(No Model.)

H. B. NICKERSON.

PIANO FORTE.

No. 458,591. Patented Sept. 1, 1891.

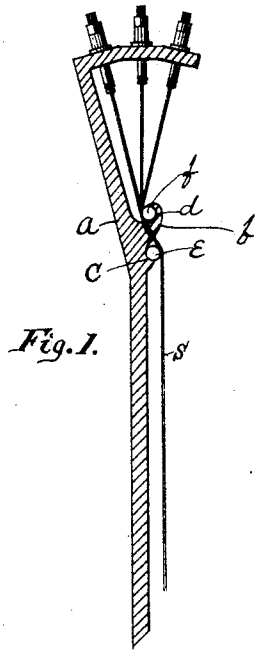


Fig. 1.

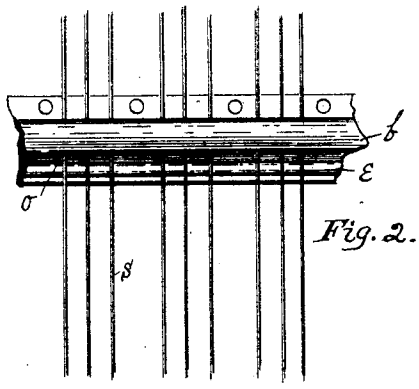


Fig. 2.

Fig. 3.

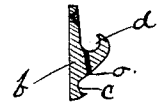
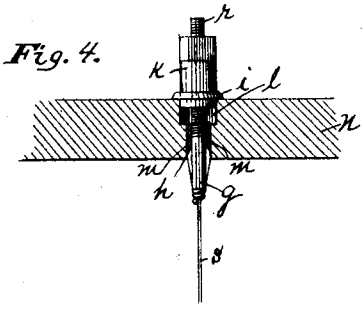


Fig. 4.



Witnesses
Fred A. Mason
C. O. Mason

Inventor
Hiram B. Nickerson
by H. M. Mason atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HIRAM B. NICKERSON, OF NEW BEDFORD, MASSACHUSETTS.

PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 458,591, dated September 1, 1891.

Application filed October 21, 1889. Serial No. 327,638. (No model.)

To all whom it may concern:

Be it known that I, HIRAM B. NICKERSON, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Piano-Fortes, of which the following is a specification.

The object of my invention is to cheapen the cost of construction, and at the same time produce a piano of superior excellence.

Heretofore in the construction of a piano the string-plate has been provided at the point of the upper bridge with a line of pins, against which the strings rest and by means of which the strings are properly spaced, and the strings after passing said pins pass under an agraffe and thence to the straining-pin.

My invention obviates the necessity of the line of pins, and by a simple and inexpensive construction provides for the upper bridge, spacing of the strings, and agraffe, as will be seen by reference to the accompanying drawings, in which—

Figure 1 is a view in vertical section of a string-plate of a piano provided with my invention. Fig. 2 is a view of a portion of the agraffe as it appears when constructed to be attached to the string-plate by means of screws. Fig. 3 is a view in cross-section of Fig. 2. Fig. 4 is a view in vertical section of a portion of the straining-abutment, showing its construction, and also the construction and operation of the straining device.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, *a* represents the string-plate, and *b* the agraffe, having the grooves *c* and *d* cast integral therewith. *n* represents the straining-abutment in which the straining devices are located. *e* represents a rod which serves as the upper bridge, and *f* represents a rod against which the strings *s* bear, after passing through the agraffe *b*. The agraffe *b* is provided with the perforations *o* in such a manner that the strings will be properly spaced, thus avoiding the necessity of the ordinary line of pins.

In Fig. 4, *g* represents a rod having perforation *h*, through which the string *s* is looped. The other end of the rod *g* is provided with the screw-thread *r* for the reception of the nut *k*. *n* represents a portion of the straining-abutment in vertical section, perforated to loosely inclose the rod *g*, said perforation being provided with the grooves *m m*, adapted to receive the loop of the string *s*. *l* represents a counterbore in the top of the straining-abutment, adapted to receive the shouldered collar *i*. The rod *g* and nut *k* are preferably composed of steel, while the collar *i* is of brass. The loop of the string *s*, moving in the grooves *m m*, prevents the rod *g* from turning while tension is being given to the string by means of the nut *k*.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A string-plate of a piano-forte, having the agraffe *b* cast integral therewith and provided with the grooves *c* and *d*, adapted to receive the rods *e* and *f*, respectively, over which the strings are drawn, as shown and described.

2. In a piano-forte, a straining device consisting of the rod *g*, perforated near one end for the loop of the string and screw-threaded in a portion of its length to receive a nut by means of which tension is given to the string, in combination with a straining-abutment projecting from the string-plate at nearly a right angle with the line of tension and perforated to receive the bar of the straining device, said perforation being counterbored at the top and provided with the grooves *m m* and the shouldered collar *i*, all as shown and described.

HIRAM B. NICKERSON.

Witnesses:

HENRY W. MASON,

MICHAEL E. SULLIVAN.