

(No Model.)

2 Sheets—Sheet 1.

E. McNICHOL.
STRINGED INSTRUMENT.

No. 572,906.

Patented Dec. 8, 1896.

FIG. 1.

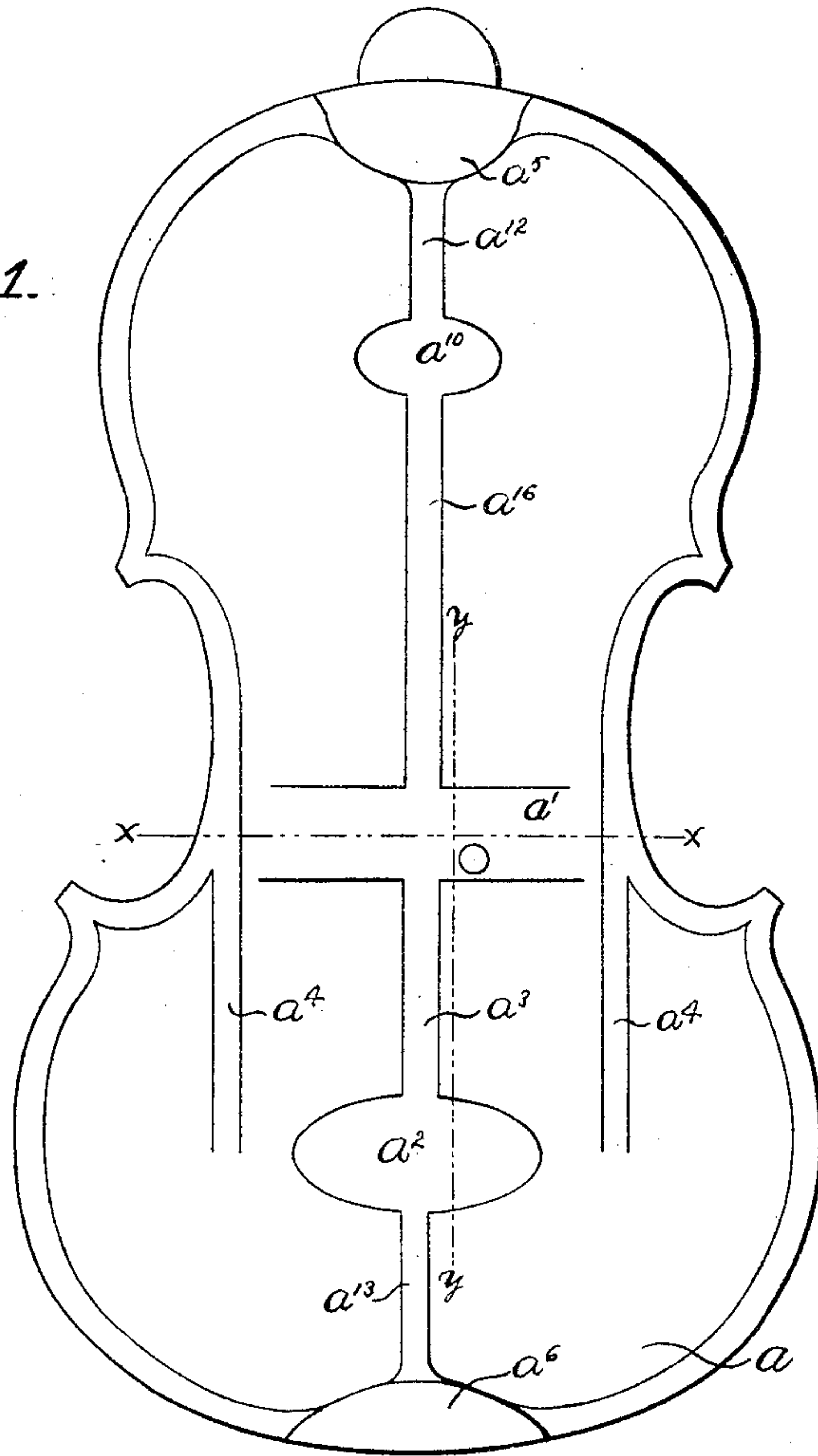


FIG. 3.

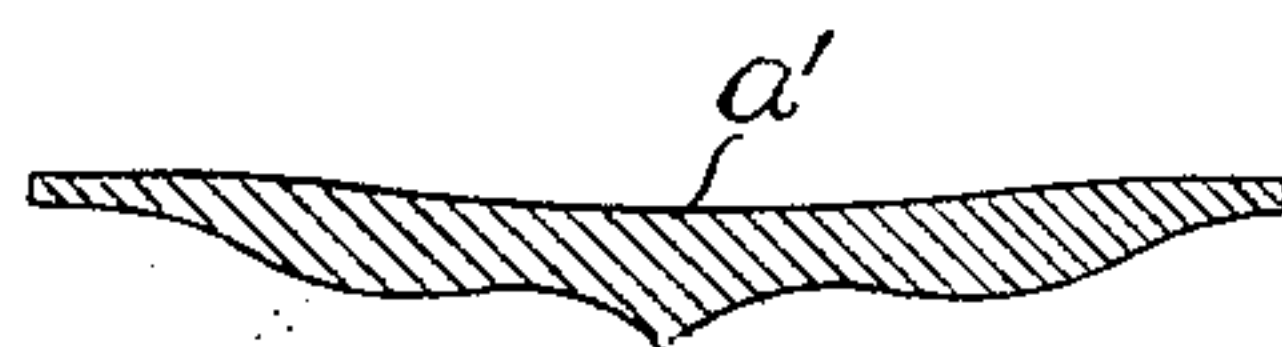


FIG. 2.

WITNESSES.

Barry O. Robinson.
H. H. Davis.

INVENTOR.

Edgar McNichol
by O. J. Hayes, atty.

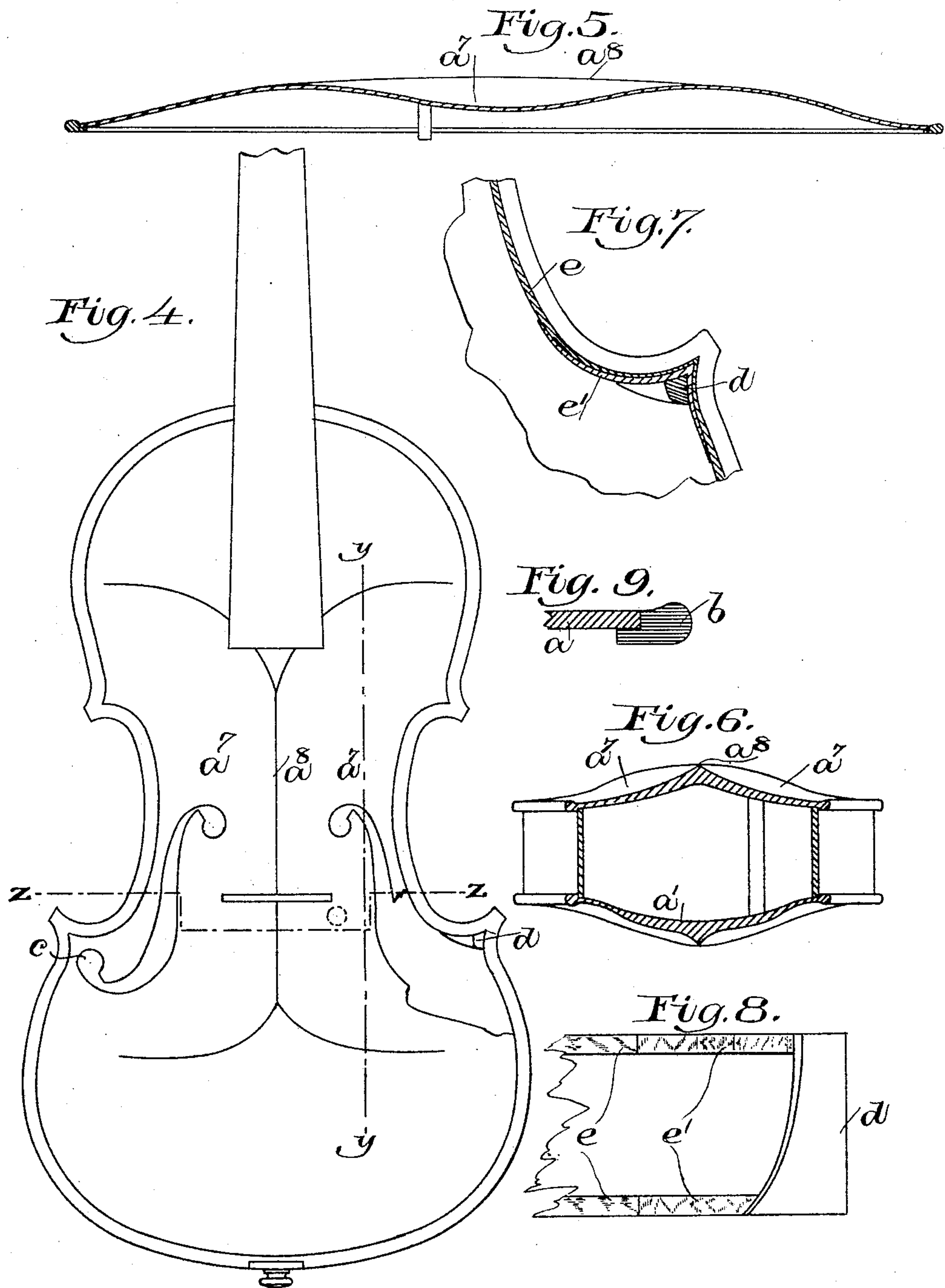
(No Model.)

2 Sheets—Sheet 2.

E. McNICHOL.
STRINGED INSTRUMENT.

No. 572,906.

Patented Dec. 8, 1896.



Witnesses

Harry O. Robinson
F. H. Davis.

Inventor

Edgar McNichol
by R. J. Hayes atty.

UNITED STATES PATENT OFFICE.

EDGAR McNICHOL, OF JONESPORT, MAINE.

STRINGED INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 572,906, dated December 8, 1896.

Application filed April 9, 1896. Serial No. 586,773. (No model.)

To all whom it may concern:

Be it known that I, EDGAR McNICHOL, of West Jonesport, county of Washington, State of Maine, have invented an Improvement in Stringed Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to violins and other instruments of the viol family, and has for its object to improve the construction of the instrument in several particulars, whereby the quality and durability of the tone is enhanced; and the invention consists in many details of construction to be hereinafter set forth and claimed.

Figure 1 shows a rear or inside view of the back of a violin graduated in accordance with this invention; Fig. 2, a cross-section of the back shown in Fig. 1, taken on the dotted line xx ; Fig. 3, a longitudinal sectional detail of the back, taken on the dotted line yy ; Fig. 4, a front view of a violin embodying this invention; Fig. 5, a longitudinal section of the back of the instrument; Fig. 6, a cross-section of the violin shown in Fig. 4, taken on the dotted line zz ; Fig. 7, a detail showing a portion of one of the D's and the corner-block, and Fig. 8 a detail showing the lining at the lower end of the D; Fig. 9, a detail showing the marginal strips at the edge of the instrument.

The back a of the instrument is graduated in the following novel manner: It has a thickened portion a' at the waist extending transversely across the lower part thereof and embracing or including the sound-post contact. This thickened waist portion a' is gradually reduced in thickness from the center or thereabout toward the edges or sides of the back. This thickened waist portion a' is also gradually reduced in thickness toward the upper lobe. The upper lobe may be graduated in any usual manner, but is herein represented as gradually reduced in thickness from a central thickened area a^{10} , more or less elliptical in shape, toward the edges, as well as toward the waist. As a result it will be observed that a thin portion is produced between the upper part of the waist and the upper lobe, *i. e.*, between the parts a' and a^{10} . The lower lobe has a central thickened portion a^2 of suit-

able size and area, and as the lobe is itself more or less elliptical this thickened part may, if desired, be also made elliptical. It may be made, however, to cover but little area. The central thickened area a^2 of the lower lobe is gradually reduced in thickness toward the edges of the back and also toward the thickened waist a' . The lower part of the thickened waist a' is abruptly reduced in thickness, as, for instance, by forming an abrupt shoulder thereat, as shown at a^{15} , Fig. 3, although it may be gradually reduced in thickness, if desired. As a result it will be observed that a thin portion is produced between the lower part of the waist a' and the central thickened portion or area a^2 of the lower lobe, *i. e.*, between the portions a' and a^2 . The thin portion thus produced weakens the back a between the waist and the lower lobe. It is desirable that this part of the back shall be very thin, and to give the strength required and afford the proper resistance a narrow longitudinal projection a^3 extends from the thickened waist portion a' toward and to the thickened portion or area a^2 at the center of the lower lobe. This projection a^3 appears as a rib, and may, and preferably will, gradually taper off toward the lower end or lose itself in the central thickened area a^2 of the lower lobe, its upper end lying substantially flush with the thickened waist a' . A similar rib or projection a^{16} extends from the thickened waist a' upward to the central thickened portion a^{10} of the upper lobe, the lower end of said rib lying substantially flush with the portion a' , and the upper end terminating substantially flush with the portion a^{10} . Two other like longitudinal projections or ribs a^4 are formed on the inside of the back a in parallelism with the aforesaid projection or rib a^3 , or substantially so, they being arranged one at each side of the thin formation between the thickened waist a' and central thickened area a^2 and practically in continuation of the long central portion of the D's. These projections extend to and lose themselves in the thickened area a^2 of the lower lobe.

The projections a^3 a^4 a^4 are preferably formed by working out the back, but of course they may be made as independent pieces attached to the back, and so also the trans-

versely-thickened waist portion a' may be made as an independent piece suitably affixed, or it may be worked out.

Usually the back of the instrument is worked out or graduated in such a manner that thin edges are formed all around it, but herein I have formed at its upper and lower ends a raised portion extending from the outer edge inward toward the centers of the lobes, as at $a^5 a^6$. Extending inward from said raised portions $a^5 a^6$ toward the centers of the upper and lower lobes are projections or ribs $a^{12} a^{13}$, which terminate at or near the central thickened areas of said lobes, vanishing at such point.

The back a is made or formed exteriorly as a saddle-back, that is to say, it is depressed at the waist in longitudinal lines extending from lobe to lobe, as represented at a^7 , (see Fig. 5,) and is also depressed transversely in opposite ways from a single central longitudinal line a^8 , extending from lobe to lobe. By thus forming the back a it will be seen that the sounding-post contact will be located within the depression at one side of said line a^8 .

The top and back of the instrument are each usually made of a single piece of wood supported upon the rim, and consequently the grain of the wood of said parts runs lengthwise from nut to tailpiece. In such case at the sides of the instrument the grain runs along with the rim and the vibrations are not readily transmitted.

I have herein cut away the top or back or both of them along such portions of the instrument as the grain runs lengthwise the rim, and have secured to such cut-away portion marginal strips b , (see Fig. 9,) made of wood with the grain running toward the edges of the instrument. Such marginal strips may be located at each side of the upper and lower lobes with the production of good results. The marginal strips b are formed with a rabbeted edge to receive the back a or top. As before stated, these marginal strips b will be provided along the sides of both the upper and lower lobes of both the top and back of the instrument, but of course they may be provided along only such portions or parts as may be desired.

The rim e of the instrument usually has the grain of its lining-strip running lengthwise, and herein I have provided said rim with a lining-strip e' , the grain of which runs vertically or from top to bottom. (See Fig. 8.) Such a lining-strip e' may be applied to a reduced portion only of the rim, and in practice I find that good results are obtained by employing such a lining-strip along the lower ends or curvatures of the D's.

The corner-blocks d are made tapering from end to end, from back to top of the instrument, the end of largest area being located at the back of the instrument.

In the top of the instrument, to secure greater strength in the lower lobe and decreased resistance at the corners, I have placed the lower circular terminations c of

the f -holes well into the corners and define their position as equidistant or thereabout between the adjacent or marginal part of the side of the instrument and the adjacent marginal portion of the lower curvature of the D's.

It is obvious that all of these many features of novelty need not be embodied in the instrument, although I find in practice that an instrument having all of these features does produce a very much better tone than the ordinary or well-known form.

I claim—

1. The back of a violin or other instrument of the viol family having its lower lobe gradually reduced in thickness from a central thickened area toward the waist and the waist reduced in thickness from a transverse thickened area embracing post-contact toward the lower lobe, substantially as described.

2. The back of a violin or other instrument of the viol family having a thickened transverse area in its waist portion embracing the sounding-post contact, and a thickened portion at the central part of the lower lobe, and a thin portion between said thickened portions, substantially as described.

3. The back of a violin or other instrument of the viol family having a transverse thickened area in its waist portion embracing the sounding-post contact, and a thickened transverse portion embracing the central area of the lower lobe, and a thin portion between said thickened portions provided with a narrow central longitudinal projection a^3 , substantially as described.

4. The back of a violin or other instrument of the viol family having a transversely-thickened waist portion embracing the sounding-post contact, and a thickened central area in the lower lobe, and a thin portion between said thickened portions provided at each side with a narrow longitudinal projection a^4 arranged in continuation of the long central portion of the D's, substantially as described.

5. The back of a violin or other instrument of the viol family, having a thickened portion at the waist embracing or including the sounding-post contact, a central thickened area in the upper lobe, and a thin portion between said thickened portions, substantially as described.

6. The back of a violin or other instrument of the viol family, having a thickened portion at the waist, a central thickened area in each lobe and a thin portion between said thickened portions, substantially as described.

7. The back of a violin or other instrument of the viol family "worked out" to present a central longitudinal projection extending inward from the upper and lower ends where the back joins the end blocks toward the centers of the lobes, substantially as described.

8. The front or top of a violin or other instrument of the viol family having its waist depressed longitudinally from the upper to the lower lobes, and also depressed trans-

versely in opposite ways from a central line passing from end to end of said back, substantially as described.

5 9. The front or top of a violin or other instrument of the viol family having its waist depressed on a longitudinal line between the upper and lower lobes, which depression embraces or includes the sounding-post contact, substantially as described.

10 10. The back or top of a violin or other instrument of the viol family having attached marginal portions which rest upon the rim, substantially as described.

15 11. The back or top of a violin or other instrument of the viol family having attached marginal portions which rest upon the rim arranged with the grain running in a direction toward the median longitudinal line of the back or top, substantially as described.

20 12. In a violin or other instrument of the viol family, the combination with the rim of

a lining-strip *e'* applied thereto, having its grain running from top to back of the instrument, substantially as described.

13. In a violin or other instrument of the 25 viol family, corner-blocks made tapering from back to top, substantially as described.

14. In a violin or other instrument of the viol family, the back having a thickened central area of its lower lobe gradually made 30 thinner toward the waist with a transverse thickened portion crossing the waist and embracing the post-contact, and upon which the post may rest, substantially as described.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

EDGAR McNICHOL.

Witnesses:

B. J. NOYES,

F. H. DAVIS.