(No Model.)

G. W. BLANCHARD.

ELECTRIC HEATING TOOL.

No. 466,266. Patented Dec. 29, 1891.

Fig. 1.

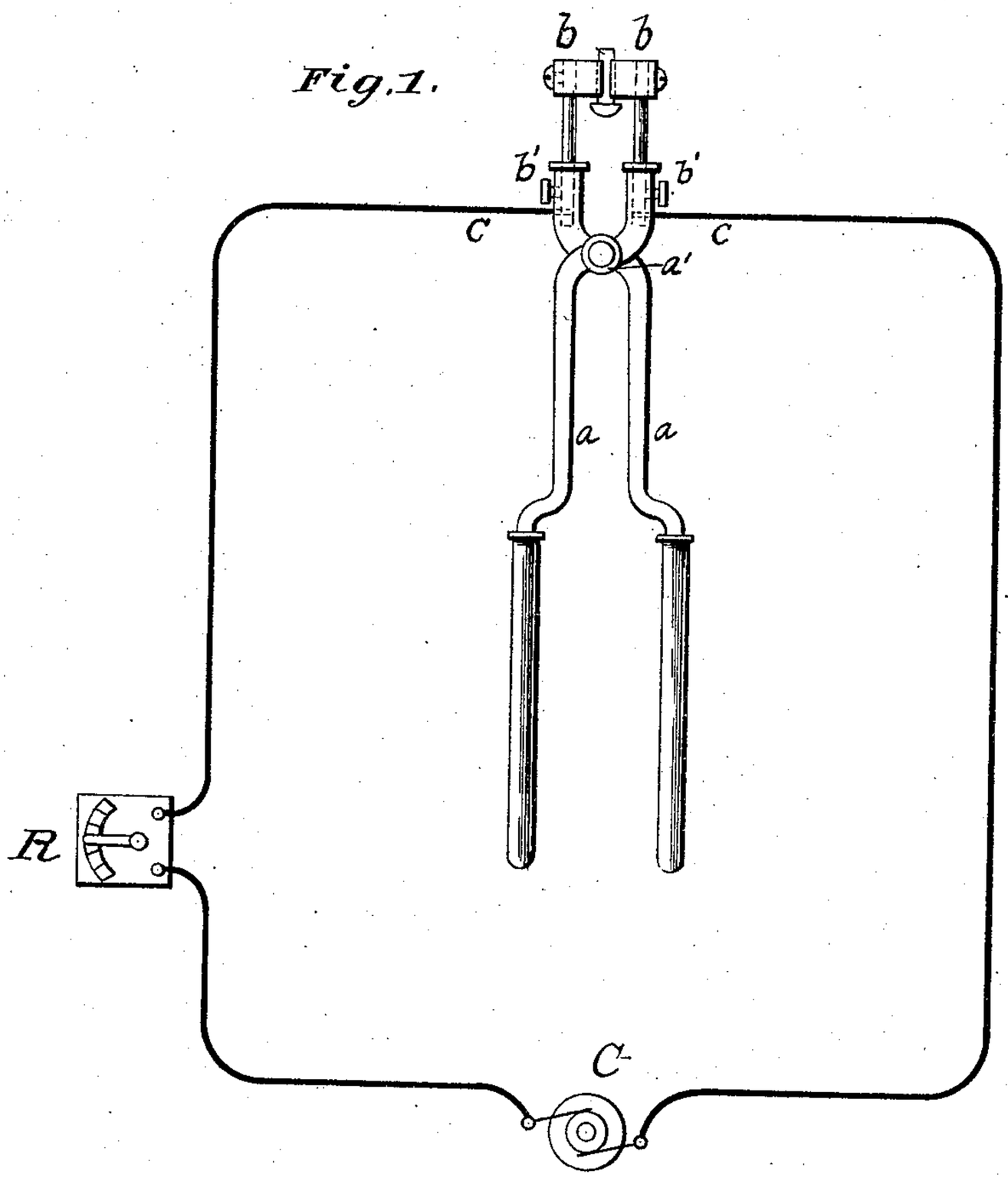
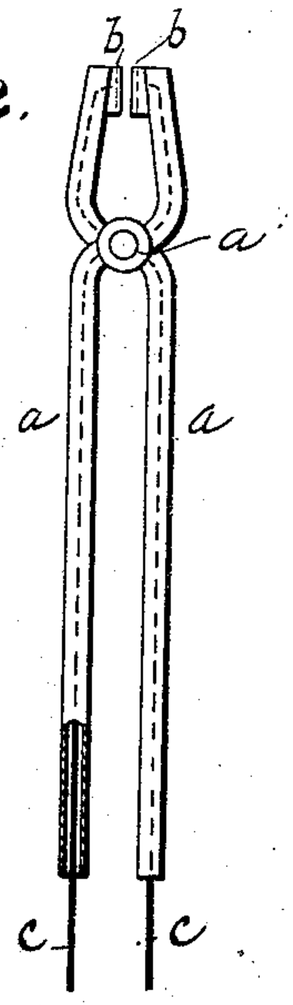


Fig. 2.



WITNESSES:

Edward A. Wagner

Wm. A. Rossbaum

INVENTOR

George W. Blanchard

BY

Johnston

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE W. BLANCHARD, OF WATERVILLE, MAINE, ASSIGNOR TO THE ELECTRICAL FORGING COMPANY, OF MAINE.

ELECTRIC HEATING-TOOL.

SPECIFICATION forming part of Letters Patent No. 466,266, dated December 29, 1891.

Application filed April 3, 1891. Serial No. 387,490. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BLANCHARD, a citizen of the United States, residing in Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Electric Heaters, of which the following is a specification.

This invention has reference to devices for heating articles such as rivets by means of electricity. The primary object of the invention is to produce a device which may be used for heating rivets at locations where it would be inconvenient or impossible to have a forge, and also to provide a new method of handling rivets, whereby the process of riveting is rendered much quicker and the work more effectually accomplished.

The invention consists, first, in the method of heating rivets while the same are in transit from any location to their final place of deposit; and, second, the invention consists of a device similar to tongs, having means for grasping and subjecting a rivet to a heating-current of electricity.

In the accompanying drawings, Figure 1 represents a device constituting that portion of my invention capable of illustration, and Fig. 2 is a modification thereof.

a a represent the two arms or levers of a pair of tongs, pivoted together at *a'*. These tongs are preferably entirely constructed of strong insulating material, such as fiber. The handles are preferably hollow, as shown in Fig. 2, and the jaws have fitted to their extreme ends blocks or electrodes *b b*, of copper or other good conducting material, the adjacent faces of which are formed with a seat adapted to grasp and hold the body upon which the device is to operate. Binding-posts *b' b'* are provided on or near the electrodes to secure the ends of the electrical conductors *c c*, extending therefrom through the hollow handles of the tongs, as shown in Fig. 2, or directly from the posts *b' b'* to a source of electricity C. The circuit may also include the usual resistance box and switch R for the purpose of varying the current. As hereinbefore mentioned, the device is particularly adapted for heating rivets. The jaws or electrodes *b b* are therefore formed on their adjacent faces with grooves.

In operation the handles of the tongs are grasped by the operator, the jaws opened, and the rivet inserted and clamped between them in the ordinary way of operating tongs. The current is then turned on, and owing to the fact that the rivet is of high-resistance material it soon becomes heated and is ready to become inserted into the hole which is to receive it.

In the ordinary process of riveting heavy work the rivets are usually heated in a forge and carried in ordinary tongs from the forge to the place of deposit or the hole which is to receive it. It is then inserted and headed up. In passing the rivet from the forge to the place of deposit it cools considerably, and therefore requires that it be heated in the first instance too hot, or else it is too cold when it reaches the riveter.

My improved method of riveting consists in heating the rivet while it is being conveyed to its place of deposit. This is done by grasping the rivets in the tongs hereinbefore described, turning on the current, and conveying the tongs with the rivet to the hole which is to receive it and inserting the same into the hole. By this method the heating operation and the transportation of the rivet are simultaneous and the result is that the rivet is delivered to the hole at just the right heat without any loss of time.

It will be observed, of course, that the conductors connected with the tongs are flexible and may be of any desired length. It will, therefore, be convenient to carry the tongs from place to place to carry out the method.

I claim as my invention—

1. An electric heating device consisting of tongs, in combination with two electrodes, one secured to each jaw of the tongs and electric conductors secured to said electrodes.

2. An electric heating device consisting of tongs, having insulated handles and means for connecting electric conductors to its jaws.

3. An electric heating device consisting of tongs having hollow insulated handles, electrodes connected with the jaws of the tongs, and electrical conductors extending through the hollow handles and connected with said electrodes, substantially as described.

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

GEO. W. BLANCHARD.

Witnesses:

FRANK L. PLUMMER,

G. H. BOOTHBY.