

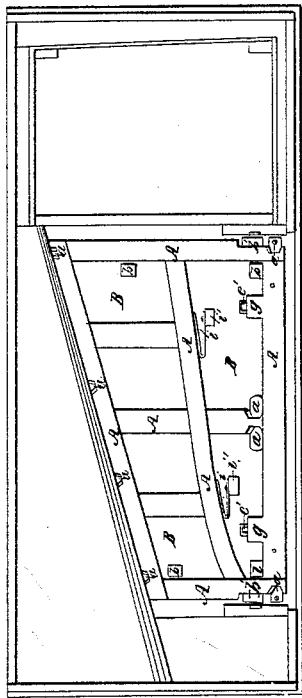
*T. Loud,*

*Piano,*

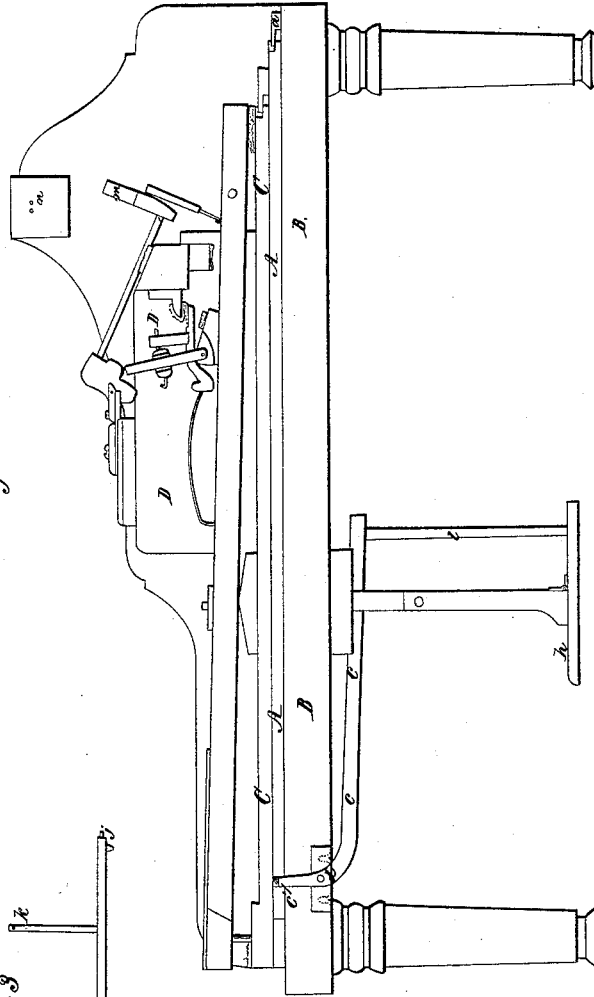
*N<sup>o</sup> 2,523.*

*Patented Apr. 1, 1842.*

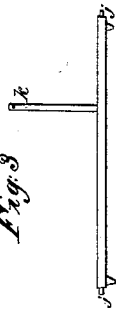
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

THOS. LOUD, OF PHILADELPHIA, PENNSYLVANIA.

## MODE OF CONSTRUCTING SHIFTING MOVEMENTS FOR SQUARE OR HORIZONTAL PIANOFORTES.

Specification of Letters Patent No. 2,523, dated April 1, 1842.

*To all whom it may concern:*

Be it known that I, THOMAS LOUD, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful  
5 Improvement in Horizontal or Square Pianofortes, which improvement consists in the construction and employment of a shifting movement, consisting of a movable frame upon which the action of the instru-  
10 ment rests, and which frame is so arranged and governed, by means of a pedal, as that the hammers may be made to strike upon one or more strings at pleasure; said instrument being denominated by me the  
15 Monochord, shifting pedal piano forte; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, Figure 1, is a top view of a square, or horizontal,  
20 piano forte, from which the whole of the action is supposed to have been removed, leaving only the shifting frame which is to sustain it, resting upon the bottom plank of the instrument. Fig. 2, represents a vertical  
25 section of such an instrument, from front to back, with the action in place.

A, A, is the movable frame which rests upon the bottom, B, B, of the piano forte, there being suitable sliding pieces inter-  
30 posed between these parts to enable the movable frame, with the action that is sustained upon it, to move back and forth with little friction, and without noise, as in other shifting movements.

a, a, a, are guide blocks to keep the frame A, A, against the bottom B, B; for which purpose they are halved on to the frame, as shown at a, in the section, Fig. 2; the blocks  
35 b, b', are guide blocks to keep the frame in its place laterally, those marked b', serving also, as stops to the frame in its forward motion.

c' c', Fig. 1, are the upper ends of the shifting lever c, c, which upper ends bear  
45 against blocks, or pieces, g, g, attached to the frame A, A; the levers c, c, when the pedal h, Fig. 2, is depressed, cause the frame A, A, to slide forward, and when this pressure is removed, said frame is forced back  
50 by means of springs i, i, which are fixed upon blocks i', i', and act against the rail A' A', bearing against it. The lever c, c, has its fulcrum at j. Fig. 3 is a top view of said lever, the arm k, being that upon which  
55 the pedal rod l, acts.

In Fig. 2, C, C, is the key frame, to the ends D, D, of which frame the action is attached in the ordinary way; the frame C, C, is fastened to the frame A, A, by screws, and may be detached therefrom when necessary. 60 One of the hammers is shown at m, and two wires at n, against which it would strike, excepting when the action is forced forward by the pedal, by which it would be made to strike on one of them only. 65

Having thus fully described the manner in which I arrange and combine the respective parts of a shifting movement so as to adapt the same to a square, or horizontal, piano-forte, and thereby cause it to move  
70 forward and backward, by the action of a pedal and its appendages, I will here remark that although I have represented said movement as being made directly forward and backward, it will be manifest to every  
75 competent workman that an oblique movement may be given to the frame and action, should this be desired, without, in any way, interfering with, or changing, the nature of my invention; I will also further observe  
80 that I do not make any claim to the invention of a shifting movement, to enable the hammer of a piano-forte to strike one or more strings, or to the regulating the same  
85 by the action of a pedal, this having been previously done, but not under an arrangement and disposition of parts by which it could be applied to horizontal, or square, piano-fortes; an arrangement by which such instruments are rendered much more effective  
90 than heretofore.

What I claim, therefore, as constituting my invention, and desire to secure by Letters Patent, is—

The manner herein described in which I  
95 have combined and arranged the movable frame to which the action of a square, or horizontal, piano-forte is attached, with the pedal, lever, guides, stops and springs, so as to cause the action in such a piano-forte to  
100 move from back to front, or in the direction necessary to govern the hammers and to cause them to strike upon one, or more, strings at pleasure. The whole combination being substantially the same with that here-  
105 in set forth.

THOMAS LOUD.

Witnesses:

JOHN CLARENDON DARLEY,  
C. MARQUEDANT BURNS.