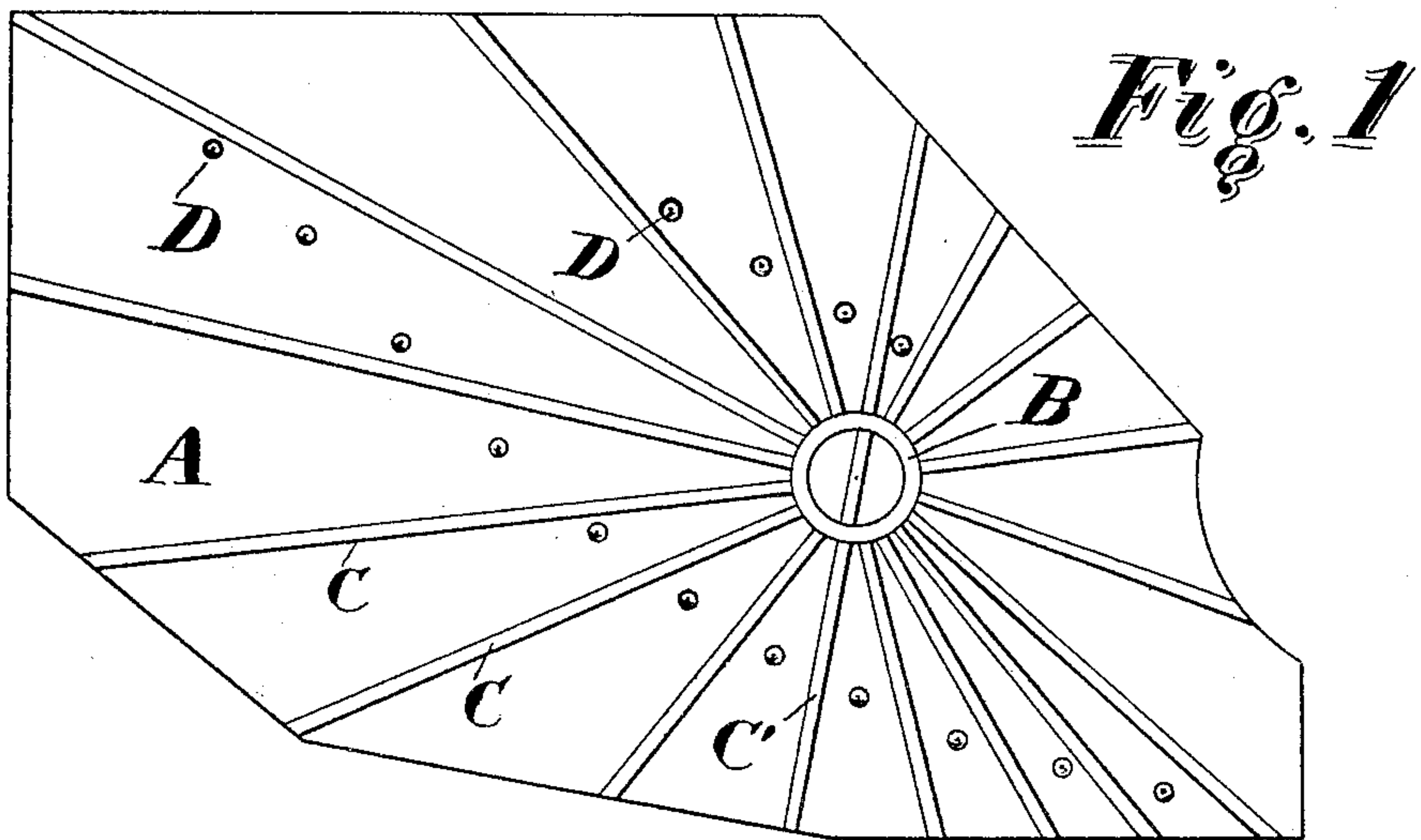


(No Model)

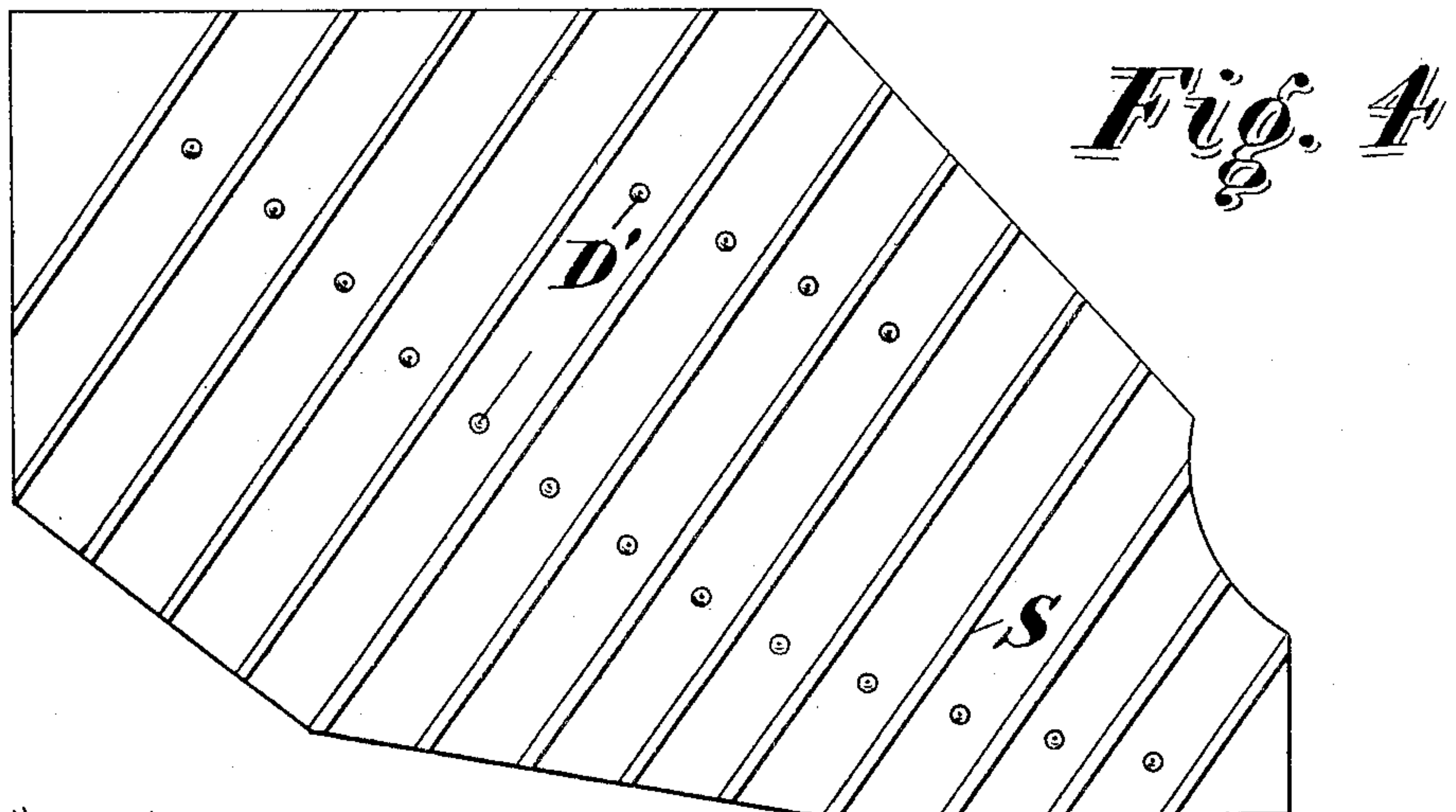
A. BRUENN.  
SOUNDING BOARD.

No. 582,577.

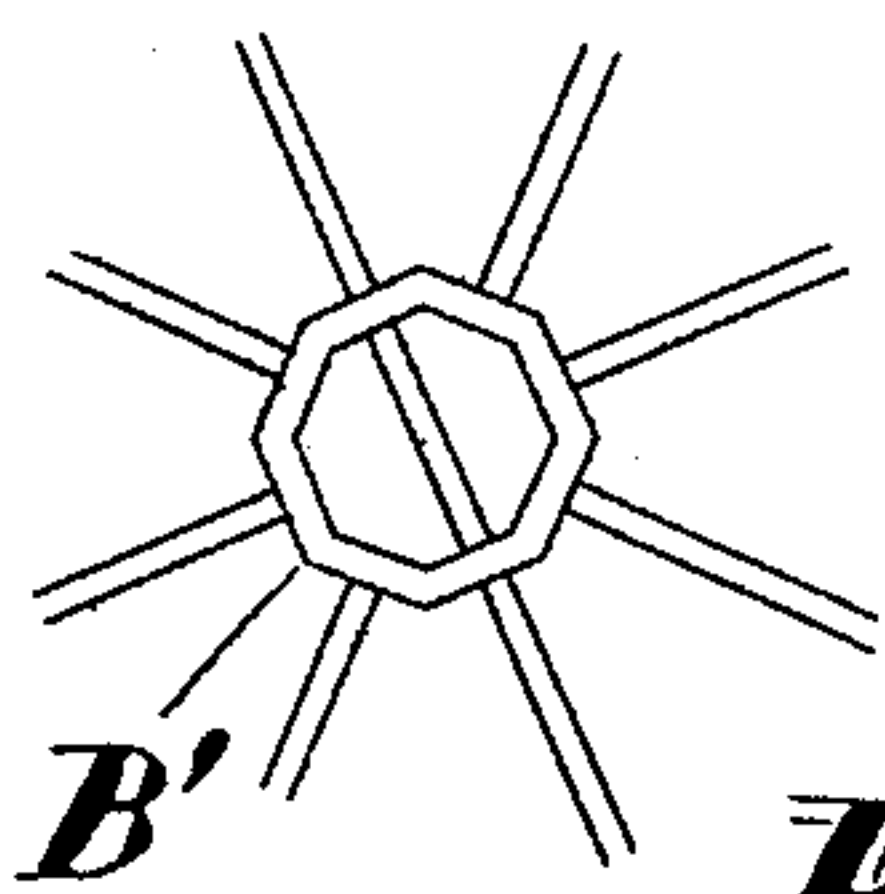
Patented May 11, 1897.



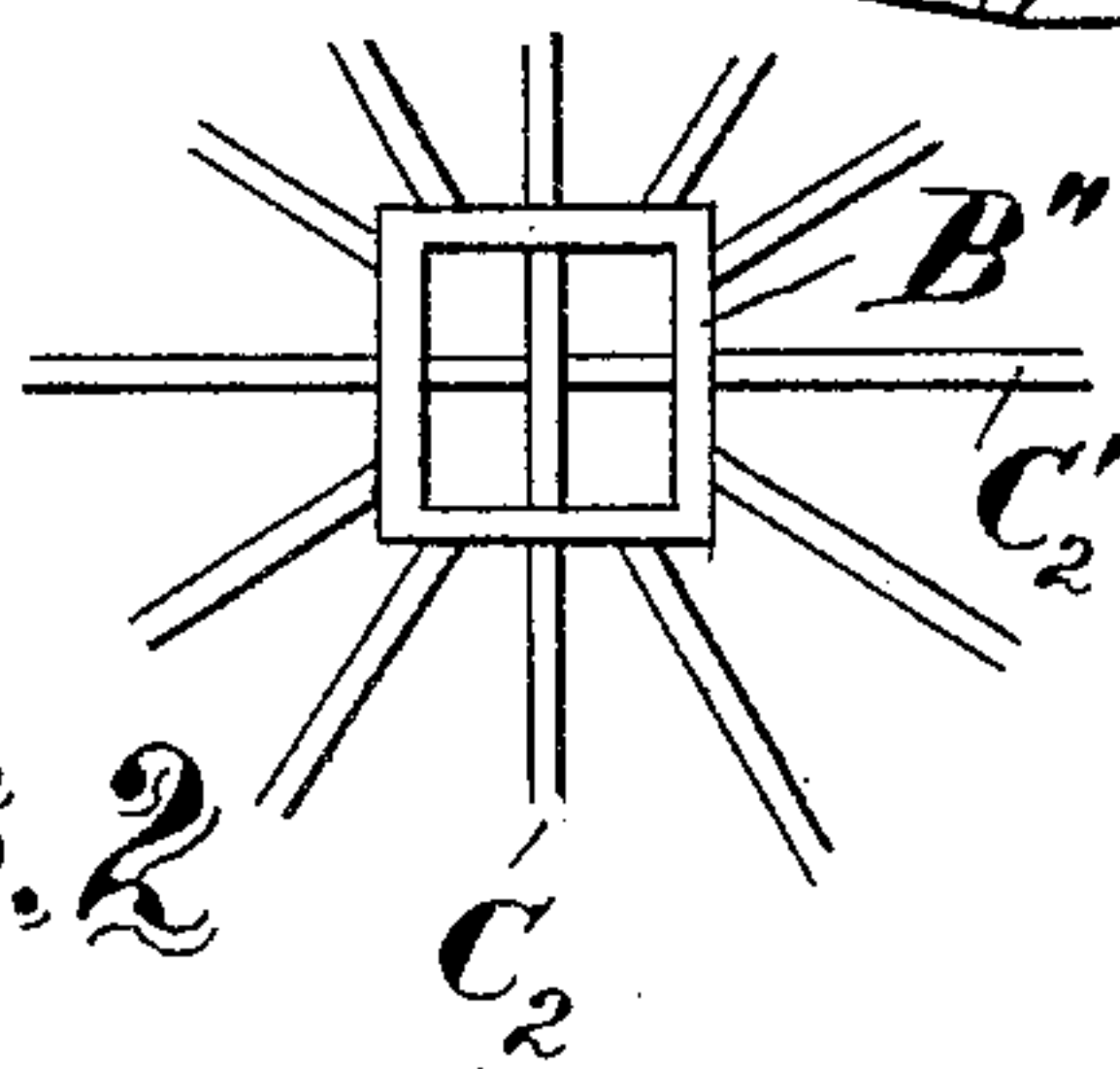
*Fig. 1*



*Fig. 4*



*Fig. 2*



*Fig. 3*

*Witnesses.*

*A. M. James.*  
*Eliz. Kincaid.*

*Inventor.*  
*Adolph Bruenn*  
*by Kincaid & Co.*  
*his attys.*



# UNITED STATES PATENT OFFICE.

ADOLPH BRUENN, OF OAKLAND, CALIFORNIA.

## SOUNDING-BOARD.

SPECIFICATION forming part of Letters Patent No. 582,577, dated May 11, 1897.

Application filed July 17, 1895. Serial No. 556,267. (No model.)

*To all whom it may concern:*

Be it known that I, ADOLPH BRUENN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Sounding-Boards for Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The beauty and volume of tone in a musical instrument depend, materially, upon the sounding-board, and mainly from its quality to react against the molecular vibration of its most delicate parts; and with that established fact in view it is the object of my present invention to increase the sensitiveness of the entire board to the vibrations emanating from any particular part or the pressure of the several particles of the board against each other, which, more or less, determine not only the power of tone but its susceptibility.

As the connection between the mode of construction and the result obtained in this particular class of devices is supplied principally through theoretical reasoning, it may be that other objects and advantages of the invention may be deduced by certain individuals familiar with the art in following the specifications that will hereinafter appear.

In the accompanying drawings, which form a part of this specification, I have clearly illustrated the invention, and in the several views have employed like letters of reference to indicate like parts.

Figure 1 is an elevation of a pianoforte sounding-board, showing my peculiar manner of positioning the strengthening-ribs. Figs. 2 and 3 are modifications, and Fig. 4 is an elevation showing the ordinary manner of arranging the strengthening and vibrating ribs in contrast to my invention.

A represents the main body of a sounding-board adapted in form to a pianoforte of the upright class. Radiating outward from an approximately central circular or polygonal ring B and secured thereto and to the surface of the board A are the strengthening and vibrating ribs C, which terminate at the outer edges of the sounding-board. For the pur-

pose of strengthening the board A at that point within the ring B, I have caused one of the ribs C' to be carried entirely across the ring B, but it may be equally advisable to carry more than one rib across the ring, as shown in the modifications in Fig. 3.

The buttons D D' (shown in Figs. 1 and 4) are representations of those ordinarily used in securing the bridge to the sounding-board.

In Fig. 2 I have shown a polygonal ring B', and in Fig. 3 a square ring B'', in the latter of which two ribs C<sup>2</sup> and C<sup>3</sup> pass across the ring.

Simply for sake of comparison I have represented in Fig. 4 the ordinary method of arranging the strengthening and vibrating ribs S on the board, which consists of having them run in a parallel series entirely across the board and in a diagonal direction. In this and in other boards that have been more or less in common use the entire surface of the board was not at any one time fully called into vibrating action, and as a consequence short and most undesirable undulating vibrations were engendered where those of long regular undulations extending over the entire board were desired.

By the employment of my present invention the short abrupt vibrations set up near the bridge are transmitted by that particular rib or ribs near where the vibrations emanate to the inner ring, where they receive a second transmission through the radiating-ribs to every portion of the sounding-board and improve thereby the tone-character of the sound emitted by the strings.

Although I have shown the invention adapted particularly to pianoforte sounding-boards, still the principle involved can be employed in sounding-boards for almost all other stringed instruments.

I am further aware that although in theory the circular-shaped central ring is preferable there are various other forms that may be used and methods of uniting the converging ribs which in the perceptible results obtained may justify such variation, but I am aware that these and other changes—such as in position, size, and proportion of parts—can be made without departing from the spirit or sacrificing the advantages of my invention,

and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

Having thus fully described my invention,  
5 what I claim, and desire to secure by Letters Patent, is—

1. A sounding-board all the ribs of which converge toward one common center, for the purpose set forth.
- 10 2. A sounding-board having a series of ribs

radiating from a common center, and an interposing member placed between abutting ends of said ribs for the purpose set forth.

In witness whereof I hereunto set my hand in presence of two witnesses.

ADOLPH BRUENN.

Witnesses:

HARRY J. LASK,  
JAS. A. WHITE.