

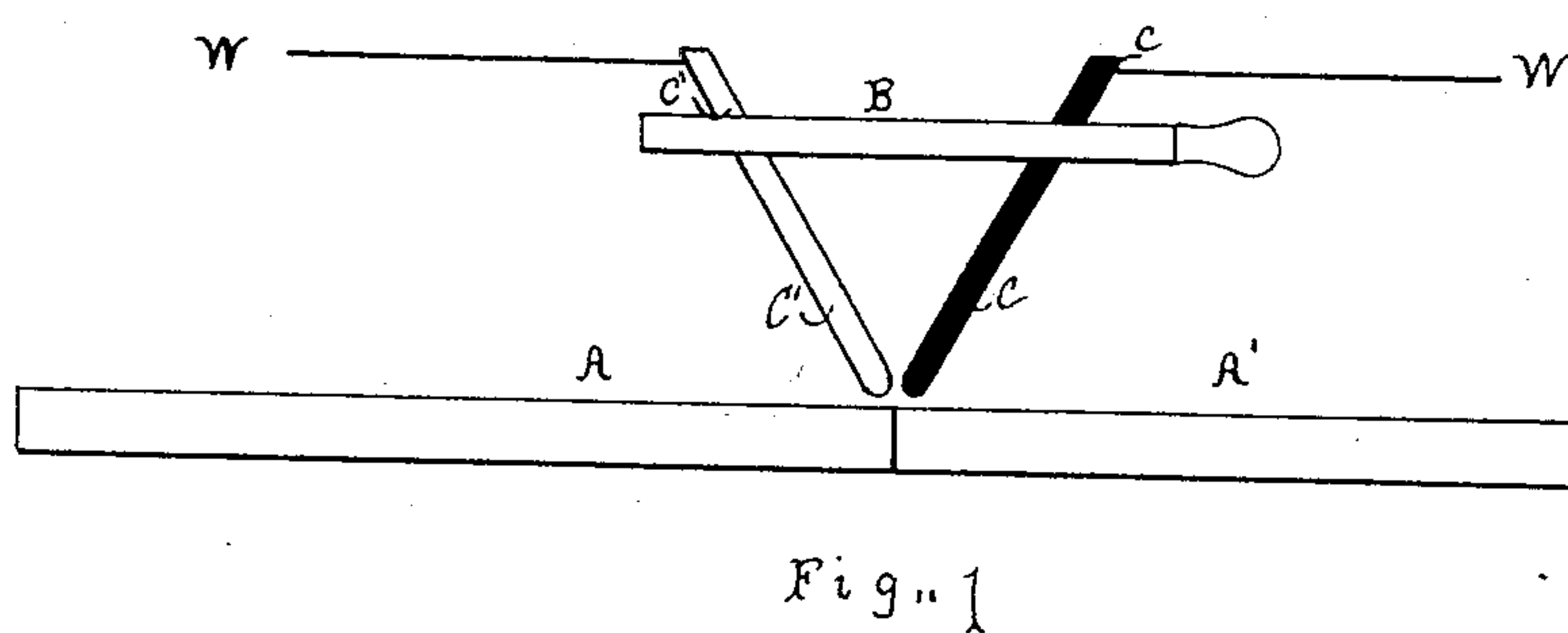
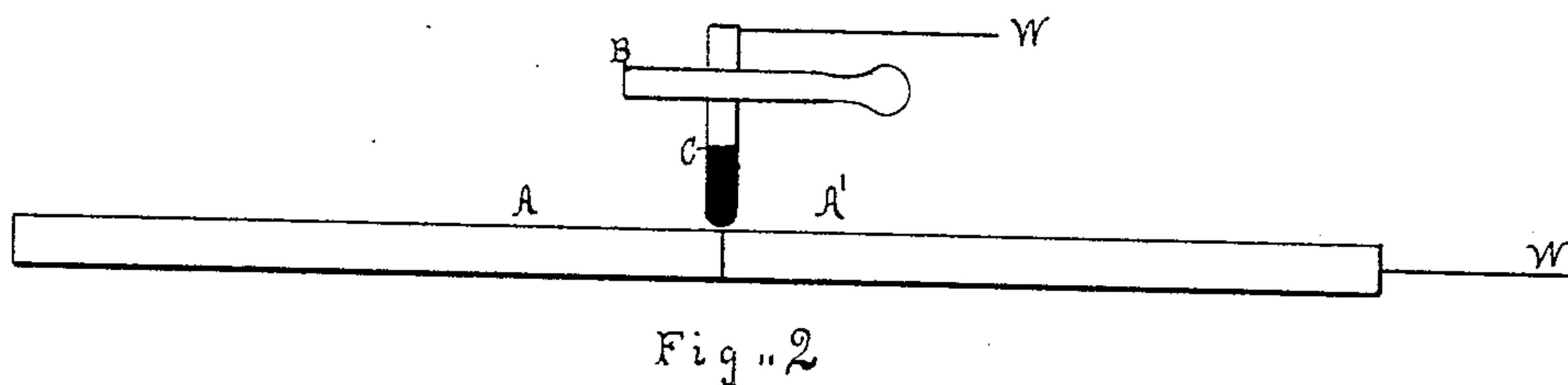
(No Model.)

C. L. COFFIN.

PROCESS OF ELECTRIC WELDING.

No. 395,878.

Patented Jan. 8, 1889.



Witnesses,  
Adelaide A. Anderson,  
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# UNITED STATES PATENT OFFICE.

CHARLES L. COFFIN, OF DETROIT, MICHIGAN.

## PROCESS OF ELECTRIC WELDING.

SPECIFICATION forming part of Letters Patent No. 395,878, dated January 8, 1889.

Application filed September 18, 1888. Serial No. 285,742. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. COFFIN, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful  
5 Improvement in the Process of Electric Welding, of which the following is a specification.

My invention is an improvement for process of electric welding, relating to the welding of metals by subjecting the same to the action  
10 of a voltaic arc; and it consists in re-enforcing the joint by making one of the conductors between which the arc is sprung which traverses the joint of metal, so that when fused by the arc the molten metal will fall on and  
15 re-enforce the joint.

In the drawings, which are really illustrating diagrams, Figure 1 represents my process applied to that system of welding in which the arc is sprung between two independent  
20 conductors, and Fig. 2 represents my invention as applied to that system of electric welding in which the arc is sprung between a conductor and the material to be welded.

In Fig. 1, A A' represent the articles to be  
25 welded; C C', the conductors between which the arc is sprung, connected with the poles of an electric generator, as by the wires W; and B represents the carbon-holder.

In Fig. 2, A A' represent the articles to be  
30 welded, connected with one pole of a generator of electricity, as by the wire W. C represents a conductor between which and the

articles A A' the arc is sprung, connected with the other pole of the generator, as by the wire W; and B represents a holder.

Either one of the conductors in Fig. 1 in the drawings, C, and the conductor C in Fig. 2 are made wholly or partly of metal suitable to re-enforce the welded joint, varying, of course,  
40 with the material to be welded.

In Fig. 1 I have shown the conductor C made entirely of metal, and in Fig. 2, as shown, the lower end of conductor C is made of metal.

It is evident that as the conductor is drawn along the joints to be welded the arc will fuse  
45 not only the articles to be welded, but will also fuse the metallic conductor, and that the molten metal will fall upon the joint and become incorporated with and re-enforce the same.

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

The process herein described of welding two articles together, which consists in subjecting the articles to the action of a voltaic  
55 arc of which one pole is metal conductor, fusing said conductor, depositing the molten metal on the joint of the two articles, and re-enforcing said joint by such molten metal, substantially as set forth.

CHARLES L. COFFIN.

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