

No. 881,206.

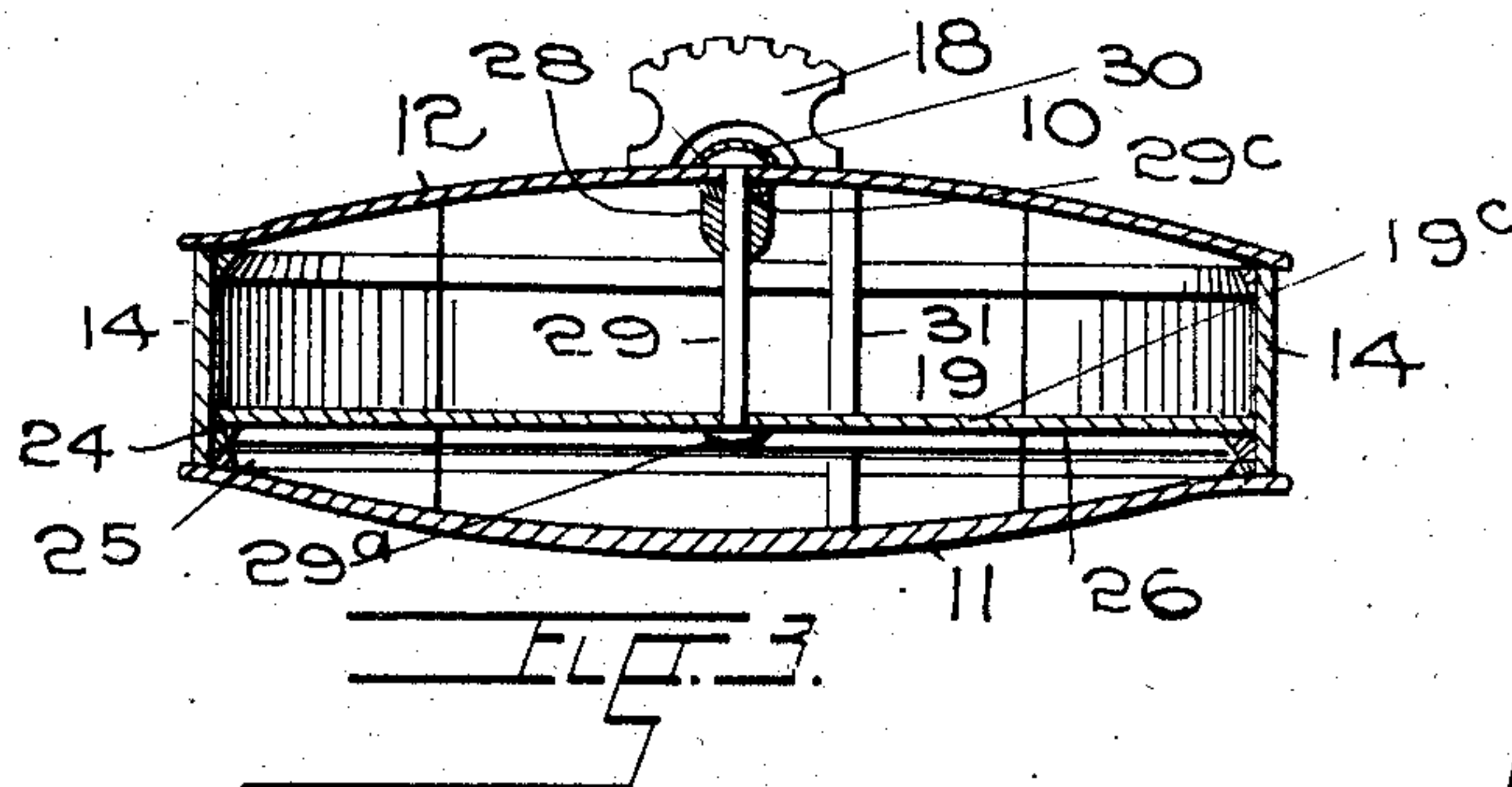
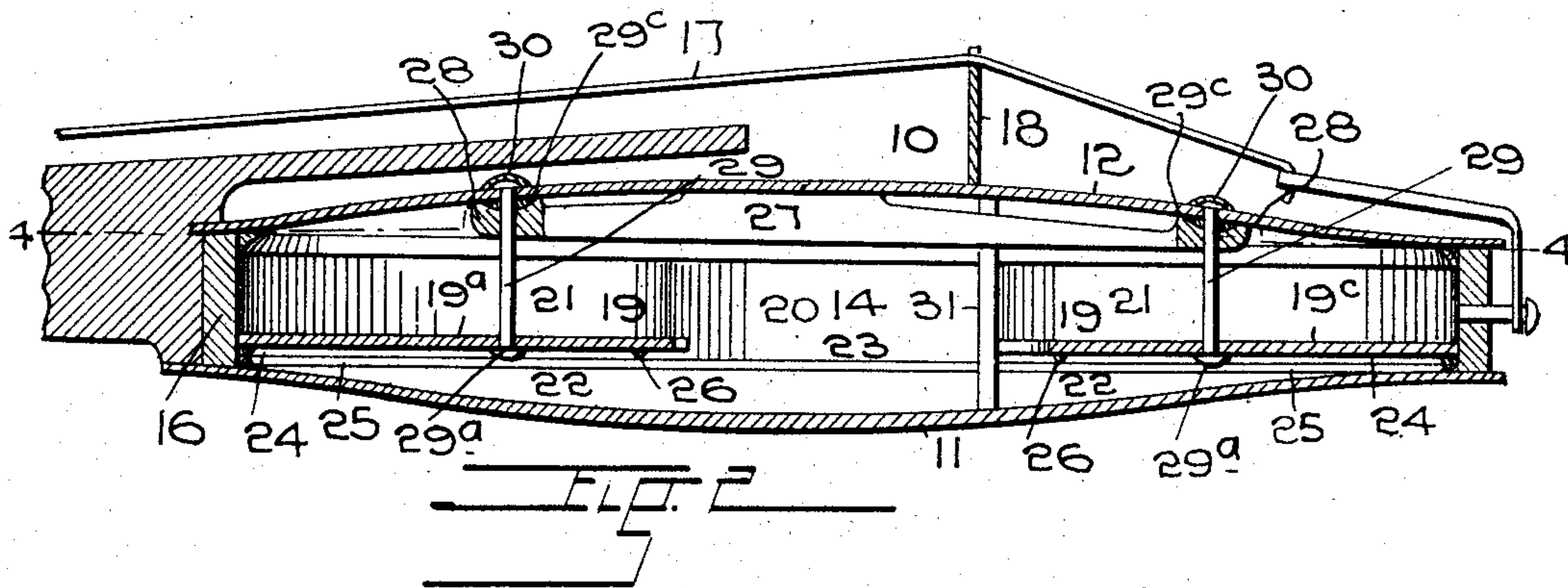
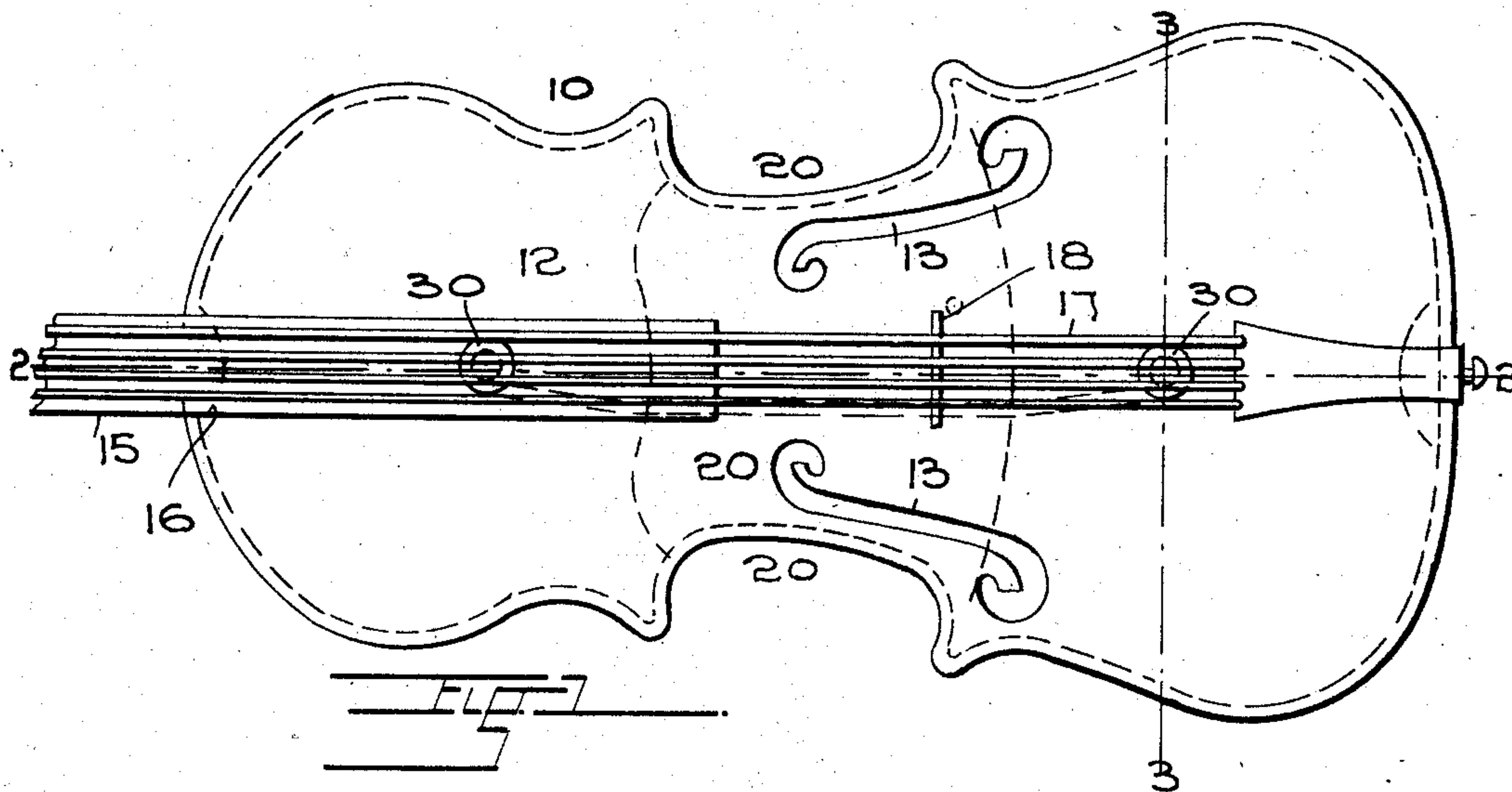
PATENTED MAR. 10, 1908.

G. SOMERVILLE.

RESONANT BOX OF STRING INSTRUMENTS.

APPLICATION FILED JUNE 29, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

E. K. Burrows.
L. A. Bowler

INVENTOR.

George Somerville

BY *[Signature]*
ATTORNEY.

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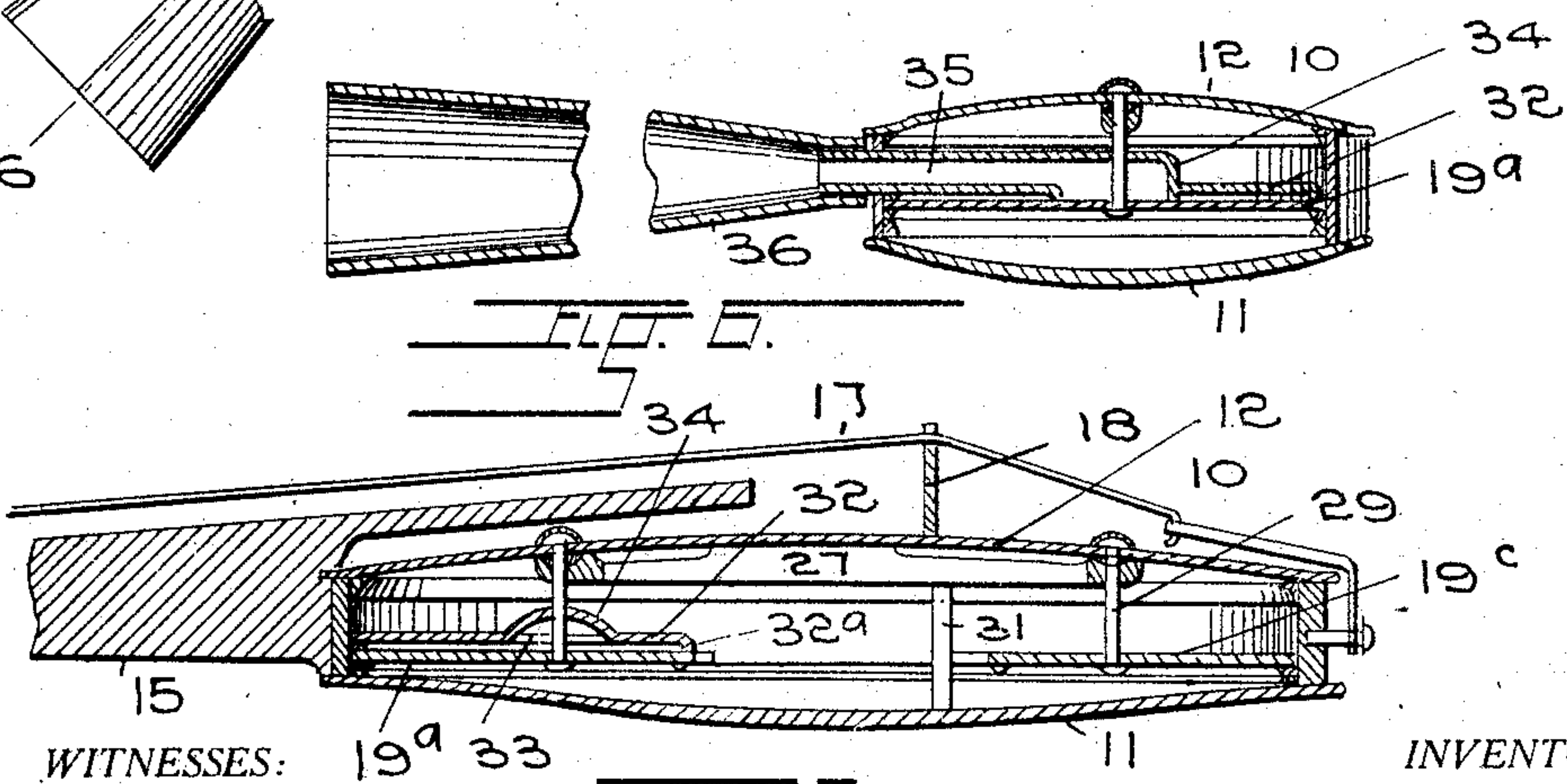
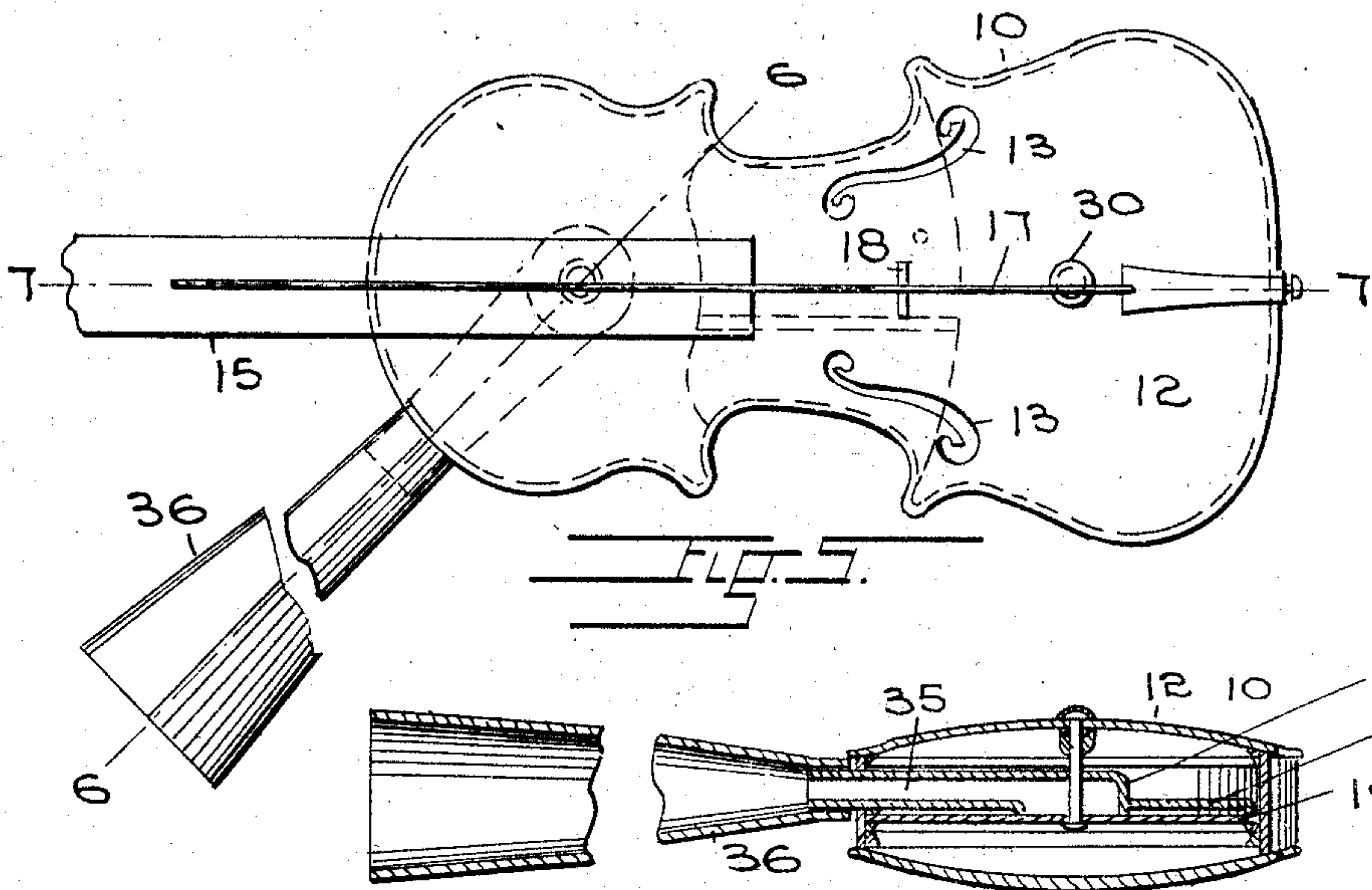
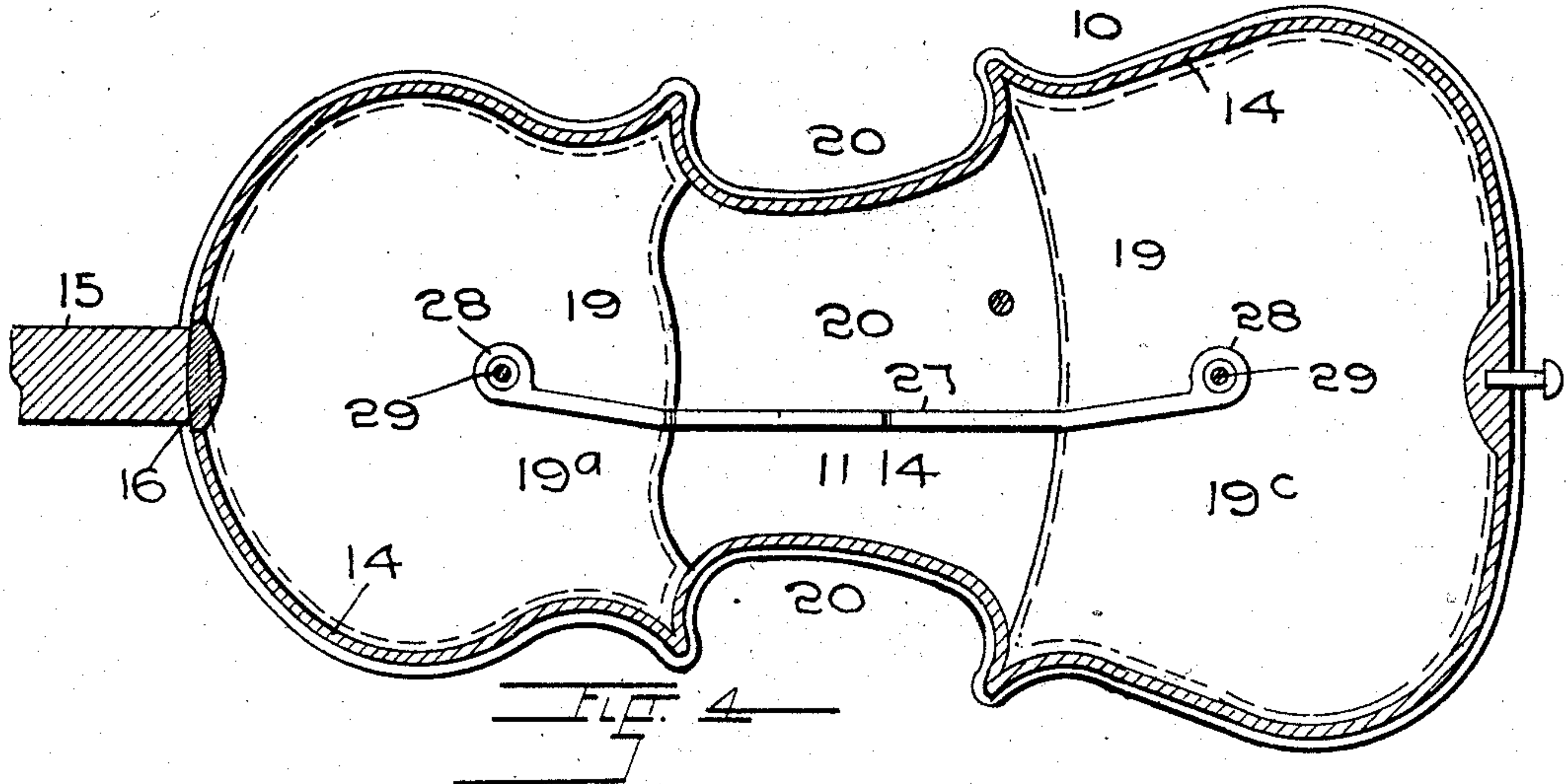
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UNITED STATES PATENT OFFICE.

GEORGE SOMERVILLE, OF DENVER, COLORADO.

RESONANT BOX OF STRING INSTRUMENTS.

No. 881,206.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed June 29, 1907. Serial No. 381,466.

To all whom it may concern:

Be it known that I, GEORGE SOMERVILLE, citizen of United States of America, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Resonant Boxes of String Instruments, of which the following is a specification.

My invention relates to improvements in musical instruments belonging to the large and varied class of which the viol is the typical representative, and which includes the violin, viola, violoncello, bass-viol, et cetera.

The object of my invention is to provide an instrument of the class named, the tone of which produced by the sounding of the strings, shall be of superior clearness and sonority.

I attain this object by the means illustrated in the accompanying drawings, in the various views of which like parts are similarly designated and in which

Figure 1—represents a plan view of the resonance box or body of a violin, Fig. 2—a longitudinal section therethrough, taken along a line 2—2, Fig. 1. Fig. 3—a transverse section taken along a line 3—3, Fig. 1, Fig. 4—a horizontal section through the box along a line 4—4, Fig. 2, Fig. 5—a plan view of an instrument of my improved construction equipped with a horn, Fig. 6—a section taken along a line 6—6, Fig. 5, and Fig. 7—a section taken along a line 7—7, Fig. 5.

Referring to the drawings, the reference character 10 designates the resonance box of a violin or analogous instrument, comprising the arched back 11, the front or belly 12 having the f-shaped sound holes 13 and the connecting rim or side 14. The neck 15 of the instrument, which in the drawings, is broken off, is attached to the body 10 by means of the neck plate 16 and the strings 17, leading to the peg box at the outer extremity of the neck, are supported upon the bridge 18, by means of which their vibrations are transmitted to the said body. Two partitions 19^a and 19^c are disposed in a plane within the box intermediate of and in parallel relation to the belly and the back of the instrument and are separated by an intervening space 23. The partitions which are made of thin wood, isinglass or other suitable, flexible substance conform in outline with that of the rim 14 of the instrument and they are supported upon strips or fillets 24, placed along the inner surface of the rim 14 and

preferably upon the strip 25 by which the said rim is connected with the back 11 of the box 10. The extremities of the fillets 24 are connected by transverse strips or bridges 26 which support the oppositely disposed, free inner ends of the members of the diaphragm.

The reference character 27, designates the so called bass-bar which, in my improved construction, is made separate from the belly of the resonant body and which is recessed along its upper edge to provide three separate points of contact with the under surface of the belly. The outer ones 28, of these contacts at the extremities of the bar, are bent inwardly and positioned in the vertical plane of the longitudinal axis of the instrument, when the bar is in its proper position in relation to the other parts of the instrument, as is shown in the drawings.

The diaphragm-members 19^a and 19^c, are connected with the extremities of the bar 27, and the belly 12, by means of bolts or pegs 29, preferably composed of wood, the heads 29^a of which engage the under side of the respective partitions while their opposite ends are firmly secured by means of glue or other adhesive substance, within registering apertures in the extremities 28, of the bass bar, the belly 12 of the box and interposed washers 29^c. Spherical—segmentally shaped caps 30 are secured upon the upper surface of the belly 12 over the therethrough protruding extremities of the bolts or posts 29, to further insure the latter's permanent connection and to lend a finished appearance to the exterior of the instrument. The sound post 31, which connects the back and belly of the box 10, to withstand the strain of the strings, and to give greater sonority to the tone, is positioned in proximity to the bridge 18, intermediate the two partitions 19^a and 19^c. When the strings 17 of the instrument are sounded by picking or by means of a bow drawn across them, their vibrations are communicated to the belly 12, through instrumentality of the bridge 18, and from there by means of the sound-post 31 to the back, and by the slender connections 29, to the members of the diaphragm 19. The sound waves ordinarily produced in the resonance box by the vibratory motion of the belly and back of the instrument are in the above described construction, greatly amplified by the additional vibrations of the partitions 19^a and 19^c, with the result that the sound propagated through the f-holes 13, is greatly intensified.

It will be observed that inasmuch as the base bar has but three points of contact with the belly of the instrument, the vibrations of the said belly produced by the motion of the strings, are carried directly to the ends of the bass bar and from there through the instrumentality of the slender connections, to the two partitions.

The instrument illustrated in Figs. 5 to 7 inclusive, is especially adapted for the use of the class of public entertainers who, by a more or less skillful performance upon peculiarly constructed musical instruments endeavor to amuse an audience.

The interior arrangement of the sounding box is similar to that previously described, with the addition of a plate 32, which conforming in shape with one of the members of the diaphragm 19, has a depending flange 32^a, in engagement therewith. The plate 32 has a circular opening 33, inclosed by a superposed cap 34, at the extremity of a tube 35, the outer end of which protrudes through the rim of the instrument in proximity to its neck and upon which is mounted the horn 36. The sound emitted from the instrument being thus magnified and directed in a given direction in a greater volume, by the application of the horn in addition to and in cooperation with the vibratory diaphragms, the performer is enabled to produce a clear and loud tone by the use of but one string.

Having thus described my invention what I claim is:—

1. In an instrument of the class named the combination with its resonant box, of a partition arranged therein, unconnected with its back, coöperatively connected with its belly at a point remote from its edges and in substantially parallel relation thereto.

2. In an instrument of the class named, the combination with its resonant box, of a partition arranged therein, unconnected with its back, and a slender member connecting the said partition with the belly of the said box.

3. In an instrument of the class named, the combination with the resonant box of two partitions extending oppositely from

its ends in spaced relation to each other, the said partitions being unconnected with the back of the said box and coöperatively and independently connected with its belly.

4. In an instrument of the class named, the combination with the resonant box, of two partitions extending oppositely from its ends in spaced relation to each other and unconnected with its back and a slender connection between each of the said partitions and the belly of the said box.

5. In a musical instrument of the class named, the combination with the resonant box, of a partition arranged therein, a bass bar having separated points of contact with the under surface of the belly of the box, and means to coöperatively connect the said partition, bar and belly.

6. In a musical instrument of the class named, the combination with the resonant box, of a partition, comprising two separated members, arranged therein, a bass bar having separated parts of contact with the under surface of the belly of the box, and slender members connecting the said members with the outer parts of the said bar and with the portion of the belly engaged thereby.

7. In a musical instrument of the class named, the combination with the resonant box, of a partition arranged therein to vibrate with a vibratory part thereof, a horn, and a hollow member connected with the latter orifice, extending into the box, and terminating in proximity to the said partition.

8. In a musical instrument of the class named, the combination with the resonant box, of a partition arranged therein to vibrate with a vibratory part thereof, a horn, and a hollow member connected with its orifice and extending into the box and having at its inner end a plate surrounding its opening and supported upon the partition.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE SOMERVILLE.

Witnesses:

G. J. ROLLANDET,
E. K. BURROWS.