(No Model.)

W. R. BRIGGS.

TUNING PIN FOR STRINGED INSTRUMENTS.

No. 277,211. Patented May 8, 1883.

fig 1

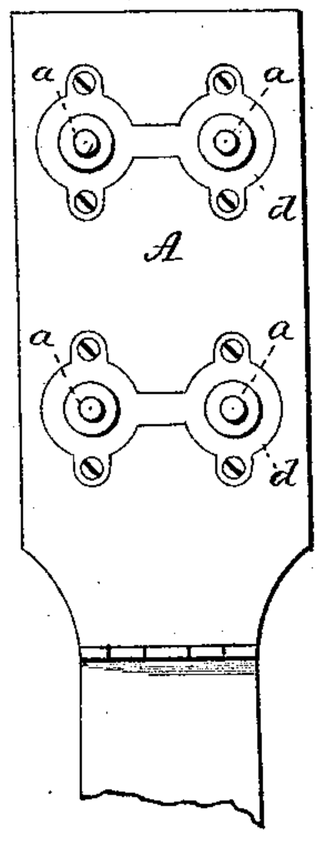
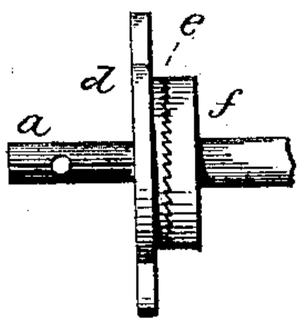
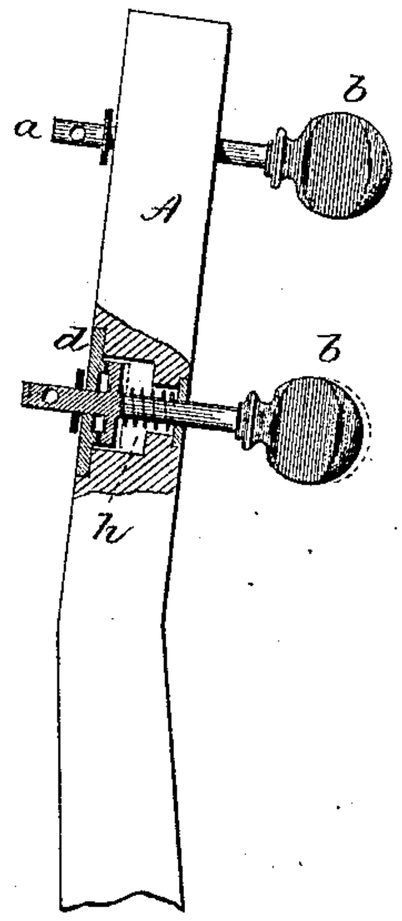


fig 2

fig 3





Witnesses.

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WARREN R. BRIGGS, OF BRIDGEPORT, CONNECTICUT.

TUNING-PIN FOR STRINGED INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 277,211, dated May 8, 1883.

Application filed October 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, WARREN R. BRIGGS, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new Improvement in Stringed Instruments; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked theron, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view; Fig. 2, a sectional side view; Fig. 3, a detached view, enlarged.

This invention relates to an improvement in stringed instruments—such as violins, guitars, banjos, &c.—in which each string is independently tuned by a revolving tuning-pin in the head of the instrument.

Difficulties are experienced in this class of instruments from the fact that the tuning-pins are liable to give back under the strain brought upon them. In the more general construction of this class of instruments the tuning-pin consists of a spindle extending through the head, constructed on one side to engage the string, and on the other with a finger-piece by which to turn the tuning-pin, and depending upon the friction of the pin in the head to retain it in place.

The object of my invention is to combine with such tuning-pins a device which will retain them in place when the string is drawn to the required tension and prevent the possibility of the pin giving back, yet permit it to be let down when occasion requires; and the invention consists in the construction, as hereinafter described, and more particularly recited in the claims.

A represents the head; *a*, the tuning-pins therein, here represented as four, as for a violin. The tuning-pins extend through the head, and are provided on the under side with a finger-piece, *b*, by which they may be turned. In the face of the head is a disk, *d*, through which the pin passes, and in which the pin takes its bearing. Upon its under side this disk is provided with downwardly-projecting teeth or notches *e*, as seen in Fig. 3. The pin has a corresponding disk or collar, *f*, attached to it, and with corresponding teeth, so as to engage the teeth *e* of the disk *d*, as seen in Fig. 3, the teeth inclined forward, with shoulders rearward—that is, shoulders to engage and hold against the strain upon the string. Below the collar *f* is a spring, *h*, which bears up against the collar, tending to hold the teeth of the collar and disk in engagement, as seen in Fig. 2, the spring yielding when the pin is turned to draw up the string, so that the inclines of the teeth on the one part will pass over and escape from the inclines on the other part, and when so escaped reaction of the spring will return them into engagement. The strings are arranged and engaged with the tuning-pin in the usual manner, and the tuning-pins also turned in the usual manner for straining the strings. The engaging teeth permit such turning of the pin and the teeth hold against the strain, so that whenever the strain is made it is caught and held by the teeth; hence the pin cannot give back; but if at any time it is desired to let down the string, then draw the pin downward, as seen in broken lines, Fig. 2, to take the collar out of engagement with the disk *e*. Then the pin will easily revolve in the opposite direction under the strain of the string. By this construction the pin may be so loose in its bearings as to be easily turned—that is, will avoid the friction necessary in the usual construction, and a positive engagement is made, so that the strings cannot be accidentally slackened, as is the case with the common tuning-pins or with that class of tuning-pins in which a worm-gear works into a toothed wheel on the pin.

While I prefer to employ the spring *h* below the collar, it may be omitted, the strain of the string being sufficient to retain the collar and disk in engagement; but in that case greater care must be exercised in turning the pin, in order to bring the tooth into engagement after they have been once disengaged—that is, the tuner should press the pin upward with a yielding pressure. The teeth should be very fine, so as to admit of a delicate adjustment of the pin.

I am aware that a ratchet device has been applied to tuning-pins to hold the strain and prevent the pin turning, and therefore do not claim, broadly, such construction; but I am not aware that a tuning-pin has been arranged in the head of an instrument of the character described, whereby the string is wound upon the pin on one side of the head, the pin extend-

ing through the head and provided with a finger-piece for turning the pin, and such pin fitted both for axial and rotary movement, and with a toothed disk, whereby the turning up of the pin may be held.

I claim—

1. The herein-described improvement in stringed instruments, consisting of the tuning-pin through the head of the instrument, constructed upon the face side for engagement with the string, and upon the opposite side with a finger-piece for turning the pin, the disk *d*, stationary in the head, and through which the pin passes, and the collar *f* on the pin, the collar and disk correspondingly toothed, substantially as and for the purpose described.

2. The herein-described improvement in stringed instruments, consisting of the tuning-pin through the head of the instrument, constructed upon the face side for engagement with the string, and upon the opposite side with a finger-piece for turning the pin, the disk *d*, stationary in the head, and through which the pin passes, the collar *f* on the pin, the collar and disk correspondingly toothed, and the spring *h* below the collar, substantially as and for the purpose described.

WARREN R. BRIGGS.

Witnesses:
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