H. Schonacker,

Stringing Pianos,

No. 13,960. Patented Dec. 18, 1855.

Fig. 1.

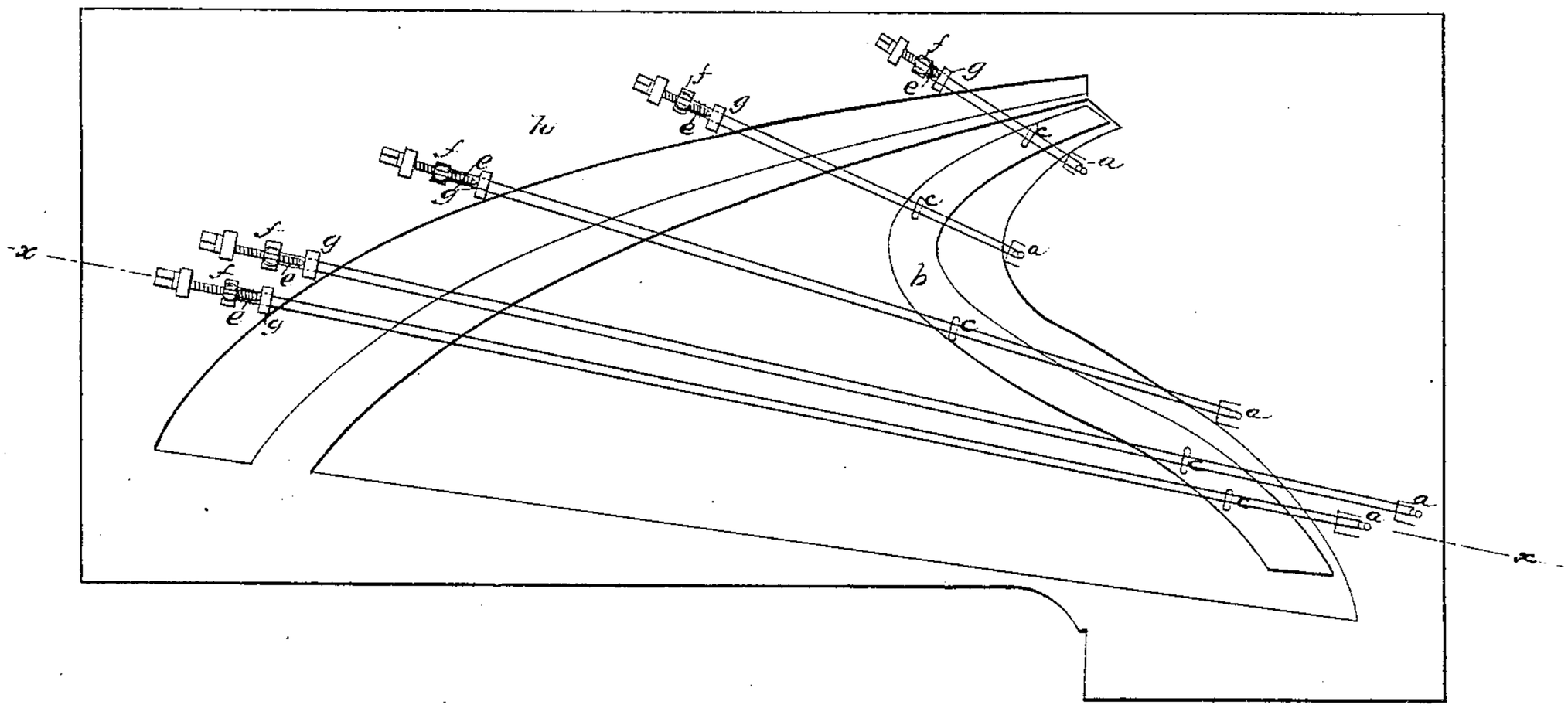
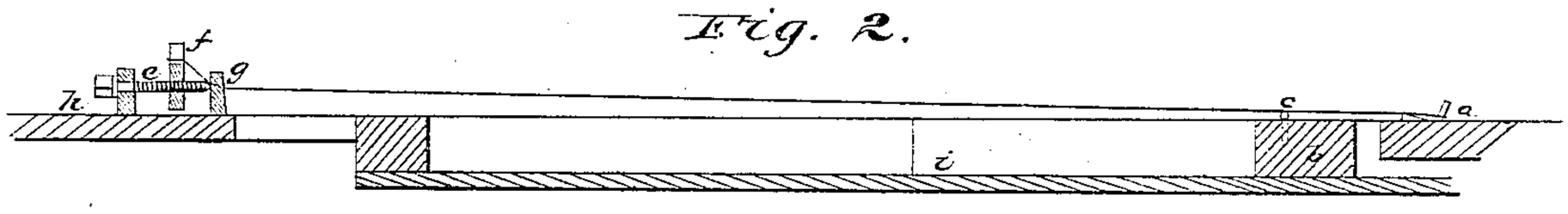


Fig. 2.



UNITED STATES PATENT OFFICE.

HUBERT SCHONACKER, OF DETROIT, MICHIGAN.

IMPROVED PIANO-FORTE.

Specification forming part of Letters Patent No. **13,960**, dated December 18, 1855.

To all whom it may concern:

Be it known that I, HUBERT SCHONACKER, of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Piano-Fortes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan of the stringed part of a piano-forte constructed according to my invention, and Fig. 2 a section of the same in the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

My invention consists as follows: Instead of calculating the scale for the length of strings from the bridge upon the sounding-board to the bridge upon the "wrest-plank," as is the common mode now in use, I calculate my "octave-scale" from the bearing at the "hitch-pins" *a a*, Fig. 1, to the bridge upon the wrest-plank *h*, and give to each string a sufficient length that if not prevented sounding by the tape usually flared behind the bridge *b* on the sounding-board *i* it would give the first, second, or third octave above the normal or pitch tone in front of the bridge, and provide a single point—viz., a small metallic fret *c*, made of common wire on the sounding-board bridge *b*, for each string to rest upon at its nodal point, or point where the vibrations would naturally cross if the fret were not there. This point of resting *c* is so small that the vibrations of the string, which is not confined by pins, as it usually is, upon the sounding-board bridge, pass over it with no or but very little interruption, and thus the flexibility of the entire length of string is employed to aid in prolonging a free vibration.

In order that none of the vibrations of the strings are wasted, I employ horizontal tuning-screws *e e*, each one of which has fixed bearings for its ends and passes through a movable nut *f*, to which nut the string is attached, or the two strings or ends of the string where a double string is employed for each note. By means of this screw I am enabled to do away with that length of string behind the bridge *g* upon the wrest-plank which is necessary to connect with the ordinary tuning-pin, and which wastes, to a great extent, the vibrations, and to throw the flexibility of the entire length of the string upon the sounding-board, which alone gives out tone, to catch every vibration of the string.

It may be well here to remark that I am aware that a horizontal tuning-screw connecting with the two strings of a note has been used; but when that is used with the ordinary method of confining the string on the bridge of the sounding-board such a screw is useless; but with my arrangement of the strings in the other respects, the two strings of each note being of precisely equal length from the extreme bearings at each end and resting on single points upon the sounding-board bridge without being confined there, the two strings can be tuned in unison by a single screw.

The advantages gained by my method of laying out the scale and plan of supporting the string on the sounding-board and tuning it are, first, a more free and full vibration; second, a greater equality throughout the whole scale, and, third, a perfect unison is maintained much longer because the true principle of vibration is preserved and carried out on every string, and there can be no counteracting vibrations to interfere with the true and proper ones.

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

1. Constructing the instrument so that the strings shall rest on a fret at the nodal or octave points or substantially similar rest upon the bridge of the sounding-board, whereby free vibration is allowed to the whole length of string between the hitch-pins and bridge on the wrest-plank, substantially as herein described.

2. Though I do not of itself claim connecting the two strings of a note with a single horizontal tuning-screw, I claim the connection of the two strings with the same screw when that is combined with the employment of a fret *c* or other rest merely supporting the string on the sounding-board at single points and not confining it, substantially as herein set forth.

H. SCHONACKER.

Witnesses:

GARRY SPENCER,

THOMAS I. JOHNSTON.