

W. GRIFFITH.
PROCESS OF UNITING METALS.
APPLICATION FILED MAY 14, 1909.

938,377.

Patented Oct. 26, 1909.

FIG. 1

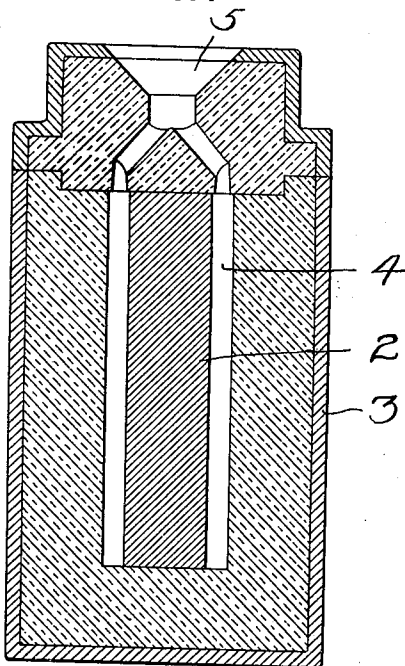
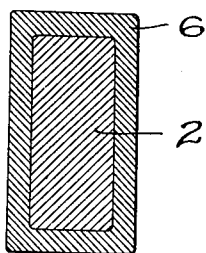


FIG. 2



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM GRIFFITH, OF PITTSBURG, PENNSYLVANIA.

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Specification of Letters Patent.

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Application filed May 14, 1909. Serial No. 496,023.

To all whom it may concern:

Be it known that I, WILLIAM GRIFFITH, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Methods of Uniting Metals, of which the following is a full, clear, and exact description.

My invention relates to an improvement in the art of uniting or welding metals, such as iron, steel, and other like metals, with copper, brass, bronze, nickel, aluminum, or other metal or alloy; and it consists, generally stated, in first subjecting the harder metal to a cleaning and other preparatory treatment and then applying in molten form the body of desired softer metal.

I will now describe my invention so that others skilled in the art to which it appertains may understand and practice the same, referring to the accompanying drawings, forming part of this specification, and in which,—

Figure 1 is a vertical sectional view showing a body of hard metal placed in a suitable mold preparatory to receiving a body of softer metal; and Fig. 2 is a sectional view, showing the two metals united.

In carrying out my invention, the body of hard metal, which I indicate by the numeral 2 in the drawing, is first subjected to a cleaning or preparatory bath to remove the scale and oxid from the surface or surfaces to receive the softer metal. The body of hard metal is then placed in a solution of one of the salts of copper or other salt of metal corresponding with the soft metal to be united to the harder metal. The harder metal is allowed to remain in this solution until it has received a deposit of metal.

After being given the above preparatory treatment, the body of hard metal 2 is placed in a suitable mold preparatory to receiving the softer metal, which is applied in molten form to the treated surface or surfaces of the body of harder metal. In Fig. 1 of the drawings, I have shown such a mold, indicated by the numeral 3, having the cavity 4 wherein is placed the body of hard metal 2 adapted to receive the molten softer metal, which is adapted to be introduced at the mouth 5 of the mold. The softer metal is indicated by the numeral 6 in Fig. 2, illustrating, in section, the body of united metals after it is received from the mold.

The advantages of my invention will be appreciated by those skilled in the art.

While I have shown my invention as applied to the preparation of a particular shape, it will be understood that I do not desire to limit myself in that respect.

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

The herein described process of uniting iron, steel, or other metal, with copper, brass or other metal or alloy, which consists in cleaning the harder metal, giving a metallic deposition by subjecting to a solution of metallic salt, and then applying in molten form a metal that will unite with the last named metal.

In testimony whereof, I have hereunto set my hand.

WILLIAM GRIFFITH.

Witnesses:

M. A. BARTH,
M. ARTHUR KELLER.