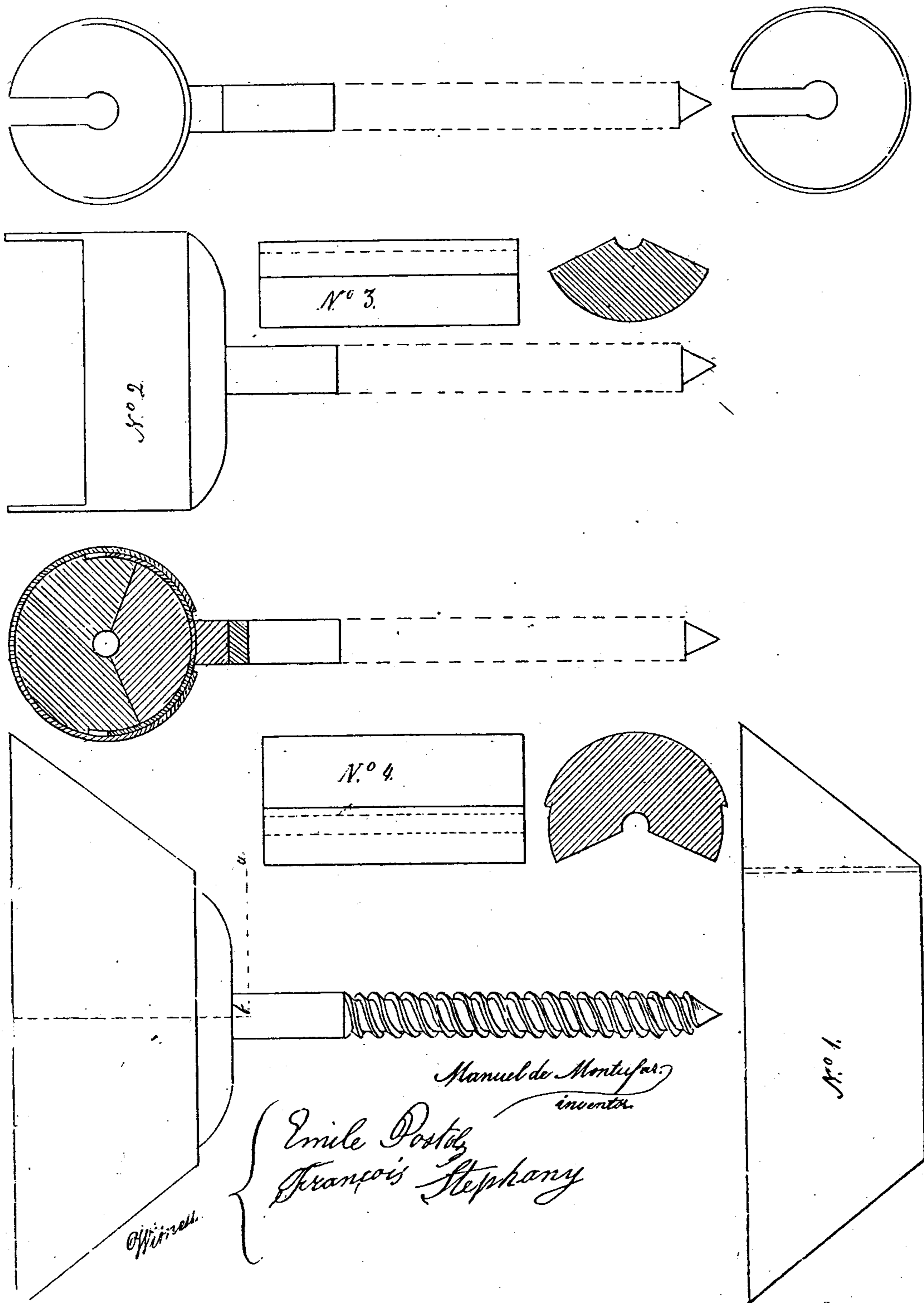


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INSULATOR FOR TELEGRAPH WIRES.

No. 109,879.

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MANUEL DE MONTUFAR, OF NEW YORK. N. Y.

Letters Patent No. 109,879, dated December 6, 1870.

IMPROVEMENT IN INSULATORS FOR TELEGRAPH-WIRES.

The Schedule referred to in these Letters Patent and making part of the same.

I, MANUEL DE MONTUFAR, of the city, county, and State of New York, having invented a certain Insulator for the the Insulation of Wires used as Conductors of Electricity in the Lines of Electric-Telegraphs, give the following as a specification of it.

Object of the Invention.

The object of my invention is the perfection of the insulation of the wires employed as conductors of electricity in telegraphic lines, besides to protect the insulator itself against accident of all kinds arising from natural or artificial causes.

Description of the Drawing.

Figure A B is a front view of the insulator embodying the whole of the invention.

Figure No. 1 is the exterior cage of it when taken off.

Figure No. 2 is the inner cage with the screw attached to it for fixing it at the pole.

Figure No. 3 is the undermost section of the cylinder.

Figure No. 4 is the uppermost section of the cylinder.

General Description.

The insulator or insulating body is to be made of hard gutta-percha, of solid glass, or of wood; its shape is that of a cylinder longitudinally divided in two unequal sections, at the axis of which, when united, there is a hole running throughout for the telegraph-wire to pass, this hole being of the same diameter as that of the wire that is to be used as conductor of electricity, so that the pressure alone of the exterior cage of the insulator, when adjusted, is sufficient to hold the wire with the required tension, as firmly as it is convenient for the purpose.

When the wood is to be used as the insulating-body, and the wood is not naturally saturated with its own resin, then it is first heated and submerged into a solution of shellac, or into melted pitch-pine resin, or into any other resin or substance non-conductor of electricity, the operation being repeated as many times as it is necessary to saturate the wood completely with it, except in the case of making use of the unbleached pitch pine, which, being naturally and perfectly saturated with its own resin, needs not artificial process to render it as perfect an insulating body as can be had.

The insulating body is to be made of glass, covered with a coat of shellac or any substance, in order to prevent the action of its surface of the aqueous vapors atmosphere in damp or foggy weather, and is of itself a good insulator of electricity, known that it easily becomes a con-

ductor as soon as the humidity condensing itself on its surface, forms there a thin film of water, by which the electricity passes into the ground.

When the insulator is to be made of gutta-percha, nothing is to be made but give to it the required shape, gutta-percha being one of the best non-conducting bodies; but in all cases, and in order to secure a good and perfect insulation of the wires used as conductors of electricity for telegraph purposes, it is absolutely necessary to varnish the two ends of the cage and twenty inches of the wire on both sides of the insulator, at the point of its exit from it with resin of any kind, to prevent the webs, the nets of the spiders, and the nets of other insects, becoming bad connections in rainy or wet weather between the iron cage of the insulator and the wire.

The inner cage which it to contain the cylinder or insulating body, is to be made of galvanized iron and is fixed at the pole by the screw attached to it, which length and form is to be altered as the position of the insulator in the line required it.

The outer cage is also made of galvanized iron, and, when adjusted, contains the inner cage, the insulator and the conductor wire, it keeps the whole tightly closed together, neither permitting the insulating body to get off of its place when shaken by strong winds, nor allowing the rain to pour into it, nor the snow or the dust to accumulate on its surface, keeping it so closely connected that even in case that the glass splits, as it happens sometimes undoubtedly by the action of electricity, it will continue to be as perfect an insulator as before.

By the peculiar arrangement and combination of all the parts composing the insulator, is attained not only the most perfect and secure insulation possible of the conducting wires; but the insulating body too, is so effectively protected than neither malignity can break or injure it, nor natural accidents; nor the changes of weather, against which it is entirely protected, can exercise any influence on its physical properties as a non-conducting body, so that as long as it remains in its place, it always acts as a true insulator, besides its mechanism is so arranged that its different parts can be adjusted together without making use of nails, screws, or any other small wire to have it complete, saving thus labor, time, and money.

Claim.

I claim as my invention—

A telegraph-insulator, composed of the divided cylinder and the outer and inner sheaths, when they are constructed and arranged as and for the purpose specified.

MANUEL DE MONTUFAR.

Witnesses:

EMILE POSTOLZ,
FRANÇOIS STEPHANY.