

No. 661,412.

Patented Nov. 6, 1900.

L. LÖWENTHAL.
BASS BAR OF VIOLINS.

(Application filed May 12, 1900.)

(No Model.)

Fig. 1.

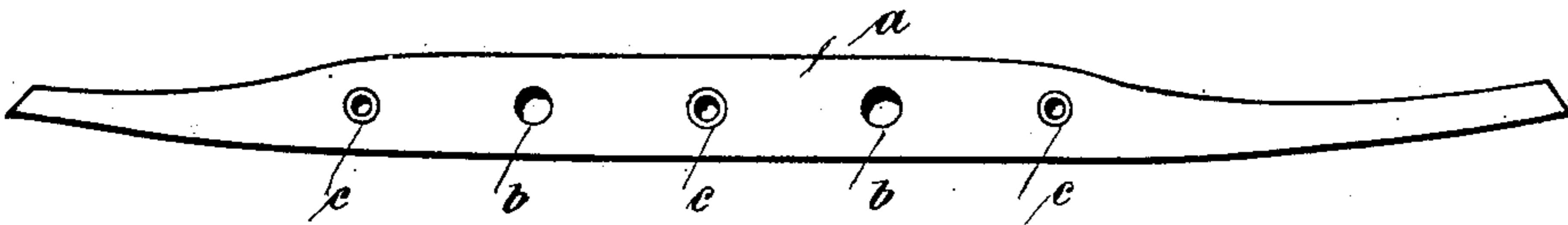


Fig. 2.

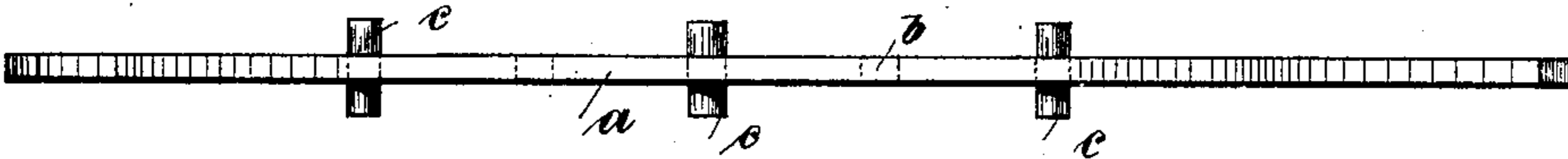


Fig. 3.

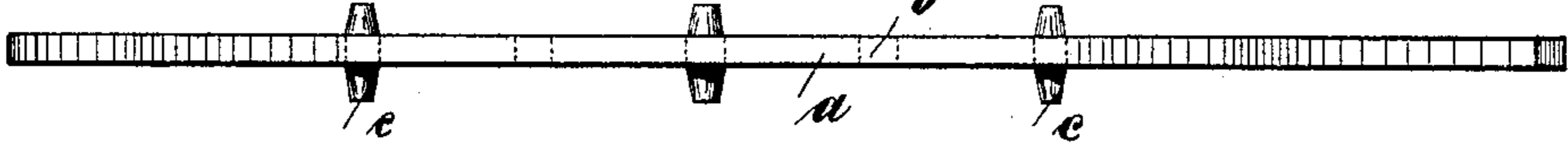
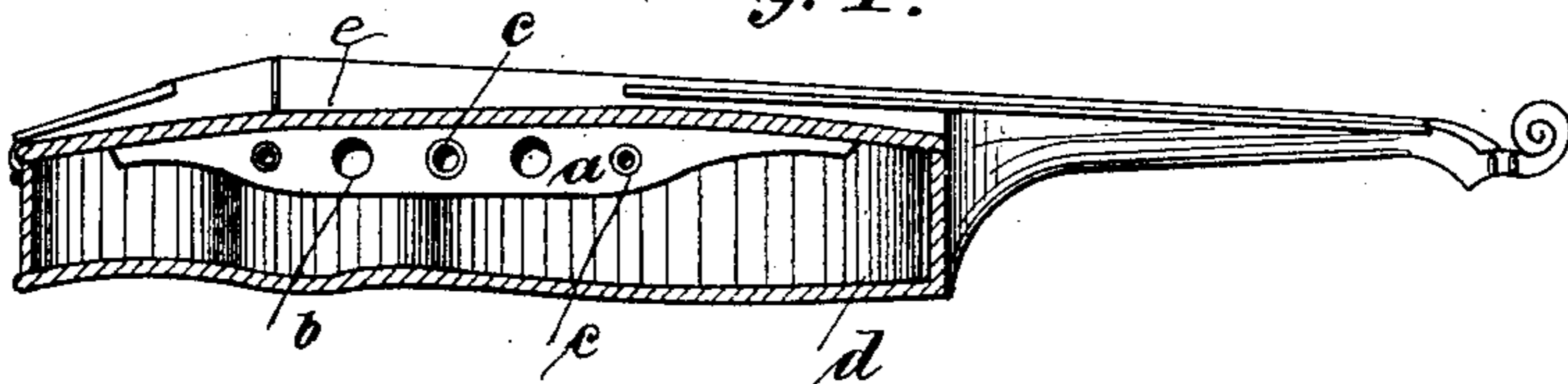


Fig. 4.



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UNITED STATES PATENT OFFICE.

LOUIS LÖWENTHAL, OF BERLIN, GERMANY.

BASS-BAR OF VIOLINS.

SPECIFICATION forming part of Letters Patent No. 661,412, dated November 6, 1900.

Application filed May 12, 1900. Serial No. 16,477. (No model.)

To all whom it may concern:

Be it known that I, LOUIS LÖWENTHAL, manufacturer, a subject of the Emperor of Germany, residing at Berlin, in the Province of Brandenburg, Germany, have invented certain new and useful Improvements in Bass-Bars or Sounding-Bars of Violins and the Like, of which the following is a full, clear, and exact description.

10 This invention has reference to bass-bars or sounding-bars for augmenting the tone of bow-played string instruments, and which consist of a bar or rib arranged on the sound-
15 ing-board or belly inside and lengthwise of the instrument. Such bars have hitherto been made solid; but in this invention, with the object of producing a finer and fuller tone than is obtainable with solid bars, such bars are provided with holes, in which are fixed hollow
20 cross pieces of any convenient cross-section—such as cylindrical, triangular, &c.—thus forming a branched system which vibrates with the sound-waves.

25 In order that the invention may be fully understood, it will now be described with reference to the accompanying drawings, in which—

Figure 1 is a side view of the sounding-bar; Fig. 2, a top view of the same. Fig. 3 is a top
30 view of the sounding-bar, representing a modified construction of the sounding-tubes. Fig. 4 is a vertical section through a violin, representing the arrangement of the sounding-bar on the sounding-board or belly inside and
35 lengthwise of the instrument.

d, Fig. 4, represents a violin, and *e* the sounding-board or belly of the same.

a is a sounding-bar attached in any convenient manner lengthwise on the inside of
40 the sounding-board or belly *e*. The mentioned

sounding-bar is provided with a number of holes *b*, in which are fixed as sound-catchers hollow cross-pieces of any convenient cross-section, preferably cylindrical or conical, thus forming a branched system which vibrates
45 with the sound-waves. These cross pieces can be arranged in all or only part of the holes, according to the tune desired, and either be hollow or solid.

By means of this new sounding-bar pro-
50 vided with holes arranged according to strict acoustical calculations the sounding-waves of the bar are augmented to such an extent that not only the tone tune of the instrument becomes much louder and fuller, but also the
55 rough and sharp coloration of the sound is moderated. Besides this the three open sound-catchers arranged in the holes according to correct measures of acoustics are of great benefit to the sound-waves, because they aug-
60 ment the vibration of the sounding-bar and transfer the *égalité* of the sound upon all four strings.

I claim—

1. The combination with a bass-bar pro-
65 vided with openings, of hollow cross-pieces fixed in said openings and extending beyond the sides of the bar.

2. The combination with a bass-bar pro-
70 vided with transverse openings of hollow cross-pieces secured in said openings and extending at right angles beyond the sides of the bar.

In witness whereof I subscribe my signature in presence of two witnesses.

LOUIS LÖWENTHAL.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.