J. Schiber,

Piano.

No. 4,832. Patented Oct. 29, 1846.

Fig. 2.

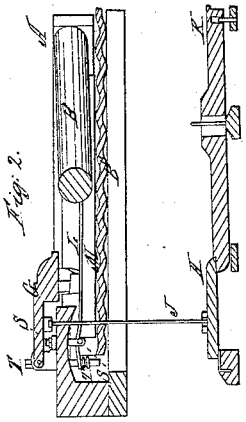


Fig. 6.

Fig. 4.

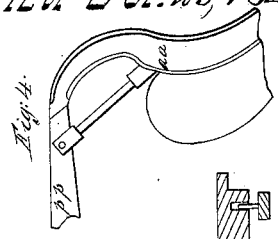


Fig. 3.

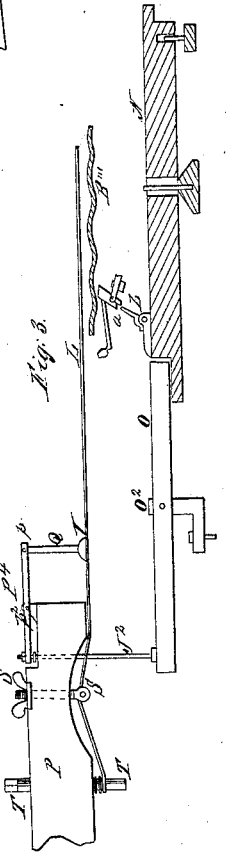


Fig. 1.

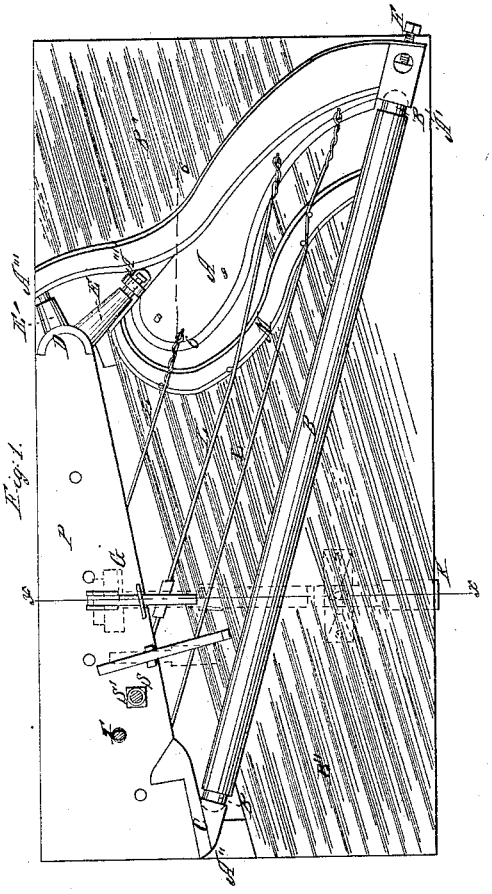
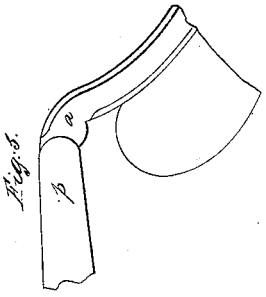


Fig. 5.



UNITED STATES PATENT OFFICE.

JOHN SCHRIBER, OF NEW YORK, N. Y.

PIANOFORTE.

Specification of Letters Patent No. 4,832, dated October 29, 1846.

To all whom it may concern:

Be it known that I, JOHN SCHRIBER, of the city and county of New York and State of New York, have invented a new and useful Improvement in the Construction of Pianofortes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a top view of the frame, wrest plank, &c. Fig. 2 is a vertical transverse section of ditto at the line *x x* Fig. 1. Fig. 3 is a vertical section. Fig. 4 is another mode of connecting the wrest plank and ribbed plate. Fig. 5 is another mode of connecting the wrest plank and ribbed plate. Fig. 6 is a vertical section of the ribbed plate.

Similar letters in the several figures refer to corresponding parts.

On the sounding board B″ of the piano I arrange a cast iron ribbed plate A made hollow or concave on the under or lower face or side and swelling or convex on the upper side as shown at A^6 in Fig. 6 which is a vertical cross section on the line 6, 6 of Fig. 1.

A socket A′ is formed on the outer end or head of this plate A into which is let the convex end (represented by dotted lines) of a horizontal bar B. This bar is made of wood and of a cylindrical or other form and is covered with a metal tube B for strengthening it, and extends obliquely across the sounding board, in a line parallel with the strings, and enters a socket A″ similar to the last mentioned socket, formed in an iron casting C secured to the foot or base end of the wrest plank P.

A semicircular metallic plate (D Fig. 1) is secured to the head or upper end of the wrest plank, from which extends in contrary directions arms E, E′ which enter sockets A‴ A⁗ in the foot or inner end of the ribbed plate A, and serve to hold it steady in the required position.

The connection of the metallic plate and wrest plank may be effected by having the socket formed in the upper end of the plate as at *a* to admit the convex or upper end of the wrest plank as represented at (*p*) Fig. 5. Or the connection may be formed in the manner represented at Fig. 4 in which *a a* is the plate and *p p* the end of the wrest plank.

The parts above described form the frame of the piano forte and are held together by the tension of the strings without the aid of bolts or screws—forming a frame resembling the shape given to a harp-frame—which may be removed from the case at pleasure.

A set screw F Fig. 1 may be made to pass through the outer end or head of the metallic plate A into the socket made therein, and by acting on the end of the oblique bar B regulate the tension of the strings.

The strings L are secured to the metallic plate A by small pins and extend therefrom over the curved bridge M, to the under side of the wrest plank, where they are attached to the ordinary turning pins as at T Figs. 1, 2, 3.

In front of each turning pin and on a line with the strings is placed a screw *s* which passes through the wrest plank P, and has an opening or eye in its lower part through which the string passes. By means of a thumb screw *s′* or nut applied to the end of this screw the string may be raised or lowered as may be required by the performer in order to alter the tension of the strings—the under side of the wrest plank being made concave in order to form a space to admit the extended portion of the strings or that portion which is drawn out of a straight line—the said screw *s* having a longitudinal movement and not a revolving motion. By this means the piano may be tuned with a small key by the performer by simply turning said nuts S′.

The strings being attached to the under side of the wrest plank as above described and the blow from the hammer driving the strings upward and toward the wrest plank instead of from them as in the old plan—a better tone will be produced and the strings will not be so liable to get out of order.

In the ordinary plan of pianofortes the keys are arranged below the sounding board as represented at K Fig. 2—and act on the damper levers G arranged on the top of the wrest plank by means of short levers H resting on the inner ends of the key levers K said short levers H being connected to the damper levers G, by the usual damper jack J, and mop. The defects in this arrangement of levers are various and obvious to piano makers—particularly on account of the vibration of the damper on the string. To remedy them I arrange the levers as represented at Fig. 3—in which N is the key lever, arranged and operated, in the usual manner. O is another lever placed in a similar position to the lever H represented

in Fig. 2. This lever O rests on a fulcrum O^2 near its center and engages at one end with the end of the key lever by a hinge and at its opposite end is connected to the damper lever P^4 on the top of the wrest plank P by the damper jack J^2 and a screw and nut.

The damper lever P^4 rests on a fulcrum p^2 near its center and is connected by a pin p to a wooden bar Q; on the lower end of which is secured the damper head V. It will be observed that by this combination of levers the damper is not raised any higher than is necessary to clear the string, and is otherwise more perfect in its operation—on account of the parts being connected together in the manner described.

The sounding board is made in waving or serpentine lines, in order to increase the sounding surface, as represented at B″ in Figs. 1 and 2 and B‴ in Fig. 3.

The damper jack J is connected with lever O Fig. 3 by a hinge, and to lever P^4 by a screw and nut above, and below lever P^4. The old damper crosses the strings too much and vibrates on the strings, which produces a bad tone. In the old plan the key lever K or N lifts the damper. In my improved arrangement the levers O and H perform this office—the fulcra of said levers being susceptible of change of position for lifting the damper more or less. Beside this, there are other advantages produced by the before described combination of the key lever N— the lever O—the damper lever P^4 Fig. 3— namely, the damper will not tremble on the strings—the touch will be lighter—and the parts will not be so liable to get out of order,—on account of their being connected together as above set forth.

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

1. The construction and arrangement of the cast iron ribbed plate A having an adjustable screw for extending it in combination with the bar B and set screw F for giving the proper tension to the strings made and arranged in the manner set forth.

2. I also claim attaching the strings to the tuning pins, below a concave wrest plank constructed and arranged in the manner set forth, in order to produce the effect above described.

3. I also claim the manner of tuning the piano by drawing the strings out of a straight line and into the cavity in the under side of the wrest plank as described. Also the combination of the key N— lever O— and damper lever P^4 as described.

4. I likewise claim making the sounding board in waving or serpentine lines in the manner and for the purpose set forth.

JNO. SCHRIBER.

Witnesses:
S. W. Bennett,
Geo. G. Hicks.