

UNITED STATES PATENT OFFICE

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF
AND GEORGE HARRINGTON, OF WASHINGTON, D. C.

IMPROVEMENT IN CHEMICAL TELEGRAPHY.

Specification forming part of Letters Patent No. **166,861**, dated August 17, 1875; application filed
July 25, 1874.

CASE No. 90.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Newark, in the county of Essex and State of New Jersey, have invented an Improvement in Chemical Telegraphs, of which the following is a specification:

The object of this invention is to record dots and dashes upon chemically-prepared paper by electro-decomposition for telegraphic purposes.

The invention consists in combining a protosalt of iron with the sulpho-cyanide of potassium, in which the paper is to be moistened. The recording-stylus is formed of platinum, or metal that is not oxidized by the nascent oxygen.

The action is as follows: When the copper end of a galvanic battery is connected to the platina stylus, resting on the paper that is moistened in the above-solution, and the zinc end is connected to the metal upon which it

rests, oxygen is evolved at the platina point. This raises the protoxide to a sesquioxide or peroxide, when the sulpho-cyanide of potassium, which has no action on a protosalt of iron, combines with the higher oxide to form the blood-red sulpho-cyanide of iron.

The reaction is very delicate. I prefer to use the protosalt of iron in the form of the protosulphate of iron. Chloride of sodium added to the solution increases the delicacy.

I claim as my invention—

The combination of a protosalt of iron, sulpho-cyanide of potassium, and a non-oxidizable stylus, for the purposes set forth.

Signed by me this 1st day of June, A. D. 1874.

THOS. A. EDISON.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.