Aug. 7, 1962 W. H. FARR 3,048,073

MUSICAL STRING TUNING DEVICE

Filed Oct. 16, 1959 2 Sheets-Sheet 1

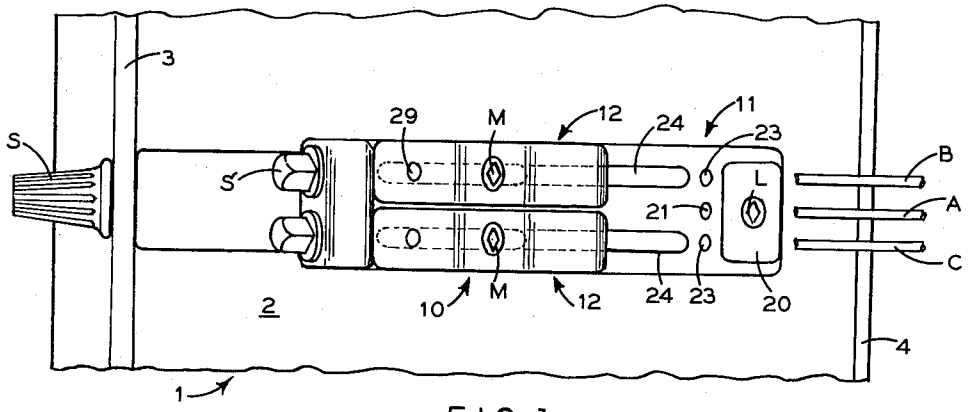


FIG. 1

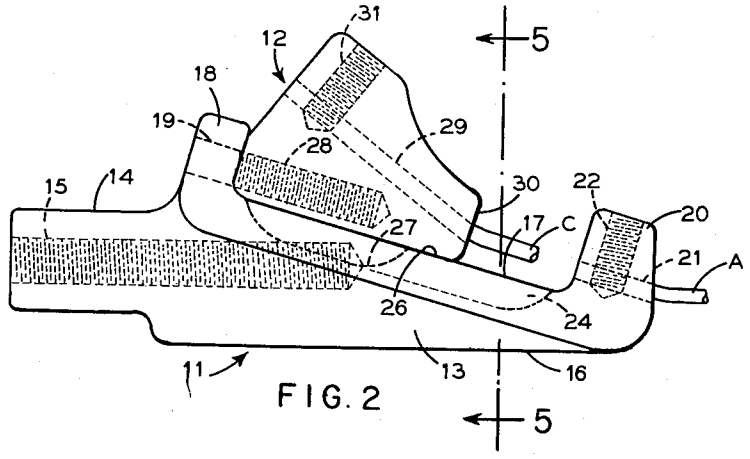


FIG. 2

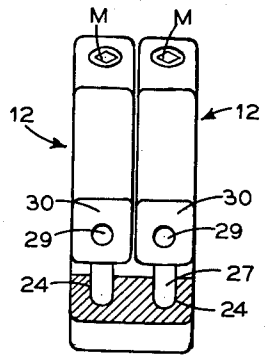


FIG. 5

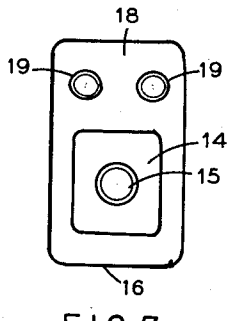


FIG. 3

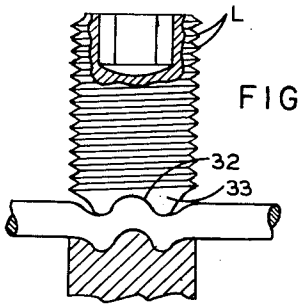


FIG. 6

INVENTOR.
WARREN H. FARR
BY Philip S. Hilbert
ATTORNEY

Aug. 7, 1962 W. H. FARR 3,048,073

MUSICAL STRING TUNING DEVICE

Filed Oct. 16, 1959 2 Sheets-Sheet 2

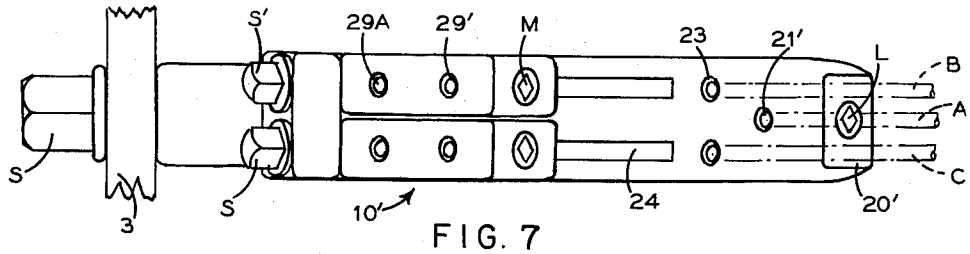


FIG. 7

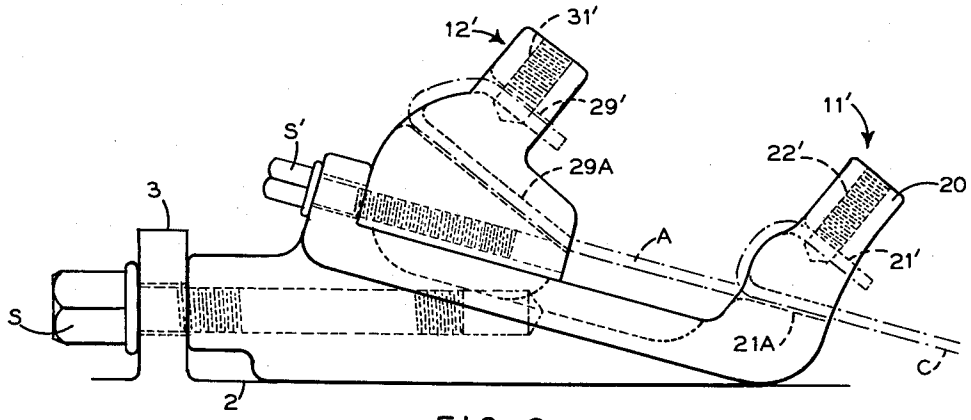


FIG. 8

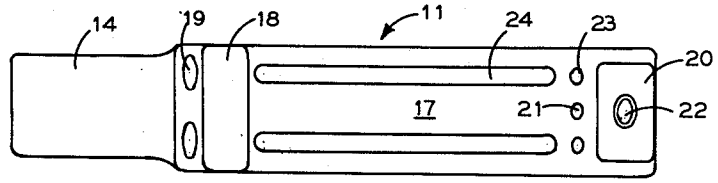


FIG. 4

INVENTOR.
WARREN H. FARR
BY Philip E. Hubbert
ATTORNEY

United States Patent Office 3,048,073 Patented Aug. 7, 1962

3,048,073

MUSICAL STRING TUNING DEVICE

Warren Herman Farr, Grosse Pointe Farms, Mich., assignor to Winter & Company, Inc., Bronx, N.Y., a corporation of New York

Filed Oct. 16, 1959, Ser. No. 846,979
2 Claims. (Cl. 84—205)

This invention relates to a device for tuning the strings of a musical instrument; and more particularly, concerns a device for tuning the strings of a piano or the like.

Conventionally, the strings of a piano are secured at their ends to pegs which are turnably mounted in recesses in the string plate; thereby permitting the strings to be tuned by turning the pegs to regulate the string tension. This arrangement does not readily lend itself to precision tuning and as the recesses in the plate tend to become somewhat enlarged due to friction between the peg and the recess wall, tuning adjustments become even more difficult.

Accordingly, one object of this invention is to provide improved means for securing terminal portions of the strings of a piano or the like whereby the tension on said strings may be adjusted with a high degree of precision.

A further object of this invention is to provide improved means for tuning piano strings where a group of such strings may be tensioned simultaneously, or individual strings in the group may be separately tensioned, thereby facilitating the tuning operation.

Another object of this invention is to provide tuning means of the character described which includes improved means for clamping the terminal ends of the piano strings.

A further object of this invention is to provide an improved device for tuning the strings or wires of a piano, wherein said device includes a plurality of elements for anchoring the ends of a group of piano strings, the several elements being arranged for movement as a group or for independent movement; said device being adapted to be used with groups including one or more piano strings or wires.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

In the drawing, FIG. 1 is a top plan view showing means for tensioning musical strings, in accordance with the invention;

FIG. 2 is a side elevational view thereof;

FIG. 3 is a rear end view of the primary slide member;

FIG. 4 is a top plan view thereof;

FIG. 5 is a vertical sectional view taken on the line 5—5 of FIG. 2;

FIG. 6 is an enlarged elevational view in section showing a string locking screw;

FIG. 7 is a top plan view similar to that of FIG. 1, showing a modified form of the invention; and

FIG. 8 is a side elevational view thereof.

Essentially, the device of the instant invention comprises a primary slide member adapted to be precisely moved over a base member; the primary slide member carrying a plurality of secondary slide members arranged for movement independent of each other and independently of the primary slide member; each of the slide members including means for tightly anchoring the end portion of a musical string to be tensioned. The devices in side by side arrangement on the base member are adapted to precisely tension musical strings in groups of 1, 2 or 3 strings, by simple manipulative means.

Thus, as shown in FIG. 1, **10** designates a string tensioning device embodying the invention. A plurality of such devices **10** are adapted to be movably mounted on a base member **1** which may take the form of metal bar having a flat surface **2**, a longitudinally extending upstanding rib **3** adjacent one edge of bar **1** and an elongated bead **4** at the other edge of said bar, forming bridge means for the piano strings, as indicated in a group of three including A, B and C.

It is understood that base member **1** is suitably mounted in a piano casing above the sounding board thereof, whereby the several strings thereof may be anchored in tensioning devices **10** carried by member **1**; a single device **10** being shown in FIG. 1. Each device **10** comprises an elongated primary slide member **11** which carries a pair of secondary slide members **12** arranged for movement independently of each other and independently of slide member **11**.

Primary slide member **11** comprises a body portion **13** of generally rectangular shape, with a stem portion **14** extending rearwardly from one end of body portion **13**. Stem portion **14** is formed with a threaded bore **15** for receiving a screw S which is arranged to pass through an opening in rib **3** of base member **1**, to move member **11** with its bottom surface **16** in contact with surface **2** of base member **1**.

Slide member **11** further includes an inclined top surface portion **17** extending between a rearwardly disposed upstanding portion **18** formed with a through opening **19** extending parallel to surface **17**, and an upstanding portion **20** located at the forward edge thereof. Portion **20** is formed with a string receiving passage **21** at the lower end thereof and centrally thereof and is further formed with a threaded bore **22** which communicates at its lower end with string passage **21**. A screw L in bore **22** is adapted to lock string A which is received in passage **21**, in place.

Portion **20** of slide member **11** is further formed with parallel string passages **23** located on either side of passage **21**, to freely pass strings B and C, for engagement by secondary slide members **12**. The top surface **17** of slide member **11** is formed with a pair of parallel grooves **24** extending between upstanding portions **18**, **20**, for the purpose hereinafter appearing.

Each of the secondary slide members **12** comprises a flat body of generally triangular outline, with a bottom surface **26** slidably engaging top surface **17** of member **11**. A rib **27** projects from bottom surface **26** and is received in a groove **24** to precisely guide the slidable movement of slide **12** relative to slide **11**.

Slide member **12** is formed with a threaded bore **28** adjacent the bottom surface **26** thereof and extending rearwardly in alignment with opening **19** in upstanding portion **18** of slide member **11**. A screw S′ passing through opening **19** and threaded into bore **28** allows for precise movement of slide members **12** relative to slide member **11**.

Slide member **12** is further formed with a string receiving passage **29** extending upwardly and rearwardly from front edge **30** of the member. A threaded recess **31** formed in a rear portion of slide **12** intersects passage **29** and a lock screw M received in recess **21** secures strings B and C which pass through passages **23** in upstanding portion **20** of slide member **11** and thence through passages **29** in slide members **12**.

As indicated in FIG. 6, the string locking screws L, M may be formed with a centrally disposed recess **32** at the lower end thereof, thus providing an annular edge **33** to effectively lock the engaged string against the bottom portion of the recesses **22** or **31**.

Screws S and S′ may have hex heads to facilitate their manipulation with an appropriate wrench. Thus, on turning screw S, tension is simultaneously adjusted in respect to each of strings A, B, and C. However, on turning screws S′, the tension on strings B and C may be independently adjusted.

A modified form of the invention is shown in FIGS. 7

and 8, wherein the anchoring of wires A, B, and C is facilitated. The device **10'** shown in FIGS. 7, 8 is similar to device **10** of FIGS. 1–6, except as hereinafter indicated.

In device **10'**, the forward upstanding portion **20'** of primary slide **11'** is formed with a centrally located, lower wire receiving passage **21***a* and an upper wire receiving passage **21'** in vertical alignment with passage **21***a*. The threaded bore **22'** intersects passage **21'** to receive locking screw L. It will be apparent that wire A now passes first through passage **21***a* in a forward direction and then passes rearwardly through passage **21'**. The bight arrangement of the wire A at its anchor point facilitates the installation and tuning operations, and further provides a more positive anchorage for the same.

Similarly, each of the secondary slide members **12'** is provided with a lower wire passage **29***a* and an upper wire passage **29'** which is intersected by threaded bore **31'**, whereby wires B, C are anchored at their bight portions.

It will be apparent that precision movement of the primary slide **11** or **11'** relative to base member **1**; as well as the precision movement of secondary slides **12**, or **12'** relative to primary slides **11** or **11'**, insure accurate tensioning of the strings or wires, at all times. Furthermore, tuning is facilitated and accomplished in a rapid manner by reason of tension adjustments of either of a plurality of strings simultaneously or of individual strings.

As various changes might be made in the embodiments of the invention herein shown, without departing from the spirit thereof, it is understood that all matter herein shown or described is illustrative and not limiting except as set forth in the appended claims.

Having thus disclosed my invention, I claim as new and desire to protect by Letters Patent:

1. Piano string adjusting means comprising a primary slide member and a pair of laterally related secondary slide members slidably arranged on said primary slide member, said primary slide member including a flat surface for slidably receiving said secondary slide members, cooperating means on said primary slide member and each of said secondary slide members for guiding the independent movement of said secondary slide members relative to said primary slide member, an upstanding forward portion and an upstanding rear portion, said forward portion being formed with a string passage and a threaded recess intersecting said passage for receiving a lock screw, each of said secondary slide members being formed with a threaded recess extending rearwardly thereof, a string passage and a second threaded recess intersecting said last mentioned string passage for receiving a lock screw, the upstanding rear portion of said primary slide member being formed with a through opening in alignment with the first threaded recess in said secondary slide member, a screw passing through said through opening and threaded into the first threaded recess of said secondary slide member for advancing and retracting said secondary slide member relative to said primary slide member.

2. Piano string adjusting means as in claim 1 wherein the upstanding forward portion on said primary slide member is formed with a second string passage below the first mentioned string passage therein to receive the doubled back end portions of a string in said first and second passages; each of said secondary slide members being formed with a second string passage below the first mentioned string passage therein to receive the doubled back end portions of second and third strings therein.

References Cited in the file of this patent

UNITED STATES PATENTS

237,528	Hebard	Feb. 8, 1881
267,150	Chard et al.	Nov. 7, 1882
484,403	Brackett	Oct. 18, 1892