

(No Model.)

3 Sheets—Sheet 1.

G. B. DURKEE.
HARP.

No. 538,038.

Patented Apr. 23, 1895.



Witnesses:
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Frederick Goodwin

Inventor
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Attys.

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3 Sheets—Sheet 2.

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Fig. 3.

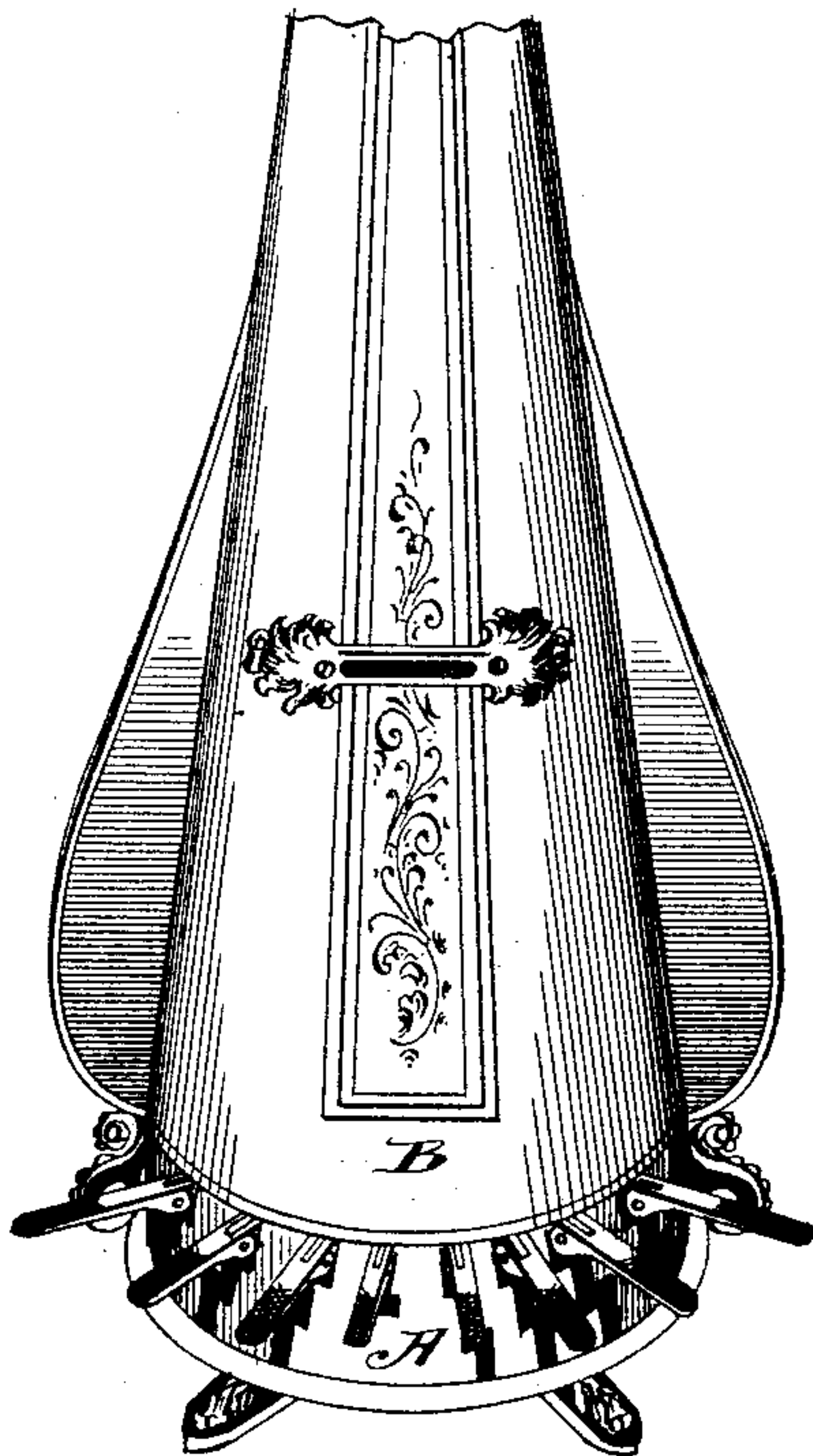


Fig. 4.

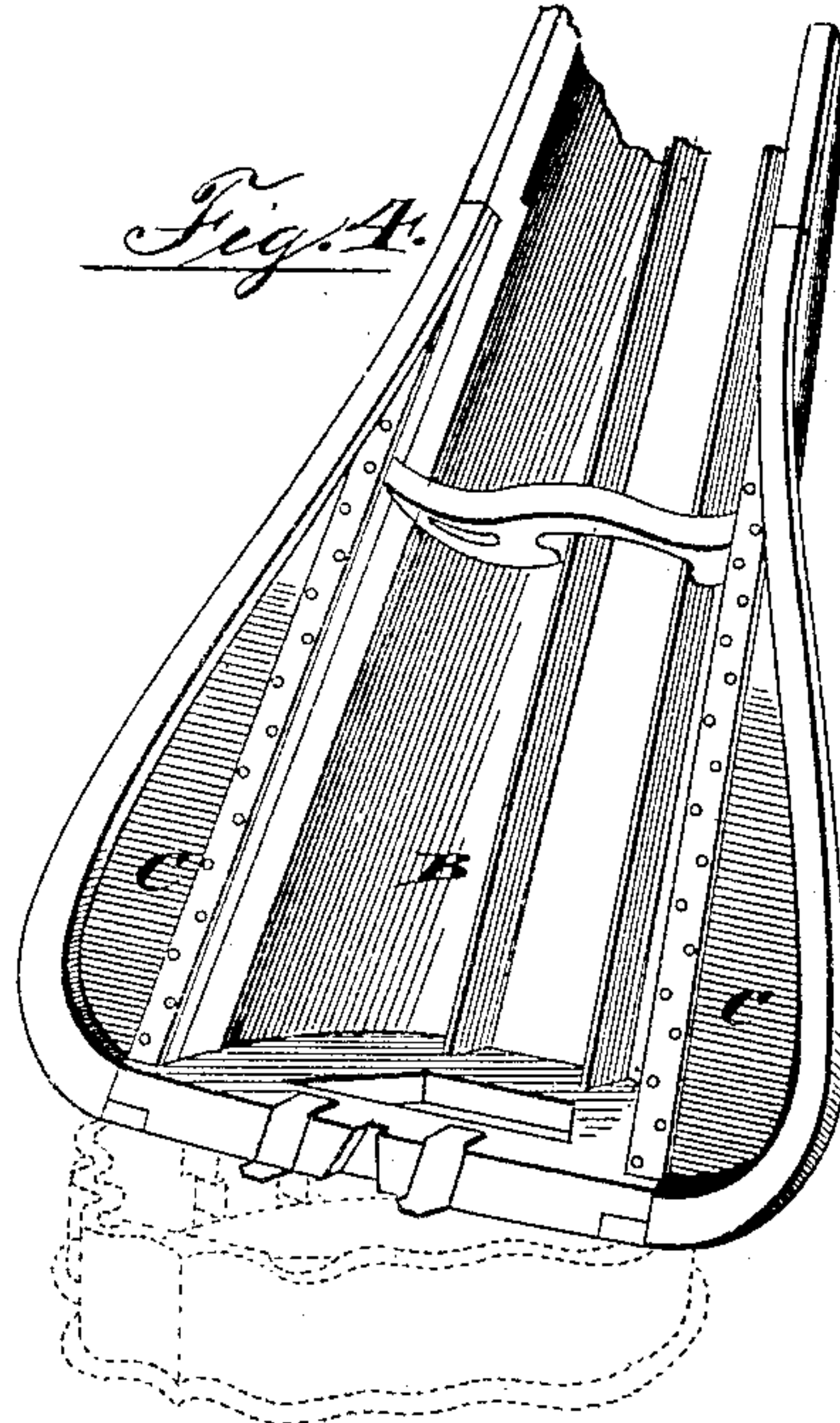
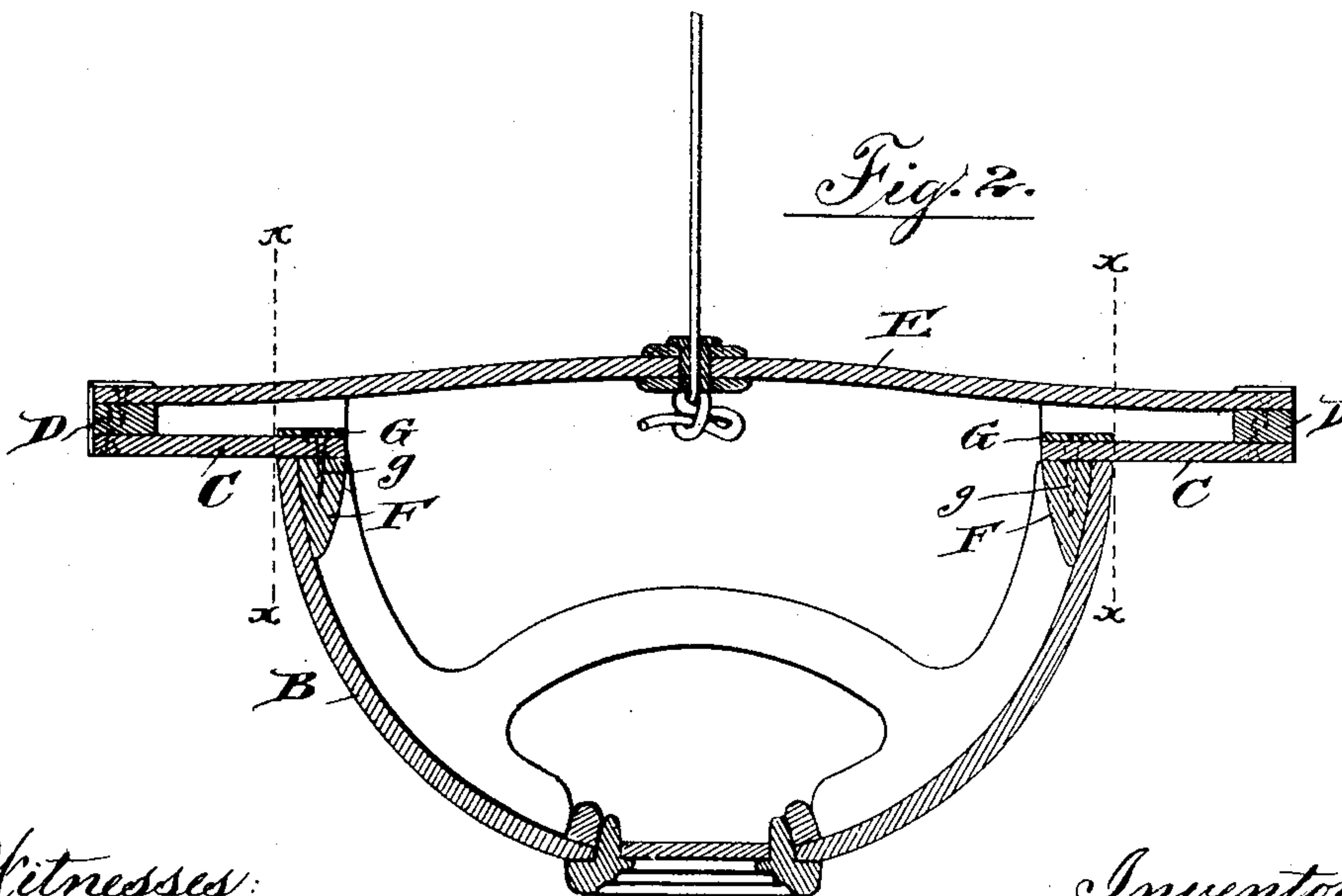


Fig. 2.



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Fig. 5.

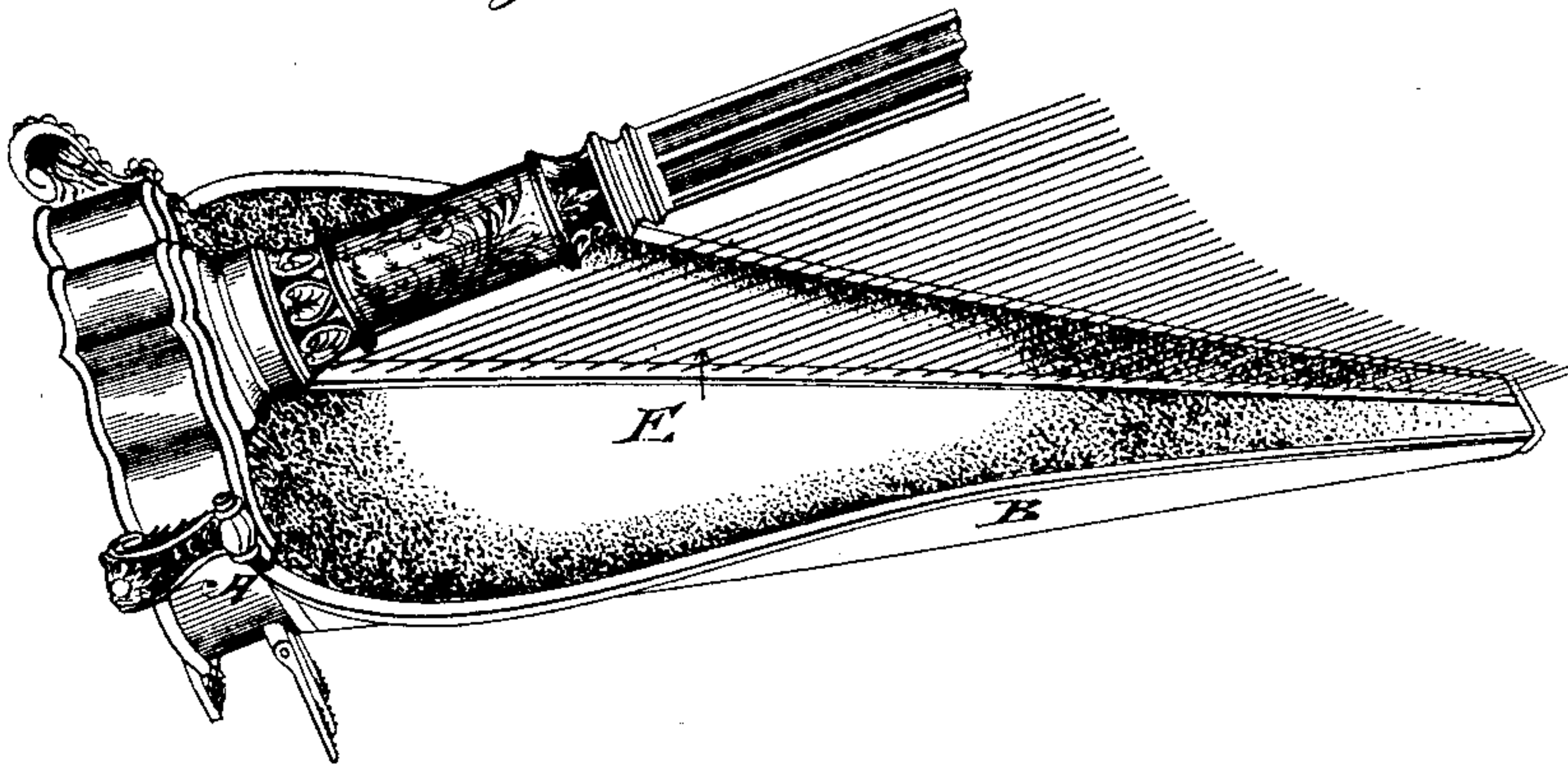
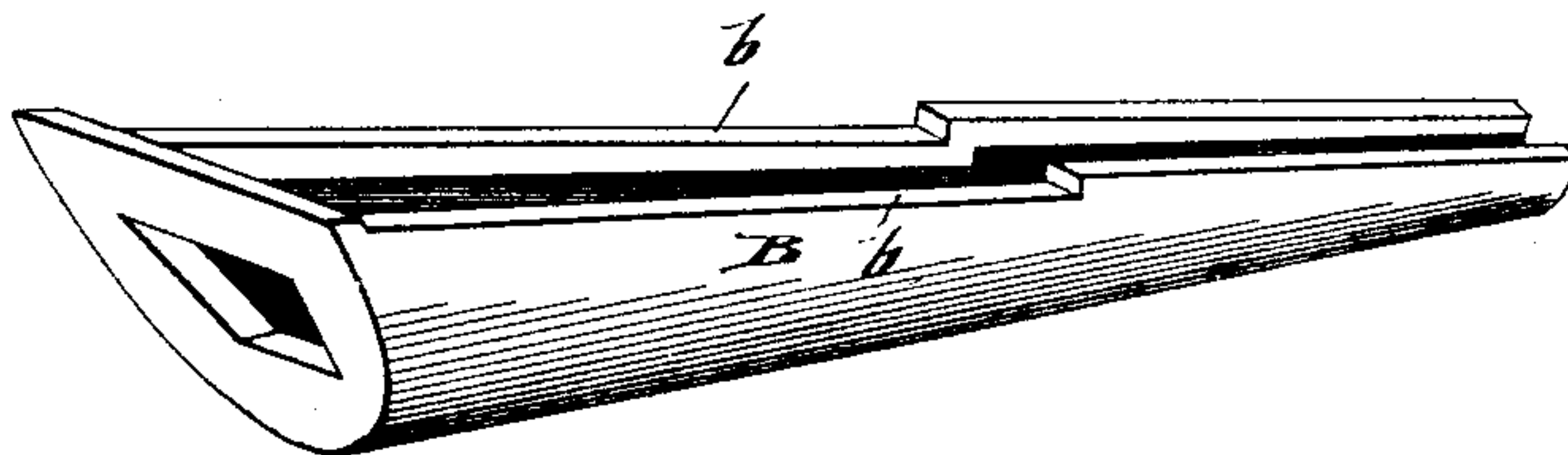


Fig. 6.



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UNITED STATES PATENT OFFICE.

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

HARP.

SPECIFICATION forming part of Letters Patent No. 538,038, dated April 23, 1895.

Application filed November 19, 1894. Serial No. 529,251. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. DURKEE, of Chicago, Illinois, have invented certain new and useful Improvements in Harps, of which the following is a specification.

The object of this invention is to improve the quality and quantity of tone in the lower register of the musical scale of the harp.

It is a fact well understood now, and in all probability appreciated by harp makers long ago, that the tone in the lower register of the harp is deficient both in quality and quantity, and I attribute this imperfection to the lack of a proper sounding board. It may easily be demonstrated that the present construction of sounding board is lacking in efficiency by a comparison of the width of the sounding board with the length of the strings at various points. For example, the upper end of the sound board is usually made of a width equal to the length of the string at that point—say, three inches—while the lower end of the sound board is in width less than one-fourth of the length of the string at that point, or—say—fourteen inches in width while the string is over five feet long. It may also be demonstrated that the proper width for the sound board at any given point is a trifle more than half the length of the string, which indicates that the sound board at its base should be, to obtain the best results, nearly three feet in width. A practical difficulty arises, however, because of the fact that the base of the body of the harp is now as wide as considerations of convenience and appearance will permit, and if made wider the spread of the pedals would be so great that they could not be reached by the performer.

By my invention I materially increase the width of the sound board in the lower register of the scale without increasing the width of the body, and this I do by a mechanical construction which does not detract from the appearance of the instrument or disturb the arrangement of the pedals.

My invention will be best understood by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a harp having a sound board of my improved construction and shown in proper relation to the per-

former. Fig. 2 is a cross section through the body of the harp near its base, showing my improved sounding board. Fig. 3 is a rear elevation of the lower portion of the body of the harp, showing the arrangement of the pedals. Fig. 4 is a broken perspective view of the front of the harp, ready to receive the sound board. Fig. 5 is a perspective view showing the lower portion of the harp with my improved construction and a desirable configuration of the body thereof and the result of an experiment to determine vibrations thereof. Fig. 6 is a perspective detail, showing the construction of the sides to receive the sound board.

In the drawings, A indicates the base and B the body of the harp. In my construction I attach to the sides of the body the side flanges or sound board extensions C, along the edges of which are secured strips or cleats D, and upon the latter the main sound board E is secured, said sound board being extended or projected to correspond with extensions C, thus increasing the effective width of the sound board.

In Fig. 6 the body is shown separately, and in Fig. 4 it is shown in that stage of construction where the ribs F, side flanges C and cleats D are applied. In order to secure the side extensions and the cleats properly to the body, the latter is notched or cut away on its upper edges, as shown at b, and the upper, narrow ends of the extensions C are fitted into this upper cut away portion so that the upper edges of the cleats are flush with the surfaces of the upper edges of the body portions. The extensions C are secured to the body, preferably by means of the metal strips G and the fastenings g.

I prefer to make the extensions or side flanges C of soft wood, while the cleats D may be made of harder wood.

Referring, particularly, to Fig. 2, it will be understood that that portion of the extensions C which are outside of the plane of the body are effective as a part of the sounding board, the space inclosed between their upper surfaces and the lower surfaces of the main sounding board E being adequate to provide a proper sound box. Thus the effective width of the sound board is increased very materially. All those portions outside the

dotted lines *xx* are added by my invention without any corresponding increase in the width of the body.

While I have shown and described the preferred construction, it is obvious that modifications may be made in the structural features, and therefore I do not limit my invention to such details of construction, except as hereinafter indicated in the claims.

10 I claim—

1. In a harp, the combination with a body, of side extensions secured to the body and projecting beyond the plane of the sides thereof, and a sound board also projected beyond the
15 sides of the body and secured to the extensions thereof near their outer edges, substantially as described.

2. In a harp, the combination with a body having its upper edges recessed, side extensions fitted to such recesses and projecting
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beyond the planes of the sides of the body, cleats secured to the margins of said extensions and a sound board mounted upon said cleats and having its edges projected to correspond with the side extensions, substantially as described. 25

3. In a harp, the combination with a body, of side extensions secured to the lower portion thereof and projecting beyond the planes of the sides of the body and adapted to serve
30 as a sound board, cleats secured to the outer margins of said extensions and the sound board secured to the upper part of said body and to said cleats and projecting over the side extensions, substantially as described.

GEORGE B. DURKEE.

Witnesses:

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W. E. BELL.