

(No Model.)

W. H. IVERS.
PIANO TUNING PIN.

No. 463,729.

Patented Nov. 24, 1891.

Fig. 1.

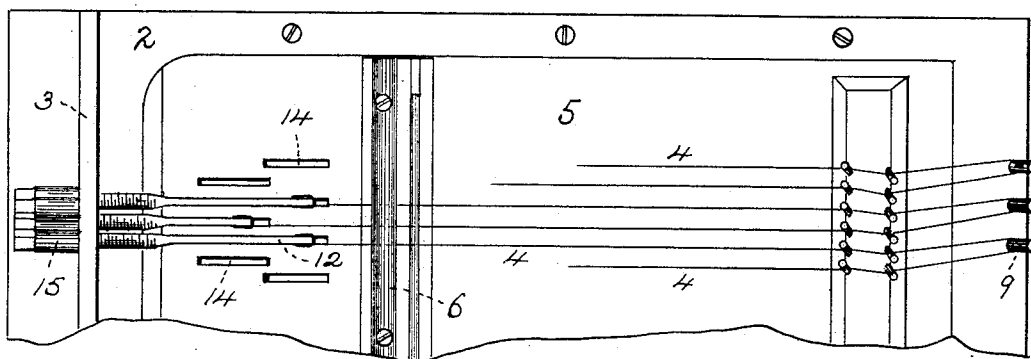


Fig. 2.

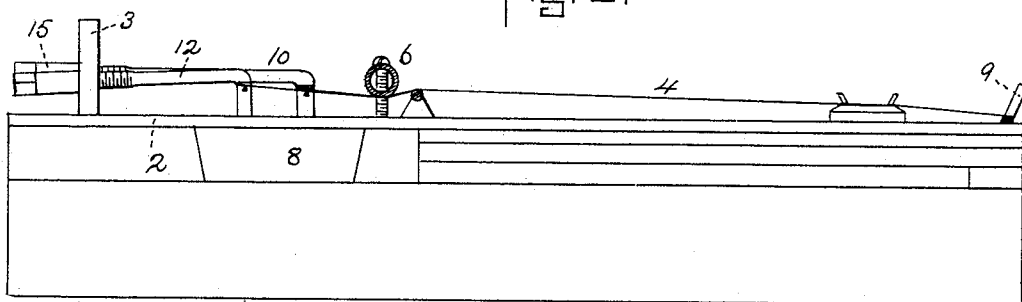


Fig. 4.

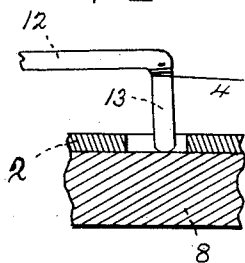
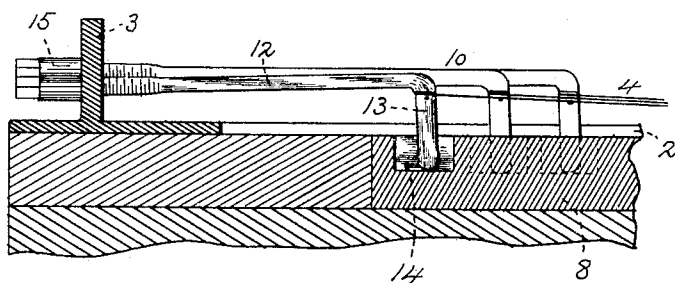


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM H. IVERS, OF DEDHAM, ASSIGNOR TO THE IVERS & POND PIANO COMPANY, OF BOSTON, MASSACHUSETTS.

PIANO TUNING-PIN.

SPECIFICATION forming part of Letters Patent No. 463,729, dated November 24, 1891.

Application filed June 22, 1891. Serial No. 397,046. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. IVERS, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Tuning-Pins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 or figures of reference marked thereon, which form a part of this specification.

This invention relates to piano-fortes; and it consists in improved mechanism by which the instrument can be more readily tuned and strings replaced in case they should break.

This invention consists of a tuning-pin having an L-shaped form and constructed of a single piece of metal bent at one point to create two arms, one of which shall enter or rest upon the pin-block, while the other portion above the pin-block is furnished with a device whereby the tension of the wire can be adjusted, the string being attached at one end to the tuning-pin at or near the point of flexure, which is here pierced to admit it.

The drawings herewith presented represent in Figure 1 a plan, and in Fig. 2 a side elevation, of a piano-forte embodying my invention. Fig. 3 is an enlarged view of a tuning-pin, showing its position in the pin-block, which is represented in section. Fig. 4 is a modification.

The object of my invention is to provide mechanism which will render the tuning of piano-fortes easy, keep them in tune longer, and at the same time provide ready means for the replacing of a string in the event of one breaking while this act is being accomplished. To this end I have constructed an L-shaped tuning-pin, which has sliding movement bodily in the same general direction in which the strings are stretched, and one which can be readily removed and as easily replaced.

In the present instance I have shown the frame of a piano-forte at 2, formed with an upraised or projecting flange 3. The strings are indicated at 4, the sounding-board at 5, the

bridge at 6, and the pin-block at 8. As usual, the strings are secured about the fixed posts or "plate-pins" 9, so called, at one end, and attached to the tuning-pins at the opposite end. Said pins 10 (see Fig. 3) are made preferably from a single piece or length of metal having any suitable cross-section, and bent at one point to create an L-shaped bar, preferably one unequally divided, having one long and one short arm, respectively 12 13. Furthermore, a hole is bored at or near the point of flexure to receive one end of the wire which enters it. In connection with this tuning-pin I have recessed the pin-block, whether iron or wood, forming apertures 14 to admit the short part 13 of the tuning-pin, which is perpendicular, or approximately so, to the surface of the pin-block when the pin is properly positioned, while the long part 12, parallel with or slightly inclined above said pin-block and screw-threaded at its extremity, projects through the flange 3 of the frame of the instrument. A nut 15 or other equivalent serves to compel the tuning-pin to move or slide bodily in planes nearly coincident with the strings.

By reference to Fig. 1 it will be seen that the construction of such tuning-pins permits them to be placed very closely together without causing the strings to ride or bear upon each other. Further, they can readily be taken out by removing the nut, lifting the front end of the pin, and then pulling it obliquely forward. The same advantage accrues as in a tuning-pin driven firmly into the pin-block, since the lower end of the short arm 13 rests in the pin-block and tones resultant by contact therewith according to the substances used therefor are consequently obtained. Frequently the pin-block is covered with the iron frame of the piano, in which event the tuning-pins need not enter the wooden portion of the pin-block, but engage suitable slots in the iron frame which now steadies them. (See Fig. 4.) Furthermore, it will be seen that the point where the strings emerge from beneath the bridge is in a plane below the eye in the tuning-pin. Hence the tension of the string serves to hold said pin firmly pressed against its resting-point in the pin-block, while the side walls of the recess 14

prevent the pin from turning and keep it steady during the process of raising or lowering the pitch.

I do not desire to be limited to the precise form of the tuning-pin herein set forth, since I consider my invention is embodied in the use of a single piece of metal formed with an elbow or bend in order to create two parts or arms angularly disposed, one arm which shall enter or rest upon the pin-block, the other above but parallel with or slightly inclined to the pin-block, while to the latter arm is affixed means for regulating the tension of the string to which it is removably secured.

What I claim is—

1. As a new article of manufacture, a tuning-pin formed of an integral length of metal with suitable cross-section and having a flexure or elbow to create two arms, one of which contacts with the pin-block and the other sustains the tension of the string, substantially as stated.

2. In a piano-forte, a tuning-pin composed of two portions or arms integrally united, but angularly disposed, one to contact with the pin-block, the other parallel with or obliquely disposed above said pin-block, and means secured to the latter arm to regulate the tension of the string, substantially as specified.

3. An L-shaped tuning-pin, as described, in combination with a pin-block having a recess formed in it to receive one arm of the tuning-pin, the said recess being elongated to

allow sliding movement of the tuning-pin bodily in a plane coincident, or nearly so, with the longitudinal axis of the string, substantially as set forth.

4. The combination, with a piano-forte frame, a flange thereupon and a pin-block having a series of recesses, of a series of strings and a series of integral removable tuning-pins formed with an elbow to create two arms, one of which contacts with the pin-block, the other arm being parallel with or inclined to the face of the pin-block and screw-threaded to engage a nut resting against the flange of the frame, substantially as specified.

5. In combination with a piano-forte, a series of strings and a pin-block having a series of elongated recesses, a series of removable tuning-pins adapted to slide in the recesses of the pin-block, said tuning-pins being bent to form two arms, one to contact with the pin-block and the other parallel with or inclined to the surface of the pin-block, the string being secured at or near the point of flexure, and means attached to the tuning-pin by which tension of the string is regulated, substantially as stated.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. IVERS.

Witnesses:

GEORGE A. GIBSON,
H. E. LODGE.