(No Model.)

E. E. HOLLOWAY.

PIANO TUNING PIN.

No. 416,334. Patented Dec. 3, 1889.

Fig. 1.

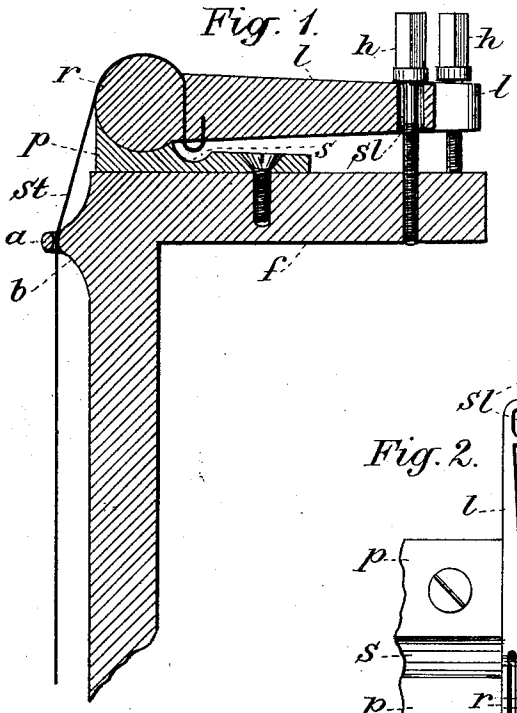


Fig. 2.

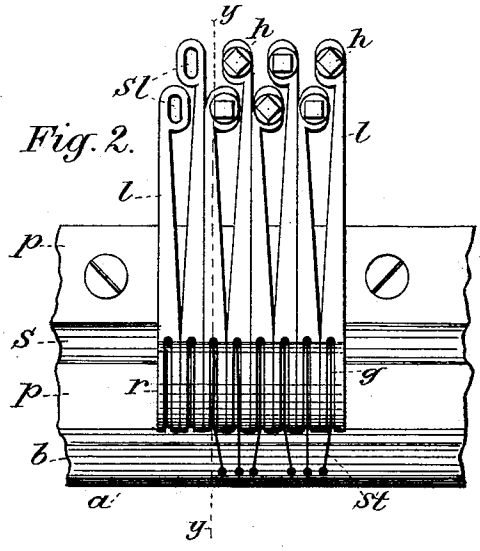
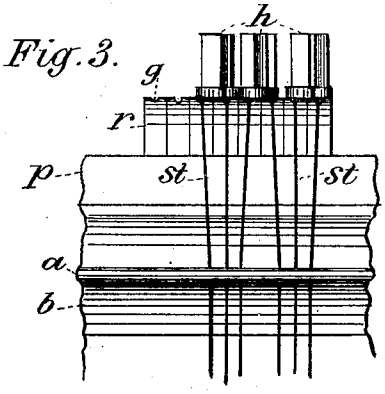


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ELMER E. HOLLOWAY, OF INDIANAPOLIS, INDIANA.

PIANO TUNING-PIN.

SPECIFICATION forming part of Letters Patent No. 416,334, dated December 3, 1889.

Application filed March 30, 1889. Serial No. 305,401. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. HOLLOWAY, of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Piano Tuning-Pins; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

My invention relates to the construction of devices for stretching the strings upon pianos, commonly called "tuning-pins," and will be understood from the following description.

In the drawings, Figure 1 is a sectional view of my device, on an enlarged scale, drawn upon the line *y y*, Fig. 2. Fig. 2 is a top view. Fig. 3 is an end view.

In detail, *f* is the iron frame; *st*, the strings, and *p* a plate fastened by screws upon the top of the frame, as shown in Fig. 1. This plate has two sockets, one near the outer end. The larger of the two provides a bearing for the round portion *r* of the lever *l*, and this round portion is grooved, as at *g*, Fig. 3, to admit the strings. The string, coming up from below, over the bridge *b*, through the agraffe *a*, (the latter being conveniently formed integral with the bridge, as shown in Fig. 1,) passes up over the round *r* in the groove *g*, then downward through an opening formed in the lever *l*, and upward again from beneath into a short opening, making a loop, anchoring the string, as shown in Fig. 1. The smaller socket of the plate *p* is located directly below the loop in the string, so as to give room for it as the lever is forced downward in the act of tuning.

The rear end of the lever *l* has an eye composed of an elliptical slot *sl*, as shown in Fig. 2. Every alternate one of these levers is longer than the other, so that the eyes of the lever may not interfere. Through this slot passes a screw having a squared head *h*, fitting the opening in an ordinary tuning-hammer. The screws pass downward, working in threaded holes in the frame, as shown in Fig. 1.

The socket-bearing of the rounded end of the lever *l* acts practically as a fulcrum, and the string, passing over the round and down through this lever and up again beneath, as shown, is given a gradual strain, avoiding any short turn and fracture of the fibers of the string, and at the same time provides a secure anchorage and obviates any difficulty occasioned by the straining of the string about the ordinary pin. All that is necessary to do in tuning the piano is to turn with the hammer the head *h* of the compressing-screw, and this forces that end of the lever down and the opposite end relatively up, giving a leverage from the screw forward to the round *r* at the opposite and round end of the lever, and this moving gradually in its socket-bearing draws the string tight and holds it at the precise point desired.

It is well known that the ordinary pin has a long bearing in the frame and the wood backing below it, and that the friction of such bearing is so great that it is difficult to turn the pin, and sometimes the pin itself will twist before it will turn in its socket; hence the pin must be turned far enough to allow for the untwisting of the pin, or else the string will let down or fall below the proper pitch. By my device all such disadvantages are remedied, the thread of the screw passing through the end of the lever allowing a very slight and gradual strain upon the string, and by further turns a greater strain is brought upon it, and any degree of pitch may be easily gained and held firmly at the point desired.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. A piano-tuning device wherein the string after passing the bridge is carried over the rounded end of a lever resting in a socket-plate connected to the frame, the opposite end of the lever held in adjustable position by means of a screw passing through such end into the frame, substantially as shown and described.

2. A piano-tuning device comprising a socket-plate *p*, fastened to the frame *f*, a lever *l*, having rounded end *r*, resting in the socket of such plate and slotted at its other extremity, an adjusting-screw passing through such slot into the frame below and having a squared head *h*, all combined substantially as shown and described.

3. A piano-tuning device comprising a lever having at one end a socket bearing upon the frame, a groove to receive the string formed in its periphery, and means, such as an adjusting-screw, passing through the opposite end into the frame for adjusting such lever against the tension of the string, substantially as shown and described.

In witness whereof I have hereunto set my hand this 27th day of March, 1889.

ELMER E. HOLLOWAY.

Witnesses:
C. P. JACOBS,
E. B. GRIFFITH.