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A.D. 1867, 20th NOVEMBER. N<sup>o</sup> 3286.

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S P E C I F I C A T I O N

OF

JOSEPH OPPENHEIMER.

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TELEGRAPH POSTS, &c.

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LONDON:

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Telegraph Posts, &c.

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LETTERS PATENT to Joseph Oppenheimer, of Manchester, in the County of Lancaster, Merchant, for the Invention of "IMPROVEMENTS IN TELEGRAPH POSTS AND IN APPARATUS FOR FIXING THE SAME."

Sealed the 19th May 1868, and dated the 20th November 1867.

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PROVISIONAL SPECIFICATION left by the said Joseph Oppenheimer at the Office of the Commissioners of Patents, with his Petition, on the 20th November 1867.

I, JOSEPH OPPENHEIMER, of Manchester, in the County of Lancaster, Merchant, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN TELEGRAPH POSTS AND IN APPARATUS FOR FIXING THE SAME," to be as follows:—

My Invention consists, firstly, in making telegraphic posts by joining together a series of tubes of decreasing diameter upwards. To effect this I obtain two iron tubes or pipes made by drawing or welding in the usual manner, the one smaller than the other, and of such relative diameter that it will not pass into the larger when cold. This larger one I then heat, by which means it becomes expanded, and the smaller tube can then be

*Oppenheimer's Improvements in Telegraph Posts, &c.*

passed into it. The shrinking of the heated tube by cooling binds the two together; I also shrink hoops around the aforesaid tubes. To fix the posts I employ an earth plate with a boss strengthened by ribs, through which boss the post is passed and held by a set screw or screws; or the post is placed in a clamp, the ends of which pass through the plate and are drawn by nuts 5 or similar means. Two or more of these plates may be placed one above another.

**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Joseph Oppenheimer in the Great Seal Patent Office on the 20th May 1868. 10

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOSEPH OPPENHEIMER, of Manchester, in the County of Lancaster, Merchant, send greeting.**

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twentieth day of November, [in the year of our Lord 15 One thousand eight hundred and sixty-seven, in the thirtieth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Joseph Oppenheimer, Her special license, that I, the said Joseph Oppenheimer, my executors, administrators, and assigns, or such others as I, the said Joseph Oppenheimer, my executors, administrators, and assigns, 20 should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN TELEGRAPH POSTS AND IN APPARATUS FOR FIXING THE SAME,**" upon 25 the condition, amongst others, that I, the said Joseph Oppenheimer, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the 30 date of the said Letters Patent.

**NOW KNOW YE,** that I, the said Joseph Oppenheimer, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, be particularly described and ascertained in and by the following statement and accompanying Drawings, that is to say:— 35

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My Invention consists, firstly, in making telegraph posts by joining together a series of tubes of decreasing diameter upwards. To effect this I obtain two iron tubes or pipes made by drawing or welding in the usual manner, the one smaller than the other, and of such relative diameter that it  
5 will not pass into the larger when cold; this larger one I then heat, by which means it becomes expanded, and the smaller tube can then be passed into it. The shrinking of the heated tube by cooling binds the two together. I also shrink hoops around the aforesaid tubes. To fix the posts they are placed in clamps formed in earth plates and are held securely therein by  
10 screws and nuts.

In the accompanying Drawing Fig. 1 represents my Invention in elevation, and Fig. 2 is a section thereof; Figs. 3 and 4 are detached views of the holding earth plate. The bottom tube of the post is shewn at *a* upon which I in the first place shrink a collar *b*. The end of the tube with the collar are  
15 then heated together, and the second tube *c* is placed therein, it being of such diameter as to be admitted by the said heated end, although it would not do so when it was cold, and the whole upon becoming cold is bound together. This operation is repeated for as many lengths as may be desired, as at *a*<sup>1</sup>, *a*<sup>2</sup>, and the top length is closed by a rod *d*, which may serve to carry an insulator,  
20 in addition to which cross bars, as at *e*, may be adapted provided with sockets, as shewn at *f*, for the adaptation of insulators. The construction of earth plate I employ for carrying the posts is shewn at Figs. 3 and 4. At *g* is an iron plate strengthened by ribs *h* and provided with bosses *i* through which two arms of a clamp *k* pass. This clamp embraces the bottom tube *a* of the  
25 post and is drawn tightly thereon by nuts *l*. In Fig. 2 one of these earth plates is shewn at A and another at B, but there may be as many more as may be found necessary, according to the nature of the soil in which the post is placed.

Posts constructed as above described will last for a considerable time, but  
30 in order to make them more permanent the bottom tube *a*, and which is situate under ground, may have a thickness of iron cast around it, the metal in that condition being capable of resisting oxidation to a greater extent than wrought iron. When this method is adopted the tube should in the first place be tinned.

35 Having thus described and ascertained the nature of my said Invention and the manner in which the same is to be performed, I desire it to be understood that I claim as secured to me under the above in part recited Letters Patent,—

*Oppenheimer's Improvements in Telegraph Posts, &c.*

Firstly. Constructing telegraph posts by shrinking together a series of metallic tubes as above described.

Secondly. The use of metallic earth plates constructed with clamps for holding the posts in position in manner aforesaid.

In witness whereof, I, the said Joseph Oppenheimer, have hereunto set my hand and seal, this Nineteenth day of May, One thousand eight hundred and sixty-eight.

JOSEPH OPPENHEIMER. (L.S.)

LONDON:

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FIG. 2.

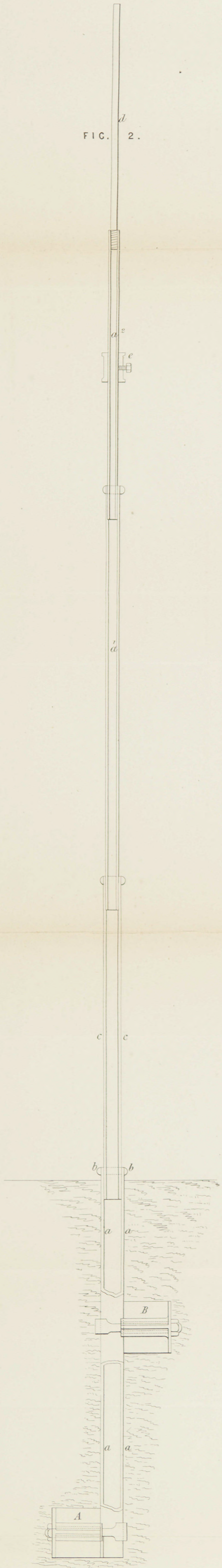


FIG. 1.

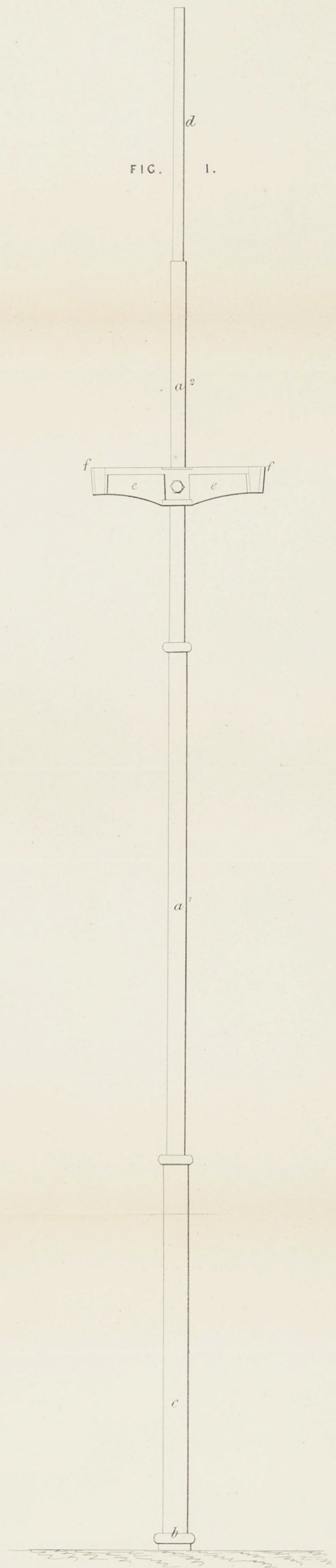


FIG. 3.

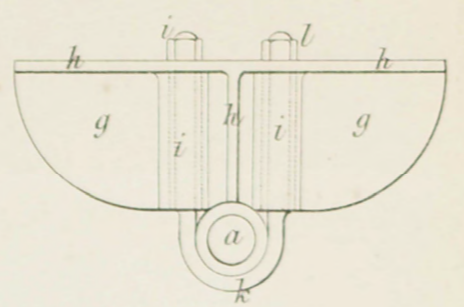
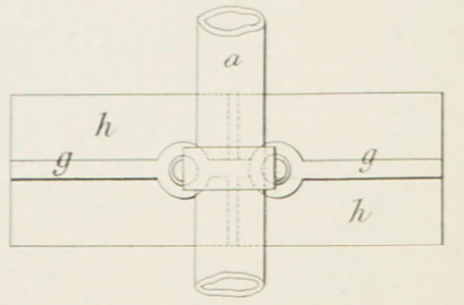


FIG. 4.



The filed drawing is partly colored.

Drawn on Stone by Malby & Sons