Really the ignorance (real or affected) of these men who cannot be made to know anything which takes place out of their own city or country renders them unfit to express an opinion on a mechanical invention. One would think that French industry might be better applied than in pilfering inventions from others. We refer *Abbè Moigno*, to Vol. *xxi*, Third Series, p. 215, of our Journal, (March, 1851,) for the very superior original form of the instrument to which he dedicates so much space, but not more than its utility and the ingenuity of the true inventor, Mr. Faber, deserves.

F.

For the Journal of the Franklin Institute.

On transmitting two Messages at the same time in Opposite Directions by the Galvanic Telegraph.

Considerable attention has been excited in our Journals, by the announcement that Dr. Gintl, Director of the Austrian Telegraphs, had succeeded in sending two messages at the same time in opposite directions through the same wire between Lintz and Vienna. The *Cosmos*, Vol. v, p. 688, contains some account of this experiment from a communication by M. Zantedeschi, from which it would not appear that there was any sufficient evidence of this fact. The experiment of M. Zantedeschi in confirmation, is, as M. Moigno remarks, entirely fallacious. There can be no difficulty in imagining two pulsations or waves of electricity to pass each other on a wire as two waves may be seen to do in water, but whether it has been done, is, as yet, questionable.

F.

On the Applicability of Gelatine Paper as a Medium for Coloring Light.

By HORACE DOBELL, Esq.*

The object of this communication is threefold.

1. To point out the properties of a material called Gelatine Paper, which render it applicable as a medium for coloring light.

2. Through the means of gelatine paper, to introduce the use of colored light in the arts for the preservation of the sight of artisans.

3. To introduce the use of gelatine paper for the relief of persons suffering from impaired vision; for the preservation of the sight of travellers, and of all those who are much engaged in reading.

This material was invented in 1829 by the late M. Grenet, of Rouen, and was exhibited by him in its present state of perfection at the Great Exhibition of 1851. But up to the present time it has not been successfully applied to any more useful purposes than the manufacture of artificial flowers, address cards, tracing paper, wafers, wrappers for confectionary, and the like.

It is commonly manufactured in sheets, measuring 22 inches in length and 16 inches in diameter, which are sold at a small price; but the sheets can as easily be made of any dimensions not exceeding those of which plate-glass is capable. It can be made of any thickness, from that of the finest tissue paper upwards. It may be obtained as transparent as the best glass, and more free from color, or of all colors and shades of color, without interfering with its transparency. It is exceedingly

* From the Lond., Edin., and Dub. Philos. Mag., Feb. 1855.

light, and may be bent or rolled up without injury. It can be cut with scissors like ordinary paper, and may easily be stitched with a needle and thread. By means of an aqueous solution of gelatine, it can be made to adhere accurately to plates of glass without any interference with its transparency. When varnished with collodion it becomes perfectly waterproof, more pliable, capable of bearing a considerable degree of heat without injury, and its transparency is not affected.

Hence it appears, that, in addition to its transparency and susceptibility to various colors and forms, gelatine paper is cheap, portable, and durable.

Such being the properties of the material, the following are enumerated by the author as some of the forms in which he suggests that it may be employed, and in which it has already been found useful.

1. A small sheet of very pale green or blue gelatine paper, to be used in reading. The sheet is simply to be laid upon the page of the book, and the reading to be conducted through the colored medium. If used in a faint light, the reading paper is to be raised a little from the book to admit more light beneath it.

2. A sheet of gelatine paper of pale green set in a light frame, and placed like a screen before the window or lamp of the engraver, the watch-maker, the jeweller, and the like; thus providing a light of genial color in which they may pursue their occupations.

3. A similar appliance to the last mentioned for the use of needle-women. For this purpose screens are to be provided, both of green and of blue gelatine paper; so that the white materials employed in needle-work may be changed to a pleasant green, by the screen of that color, the yellow materials to a green by the blue screen, and by one or other of these screens the reds softened down into violets or browns.

4. For either of the two last purposes on a larger scale, the gelatine paper may be attached to the window glass of the apartment, thus coloring, if necessary, all the light admitted during day-light.

5. Shades for the eyes in certain affections of the sight, to take the place of the green or blue silk and card shades worn by many persons. The gelatine paper being transparent, will allow the wearer to see his way about, at the same time that the eyes are protected from a glaring light. This may be especially useful in cases where it is desired not only to shade a diseased eye, but also to protect its nerves from strong light admitted by the sound eye. When not only colored light but a certain degree of darkness is required, this can be readily and delicately graduated by employing shades of different depths of color.

6. Masks of gelatine paper for protecting the eyes of travelers against the glare of snow fields and of sandy deserts.

On some of the Thermo-electric Properties of the Metals Zinc and Silver.
By RICHARD ADIE.*

A zinc and silver thermo-electric couple is known to reverse the direction of the current of electricity generated by heating it, when the temperature of the joint is raised above 248° , as described by the late Professor Daniell in his *Introduction to Chemical Philosophy*, p. 468. This

* From the *Lond. Journ. of the Chemical Society*, Jan. 1855.