

A. Hall,

Stringing Pianos.

N<sup>o</sup> 12,315.

Patented Jan. 30, 1855.

Fig. 1.

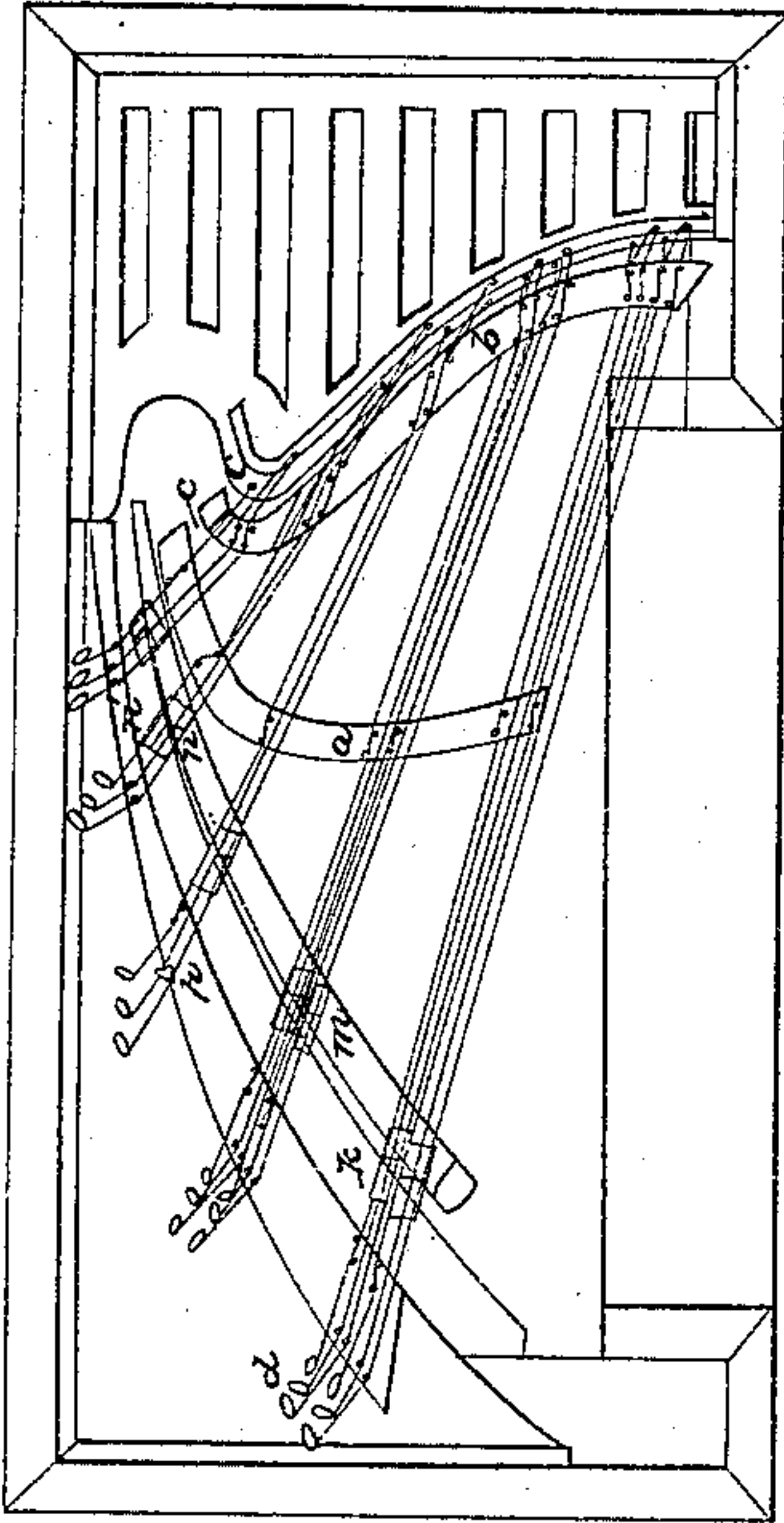


Fig. 3.

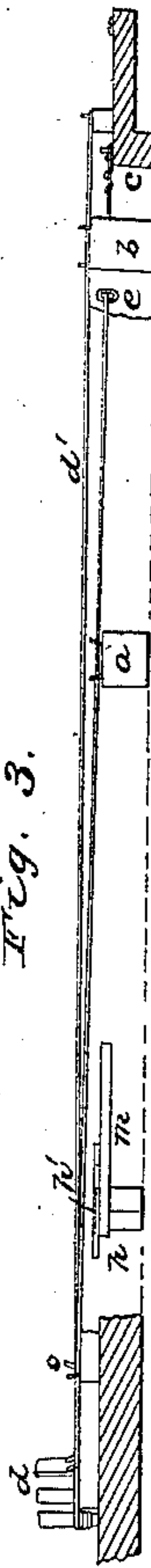


Fig. 2.

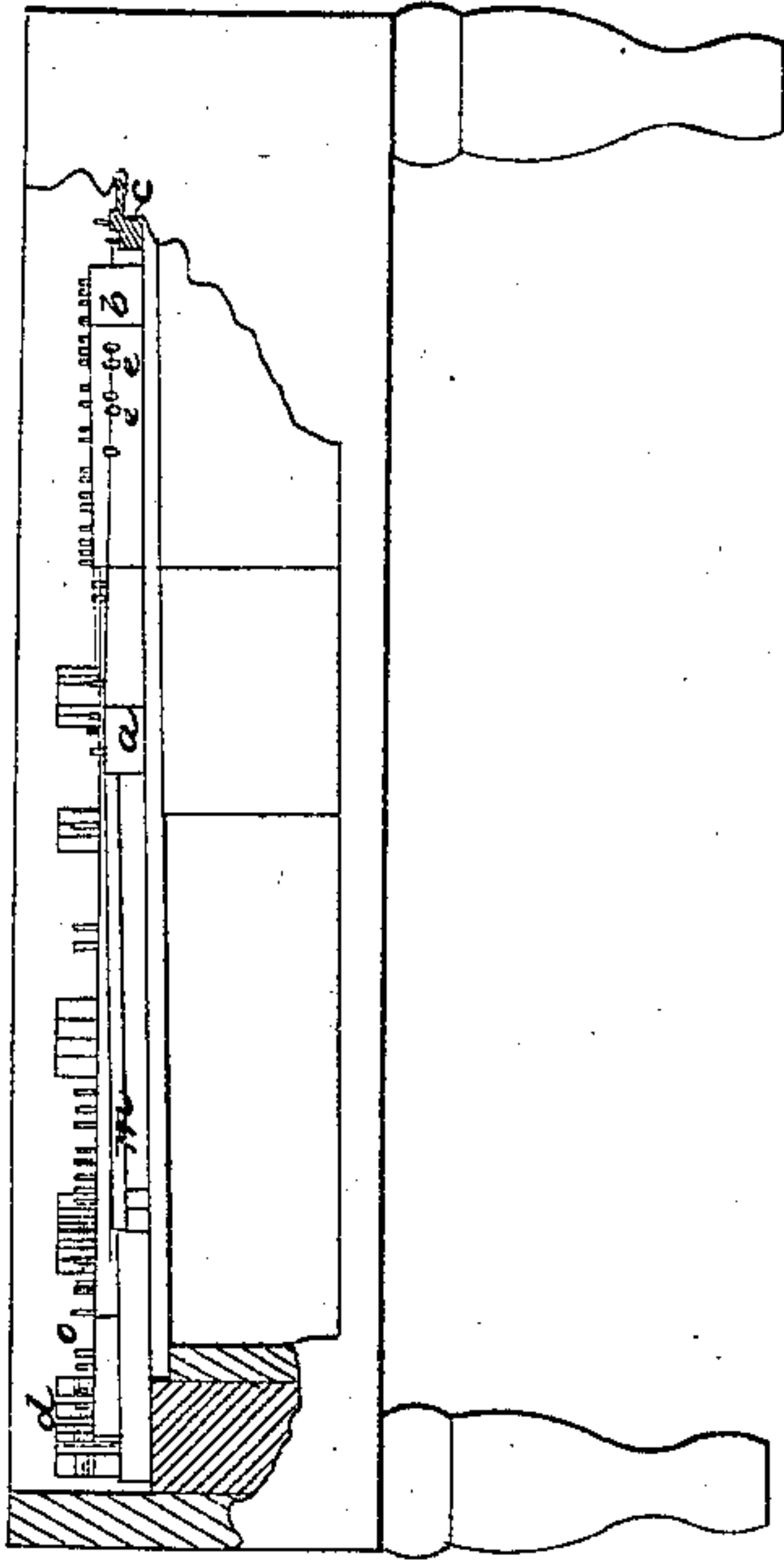
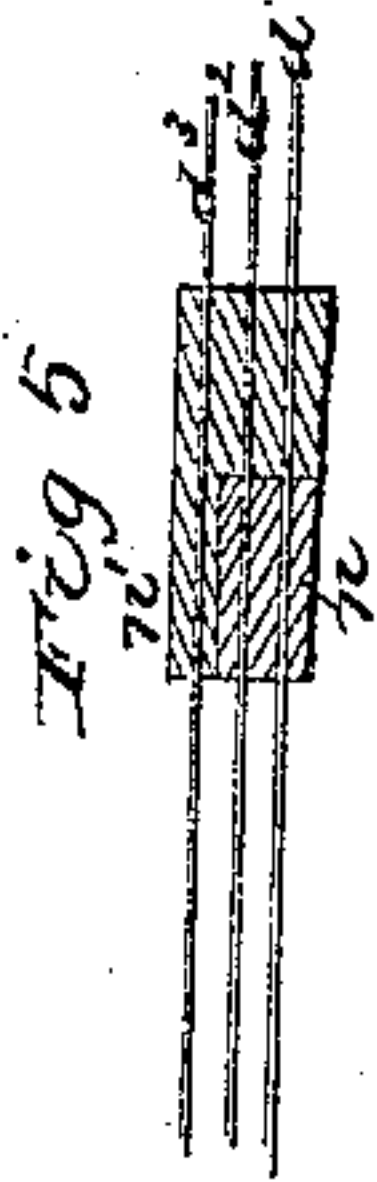
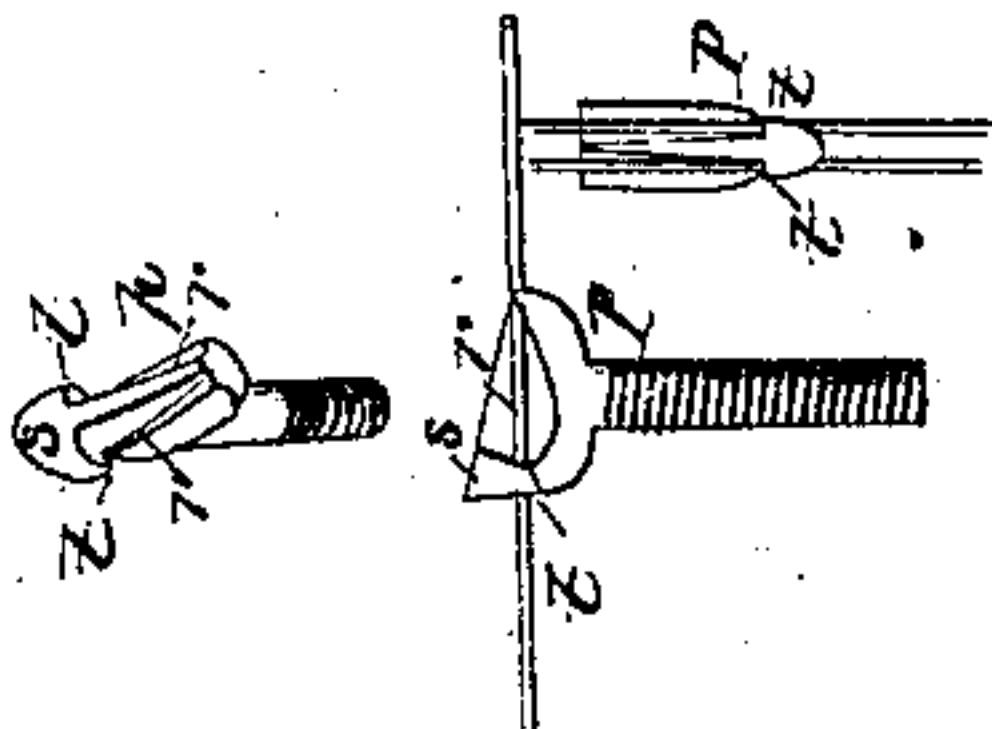


Fig. 4.



# 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 Improve-  
ment 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 show-  
ing the normal and octave strings. Fig. 4  
views of my bridge pin. Fig. 5 the buff  
stops.

My invention consists in certain improve-  
ments in pianofortes, with octave strings,  
whereby I am enabled to increase the num-  
ber of strings without enlarging the instru-  
ment, and certain other improvements con-  
nected 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, espe-  
cially 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*<sup>2</sup>  
are the normal or unison strings, and *d*<sup>3</sup> is  
the octave string. The octave string passes  
very near to the normal string *d*<sup>2</sup>, at the  
commencement or near the bridge where the  
motion from vibration is very slight. Far-  
ther on however the octave recedes from this  
normal string, and this it does by dropping  
below the level of the normal string, and de-  
scending 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* be-  
low the level of the normal strings so as to  
be clear of their vibrations as set forth.
2. I claim in combination with the de-  
pressed 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 com-  
bination 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  
5 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.