A. Hall,

Stringing Pianos.

No. 12,315. Patented Jan. 30, 1855.

Fig. 1.

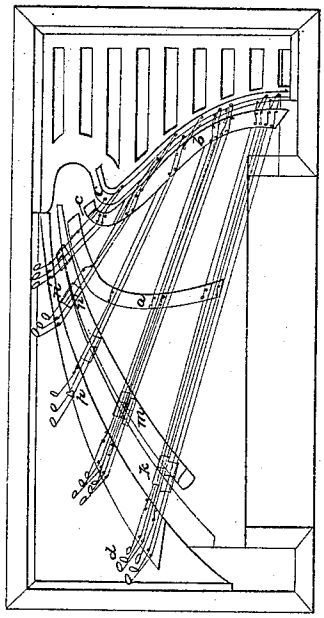


Fig. 3.

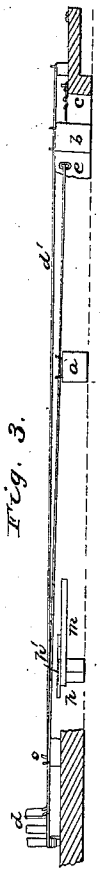


Fig. 2.

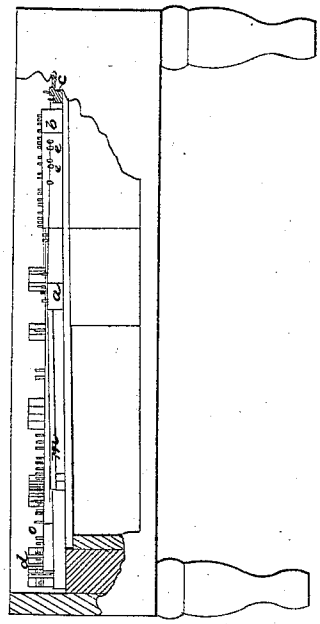
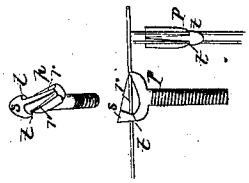


Fig. 5.

Fig. 4.



UNITED STATES PATENT OFFICE.

ALEXANDER HALL, OF LLOYDSVILLE, OHIO.

PIANOFORTE.

Specification of Letters Patent No. 12,315, dated January 30, 1855.

To all whom it may concern:

Be it known that I, ALEXANDER HALL, of Lloydsville, in the county of Belmont and State of Ohio, have invented an Improvement in Pianofortes, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is a top view or plan of my piano, Fig. 2 a front view. Fig. 3 a section showing the normal and octave strings. Fig. 4 views of my bridge pin. Fig. 5 the buff stops.

My invention consists in certain improvements in pianofortes, with octave strings, whereby I am enabled to increase the number of strings without enlarging the instrument, and certain other improvements connected therewith to be shortly described. In the instrument known as the Celestial piano for which Letters Patent were granted to me on the 10th April 1834 one normal and one octave string were used to complete the note in square pianos or instruments of the ordinary size, and although the introduction of the octave was beautiful in effect, yet the diminished volume of sound in consequence of having but one normal string to each note, was an objection, especially for instruments designed for large rooms. This objection I have removed by the following contrivances and produced an instrument of great power, combining the brilliancy of the octave attachments. At *d* Figs. 1 and 3 are seen the three tuning pins for the three strings of one note. d' and d^2 are the normal or unison strings, and d^3 is the octave string. The octave string passes very near to the normal string d^2, at the commencement or near the bridge where the motion from vibration is very slight. Farther on however the octave recedes from this normal string, and this it does by dropping below the level of the normal string, and descending to the bridge (*a*) which is low enough to allow the octave string to vibrate clear of the normal string. From this bridge and on a level with its top, the octave string continues to the usual bridge through which it passes in perforations seen at (*e*) and thence to the depressed hitch plate (*c*) the upper or face of which is on a level with the perforations in bridge *b*. Thus it will be seen that the octave string requires but little extra room, so little in fact as not to increase the size of the ordinary square piano. The octave string may pass through notches in the bridge which mode however is inferior to the perforations as shown in the drawing. It is obvious that it would not answer to carry the octave string upward again from the bridge (*a*), hence perforations (*e*) and the depressed extra hitch plate (*c*). The strings are struck by the hammers at the point *k* and for the purpose of producing a harp effect. I attach to the curved strip *m* pieces of leather *n*, *n'* which project over and are struck by the hammers up against the strings in such way as to imitate what is called "thumming" upon the harp. These pieces of leather are of different qualities as designated by the different colors *n*, *n'*; the red leather *n'* under the octave string being harder than the leather *n*. These pieces of leather are called "buff stops." In order to adjust the distance between the octave and normal strings, I carry the normal strings over a bridge pin of peculiar construction. This pin (*p*) has a screw upon its shank by which it becomes adjustable vertically. The top of it has channels (*r r*) on its sides and at the rear apex *s* there are notches (*t t*) for confining the strings. The octave strings pass around or against the common form of bridge pin (*o*). It will be readily seen that when the bridge pin (*p*) is turned to the right or left, it carries both normal strings with it, and thus increases or diminishes the distance between them, and the octave strings.

I claim as my invention—

1. Sinking the middle octave bridge *a* below the level of the normal strings so as to be clear of their vibrations as set forth.

2. I claim in combination with the depressed bridge *a* the perforations in the bridge *b* on the level with the top of bridge *a* for the purposes set forth.

3. I claim the extra hitch plate *c* in combination with the depressed bridge *a* and perforated bridge *b* as set forth.

4. I claim the adjustable bridge pin for the normal strings furnished with a screw and the notches and channels on its two sides so that the normal strings can be regulated in their relative distances from the octave strings either vertically or laterally or both, as set forth.

5. I claim making the buff stop of two qualities of leather, a hard and a soft, for producing the harp effect as set forth.

ALEX. HALL.

Witnesses:
T. CAMPBELL,
GEORGE SIEBEL.