

L. W. NORCROSS.
Piano-Forte Tuning-Pin Lock.

No. 225,017.

Patented Mar. 2, 1880.

Fig. 1.

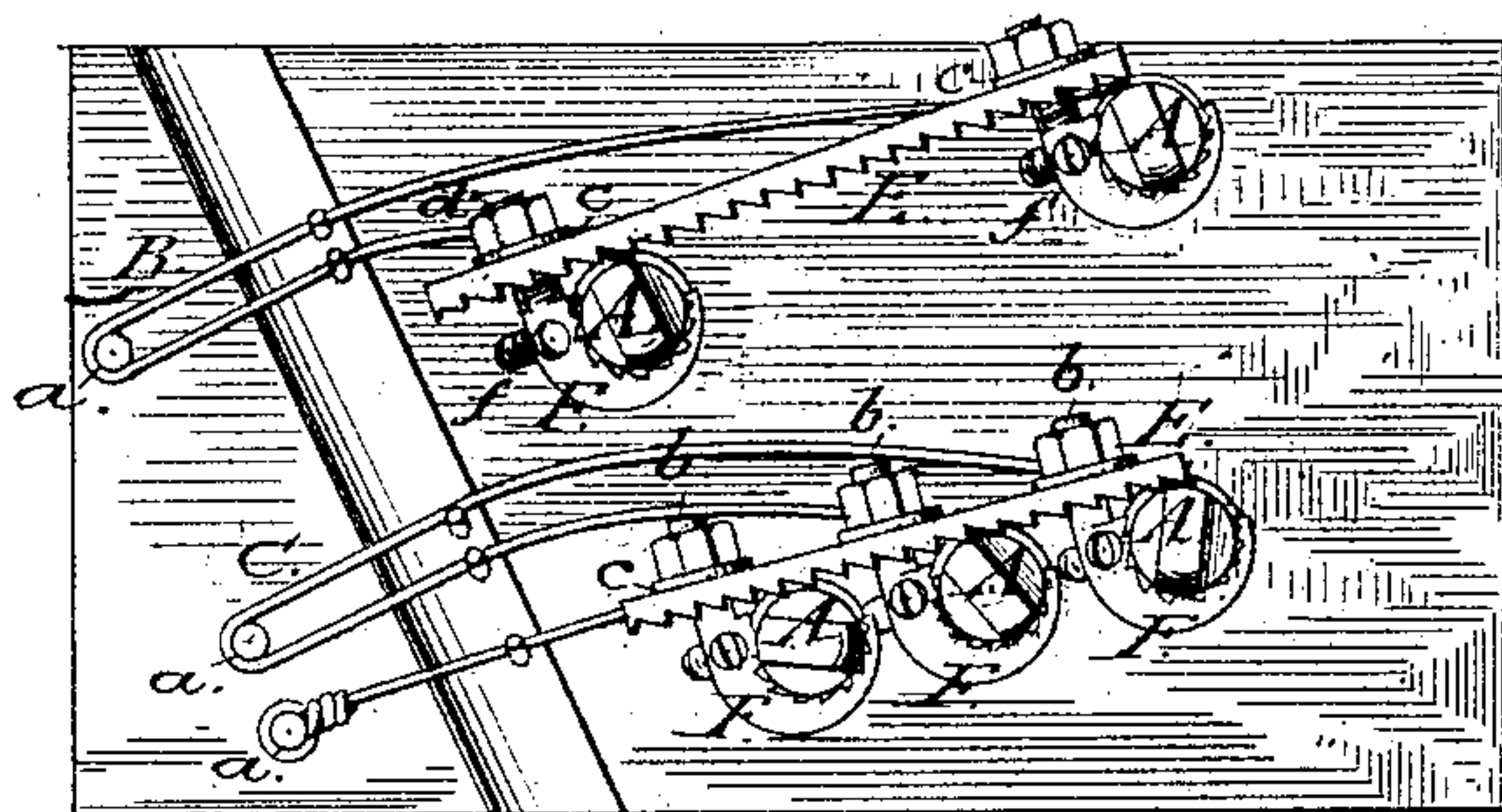


Fig. 2.

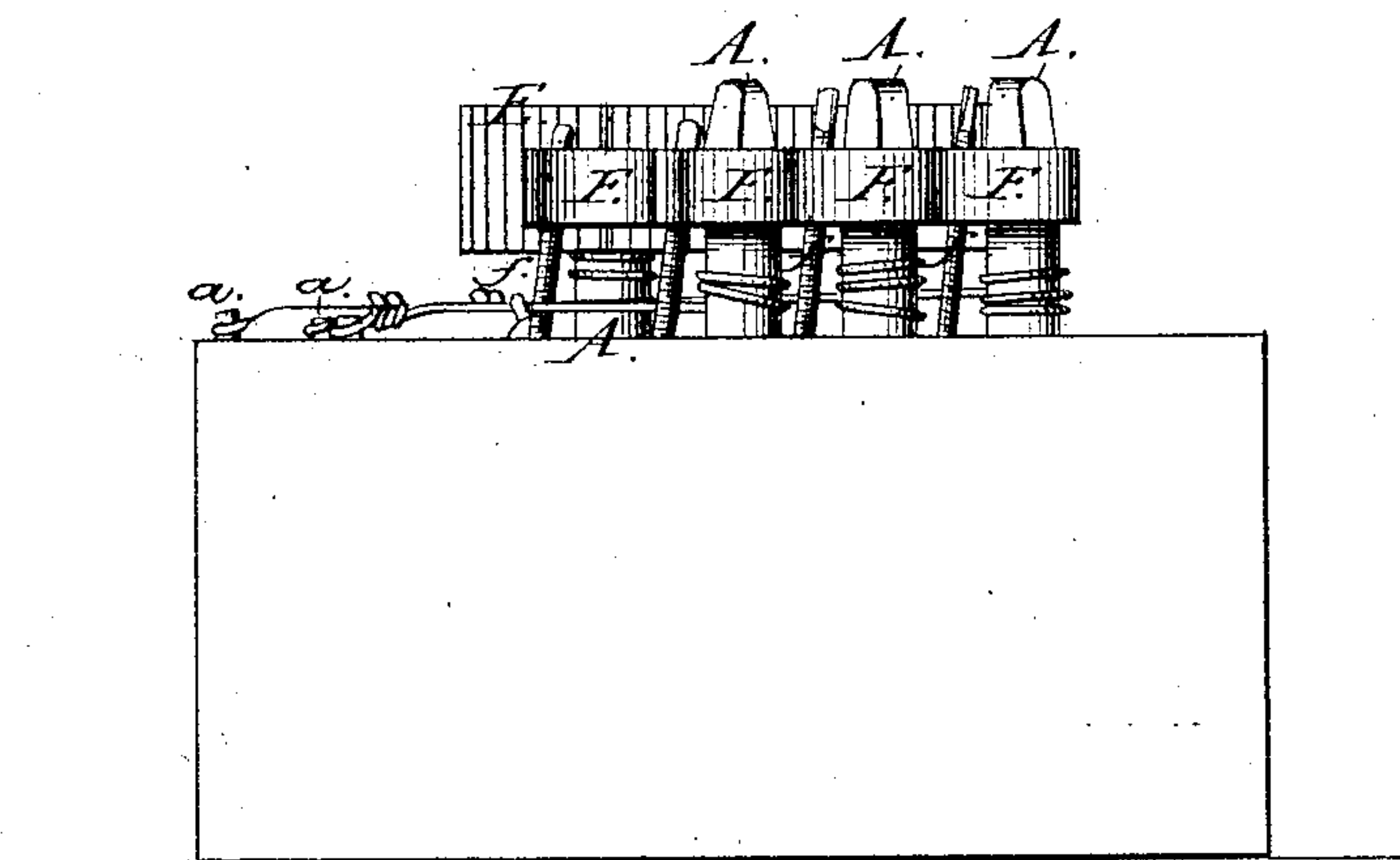


Fig. 4.

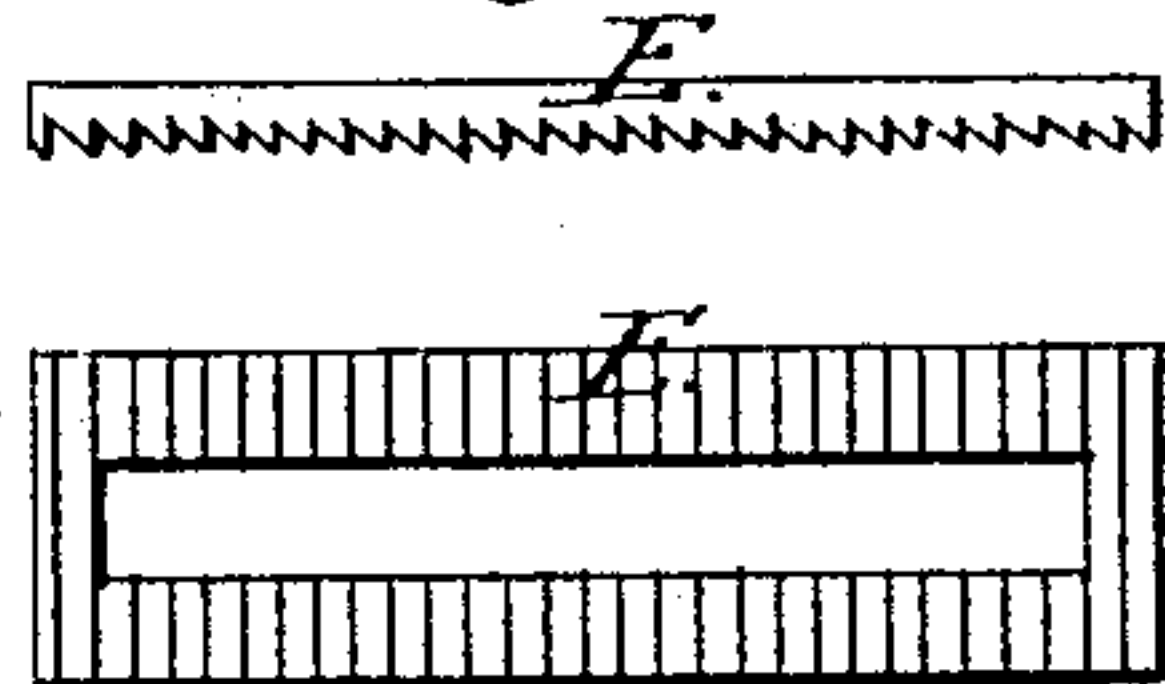
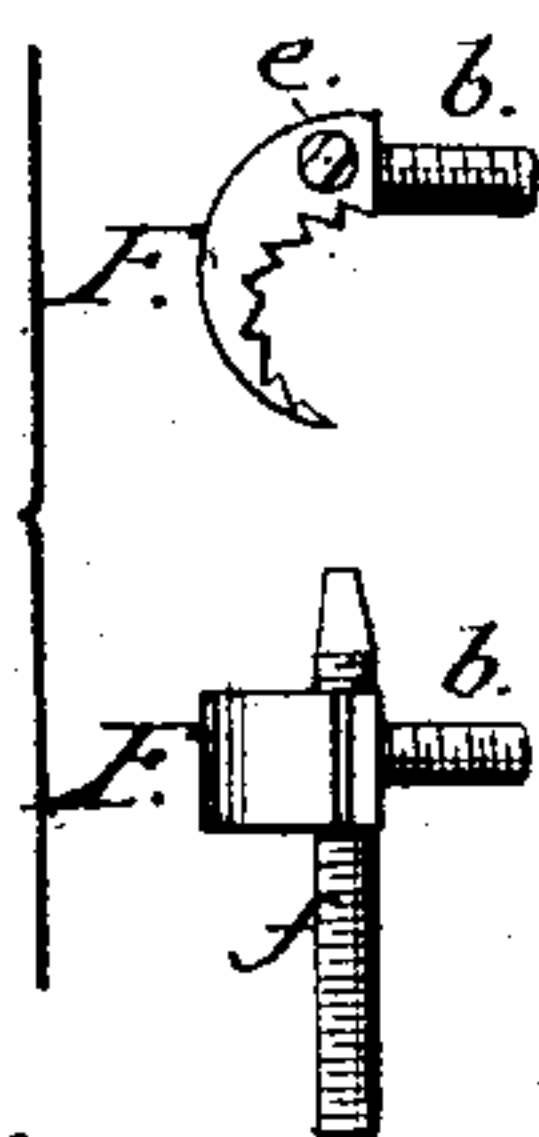


Fig. 3.



Witnesses:
Edw. W. Bonn
J. M. Kalk.

Inventor:
Lewi W. Norcross
per Baker & Street Jr.
Attorney.

UNITED STATES PATENT OFFICE.

LEVI W. NORCROSS, OF FORT WORTH, TEXAS.

PIANO-FORTE TUNING-PIN LOCK.

SPECIFICATION forming part of Letters Patent No. 225,017, dated March 2, 1880.

Application filed July 17, 1879.

To all whom it may concern:

Be it known that I, LEVI W. NORCROSS, of Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Piano-Forte Tuning-Pin Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention is a device for locking the tuning-pins of a piano-forte.

It consists, primarily, of an elongated or oblong metal plate provided with a slot in a part of its length and having one of its faces roughened into serrations, or provided with raking-teeth formed transversely across its face, which, together with serrated, roughened, or correspondingly-toothed hooks bolted to said plate, form a clamp to bind two or more tuning-pins of a piano together, to prevent them from turning as a set or independently, in a manner and for a purpose hereinafter to be fully set forth.

It consists, secondly, in the combination, with the serrated hook previously mentioned, of a screw-threaded pin provided with a head fashioned to receive a wrench, which is adjusted in said hook with an outward inclination, and adapted to bear upon the plate or wrest-plank of a piano-forte to form a brace to the tuning-pin, to assist it in resisting a blow of the hammer or from being bent or sprung by any ordinary means.

In my drawings, Figure 1 shows a top or plan view of my device as applied to two and three pins in sets. Fig. 2 is an elevation of the same. Fig. 3 shows views of the hook detached. Fig. 4 shows side and edge views of the plate detached.

Similar reference-letters indicate like parts in all of the figures.

Referring to drawings, A are the tuning-pins of a piano-forte, secured in the wrest-plank in the usual way. B C are the strings, forming separate sets or groups, secured to hitch-pins *a a a* and attached to tuning-pins. E are the oblong metal plates, having slots cut or formed in their centers to receive the bolts of

the hooks F, in which slots said hooks may be adjusted to suit the spaces between the tuning-pins. These plates E have one of their sides serrated, roughened, or cut transversely into teeth of the inclined form, raking, when in position, from the hitch-pins.

Hooks F are of metal, preferably steel, and have their concave surfaces roughened, serrated, or formed into teeth adapted to grasp the heads of the tuning-pins. These hooks are made heaviest at the base of their curves and taper to a narrow edge at their ends. Screws or bolts *b* extend from the hooks F, one side of which is tangent to said hooks' concave surface, and surrounding said screw at the base of the hooks' curve is a shoulder, which may or may not bear fairly against the toothed surface of the plate E. Washers *c* are interposed between the smooth surface of the plate and nuts *d*, which clamp the hooks firmly to said plate.

Screw-threaded holes *e* are formed in the hooks F, extending through them obliquely downward and outward, so that when screws *f*, which fit into said holes, are in proper position with relation to the tuning-pins and bearing upon the wrest-plate or plank, a brace is formed to the tuning-pins toward the hitch-pins, to assist said tuning-pins in resisting hammer-blows or any unusual strain. The screws *f* are provided with heads, to receive a wrench, with which they may be adjusted to suit the distance between the hooks F and the wrest-plate.

In applying my device to the tuning-pins, the hooks and plate being fixed together loosely, as described, it is only necessary to slip the hooks over the heads of the said pins, pressing them down and clamping them with the nuts until the points of the hooks and plate take hold of the pins. The screws *f* must now be adjusted to bear on the wrest-plate, as previously described.

To those acquainted with the construction of pianos it is well known that every chord except thirteen has double strings or wires, which are looped and held at one end by a suitable pin in the iron plate and at the other ends by the tuning-pins.

The wires forming a set are always tuned to a perfect unison, but being held separately, the

slightest yielding of either of the pins that hold them destroys the equality of pitch. In order to keep these sets of tuning-pins fixed relatively to each other, it is very important
5 that some mechanical device be employed. By my device I not only keep them relatively fixed, but at the same time prevent them from moving independently of each other.

In my drawings the hooks F are shown as
10 tapering from the base of their curves to their outer ends, and this form, for good reasons, I prefer, but do not wish to be limited to this exact shape, as the essential features are the roughened concave surface and extended bolt.

15 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a toothed clamping-plate and toothed clamping-hook adapted to
20 hold in position two or more tuning-pins of a musical instrument, as specified.

2. In a device for locking together the tuning-pins of stringed musical instruments, the plate E, serrated or toothed on its face trans-

versely and provided with a slot adapted to
25 receive the bolt of the hook F, as and for the purpose set forth.

3. The hook F, serrated, roughened, or toothed on its inner or concave surfaces, and having bolts *b*, adapted to receive a clamping-
30 nut, in combination with the serrated, roughened, or toothed plate, as and for the purpose set forth.

4. The toothed plate E, provided with an oblong slot, and toothed hooks F, having bolts
35 *b*, washer *c*, and nuts *d*, in combination with the tuning-pins A, as and for the purpose specified.

5. In combination with plate E and hook F, the screw-brace *f*, as and for the purpose set
40 forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LEVI W. NORCROSS.

Witnesses:

C. R. MOREHEAD, Jr.,

J. H. MATTHEWS.