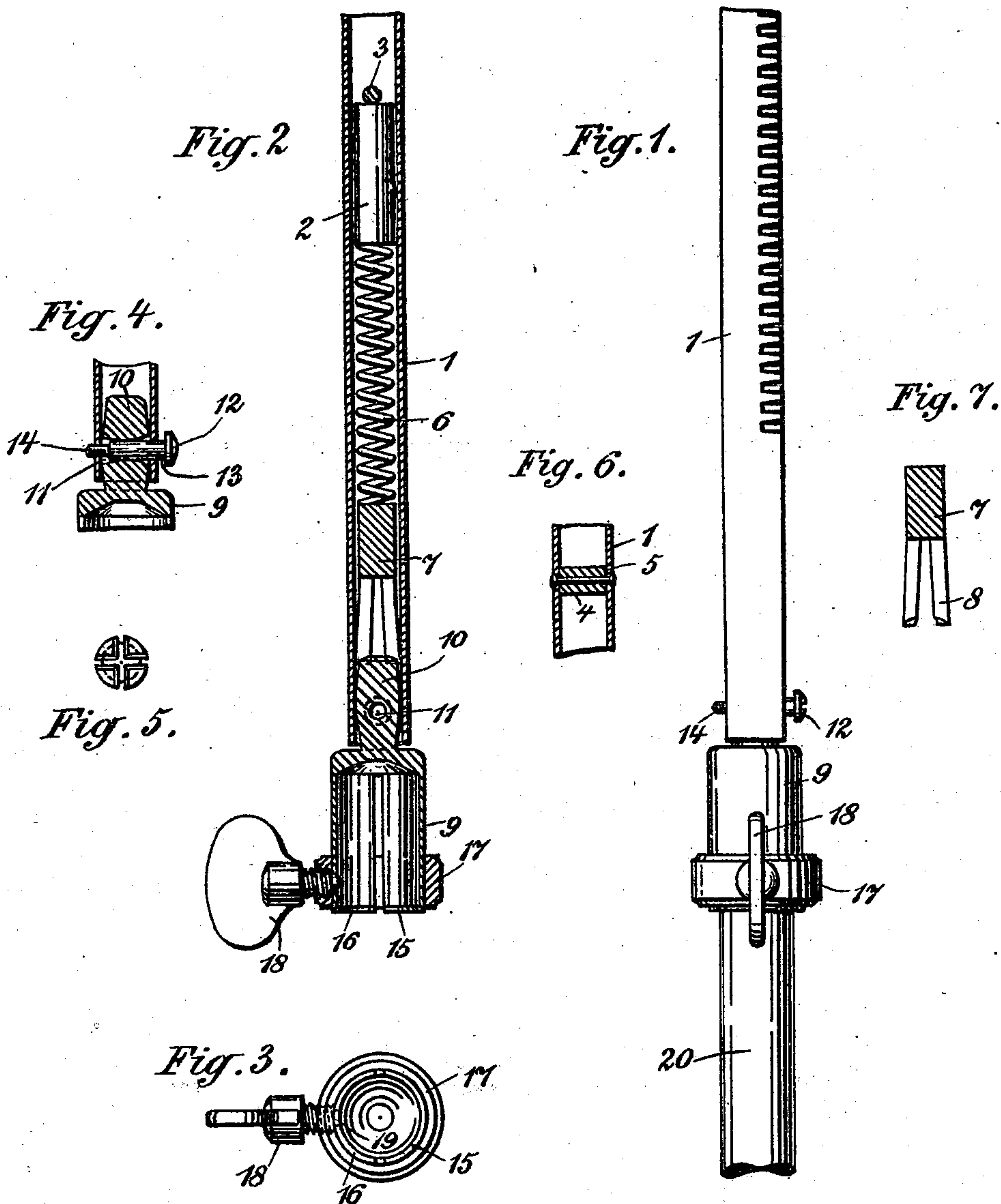


(No Model.)

S. BERGMANN.  
CARBON HOLDER FOR ARC LAMPS.

No. 502,273.

Patented Aug. 1, 1893.



Witnesses:  
Chas. L. Horack  
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# UNITED STATES PATENT OFFICE.

SIGMUND BERGMANN, OF NEW YORK, N. Y.

## CARBON-HOLDER FOR ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 502,273, dated August 1, 1893.

Application filed October 22, 1892. Serial No. 449,645. (No model.)

*To all whom it may concern:*

Be it known that I, SIGMUND BERGMANN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Carbon-Holders for Electric-Arc Lamps, of which the following is a specification.

My invention relates to carbon holders for electric arc lamps and the object of my invention is to construct a holder that is easily and quickly adjustable, that will remain in its adjusted position, that will firmly grasp the carbon and that is simple and inexpensive in construction.

To that end my invention consists of the combination of parts hereinafter described and claimed.

In the accompanying drawings forming part of this specification, Figure 1 represents an elevation of a carbon holder embodying my invention. Fig. 2 is a longitudinal cross-section of the same. Fig. 3 is an end view of Fig. 2. Fig. 4 is a detail view of the head of the carbon holder illustrating the manner of its attachment to the carbon rod. Fig. 5 is an end view of the socket piece co-operating with the head of the carbon holder. Fig. 6 represents a modification, and Fig. 7 is a detached view of the socket piece.

Referring to the drawings 1 represents the toothed rod or rock of an electric arc lamp. I make the same hollow and provide it at any desired point with an abutment 2. In the drawings Fig. 2 I have shown this abutment consisting of a plug resting against a pin 3 secured transversely in the rod, but this abutment is preferably constructed in the form of a plug 4 only sufficiently thick to be fastened in the tube by a transverse pin or screw 5, as shown in Fig. 6. Bearing against this abutment is a spiral spring 6, which also presses at its other end against the socket piece 7. This socket piece is split at its lower end into four parts 8 as shown in Figs. 2, 5 and 7, and the free ends thereof are finished off at an angle so as to form a depression or shallow cavity.

The carbon holder proper, as 9, is provided with a diminished head or extension 10 which

is inserted in the carbon rod until it abuts against the socket piece 7. This head or extension is of greatest diameter about midway of its length gradually tapering to a smaller diameter in both directions as clearly shown in Figs. 2 and 4. This head is also pierced with a transverse opening 11 of larger diameter at the surface than centrally as shown in Fig. 4, and through this opening passes a screw pin or pivot 12 having a shank 13 and a screw threaded end 14, which pin secures the said head of the carbon holder to the carbon rod. This screw pin passes freely through an opening in one side of the rod and after passing through the said head screws into a screw threaded aperture in the opposite side, as shown in Fig. 4. To bring the opening 11 in line with the apertures in the rod, so as to insert the screw pin, it is necessary to force the head upward against the pressure exerted by the spring, the tension of the latter being so adjusted as to exert sufficient pressure through the socket piece on the head of the carbon holder that the latter will always remain in any position to which it may be adjusted and will retain its adjusted position against considerable pressure to displace it therefrom.

The carbon holder proper is split as shown in Figs. 2 and 3, forming two grasping jaws, 15 and 16. It is surrounded at its lower end by a ring 17 which carries a clamping screw 18. This screw has a diminished end which passes into an opening in the jaw 16 as shown in Figs. 2 and 3, the offset on said screw bearing against the outside of said jaw so that when the clamping screw is screwed in, it forces the said jaw 16 away from that side of the ring and clamps the carbon between itself and the opposite jaw 15. In this manner a close and efficient hold is maintained on the carbon and a ready and quick adjustment of the same to align it with the lower carbon (not shown) is effected.

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

1. In combination with the hollow rack bar of an electric arc lamp of a carbon holder having a head or extension extending into the rack bar and shaped so as to have a universal

motion therein, and secured thereto by a pin or pivot passing through an outwardly enlarged opening in the said head, substantially as described.

- 5 2. In combination with the rack bar of an electric arc lamp a split carbon holder movably secured thereto, a ring surrounding the said holder, a clamping screw for forcing the jaws together, a socket piece and a spring for exerting a pressure on said carbon holder to re-
- 10

tain it in any desired position, substantially as described.

Signed at New York, in the county of New York and State of New York, this 17th day of October, A. D. 1892.

SIGMUND BERGMANN.

Witnesses:

P. M. MOWREY,  
J. WERTHEIMER.