

(No Model.)

C. HAAKE.
PIANO TUNING PIN.

No. 461,217.

Patented Oct. 13, 1891.

Fig. 1.

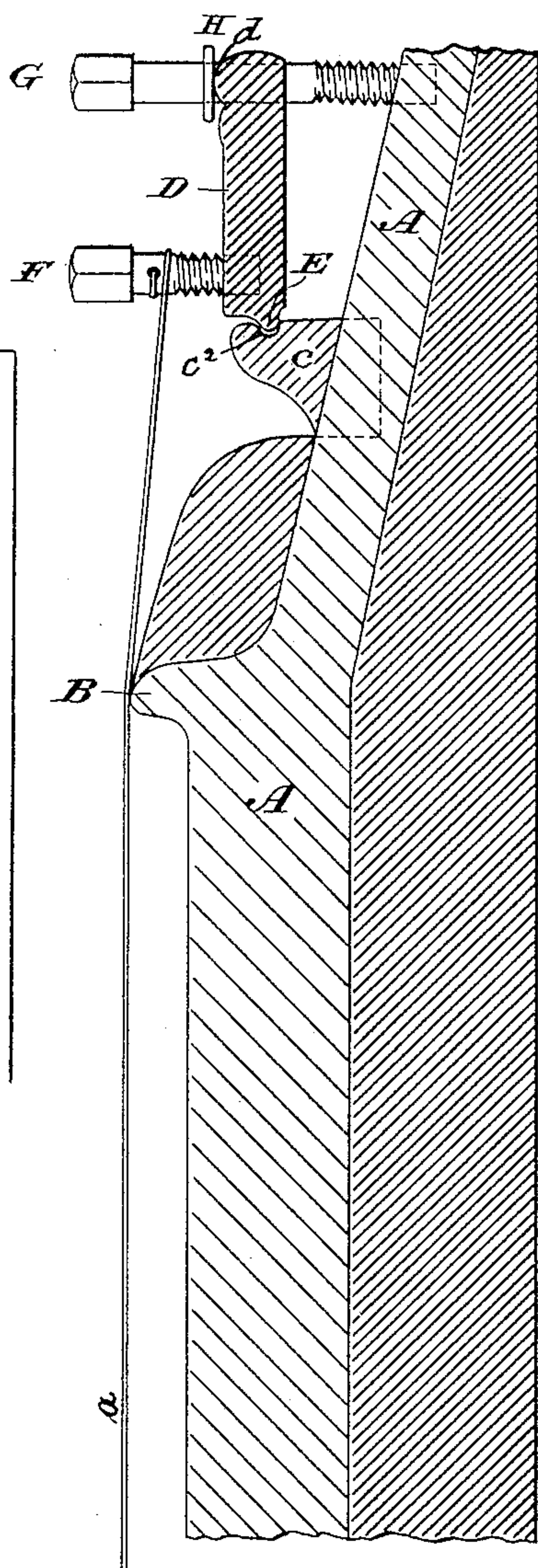


Fig. 2.

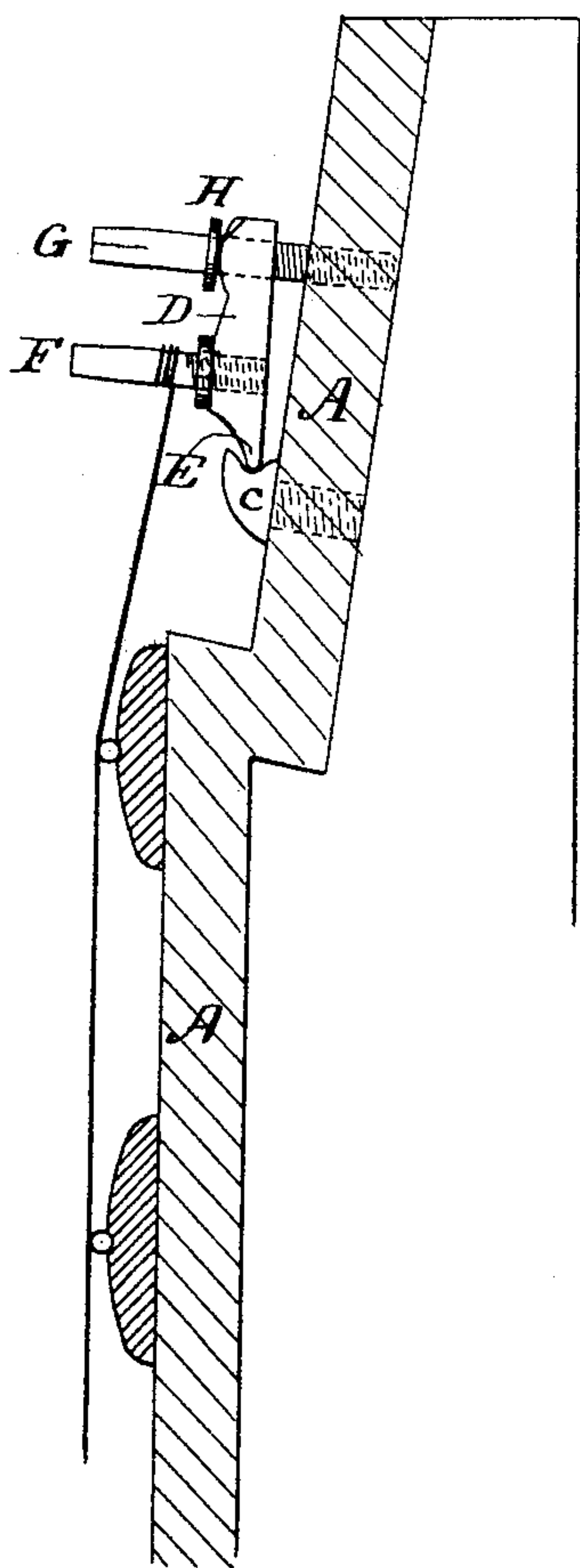
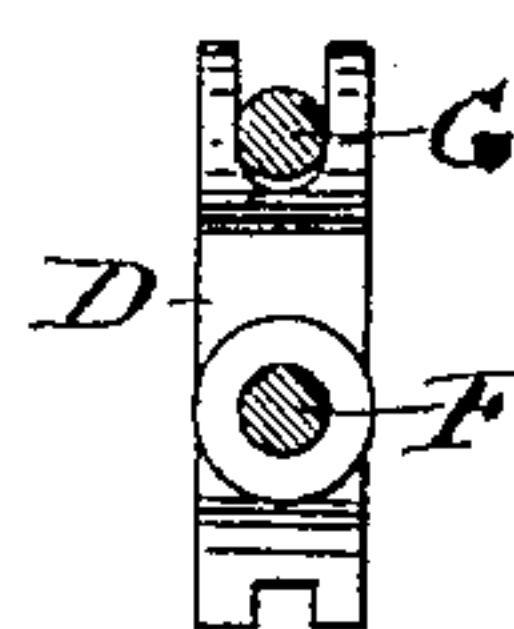


Fig. 3.



INVENTOR:

Carl Haake

By

Arthur M. Malcomson
his Attorney.

WITNESSES:

E. H. Perry
H. Edward Browne.

UNITED STATES PATENT OFFICE.

CARL HAAKE, OF HANOVER, GERMANY, ASSIGNOR TO ROBERT THOMPSON,
OF CHRIST CHURCH, NEW ZEALAND.

PIANO TUNING-PIN.

SPECIFICATION forming part of Letters Patent No. 461,217, dated October 13, 1891.

Application filed October 24, 1889. Serial No. 328,097. (No model.) Patented in England January 10, 1888, No. 420; in Victoria March 27, 1888, No. 5,730; in New South Wales August 6, 1888, No. 838; in New Zealand March 23, 1889, and in South Australia July 2, 1889, No. 1,342.

To all whom it may concern:

Be it known that I, CARL HAAKE, of the city of Hanover, in the Empire of Germany, have made certain new and useful Improvements in Apparatus for Holding and Tuning the Strings for Pianos and other Instruments of the Like Kind, (for which I have obtained Letters Patent in Great Britain, dated January 10, 1888, No. 420; in Victoria, dated March 27, 1888, No. 5,730; in New South Wales, dated August 6, 1888, No. 838; in New Zealand, dated March 23, 1889, and in South Australia, dated July 2, 1889, No. 1,342;) and I do hereby declare the following specification to be a full and clear description of the same, reference being had to the annexed drawings, making a part thereof.

This invention relates to devices by which the strings or wires of piano-fortes are stretched more or less for the purpose of tuning them, and more especially to those forms of such devices in which a lever is operated upon by a screw pin or peg to which the wire or string is attached, the screw being turned as desired by means of an ordinary tuning-key. In such apparatus it has been found advisable that the string or wire to be tuned should be first stretched, so as to give nearly the note required and that only the exact adjustment and any subsequent tuning should be effected by means of a screw acting upon the lever; and the present invention has for its object a novel form of the lever and of the fulcrum against which it works and arrangement by which the string or wire is first stretched before the final tuning is effected, the whole apparatus being simple, cheap, and not liable to get out of order or become displaced.

In the drawings, Figure 1 represents a vertical section of a portion of a piano-forte having tuning-pins connected to the frame in accordance with my invention. Fig. 2 is a vertical section of a slightly-modified form of wire-support. Fig. 3 is a side view of the pivoted lever.

To carry out the above invention, I arrange and fix firmly into the wooden frame of the piano-forte a plate A of iron or any suitable

metal. The plate is constructed with a projecting rib B at its lower end and extending across the whole breadth thereof to serve as a bridge. The plate recedes above the bridge at an angle of thirty degrees from the vertical position. In the face of the plate, to serve as a fulcrum, I secure a bar c of brass or any suitable metal; or a strong rib projecting upward may be cast upon the plate, the bar or rib, as the case may be, having a groove c² in the upper surface. For each string or wire which is to be stretched I use as a lever a short bar or block of metal D, having at the back of the lower edge an angular or rounded vertical projection E, which is fitted into the groove of the fulcrum bar or rib already described and admits of the lever-bar rising or falling to oscillate for a suitable distance. Into the front of the lever-bar, at the lower end thereof, a wrest pin or peg F is screwed or otherwise fitted tightly, to which the end of the wire to be stretched is fastened and wound round in the ordinary manner, the upper end of the wrest pin or peg being shaped to fit an ordinary tuning-key, by which the pin can be turned round and the wire tightened. The top of the lever-bar is forked, and through the forked end is passed a second vertical wrest pin or peg G, the lower end of which is screwed into the plate A, the upper end being formed to fit an ordinary tuning-key. The last-mentioned wrest pin or peg is fitted with a collar or washer H, which presses upon the side of the forked bar, said side being preferably rounded at d to allow for the varying position of the lever-bar. When the wire or string has been sufficiently tuned by turning the first-described wrest pin or peg F, its tension presses the lever-bar into the groove on the upper part of the fulcrum bar or rib c, and this prevents its being displaced. At the same time the upper wrest pin or peg G, which holds down the forked end of the lever-bar, also assists to keep it firmly in position. By turning the upper wrest pin or peg very slightly to the right or left the string can be turned with great ease and accuracy.

A bar with two adjustable pins or pegs, as described, is used for each string or wire which

is to be stretched, and the entire apparatus (which has been described as applied to horizontal strings) may be arranged in any suitable position, the heads of the pins or pegs being in the same position as those in any ordinary piano-forte, so that the tuning-key can be readily applied.

A separate fixed plate, with an angular notch serving as a fulcrum for the movable bar, may be used for each string or wire if found advisable. Very great advantage is obtained by the use of the adjustable pin or peg for holding and stretching the wire or string and by the position of the angular groove or fulcrum at the front edge of the movable bar.

The invention is described above as applied to vertical strings; but it may be applied to strings arranged in any position.

The above arrangement also admits of the ends of the pins being in the same position as in an ordinary piano-forte, so that the tuning-key can be readily applied. A separate

fulcrum bar or rib can be constructed for each string or wire if it should be found advisable.

Having now described the nature of my invention and the manner in which the same is to be performed, I claim as new and desire to secure by Letters Patent of the United States—

The combination of the plate A, having a rounded bridge, the fulcrum-bar *c*, projecting from the surface of said plate and having a groove *c*² therein, and the lever-bar D, having a projection E at one end and extended at a right angle to the axis of the pegs on said bar and a rounded side *d* at the opposite end, with the pegs F and G in engagement with said lever-bar, substantially as shown and described.

CARL HAAKE.

Witnesses:

FRED SCHLOTTMAN,
JOHN KRACKE.