

(No Model.)

3 Sheets—Sheet 1.

W. H. KINCAID.
LAMP.

No. 578,995.

Patented Mar. 16, 1897.

Fig: 1

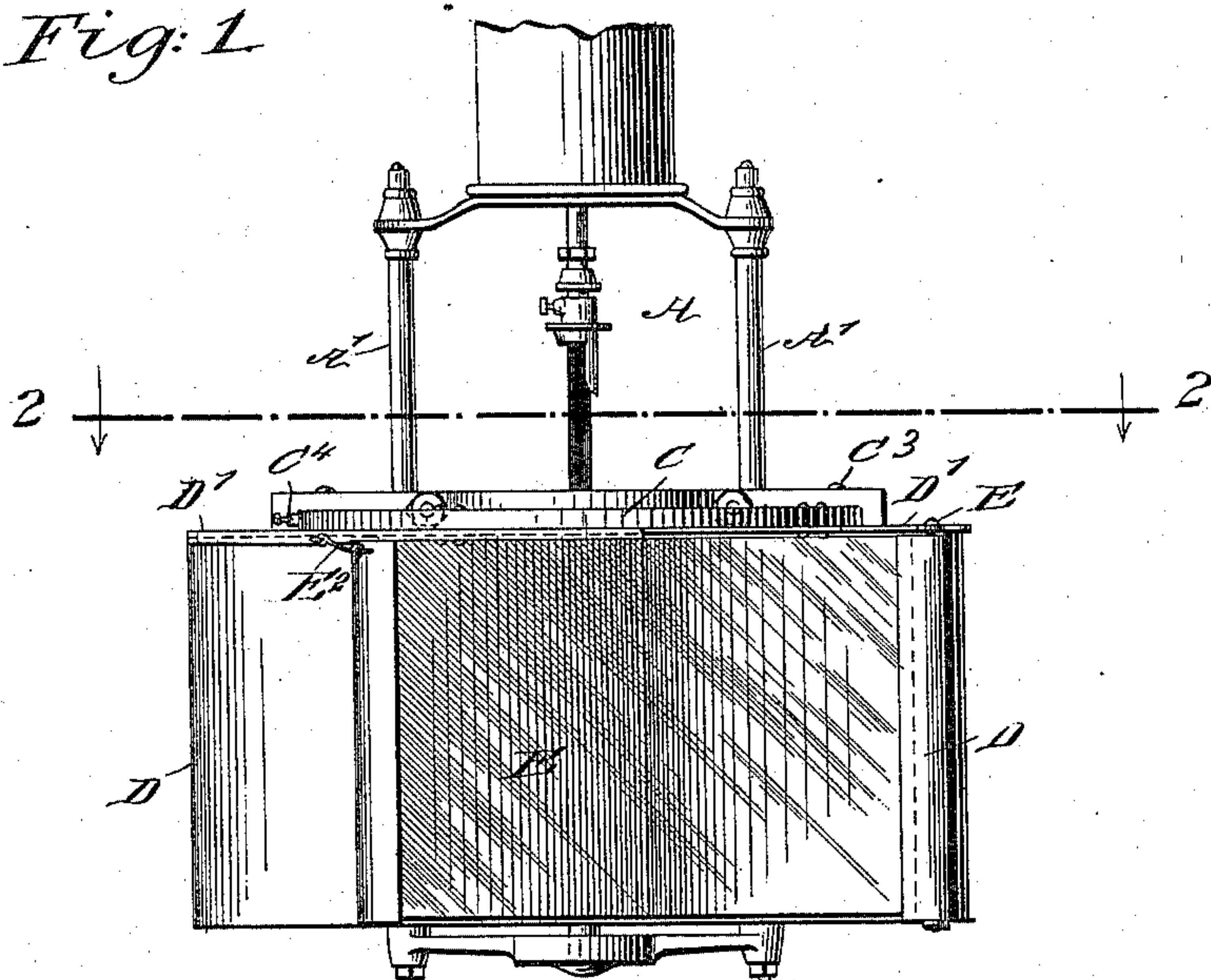
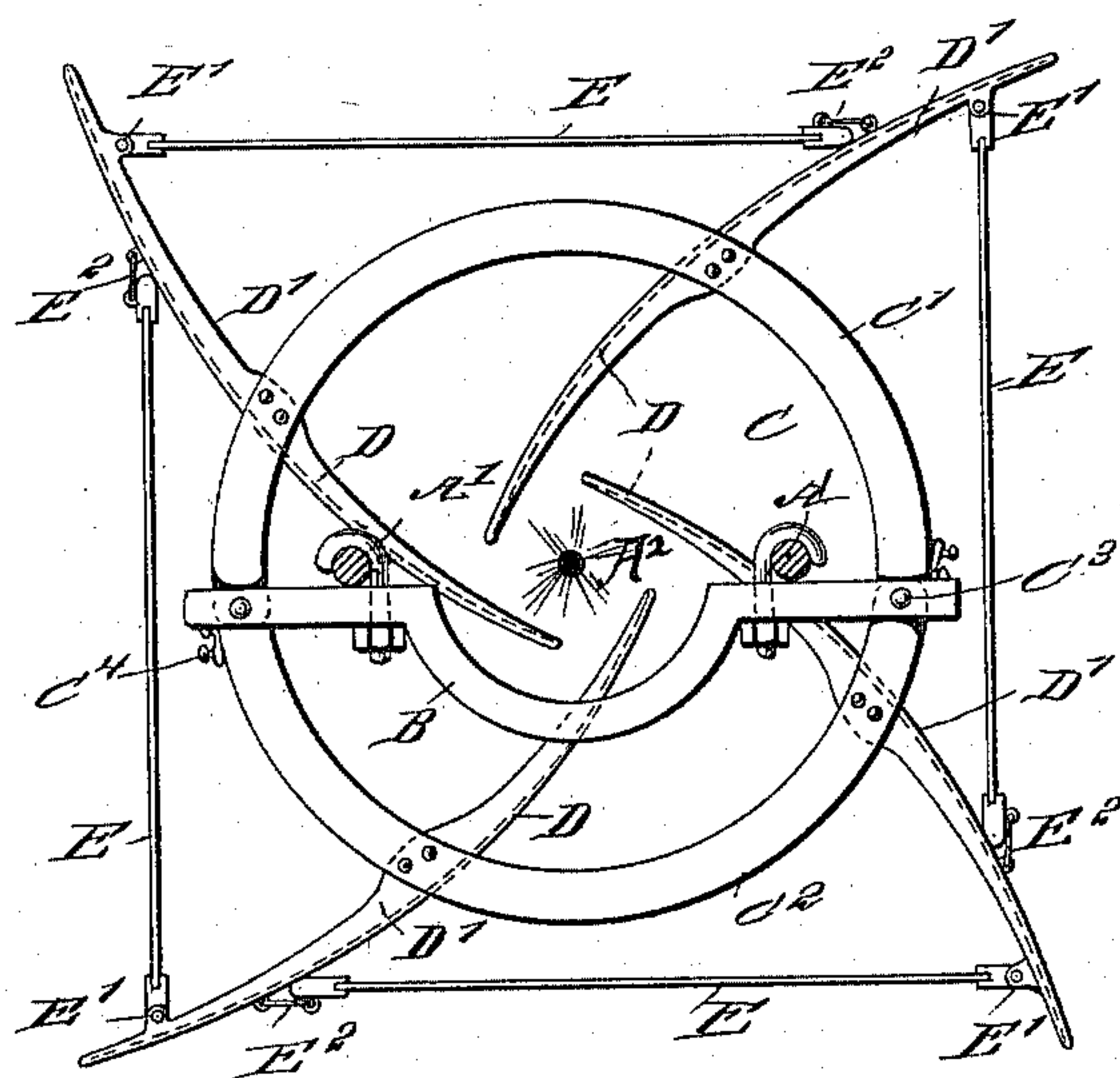


Fig: 2.



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Fig. 3.

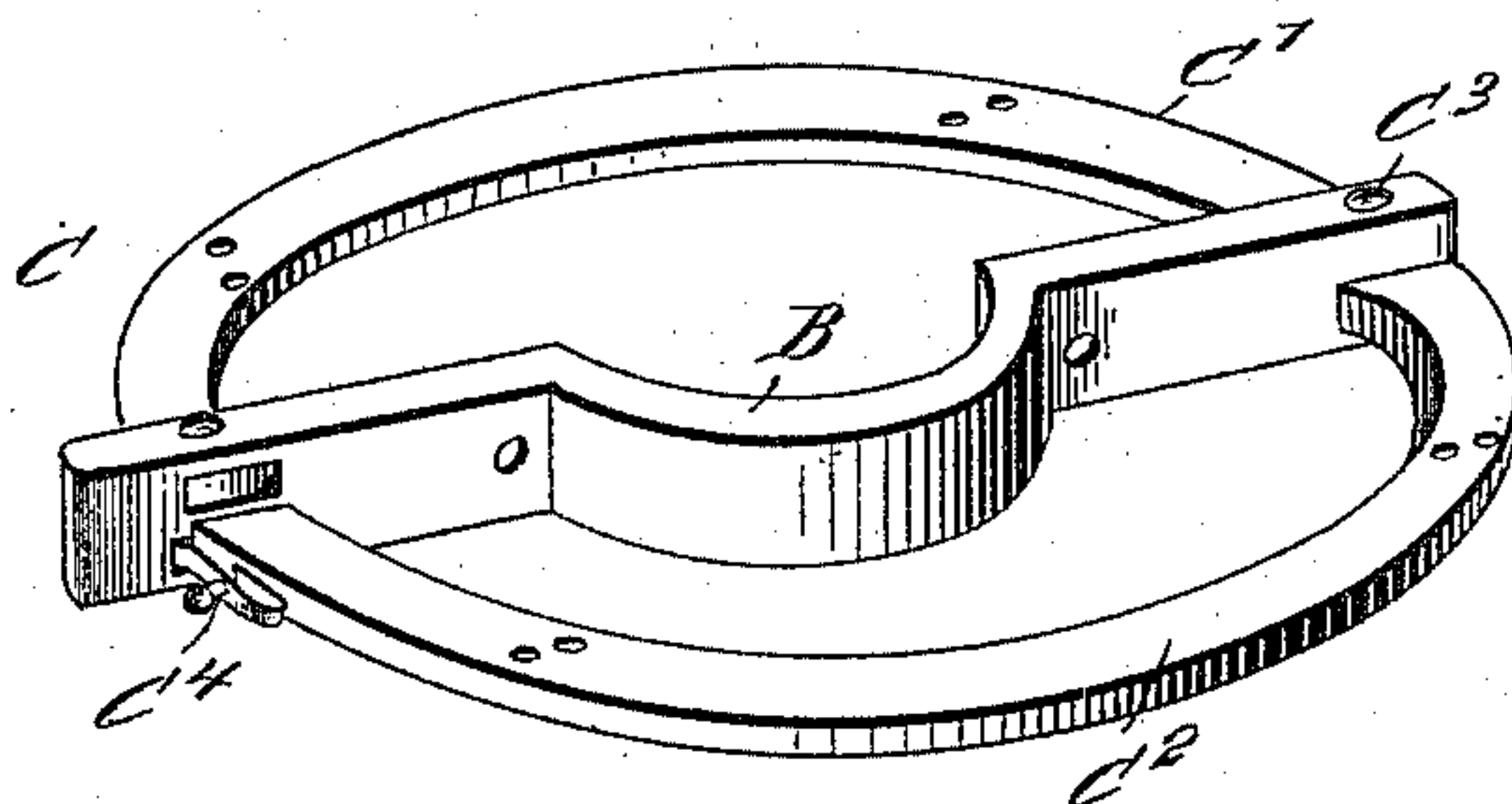


Fig. 4.

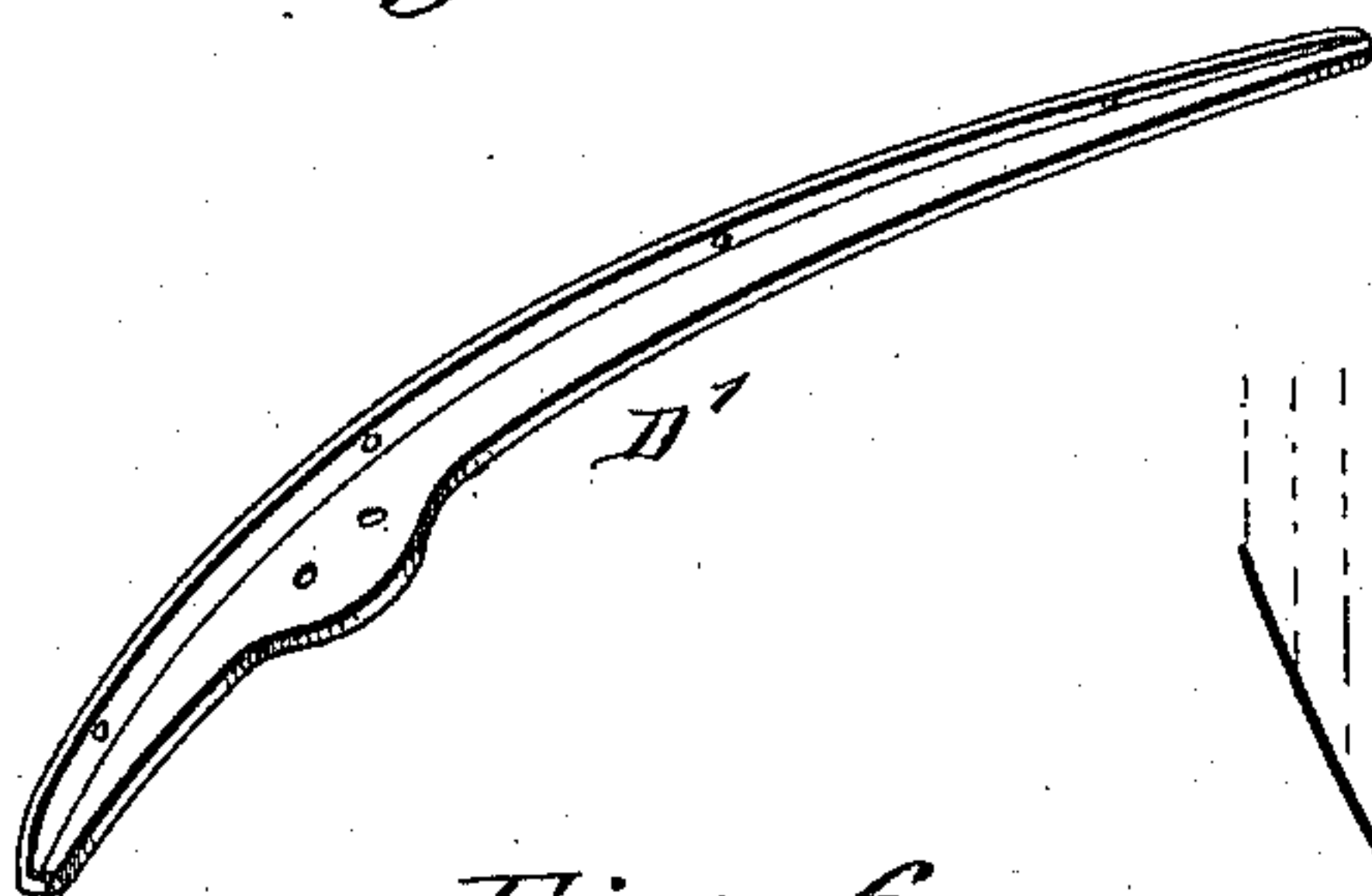


Fig. 5.

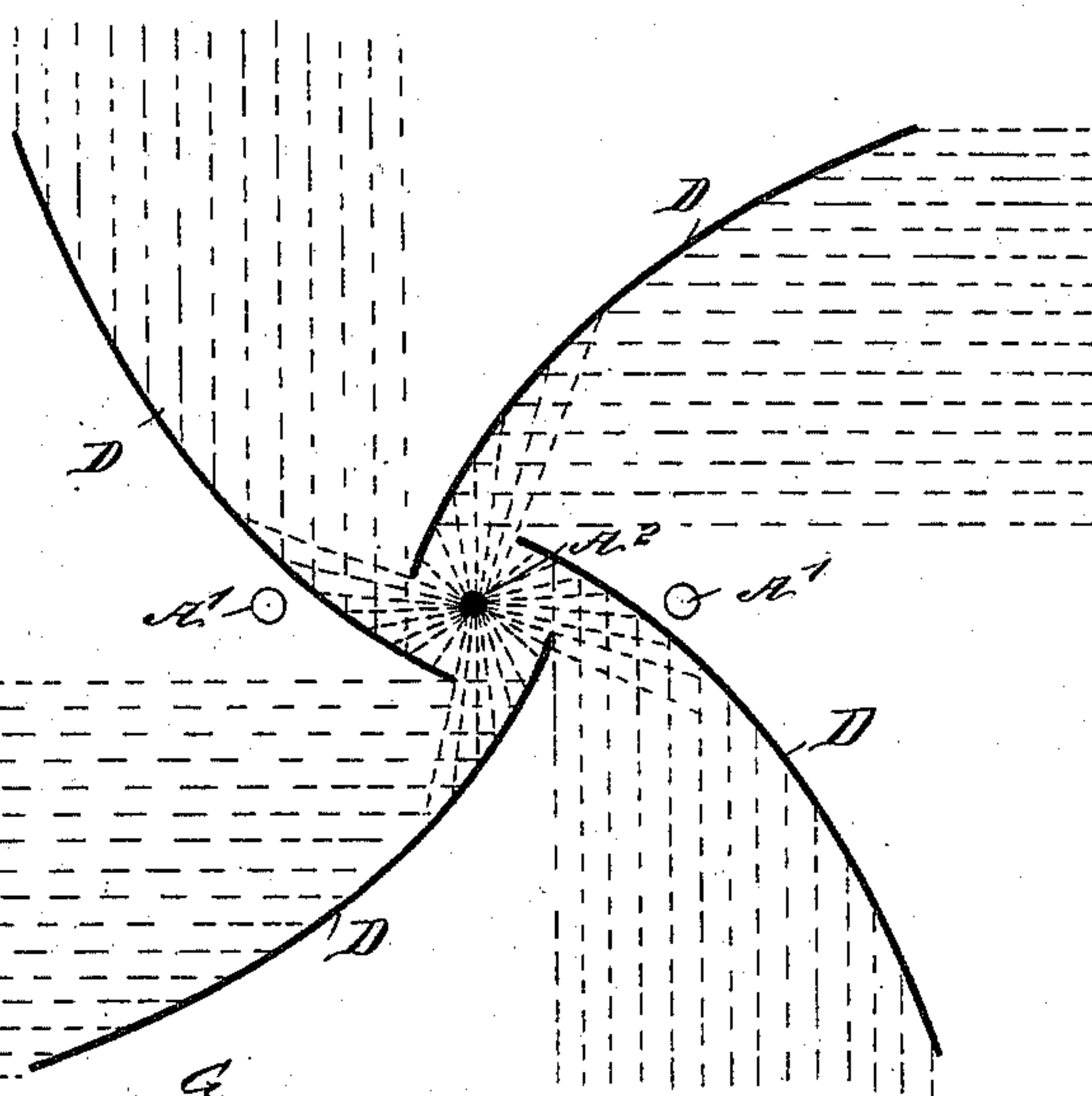


Fig. 6.

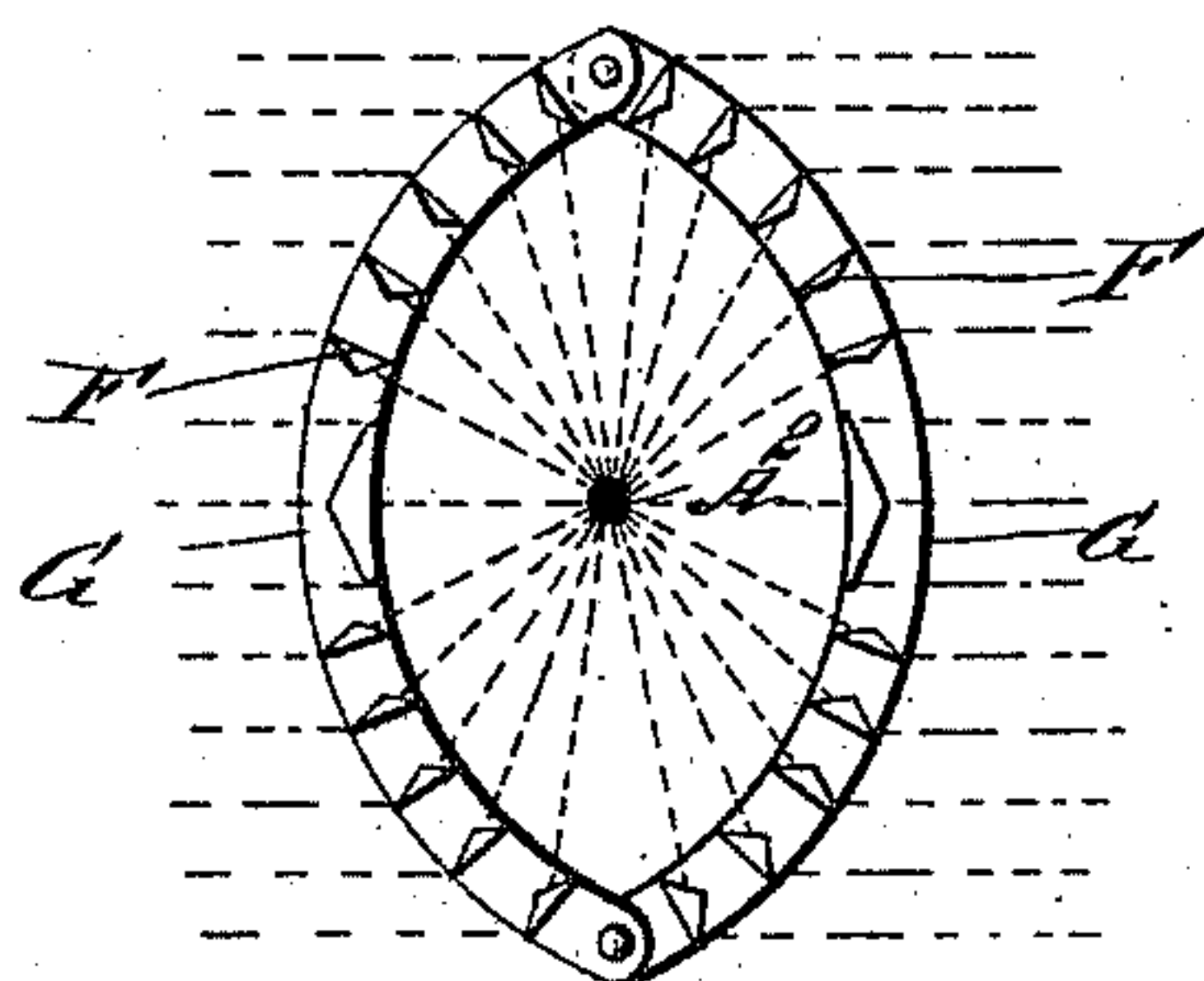
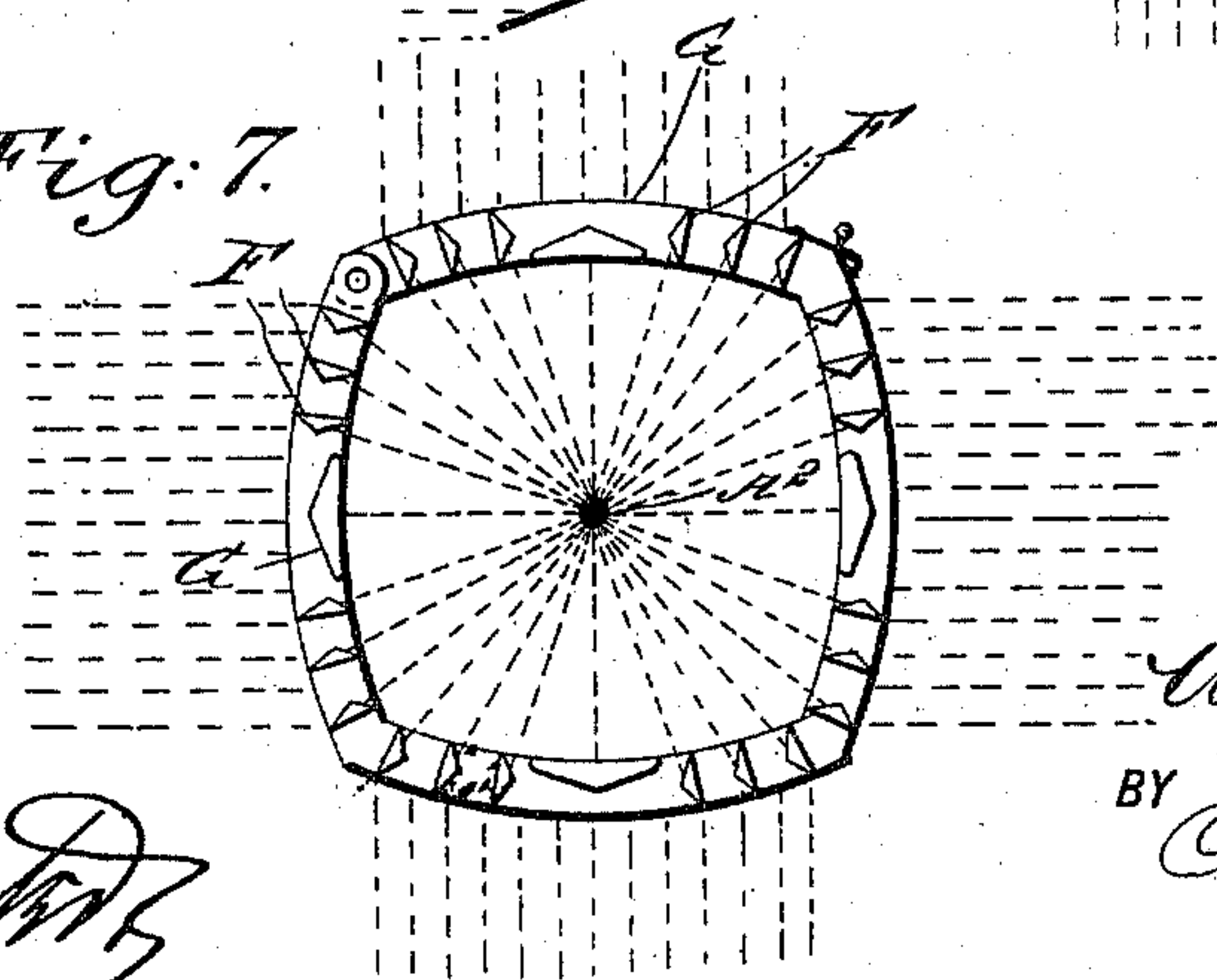


Fig. 7.



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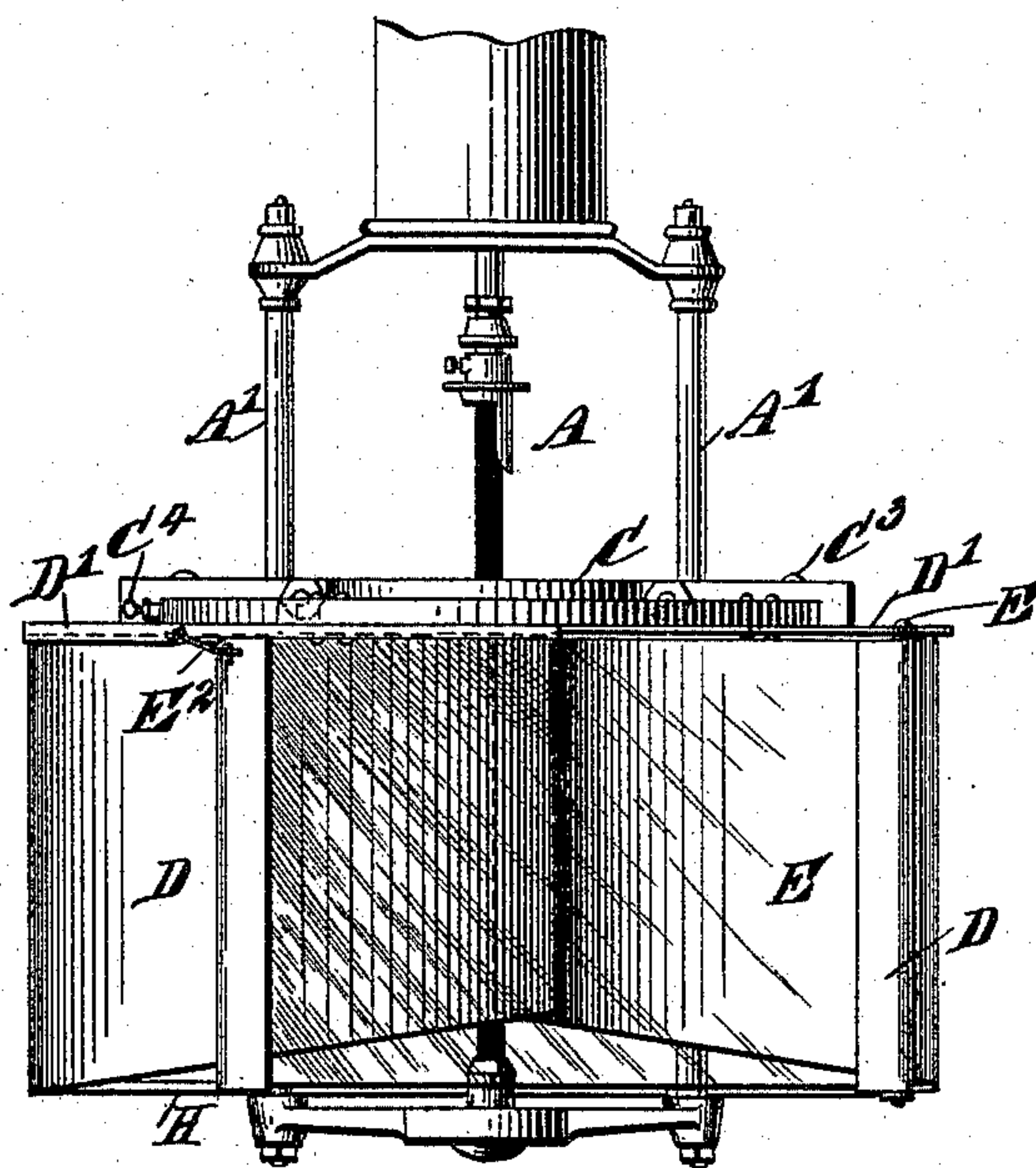
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Fig: 8.



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UNITED STATES PATENT OFFICE.

WILLIAM H. KINCAID, OF SANTA BARBARA, CALIFORNIA.

LAMP.

SPECIFICATION forming part of Letters Patent No. 578,995, dated March 16, 1897.

Application filed December 10, 1894. Serial No. 531,388. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. KINCAID, of Santa Barbara, in the county of Santa Barbara and State of California, have invented a new and Improved Lamp, of which the following is a full, clear, and exact description.

The invention relates to municipal lighting; and its object is to provide a new and improved lamp arranged to concentrate the rays of the light of the lamp and to shed the rays on the streets or highways proper instead of diffusing it all around the immediate neighborhood of the lamp, thus preventing waste of light and insuring proper lighting of the streets.

The invention consists in certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied on an electric-arc lamp. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the light-reflector frame. Fig. 4 is a perspective view of the reflector-support. Fig. 5 is a diagrammatic view of the improvement. Figs. 6 and 7 are plan views of modified forms of the improvement, and Fig. 8 is a side elevation of another modification.

As illustrated in Figs. 1 and 2, an ordinary electric-arc lamp A is provided on its posts A' with a bar B, secured on the said posts by suitable means. On this bar B is held a horizontally-disposed ring C, preferably made of a fixed half C' and the hinged segment C², pivoted at C³ on the bar B and adapted to be fastened at its free end by a catch C⁴ to the bar B at the opposite end on which the pivot C³ is located.

On the under side of the ring C are secured a number of curved reflector-supports D', each carrying a depending reflector D, preferably made parabolic in shape and terminating at its inner end at one side of the light A² of the lamp A, as plainly illustrated in Fig. 2, it being understood, however, that the said reflectors terminate at their inner ends a suitable

distance from each other, so that the rays of light can pass into the several reflectors to be reflected in different directions, as will be readily understood by reference to the diagrammatical view shown in Fig. 5. The reflectors D are preferably made of steel, but other suitable metal plates may be employed, the plates being silvered at their inner face to properly concentrate and reflect the rays of light.

As shown in Fig. 2, the reflectors are grouped around the light A² uniformly, so that two reflectors are in the fixed part C' of the ring C, while two are arranged on the hinged segment C². Now by the operator unlocking the catch C⁴ the segment C², with its two reflectors, can be swung into an open position to permit the operator to get at the carbons of the lamp to exchange the same or otherwise repair the lamp, as the case may be.

Between the outer ends of two adjacent reflectors D is arranged a pane E of glass, standing at right angles to the rays of light reflected from the reflector facing the pane of glass. Each pane of glass E is held in a frame pivoted at E' to the outer end of the support D' of the next adjacent reflector, the other end of the frame being connected to the adjacent reflector by means of a link or hook E². The space at the lower ends of the reflectors and the panes of glass may be closed by a disk H, of suitable material, or by other means supported on the frame of the lamp A.

As illustrated in Figs. 6 and 7, the light-directors instead of being formed of reflectors are formed of prisms F, set in frames G, so that the rays of light from the lamp A² are thrown in the desired direction. As illustrated in Fig. 6, for instance, the frame G is made in two parts, each part carrying a set of prisms, so that the rays of light from the lamp A² are refracted in opposite directions. As shown in Fig. 7, the frame G is made in four parts with four sets of prisms F to refract the rays of light in four different directions. The prisms and reflectors, as shown, are disposed radially or substantially so relatively to the source of light. Now it is understood that the frames for the reflectors or prisms are made according to the number of reflectors or refracting-prisms employed, and

the reflectors and prisms are set or grouped relative to the light A^2 to throw the rays of light in two, three, four, or more different directions, as the case may be.

5 Instead of making the reflectors D rectangular in shape I prefer making the same tapering, with the narrower edge nearest the arc, as illustrated by Fig. 8. This permits more of the direct rays of light to shine under and diminishes the areas of the shadows
10 under the lamp. The disk or globe H on the bottom of the lamp is preferably made of ground glass to diffuse the light under the lamp.

15 It is further understood that the window-panes E prevent wind or rain from striking the silvered parts of the reflectors or the light itself, thus preventing the light from becoming extinguished and the reflectors from being
20 soiled.

It is understood that by the arrangement described the rays of the light of the lamp are first concentrated and then shed onto the streets to properly light the latter instead
25 of diffusing the light all around the lamp and wasting a good portion thereof in unnecessarily lighting buildings, &c., in the immediate neighborhood of the lamp.

It will be seen by reference to Fig. 5 that
30 the reflecting-surfaces of the reflectors D at their inner ends are disposed approximately tangentially to a cylinder passing through the said inner ends, the source of light being on the axis or at the center of the said cylinder.
35 inder.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. A lamp, provided with a series of inwardly-converging reflectors grouped around a central light, and transparent panes located exteriorly of the said reflectors and extending from back of one reflector toward the reflecting-face of the adjacent reflector, substantially as described.

2. A lamp, provided with a frame consisting of two sections connected by a vertically-disposed hinge-joint and a series of light-directors secured to the said frame and grouped around a central light, substantially as described.

3. A lamp, comprising a frame having outwardly-diverging curved supports extending therefrom, and reflectors held in said supports and grouped around a central light, substantially as described.

4. A lamp, comprising a frame, radially-disposed reflectors secured thereto, and transparent panes each secured to the back of one reflector and extending toward the reflecting-face of the adjacent reflector, substantially as described.

5. A lamp, comprising a frame, radially-disposed reflectors secured thereto and transparent panes pivoted on the said reflectors to swing about vertical axes and extending between adjacent reflectors, substantially as described.

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Witnesses:

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A. C. GRANT.