

Opinion of the Court.

ESTEY & Others v. BURDETT.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR  
THE DISTRICT OF VERMONT.

Argued November 21st, 22d, 23d, 1883.—Decided January 7th, 1884.

*Patent.*

Claim 1 of letters patent No. 87,241, granted February 23d, 1869, to Riley Burdett, as inventor, for 17 years from August 24th, 1868, for an "improvement in reed organs," namely, "The arrangement, in a reed musical instrument, of the reed-board A, having the diapason set *a* and its octave set *b* and the additional set L, extending from about at tenor F upward through the scale, substantially as and to the effect set forth," defined and construed.

A reed-board with two sets of reeds and a third partial set was made and put into an organ by one Dayton, prior to the invention of Burdett, and, such organ being put in evidence, it was held that the alleged infringing organs contained nothing which, so far as said claim 1 was concerned, was not found in such prior organ.

As to claim 2, namely, "The reed-board A, and foundation-board G, constructed with the contracted valve openings D F F, and the reeds arranged in relation thereto, all in the manner described," it was held, that, in view of the state of the art, there was no invention in making the length and size of the valve opening greater or less in a reed-board of a given width, or where the reed-board was made wider or narrower, or had more or less sets of reeds in it, either full or partial; and that the vibrating ends of the lowest and longest reeds in such prior organ were as near together as they were in the reed-boards of the alleged infringing organs.

On these views, a decree was entered in favor of the defendants.

Bill in equity for infringement of a patent for reed celeste organs.

*Mr. Edward N. Dickerson* and *Mr. William Maxwell Evarts* for appellants.

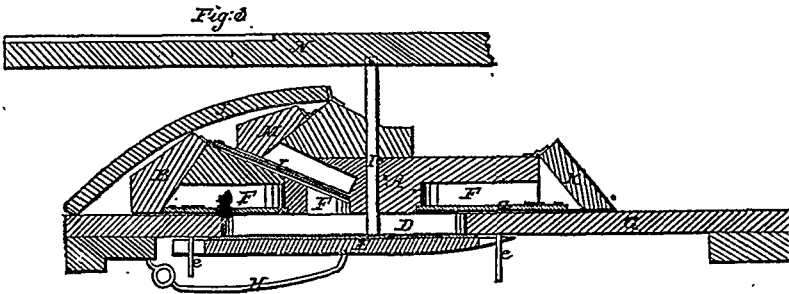
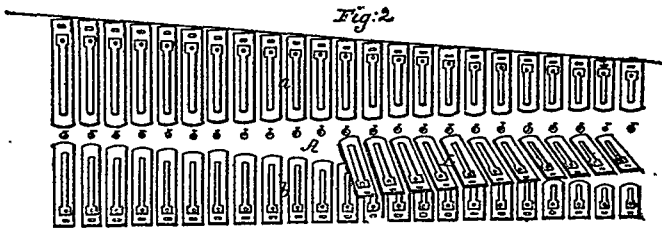
*Mr. George Harding* and *Mr. E. J. Phelps* for appellee.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is a suit in equity brought for the infringement of letters patent No. 87,241, granted February 23d, 1869, to Riley Burdett, the plaintiff, for 17 years from August 24th, 1868, for an "improvement in reed organs." The specification of the patent is in these words :

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“Figure 1 is a perspective view of one of my reed celeste organs. Figure 2 is a diagram plan, showing the relative arrangement of the reeds. Figure 3 is a vertical transverse section of my reed-boards, &c. This invention consists, first, in the arrangement of the reed-board ; second, in a method of tuning, by which a peculiar quality of tone is produced, and by which the



power of the instrument is greatly increased without an increased resistance in the action, and without an increase of power being necessary to operate the bellows. The advantages gained by my peculiar arrangement are, a greatly increased power and variety of tone. This is effected by the use of an additional set of reeds, commencing at tenor F, or thereabouts, and running upward through the scale of the instrument, and tuning the same in the peculiar manner hereinafter described. No other reed

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musical instrument containing the same number of reeds, so far as I know, has ever possessed so great a variety or pleasing quality of tone, while simplicity of construction, compactness of form, and ease of operation are other excellences of this arrangement not found in others. I will now describe particularly the construction of that part of my instrument which forms the subject of this patent. The case, bellows, pedals, &c., may be, in general construction and arrangement, like those in common use, and, therefore, no special description is required. The foundation of the reed-board is also constructed in the usual manner, but the reed-board proper, in itself, differs from the ordinary reed-board in the following particulars, viz. : the main board A contains two sets of reeds running through the entire scale, the back set of which is marked *a*, and is tuned as a unison or diapason, while the front or octave set, marked *b*, is tuned an octave above the diapason. In the arrangement of these reeds, it will be seen that the lowest and longest reeds in the diapason and the octave sets are placed with their vibrating ends as near together as they can be, with room only for the tracker-pin which communicates the motion of the key to the valve beneath the reeds. But, as the reeds continually shorten as they advance upward in the scale, there is necessarily a vacant space left between the diapason set *a* and the octave set *b*, which constantly enlarges itself, and has heretofore been regarded as useless. Within this space, commencing on tenor F and running upward through the scale, I have introduced a third set of reeds, L, which forms the distinguishing feature of this instrument. These are placed in the reed-board over the octave set *b*, and run obliquely to the foundation board G, as shown in Fig. 3, the vibrating ends resting on the same base as the other sets of reeds, *a* and *b*. These reeds are of the same size as the corresponding ones in the diapason *a*, and are tuned either a trifle above or below the diapason, but only sufficiently so to produce a slightly waving and undulating quality or effect, without producing any discord. A few trials will enable any tuner of reed instruments to tune these reeds so as to realize the best effect. This method of tuning will, when this set of reeds, which I have named the Harmonic Celeste, is drawn and used in connection with the diapason, produce a most wonderfully pleasing and captivating effect, while the power and beauty of both sets of reeds are greatly augmented and enriched, in a

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manner which cannot be realized without being heard. Fig. 2 shows a top view of the reed-board proper, wherein the location of the reeds is shown with reference to the divergence of the reeds of the diapason set *a* and the octave set *b*, and also the space afforded for the introduction of the third set, L. Fig. 3 exhibits a transverse section of my reed and foundation board, showing the arrangement of my reeds and the valve connections. In this figure, A is the reed-board, G is the foundation board, D is the valve opening, E is the valve, and F F are the throats over which the reeds are located and placed. The valve E is retained in its proper place by the pins *ee* and spring H, and is operated by the tracker-pin I, which rests upon its upper surface, and passes upwards through the reed-board to the under surface of the key N. The swell-boards J and K and stop-dampers B and M are raised whenever desired, by the knee-stop C, Fig. 1, or by a hand draw-stop, or by some other convenient device. Another important advantage arising from the introduction of the Harmonic Celeste is, that a greater power and variety are attained than can be by the use of any of the octave coupling arrangements now in use. These, while they augment the power, by drawing down octaves to the keys actually played, are objectionable, inasmuch as they offer more than double the resistance to the key, and are thus often exceedingly undesirable. In my instrument, no such objection can ever arise, as the pressure upon the keys is always the same, whether one or all the sets of reeds are used. This is of prime importance to the performer, as the required exertion becomes involuntary, and not a matter of calculation, and thus the mind is not distracted from the proper feeling and expression of the music performed." The claims of the patent are as follows: "1. The arrangement, in a reed musical instrument, of the reed-board A, having the diapason set *a* and its octave set *b* and the additional set L, extending from about at tenor F upward through the scale, substantially as and to the effect set forth. 2. The reed-board A and foundation board G, constructed with the contracted valve openings D F F, and the reeds arranged in relation thereto, all in the manner described. 3. The diapason *a* and its octave, or principal, *b*, arranged over the same valve opening, as described, so that the octave unison may be produced, when desired, without the use of coupler, and without any additional pressure upon the keys. 4. In connection with the reed-board A,

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having the sets *a*, *b* and *L*, as described, the independent dampers *B* and *M*, as set forth."

The circuit court made an interlocutory decree declaring the patent to be valid so far as claims 1 and 2 are concerned; that those two claims had been infringed; that the plaintiff was not the original and first inventor of what is set forth in claim 4, and did not before the commencement of this suit file a disclaimer of what is claimed in claim 4, and had not unreasonably neglected to file such disclaimer, and had presented evidence of his having filed such disclaimer; that no evidence had been offered to show any infringement of claim 3; and that the plaintiff was entitled to recover profits and damages because of such infringement. A reference to a master to ascertain the same was ordered and a perpetual injunction was awarded as to claims 1 and 2. On the report of the master a final decree was made for the plaintiff, for \$161,011.79, without costs to either party. The decisions of the circuit court in the case are reported in 15 Blatchford C. C. R. 349, 16 id. 105, and 19 id. 1. The defendants have appealed.

An examination of the text of the specification shows that the inventor purposed to cover by his patent two things: (1) a new arrangement of the reed-board; (2) a new method of tuning. In the application for the patent, claim 1 read as it does now, while claims 2, 3 and 4 had specific reference to the method of tuning described. The patent office rejected all the claims. The plaintiff then amended two of the claims relative to tuning, still retaining the tuning feature in them, and added the claims which are now claims 2, 3 and 4. The office then rejected all seven of the claims. On appeal to the examiners-in-chief, the decision rejecting the three tuning claims was affirmed, and that rejecting the other four claims was reversed, and the patent was issued accordingly. There is nothing in claims 1 and 2, as granted, which has any reference to any new method of tuning, unless it is to be intended, in accordance with the description, that the partial set is to be capable of being tuned a trifle above or below the diapason set. Except, perhaps, to that extent, all there is in the descriptive part of

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the specification in relation to a new method of tuning may be dismissed from consideration, as it was introduced to lay a foundation for the original claims 2, 3 and 4, in reference to such new method of tuning. Claims 1 and 2, as they stand, relate only to the arrangement of the reed-board and the sets of reeds, in conjunction with the foundation board and the valve openings and the valves.

The specification shows that the inventor takes a reed-board having two sets of reeds running through the entire scale, a diapason set and an octave or principal set, and makes no change in the foundation board, or in the case, bellows, pedal, etc. The reed-board with the two sets was old. In its structure, as shown in Figure 2 of the drawings, and as described in the specification, the lowest and longest reeds in the two sets are placed so near together as to leave between them room only for the tracker-pin which communicates motion from the key to the valve; but, as the reeds shorten continually as the scale proceeds upward, there is a vacant space between the ends of the reeds in the two sets, which space continually grows wider. Within that space the inventor introduces a third set of reeds, commencing at or about tenor F and running upward through the scale. He places this third set over the octave set, and the reeds run downwardly in a direction oblique to the foundation board, and their vibrating ends, which are their lower ends, rest on the same base as that of the other two sets of reeds. They are of the same size as the corresponding reeds in the diapason set. The point of advantage in bringing down the vibrating ends of the reeds in the third set, so that they shall rest on the same base with the vibrating ends of the reeds in the other two sets, is shown by the evidence to be the same point of advantage which is set forth in the specification of the prior patent granted to the plaintiff on the 9th of January, 1866. In that the invention is stated to be to so make the reed-board that the three or four sets of reeds in it shall be acted upon instantly and simultaneously by the rush of air upon the opening of the valve; and it is set forth that that result is effected by placing two sets of reeds on the same horizontal plane, and placing the other sets on an inclined plane,

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each with its base on the same level as the first and second sets, thus making the head of each reed equidistant from the valve and making each produce instantaneous concerted sound.

There was introduced in evidence a reed organ, known as Exhibit No. 21, containing a reed-board with two sets of reeds and a third partial set, alleged to have been made by one Dayton in 1866, prior to the plaintiff's invention. There was much testimony on the question as to whether the reed-board and reeds in this organ were made prior to the plaintiff's invention, in the shape in which they appeared when put in evidence. The circuit court decided that question in the affirmative, but nevertheless it held that the arrangement of reed-board and reeds found in No. 21 did not embrace the entire arrangement specified and claimed in claim 1 of the patent, because, although it had a reed-board no wider than was necessary for two full sets of reeds, and had an additional partial set of reeds put in on an incline, and although the reeds in that set may have been tuned flat in relation to the diápson set, yet such reeds did not rest on the same base as that of the other two sets of reeds. We concur with the circuit court in its conclusion as to the genuineness and the date of No. 21, but are of opinion that there is nothing found in the alleged infringing organs which, so far as claim 1 of the plaintiff's patent is concerned, is not found in No. 21. The vibrating reeds in the partial set in the alleged infringing organs do not rest on the same base as that of the other two sets of reeds, and occupy a position in that respect no different, in reference to any requirement of the plaintiff's patent, from that occupied by the vibrating ends of the partial set in No. 21. In all other respects in which the alleged infringing reed-board and reeds embrace what is covered by claim 1 of the plaintiff's patent, what they contain is found in No. 21.

The material point in claim 2 is the contraction of the valve openings. The idea is that the valve openings and passages for the two complete sets of reeds and the intermediate partial set are contracted or condensed within the same space which was usually occupied by the valve openings and passages for only two complete sets of reeds in an instrument of the usual

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prior construction ; and that, therefore, no more force is required to be applied to the keys to open the valves than where only two full sets of reeds are used. The circuit court was of opinion that the valve openings in No. 21 were not the contracted valve openings of the plaintiff's patent, because they were as large as the valve openings in a reed-board having three full sets of reeds ; and that the lowest and longest reeds in No. 21 did not, as in the plaintiff's arrangement, have their vibrating ends as near together as they could be, with room between them only for the tracker-pin. Our conclusion is that the absolute length and size of the valve opening was a matter of judgment, in view of the state of the art shown, and that there was no invention in making its length and size greater or less in a reed-board of a given width, or where the reed-board was made wider or narrower, or had more or less sets of reeds in it, either full or partial. The dimensions of the valve opening and of the valve are regulated by the judgment of the manufacturer as to the quantity of air necessary, and the resistance to be overcome in working the valve, and the inconvenience of the leakage of air. We are also satisfied that the vibrating ends of the lowest and longest reeds in No. 21 were as near together as they are in the reed-boards of the alleged infringing organs.

It results from these considerations that

*The decree of the circuit court must be reversed, and the case be remanded to that court, with direction to dismiss the bill.*