B. FITTS.

VIOLIN, &c.

No. 17,324. Patented May 19, 1857.

Fig: 1.

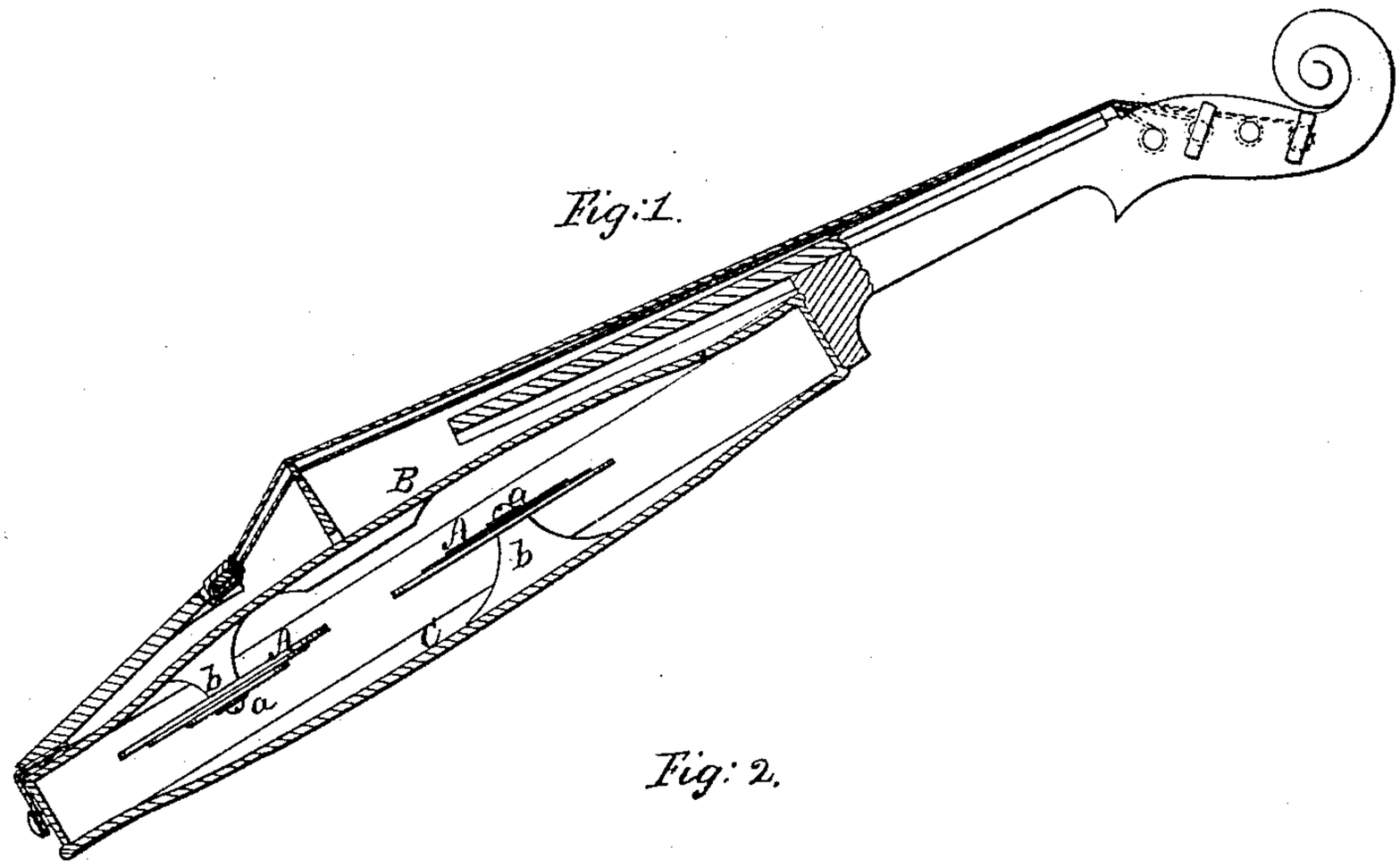
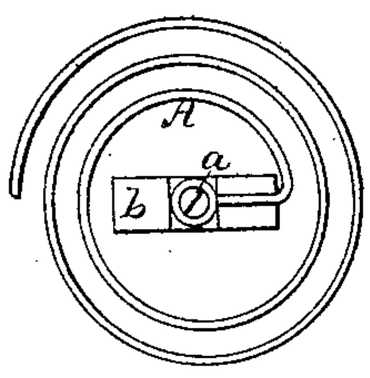


Fig: 2.



UNITED STATES PATENT OFFICE.

BRADLEY FITTS, OF CHARLTON, MASSACHUSETTS.

VIOLIN.

Specification of Letters Patent No. 17,324, dated May 19, 1857.

To all whom it may concern:

Be it known that I, BRADLEY FITTS, of Charlton, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Violins and other Stringed Musical Instruments; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

This invention consists in placing within the interior of a violin, violoncello, bass-viol, or guitar, or behind the sounding board of any other stringed instrument, of one or more bells. These bells will vibrate in harmony with the strings of the instrument when the latter are played upon, and thus increase the power and improve the tone of the instrument.

Figure 1, in the accompanying drawing is a central longitudinal section of a violin having bells applied within it. Fig. 2 is a view of one of the bells detached.

A, A, are the bells, which are of the kind commonly used in clocks, made of coiled wire. They are secured both to the front or sounding board B, of the violin, and also to the back C, secured by screws *a*, *a*, to wooden blocks or cleats *b*, *b*, glued or otherwise attached to the violin, being arranged in such position as to allow uninterrupted vibrations. In applying them to violins or instruments of the same character, I generally propose to use four bells, tuned in unison with the four strings, *i. e.*, one in unison with each string; but a greater or less number may be used, as one or more bells are always caused to vibrate by the vibrations of the air produced by playing on the strings, and produce musical sounds in harmony with either string as the strings are severally played upon. In applying the bells to guitars, banjos, &c., I generally use a number of bells equal to the number of strings in the instrument, the same as in violins, tuned in unison with the strings; but I do not confine myself to the use of the same number. In applying them to other stringed instruments, I propose generally to use one or more octaves of bells; but any number may be used with advantage. They may be attached to the sounding board or to other parts of the instrument behind the sounding board.

The invention, when applied to violins, produces truly wonderful results, and so far improves the tone of an inferior and cheaply constructed violin as to render it equal in quality to that of a far superior instrument without the bells; producing a remarkably clear and ringing tone in every note.

What I claim as my invention, and desire to secure by Letters Patent, is:

The application of bells, within the interior of or behind the sounding board of a violin or other stringed musical instrument, substantially as and for the purpose set forth.

BRADLEY FITTS.

Witnesses:

JOHN SPURR,

AUSTIN F. PHILLIPS.