

Fig. 1.

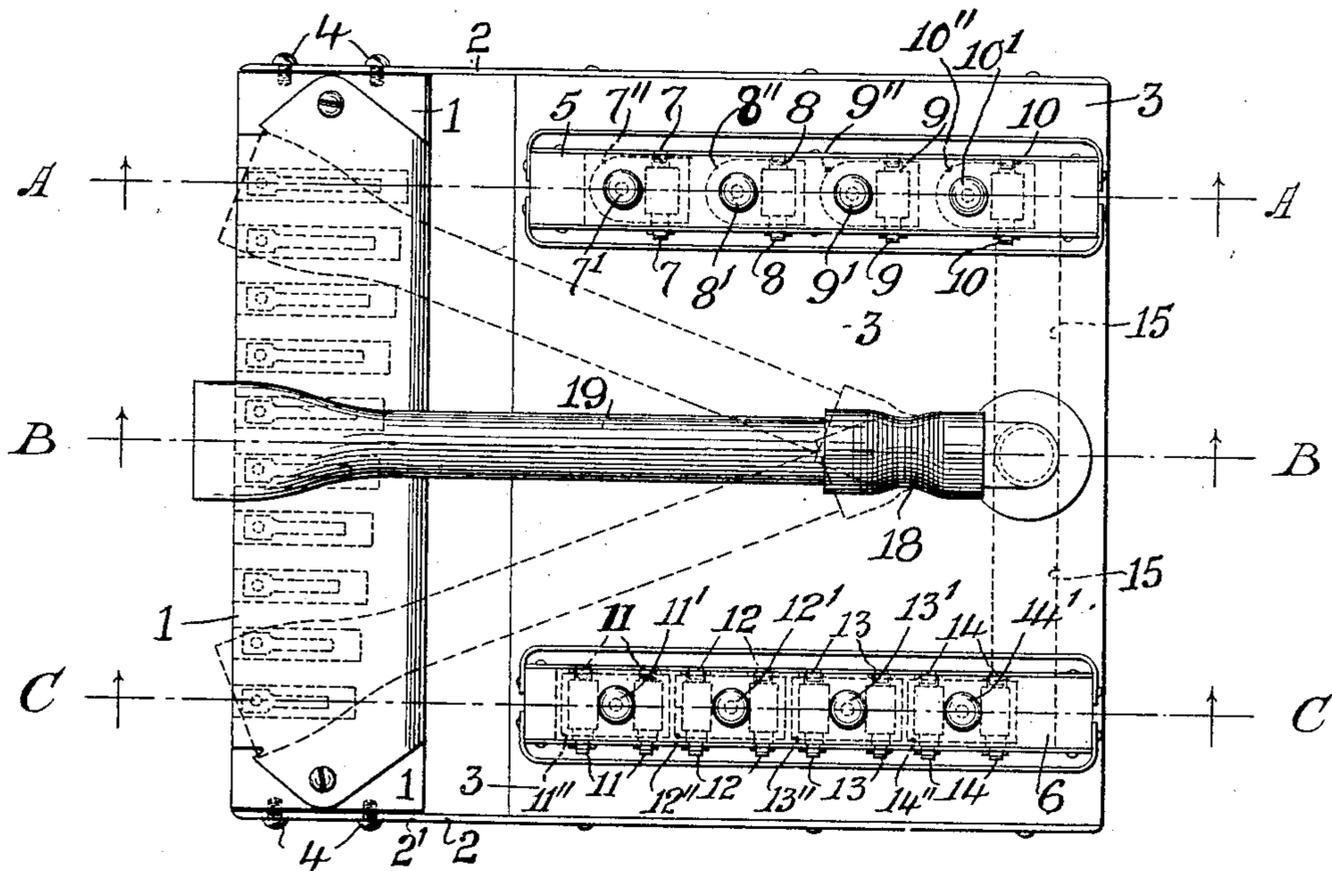
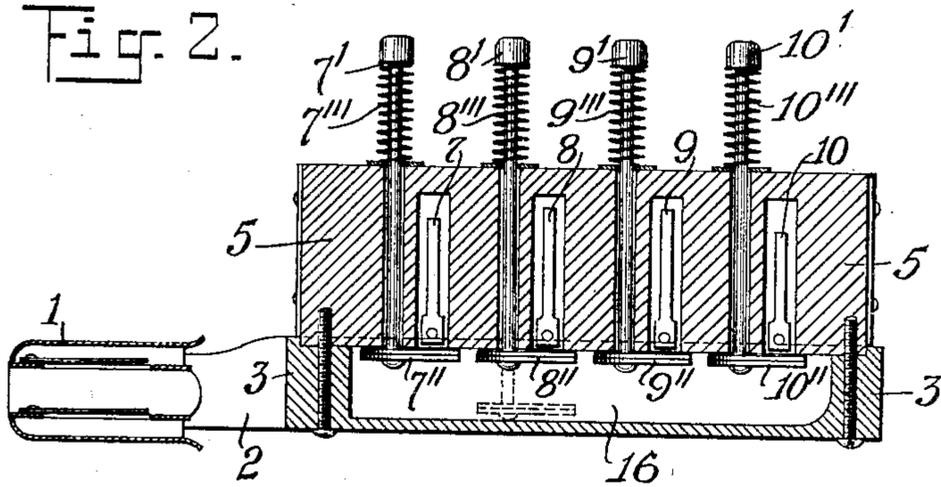


Fig. 2.



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Fig. 3.

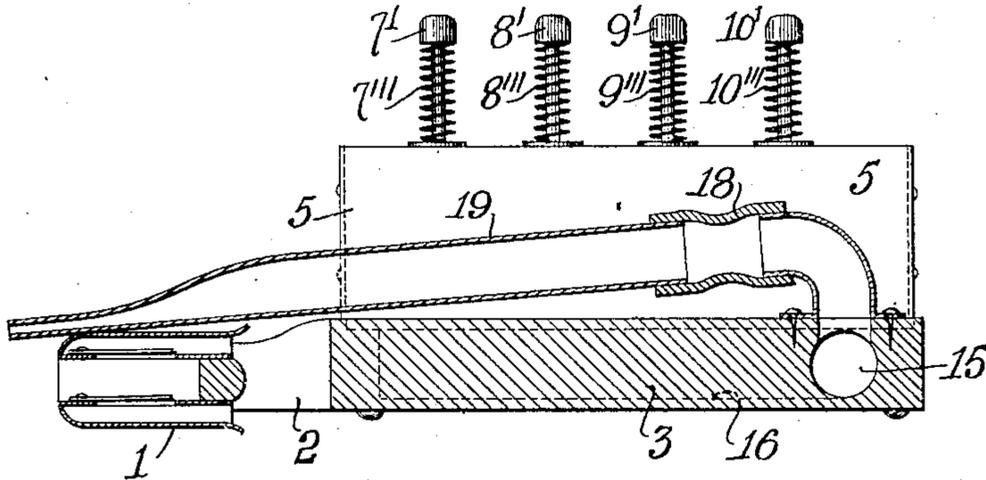
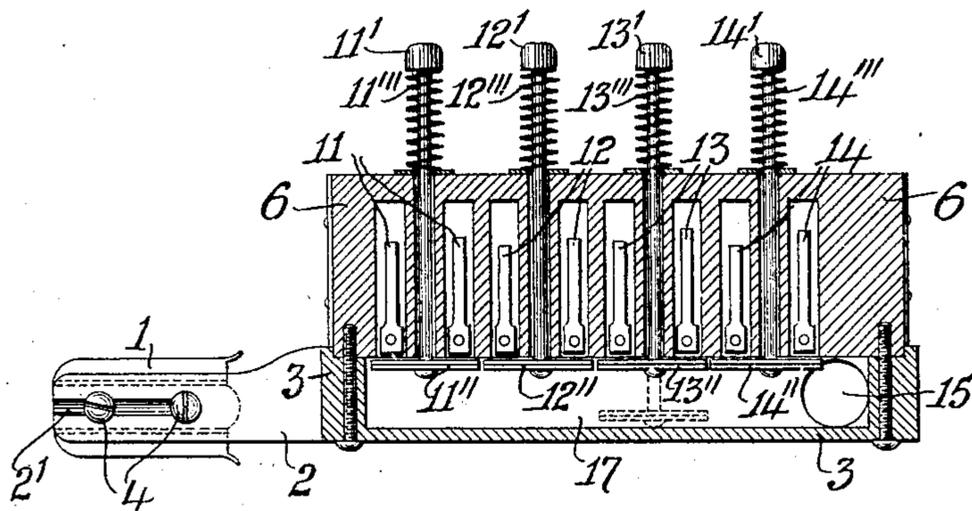


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT FIELD AND ALBERT HANSON, OF HUDDERSFIELD, ENGLAND.

MOUTH-ORGAN.

SPECIFICATION forming part of Letters Patent No. 708,805, dated September 9, 1902.

Application filed February 24, 1902. Serial No. 95,422. (No model.)

To all whom it may concern:

Be it known that we, ROBERT FIELD and ALBERT HANSON, subjects of the King of Great Britain, residing at Huddersfield, in the county of York, England, have invented certain new and useful Improvements in Mouth Organs or Harmonicas; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to mouth organs or harmonicas which comprise a number of reeds arranged side by side in a casing provided with openings communicating with each reed, through which openings as controlled by the tongue and movement of the mouth across the organ wind is blown or drawn to produce the requisite notes of any tune, piece of music, or simple air within the compass of the instrument.

The object of our invention is to construct, arrange, and combine with the ordinary mouth organs or harmonicas, as above, a second or auxiliary instrument or sets of reeds to be played with the same wind-action as the mouth-organ, whereby a new and novel musical mouth instrument is obtained by which an accompaniment to any solo playable on the mouth-organ can be executed or produced simultaneously and a greater range of music played upon or by the instrument.

Our invention consists in the novel and peculiar construction of a musical mouth instrument for the purpose above stated, as will be hereinafter fully described.

Referring to the drawings, Figure 1 is a plan view of the mouth instrument constructed according to our invention. Fig. 2 is a longitudinal section taken on line A A of Fig. 1. Fig. 3 is a longitudinal section taken on line B B of Fig. 1. Fig. 4 is a longitudinal section taken on line C C of Fig. 1.

In the accompanying drawings, 1 is the ordinary and well-known mouth harmonica or organ, which is secured at each end to side arms 2 2, attached to or made integral with a base-board 3 and projecting outward to the front for a little distance to conveniently hold the mouth-harmonica 1. The mouth-organ 1 is secured to the side arms 2 2 by screws or pins 4, passed through slots 2', so that it can be readily detached from said side arms when it

has become defective through usage and a new harmonica substituted in its place.

To the base-board 3, near each lateral edge thereof and in lines at right angles to the mouth-harmonica 1, we secure two reed-cases 5 6, each containing a double set or series of reeds 7 8 9 10 and 11 12 13 14, respectively, having corresponding finger-keys 7' 8' 9' 10' and 11' 12' 13' 14', the vertical spindles of which are secured at their lower ends to valves 7'' 8'' 9'' 10'' and 11'' 12'' 13'' 14'' for controlling the admission or passage of wind to or from the reeds, these said keys being depressible by the fingers against the resistance of springs 7''' 8''' 9''' 10''' and 11''' 12''' 13''' 14''' to move the valves away from the bottoms of the openings communicating with each reed and returned to their normal positions and the valves closed by the expansion of said springs when the pressure of the fingers is removed off the keys. There are in this instance four keys for manipulation by the fingers of the left hand and four for manipulation by the fingers of the right hand, the notes or reeds 11 12 13 14 on the right hand corresponding to the bass notes 7 8 9 10 on the left hand to give the proper chords when actuated in unison. There may be more or less reeds contained in the supplementary instrument; but for ordinary purposes and to obtain a perfect scale or complete musical effect four reeds in each set will suffice.

An air channel or passage 15 is formed or provided in the base-board 3 and communicates at each end with the chambers 16 17, in which the valves to each set of reeds are located and work. Connected to said air-passage 15 by an elbow or other form of joint and a flexible coupling 18 is a tube 19, which may be D or crescent shaped in cross-section or may be round or of other suitable shape, the front end of such tube being slightly flattened or provided with a mouthpiece, which rests upon the mouth-harmonica 1 and projects a little beyond the front edge of same. The flexible coupling 18, consisting of a short length of india-rubber or similar tubing, allows the tube 19 to be carried easily by and with the mouth as it is moved to and fro across the harmonica 1 to the extents indicated in dotted lines to bring the mouthpiece of said tube over any portion of the mouth-harmonica 1 from end to end of same in playing it

in the usual manner without withdrawing the mouthpiece from the mouth.

Instead of the flexible coupling 18 the rear end of the tube 19 could be pivoted or centered where it is jointed to the air-passage 15 for the same purpose.

The mouthpiece on the end of the movable tube 19 is in a position to enter the mouth of the performer over the tongue without interfering with the action of the tongue or of the lower lip in selecting the notes on the mouth-harmonica 1 in performing thereon in the ordinary manner, and in forcing or drawing the breath into or through the openings to the reeds in the mouth-harmonica wind is also in the same action and without effort blown into or drawn through the tube 19, providing any of the finger-keys on the supplementary instrument are depressed and the valves opened. Therefore by actuating the keys singly or in pairs or in any desired combination to open any of the valves controlling the admission of air through the respective reeds in the series 7 8 9 10 and 11 12 13 14 an accompaniment to the solo or air being played on the mouth-harmonica 1 is obtained simultaneously by the same action of the mouth, and tunes and pieces of music which cannot be produced or only imperfectly produced on a mouth-harmonica can by means of the aforesaid supplementary reed instrument be played with good effect and in perfect harmony. For instance, the first bass note in each bar of the accompaniment can be obtained, and similarly other notes not produceable within the compass of an ordinary mouth harmonica or organ can be got correctly. Whereas ordinary mouth-harmonicas only possess two chords—namely, the tonic and the dominant—we obtain by the reeds on the left hand of the supplementary instrument—that is, in the reed-case 5—the following bass notes, namely: reeds 7, (first finger,) tonic; reeds 8, (second finger,) dominant; reeds 9, (third finger,) subdominant, and reeds 10, (fourth finger,) supertonic seventh, while the corresponding reeds 11 12 13 14 on the right hand (which are in duplicate, as shown) complete the chords to same. The reeds in each reed-case 5 6 are in pairs, one reed in each pair for giving the note or notes when wind is blown into the reed opening or openings and the other for giving the note or notes when wind is drawn through the reed opening or openings, as in ordinary mouth-harmonicas.

It is usual in mouth-harmonicas of the well-known form to omit two notes from the bass end to enable the second or dominant chord to be obtained; but with the supplementary instrument combined therewith all the notes or perfect scale can be put in, thus allowing many tunes or airs or pieces of music to be played on the center octave of the harmonica 1 which could not be played on the ordinary harmonica alone as previously arranged.

It will be obvious that the mouth-harmonica 1 may be readily detached from the side arms 2 2 and played alone, while a second person could accompany the tune or air upon the supplementary instrument, blowing or drawing the wind through the tube 19.

It will be understood that the details of construction of our improvements may be varied, if desired.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination with a solo-harmonica, of an accompaniment-harmonica secured thereto, and a movable blow-tube connected to the accompaniment-harmonica and provided with a mouthpiece which slides opposite the blow-openings of the said solo-harmonica, so that both harmonicas are played simultaneously, substantially as set forth.
2. The combination, with a solo-harmonica, of two accompaniment-harmonicas secured at the rear of the solo-harmonica, and a movable blow-tube common to the two said accompaniment-harmonicas and provided with a mouthpiece which is normally arranged opposite the middle part of the said solo-harmonica and which slides opposite all its blow-openings, so that the three harmonicas are played simultaneously, substantially as set forth.
3. The combination, with a base-board provided with projecting arms, and a solo-harmonica detachably connected to the said arms; of an accompaniment-harmonica carried by the said base-board, and a movable blow-tube connected to the accompaniment-harmonica and provided with a mouthpiece which slides opposite the blow-openings of the said solo-harmonica, so that both harmonicas are played simultaneously, substantially as set forth.
4. The combination, with a solo-harmonica, of an accompaniment-harmonica secured thereto, a blow-tube provided with a mouthpiece which slides opposite the blow-openings of the said solo-harmonica so that both harmonicas are played simultaneously, and a pipe-joint of flexible material connecting the said blow-tube with the air-channel of the said accompaniment-harmonica, substantially as set forth.
5. The combination, with two harmonicas secured together, of a movable blow-tube connected to the main air-channel of one of the said harmonicas and provided with a mouthpiece which slides opposite the blow-openings of the other said harmonica, so that both harmonicas are played simultaneously, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT FIELD.
ALBERT HANSON.

Witnesses:

THOMAS H. BARROW,
JOHN WM. GODDARD.