9 into the opening 8, this partition dividing the blow pipe 2 into two compartments, whereby air can be admitted to either side of the reed chamber 1.

Located at the rear end of the reed chamber 1 is a slide 12 extending transversely of the partition 11. The slide 12 is provided with an opening 13, whereby the passage of air into the reed chamber can be easily controlled. By adjusting the slide 12, air can be deflected to either side of the reed chamber, and entirely shut off if desired or the lower pipe left open to admit air to both sides of the chamber.

The outer sides of the reed body 1 are provided with metallic plates 14 extending above the reed body, said plates being bent inwardly to provide guide flanges adapted to engage in longitudinally disposed grooves 15 formed in a valve 16. The valve 16 is provided with funnel-shaped openings 17 and 18, these openings communicating with a trumpet or megaphone 19 mounted upon the valve, said funnel or megaphone having a transverse partition 20, dividing the trumpet in two compartments 21 and 22, with the openings 17 communicating with the compartment 21 and the openings 18 with the compartment 22. As many openings 17 and 18 are provided in the valve 16 as there are openings 4 in each transverse row of such openings 4 in the valve chamber, the construction herein shown embodying three openings 4 in each transverse row in the valve chamber, and consequently, three openings 17 and three openings 18 in the valve. When the valve 16 is shifted, it will be evident that different sets of reeds will be vibrated to produce a chord or harmonious tones.

Upon the forward end of the trumpet 19 is pivotally mounted a spring-held flap or "melter" 23 having a rearwardly extending arm 24 normally held in engagement with a

lever 25 pivotally mounted upon the trumpet as at 26. A spring 27 is interposed between the trumpet and the short arm of said lever, said spring normally holding the lever in position to be pressed to close the flaps 23.

The lower longitudinal edge of the valve 16 is covered with felt 28 or a similar cushioning and air sealing material, said piece of felt being provided with openings 29 registering with the openings 17 and 18. The piece of felt is adapted to close the upper ends of the air openings 4 of the blocks 3, and prevent air from escaping from said openings except when the openings 17, 18 and 29 register with the openings 4.

The trumpet 19 is provided near its smaller end with an opening 30, the object of which will presently appear.

The instrument is played by placing the mouth-piece 10 in the mouth and shifting the valve 16 upon the reed chamber 1. With the slide 12 in the position illustrated in Fig. 2 of the drawings, it is possible to actuate all of the reeds 7 of the reed body, and the tone emitted by these reeds is governed by the flap 23 and the opening 30. By properly manipulating the lever 25 to rapidly open and close said flap, a quivering note can be produced. By providing the compartments 21 and 22 and the compartment 22 with the opening 30, the accompanying or overtone can be produced in connection with the main tone by raising the finger from the opening 30, although this opening can be permanently closed if desired. The partition 11 enables the operator to use the tongue to partially or wholly close either half of the blow pipe, and by the use of the tongue against the end of the blow pipe, obtain effects from the instrument by what is generally termed "tonguing", and by shifting the slide 12 one set of reeds can be vibrated independent of the other set of reeds, the arrangement of said reeds being clearly shown in Fig. 2 of the drawings.

Reference will now be had to Figs. 5 and 6 of the drawings, wherein I have illustrated a modification of my invention, with the reed chamber or valve located in a large trumpet or megaphone. In lieu of the trumpet or megaphone 19, I provide the valve 16 with a tube 31, said tube having a hand-grip or knob 32 protruding through a slot 33 formed longitudinally of a trumpet or megaphone 34. The end of the tube 31 is closed at 35 and air blown into the trumpet or megaphone 34 is prevented from passing directly through said trumpet or megaphone by a partition 36, carried by the reed chamber 1, said partition providing sufficient clearance for the valve 16 to shift upon the reed body 1.

By reference to Fig. 6 of the drawings, it will be observed that the reed body 1 is semi-cylindrical in cross section, and that a me-

tallic plate 37 surrounds the reed body and provides flanges to guide the valve 16. This valve is provided with openings 38 conforming to the openings 17 and 18, and the tone emitted by the instrument entirely depends upon the reeds within the reed body.

My instrument is made of light and durable material, and I reserve the right to increase or make a reduction in the number of reeds shown.

While in the drawings forming a part of this application there is illustrated the preferred embodiments of my invention, I would have it understood that the elements therein can be varied or changed as to the shape, proportion, and exact manner of assemblage without departing from the spirit of the invention.

Having now described my invention what I claim as new, is:—

1. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, blocks mounted in said reed chamber and having openings formed therein, reed plates arranged adjacent said blocks and said chamber, reeds carried by said plates and adapted to be vibrated by air entering said blow pipe, a partition arranged in said blow pipe for deflecting air to either side of said chamber, a slide for controlling the passage of air through said blow pipe, a valve slidably mounted upon said reed chamber, a trumpet carried by said valve, said valve having openings formed therein adapted to establish communication between said trumpet and the air openings of said reed chamber, a movable flap arranged at one end of said trumpet, and a partition arranged in said trumpet for dividing the same into two compartments, substantially as described.

2. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, blocks mounted in said reed chamber and having openings formed therein, reed plates arranged adjacent said blocks and said chamber, reeds carried by said plates and adapted to be vibrated by air entering said blow pipe, a partition arranged in said blow pipe for deflecting air to either side of said chamber, a slide for controlling the passage of air through said blow pipe, a valve slidably mounted upon said reed chamber, a trumpet carried by said valve, said valve having openings formed therein adapted to establish communication between said trumpet and the air openings of said reed chamber, and a movable flap arranged at one end of said trumpet.

3. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, blocks mounted in said reed chamber and having openings formed therein, reed plates ar-

5 ranged adjacent said blocks and said chamber, reeds carried by said plates and adapted to be vibrated by air entering said blow pipe, a partition arranged in said blow pipe for deflecting air to either side of said chamber, a slide for controlling the passage of air through said blow pipe, a valve slidably mounted upon said reed chamber, and a trumpet carried by said valve, said valve having openings therein adapted to establish communication between said trumpet and the air openings of said reed chamber.

10 4. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, reeds arranged within said chamber and adapted to be vibrated by air blowing through said pipe, a valve slidably mounted upon said chamber, a trumpet carried by said valve, said valve having openings formed therein establishing communication between said chamber and said trumpet, a partition arranged in said trumpet for dividing the same into two compartments, and a movable flap carried by one end of said trumpet, substantially as described.

20 5. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, reeds arranged within said chamber and adapted to be vibrated by air blowing through said pipe, a valve slidably mounted upon said chamber, a trumpet carried by said valve, said valve having openings formed therein establishing communication between said chamber and said trumpet, and a partition arranged in said trumpet for dividing the same into two compartments.

30 6. A musical instrument comprising a reed chamber, a blow pipe carried thereby and communicating with said chamber, reeds arranged within said chamber and adapted to be vibrated by air blowing through said pipe, a valve slidably mounted upon said chamber, a trumpet carried by said valve, said valve having openings formed therein establishing communication between said chamber and said trumpet.

40 7. A musical instrument comprising a reed chamber, a blow pipe communicating therewith, reeds located in said chamber and actuated by air blowing through said pipe, a valve movably mounted upon said chamber, and a trumpet carried by said valve, said valve having openings formed therein establishing communication between said reed

chamber and said trumpet, substantially as described.

8. A musical instrument comprising a reed chamber, a blow pipe communicating directly therewith, reeds arranged in said reed chamber, and a longitudinally shiftable valve slidably mounted upon the reed chamber and having an opening adapted to communicate with the latter.

9. A musical instrument comprising a reed chamber, reeds arranged therein and adapted to be vibrated by air blown into said chamber, a trumpet arranged over the reed chamber, and a longitudinally shiftable valve mounted upon the reed chamber and having an opening for establishing communication between the trumpet and the reed chamber.

10. A musical instrument comprising a reed chamber, reeds arranged therein and adapted to be vibrated by air blown into said chamber, a trumpet arranged over the reed chamber, and a longitudinally shiftable valve mounted upon the reed chamber and having an opening for establishing communication between the trumpet and the reed chamber, said valve wedge-shape in contour and having one end projecting beyond one end of the trumpet.

11. A musical instrument comprising a reed chamber, reeds arranged therein, a blow pipe communicating with one end of the reed chamber, a slide extending through the blow pipe for controlling the passage of air, a trumpet arranged over the reed chamber, and a longitudinally shiftable valve mounted upon the reed chamber and provided with means for establishing communication between the trumpet and the reed chamber.

12. A musical instrument comprising a reed chamber, a blow pipe communicating with one end of said chamber, reeds within the reed chamber, a trumpet arranged over said reed chamber and provided with a partition, and a longitudinally shiftable valve slidably mounted upon the reed chamber and having openings for establishing communication between the reed chamber and the compartments in the trumpet formed by said partition.

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

CHESTER C. HILL.

Witnesses:

J. C. ROSS,

WILMER H. STARR.