

(No Model.)

J. BEST.

APPARATUS FOR ELECTRIC LIGHTING.

No. 245,933.

Patented Aug. 23, 1881.

Fig. 1

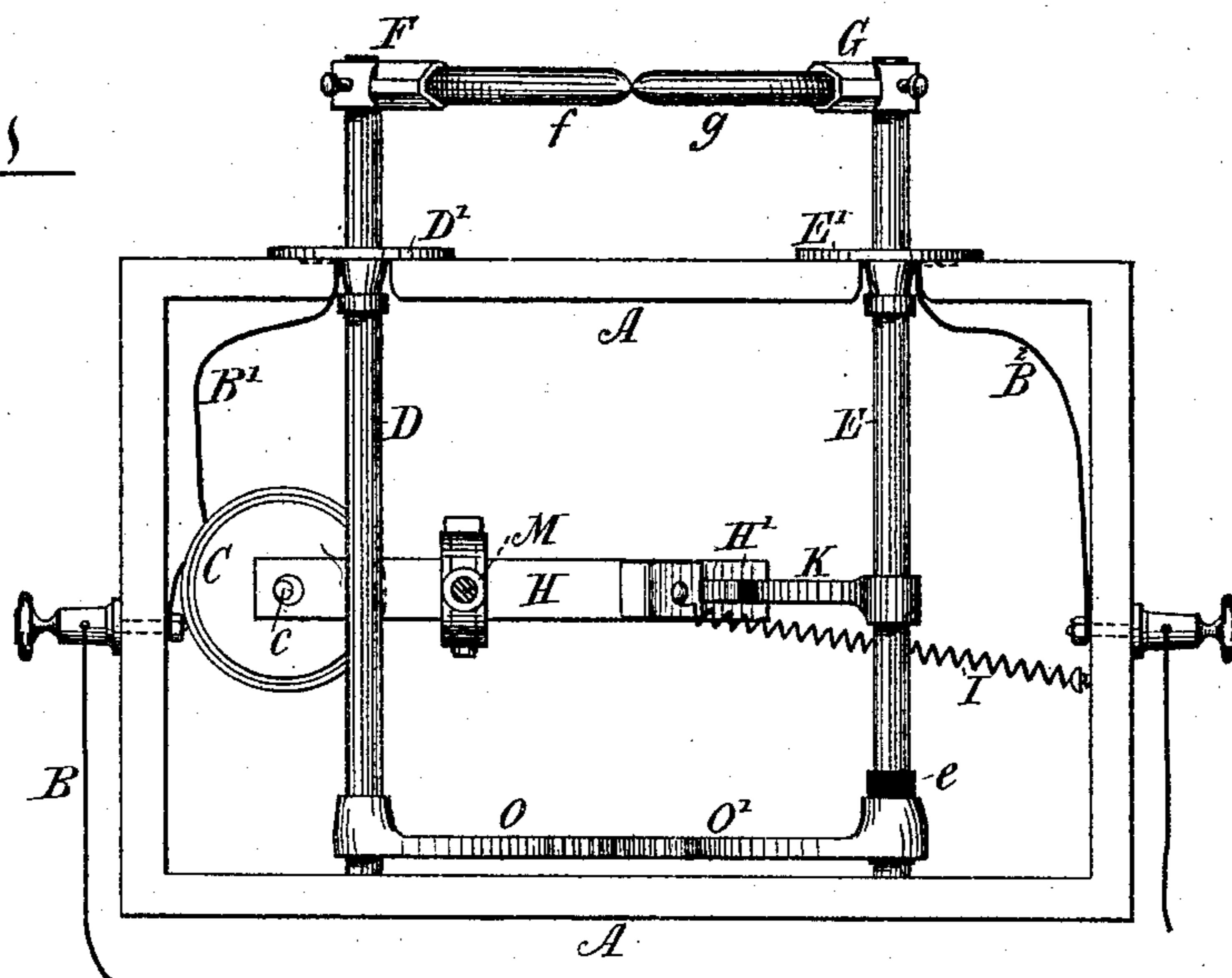


Fig. 3

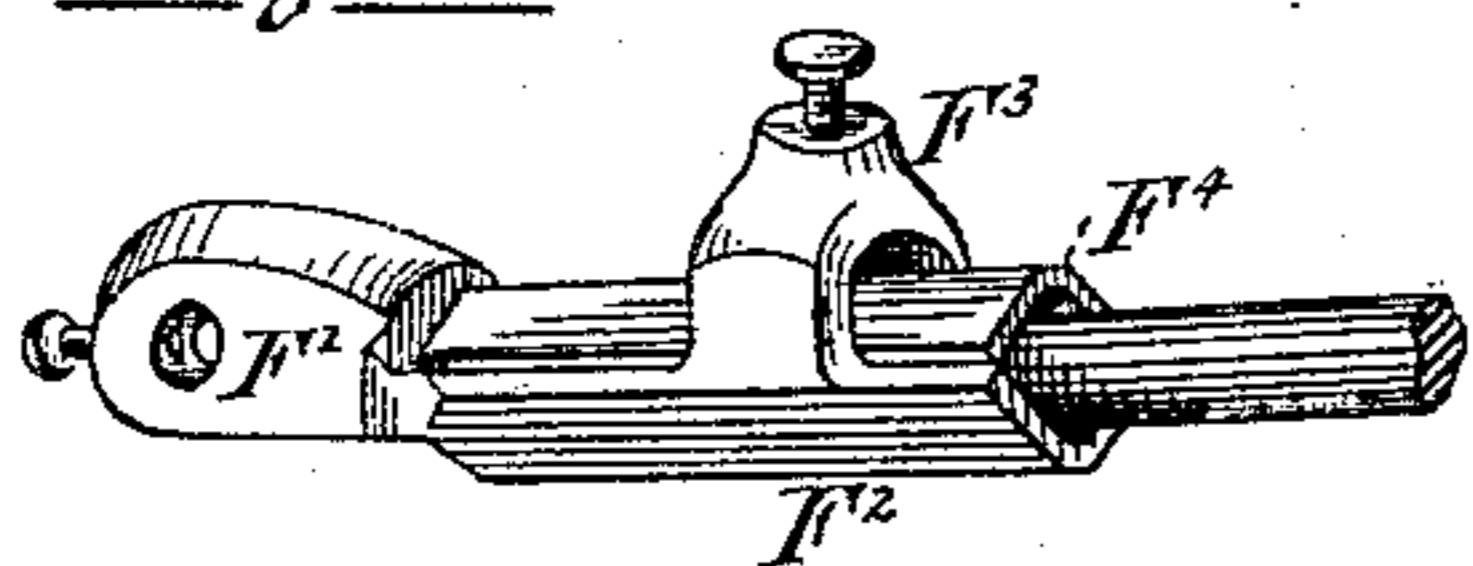


Fig. 4

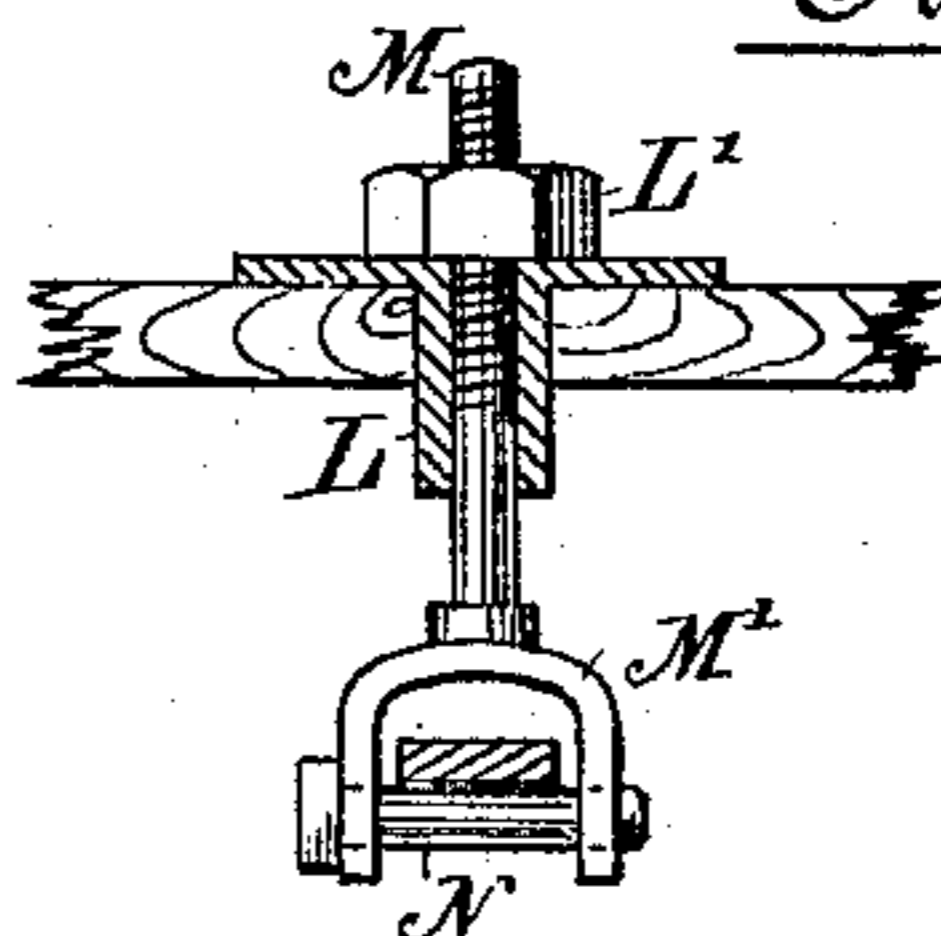
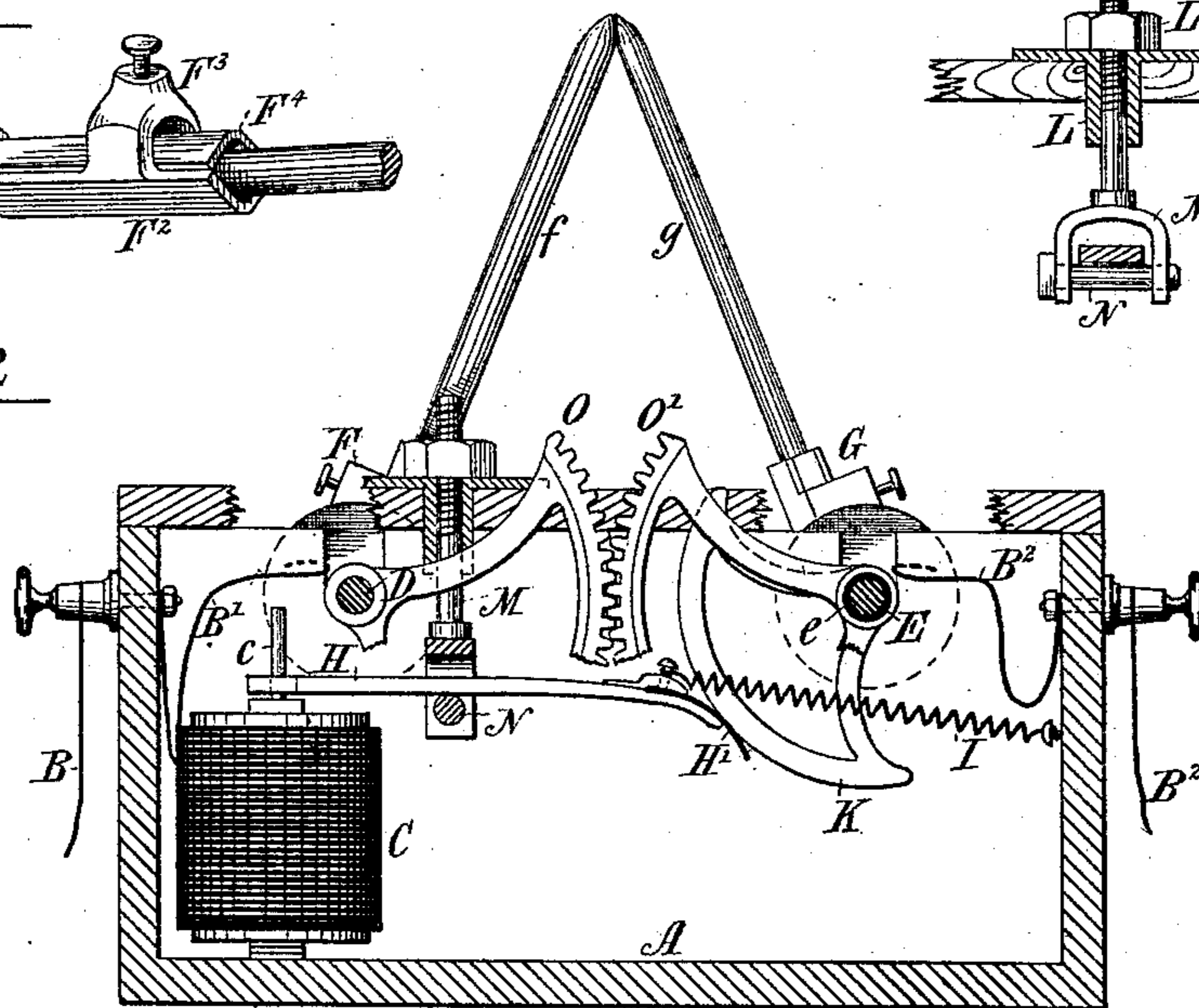


Fig. 2



Witnesses:

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APPARATUS FOR ELECTRIC LIGHTING.

SPECIFICATION forming part of Letters Patent No. 245,933, dated August 23, 1881.

Application filed March 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BEST, of the city of Montreal, in the District of Montreal and Province of Quebec, Canada, have invented
5 certain new and useful Improvements in Apparatus for Electric Lighting; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention may be described as consisting of an arrangement in which the two carbons inclined toward each other are mounted
10 upon horizontal rock-shafts, which are so operated by the current from the dynamo-electric machine as to slightly separate the points of the carbons and produce a voltaic arc. The
15 angle of inclination of the carbons to each other can be regulated while the carbons are being consumed by suitable means provided for the purpose.

20 For full comprehension of the invention reference must be had to the annexed drawings, in which—

Figure 1 is a plan view of the apparatus; Fig. 2, a sectional elevation of same; Fig. 3, a
25 view of the carbon socket or holder, and Fig. 4 detail of device for adjusting armature.

Similar letters of reference indicate like parts.

30 A is the box or case in which the mechanism is contained, and of any suitable material, B being the wire conveying the positive current from the dynamo-electric machine to the electro-magnet C, formed in the usual way, whence
35 it passes, as at B', to a plate, D', securely mounted on a rock-shaft, D, carried in proper bearings in the box A.

E is a similar rock-shaft, also provided with a plate, E', from which the wire marked B² returns to the dynamo-electric machine.

40 F and G are the carbon-sockets, mounted, respectively, on the shafts D and E, *f* and *g* indicating, respectively, the positive and negative carbons. These carbon-holders are preferably constructed as shown in Fig. 3. F' is
45 the butt, provided with eye so as to be slipped on the shaft, F² being a trough-shaped extension of same, on which is mounted a bridge, F³. F⁴ is an angle-piece, somewhat smaller in
50 section than F², slipped over the carbon laid in the trough F², and cramped so as to hold it

firmly by a set-screw passing through the bridge F³. The whole carbon socket or holder is secured adjustably on its shaft by a set-screw or by any like means.

H is an armature or armature-lever, constructed as shown specially in Fig. 2, and provided with an insulating-strip, H', kept by the
55 action of a spring, I, secured to the box always in contact with the face of a friction-sector, K, mounted rigidly on the shaft E. This
60 armature-lever H is, where it passes over the electro-magnet C, perforated or slotted, so as to allow of the passage up through it of the pin *c* projecting from said magnet, and is supported as will now be described and as is
65 shown particularly in Fig. 4. In the top of the box is formed a socket, L, into which is dropped a screwed pin, M, on the lower end of which is formed or secured a support or fork,
70 M', carrying a pin, N, upon which the armature rests. A jam-nut, L', threaded to pin M, serves to raise or lower said pin, and thus vary the position of the armature.

O and O' are geared sectors corresponding with each other, and mounted, respectively, on
75 the shafts D and E, the latter being insulated, as shown at *e*, by any suitable material.

The operation of the invention is as follows: The parts being in the position shown in Figs. 1 and 2, the current produced, as mentioned, by
80 any dynamo-electric machine passes along the wire B to the electro-magnet C, and thence through B' to the plate D', and to the point of the positive carbon; then in contact with that of the negative carbon, thus igniting the same.
85 The current then passes off through the wire B² back to the dynamo-electric machine, the insulator *e* breaking the circuit. Simultaneously with this action the armature H is attracted to the electro-magnet C, thereby overcoming
90 the resistance of the spring I and causing the insulating-piece H' in contact with the friction-sector K to draw upon and slightly rotate it and the shaft E, on which it is mounted. Through the geared sectors O' and O this action
95 is synchronously conveyed to the shaft D, turning it in the reverse direction, thus separating the points of the carbons and producing the voltaic arc.

By means of the screwed spindle M the po- 100

sition of the fork carrying the armature may be varied vertically, and the amount of leverage exercised by the armature H upon the friction-sector K be thus adjusted.

5 The carbon-holders F and G may, before the current is thrown on, be set at any angle on the rock-shafts, and their construction, with the loose angle-piece clamped down upon the carbon, affords a very firm hold, prevents any
10 lateral deviation, and allows the different sizes of carbons to be used with equal facility.

It will of course be understood that for any of the elements of the invention corresponding mechanical equivalents may be substituted—
15 as, for instance, pulleys and a twisted belt for gears, &c.

What I claim, and desire to secure by Letters Patent, is as follows:

1. In an apparatus for electrical lighting, the
20 carbons and horizontal rock-shafts provided

with the geared sectors, in combination with a friction-sector mounted on one of said rock-shafts, and with means for actuating it, substantially as shown and described.

2. The combination of the electro-magnet, 25 the armature-lever H, provided with flexible insulating-piece H', the support M', and shaft E, provided with friction-sector K, all substantially as described and for the purpose set forth.

3. In combination, the electro-magnet O, 30 armature-lever H, provided with the insulated piece H', and with a retractile spring-support, M', having means for its adjustment, as described, and the shaft E, provided with a friction-sector, K.

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Witnesses:

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