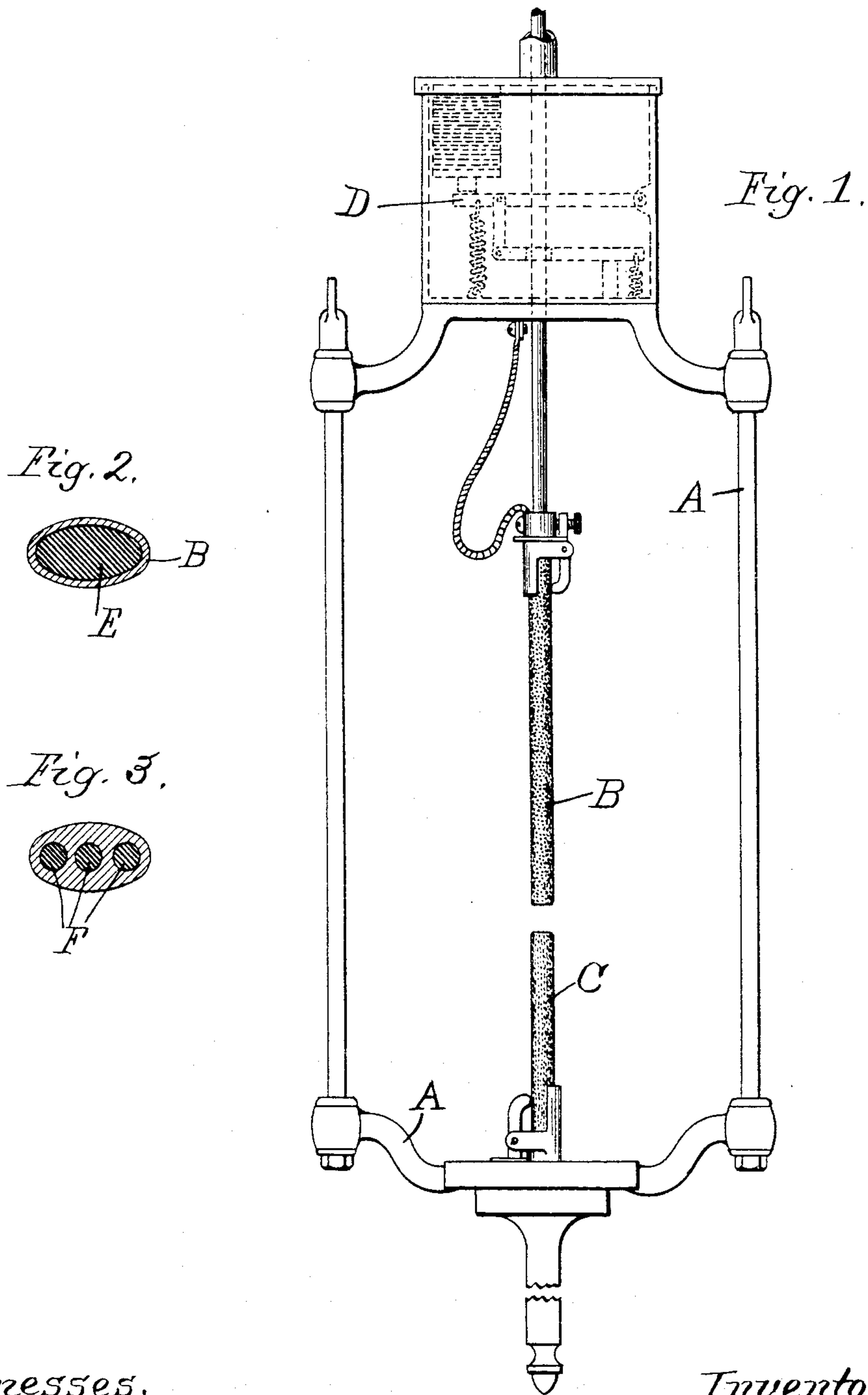


(No Model.)

C. A. PFLUGER.  
ELECTRIC ARC LAMP AND CARBON.

No. 540,333.

Patented June 4, 1895.



Witnesses.  
E. J. Wray.  
Francis M. Ireland.

Inventor.  
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by Francis W. Parker,  
his Atty.

# UNITED STATES PATENT OFFICE.

CHARLES A. PFLUGER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE STANDARD ELECTRIC COMPANY, OF SAME PLACE.

## ELECTRIC-ARC LAMP AND CARBON.

SPECIFICATION forming part of Letters Patent No. 540,333, dated June 4, 1895.

Application filed October 13, 1894. Serial No. 525,807. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. PFLUGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Electric-Arc Lamps and Carbons, of which the following is a specification.

My invention relates to electric arc lamps and carbons and has for its object to provide certain new and useful improvements in lamps and carbons whereby long and steady burning lamps are produced. I employ a lamp substantially as indicated, having two electrodes, each preferably oblong or elliptical in cross-section, although the form may be slightly changed. The carbon is preferably, however, of such shape that its opposite diameters are in the proportion of one to two, the shorter being about equal to the diameter of an ordinary single carbon. These carbons I make compound or of a varying texture, the carbon toward the center being composed of a finer or softer material. In the use of such carbons the arc is adapted to travel back and forth between the two, and experience has shown that where these carbons are made of a uniform texture throughout there will be a certain amount of irregularity in the burning incident to the fact, perhaps, that the arc at different points along its travel is located between varying volumes of carbon all the carbon being of the same texture or character. These difficulties appear to be largely obviated in the case of a lamp such as is here shown, by the use of the filling or core of carbon of a different texture. In the case of such carbons, one at each electrode, and when used with an ordinary lamp, I find that the arc travels steadily back and forth across such inner carbon material and with a steady regular motion and light.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of a lamp, showing the electrodes containing my improvement. Fig. 2 is a cross-section through an elliptical electrode, and Fig. 3 is a cross-section through an electrode having a series of cores therethrough.

As before suggested the electrode need not be elliptical in cross section, nor is it absolutely necessary that the entire core be continuous, as it may be divided into sections. The wall of intervening material, however, should be thin, at least thin enough to bring the several portions of the core so close together that the uniformity above referred to as desired to be obtained is secured.

A is the lamp frame; B C, the carbons; D, the carbon controlling mechanism; E and F, the inner carbon material arranged as shown.

I claim—

1. In an arc lamp the combination of the feeding mechanism with two carbon electrodes each of which is oblong in cross section and formed of carbon having a varying texture from the external surface toward the center.

2. In an arc lamp the combination of a carbon feeding mechanism with two electrodes each elliptical in cross-section and composed of an outer wall of carbon with an inner carbon material also elliptical in cross-section and varying in texture from the outer wall.

Signed at Chicago, October 10, 1894.

CHARLES A. PFLUGER.

In presence of—

JNO. H. COULTER,  
FRANCIS M. IRELAND.