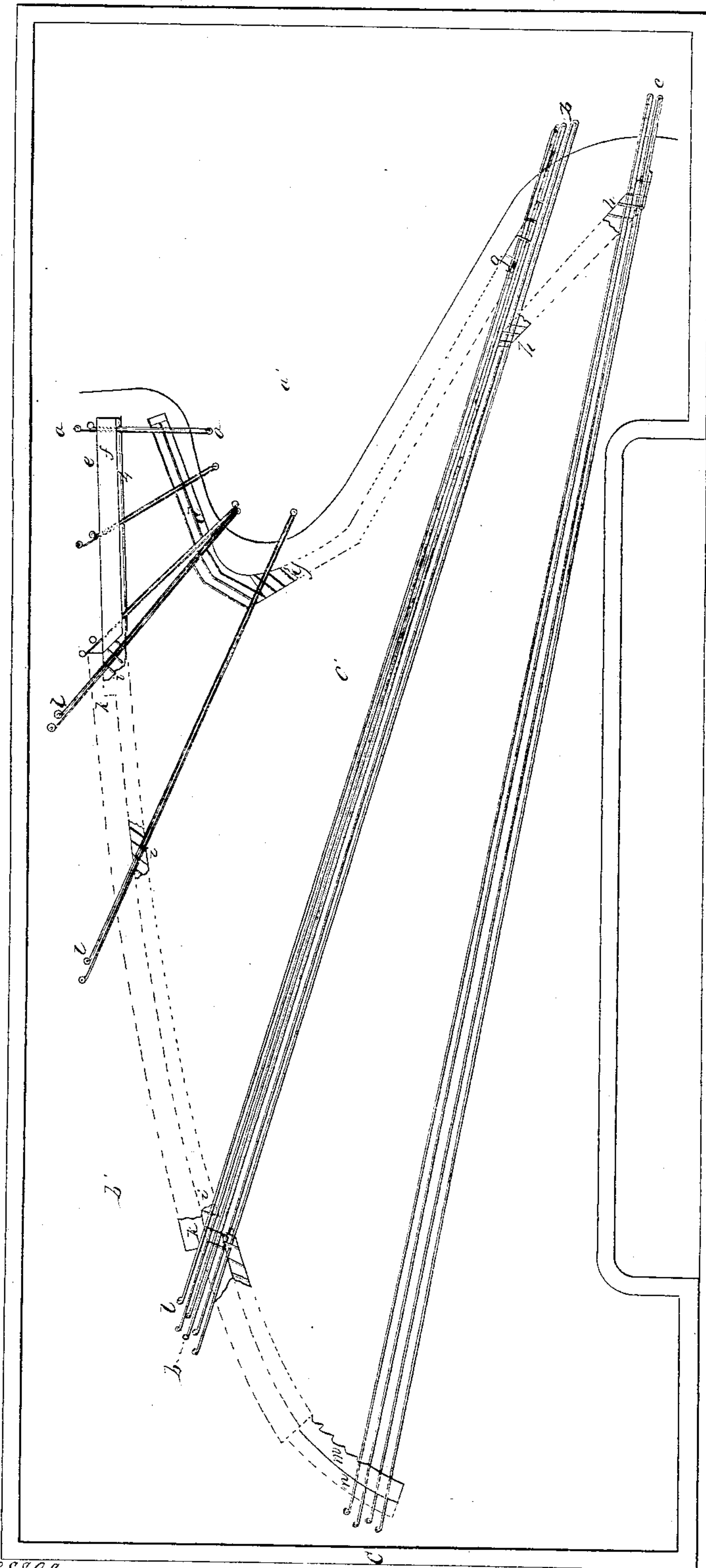


*W. Compton,*  
*Stringing Pianos,*

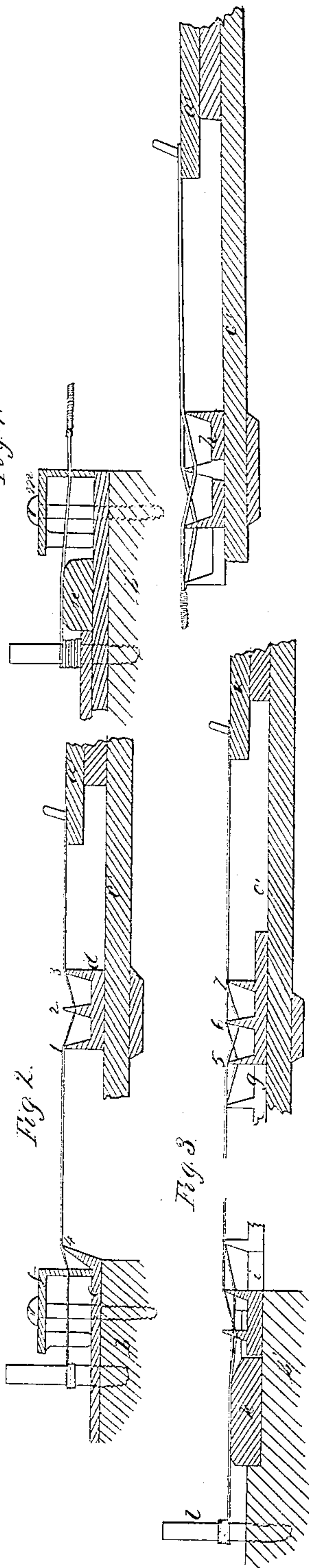
*No 29,061,*

*Patented July 10, 1860.*

*Fig 1.*



*Fig 4.*



*Inventor*  
*Wm Compton*

*Witnesses*  
*Samuel W. Sewell*  
*Chas. B. Smith*



# UNITED STATES PATENT OFFICE.

WM. COMPTON, OF NEW YORK, N. Y.

## BRIDGE FOR PIANOS.

Specification of Letters Patent No. 29,061, dated July 10, 1860.

*To all whom it may concern:*

Be it known that I, WILLIAM COMPTON, of the city and State of New York, have invented, made, and applied to use certain  
5 new and useful Improvements in Bridges for the Strings of Pianofortes; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the annexed  
10 drawing, making part of this specification, wherein—

Figure 1, is a plan of my said bridges, Fig. 2, is a vertical section at the line *a, a*, Fig. 3 is a vertical section at the line *b, b*,  
15 Fig. 4 is a vertical section at the line *c, c*.

The last three figures are about the usual full size of the parts and represent the sounding board and rest plank bridges at the particular parts of the scale.

20 Similar letters refer to like parts in all the figures.

Metallic up and down bearings have heretofore been made in several different ways, the object being to maintain a thorough and  
25 proper system of tension, with a little strain upon the respective parts as possible, the up and down bearings determining the exact length of string. In all these instances separate bearings were applied to  
30 the strings of each note, rendering the construction both difficult and costly, or else the bearings were formed as a part of the rest plank or plate involving great difficulties in finishing up the parts, boring holes for  
35 the strings, and adapting the same to the scale &c. because the whole rest plank plate had to be detached and removed if any change or fitting became necessary, and the size and weight of the same rendered the  
40 boring of small holes and fitting of the bearings for the strings almost impossible.

The nature of my said invention consists in an improved arrangement of metallic up and down bearing bridges upon the sound-  
45 ing board, also an arrangement of metallic bearing bars screwed on in sections at the edge of the rest plank, by which means the scale can be marked on the said metallic bars and bridges so that each string will  
50 come accurately into its place, and be in a straight line, or nearly so, from the hitch pins to the tuning pins; and then said bars can be drilled with the holes for the strings and finished up in the most accurate man-  
55 ner and with the greatest facility. I am thereby enabled to obtain the finest and

richest tone to the instrument that I have ever heard. The piano stands in tune for a greater length of time than any other instrument, and the expenditure of labor in  
60 stringing and tuning is very much lessened.

In the drawing I have represented in Fig. 1, the outline of a piano case and the general direction of the strings in order to illustrate the points at which the sections shown in  
65 the other figures are taken, but it will be evident that the exact conformation given to the sounding board or the rest plank bridges will vary in square pianos, grand pianos, and in square overstrung pianos;  
70 the metallic up and down bearing bridges however in all cases being the same.

In the drawing *a'* is the plate in which the hitch pins are attached, *b'*, is the rest plank, *c'*, is the sounding board. *d*, is a  
75 plate seen in Fig. 2, forming the sounding board bridge at the treble; this is formed of three longitudinal ribs, the center one (2) being perforated so that the string in being led down through this perforation  
80 produces the up and down bearing that determines the length of string accurately against the rib 1, and all strain upon the sounding board is avoided. On the rest plank  
85 opposite to this plate *d*, I introduce another plate *e*, that is screwed down onto the rest plank and has a projecting lip or rib 4, over which the strings pass; *f*, is a movable hol-  
90 low bar or box that is perforated with holes on the lines of the strings and through these holes the strings are threaded, and the same being lower than the lip 4, cause the strings to bear down onto said lip and determine  
95 (by said lip) the exact length of string that is so important in the high treble notes. By this bar or box *f*, the manufacturer is enabled easily to mark out his scale, remove the same, perforate it for the strings and then  
100 replace it, which saves very much trouble in fitting the parts accurately and producing the proper up and down bearings.

The continuous ribs 1, 2, 3, of the plate *d*, are not adapted to running the entire length of the sounding board bridge (as has been  
105 partially attempted heretofore) because the increasing length of strings diagonal to the bridge would render the two or three strings used for each note of unequal length, hence difficult to tune. I have therefore combined  
110 and arranged with the plate *d*, the bridge bar *g*, formed with a series of flanges standing at right angles to the line of the strings,



and each flange has perforations for the strings near the center of the same so that the two (or three) strings to each note pass over one flange (5), down through the holes in the next (6), and then up over the third flange (7), and so on each flange forming two up bearings for the strings of two notes, and a down bearing for the strings of the intermediate note. This is more clearly represented in Fig. 3, and the same description applies to the bridge bar *h*, shown in Fig. 4, the construction and operation being identical except that for convenience of threading the bass strings, I provide a notch or mortise in the flanges formed by a flat ended drill entered from the under side of the plate (see Fig. 4) and this gives more room for entering the large strings and avoids the trouble of threading through small holes. The metal left above this mortise must be sufficient to afford the requisite strength.

My movable bars *i*, *i*, in the center part of the scale at the rest plank are formed of flanges with holes through them near their back ends, so that the strings pass over the forward end of one flange and down through the holes of the next flange and up over a rest *k*, to the tuning pins *l*. See Fig. 3.

The bass strings pass through a bar or box *m*, similar to the bar or box *f*, but on account of the stiffness and size of wire I dispense with the lip 4, and use an up bearing bar *n*, behind said box *m*, between that and the tuning pin *l*, see Fig. 4.

The convenience of my metallic bars in laying out the scale; in boring and fitting and stringing the instrument, will be apparent, and the practical success of the same demonstrates the great benefits resulting in the improvement of tone, and durability and permanence of the tuning.

Having thus described my said invention I wish it distinctly understood that I lay no claim to an up and down metallic bearing, as the same has been obtained in metallic bars on the sounding board, and by perforations of the rest plank bridge or

plate, and by means of flanges on said rest plank plate, but I am not aware of any previous instance in which the sounding board bridge has been formed of a series of metallic bars with the perforated rib at the treble and the up bearings, and the alternate up and down bearing flanges for the center and bass strings, whereby I am enabled to obtain the required up and down bearing with an equal length of string in each note; and I am not aware of any previous instance in which separate up and down bearing bars fitted to receive the respective strings as set forth, have been attached in sections to the edge of the rest plank, (by screws,) so that facility is afforded for marking the scale, detaching the bars, boring, finishing, replacing, stringing &c., without disturbing the rest plank plate or the tuning pins as described and shown, by which I am also enabled to maintain an equal length in the strings of each note.

What I claim and desire to secure by Letters Patent is—

1. The arrangement of the bars (*d*, *g* and *h*,) with their flanges to form the up and down bearings for the strings at the sounding board bridge in the manner and for the purposes set forth.

2. The arrangement of a series of bars having up and down bearings at the rest plank bridge in the manner shown—when such bars are separate from the rest plank plate, and attached to the rest plank so as to be removable in sections, in the manner and for the purposes specified.

3. The perforated bar or box (*f*, or *m*,) when combined with an up bearing rest (4 or *n*,) and fitted so as to be removed from, or attached to the rest plank for the purposes set forth.

In witness whereof I have hereunto set my signature this seventeenth day of March 1860.

WM. COMPTON.

Witnesses:

LEMUEL W. SERRELL,  
CHAS. H. SMITH.