ANTHONY FAAS.

Improvement in Pianos.

No. 118,353. Patented Aug. 22, 1871.

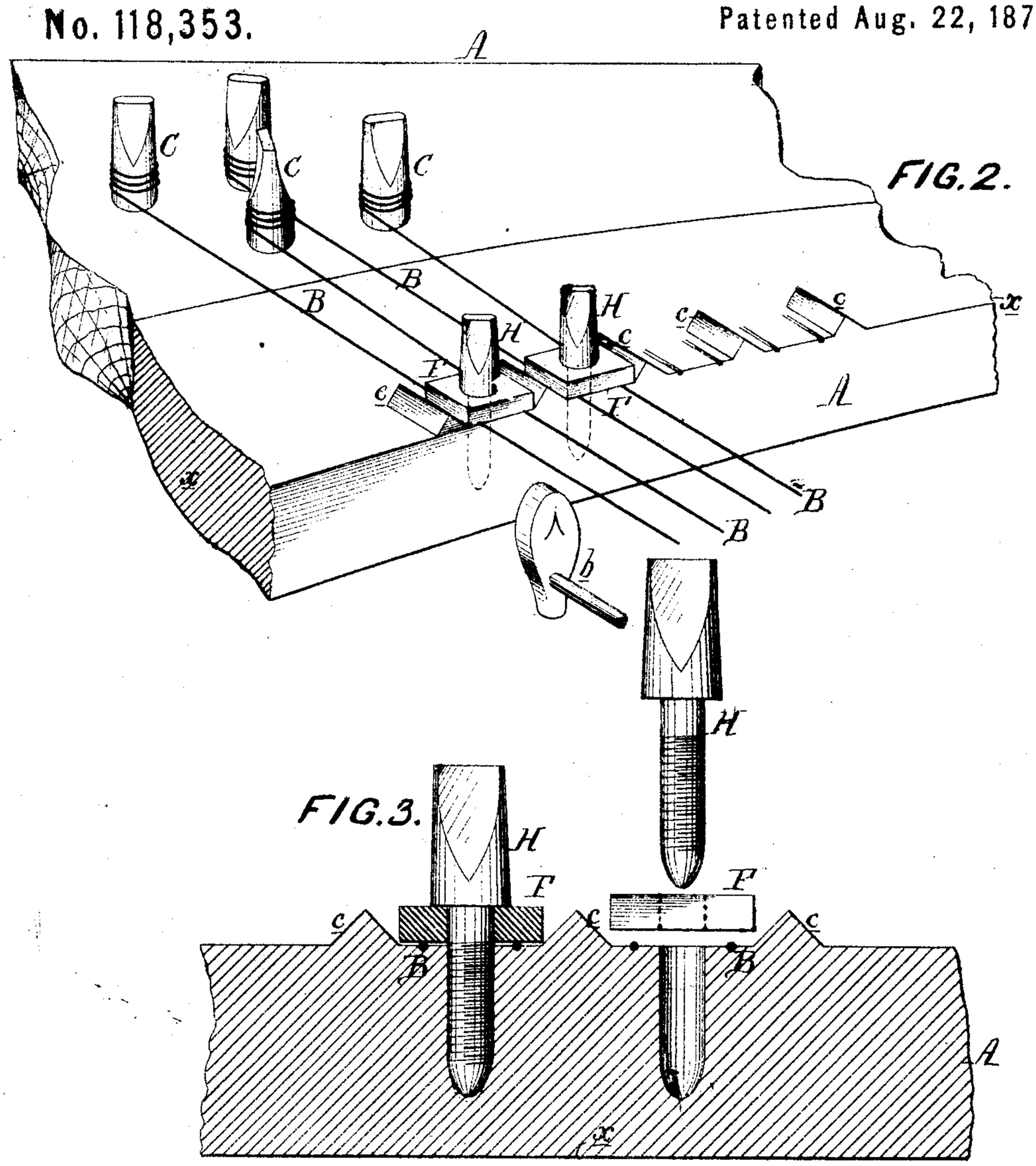

FIG. 2.

FIG. 3.

FIG. 1.

WITNESSES { Jno. B. Harding.
Harry Smith Jr.

Anthony Faas
by his Attys
Howson and Sons.

118,353

UNITED STATES PATENT OFFICE.

ANTHONY FAAS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PIANOS.

Specification forming part of Letters Patent No. 118,353, dated August 22, 1871.

To all whom it may concern:

Be it known that I, ANTHONY FAAS, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented Improvements in Pianos, of which the following is a specification:

My invention consists in the combination, with the wires, tuning-pins, and curved bar or bridge of a piano, of certain clamps or washers, operated by screws, in the manner fully described hereafter, so as to force the wires down upon and hold them firmly against the bridge without affecting the tension of the wires; the main objects of my invention being to prevent the bending, breaking, or slipping of the wires, and to improve the tone of the instrument.

Figure 1 is a perspective view, representing the ordinary method of arranging the wires of a piano; Fig. 2, a perspective view of part of a piano with my improvement; and Fig. 3, a sectional view of part of Fig. 2 drawn to an enlarged scale.

A represents part of the ordinary curved bar or bridge, to which one end of each of the wires B of a piano are attached by means of a tuning-pin, C, the front portion *x* of the said bridge being, by preference, made of cast-iron or other metal. Each of the tuning-pins C has a tapering lower end adapted to a correspondingly-shaped opening in the bridge A, and is squared or flattened at its upper end, so that it may be turned by a suitable instrument for the purpose of winding in or unwinding the wires and of thus stretching or slackening the same. From the tuning-pins the wires are ordinarily carried to one side of lugs or pins *a a* on the edge of the bar A, and are slightly bent against each of the said lugs, in the manner plainly shown in Fig. 1, for the purpose of holding them at points close to the bar and of thus preventing undue vibrations when the said wires are struck by the hammers *b*.

The bending of the wires against the lugs *a* and the drawing of the same around the said lugs when they are stretched by means of the tuning-pins have a tendency to wear and to ultimately break the said wires. The lugs, moreover, will not hold the wires should the latter become broken at the points where they are wound around the tuning-pins. Neither do the said lugs aid the tuning-pins to any considerable extent in resisting the strain of the wires, so that the tuning-pins are constantly liable to slip and thus permit the slackening of the wires. This slipping of the tuning-pins is one of the principal objections to their use, and various plans have been devised for locking and retaining them in any position to which they may be adjusted.

My invention, which I will now proceed to describe, consists of a device to be used in place of the lugs *a*, and which will serve the double purpose of reducing the strain of the wires upon the tuning-pins, and of thus preventing the slipping of the latter, and also as a means of holding down and firmly retaining the wires at points close to the edge of the bar A without bending or otherwise injuring the said wires.

This device consists of a simple guided clamp or washer, F, by which the wires previously stretched to the desired degree by the tuning-pins are forced downward into grooves cut in the edge of the bar A, and there firmly held, the requisite pressure being imparted by screws H passing through holes in the clamps and into the bar in a manner which will be readily understood on referring to Fig. 2. The clamps are preferably of a square or rectangular form, and are prevented from turning with the screws by lugs *c c* of the bar, which project upward on either side of the said clamps.

When the wires have to be tightened or slackened by means of the tuning-pins the pressure of the clamps upon the same is relieved by slightly turning the screws H; but as the said clamps are held by the lugs *c c* they will be simply raised without turning, and will not, therefore, have any tendency to twist or force the wires out of place or alter the tension. This is most important, as any alteration in the tension of the wires would affect the tone.

The clamps F, besides aiding the tuning-pins in holding the wires, serve to retain the said wires, should the latter by any means become broken at the point where they are wound around the tuning-pins. The screws H of the clamps have heads or ends similar to those of the tuning-pins, so that they may be turned by the same instrument used for the latter. The grooves for the reception of the wires may be cut in the under side of the clamps instead of in the bridge, or they may, if desired, be formed in both clamps and bridge. As another advantage obtained by

the use of the clamps, in addition to those above described, I have ascertained that the tone of the instrument is materially improved.

I claim—

The combination, with the wires, tuning-pins, and bridge A of a piano, of clamps or washers F, capable of vertical adjustment only, and operated by screws H, in the manner described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANTHONY FAAS.

Witnesses:

ANTHONY J. FAAS, Jr.,

J. K. RUPERTUS.