No. 897,410. PATENTED SEPT. 1, 1908.

O. A. ROSS.

CARBON HOLDER.

APPLICATION FILED JULY 30, 1906.

Fig. 1.

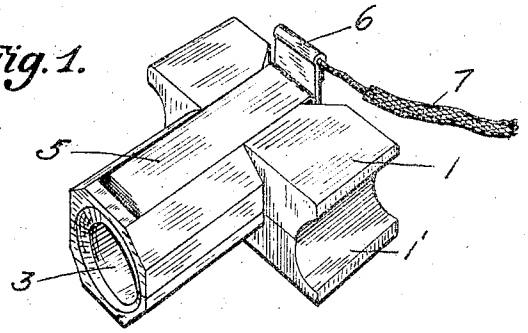


Fig. 4.

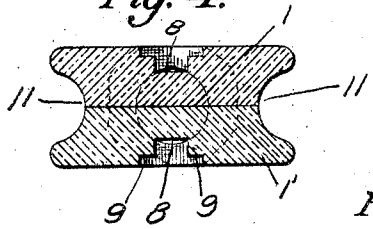


Fig. 3.

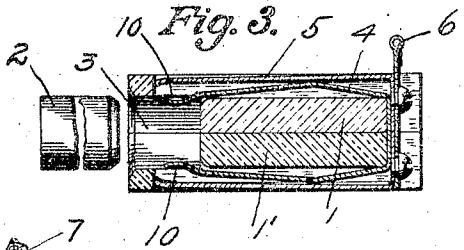


Fig. 7.

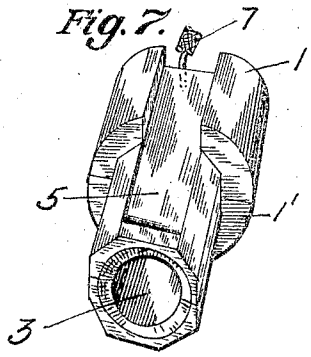


Fig. 6.

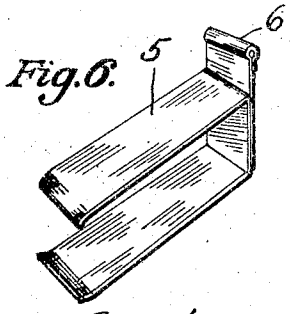


Fig. 5.

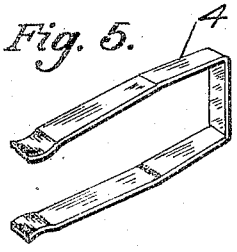


Fig 6.

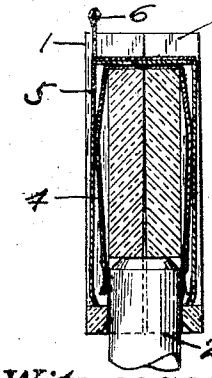
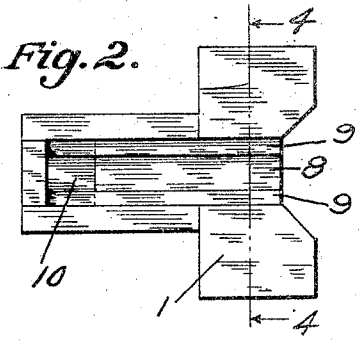


Fig. 2.



Witnesses:-

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UNITED STATES PATENT OFFICE.

OSCAR A. ROSS, OF CHICAGO, ILLINOIS.

CARBON-HOLDER.

No. 897,410. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed July 30, 1906. Serial No. 328,352.

To all whom it may concern:

Be it known that I, OSCAR A. ROSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Carbon-Holders, of which the following is a description.

My invention belongs to that class of devices known as carbon or electrode holders, and has for its object the production of a cheap, simple and more efficient and satisfactory holder.

This holder is particularly adapted to be used in arc lamps and similar constructions. It frequently happens that a great deal of trouble with arc lamps is caused by carelessness in "trimming" the lamp, that is the person renewing the carbons fails to force the carbon or electrode into its holder. Then after the upper carbon has fed downward a certain distance it falls through its clutch, a construction commonly used in arc lamps, and an arc is formed between the carbon and clutch and carbon holder usually destroying the same. In my improved form of holder the carbon must first be secured within the holder before current will be conducted to the carbon and it is obvious that when the holder comes to rest at the lowest point of its travel the carbon being securely held in the holder, the circuit will be broken at a point between the upper and lower carbons.

To this end my invention consists of the novel arrangement, construction and combination of parts herein shown and described and more particularly pointed out in the claims.

In the drawings wherein like reference characters indicate like or corresponding parts: Figure 1 is a perspective view of my preferred form of holder, adapted to be used with parallel guide rods. Fig. 2 is a side view of the same the parts 4 and 5 removed. Fig. 3 is a longitudinal sectional view showing the parts 4 and 5 in position. Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 2. Fig. 5 is a perspective view of part 4. Fig. 6 is a perspective view of part 5. Fig. 7 is a perspective view of the holder modified so as to permit it to travel in a tubular guide, and Fig. 8 is a longitudinal sectional view of the form shown in Fig. 1, a carbon pencil, inserted, the holder being shown in a position as normally used.

Referring to the drawings, my preferred construction consists of a socket member made up of two parts 1 and 1′ and the two resilient conducting members 4 and 5. The socket member is preferably made entirely of insulating material, porcelain being found particularly satisfactory. A depression or chamber 3 is provided in the socket member adapted to receive the electrode or carbon pencil 2. This depression is preferably not made truly cylindrical, that is, the center of the curve in each piece 1 and 1′ is a little outside the line of contact of the two parts, so that when a pencil 2 is inserted it will slightly spread the two parts 1 and 1′ as is shown in Fig. 8 thereby gripping the same. It is obvious that the socket member 1, 1′ may be made in any preferred or desired shape or form, the figures showing two styles, one grooved as at 11 in Fig. 4 adapted to be used with two parallel guide rods, the other form, Fig. 7, adapted to be used in a tubular guide. Grooves 8 and 9 of different depths are preferably provided in the socket member, and also the opening 10 into the chamber or depression 3 as shown.

A resilient conducting contact member 4 is provided, which in the preferred form of holder shown, embraces the socket member and extends through the opening 10 into the chamber 3. To hold the parts of the socket members together I preferably provide a second resilient member 5, which lies in the grooved portion 9 and also embraces the socket member. Referring to Figs. 3, 6 and 8 it will be noticed that the free ends of the member 5 are preferably bent inwardly to drop into a slight depression in the groove 9, thus more firmly holding the member 5 in position. To the member 5 I preferably attach my electrical conductor in any suitable manner, the conducting cable 7 attached at point 6 being shown. If now an electrode or a carbon pencil 2 is inserted into the depression 3 of the socket member, it will spread the two parts 1 and 1′ which are resiliently held together by the member 5, and the carbon will be held securely in place. Until the carbon is pushed in sufficiently to give the socket member a firm hold there will be no circuit formed through the contact member 4 and the carbon, hence the person "trimming" the lamp must push the carbon in to a point where it will be securely held in order

to form the circuit. The force necessary to spread the parts 1 and 1′ and start the carbon pencil into the depression or chamber 3 is greater than that required to slide it into the depression after the parts have been spread and hence the carbon will almost invariably slide or jump into the depression and take a position as shown in Fig. 8. In this position the carbon is securely held by the parts 1 and 1′, contact being formed between the carbon and the resilient conducting contact member 4.

The conducting cable may be attached to the part 5 in any preferred or suitable way, or to 4 if desired, or the parts 4 and 5 may be secured together if so preferred in any suitable manner. It is obvious that if the contact member 4 is secured to member 5, if preferred it could be arranged to contact with the carbon pencil on only one side. As is shown in Fig. 8 the part 6 may be bent back as shown. It is obvious that if the contact member 4 is arranged to contact on the side with the member 5 when an electrode is in position as shown in Fig. 8, there will be more pressure exerted on the carbon, and the contact perhaps improved.

Having thus described my improvement it is obvious that various immaterial modifications may be made in my device without departing from the spirit of my invention, hence I do not wish to be understood as limiting myself to the exact form and construction shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent is:—

1. An electrode holder of the kind described, comprising a resilient socket member of insulating material adapted to receive and resiliently retain an electrode placed therein, in combination with a contact member contained within the socket, and arranged to operatively contact therein with said electrode inserted therein on the side thereof.

2. An electrode holder of the kind described comprising a resilient socket member of insulating material adapted to receive and resiliently retain an electrode placed therein, in combination with a resilient contact member positioned within the socket and arranged to operatively contact within the socket with an electrode maintained therein.

3. In an electrode holder for arc lamps, a socket member comprising a plurality of parts, and means for resiliently retaining said parts in operative position to receive and retain a coöperating electrode member placed therein, in combination with an electrical contact member positioned within the socket and arranged to operatively contact therein with a coöperating part forced therein on the side thereof.

4. In an electrode holder for arc lights and the like, a socket member comprising two parts of insulating material and a clamping spring arranged to resiliently retain said parts in operative position to receive and retain a coöperating member placed therein, in combination with an electrical contact member contained within the socket and arranged to operatively contact with a cooperating part forced therein.

5. In an electrode holder for arc lights and the like, a socket member comprising a plurality of parts and a U-shaped clamping member arranged to resiliently retain the parts in operative position to receive and retain a coöperating member placed therein, in combination with an electrical contact member contained within the socket and arranged to operatively contact with a cooperating part forced therein.

6. In an electrode holder for arc lights and the like, a socket member comprising mating parts of insulating material resiliently secured together to form a yielding socket member adapted to receive a cooperating part placed therein in combination with an electrical contact member contained within the socket and arranged to operatively contact with said coöperating part when inserted therein.

7. In an electrode holder for arc lights and the like, a socket member comprising mating parts of insulating material resiliently secured together to form a yielding socket member in combination with a U-shaped contact member positioned with its free ends extended within the socket and arranged to operatively contact with an electrode positioned within said socket.

8. A device of the kind described, a socket member comprising mating parts of insulating material resiliently secured together to form a yielding socket member, a U-shaped clamping member adapted to embrace and resiliently secure the mating parts together, in combination with an electrical contact member positioned within said socket member adapted to operatively contact with a coöperating part maintained therein.

9. An electrode holder of the kind described, comprising a resilient socket member of insulating material adapted to receive and resiliently retain an electrode placed therein, in combination with a resilient contact member positioned within said socket remote from the open end thereof and arranged to operatively contact within the socket with said electrode inserted therein.

10. In an electrode holder of the kind described, a socket member comprising a plurality of parts and means for resiliently re-

taining said parts in operative position to receive and retain an electrode placed therein, in combination with a resilient electrical contact member positioned within said socket remote from the open end thereof and arranged to operatively contact within the socket with the electrode forced therein.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

OSCAR A. ROSS.

Witnesses:
ROY W. HILL,
CHARLES I. COBB.