# UNITED STATES PATENT OFFICE.

FREDERICK FIELD, OF UPPER MARSH, LAMBETH, AND RICHARD TALLING, OF LOSTWITHIEL, ENGLAND.

## IMPROVEMENT IN COMPOUNDS FOR COATING TELEGRAPH-WIRE.

Specification forming part of Letters Patent No. **207,860**, dated September 10, 1878; application filed August 3, 1876.

*To all whom it may concern:*

Be it known that we, FREDERICK FIELD, of Upper Marsh, Lambeth, in the county of Surrey, England, and RICHARD TALLING, of Lostwithiel, in the county of Cornwall, England, have invented an Improvement in the Preparation of Compounds of Ozocerite and India-Rubber for Coating Electric-Telegraph Wires, and other purposes; and do hereby declare that the following description forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvement, by which our invention may be distinguished from others of a similar class, together with such parts as we claim and desire to secure by Letters Patent—that is to say:

In the specification to English Letters Patent granted to Augustus Matthiessen on the 31st December, 1869, No. 3,778, was described a process for preparing insulating compounds by mixing together a mineral known as "ozocerite," or the residue obtained by the partial distillation thereof with gutta-percha, india-rubber, balata, or other known insulating substances capable of incorporation with the said substance. The mixture was described in the specification as being produced by heating the substances together until their fusion is effected and then incorporating them. It has been found that the said compounds so prepared become brittle, and are consequently useless as a coating for insulating telegraph-wires, and for other purposes where it is subject to flexure.

Now, our present invention consists in an improved mode of preparing compounds of ozocerite or the residues thereof, and india-rubber, whereby these are rendered permanently flexible and eminently applicable as insulating materials.

According to our invention, instead of subjecting the said substances to fusion, we amalgamate the same by simply subjecting the ingredients together to a process of mastication by any known mechanical means, and with or without the use of solvents, whereby they are thoroughly incorporated and reduced to a plastic state, in which the compound can then either be applied as a coating to telegraph-wires or be rolled out in sheets, or made to assume other desired forms. The compound produced by either of the above processes remains perfectly pliable.

With the compound prepared as above described may be incorporated other substances, such as fibrous materials, mica, asbestus, as mentioned in the said specification to Matthiessen's patent above referred to.

For producing the compound without the aid of solvents, we masticate the ingredients together by any known masticating, grinding, or rolling apparatus, such as is employed in the preparation of india-rubber and gutta percha, applying such moderate degree of warmth as is necessary to give pliability to the ingredients while they are undergoing the mastication, but not such a degree of heat as would produce fusion.

The compound of ozocerite and india-rubber may be vulcanized or semi-cured in the same manner as india-rubber is usually treated for that purpose.

Having thus described the nature of our invention, and in what manner the same is to be performed, we claim—

The permanently flexible mechanical compound of india-rubber and ozocerite, or the residuum thereof, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses this 20th day of July, 1876.

FREDERICK FIELD.
RICHARD TALLING.

Witnesses:
CHAS. D. ABEL,
OLIVER IMRAY.