

2 Sheets - Sheet 1.

Casting Bells.

N^o 82,094.

Patented Sep. 15, 1868.

Fig. 1.

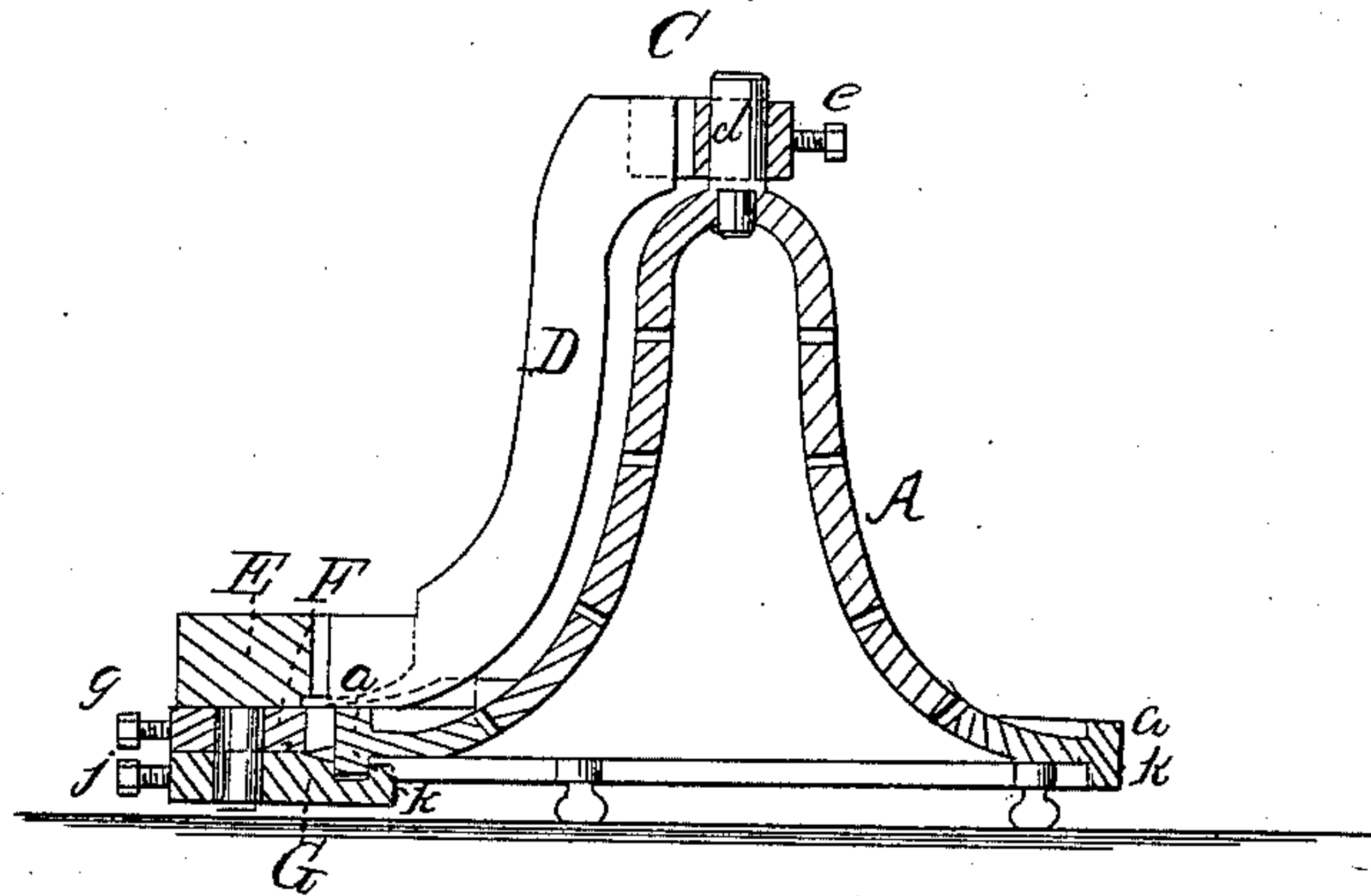
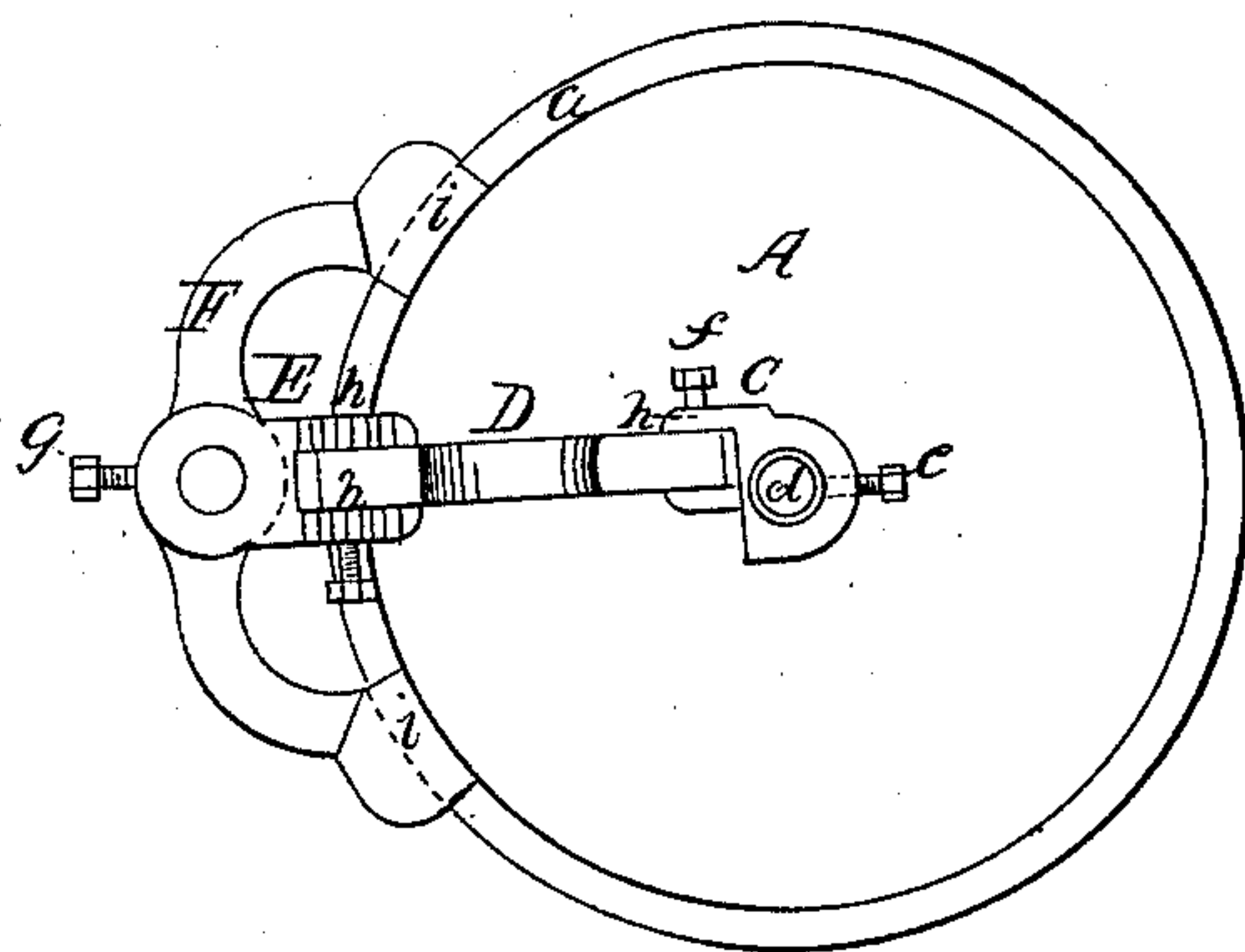


Fig. 2.



Witnesses.

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2 Sheets-Sheet 1.

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2 Sheets-Sheet 2.
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Casting Bells.
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No 82,094

Fig. 3.

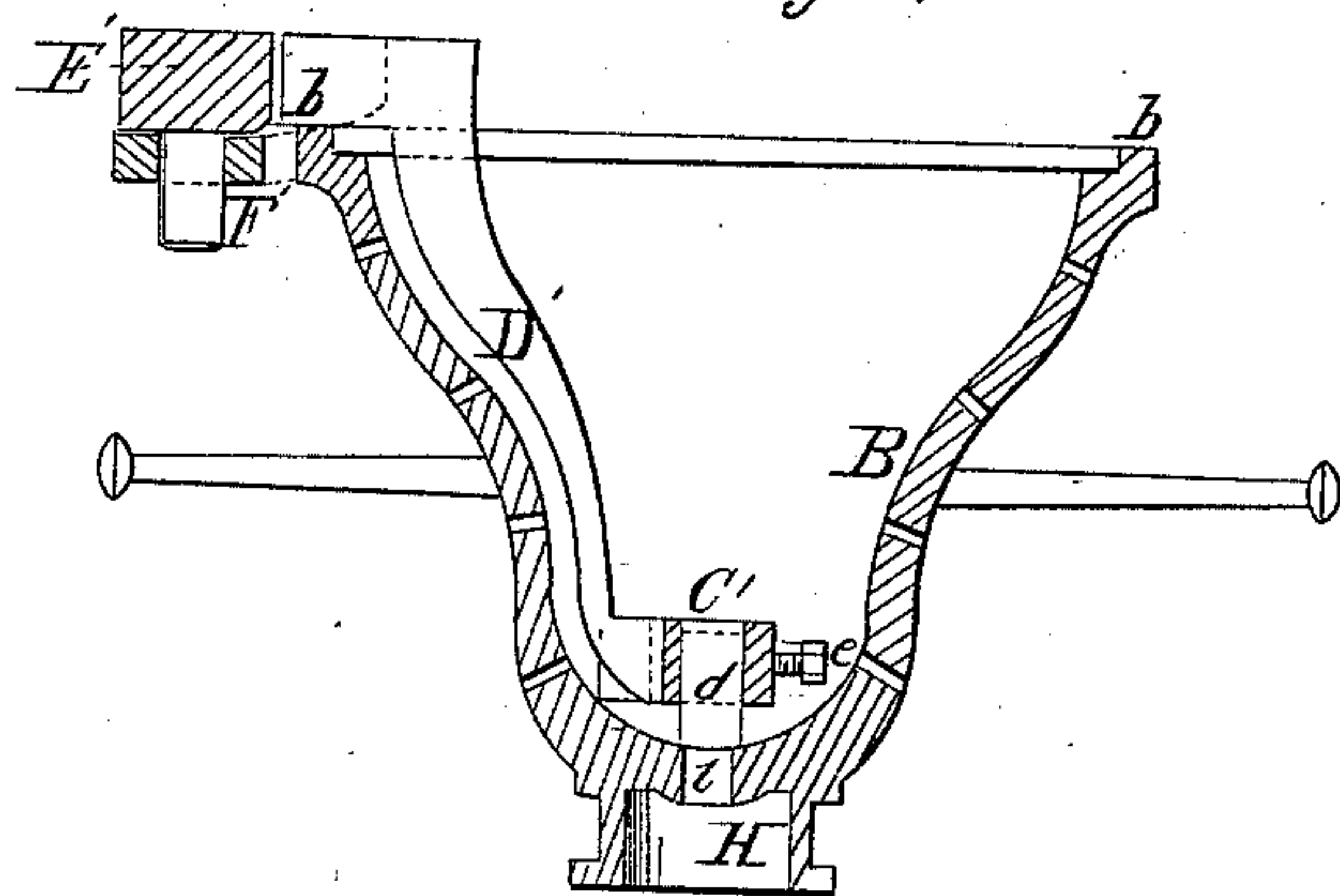


Fig. 4.

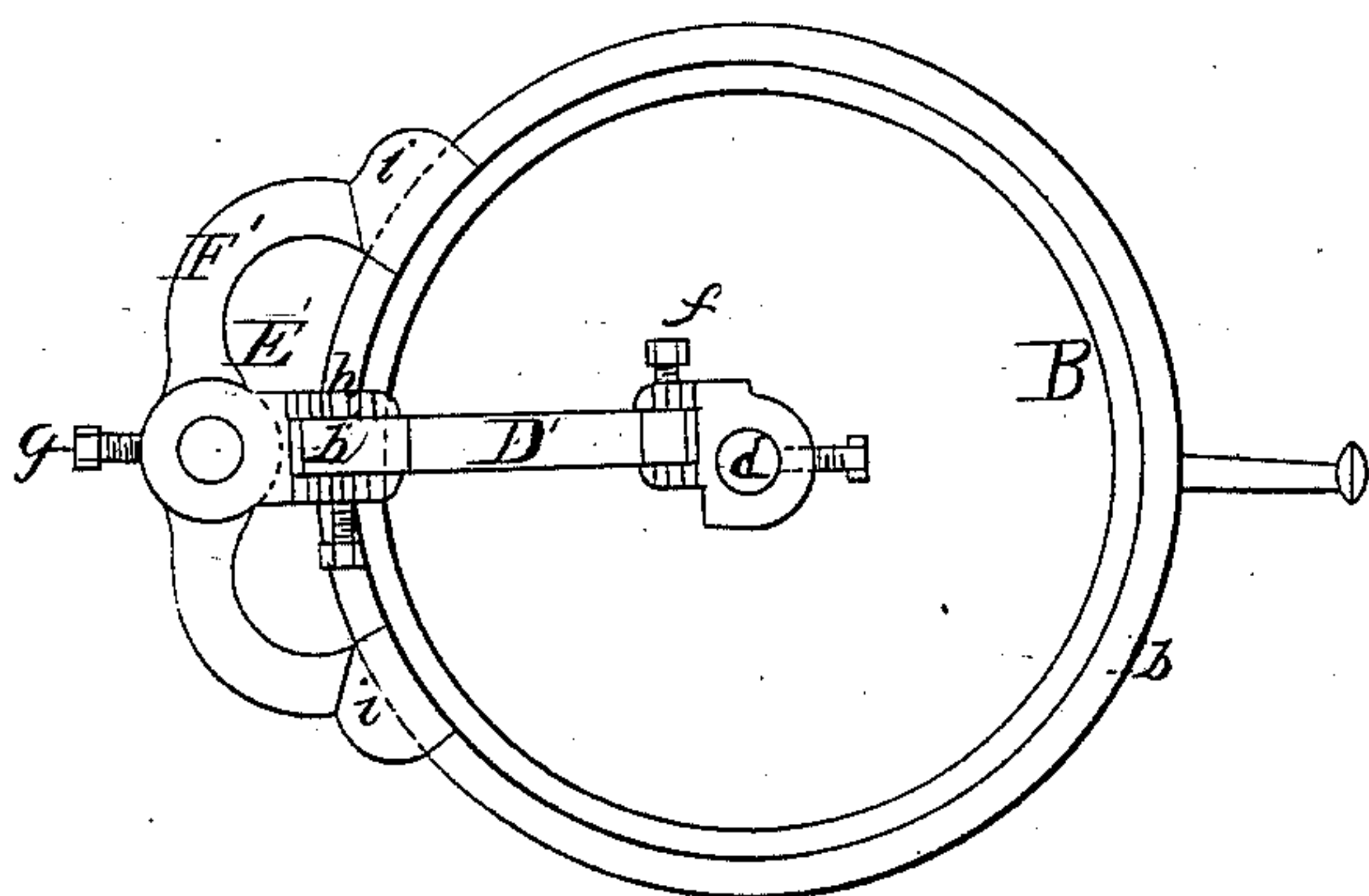
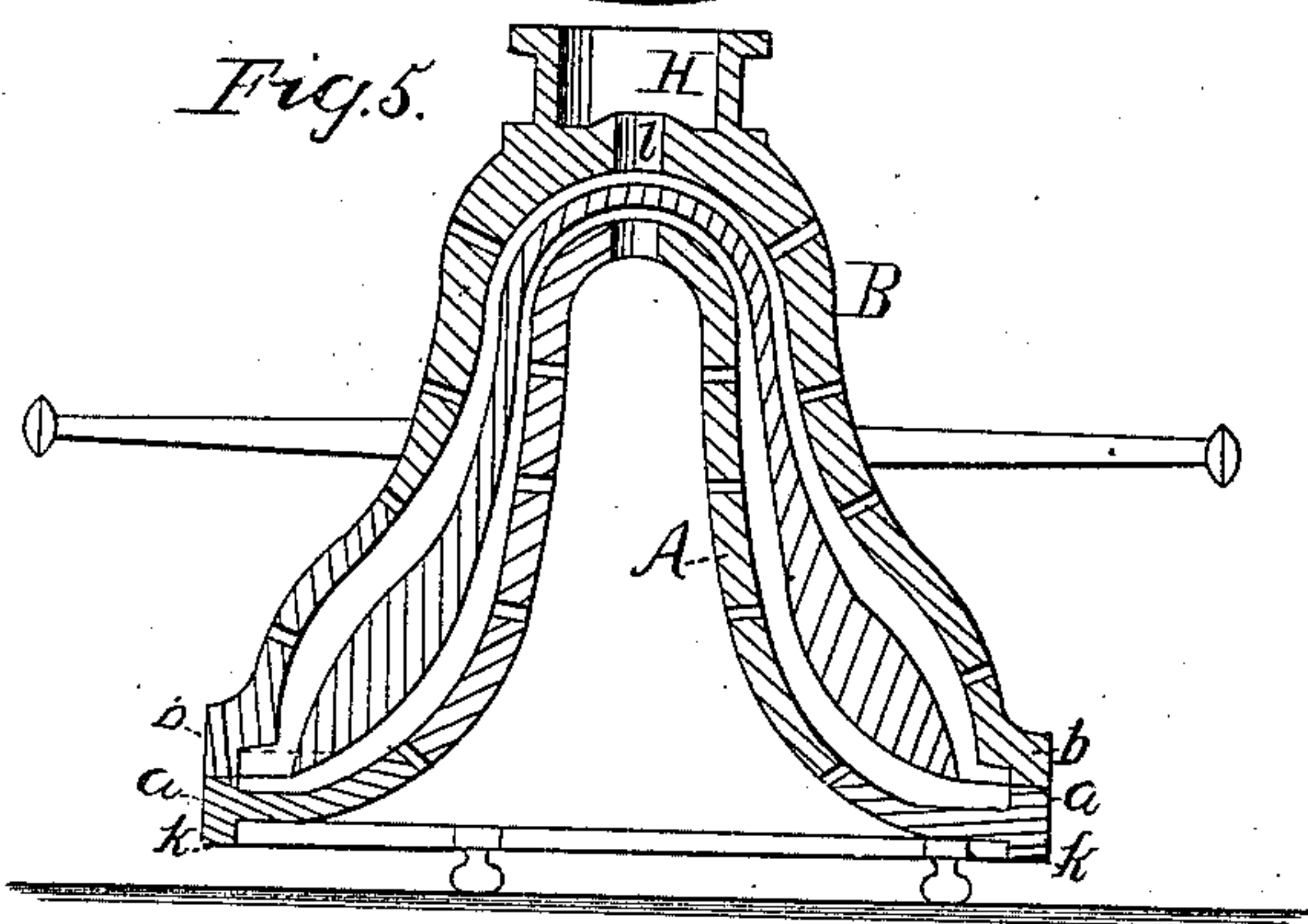


Fig. 5.



Witnesses.

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Letters Patent No. 82,094. dated September 15, 1868.

IMPROVEMENT IN MOULDING BELLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. H. DAVIS, of Brooklyn, in the county of Kings, and State of New York, have invented a new and useful Improvement in Casting Bells; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a central section of the inner casing.

Figure 2 is a plan or top view of the same.

Figure 3 is a central section of the outer casing, in an inverted position.

Figure 4 is an inverted plan thereof.

Figure 5 is a central section of the two casings, put together, ready to receive the metal.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a lip or rim, projecting downwards from the edge of the outer casing, and corresponding in width and in its diameter to a similar upwardly-projecting rim on the inner casing, in such a manner that when the loam has been applied to the casings, and said casings are brought together to receive the metal, the rim of the outer casing will bear upon the rim of the inner casing, thereby relieving the loam from all pressure, and enabling the operator to adjust the casings, and clamp them together, without danger of crushing the loam; and, furthermore, by said rims, additional guides for the sweeps are obtained, so that said sweeps can be worked with greater safety and accuracy than if they were guided only on the central pivot, as heretofore.

The invention consists, further, in the arrangement of two bearing-points on the lower or other guide of the sweep, in such a manner that said sweep is held in the proper position, and prevented from tipping over. It consists also in the arrangement of an adjustable jaw, in combination with the lower or outer guide of the sweep, in such a manner that said jaw can readily accommodate itself to the position of the sweep. It consists, further, in the arrangement of a guide, catching under the rim on the casing, in combination with the lower or other guide of the sweep, in such a manner that said guide is prevented from falling out or becoming displaced.

A represents the inner casing, and B the outer casing. These casings are made of cast iron, or other suitable rigid material, and the inner casing is provided with a rim, *a*, while the outer casing is provided with flange, *b*, and both the rim and inner flange are turned off perfectly true, so that when the two casings are brought together, metal bears on metal, and said casings can be clamped together without danger of crushing the loam, or displacing either casing; and, furthermore, by having the circumference of each casing turned off true, and both of the same size, a closing-guide is obtained, which enables the operator to bring the two casings in the proper relative position towards each other without difficulty.

Heretofore the casings have been so formed that a rim of loam was formed on each casing, and when the two casings were brought together, the rim of loam on one casing came to bear against the rim of loam on the other casing, and, in clamping the two casings together, the rims of loam were liable to become crushed, and the casings were thrown out of the proper relative position towards each other.

In the centre of the inner casing A, is formed a socket, *c*, which is intended to receive the pivot *d*, that forms the bearing for the jaw C, and in this jaw is secured the upper end of the sweep D. The jaw C is adjustable on the pivot *d* by a set-screw, *e*, and it is provided with another set-screw, *f*, that serves to adjust the upper end of the sweep D in the desired position.

The lower end of the sweep D is secured in a jaw, E, the shank of which fits into a socket in the guide F, and is adjustable therein by a set-screw, *g*, so that it can readily be made to accommodate itself to the position of the sweep, which depends upon the upper jaw C.

Each of the jaws C and E is provided with a scale, *h*, indicating the weight and pitch of the bells to be cast, and by means of these scales the sweep can be readily adjusted according to the desired weight and pitch.

The guide F is provided with two bearing-points *i*, which rest on the rim of the casing, on opposite sides of the jaw E, so that the sweep is prevented from tipping over in either direction.

The shank of the jaw E extends through the socket in the guide F far enough to receive the additional guide G, which is secured in the desired position by a set-screw, *j*, and the grooved end of which catches over a rim, *k*, at the under surface of the casing A, as shown in fig. 1 of the drawing. By this additional guide, the jaw E is held in position, and prevented from dropping off accidentally.

The outer casing B is formed with a runner-box, H, which is provided with a flange, and so shaped that it forms a stand for said casing to rest upon, when the same is brought in an inverted position, for the purpose of being prepared for the reception of the metal. In the centre of the casing B is a socket, *l*, capable of receiving the pivot *d*, and the sweep D' of the outer casing is secured in two jaws C' E', similar in construction to the jaws C E of the inner casing, and provided with scales, by which the sweep D' can be adjusted according to the desired weight and pitch or key of the bell to be cast. The jaw E' is secured in a guide, F', similar to the guide F, as shown in fig. 4 of the drawing.

By these means the casting of bells is materially facilitated, the sweeps can be easily adjusted and operated, and the bells, when cast, are of uniform thickness all round, so that they are strong, durable, and not liable to crack; and, furthermore, the tune or voice of my bells is brilliant and clear.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement on the outer casing B of a downwardly-projecting lip or rim, *b*, corresponding in size and position to the upwardly-projecting rim or lip *a*, on the inner casing A, substantially as and for the purpose described.
2. The arrangement of a guide for the sweep D or D' on the rim of each casing, in addition to the central guide-pin *d*, substantially as and for the purpose set forth.
3. The arrangement of two bearing-points on the guide F, substantially as and for the purpose set forth.
4. The additional guide G, catching over a rim, *k*, on the casing, in combination with the guide F, substantially as and for the purpose described.
5. The shank of the jaw E, fitting into a socket in the guide, F, and allowing said jaw to accommodate itself to the position of the sweep, substantially as described.

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Witnesses:

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