

(No Model.)

D. W. DE FOREST  
Electric Lamp.

No. 241,628.

Patented May 17, 1881.

Fig. 1.

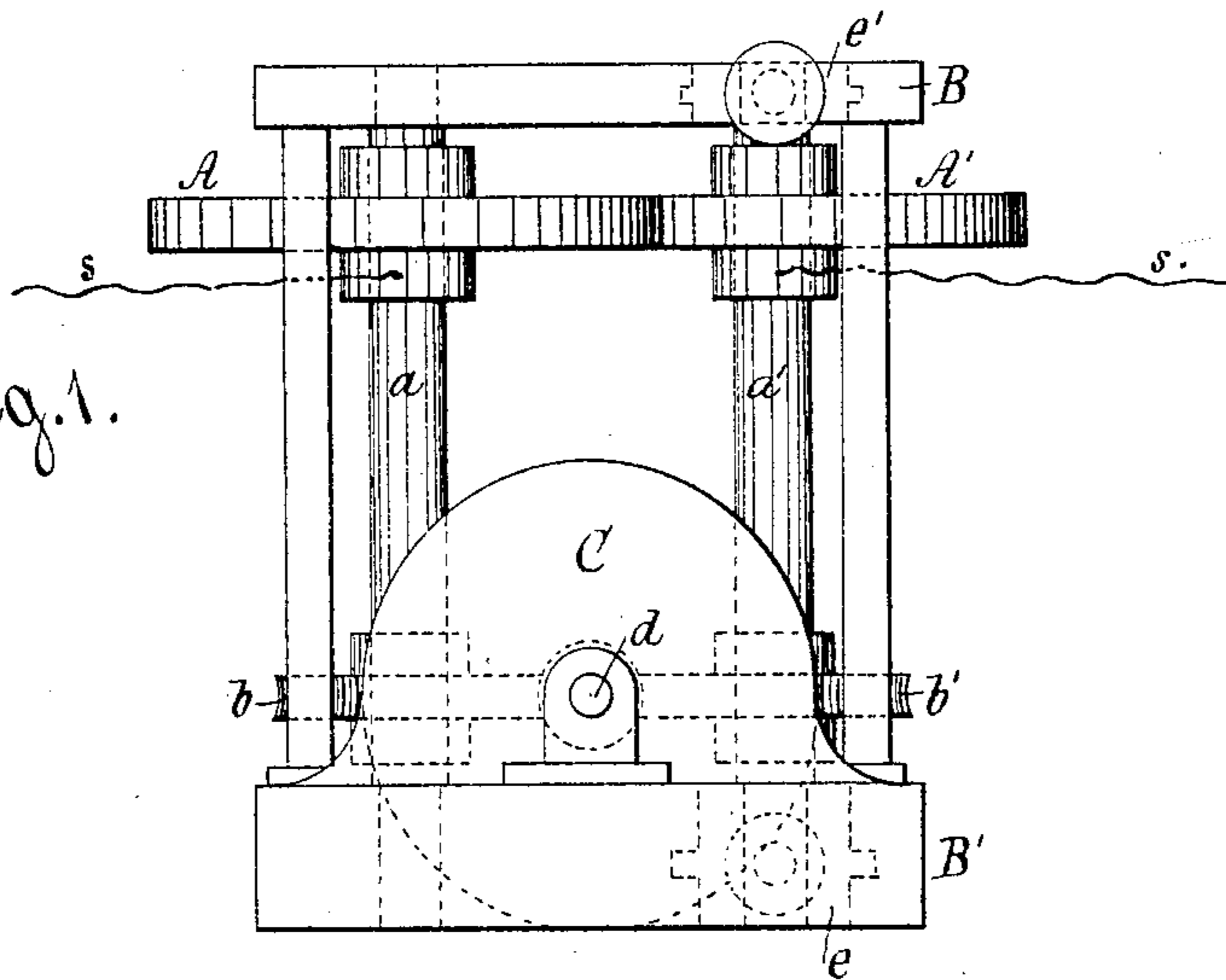


Fig. 2.

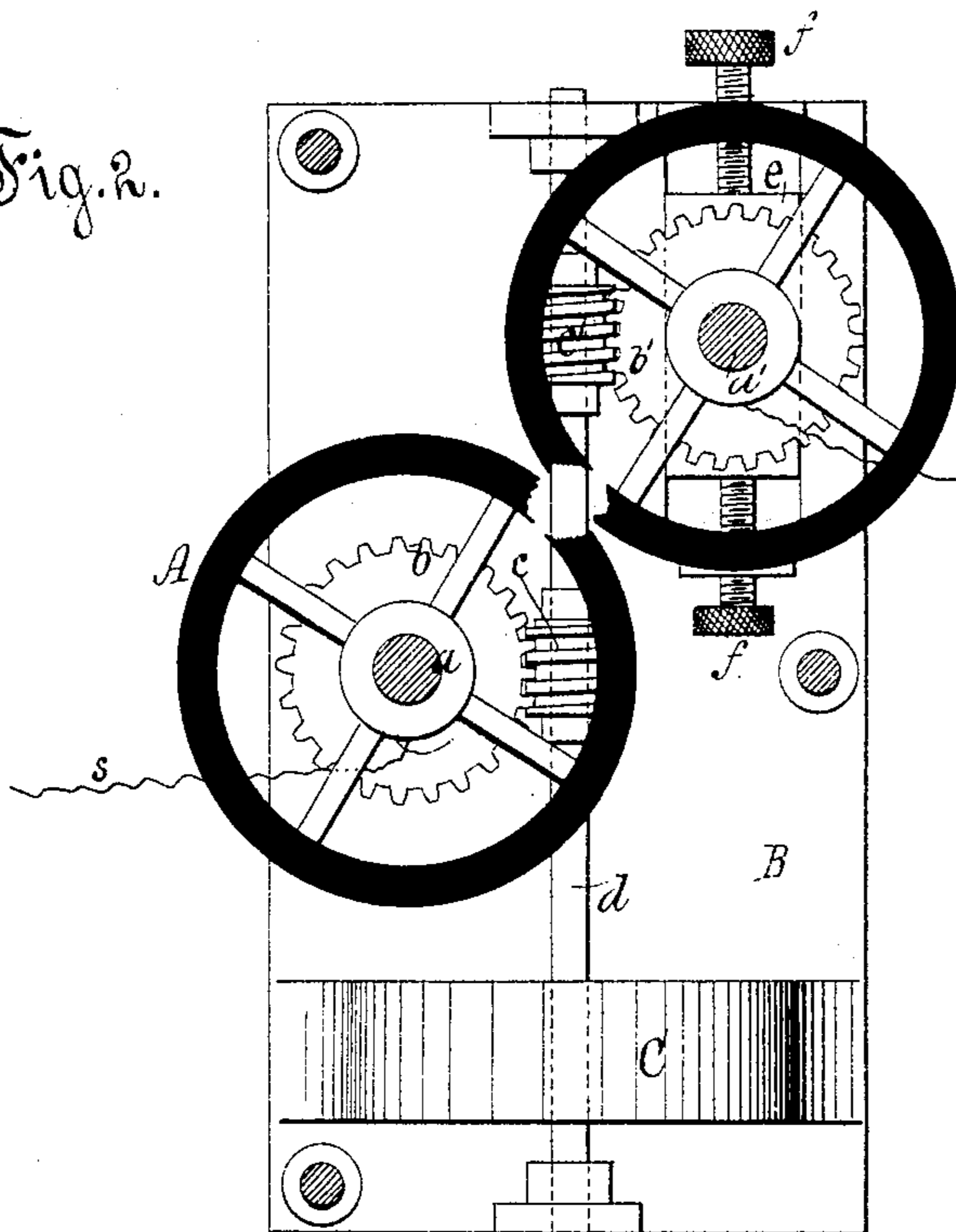
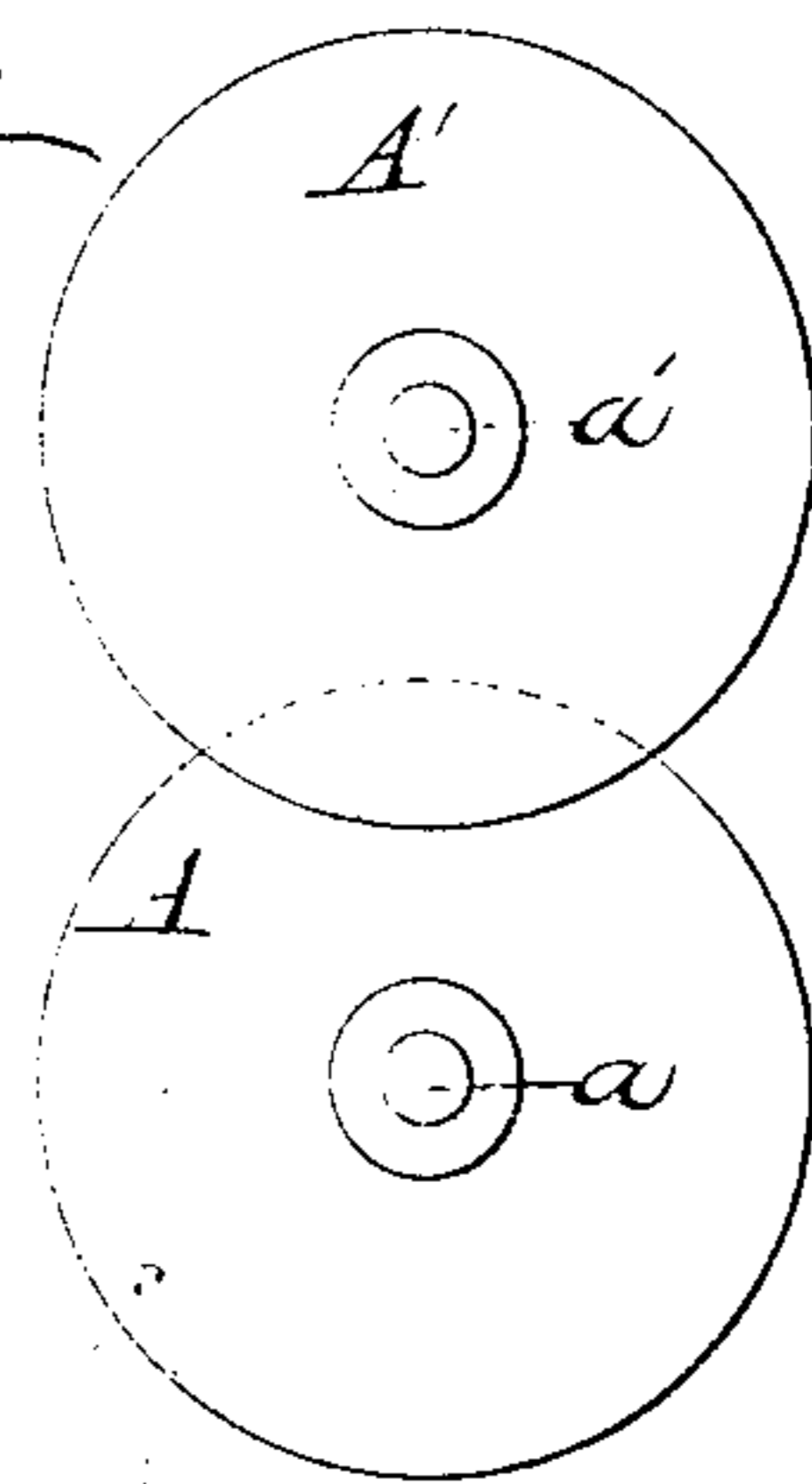


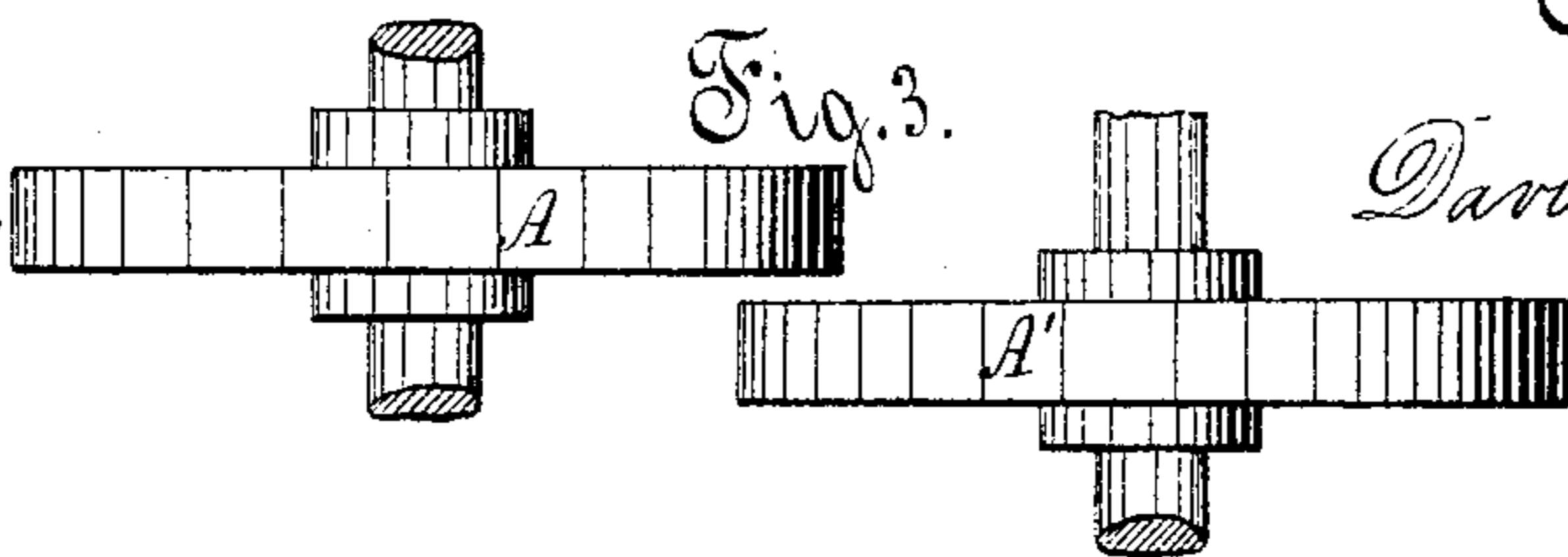
Fig. 3.



Witnesses:

Chas R. Clarke.  
H. Giddings.

Fig. 3.



Inventor:

David W. De Forest.

by Geo. H. Hoshorn  
his Atty

# UNITED STATES PATENT OFFICE.

DAVID W. DE FOREST, OF BROOKLYN, ASSIGNOR TO WILLIAM BUCHANAN,  
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## ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 241,628, dated May 17, 1881.

Application filed December 6, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID W. DE FOREST, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Electric Lamps, of which the following is a specification.

My invention relates to improvements in electric lamps, and more particularly to that class in which movable carbons are employed. The object of my invention is to give the carbons, which have a circular form or ring shape and are placed in the required position for the proper action of the electric current to produce the voltaic arc, a slowly-rotating movement on their own axes, so that the feeding of the circular carbons is constantly in harmony with the consumption by the electric arc.

In the drawings, in which similar letters of reference indicate like parts, Figure 1 is a side view of my improvement. Fig. 2 is a top view of the same with the upper covering-plate removed. Fig. 3 shows the circular carbons in a modified position, and Fig. 4 is a top view, showing the carbons in the form of disks.

A is the positive circular carbon, and is secured to the non-conducting vertical shaft *a*, revolving in stationary bearings on the top and base plate, B and B', respectively. The negative circular carbon A' is attached to the non-conducting vertical shaft *a'* revolving in adjustable bearings *e* and *e'* sliding in top and base plates, B and B'. The bearings *e* and *e'* are adjustable by means of set-screws *f*. The electric currents, positive and negative, are supplied by means of wires 5 5. The circular carbons A and A' are placed in such relative positions to each other at one point, either on the sides of the circular carbons, as seen in Figs. 1 and 2, or on the top and bottom surfaces, as shown in Fig. 3, as is necessary for the electric currents to produce the voltaic arc.

To shafts *a* and *a'* are secured wheels *b* and

*b'*, geared in the worm-wheels *c* and *c'*, fastened on shaft *d*. A slow rotation of shaft *d*, and consequently of shafts *a* and *a'*, and the circular carbons A and A', is effected by means of a clock-work or other similar device for the same purpose, acting on shaft *d* and represented at C. The clock-work C or other similar device is not more fully described nor represented in details in the drawings, as it does not form a special feature of my invention and is not claimed. The adjusting of circular carbon A' in relation to carbon A is necessary, according to the circular power of the electric current. An automatic device for such adjustment, by means of the electric current itself, will be the subject of a further application for Letters Patent.

The devices, as shown in the drawings, for slowly rotating the circular carbons on their axes may be supplanted by other mechanical arrangements having the same effect.

The carbons may be in the form of disks attached directly to the shafts *a* and *a'*, or in the shape of rings secured to the shafts by means of arms or spokes, as represented in the drawings.

What I claim is—

1. The circular carbons A and A', the shafts *a* and *a'*, and the gear-wheels *b* and *b'*, in combination with the worm-wheels *c* and *c'*, the shaft *d*, and a mechanism for slowly rotating the shaft *d*, substantially as and for the purpose described.

2. The circular carbon A', shaft *a'*, and adjustable bearings *e* and *e'*, in combination with the circular carbon A, shaft *a*, provided with stationary bearings and mechanism for rotating the same, substantially as and for the purpose described.

DAVID W. DE FOREST.

Witnesses:

THEO. G. HOSTER,  
CHAS. R. CLARKE.