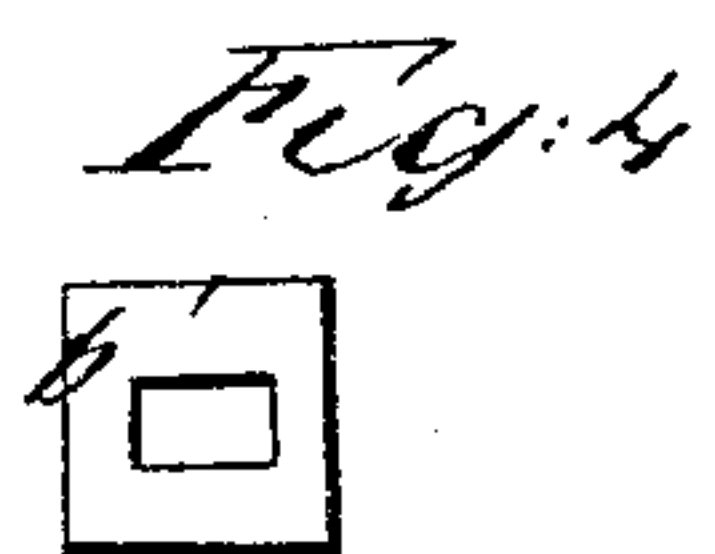
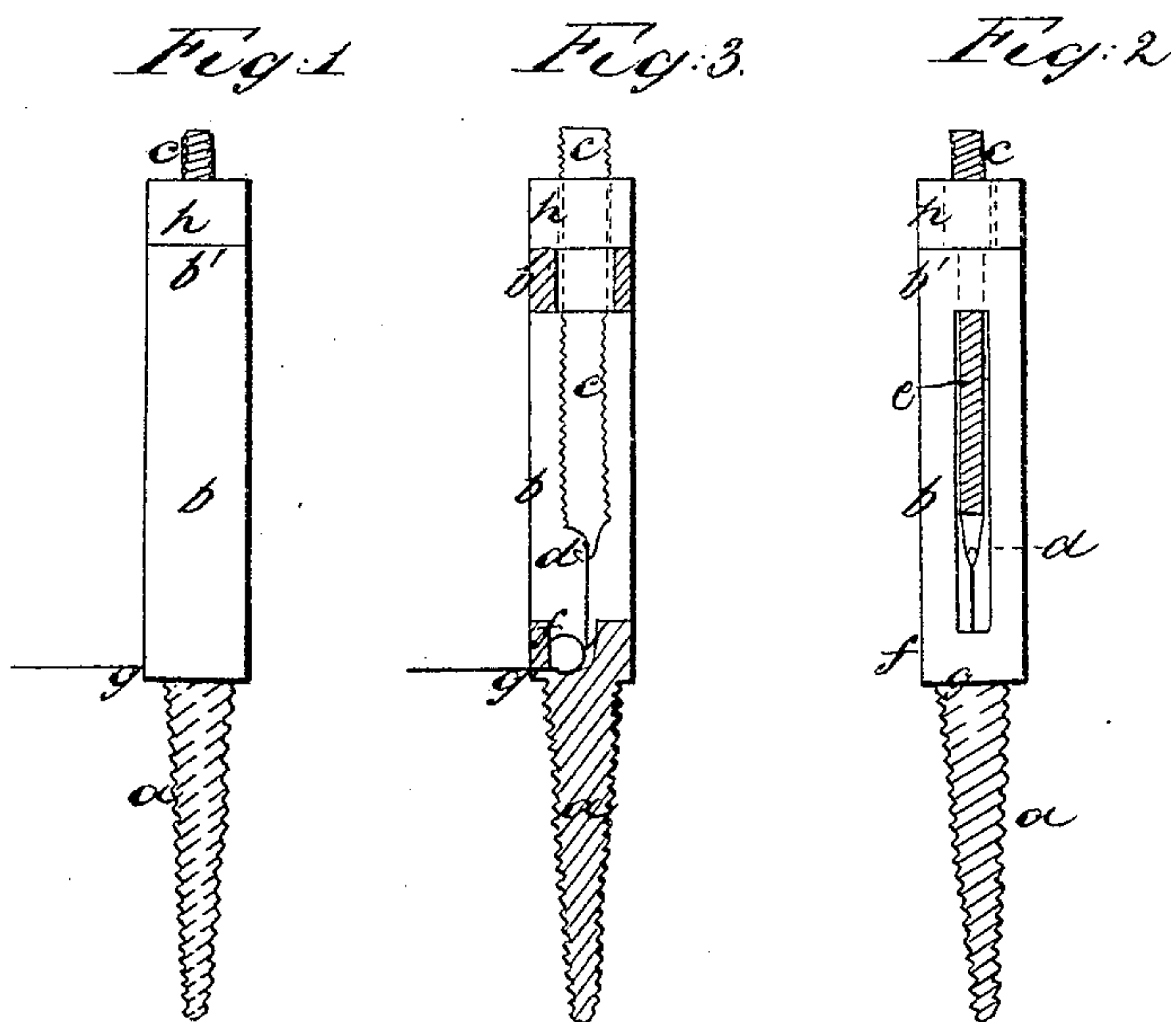


*G. Schilling,*  
*Stringing Pianos,*  
*Nº 17,812, Patented July 14, 1857.*



# UNITED STATES PATENT OFFICE.

GUSTAVE SCHILLING, OF HOBOKEN, NEW JERSEY.

## IMPROVEMENT IN WREST-PINS FOR PIANOS.

Specification forming part of Letters Patent No. 17,812, dated July 14, 1857.

*To all whom it may concern:*

Be it known that I, GUSTAVE SCHILLING, of the city of Hoboken, Hudson county, State of New Jersey, have invented a new and Improved Mode of Constructing Wrest-Pins for Pianos; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which indicate the same parts in all the drawings, respectively.

The nature of my invention consists in attaching the string to the end of an adjustable screw in such a manner that by raising or lowering the screw the straining or unstraining of the string is effected exactly in the same vertical direction with the axis of the screw, by which arrangement all lateral pressure on the screw is avoided and all injury to the several parts of the wrest-pin as well as to the string is rendered impossible.

Figure 1 represents a front view of my wrest-pin; Fig. 2, a side view, and Fig. 3 a section.

Letter *a* marks a coarse screw, by which the pin is secured to the wrest-board.

*b* is the frame consisting of two parallel upright posts with an elongated slit between and united into the head-piece *b'*. This head-piece is perforated by a quadrangular hole of the shape as shown in the plan, Fig. 4, and by the dotted lines in Fig. 2.

Letter *c* marks a male screw, the thread of which is taken off from two opposite sides, which must be perfectly parallel and fit closely to two parallel sides of the quadrangular hole in the head-piece *b'*. The lower part of this screw ends in a hook *d*, which lies exactly in the direction of the axis of the screw.

*f* is a small roller with a guiding-groove turning on pivots within the frame and put up in such manner that its periphery is touched tangentially by a straight line drawn vertically through the axis of the screw or by the elongation of the axis. *g* is a small hole

just below the roller for entering the string, and *h* is a screw-nut, the turning of which causes the screw *c* to move up or downward, respectively.

The use and operation of this wrest-pin are the following: The pin is screwed on the wrest-board by screw *a*, with the hole *g* opposite to the string, (which is otherwise arranged in the piano in the usual manner.) The end of the string is put through *g*, passed through below the roller *f*, and fastened by a small loop or knot to the hook *d* of the screw *c*, which is brought down as near as possible to the roller. The screw is then elevated by turning the screw-nut *h*. The string is drawn upward and increasing the distance between the roller and hook the strain of the string is effected true in the direction of the axis of the screw. The screw itself is prevented from turning with the nut, as its parallel sides are guided by the corresponding sides of the quadrangular hole in the head-piece *b'*, which will allow no turning, but only an upward and downward sliding of the screw. Turning the nut in the opposite direction will effect that the screw is drawn downward by the strain of the string itself, so the tuning is effected by turning the nut in one direction or in the other, and, further, without the use of a turn-key, as the force of the fingers is sufficient to turn the screw-nut.

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

Combining the heads of wrest-pins with an adjustable screw to which the string is attached in such manner that the direction of the straining force is mathematically true in the direction of the axis of the adjustable screw by the means substantially as described and set forth.

GUSTAVE SCHILLING.

Witnesses:

JUL. G. SCHWABE,  
MORRIS K. CRANE.