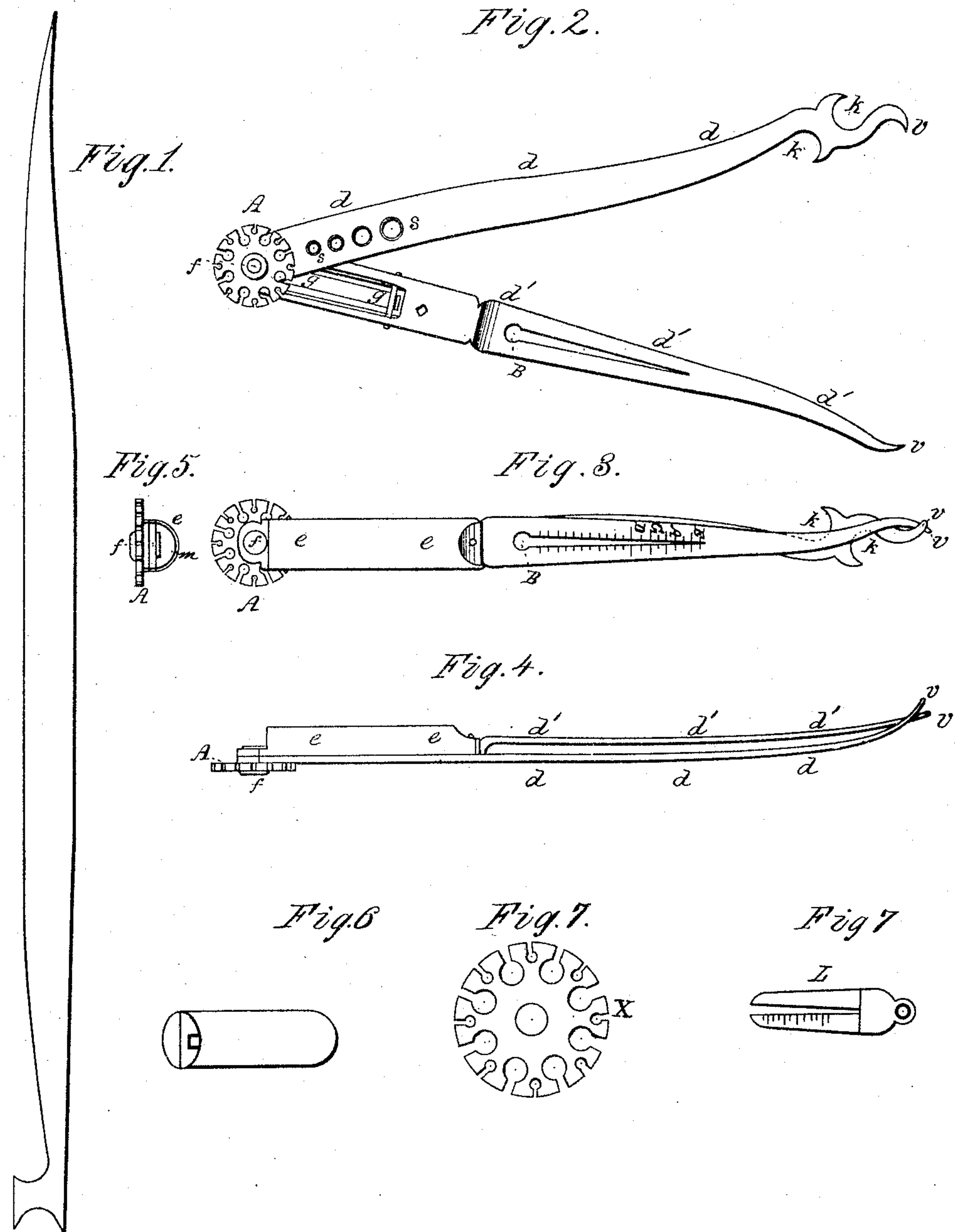


F. W. WHITE.  
Combination Tool for Violins.

No. 152,934.

Patented July 14, 1874.



Witnesses

A. H. Emmons,  
C. B. Richardson

Inventor

Francis H. White

# UNITED STATES PATENT OFFICE.

FRANCIS W. WHITE, OF NORWICH, CONNECTICUT.

## IMPROVEMENT IN COMBINATION-TOOLS FOR VIOLINS.

Specification forming part of Letters Patent No. **152,934**, dated July 14, 1874; application filed November 19, 1873.

*To all whom it may concern:*

Be it known that I, FRANCIS W. WHITE, of Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Post-Setters, String-Gages, Tuning-Pipes, and Forceps or Tweezers, (tools used by violinists for setting sound-posts, stringing, and tuning violins,) by combining these above-named tools in a convenient and practical form for carrying in the pocket, or any other way desired. This combination I have named, and for convenience shall call, a "clustool;" and I do hereby declare the following to be a clear and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Figure 1 represents a post-setter in common use. It is made of a thin piece of metal with a hook at one end, and a sharp point at the other end. Fig. 6 represents the common tuning-pipe. Figs. 7, L, and X represent the common string or wire gages.

Fig. 2 represents my new device, combining in one all of the above-named tools, and the same is shown partially open. The two parts *d d d* and *d' d' d'* are sufficiently drawn aside to show on the one part the point *v*, likewise the under side of the tapering gage B; also the slot for the reed *g g*, and the gage A, which is attached by the same pin that forms the joint *f*. The other part shows the hooks *k k*, the holes *s s* for the escape of air when the pipe is blown, and the curved point *v*.

Fig. 3 represents the reverse side of the clustool when the two parts are shut together. The points *v v* shut together in a manner such as to form the forceps or tweezers. The tapering gage B is plainly shown in this figure, and the cap *e e* which covers the reed; also is shown the pin or rivet *f* which forms the joint or hinge.

Fig. 4 is an edge view of the clustool when shut, giving another side view of the formation of the cap.

Fig. 5 is an end view of the clustool when

shut, as in Fig. 3, showing the end shape of the cap *e*; also the opening *m*, through which the air is blown that vibrates the reed *g g*, shown in Fig. 2.

Said forceps or tweezers are formed by shutting the post-setter and bringing the two ends *v v* together. The same are easily opened or shut at will by rolling them between the thumb and fingers.

By reason of these combinations and improvements mentioned in the foregoing with the post-setter, I do not disturb its usefulness in the least; but, to the violinist, increase its value to a great extent, not solely because I do away with several separate tools, but by having centered in a compact form these useful tools, some one of which he finds it necessary to use almost every time he uses his violin. I, therefore, deem these improvements of sufficient importance to the public and myself to make this application, believing as I do that this invention, when once introduced to the public, will take the place of all other tools now and heretofore used in like capacity, for which this is a substitute.

I claim—

1. The sound-post setter for violins, constructed in two parts pivoted or hinged together, substantially as shown and described.

2. The combination-tool for violins, consisting of a jointed post-setter and string gage or gages, substantially as described.

3. A combination-tool for violins, formed of a jointed post-setter, string-gage, and tuning-pipe, as set forth.

4. The combination of the string-gage and tuning-pipe for violins, as shown and described.

5. The jointed post-setter for violins, having its ends formed as shown, for the purpose of drawing the strings through the pins, substantially as herein specified.

In testimony that I claim the foregoing I have hereunto set my hand.

FRANCIS W. WHITE.

Witnesses:

BENJN. T. ROATH,  
WM. H. STANTON.