P. BRENNER.

STRINGING PIANO-FORTES.

No. 188,579. Patented March 20, 1877.

Fig. 1.

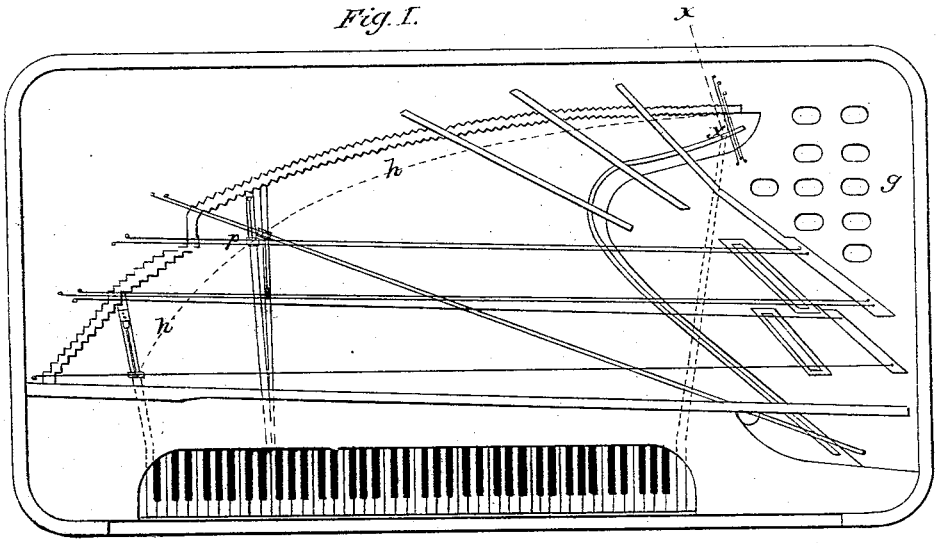


Fig. 2.

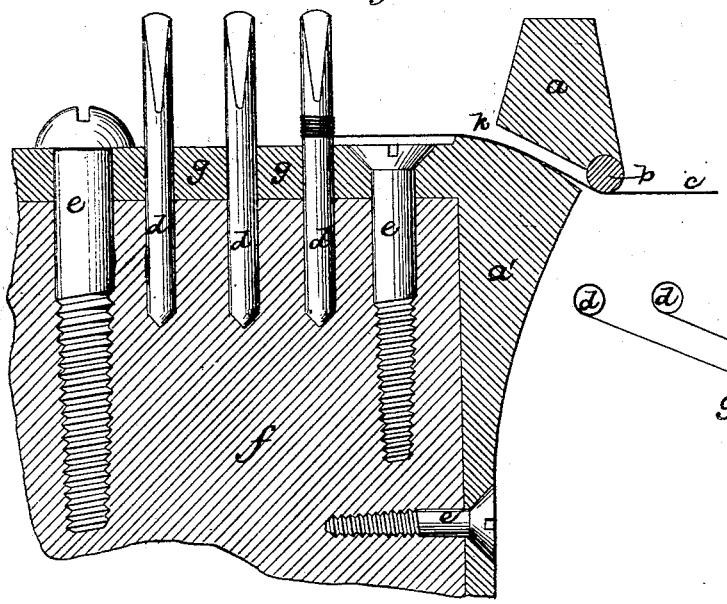
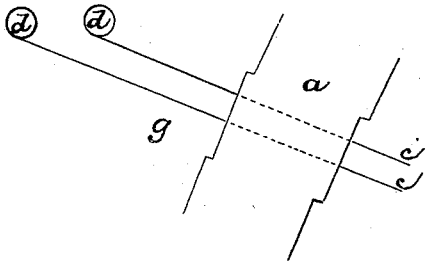


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

PETER BRENNER, OF AUGUSTA, GEORGIA.

IMPROVEMENT IN STRINGING PIANO-FORTES.

Specification forming part of Letters Patent No. **188,579**, dated March 20, 1877; application filed October 4, 1876.

To all whom it may concern:

Be it known that I, PETER BRENNER, of Augusta, in the county of Richmond and State of Georgia, have invented new and useful Improvements in Piano-Fortes, of which the following is a full and complete specification, having reference to the accompanying drawing, wherein—

Figure 1 is a plan of a piano-forte frame having my improvements. Fig. 2 is a transverse section of the frame on line *x x*. Fig. 3 is a plan of the frame, including the strings of one note on scale of Fig. 2.

That others may fully understand my improvements, I will particularly describe them.

g is the ordinary iron frame of a piano-forte, except that it is cast with a flange, *a*, extending about one inch above its plane along that side wherein the tuning-pins *d* are located. For the purpose of giving additional rigidity to that portion of the frame, a drooping flange, *a'*, is also cast with the frame *g*, and the same extends down in front of the wooden tuning-block *f*, and is secured thereto by screws *e*, in the usual way. The flange *a* is not curved along its front or outer face, as is the frame *g* along the same line; but it presents a series of rectilinear portions or faces, corresponding to the several notes, tones, or strings of the instrument, and at right angles to the several strings which produce said tones. Holes *k* are drilled through the flange *a*, one for each string *c*, and said holes are slightly oblique, as shown, so that the strings shall have bearing-points at the entrance and exit. At the front end of each hole is a cylindrical piece of brass, *b*, soldered to the iron frame transversely across the upper side of the hole, so that the string *c* is strained transversely across said cylinder, and is thereby supported when set in vibration by the blow of the hammer.

The evident object and effect of this structure is, first, to impart great firmness and rigidity to the frame, and this has a direct effect upon the vibrating power and resonance of the strings. Second, it provides a curved straining-line for the string, over which it will draw in tuning with equal strain upon each side of the bearing *b*, so that the string will not be likely to rise in pitch after tuning, as is often the case with the agraffe. Third, the string will be less likely to break when it encounters no short bends or angles at its bearing-points. Fourth, the bearing *b* being at right angles with the string, the vibration of the latter will have no tendency to shift its position upon its bearing, and in that way alter its pitch.

Having described my improvement, what I claim as new is—

1. The frame *g*, combined with a drooping flange, *a'*, and a flange, *a*, cast with rectilinear faces at right angles to the lines of the several strings and perforated, as set forth.

2. The flange *a*, cast with rectilinear faces, perforated with holes *k*, and provided with bearing-pieces *b*, of brass, soldered to the iron at right angles to the lines of the strings to be supported.

PETER BRENNER.

Witnesses:

D. P. COWL,

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