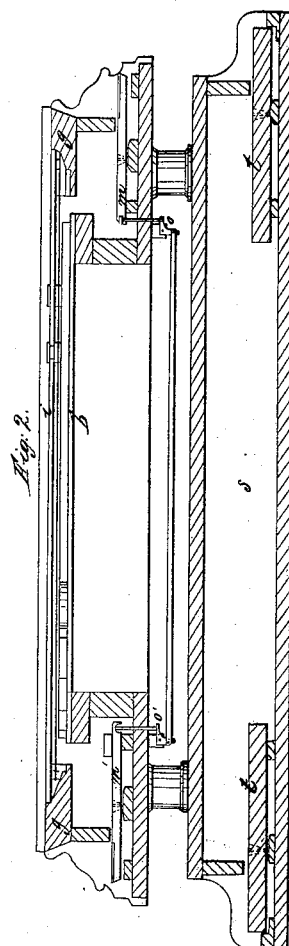
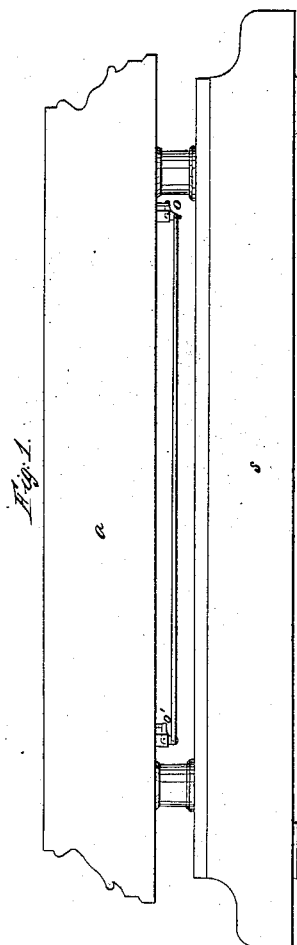
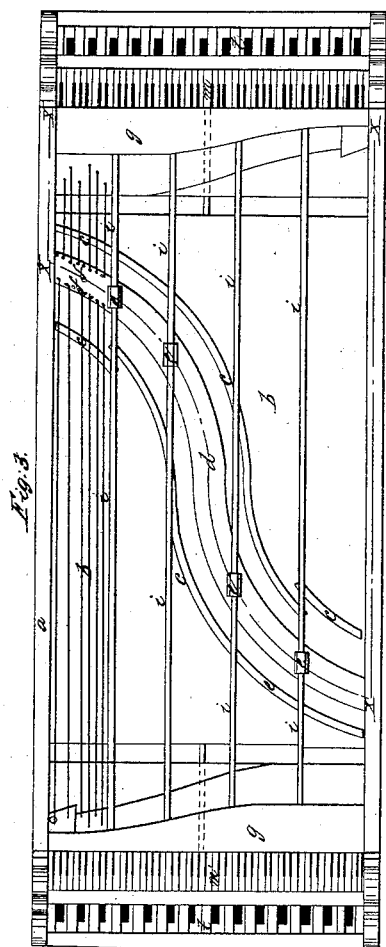


J. Pirsson,

Piano,

N^o 7,568,

Patented Aug. 13, 1850.



UNITED STATES PATENT OFFICE.

JAMES PIRSSON, OF NEW YORK, N. Y.

PIANOFORTE.

Specification of Letters Patent No. 7,568, dated August 13, 1850.

To all whom it may concern:

Be it known that I, JAMES PIRSSON, of the city, county, and State of New York, have invented a new and useful Improvement in Pianofortes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view or elevation of my pianoforte; Fig. III is a top view of my pianoforte; Fig. II is a longitudinal section, and similar letters designate similar parts throughout the figures.

The nature of my invention consists in certain improvements in pianofortes, said improvements having for their object the increasing of the power of the instrument both as to sound and in the number of performers who may jointly operate upon it. The general arrangement and principle involved is uniting in one case two sets of grand actions operating upon strings, combined so that the vibrations shall be produced upon one general sounding board, whereby the surface of vibration is greatly extended, as within proper limits the larger the sounding board the greater will be the depth and volume of sound produced. In the pianos of common construction, the cases are kept at a size barely large enough to contain the necessary keys and strings, and the sounding board is consequently limited to such size, while it is well known that the instrument would be more powerful and better, could that particular part be enlarged. In attempting to accomplish this I discovered that two distinct operations might be effected by it, viz., by enlarging the sounding board two actions might be combined so as to be played simultaneously by a single, or by a number of performers, so that many pieces of music written to be performed on two pianos could by my invention be accomplished on an instrument substantially like a single piano. The other advantage respects the tuning. It being a matter of considerable difficulty to get two pianos in unison and to keep them so for any length of time.

In Fig. 3 is a top view of the piano as constructed with my improvements, the top being removed and showing the interior. The letter (*a*) represents the case which is an oblong square with sufficient width and depth to receive the keys and actions; (*g*) represents the rest-pin-block or place where the

tuning pins are inserted in the usual manner; (*d*) is a metallic ridge plate and is the place to which the ends of the strings opposite to the tuning pins are attached to little metal pins seen at (*f*, *f*) as usual; the letters (*i*) represent a series of brace-bars or metal rods extending from the rest-pin-block (*g*) to the metal plate (*d*) to which they are attached by the projections (*e*) which are knobs cast upon the plate as shown; (*b*) is the sounding board made substantially of the usual materials, and in the usual manner, except as to size. This sounding board extends under the plate (*d*) which latter is supported by the case a little above it. On either side at (*c*) is seen what is termed the bridge and is a strip of wood, glued or otherwise attached to the sounding board of sufficient thickness to have its top edge about level with the face of the plate (*d*). The strings stretched from (*g*) to (*d*) therefore rest upon this bridge, being kept in place by rows of little pins driven in it for the purpose, and by this means the vibrations of the strings are communicated to the sounding board in a manner well known. The keys (*m*) extend under the rest-pin-block (*g*) and operate the hammers to strike the strings in the common manner. If now the dotted line X is traced, showing the boundary and extent of a horizontal grand piano of ordinary construction, will be seen the extent of the sounding board (*b*), being limited by such boundary. It will be evident that when the piano as constructed with my improvement is used or played upon from one end only and as a single instrument it has the ability to produce effects of a far higher character than before. But this feature, although a distinguishing one and of much importance, is not the only one, for by means of this arrangement I can enable one performer to combine both sets of actions, and thus he is able to produce the effects of both. This I accomplish in the manner shown in Fig. 2. From the key (*m*) a connection is made by a vertical post to a lever (*o*) and from this a rod connects to another lever (*o'*) and a second post passes up and connects with the end of (*m'*) the keys of the other side of the piano, and in like manner a combination is made from each key to its corresponding key on the other side answering to the same note, so that by operating or playing upon (*m*) the same motion is

immediately communicated to (*m'*) and thus the effect of doubling the power of the instrument is attained. A pedal or other device is attached to connect or disconnect
 5 this part at pleasure. Another feature in my invention relates to keeping the instrument in tune. In the grand pianos of the old construction the great strain produced by the tension of the strings, tends to draw
 10 the rest-pin-block (*g*) and plate (*d*) together. In mine this is resisted by the braces (*i*) before named, and in addition to these braces the strings themselves act to resist or counteract the strain of each
 15 other or rather the effect is as if there were a continuous cord extending from (*g*) across (*d*) to (*g*) on the opposite side. This maintains the same strain on the strings of both actions and thus when there is expansion
 20 or contraction caused by the varying temperature of the atmosphere tending either to raise or lower the pitch or tone of the instrument this change will be the same in both actions and hence both will always be
 25 in unison.

The case may stand on legs or a frame work of the usual construction. In the

drawing, I have shown the instrument as standing on a base (*s*) forming a hollow case not unlike the upper piano. In this
 30 case, I propose to introduce a second instrument or pedal piano consisting of a part of the bass or lower notes of the scale, there to be played by the feet on a set of
 35 keys properly arranged for the purpose as shown at (*t*) all the other mechanism being on the principle of the finger instrument.

What I claim as of my own invention and desire to secure by Letters Patent of the
 40 United States is—

Combining two sets of strings operated by separate actions with one and the same sounding board, whereby I am enabled to produce greater effects both in quality of
 45 tone and in power than heretofore, and also to maintain the unison of the notes, and the tune to a degree not possible before; the whole being constructed and operated substantially in the manner described herein.

JAS. PIRSSON.

Witnesses:

S. H. MAYNARD,
 THOMAS H. WOOD.