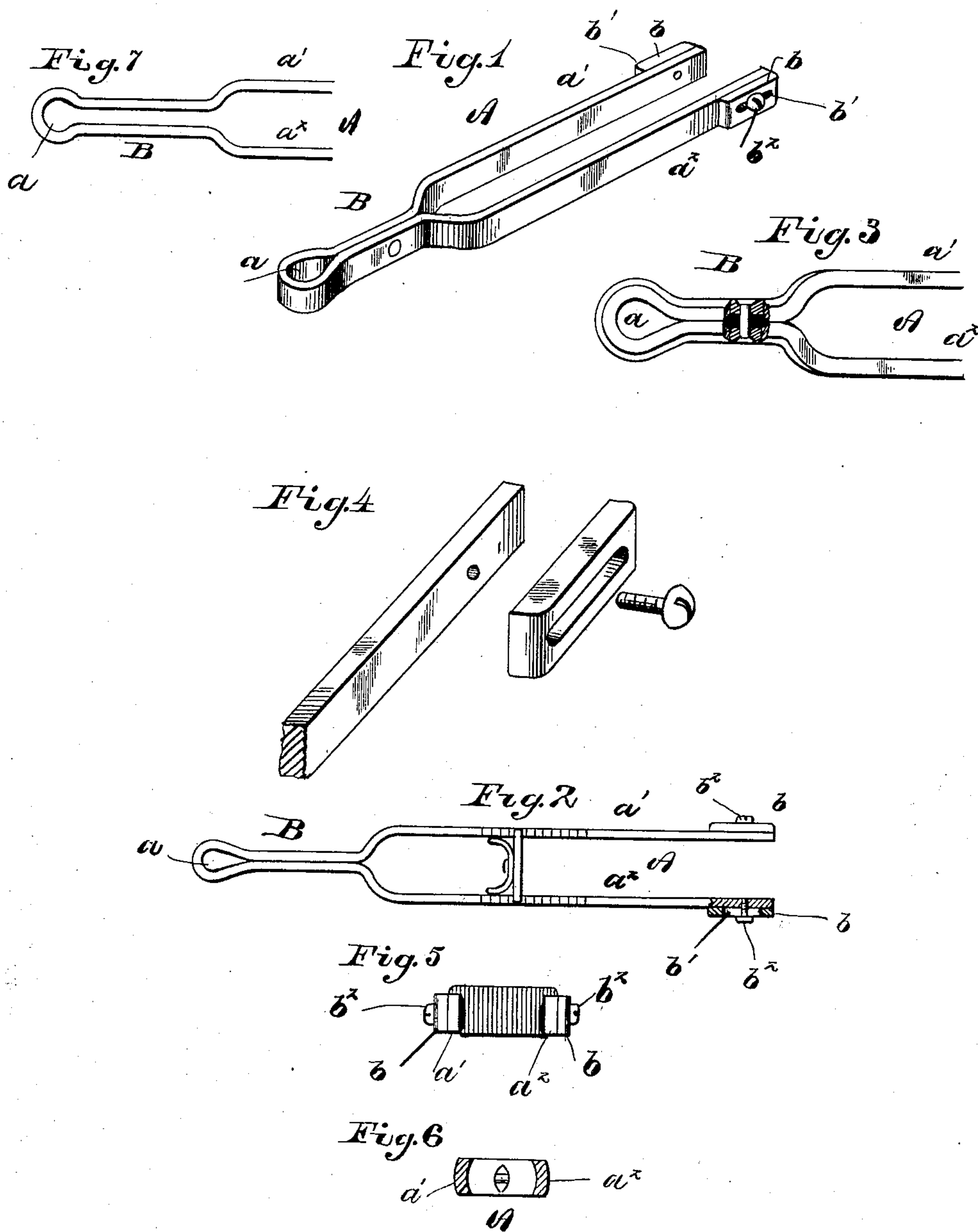


(No Model.)

D. W. SEGROVE.  
TUNING FORK.

No. 375,654.

Patented Dec. 27, 1887.



Witnesses  
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Inventor  
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att'y.

# UNITED STATES PATENT OFFICE.

DAVID W. SEGROVE, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF TO  
ISABEL DARROW, OF SAME PLACE.

## TUNING-FORK.

SPECIFICATION forming part of Letters Patent No. 375,654, dated December 27, 1887.

Application filed November 26, 1886. Serial No. 219,894. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID W. SEGROVE, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Tuning-Forks, of which the following is a specification.

My invention relates to variable or adjustable tuning-forks, and particularly relates in its nature to that class of forks in which a sliding bridge is adapted to stand at different positions between the prongs thereof to produce the different tones in an octave, as set forth in Letters Patent No. 329,090, issued to me October 27, 1885.

My invention herein described consists, first, in providing in an adjustable or variable tuning-fork means for varying the general pitch of the fork, whereby the pitch of the fork may be adjusted to any desired standard, after which any tone or semi-tone within the compass of the fork may be secured in said pitch.

My invention further consists in constructing the fork proper of a single piece of metal of a substantially uniform thickness throughout.

My invention further consists in various constructions and combinations, hereinafter described and claimed.

In the various adjustable tuning-forks heretofore constructed it has been possible to produce various tones by the adjustment thereof. The pitch of the fork, however, remains constant or invariable. For instance, if the fork was tuned to the United States standard pitch, every tone obtained would be in this pitch. As is well known, the pitch differs in different countries, and in some cases in different localities, so that a fork tuned to the pitch of one country or locality would not give the required tones of a country or locality in which the pitch differed therefrom. This variation of pitch is generally but a slight one, being in all cases less than a whole tone. By my improved fork I provide means by which any tone in the octave in any desired pitch may be secured, thus providing a universal fork, which may be used with accuracy in any country or locality to furnish tones of the standard pitch of that country or locality.

In the accompanying drawings, which form

a part of this specification, Figure 1 is a perspective view of a fork embodying my invention. Fig. 2 is a plan view of the same, a portion of one prong thereof being shown in section. Fig. 3 is an enlarged detail view showing the manner of constructing the handle thereof. Figs. 4 to 7 are detail views of some of the parts removed and hereinafter referred to.

In the said drawings, A represents the fork proper, which is composed of a single piece of metal of a uniform thickness throughout. The fork is preferably constructed from a straight bar of steel of uniform thickness, doubled at the center, and bent about a form in such a manner that the outer ends thereof form the prongs of the fork, while the center portion is doubled together to form the handle B, the parts being preferably riveted together, as shown in Fig. 3.

Instead of pressing the parts which form the handle closely together, I preferably leave an opening or eye, *a*, at the outer end of the said handle.

The prongs *a'* *a''* of the fork are graduated in the ordinary way, and the adjustable bridge is adapted to slide therein to any desired graduation in any suitable manner. By making the fork and handle of a single piece of uniform thickness I am enabled to secure all the graduations necessary to produce an octave without increasing the length of the fork beyond that of the ordinary single-toned fork and without the use of the enlarged or bell-shaped ends, as described in my former patent above referred to.

The prongs being of a uniform thickness throughout, the graduations are more even and the tones produced thereby are of a substantially equal degree of loudness. By having the opening *a* in the handle B beyond the point at which the parts thereof are riveted together the vibrations of the prongs are extended to a greater extent and a greater volume of tone secured to the fork. In order to produce the greatest volume of tone and the largest range within the smallest amount of space, I provide an additional thickness to the prongs at their outer ends; but instead of having the enlarged ends constructed rigidly with the prongs I secure the increased thickness by attaching separate pieces



thereto, preferably on the outside of the said prongs. By this construction I am able to make the prongs of a uniform thickness throughout, and therefore secure a more uniform set of vibrations to produce the different tones. Now, in order that the general pitch of the fork may be varied without destroying the graduations thereof or the tones produced by the adjustment of the bridge therein, I make the enlarged ends adjustable, so that by moving them in one direction or the other along the prongs the pitch of the tones may be flattened or sharpened, as desired. It is obvious that this may be accomplished in various ways. I preferably use extra pieces, *b b*, of a width equal to the width of the fork, and provide in said pieces slots *b' b'*, through which are passed small screws *b<sup>2</sup>*, adapted to engage in the prongs of the fork and thus hold the parts rigidly together. By loosening the screw *b<sup>2</sup>* it will be seen the end piece, *b*, on either prong may be moved in either direction, as desired, until the required pitch is obtained.

In constructing the forks that portion of the bar which forms the handle I preferably have rolled or otherwise produced slightly concave, so that when closed together and riveted an opening or air-chamber is constructed through the handle, as shown in Figs. 3 and 6. This rounding or concavity of the bar is preferably extended to the prongs at the place where they are bent and to a point where the straight portion thereof begins. By this construction the strength of the fork and handle is considerably increased and the tone thereof improved.

It is evident that the riveting of the handle may be dispensed with, any suitable means being provided for holding the parts together; or, if desired, the handle may be left open, as shown in Fig. 7.

Having thus described my invention, I claim—

1. A universal tuning-fork having graduations by which different tones may be produced and adjustable prongs by which the general pitch may be varied, substantially as set forth.

2. A tuning-fork having the graduated prongs, a sliding bridge, and the adjustable end pieces, substantially as set forth.

3. The combination, in a tuning-fork, with the graduated prongs, of the sliding bridge adapted to mark the different graduations at which the different tones are produced, and means for varying the pitch of the fork without destroying the relation of said bridge and graduations, substantially as set forth.

4. The combination, with the prongs of the tuning-fork, of the adjustable end pieces having slotted openings therein, said end pieces

being of a uniform width with the said prongs and adapted to be held in different positions of adjustment on said prongs by clamping-screws which extend through said slotted openings, substantially as set forth.

5. A tuning-fork constructed from a single piece of metal of a substantially uniform thickness throughout, doubled and bent, as described, and secured together to form the handle, as set forth.

6. The tuning-fork formed from a single piece of metal of a substantially uniform thickness throughout, which is doubled and bent in such a manner that an opening or eye is formed in the handle at the outer end thereof, substantially as set forth.

7. The combination, with the tuning-fork formed of a single piece of metal of a substantially uniform thickness, the parts of which are doubled and bent and joined together to form the handle thereof, as set forth, of a sliding bridge, and graduations adapted to mark the various positions of said bridge to produce different tones, substantially as specified.

8. The combination, with a tuning-fork formed of a single piece of metal of a substantially uniform thickness and provided with an opening at the outer extremity of the handle thereof, of a series of graduations on the prongs of said fork, and a sliding bridge, substantially as and for the purpose set forth.

9. The combination, with a tuning-fork formed of a single piece of a substantially uniform thickness, of the graduations, a sliding bridge, and the adjustable end pieces, substantially as set forth.

10. The combination, with a tuning-fork formed from a single piece of metal of substantially uniform thickness, of the sliding bridge and graduations, whereby the different tones may be secured, and means for varying the general pitch of said fork without destroying the relation of said bridge and graduations, substantially as set forth.

11. A tuning-fork the handle of which is provided with a longitudinal opening extending through the central portion thereof, substantially as set forth.

12. A tuning-fork formed of a single piece of metal doubled and bent to form the handle and prongs thereof, said handle being rounded or concave, as described, to form a longitudinal opening or air-chamber therein, substantially as set forth.

In testimony whereof I have hereunto set my hand this 18th day of November, A. D. 1886.

DAVID W. SEGROVE.

Witnesses:

CHASE STEWART,  
PAUL A. STALEY.