A. S. SHERWOOD.

Lightning Rod.

No. 52,329. Patented Jan. 30, 1866.

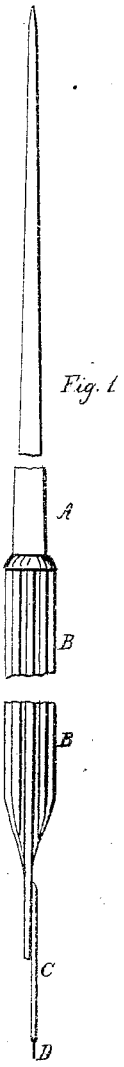

Fig. 1

Fig. 2

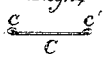

Fig. 4

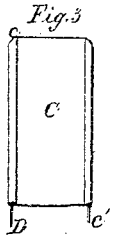

Fig. 3

Witnesses
F. Schmidt
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Inventor
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Attys

UNITED STATES PATENT OFFICE.

A. S. SHERWOOD, OF DETROIT, MICHIGAN.

IMPROVEMENT IN LIGHTNING-RODS.

Specification forming part of Letters Patent No. **52,329**, dated January 30, 1866.

To all whom it may concern:

Be it known that I, A. S. SHERWOOD, of the city of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Lightning-Rods; and I 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 annexed drawings, making a part of this specification, in which—

Figure 1 shows the top and point of a lightning-rod broken, but exhibiting its connection with my improvement. Fig. 2 represents a view, in cross-section, of the corrugated circular portion of the rod. Fig. 3 shows a part of the rod in elevation, and Fig. 4 is a cross-section through the same.

It is believed to be conceded by electricians that conduction is in proportion to mass and surface, and that none but the precious metals are better conductors of electricity than copper. To use with proper economy copper conductors it is desirable to make them as light as may be found consistent with proper strength and durability, and narrow strips of copper made in the shape of plain ribbon, have therefore been used as lightning-rods, thereby securing the largest surface proportioned to mass; but this plain ribbon is objectionable because fragile, and it is the object of my invention to remedy this defect by making lightning-rods or conductors of electricity of sheet-copper with a corrugated circular top, and to stiffen and strengthen the narrow ribbon portion of the rod without increasing its width; and my invention consists in corrugating thin sheet-copper and forming the portion of the lightning-rod that receives the point and projects above the building into a tube, which is securely attached to the remainder of a lightning-rod made of thin sheet-copper ribbon turned over on a copper wire at its edges, or on itself, and thus augment the surface and mass of the rod without increasing its width. By this I accomplish these several desirable results—viz., first, the use of the thin sheet-metal possessing the greatest conductive capacity, (silver excepted;) second, obtaining the greatest possible amount of surface to the least possible amount of metal; third, increasing the strength and stiffness of the ribbon without diminishing the surface or materially increasing its weight; fourth, attaining a finish and symmetry in its construction which can be obtained in no other way.

Taking thin sheet-copper, I corrugate a strip wide enough to receive the top or platinum point A when formed into a tube, B, and this I make as long as the rod is to project above the building to which the rod is to be attached. I fasten the point A securely within the top of the corrugated tube B, and at the bottom I flatten the tube and attach it securely, by rivets or otherwise, to the portion of the rod C which is to enter the ground. Thus I make my rod of a single length of narrow copper ribbon and fasten it in place in any approved manner. But to stiffen the ribbon and increase its mass without using heavy sheet-copper or making the conductor any wider than is necessary, I turn the edges *c* and *c'* over upon the ribbon, or over and around a copper wire, D, so as to embrace the whole circumference of the wire and hold it firmly.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the turned or wired copper ribbon with the corrugated tubular top, substantially as and for the purpose described.

In testimony whereof I have hereunto subscribed my name.

A. S. SHERWOOD.

Witnesses:

RALPH C. SMITH,

W. S. PENFIELD.