Jan. 9, 1923. 1,441,686.

E. H. JONES.

METAL ELECTRODE USED IN DEPOSITING AND SOLDERING BY THE ELECTRIC ARC.

FILED SEPT 18, 1918.

FIG. 1.

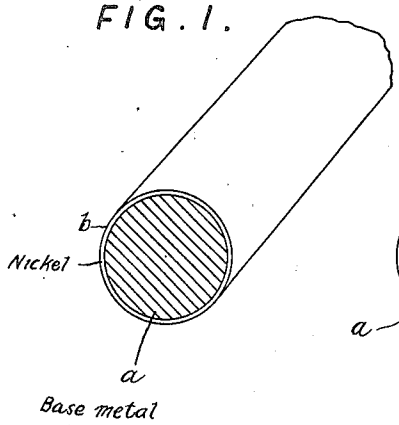


FIG. 2.

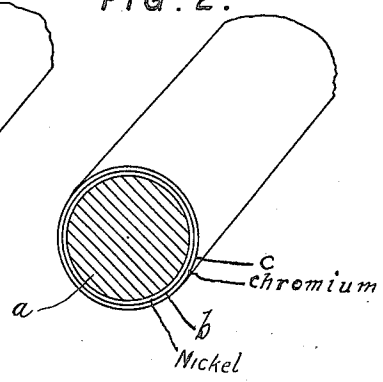
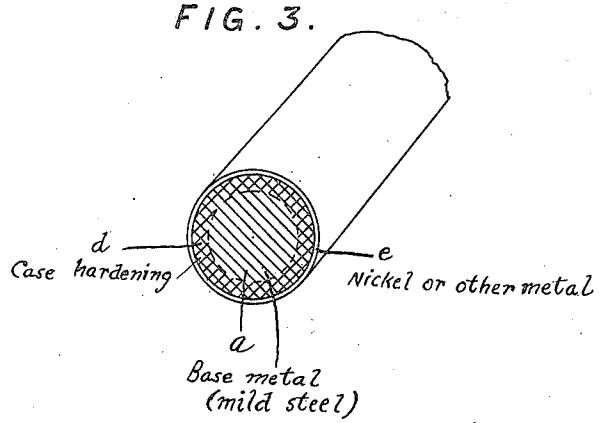


FIG. 3.



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UNITED STATES PATENT OFFICE.

ERNEST HENRY JONES, OF LONDON, ENGLAND.

METAL ELECTRODE USED IN DEPOSITING AND SOLDERING BY THE ELECTRIC ARC.

Application filed September 18, 1918. Serial No. 254,657.

To all whom it may concern:

Be it known that I, ERNEST HENRY JONES, a subject of the King of Great Britain, residing at 4 Grange Road, Canonbury, London, England, have invented new and useful Improvements in Metal Electrodes Used in Depositing and Soldering by the Electric Arc, of which the following is a specification.

This invention consists in an improvement in the method of preparing or manufacturing metal electrodes used with an electric arc wherein a metal base is provided with nickel or other metal to suit the particular purpose for which the electrode is required.

According to this invention an intimate union of the required proportion of the added metal or metals with the metal base is effected by an electro-plating process.

For this purpose, I employ mild steel or cast iron rods and electro-plate them with nickel or other metal for electrically welding or depositing upon mild steel or cast iron objects, or other metal objects or articles as found desirable. Similarly, I may employ any other suitable metal as a base and electro-plate it with another metal or metals for use as a metal electrode.

The rods prepared in either of the above manners are provided with a covering of a second class conductor such as by winding and securing thereon asbestos yarn or other suitable material.

When it is desired to add carbon to a mild steel rod as well as another metal, the rod is first case-hardened and subsequently electro-plated with the metal or metals.

The accompanying drawings show exaggerated sections of electrodes, Fig. 1 representing a base metal rod *a* with a coating of nickel *b* electro-plated thereupon, and Fig. 2 representing a base metal rod *a* with a coating of nickel *b* and a coating of chromium *c* electro-plated successively thereupon. Fig. 3 represents a base metal rod *a* which has been case-hardened as indicated at *d* and subsequently electro-plated with a metal as indicated at *e*.

I claim:—

1. A metal electrode for use in depositing and soldering by the electric arc, comprising a rod formed of a suitable base metal and a covering of a metal or metals intimately united with the base metal, as set forth.

2. A metal electrode for use in depositing and soldering by the electric arc, comprising a rod formed of a suitable base metal and a coating on said rod of another metal or metals deposited by an electro-plating process, as set forth.

3. A metal electrode for use in depositing and soldering by the electric arc, comprising a rod formed of a base metal (such as mild steel or cast iron) a coating on said rod of another metal or metals deposited by an electro-plating process, and a covering of a second class conductor, as set forth.

4. A metal electrode for use in depositing and soldering by the electric arc, comprising a rod formed of mild steel, an addition of carbon to said rod by a suitable case-hardening process, a coating on said rod of another metal or metals deposited by an electro-plating process, and a covering of a second class conductor as set forth.

5. An electrode for use in depositing and soldering by the electric arc, comprising a rod formed of mild steel and electro-plated with nickel, and asbestos yarn wound upon said rod.

In testimony whereof I have signed my name to this specification.

ERNEST HENRY JONES.