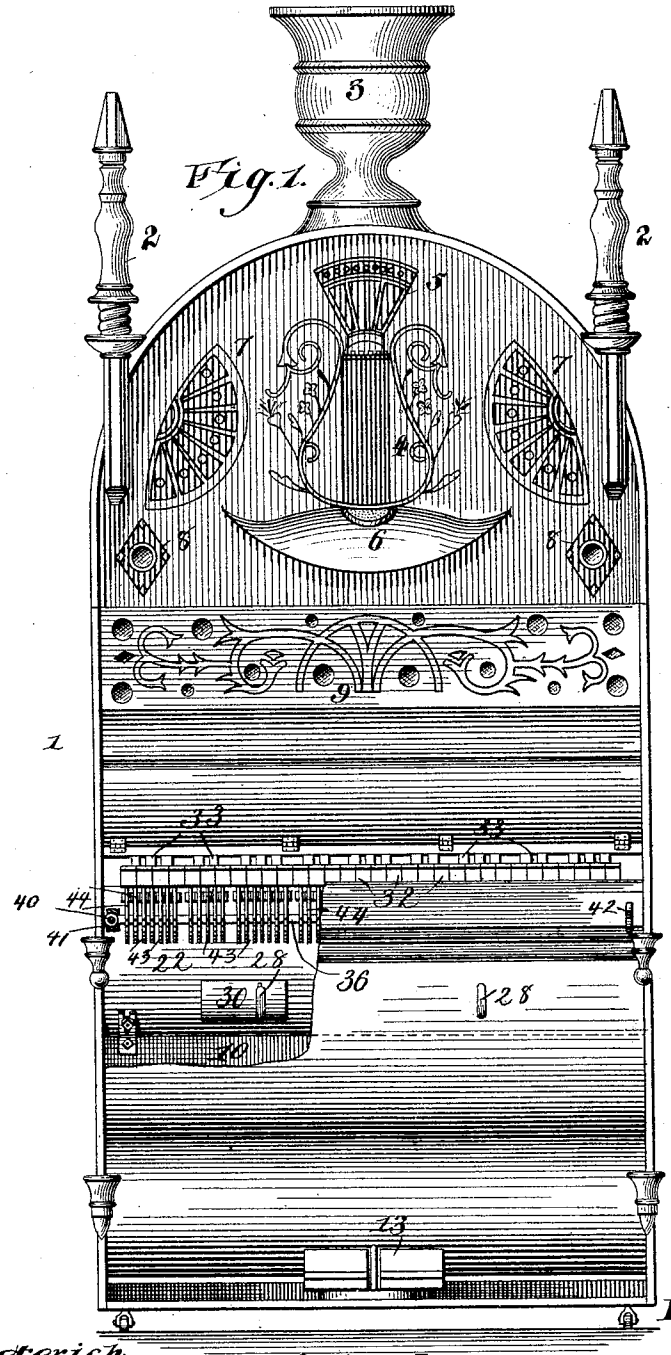
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I. F. GILMORE.

MUSICAL INSTRUMENT.

No. 451,667. Patented May 5, 1891.

Fig. 1.



Witnesses

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Geo. L. Wheelock.

Inventor

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By his Attorneys,

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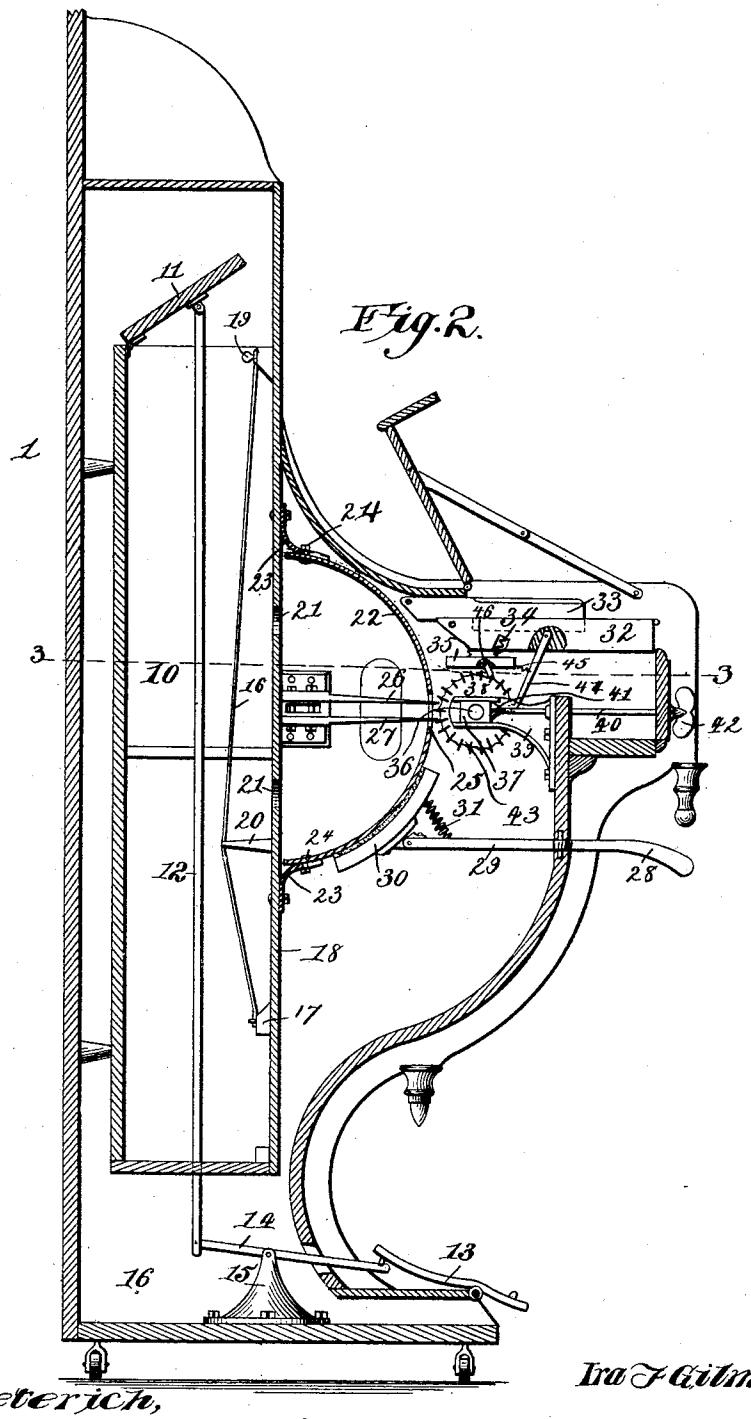
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Fig. 2.



Witnesses

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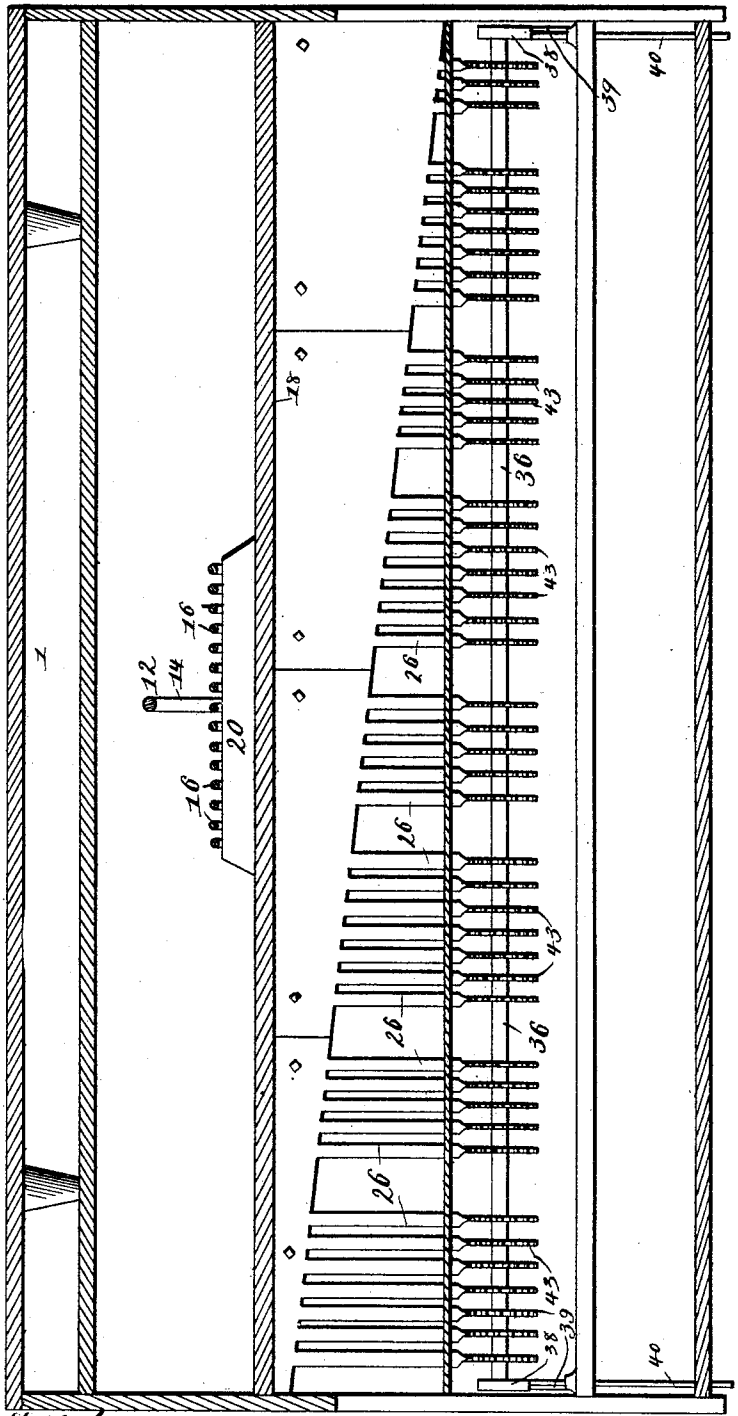
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MUSICAL INSTRUMENT.

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Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

IRA F. GILMORE, OF BLOOMINGTON, ILLINOIS.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 451,667, dated May 5, 1891.

Application filed October 17, 1890. Serial No. 368,376. (No model.)

To all whom it may concern:

Be it known that I, IRA F. GILMORE, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented a new and useful Musical Instrument, of which the following is a specification.

My invention relates to improvements in musical instruments; and it consists in certain features of novelty to be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of an instrument embodying my improvements. Fig. 2 is an enlarged vertical section thereof partly broken away. Fig. 3 is a transverse section on line 3 3, Fig. 2.

1 is the case of the instrument, above the key-board of which it is provided with suitable designs, those shown in the drawings consisting of ornamental side posts 2 2 and a central urn-shaped bracket 3. Below the bracket 3 is a harp-shaped figure 4, surmounted by a crown-shaped figure 5 and having as a base mushroom-shaped figure 6. On each side of the harp-shaped figure are fan-shaped figures 7 7, below the lower corners of which are diamond-shaped figures 8 8. Below these designs and extending entirely across the front is a fret-work 9. All of these fanciful figures may be provided with suitable openings filled with colored glass arranged in artistic manner.

At the back of the case and within the same is arranged in vertical position a wooden sounding-box 10, provided with a lid or valve 11, which may be raised or lowered by means of rod 12, which is operated by means of pedal or pedals 13, connected therewith through the medium of levers 14, fulcrumed at 15 at the base of the case.

16 is a series of vertically-arranged strings secured at their lower ends at 17 to the front board or partition 18 of the sounding-box 10 and being regulated by the usual tuning-screws 19 at the top of said partition just below the lid or valve 11.

20 is a bridge over which the series of strings passes.

21 are openings formed in the partition 18 and covered by a semi-cylindrical metallic sound-box 22, which is supported on the said partition by suitable slotted or forked plates 23, which, with the assistance of adjustable bolts or set-screws 24, secure said sounding-box to the partition in a horizontally-adjustable manner. At the front and extending across the metallic sounding-box is a narrow opening or slot 25, through which slightly projects a double series of comb-reeds 26 and 27, secured to the vertical partition 18.

28 is a knee-lever at the front of the case 1, connected in a suitable manner with pad-lever 29, which has pivoted to it at its outer end a concave deadening device or pad 30, adapted to be brought in contact with the metallic sounding-box to deaden the sound. A spiral spring 31 holds the pad in proper position to be brought in contact with the metallic sound-box.

32 represents the natural or white keys, and 33 the sharps and flats or black keys, arranged as is customary in an organ or piano. These keys may be supported in operative position by spiral springs 34, resting on cross-piece 35.

36 represents a horizontal rod supported at its ends in horizontally-adjustable boxes 37, guided in ways 38 and brackets 39. This rod 36 is adjustable horizontally by means of screw-threaded rods 40, engaging in screw-threaded sockets 41 in the boxes 37 and provided at their outer ends outside of the case with thumb-screw heads 42.

Loosely journaled on the rod 36 is a series of ratchet-wheels 43, the teeth of which are adapted to engage the points of the reeds 26 and 27, said ratchet-wheels being turned by pawls 44, which project from the keys, said pawls being held in engagement with the teeth of the ratchet-wheels by means of springs 45, secured to the cross-bar 35.

46 are pawls pivoted to the cross-bar 35 and adapted to prevent the return movement of the ratchet-wheels.

The ratchet-wheels just described constitute the preferred means for vibrating the reeds. The upper series of reeds 26 is preferably tuned either lower or higher than the lower series, or vice versa, to produce a cord with the other series and for increasing the sound and also producing a sweeter double tone than a single series of reeds. By adjusting the ratchet-wheels to and from the points of the reeds by the devices above de-

scribed the reeds are caused to make a louder or softer tone.

The strings or wires 16 are tuned so as to harmonize with the reeds, and thus produce, when the reeds are vibrated, a cord in sympathy therewith, and thus increase the sweetness of the instrument.

What I claim as new is—

1. In a musical instrument, the combination, with the keys and a series of reeds, of a series of horizontally-adjustable reed-operating devices, substantially as and for the purpose set forth.

2. In a musical instrument, the combination, with the keys and a pair of comb-reeds, of a horizontally-adjustable series of ratchet-wheels, substantially as and for the purpose set forth.

3. In a musical instrument, the combination, with the keys and a pair of comb-reeds, of a horizontally-adjustable rod, a series of ratchet-wheels journaled loosely thereon, and means in connection with the keys for turning the ratchet-wheels, substantially as set forth.

4. In a musical instrument, the combination, with the keys and a pair of comb-reeds, of horizontal guides, boxes sliding in said guides, screw-threaded rods projecting so as to engage and adjust said boxes, a horizontal rod carried by said boxes, a series of ratchet-wheels loosely journaled on said rod, and means in connection with the key for turning the ratchet-wheels, substantially as set forth.

5. In a musical instrument, the combination, with a semi-cylindrical sound-board, of a pair of comb-reeds projecting through an opening therein and means for engaging the points of the reeds, substantially as set forth.

6. In a musical instrument, the combination of the wooden sounding-box, a metallic semi-cylindrical sounding-box secured thereto, the partition between the two being provided with openings, comb-reeds within the metallic sounding-box, and strings within the wooden sounding-box, substantially as set forth.

7. In a musical instrument, the combination of a vertical sounding-box, comb-reeds secured thereto, means for engaging said reeds, and a series of strings within said box, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

IRA F. GILMORE.

Witnesses:
JOHN LITTLE,
F. M. FRANKELMYER.