

(No Model.)

G. B. DURKEE.
HARP.

3 Sheets—Sheet 1.

No. 437,918.

Patented Oct. 7, 1890.

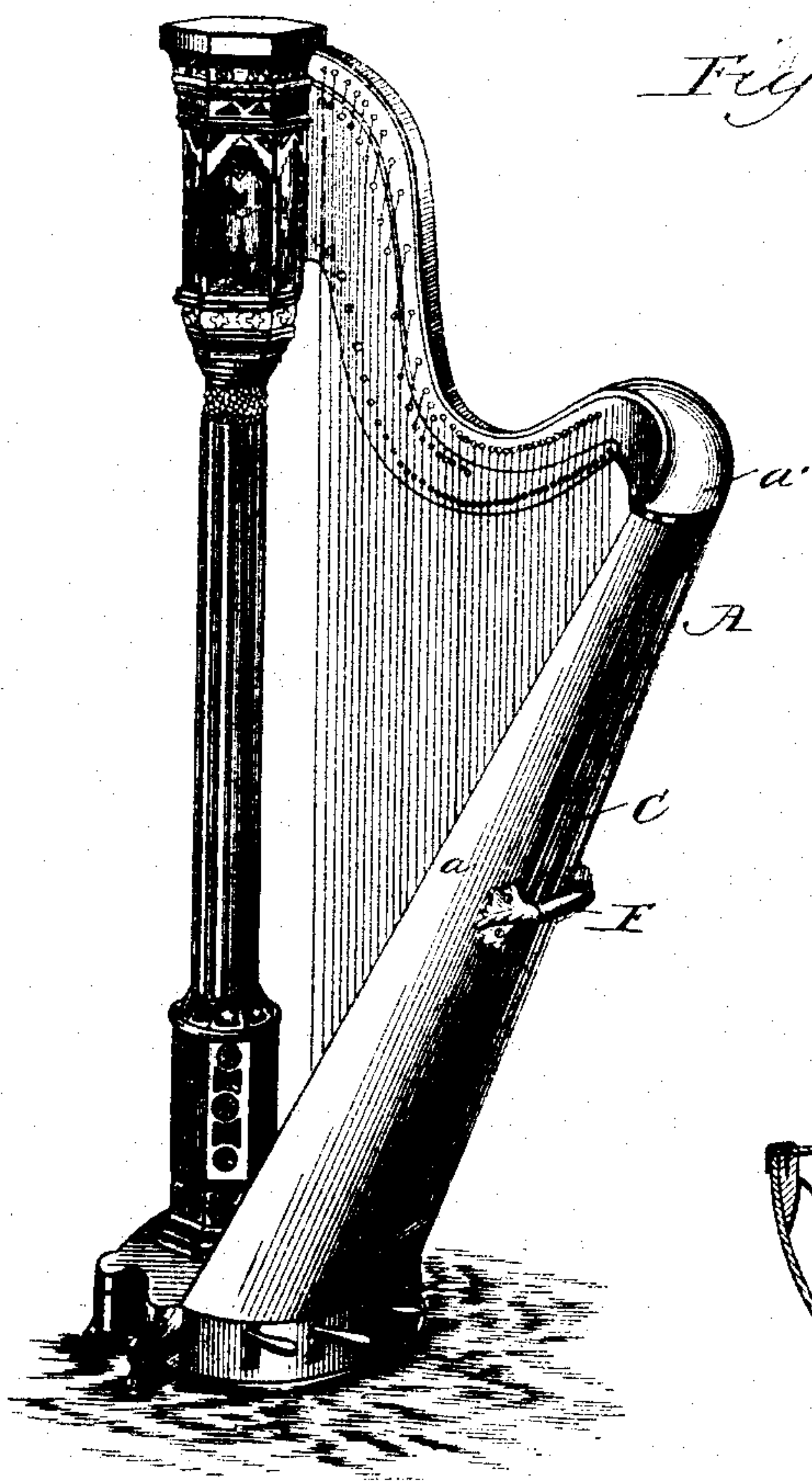


Fig. 1.

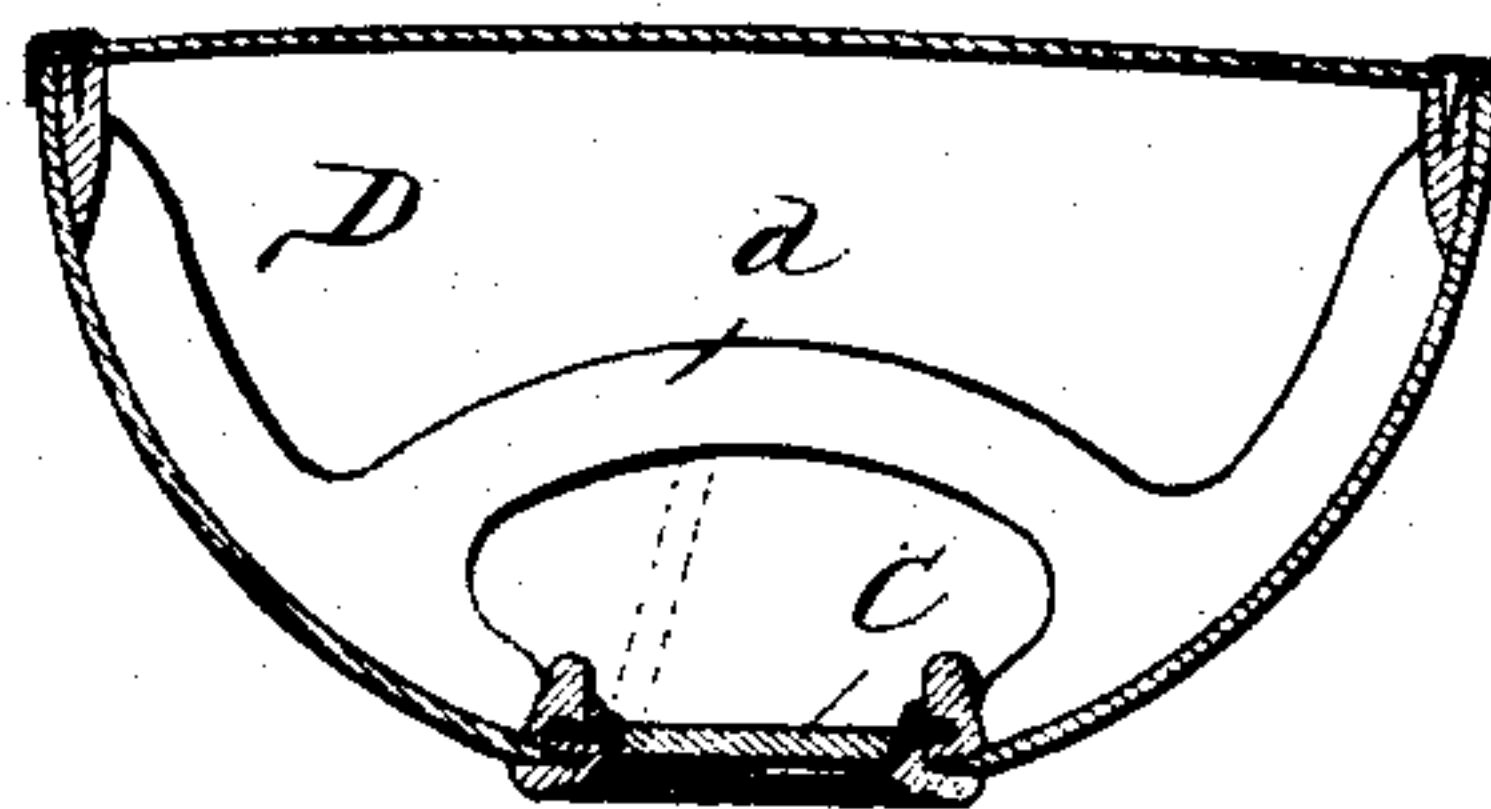


Fig. 2.

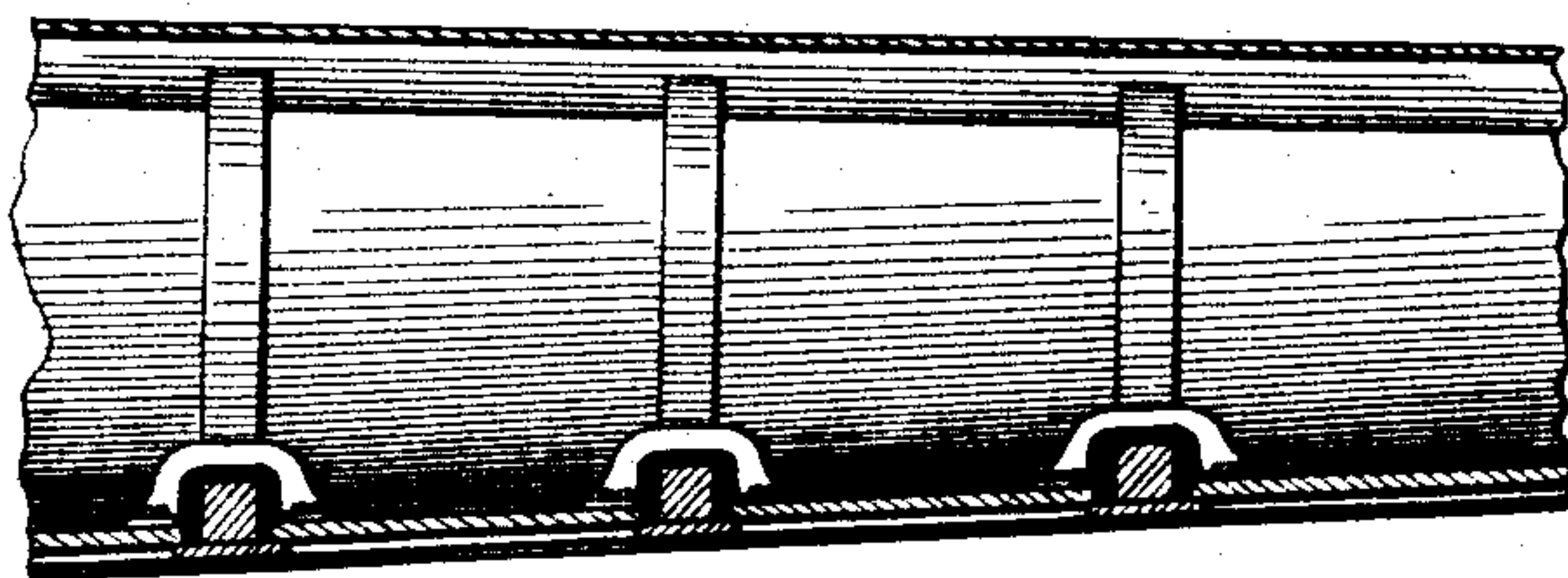


Fig. 3.

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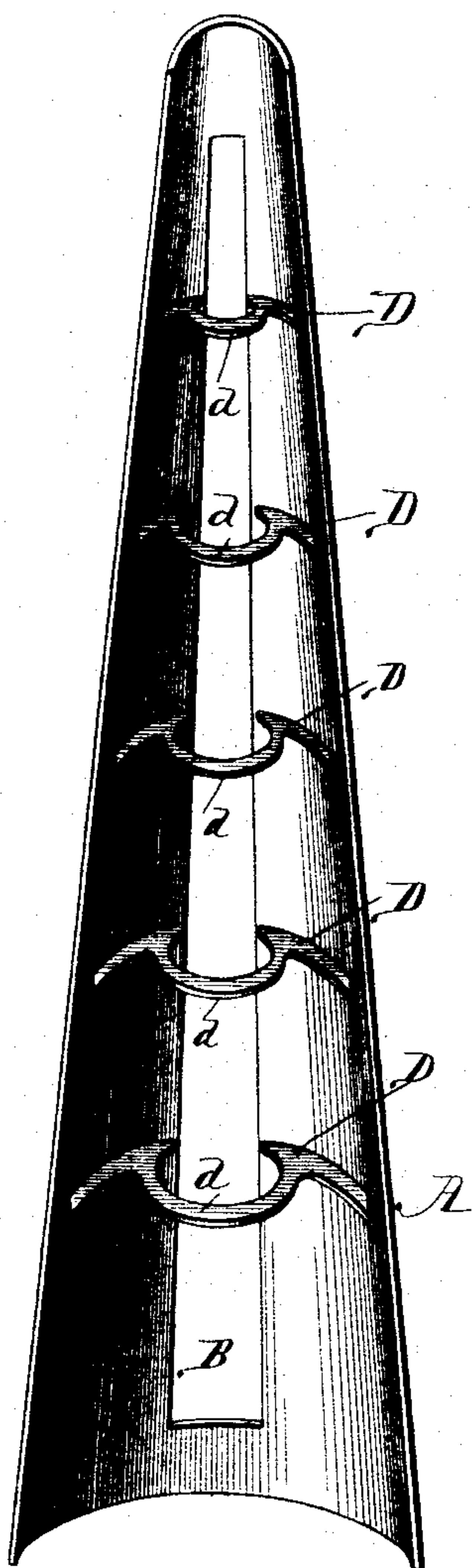


Fig. 4.

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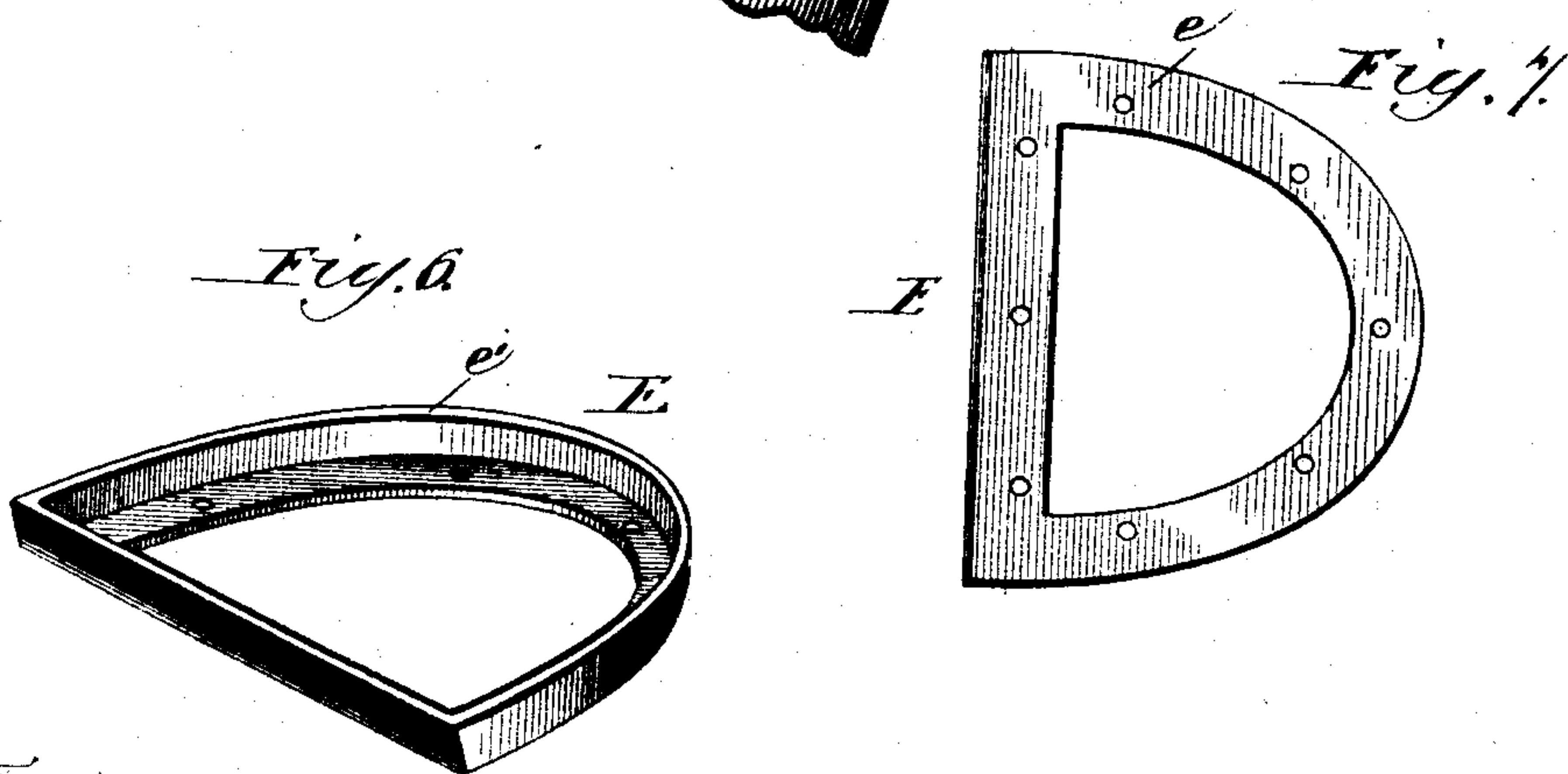
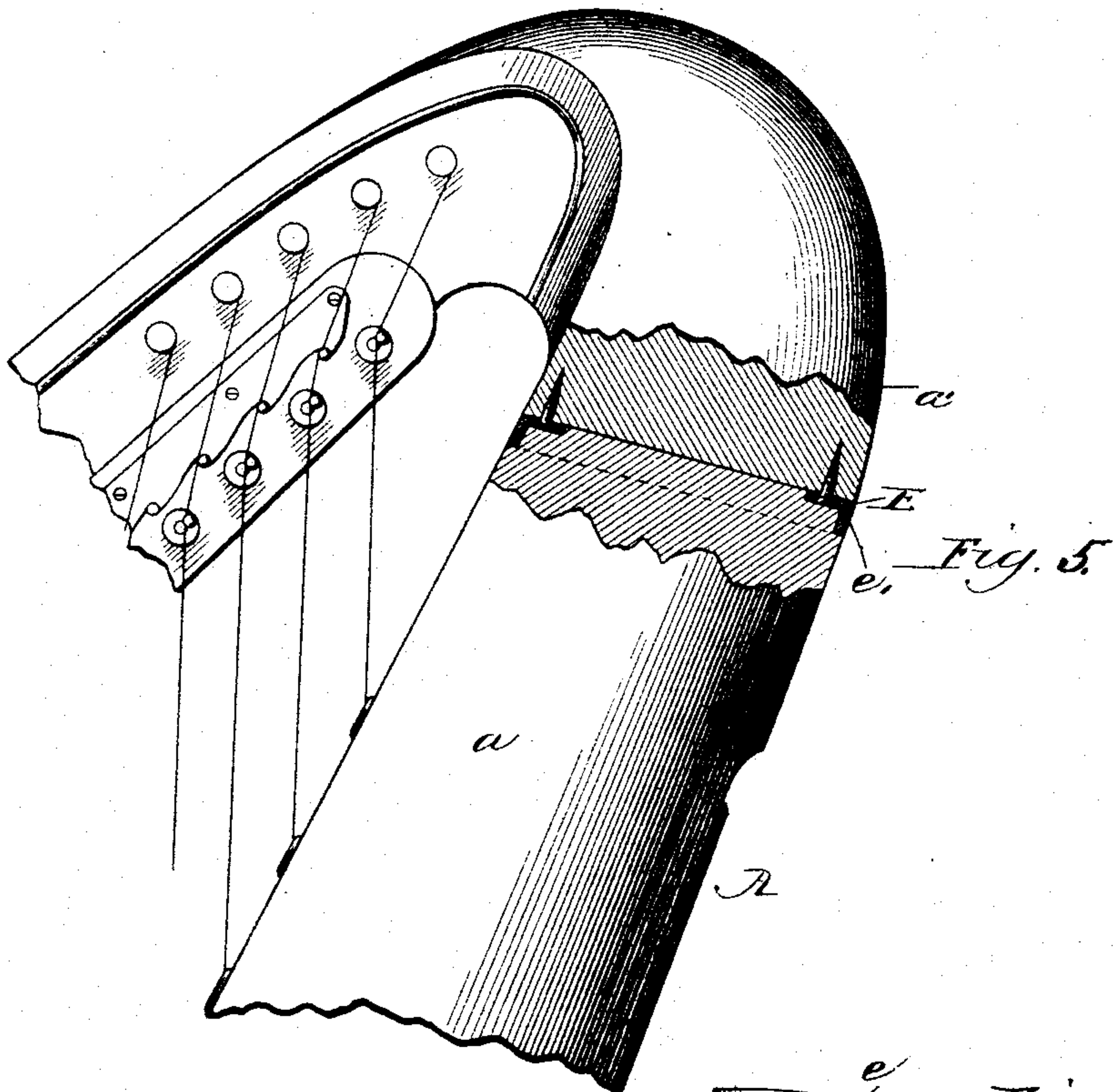
(No Model.)

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3 Sheets—Sheet 3.

No. 437,918.

Patented Oct. 7, 1890.



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UNITED STATES PATENT OFFICE.

GEORGE B. DURKEE, OF CHICAGO, ILLINOIS, ASSIGNOR TO LYON & HEALY,
OF SAME PLACE.

HARP.

SPECIFICATION forming part of Letters Patent No. 437,918, dated October 7, 1890.

Application filed September 21, 1889. Serial No. 324,687. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. DURKEE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Harps, of which the following is a specification.

Prior to my invention the hollow body of a harp has been provided with a series of longitudinally-arranged oblong openings or slots and a set of doors for opening and closing the same, and as a means for opening and closing the doors from the sound-pedals said doors have been connected together by metal bridge-irons formed to straddle the transversely-arranged wooden ribs which are commonly secured within the hollow harp-body. With such arrangement the ribs are placed at points between the openings and have a bearing upon the body at such points as well as along the remaining portions of the body with which they are in contact. The bridge or tie pieces employed to connect the doors as aforesaid prevent the doors from being opened inwardly as far as is desirable, owing to the fact that they will strike against the ribs when the doors are swung inwardly, and, moreover, the portions of the body between the openings fail to give as great an area of opening as should be provided for the production of the maximum volume of tone.

In carrying out my invention I provide the harp-body with a single long opening, which extends continuously along such portion of the length of the harp-body as it may be desired to open, and for the purpose of opening and closing such opening I provide a single door. In order to permit such arrangement of opening and closing the door, I so bend the ribs along their middle portions that they shall arch over the opening, and thereby provide ample space wherein the door can be swung inwardly. The objects of this construction are to avoid the objectionable features hereinbefore specified as incident to the old construction, and, further, to dispense with means for connecting doors, and thereby provide a simpler and more economical construction, to permit the door to be opened wider than has heretofore been attained with the series of doors, to render the interior of the body more

accessible, to provide a more durable construction, and to dispense with the weight incident to metal tie-pieces heretofore employed to connect the doors.

I also provide at the point where the upper end of the upright portion of the body joins the neck or upper transverse portion of the body a joint adapted both to avoid the gap heretofore frequently produced at such point under the strain produced by tightening up the strings and to avoid the cracking or splitting heretofore common to wooden joints at such point. To such end I provide a metal joint-piece, which is at said joint rigidly secured to one section of the harp-body, but so fitted to the opposing section as to be capable under strain of a slight yield, without, however, disclosing any separation between the opposing ends of the two sections.

As a further feature of improvement, I cross the longitudinal opening in the harp-body with a brace-handle, which, while affording an exceedingly convenient handle, which can be taken hold of in lifting the instrument, braces the partially-divided body and holds it against any disposition to spread apart or open wider under strain.

In the accompanying drawings, Figure 1 represents in perspective a harp embodying my invention. Fig. 2 represents on a larger scale a section taken transversely through the harp-body at a point adjacent to the brace-handle. Fig. 3 represents a section taken longitudinally through a portion of a harp-body, having a series of openings and a set of doors arranged in the old way. Fig. 4 represents in perspective a longitudinal section of the harp-body with the door omitted, so as to show more clearly the ribs and opening. Fig. 5 represents a part portion of the harp-body with a portion broken away at the joint, so as to show the joint-piece, which is represented in cross-section. Fig. 6 shows the joint-piece in perspective, and Fig. 7 is a plan view of the same.

The inclined portion A of the harp-body, which rises from the base of the instrument, is provided with an oblong opening B, which extends the greater portion of the length of such part of the instrument. The opening B is opened and closed by a single door C, which

is suitably hinged to the harp-body and which can be operated from the sound-pedal in any suitable way, it being considered unnecessary to herein show means for thus operating the door, since, if desired, means such as heretofore employed for operating a series of connected doors can be employed for operating the single door.

The wooden ribs D are reversely bent at their middle portions, as at *d*, so that they will arch over the opening B and provide space for the door to swing in, as illustrated in Fig. 2, wherein the door swung inwardly is indicated in dotted lines.

At the joint occurring between the sections *a* and *a'* of the harp-body a metal joint-piece E is rigidly secured against the end of one of the sections, but fitted upon the end portion of the other sections, somewhat as a collar or ferrule, to which end the joint-piece has a flat bearing-face *e*, which is fitted against one section, and a continuous flange *e'*, which is closely fitted upon the other section, as best shown in Fig. 5. The joint-piece can be rigidly secured to either section, but is herein shown secured by screws to the upper section *a'*. When the body is subjected to a considerable strain by reason of the tightening up of the strings, the flange portion of the joint-piece can have a slight slip upon the body-section *a*, so that in place of breakage or exposure of any gap between the abutting ends

of the body-sections the joint will remain intact and simply yield without exposing the gap.

The brace-handle F crosses the opening B and is secured to the harp-body, so that while serving as a convenient handle it will prevent the hollow body from spreading.

What I claim as my invention is—

1. The harp-body provided with a single longitudinally-arranged opening, a single door for opening and closing the same, and ribs which at points opposite said opening set back within the harp-body, for the purpose set forth.

2. The combination, with the harp-body having a longitudinal opening and a door therefor, of the ribs formed to arch over said opening, so as to provide room for the door to swing inwardly.

3. A harp-body provided at the joint with a metal joint-piece secured to one section and fitted upon the end portion of the opposing section, substantially as and for the purpose set forth.

4. The combination, with the harp-body having a longitudinally-arranged opening, of the brace-handle secured to the harp-body at opposite sides of said opening and arranged to cross the same, for the purpose described.

GEORGE B. DURKEE.

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