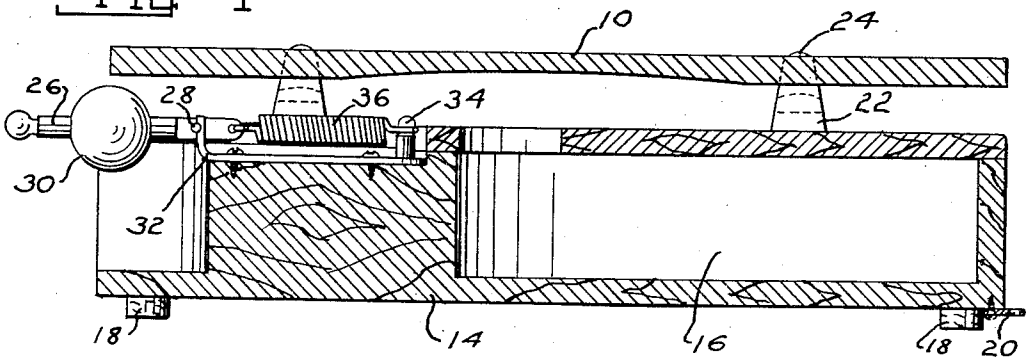
Nov. 14, 1939. C. HULTSCH 2,180,110

TUNING DEVICE

Filed Sept. 27, 1937

Fig. 1



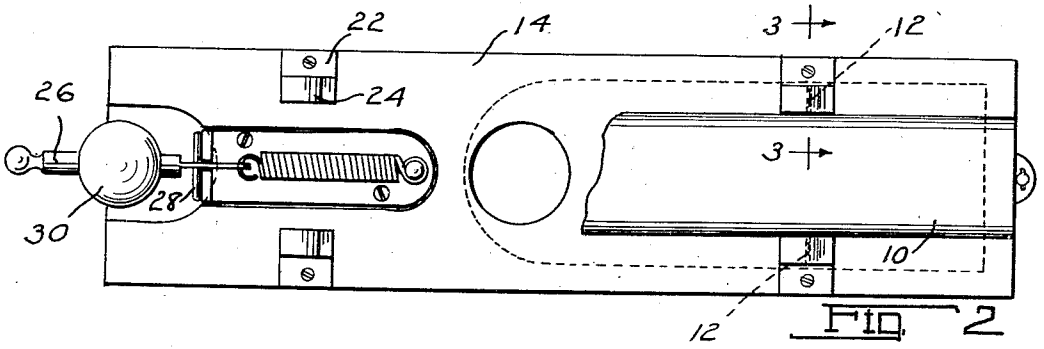


Fig. 2

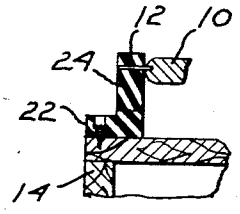


Fig. 3

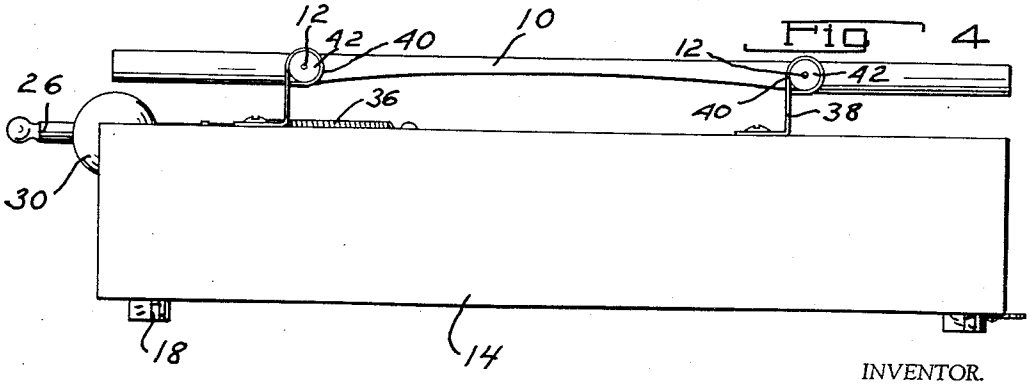


Fig. 4

INVENTOR.
CHARLES HULTSCH
BY
McConkey Dawson & Booth
ATTORNEYS.

Patented Nov. 14, 1939

2,180,110

UNITED STATES PATENT OFFICE

2,180,110

TUNING DEVICE

Charles Hultsch, Elkhart, Ind., assignor to C. G. Conn, Ltd., Elkhart, Ind., a corporation of Indiana

Application September 27, 1937, Serial No. 165,930

5 Claims. (Cl. 84—454)

This invention relates to tuning devices and more particularly to devices having a tuning member such as a fork or bar and to novel means mounting and striking the same.

One of the objects of the invention is to provide a tuning device in which the tuning member is firmly supported in such a manner as not to dampen its vibration or to interfere with the clarity of its tone.

Another object of the invention is to provide a tuning device including a tuning member carrying rigid supporting pins which are engaged by brackets or the like to mount the member.

Another object of the invention is to provide a supporting bracket for a tuning member including a rigid part to be secured to a base or the like and a relatively soft resilient part to engage and support the tuning member.

Still another object is to provide a tuning device including a striker which is so arranged as to strike the tuning member at the desired point and in the desired manner.

Other objects, advantages and novel features of the invention will be apparent from the following description when read in connection with the accompanying drawing, in which, Figure 1 is a longitudinal section through a tuning device embodying the invention;

Figure 2 is a top plan view with parts broken away;

Figure 3 is a partial section on the line 3—3 of Figure 2; and

Figure 4 is a side view of a modified construction.

While the invention is applicable to tuning devices employing tuning members of any desired form, it has been illustrated in connection with an elongated tuning bar 10 supported at two points along its length. The tuning bar rigidly carries two pairs of rigid pins 12 extending laterally from opposite sides of the bar and so spaced on the length of the bar as to lie at natural node points therein.

The bar is mounted on a base 14 hollowed out as at 16 to form an air column resonant with the bar. The base may be provided with felt pads 18 to support it on a flat surface and with a pivoted eyelet 20 by which it may be suspended if desired.

In order to support the bar on the base there are provided, according to the present invention, a plurality of rubber brackets having relatively hard lower portions 22 to be secured to the base by screws or the like as shown in Figure 3 and relatively soft upper portions 24 formed with suitable holes to receive the pins 12. The portions 22 and 24 are intimately vulcanized together, the line of demarkation between the hard and soft rubber being indicated by the curved dotted lines in Figure 1 and by the changed angle of the hatching in Figure 3. This arrangement securely fastens the tuning bar to the base against displacement in any direction and at the same time provides a resilient mounting which does not dampen or otherwise interfere with the tone produced by the bar.

Means are provided for striking the bar, such means as shown comprising a rod 26 flattened adjacent one end and carrying a transverse pin 28. A ball 30 of rubber or the like is mounted on the rod 26 adjacent one end and forms the member for striking the bar 10. The base 14 carries a bracket 32 having an upturned end slotted to receive the flattened portion of the rod 26 and grooved on one side to receive the ends of the pin 28. A post 34 carried by the bracket serves as a mounting for one end of a tension spring 36, the other end of which is attached to the rod 26.

The parts normally occupy the position shown in Figure 1 with the rod 26 and spring 36 alined with the grooves in bracket 32 and the point of attachment of the spring to post 34. It will be noted that the tension of the spring holds the pin 28 in the grooves in the bracket so that the rod 26 will pivot about the axis of the pin. To strike the bar, the free end of rod 26 is depressed and released, the tension of spring 36 swinging it back to cause the ball 30 to strike the end of the bar a sharp blow. With this arrangement the ball will strike the bar only once for each operation, the spring damping any tendency of the rod to oscillate and centering it immediately.

Figure 4 shows a modified bracket construction, the other parts being the same as those of Figures 1 to 3 and being indicated by the same reference characters. In this construction the brackets are formed of metal strips 38 having right angle extensions screwed to the base and having their upper ends bent around as at 40 to receive and support soft rubber bushings 42. The bushings 42 are formed with holes to receive the pins 12 whereby the bar 10 is supported in much the same manner as in the embodiment of Figures 1 to 3.

While two embodiments of the invention have been shown and described it is to be understood that these are for purposes of illustration only and that the scope of the invention is not to

be limited thereto or otherwise than by the terms of the appended claims.

What is claimed is:

1. A tuning device comprising a flat tuning bar, a plurality of pins rigidly carried by and projecting from the sides of said tuning bar, a base, and a plurality of pairs of brackets secured to said base, said pairs being arranged near the opposite ends of said bar with the brackets on opposite sides of the bar, said brackets having soft rubber parts forming permanent parts of the brackets and engaging said pins to support the tuning member on the base.

2. A tuning device comprising a tuning bar, two pairs of pins rigidly secured to the bar, the pins of each pair being mounted opposite each other in the sides of the bar near one end of the bar and extending laterally therefrom, a base and one-piece rubber brackets secured to the base and engaging said pins to support the bar on the base.

3. A tuning device comprising a tuning bar, a plurality of pins rigidly secured to the bar and extending laterally therefrom, a base, and one-piece brackets having relatively hard portions secured to the base and soft non-metallic portions engaging said pins to support the bar on the base.

4. A tuning device comprising a tuning member, a base, means for supporting the tuning member on the base, an elongated striker having a transverse pivot pin intermediate its length, a bifurcated bracket on the base against which said pin is adapted to rest, and a tension spring secured at one end to the base and at its other end to one end of the striker and holding said pin against the bracket.

5. A tuning device comprising a tuning member, a plurality of transverse pins carried by the tuning member, a base, brackets carried by the base and engaging said pins for supporting the tuning member on the base, an elongated striker having a transverse pivot pin intermediate its length, a bifurcated bracket on the base against which said pin is adapted to rest, and a tension spring secured at one end to the base and at its other end to one end of the striker and holding said pin against the bracket.

CHARLES HULTSCH.