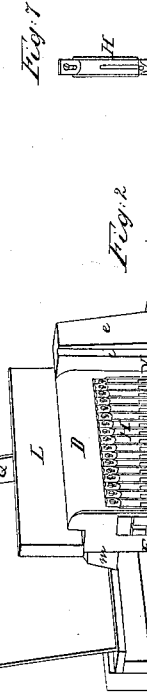
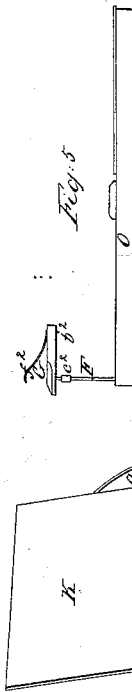
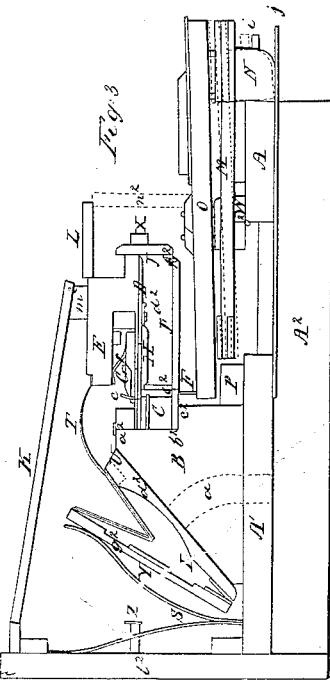
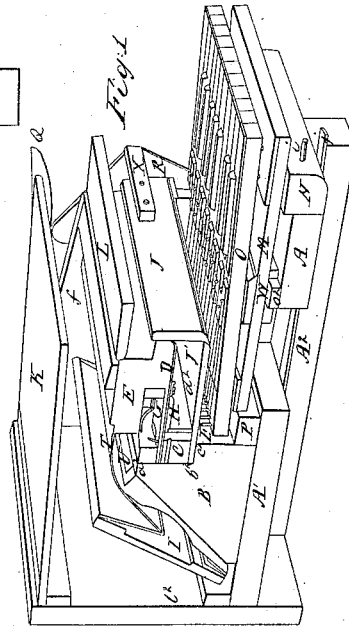
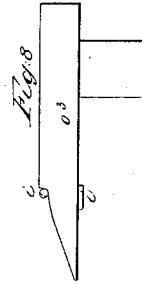
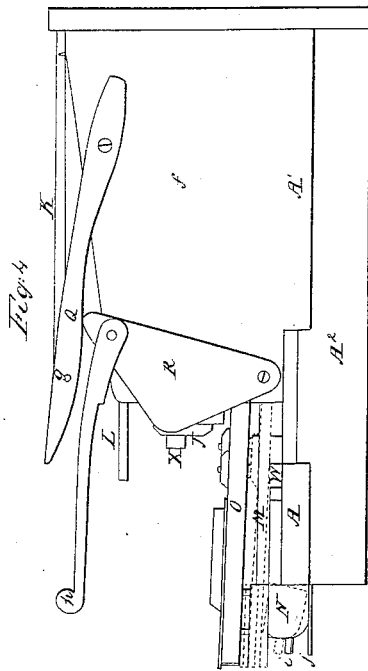


J. A. Bazin, Reed Organ.

N^o 2682.

Patented June 22, 1842.



Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

JAS. A. BAZIN, OF CANTON, MASSACHUSETTS.

SERAPHINE.

Specification of Letters Patent No. 2,682, dated June 22, 1842.

To all whom it may concern:

Be it known that I, JAMES A. BAZIN, of Canton, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in the Reed Musical Instrument Usually Denominated the Seraphine, of which improvements the following is full and exact description, reference being had therein to the accompanying drawings, which, in connection with the said description, formed my specification, wherein I have set forth the nature and principles of my inventions by which they may be distinguished from others of like character, together with such parts thereof as I claim and for which I solicit Letters Patent.

Of the drawings above referred to Figure 1 is a perspective representation of a portion of the instrument (containing one and one-half octaves) detached from the right hand end of it, the instrument in its external appearance and keys resembling an ordinary piano forte though in its size it is much smaller. Fig. 2 is the same, but exhibiting the wind chest and reeds turned up into the requisite position for tuning. Fig. 3 is a cross vertical section, while Fig. 4 is a left hand end view, exhibiting the cam for producing swell. Fig. 5 exhibits one of the valves with its pin and key; Fig. 6, the scale on the key frame and case, for the purpose of transposing; Fig. 7, one of the reed plates with the button to hold it down, and Fig. 8 the bar with the inclined plane for raising the front part of the key frame.

The platform or bottom of the instrument is composed of two pieces of wood A, A¹; Figs. 1, 2, 3, 4, connected together by any suitable number of cross pieces A², the back board A¹ and the front board A being of suitable length and extending horizontally under the keys and operative parts, and serving to support the same.

A bar of wood B, of suitable shape, as seen in the drawings, is fastened down upon the top of the back board A¹ of the platform, and extends longitudinally just back or in rear of the keys; the object of the bar being to support the wind chest and reservoir bellows.

The wind chest d², Figs 1, 3, or frame or box to which the reeds are affixed, rests, when in a horizontal position, in a rabbet a² b² c² Figs. 1, 2, 3, formed in the front or perpendicular side of the bar B, and is con-

nected with the bar at top or at or near the part a² thereof, by hinges in such manner as to be capable of being turned upward or back as represented in Fig. 2. C represents the bar or back of the wind chest through which the pins F pass, that open the valves which permit the wind from the bellows to act upon the reeds. D, forming the top of the wind chest, is the board upon the lower side of which the reed plates H, Figs 1, 2, 3, 7, are placed, the said board D having a bar or piece E fastened on its upper side, in front of the valves G, and projecting over and somewhat above the said valves, as seen in the drawings. The pins F reach from the keys O to the valves G as seen in Fig. 5, and each pin has a small collar e², or other proper contrivance, upon it, to prevent it from falling through the hole in which it is situated when the wind chest is turned back or when the key is removed.

The reed plates H, Figs. 1, 2, 3, 7, are made of sheet brass with the edges turned up to stiffen them, and are in general in every respect similar to those of the common seraphine or accordion. The reeds or tongues of the same, which are also similar to those in use in the above mentioned instruments, should vary in length and width according to the tone required from each, through the six octaves. These plates H may be fastened upon the lower side of the board D, by buttons or screws, or in any other convenient manner; and directly over each reed a suitable elongated slot or perforation should be cut through the board, as in the seraphine and other instruments of this nature, each of which slots or openings is covered by one of the valves G, which rests on the top of the board D, and which valve is suitably hinged thereto at its front end and pressed down upon its seat by a suitable wire spring f², Figs. 3, 5. The valve may be connected to the board D by a small pin b, Fig. 5, projecting from the lower side of the valve, and entering and working in a corresponding or suitable hole in the board D. Each valve G is sloped off on its top or rear part, and is supported in place during its movements by a pin c, Fig. 3 (driven into the board D) on each side of its rear end, or it may be supported in any other convenient manner.

The reservoir bellows I consist of two

boards g^2 h^2 , Figs. 2, 3, suitably hinged together at their lower edges, the board h^2 being affixed to the rear or sloping side of the bar B and having a suitable opening U, Fig. 3, formed through it for the passage of the air from the bellows into the space below the piece of leather T. The sides of the bellows are made of pasteboard or thin boards with leather joints similar to the bellows of an organ. A covering T of leather extends from the reservoir bellows, or top edge of the board h^2 to the rear and top edge of the bar F, the said covering being flexible is bent up as seen in Fig. 2, when the wind chest and parts connected thereto are turned up as seen in the said figure.

The lower board J^1 and front board J of the wind chest I denominate the damper. The ends of the lower board slide in suitable grooves formed in the inner sides of the ends of the wind chest, one of these ends with the groove i^1 , being shown at e , Fig. 2. The rear edge of the lower board J^1 abuts and fits closely against the front side of the bar C. The other board J is hinged to the board J^1 at k^2 , Fig. 3, and when it is turned up it shuts or rests against the front edge of the top of the wind chest. In order to let the wind which is blown through the reed plates escape when the damper is closed there is a hole V, Fig. 2, formed through the side e , and opening into the space which communicates with that in the back part of the instrument under the cover K.

The wind bellows I and other parts are inclosed in a suitable casing V similar in appearance to that of a pianoforte, the top or lid K of which, is hinged at its rear end so that it may be raised at pleasure. The front edge of the board, or that which in Fig. 3 rests on the upper part of the bar E, should shut upon a piece of soft leather m^2 . When the lid K is turned down, so as to close the space in which the bellows I is situated—the sound proceeding from the vibration of the bellows and part T will be damped. A board L is hinged to the bar E, the said board being of sufficient width to extend over and rest upon the top edge of the front or "name board" n^2 , Fig. 3. The board L, on being closed or turned down horizontally, serves to dampen or soften the tone of the reeds, when the damper J is open.

The key frame M, formed in the usual manner has a groove W Figs. 1, 2, 3, 4, upon its lower side which shuts over or upon a ledge O^2 Figs. 1, 2, fixed upon the rear part of the top of the board A. The key frame may be slid or moved lengthwise upon the ledge a distance of one octave, and it should balance upon said ledge so as to be tilted into the position represented by the dotted lines in Figs. 3 and 4. The front part of the key frame rests on the bar N,

which is hinged upon the front part of the board A—so as to be raised at any time into the position as denoted by the dotted lines in Figs. 3, 4. The bar N serves to raise the front part of the key-frame—and consequently to diminish the dip of the keys. The elevation of the bar N is effected by an inclined plane O^3 , Fig. 8, which passes under the pin i , Figs. 2, 8, on the front part of the bar N, and which, by being moved to the right or left, increases or diminishes the dip of the keys. The under edge of the bar O^3 , or base of the inclined plane rests on a spring j under the platform, which spring though of sufficient strength to resist the ordinary touch of the keys will give way under a little heavier pressure and thus a swell may be produced by pressing the keys down to the full depth.

The keys O are made in the same manner as those which have always been in use for organs and pianofortes, differing from the latter only in having the front ends a little heavier than the back ones, and the highest and lowest notes of an equal length. The back ends of the keys are divided equally to correspond with the pins F in the bar O, which are at equal distances apart, the twelve semitones occupying the space of about six and three-eighths inches. On the front edge of the key frame, or on a bar attached to it, there is an equally divided scale p^2 on which the letters of the keys are marked as shown in Fig. 6. There is also a scale q^2 , Fig. 6, on the front of the case of the instrument, marked with the letters of the reed plates. These scales are so adjusted as to correspond when the keys are in the center of the instrument, as represented by Fig. 6; but by lifting up the wind chest so as to raise the pins F from the keys, the key board can be moved laterally either to the right or left; by which means, the C key can be made to sound any one of the twelve semitones in the octave. In this way the pitch of the instrument will be either raised or lowered and the difference will be shown by the difference in the two scales. Thus, when the C on the upper scale is placed over the D on the lower one, the pitch of the instrument will be raised one note, consequently music played on the key of G or one sharp will be in the pitch of A or three sharps, and when the C is placed over the A# or Bb music played in the key of F, or one flat, will be in the pitch of Eb, or three flats and so on through all the letters in the scale.

On the board f , Fig. 4, (upon which the cover K rests when shut,) there is a lever Q having a pin g in it see Figs. 2, 4, which passes under the cover K and is raised by the cam R on the same board the cam being drawn forward by a rod h , passing out in front of the case similar to the stop of an

organ. The cam when drawn completely forward strikes against the stud X on the end of the front board J of the damper and opens that also.

5 There are one or more double springs S, Fig. 3, arranged between the back of the instrument and the reservoir bellows; the said springs serving to force the wind into the wind chest. There is also in the back board 10 g^2 , of the bellows an ordinary safety valve Y, Fig. 3, opening inwardly, which comes in contact with a pin Z, on the back of the instrument and permits the wind to escape when there is a superabundance in the reser- 15 voir. The air is forced into the reservoir bellows, (through any suitable number of holes a (shown in Fig. 3, by dotted lines) in the triangular bar B,) by means of bellows placed under the platform A A¹, which 20 bellows may be operated by treadles or in any convenient manner.

The instrument can be put into a case similar to that of a pianoforte or in one of any other desirable forms the case being 25 made without any bottom to it except at the two ends, on which the ends of the platform are to rest.

Whenever the wind chest is thrown back into the position shown in Fig. 2, access may 30 be had to the reeds, for tuning or repairing them, the connection between the wind chest and reservoir being made, as above set forth, to admit the same.

Having thus described my improvements I shall claim— 35

1. The manner of arranging the wind chest or connecting it with the reservoir bellows as hereinbefore described, that is, by making the intervening top part T of some flexible material by the vibration of which 40 the tone is greatly increased and hinging the wind chest to the bar B as set forth so as to allow of said wind chest's being raised in order to move the keyboard or of being turned back for the purpose of tuning or 45 repairing the reeds, without disconnecting it from the reservoir bellows.

2. The manner of changing the pitch of the instrument by the movable key board, by means of which music can be transposed 50 from one key into any other without altering the fingering.

3. The manner of softening the tone of the instrument by diminishing the dip of the keys, and by that means the quantity of 55 wind which passes through the reed plates, the whole being substantially as above set forth.

In witness that the foregoing is a true description of my said invention and im- 60 provements I have hereto set my signature.

JAMES A. BAZIN.

Witnesses:

R. H. EDDY,
EZRA LINCOLN, Jr.