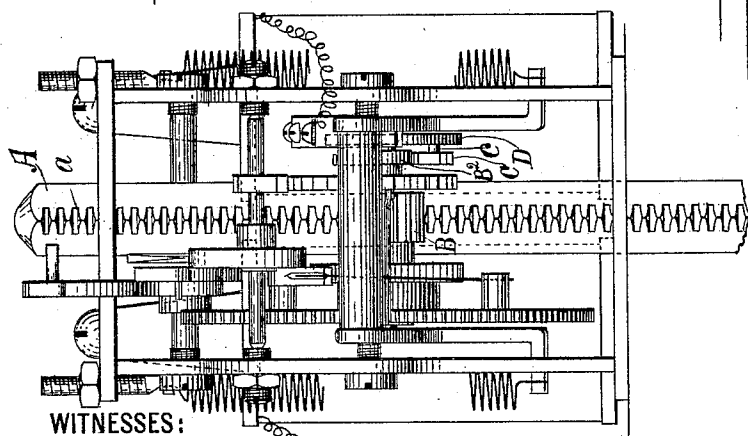
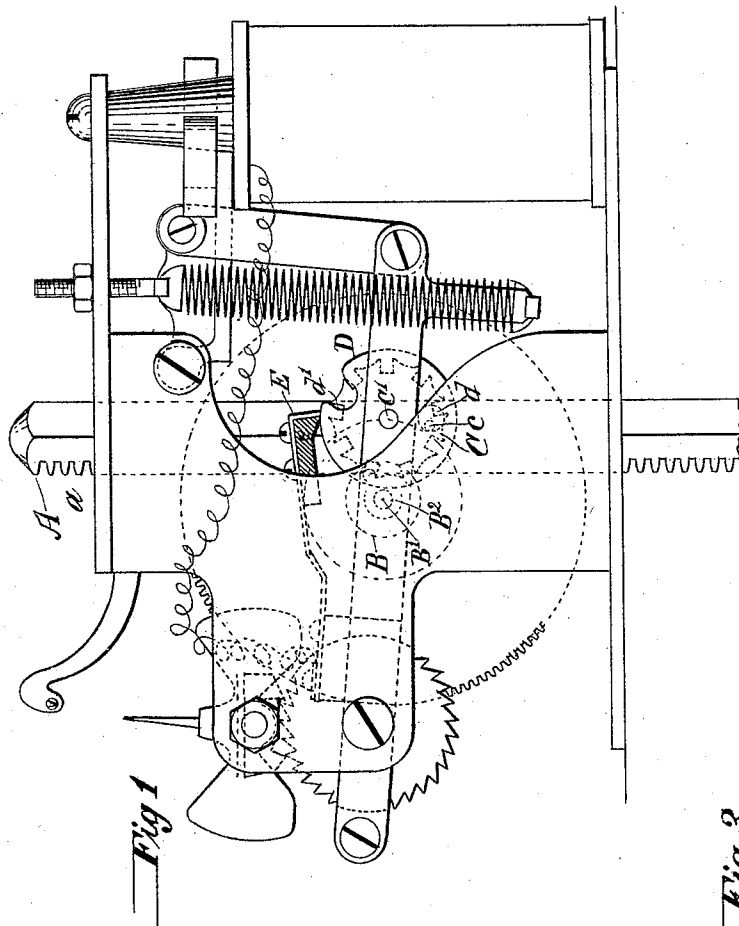


(No Model.)

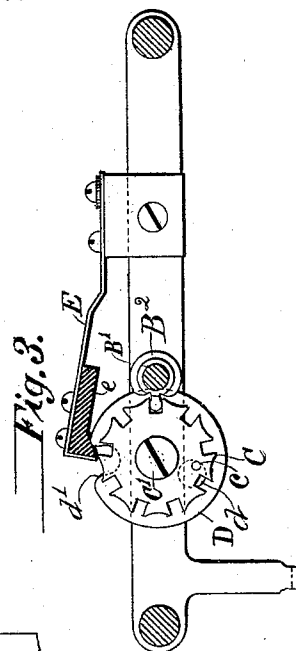
S. BERGMANN.
ELECTRIC ARC LAMP.

No. 528,119.

Patented Oct. 23, 1894.



WITNESSES:
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UNITED STATES PATENT OFFICE.

SIGMUND BERGMANN, OF NEW YORK, N. Y.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 528,119, dated October 23, 1894.

Application filed April 8, 1894. Serial No. 506,563. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND BERGMANN, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Electric-Arc Lamps, of which the following is a specification.

The object of my improvement is to provide a simple and efficient cut-out for an arc lamp, and it is particularly applicable to protecting the shunt coils of arc lamps which are provided with such coils.

I will describe a lamp having a cut-out embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a side view of a portion of a lamp embodying my improvement. Fig. 2 is an end view of the same. Fig. 3 is a view of certain parts as seen from the side opposite to that shown in Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A designates a rod for supporting the upper carbon, it being for this purpose provided at the lower extremity with a suitable carbon holder. It is shown as provided with a rack *a*, and with this rack engages a pinion B, forming part of a mechanism which controls the descent of the rod. As this mechanism forms no part of my present improvement, I will not further describe it.

B² designates a wheel affixed to the shaft B', upon which the pinion B is mounted. This wheel B² has but a single tooth. It coacts with a wheel C, which is loosely mounted upon a stud or screw C', and the teeth of this wheel C are so shaped that the wheel B² may once in each rotation move the wheel C onward, a distance corresponding to a single tooth of the latter.

It will be understood that the pinion B rotates in both directions owing to the fact that it is constantly engaged with the rod A, and the latter is moved upwardly each time that a new carbon is introduced. Owing to this, the wheel B² will rotate the wheel C in reverse directions, producing as many rotations one way as it does in the other way.

D designates a wheel which is also loosely mounted upon the stud or screw C'. It is connected with the wheel C so that the latter will impart motion to it. The means of connection which I have shown, consist of a pin *c* extending from one side of the wheel C into

a hole *d* which is formed in the wheel D. If the hole *d* is made larger than the pin *c*, there may be lost motion between the two wheels. The wheel D is provided with a notch *d'*, which is here shown as formed in the periphery of the wheel.

E designates a contact piece, which, as here shown, is made of a strip of resilient metal having the end turned over so that it may bear upon the periphery of the wheel D. On the under side of the terminal portion of this spring I have shown a block of insulating material *e*. When the rod A has descended to its lowest position, the notch *d'* of the wheel D will be brought opposite the free extremity of the contact piece E, and the latter will then descend into the notch. The notch is to be of such a size that it will not touch the bent over end portion of the contact piece. The block of insulating material *e* may bear upon one side of the notch, but this will be immaterial. The contact piece E is intended to be in circuit with the shunt coil. Hence, whenever the carbon rod A descends to its lowest position, the circuit of the shunt coil will be broken.

I do not wish to be restricted in the application of my improvement to a lamp having a carbon holder suspended or supported by a rod, but wish to cover any kind of a support for the upper carbon holder.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an arc lamp, the combination of a movable carbon support, a notched wheel deriving motion therefrom and a contact piece bearing against said wheel, and caused to shift its position by the notch of said wheel, substantially as specified.

2. In an arc lamp, the combination of a movable carbon support, a wheel deriving motion therefrom, and having a single tooth, another wheel which is moved a distance of one tooth at each rotation of the said wheel having the single tooth and a circuit controlling wheel moved by the second mentioned wheel, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIGMUND BERGMANN.

Witnesses:

O. D. STEWART,
HANS SWOBODA.