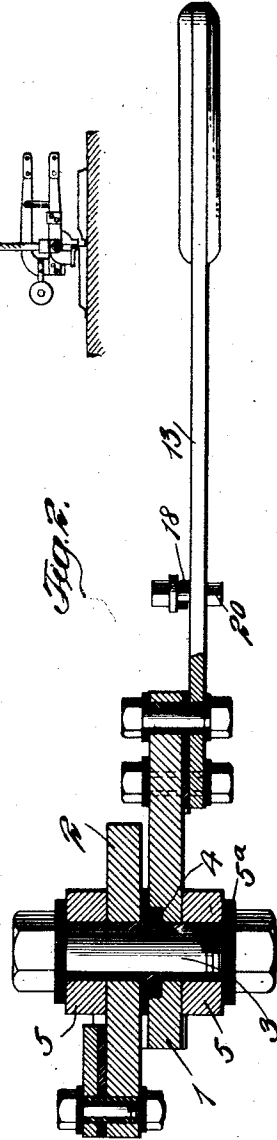
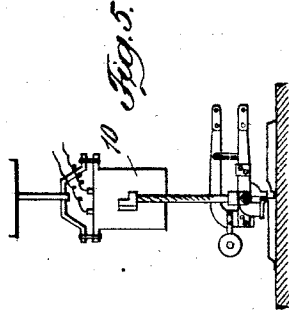
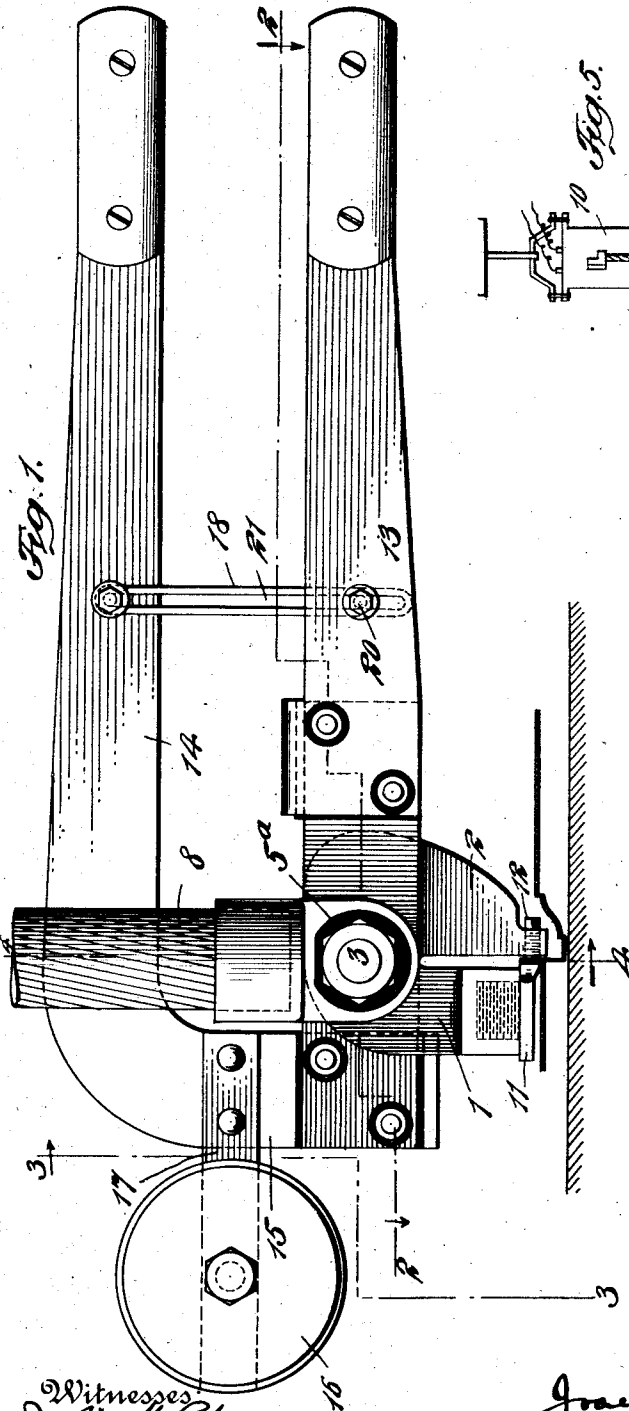


J. A. OSBORN.
ELECTRIC WELDING TONGS.
APPLICATION FILED MAR. 18, 1911.

1,042,468.

Patented Oct. 29, 1912.

2 SHEETS—SHEET 1.



Witnesses
Julius H. Smith
Ch. Sanford Wade

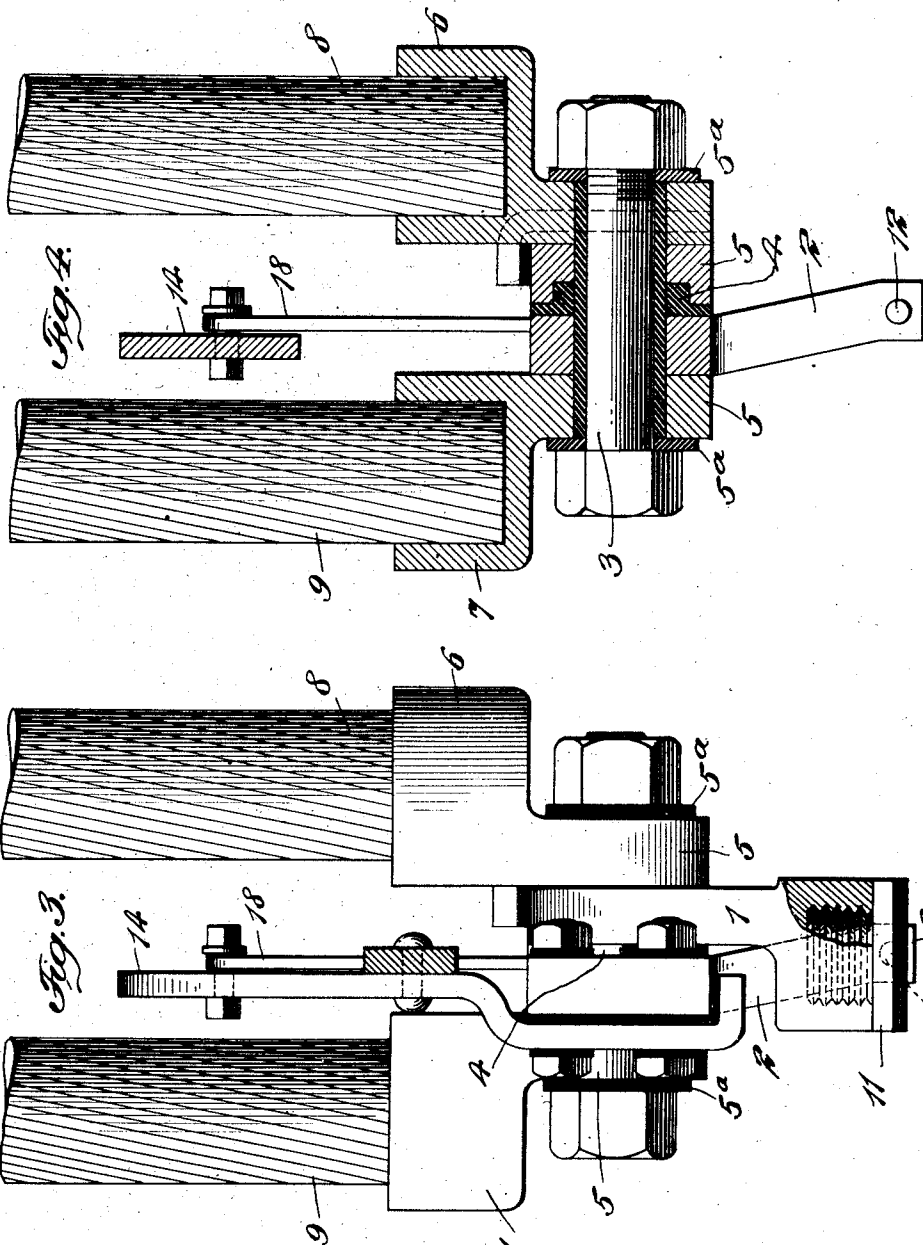
Joseph A. Osborn Inventor
By *his Attorney* *J. H. Gibbs*

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L. E. Smith

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UNITED STATES PATENT OFFICE.

JOSEPH A. OSBORN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO AMERICAN CAR AND FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

ELECTRIC WELDING-TONGS.

1,042,468.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed March 18, 1911. Serial No. 615,403.

To all whom it may concern:

Be it known that I, JOSEPH A. OSBORN, residing at 915 Olive street, St. Louis, Missouri, and being a citizen of the United States, have invented certain new and useful Improvements in Electric Welding-Tongs, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is a side elevational view of a device constructed in accordance with the invention. Fig. 2 is a horizontally transverse sectional view taken substantially on the plane of line 2—2 of Fig. 1. Fig. 3 is an end elevational view partly in section on the plane of line 3—3 of Fig. 1. Fig. 4 is a vertical transverse sectional view taken on the plane of line 4—4 of Fig. 1; and Fig. 5 is a view illustrating the manner of connecting and supporting the device when in operation.

The invention relates to an electric welding tool designed particularly for the welding together of parts of metallic molding or other articles which are provided with upstanding parallel flanges as the medium for receiving such welding and to this end is designed to be supported at a predetermined elevation above a table in such relation that work resting upon the table may be operated upon in a most convenient manner.

The object of the invention is to provide a tool which may be supported as above set forth, and which will be simple in construction and convenient and easy to manipulate.

A pair of insulated jaws is provided and a suitable operating handle is fixed to each of said jaws. The whole is supported, preferably by the conductors which supply the current of electricity between the tool and the transformer, in such a manner that the operating jaws may be normally spread apart and the electric current through the jaws be maintained normally broken. A pair of removable electrodes is fixed to each

of said jaws. Any desired form of transformer may be employed.

Referring to the drawings the numerals 1 and 2 represent the jaws, each of which comprises an angle shaped member disposed with one of its legs depending, and with its other leg extending horizontally. The horizontal portions are disposed parallel and are connected together by an insulated bolt 3. A section of insulation 4 is interposed between opposing flat faces of the two members and resting in a direct electrical contact with the outer face of each of said members are depending portions 5 of terminals 6 and 7. The bolt 3 is extended through the portions 5 and suitable nuts serve to bind the whole firmly together. The insulation of the bolt 3 extends through the portions 5 so as to insulate said portions from said bolt and insulating washers 5^a are interposed between said portions 5 and the head of the bolt and the nut for the same purpose. The terminals 6 and 7 are adapted to receive and be electrically connected to the ends of opposite conductors 8 and 9, which, as above stated, depend preferably direct from the transformer 10 (see Fig. 5). The pendant or vertical legs of the angle members form the jaws proper and at the lower end of each of said legs is provided one of the removable copper electrodes 11 and 12. The vertical leg of the member 1 is enlarged at its lower end and the electrode 11 is fixed to the under surface of said enlargement preferably by being screwed into a suitably threaded pocket formed in the under surface at said enlargement in such manner that the same may be removed for the substitution of a new electrode either of the same or of a different shape.

The electrode 12 comprises preferably a screw fitted into a suitably threaded portion of the vertical leg of the member 2 in such a manner that it may be adjusted relative to the electrode 11.

The operating handles 13 and 14 are fixed to the oppositely projected ends of the horizontal legs of the members 1 and 2. Suitable insulating material is interposed between said members and handles as is clearly shown in Fig. 2 of the drawings, so that the electric current may not be permitted to pass into the handles. The handle 13 is disposed in horizontal alinement with the hori-

zontal legs of the members 1 and 2. The handle 14 is spaced vertically above the handle 13 and is formed at its rear end with a depending portion 15 adapted to engage, at its lower end, the end of the horizontal leg portion of the member 2. Fixed to the depending portion 15 is a counterbalance weight 16. The weight 16 is carried by an extension member 17 fixed to the portion 15. A slotted connecting and limiting link 18 is disposed between intermediate portions of the handles 13 and 14 in such manner as to limit the possible spread of said handles and of the operating jaws.

It will be seen that the handle 13 will fall by gravity around the pivot bolt 3 and that the handle 14, through the action of the weight 16, will be caused to swing upwardly until the pin 20 upon the handle 13 has reached the lower end of the slot 21 formed in the link 18, thereby opening the jaws of the tool and automatically breaking the electric circuit therethrough and maintaining such circuit open until the handles are again manually operated. The counter-balance 16 is of a weight sufficient to maintain this relationship of the jaws and yet not heavy enough to affect the open position of the operating handles.

The transformer 10 may be supported in any suitable manner but is preferably located as near the tool as is practicable in order that the secondary conductors 8 and 9 between said transformer and tool may be as short as possible and also that said conductors may depend directly from said transformer and serve as a support for said tool.

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

1. In an electric welding tool, a pair of insulated jaws, means connecting said jaws and means engaging said connecting means adapted to serve as terminals for the attachment of conductors.

2. In an electric welding tool, a pair of insulated jaws, means connecting said jaws and means engaging the opposite ends of said connecting means adapted to serve as terminals for the attachment of conductors.

3. In an electric welding tool, a pair of insulated jaws, means connecting said jaws and means engaging said connecting means adapted to serve as terminals for the attachment of conductors, conductors engaging said terminals; said conductors serving as supports for said tool.

4. In an electric welding tool, a pair of insulated jaws, means engaging each of said jaws adapted to serve as terminals for the attachment of conductors, conductors engaging said terminals, said conductors serving as supports for said tool.

5. An electric welding tool comprising

a pair of insulated members, a pivot support for said members, a handle projecting on one side of said support and connected to one of the electric terminals and a handle projecting on both sides of said support and connected to one of the electric terminals and a counterbalancing weight carried by said last mentioned handle.

6. An electric welding tool comprising a pair of insulated jaws, means connecting said jaws, means engaging said connecting means adapted to support said tool, a pair of operating handles projecting upon one side of said support, and a counterbalancing weight projecting upon the opposite side of said support.

7. In an electric welding tool, a pair of insulated jaws, removable electrodes carried by said jaws, means connecting said jaws and means engaging said connecting means adapted to serve as terminals for the attachment of conductors.

8. An electric welding tool comprising a pair of insulated jaws, means connecting said jaws, means engaging said connecting means adapted to support said tool, a pair of operating handles projecting upon one side of said support, and means connected to one of said handles adapted to normally spread said jaws.

9. An electric welding tool comprising a pair of insulated jaws, means connecting said jaws, means engaging said connecting means adapted to support said tool, a pair of operating handles projecting upon one side of said support, and a counterbalancing weight connected to one of said handles projecting upon the opposite side of said support adapted to normally spread said jaws.

10. In an electric welding tool, a pair of insulated jaws having extensions on opposite sides of the pivot, said pivot being insulated from the jaws, a pair of electric terminals, one attached to each end of said pivot, and means for operating the jaws from one side of said pivot.

11. In an electric welding tool, a pair of insulated jaws having extensions on opposite sides of the pivot, said pivot being insulated from the jaws, a pair of electric terminals, one attached to each end of said pivot, means for operating the jaws from one side of the pivot, and means on the other side of the pivot for holding the jaws normally open.

12. In an electric welding tool, a pair of insulated jaws having extensions on opposite sides of the pivot, said pivot being insulated from the jaws, a pair of electric terminals, one attached to each end of said pivot, means for operating the jaws from one side of the pivot, and means for breaking the electric circuit.

13. In an electric welding tool, a pair of insulated jaws, a pivot insulated from the jaws, operating handles attached on each

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side of the pivot thereof and operating the jaws inversely, a pair of electrical conductors, one attached to each end of said pivot and supporting the tool.

5 14. In an electric welding tool, a pair of insulated jaws, a pivot insulated therefrom, extensions on each jaw on the opposite side of the pivot overlapping the opposite jaw, a pair of flexible electrical conductors attached to each end of said pivot and handles
10 attached to said extensions on the jaws and adapted to operate the same inversely to produce high compression at the jaws.

15 15. In an electric welding tool, a flexibly supported pair of jaws having extensions beyond the mutual pivot and overlapping the opposite jaw, and means carried by one of the extensions adapted to maintain the electric current through the jaws normally broken.

20 In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH A. OSBORN.

Witnesses:

CHARLOTTE E. MITZE,
J. H. BRUEGGEMAN.