

(No Model.)

2 Sheets—Sheet 1.

R. M. LOCKWOOD & S. H. BARTLETT.
Transmitter for Telephones.

No. 241,385.

Patented May 10, 1881.

Fig. 3.

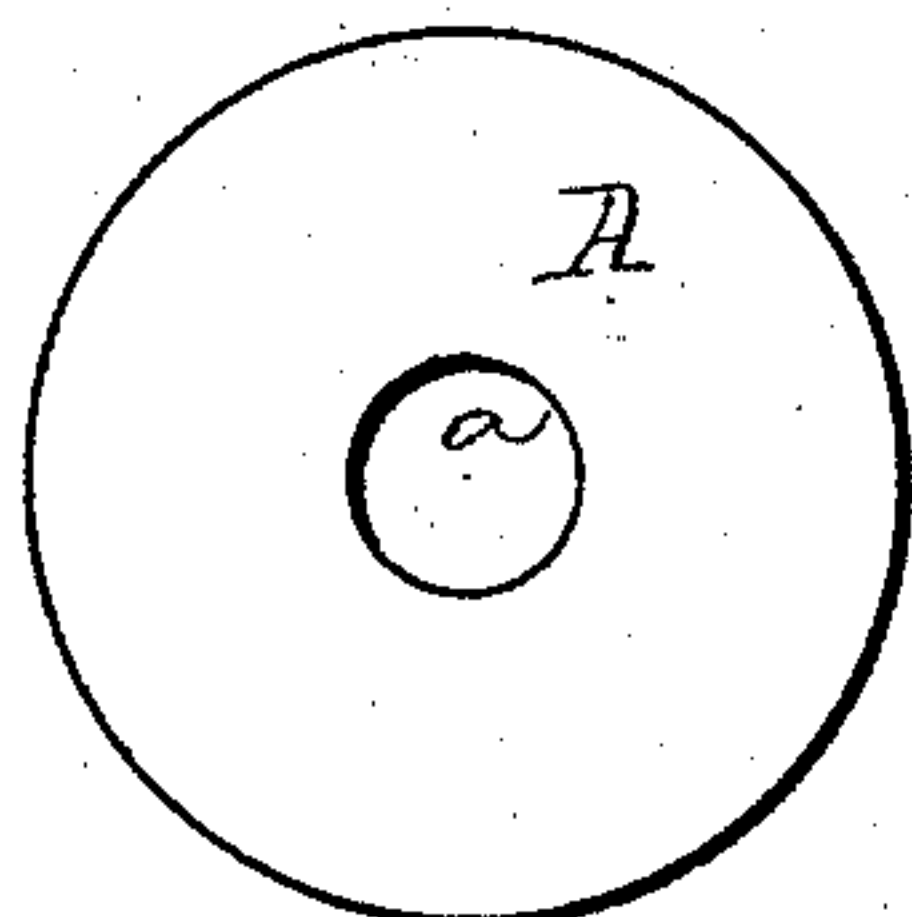


Fig. 4.

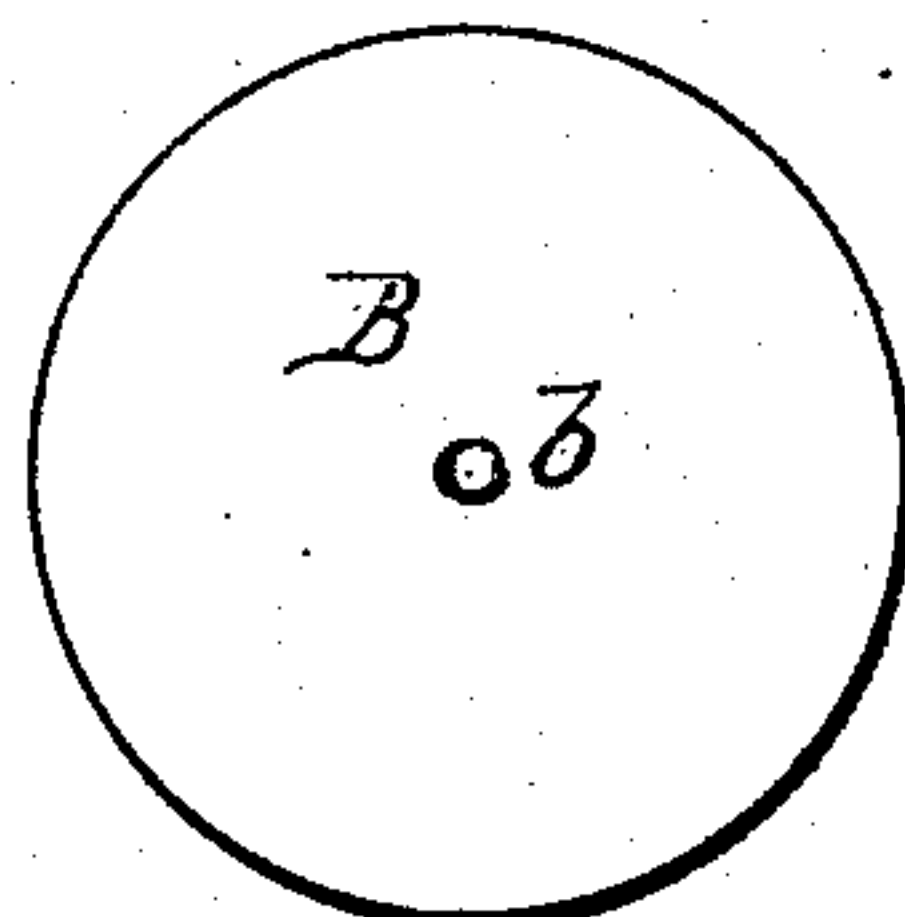


Fig. 1.

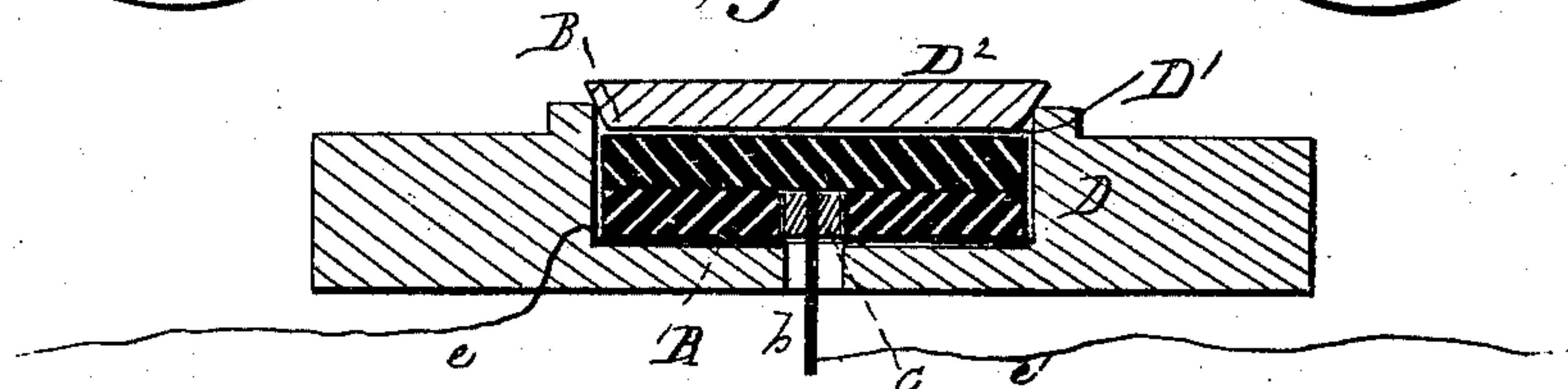
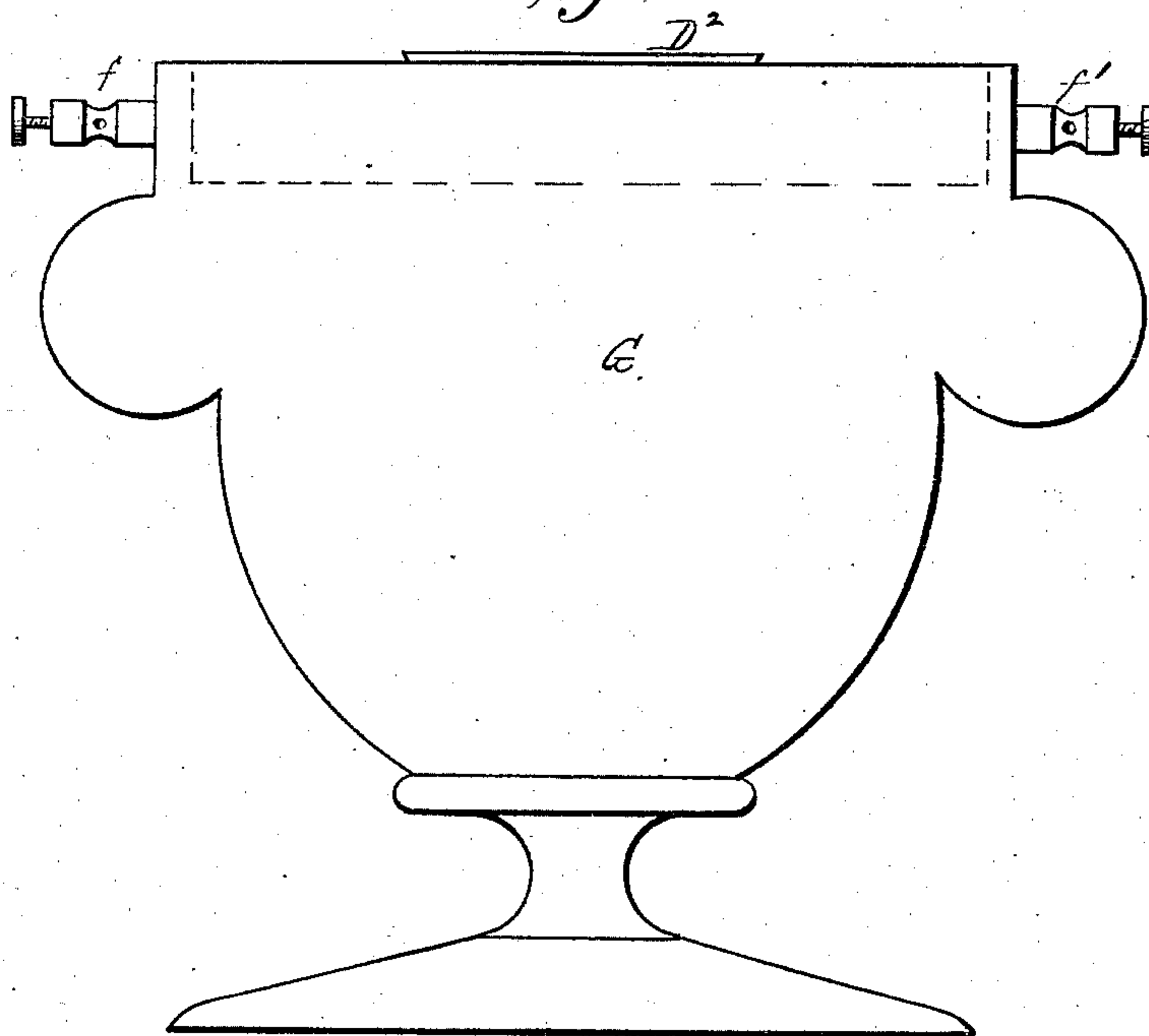


Fig. 2.



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by A. L. Smith, Atty.

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Fig 5.

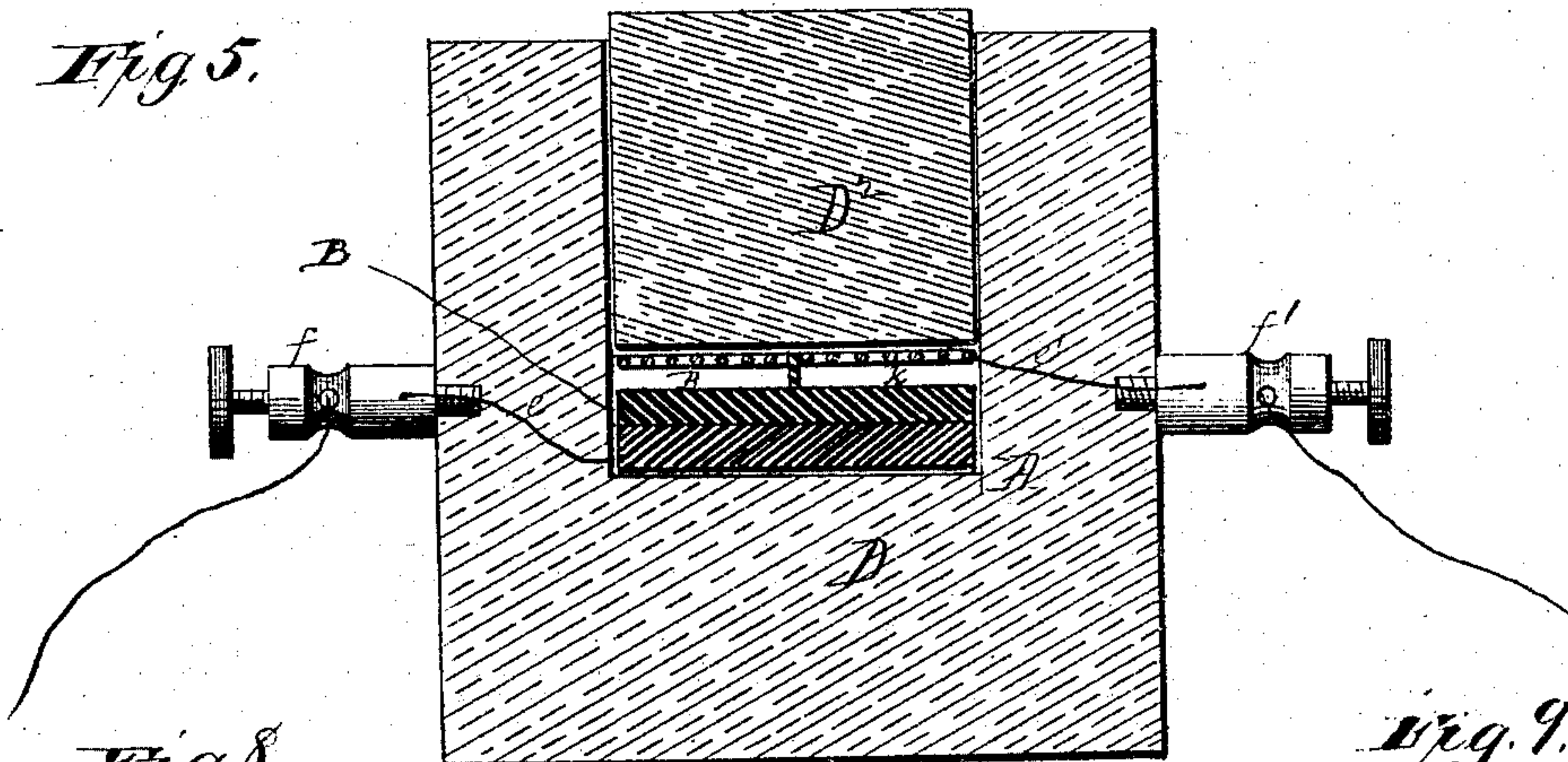


Fig 8.

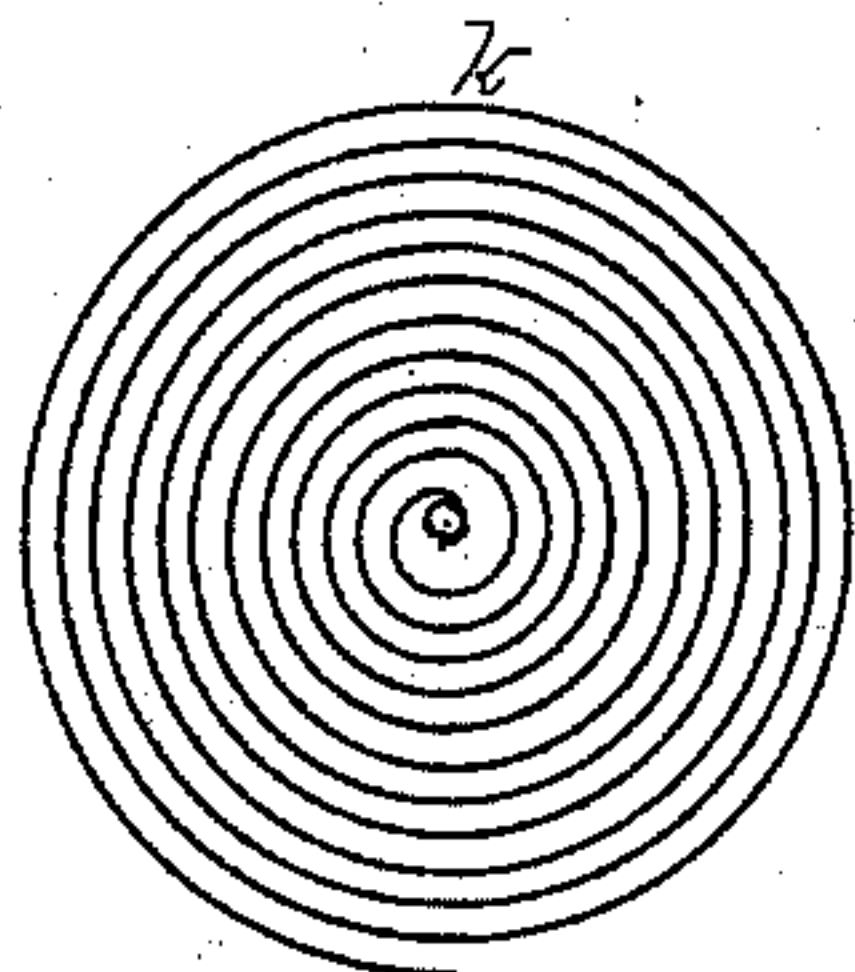


Fig 11.

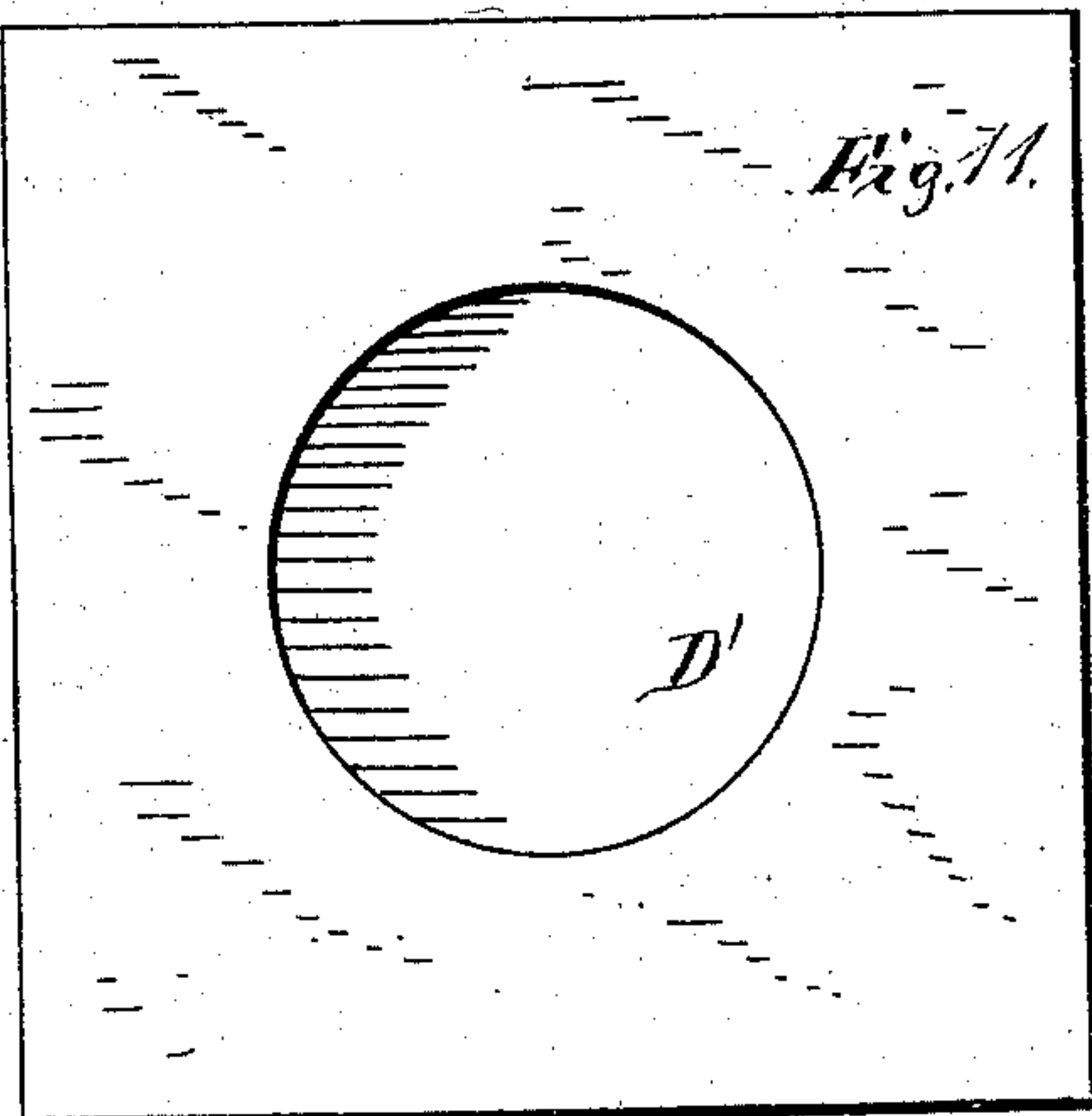


Fig 9.

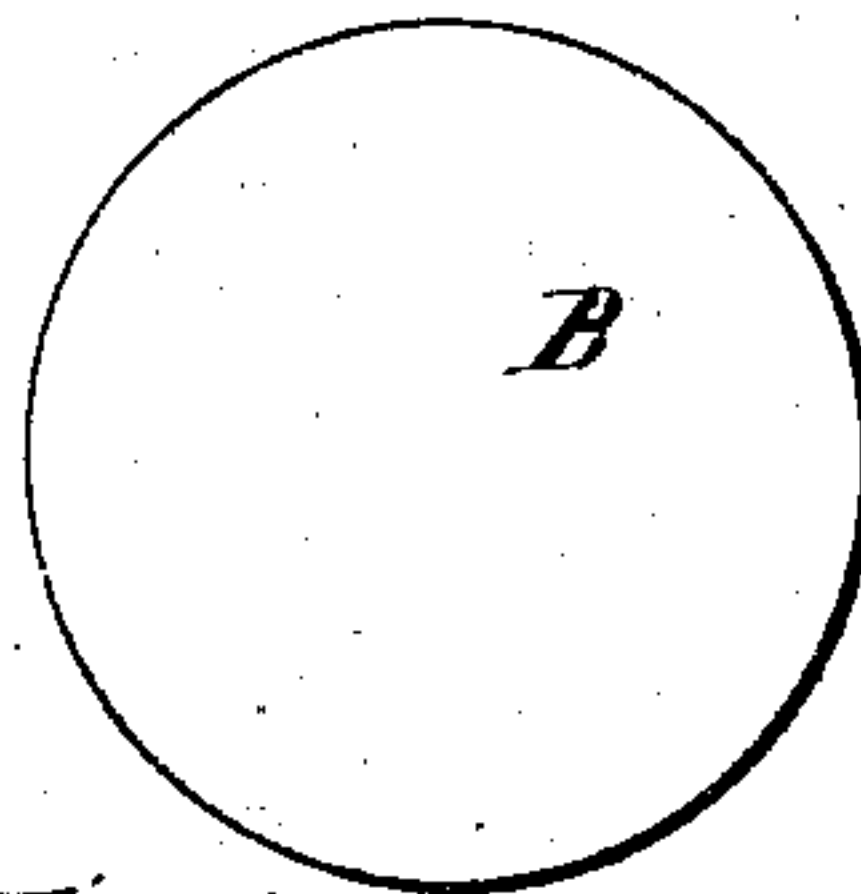


Fig 10.

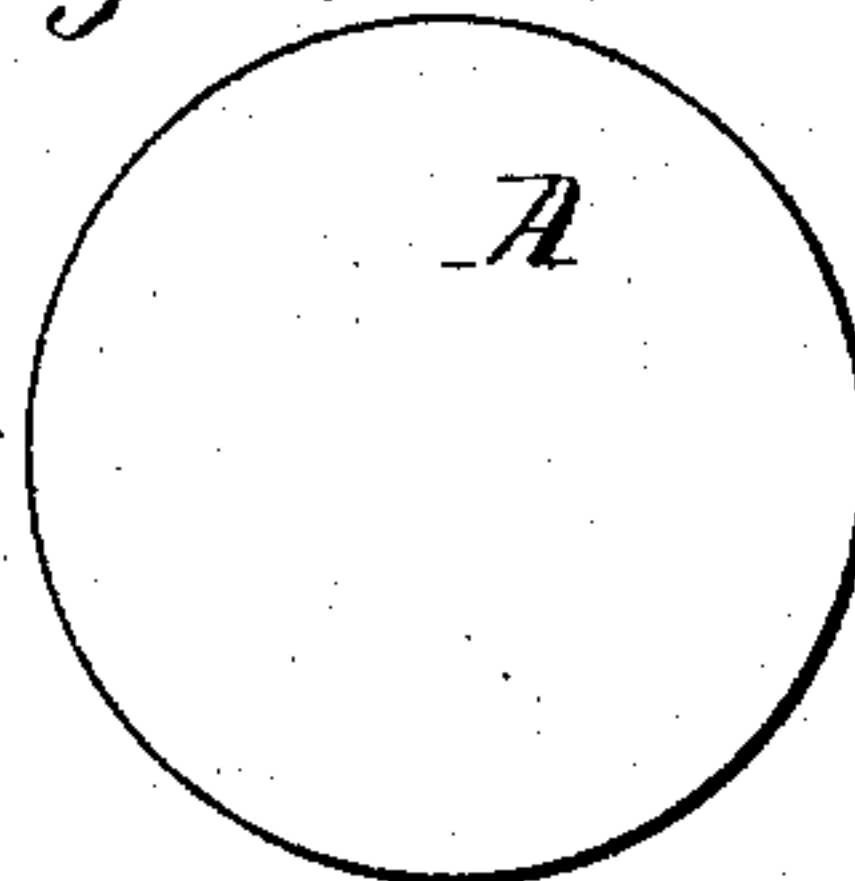


Fig 6.

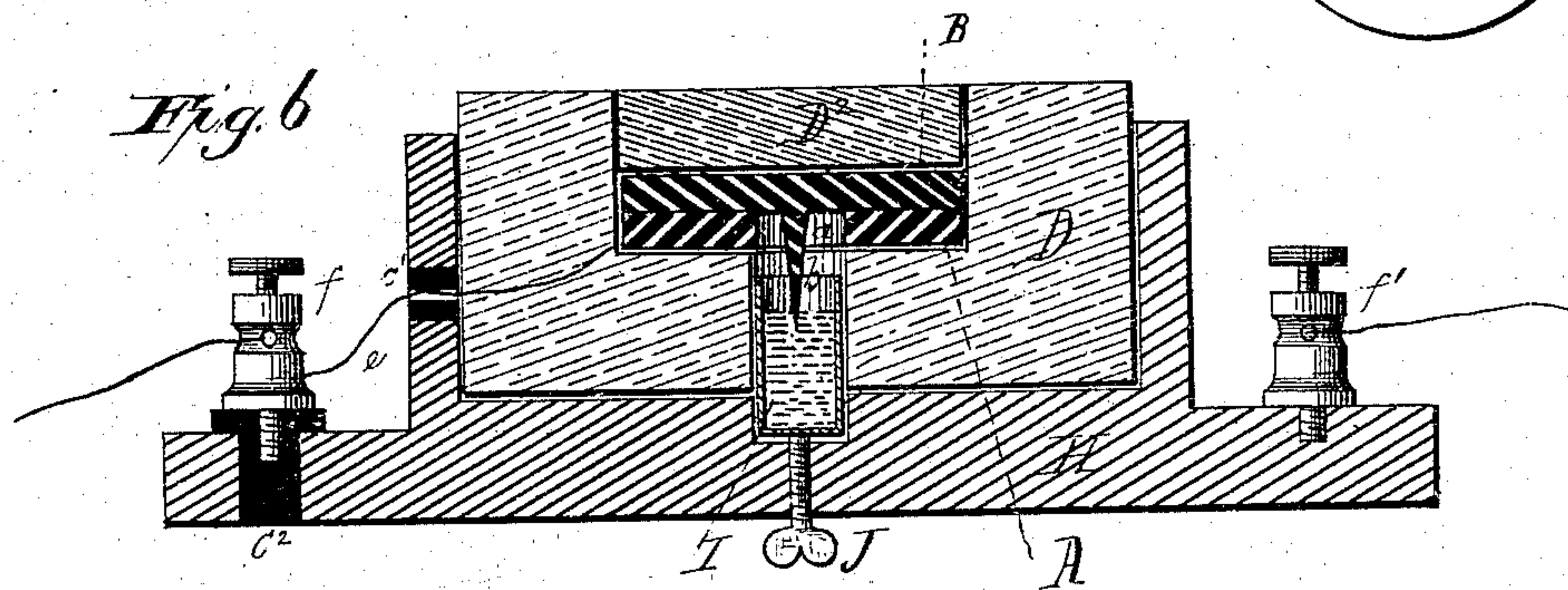
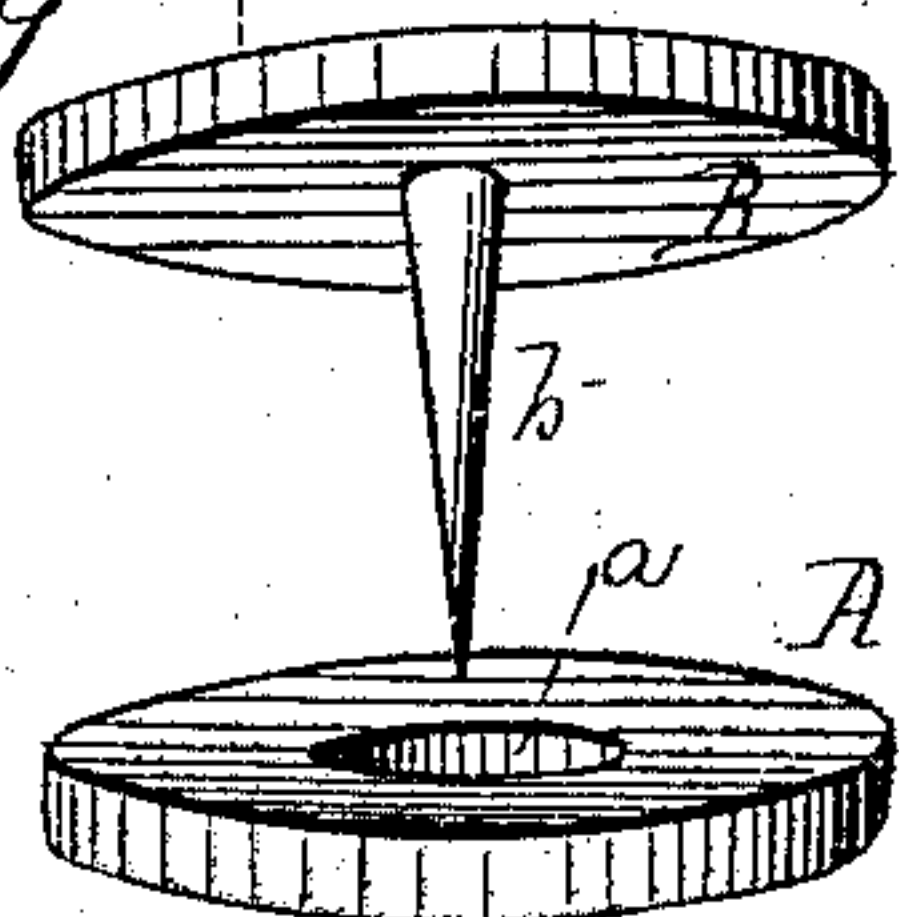


Fig 7.



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UNITED STATES PATENT OFFICE.

ROBERT M. LOCKWOOD AND SAMUEL H. BARTLETT, OF NEW YORK, N. Y.,
ASSIGNORS, BY MESNE ASSIGNMENTS, TO MOLECULAR TELEPHONE COM-
PANY, OF SAME PLACE.

TRANSMITTER FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 241,385, dated May 10, 1881.

Application filed July 2, 1880. (No model.)

To all whom it may concern:

Be it known that we, ROBERT M. LOCKWOOD and SAMUEL H. BARTLETT, of the city, county, and State of New York, have invented certain new and useful Improvements in Transmitters for Telephones, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents our improved transmitter in section. Fig. 2 represents a side elevation of a vase or stand for supporting the transmitter, shown applied thereto in dotted lines. Figs. 3 and 4 are plan views of the two carbon buttons or plates. Figs. 5 and 6 represent modifications in the construction of the transmitter; and Figs. 7, 8, 9, 10, and 11 are detail views illustrating the same.

The invention relates to a novel construction of embedded microphone; and it consists in making the microphone of two plates or disks of carbon or other conducting material arranged one upon or over the other, one having a central perforation, and the other a central pin or spur passing through said opening, through which connection is made with the binding-posts or line-wire; in embedding said plates in a block of cork or other non-resonant material, and in a novel manner of supporting said embedded microphone in a stand or support, whereby only the upper surface of the block in which the microphone is embedded, and by which it is covered, is exposed to the direct action of the atmospheric sound-waves, all as hereinafter described.

In the accompanying drawings, A B represent the buttons or plates of carbon or other conducting material, the lower one, A, being made in the form of a flat ring or of a disk having a central perforation, *a*, as shown in Fig. 3, and the upper one, B, similar in form, as shown in Fig. 4, but with a pendent spur or pin, *b*, in lieu of the central perforation, said spur passing through the perforation *a* and being insulated from the walls or sides thereof by a ring, *c*, of hard rubber or other suitable material, as shown in Fig. 1. The buttons thus formed are embedded in a block, D, of cork or other non-resonant material, having a suitable

chamber, D', formed in it for their reception, the buttons fitting snugly within the chamber, and being provided with a covering, D², of cork or other material similar to that of which the non-resonant block D is composed. Wires *e* *e'* are connected with the buttons, the one, *e*, with the button A directly, and the other, *e'*, with the pendent spur or pin *b*, as shown, and extend thence through perforations in the cork and supporting-stand, either or both, to the binding-posts *f f'*, as shown.

The elements or features above described constitute the transmitter *per se*; but for convenience in handling, use, &c., we support the block D in a base plate or stand, which may be made ornamental in design or configuration, as shown at G, Fig. 2, only the upper face of the non-resonant block being exposed to the direct action of the sound-waves. This vase or stand is made preferably of lead or other non-resonant metal; but it may be of wood, rubber, or other material, to give it the desired weight, and where used in a factory or other building subject to the jar of machinery, should be cushioned on a pad or mat of wool, soft rubber, felt, or other suitable material, to relieve it, as far as practicable, from disturbance from the jarring of the building.

In Fig. 6 the block or cork is shown fitted in a socket or cup formed in a metallic base-plate, H, and the pendent spur *b* on the upper carbon plate or button, instead of being connected by wire with the binding-post, dips into mercury in a cup, I, arranged within a socket in the base-plate H, and made adjustable up and down in said socket by means of a thumb-screw, J, for varying the depth or extent of immersion of the spur or point *b* in the mercury. In this case the base-plate H is made a conductor, and connects the upper button, through the cup of mercury, with the binding-post *f'*, and the wire *e* and binding-post *f* pass through or are supported in insulators *c' c''*, of rubber or other suitable material, as shown. The base-plate, in turn, is supported in a suitable stand or vase, G, as in the construction shown in Figs. 1 and 2.

In Fig. 5 the lower button is not perforated and the position of the upper button is re-

versed, the spur projecting upward, as shown. In this construction the central pin or spur, *b*, has the inner end of a delicate coiled spring, *k*, (see Fig. 8,) connected with it, the outer end
5 of said spring being connected by wire with the binding-post *f'*. By this arrangement of the spring or wire we get the benefit of the elasticity of a long piece of wire within a small space or compass and avoid any binding or
10 trammeling of the upper button. The form of the button in this construction is represented in Figs. 10 and 11.

By the construction and arrangement of parts shown we dispense with one of the pieces
15 of carbon constituting the embedded microphone shown in our former patent, thereby simplifying its construction, and we so inclose the non-resonant material in which the microphone is embedded in its supporting vase or stand as
20 to leave only its single flat upper surface exposed to the direct action of the sound-waves.

It will be apparent that the buttons may be connected to the binding-posts in a variety of
25 ways other than those shown, and we therefore do not wish to restrict ourselves to the forms of connection shown.

What we claim as new is—

1. In a telephone-transmitter, the two plates or disks of carbon, one of which has a central opening and the other a spur passing through
30 said opening, through which connection is made with the line-circuit.

2. In a telephone-transmitter, the two disks or plates of carbon or equivalent conducting material, one having the central opening and
35 the other the spur, through which connection is made with the line-wire, in combination with the block of non-resonant material incasing and covering said disks or plates, as described.

3. In a telephone-transmitter, the two disks
40 or plates of carbon or their equivalent, constructed as described, and embedded within and covered by the non-resonant block, in combination with the supporting stand or base incasing said block, and leaving only its upper
45 face exposed to the direct action of the atmospheric sound-waves, substantially as described.

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Witnesses:

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