

No. 663,346.

Patented Dec. 4, 1900.

W. C. JOHNSON & A. WUNDERLICH.

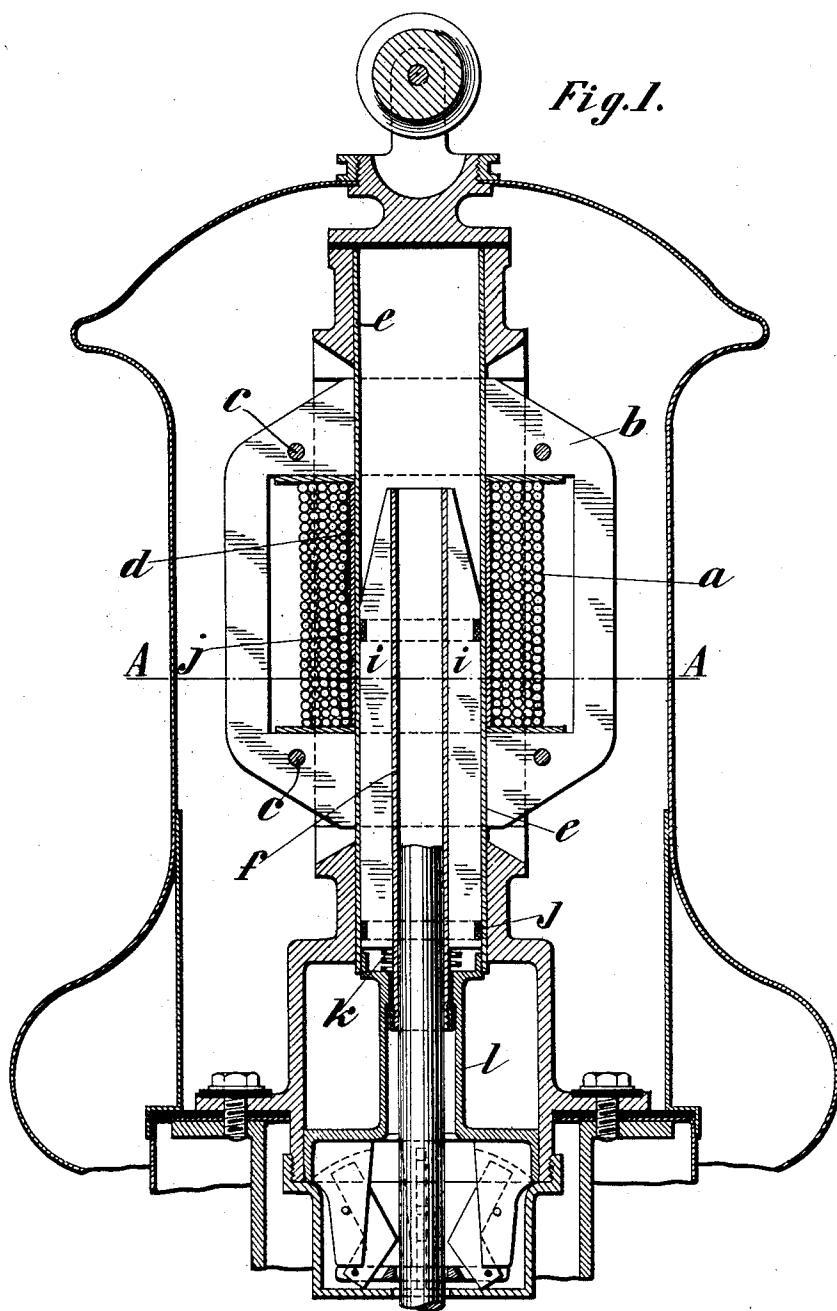
ELECTRIC ARC LAMP.

(Application filed Sept. 10, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses
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J. S. Meyer

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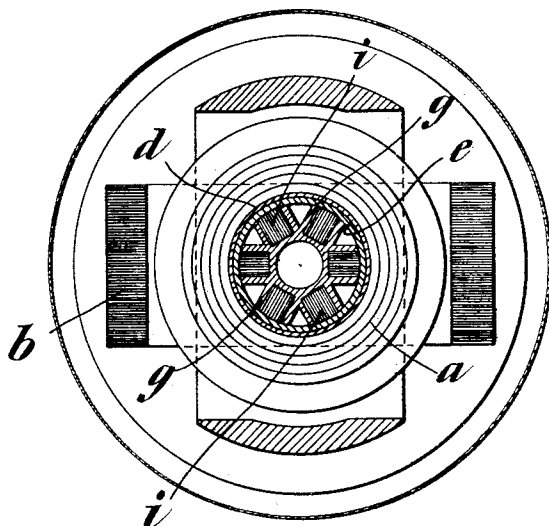
ELECTRIC ARC LAMP.

(Application filed Sept. 10, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

WALTER CLAUDE JOHNSON AND ADOLPH WUNDERLICH, OF LONDON,
ENGLAND.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 663,346, dated December 4, 1900.

Application filed September 10, 1900. Serial No. 29,564. (No model.)

To all whom it may concern:

Be it known that we, WALTER CLAUDE JOHNSON, a citizen of England, residing at The Dignaries, Westcombe Park, Blackheath, London, and ADOLPH WUNDERLICH, a citizen of the United States, residing at The Limes, Coleraine road, Westcombe Park, Blackheath, London, in the county of Kent, England, have invented a certain new and useful
10 Improvement in Electric-Arc Lamps, (for which we have applied for a patent in Great Britain, dated February 16, 1900, No. 3,108,) of which the following is a specification.

In our Patent No. 638,125 we have described
15 a clutch for the carbons of an electric-arc lamp operated by the core of a solenoid.

Our present invention consists in an improved construction of the solenoid and its core in such a manner that the lamp can be
20 worked by alternating as well as by continuous currents.

Figure 1 of the accompanying drawings is a vertical section of the upper part of the lamp and of the improved solenoid and core,
25 and Fig. 2 is a horizontal section on the line A A of Fig. 1.

The core *a* of the solenoid is inclosed on two sides and above and below by a yoke *b*, consisting of laminæ of soft iron held together by rivets *c* passing through them.
30 Through holes bored vertically through the end of the yoke *b* and through the bobbin *d*, on which the coil is wound, extends a tube *e* of non-magnetic metal. Within this tube is
35 free to slide the core *f*, which consists of a

tube having six pairs of projecting ribs *g*, the whole made preferably of aluminium for the sake of lightness, and the space between the ribs of each pair is filled with lightly-packed laminæ *i*, of soft sheet-iron, extending
40 the whole length of the core. Near each end of the core a shallow recess is turned to hold packing *j*, which rubs on the internal surface of the tube *e* as the core moves up and down within it. The core is attached by a spring
45 *k* to deaden shocks to the brake-piston *l*, which carries the clutch-pieces *h*, described in our previous patent. By constructing the yoke *b* and the ribs *i* of the core of soft sheet-iron laminated these parts are readily mag-
50 netized and demagnetized, as required for operating with alternating currents.

Having thus described the nature of this invention and the best means we know of carrying the same into practical effect, we claim—
55

For an electric-arc lamp a solenoid and core consisting of a laminated iron yoke inclosing the coil, and a tubular core having ribs of laminated iron, whereby the lamp is rendered
60 capable of operating with alternating currents, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WALTER CLAUDE JOHNSON.
ADOLPH WUNDERLICH.

Witnesses:

GERALD L. SMITH,
W. M. HARRIS.