

REYBURN & MARTIN.

Lightning Rod.

No. 94,773.

Patented Sept. 14, 1869.

FIG. 2

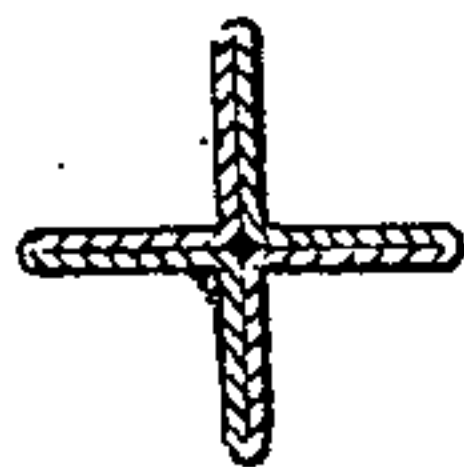


FIG. 3

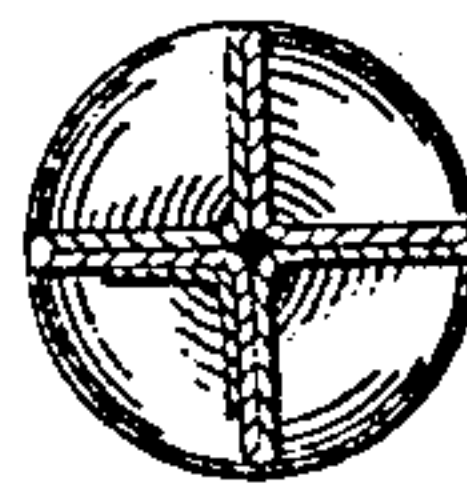
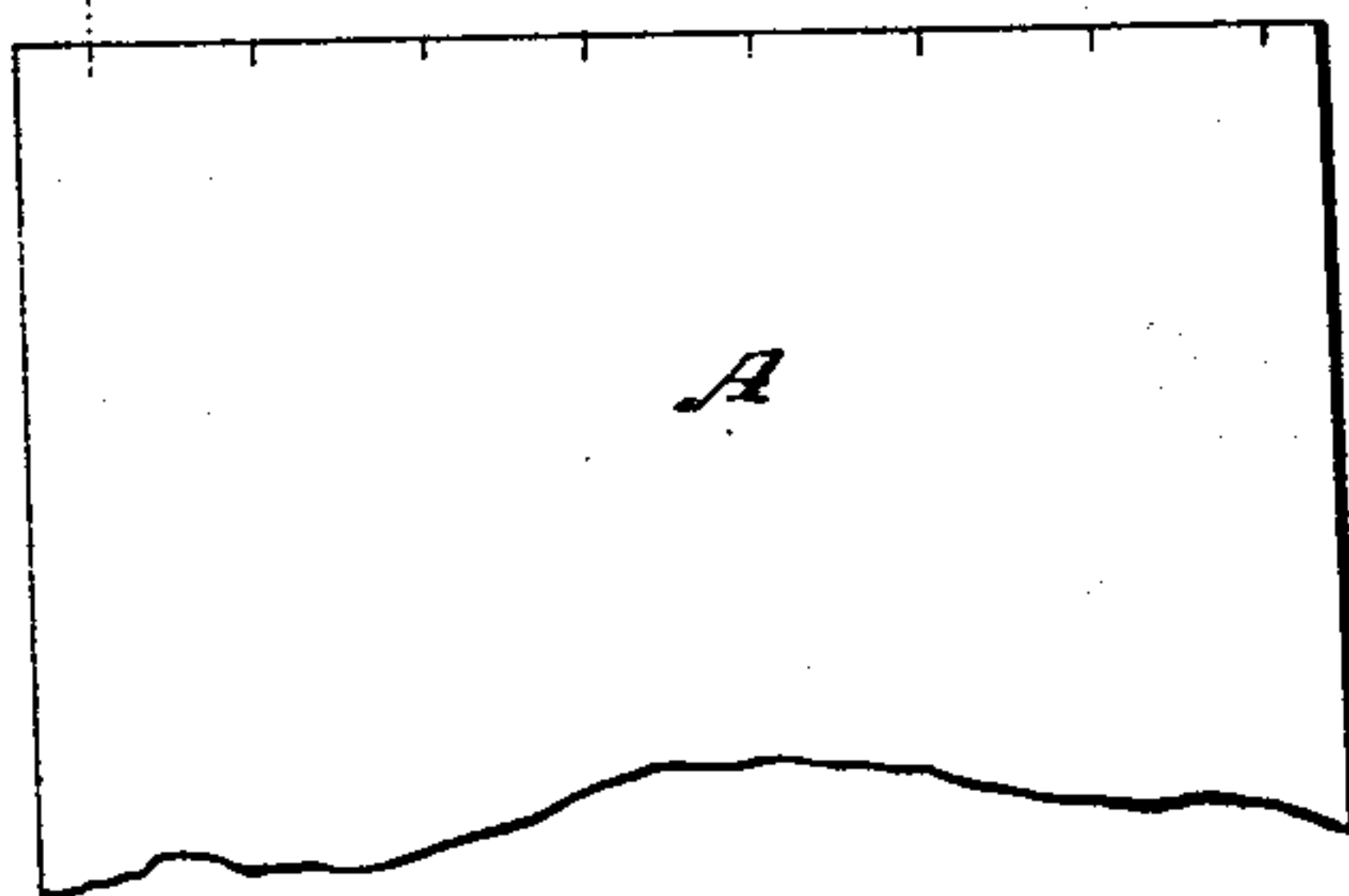


FIG. 1



WITNESSES:

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United States Patent Office.

WILLIAM S. REYBURN AND F. J. MARTIN, OF PHILADELPHIA,
PENNSYLVANIA.

Letters Patent No. 94,773, dated September 14, 1869.

IMPROVEMENT IN LIGHTNING-RODS.

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

To all whom it may concern:

Be it known that we, WILLIAM S. REYBURN and F. J. MARTIN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Lightning-Rods; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of a strip of our wrought material;

Figure 2 is a transverse section of the rod before twisting; and

Figure 3, a transverse section of the rod, after twisting.

This invention consists in making a section of a lightning-rod of one piece of sheet-metal doubled upon itself in ribs in a peculiar manner, whereby a very excellent rod is produced at a very cheap rate.

In the drawings—

A is a flat sheet of metal of any species, and of dimensions suited to the manufacture of lightning-rods. Such sheets form the wrought material that is fed into our machine for making lightning-rods, patented August 17, 1869.

The stages of its transformation are shown in figs. 2 and 3. First, four ribs, projecting at right angles from a common centre, each rib being formed by doubling the sheet upon itself, and each rib supporting all the others, and then a spiral twist, the perfected article being the direct product of the flat sheet A.

So far as we know, no section of lightning-rod has ever been made in the manner described, of a single piece of sheet-metal.

Its advantages are that sheet-metal is the cheapest material which can be obtained for the purpose; that, by reason of the doubling of the sheet in the formation of the ribs, the rod is made in the form that gives it the greatest possible strength; and that the rod is, at the same time, sufficiently flexible to enable it to be bent as far as necessary, without much trouble in putting it up.

We are aware that there is a rod in the market

made by drawing out a solid bar of copper into a single piece. This form, however, is objectionable, from the fact that a rod cannot be made from bar-metal nearly as cheaply as from sheet-metal—not so cheaply by fifty per cent., according to our calculation, and that such a rod is in nowise flexible, snapping short off, in fact, under less strain than is required to bend ours, so that it cannot be bent in putting up, without the application of heat to the part requiring flexure.

There is also a rod made from sheet-metal, but each section is composed of two sheets riveted together, a material so obviously inferior to ours in the matter of cost, that no further notice need be taken of it in this place.

While we do not propose to confine ourselves to any particular metal, yet we shall probably, in actual manufacture, use chiefly zinc or copper. As regards zinc, we may say that it can be wrought up into lightning-rods, in the form indicated, at about one-half the expense of iron, and that it possesses about twice the conducting-power. The sheet A, our wrought material, may be quite thin, and yet make a very stiff rod, owing to our peculiar manner of doubling it upon itself in the ribs, which gives the rod all the strength of one drawn out in the same shape and thickness from bar-metal, of twice the weight.

This rod has also much more flexibility than the solid one, as above stated.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

As an article of manufacture, a section of lightning-rod, made of one piece of sheet-metal doubled upon itself in ribs, substantially in the manner and for the purpose described.

To the above specification of our improvement, we have set our hands, this 17th day of August, 1869.

WILLIAM S. REYBURN.
F. J. MARTIN.

Witnesses:

CHAS. A. PETTIT,
A. M. TANNER.