(No Model.)

S. H. TERRY.

METALLIC POLE.

No. 467,526. Patented Jan. 26, 1892.

Fig. 1.

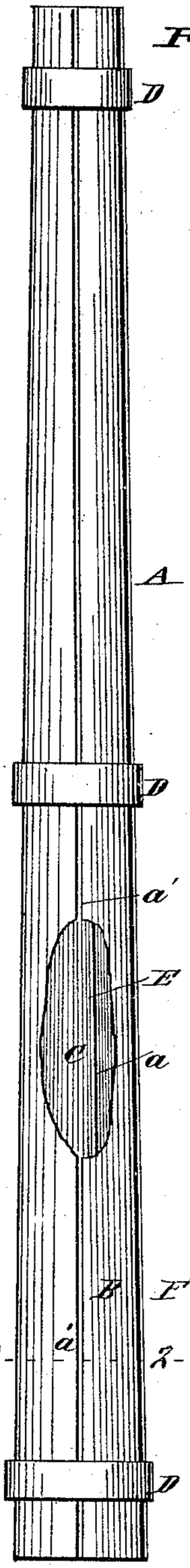


Fig. 4.

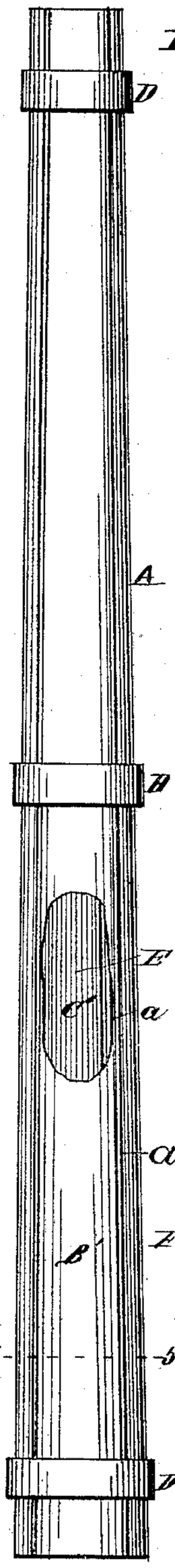


Fig. 6.

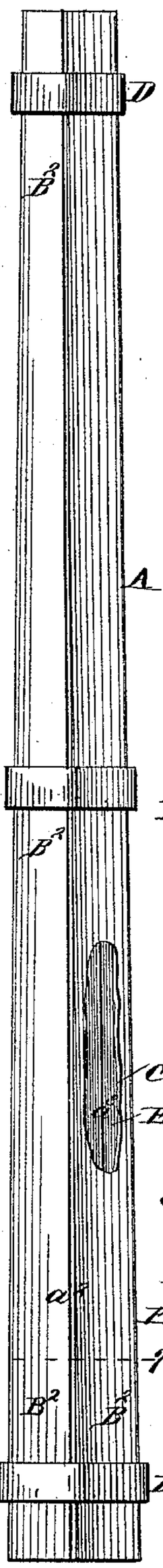


Fig. 2.

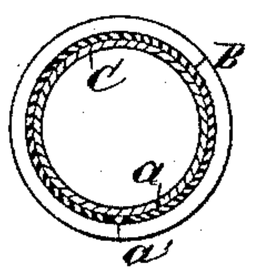


Fig. 3.

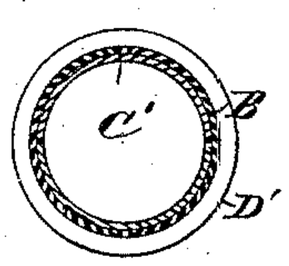


Fig. 7.

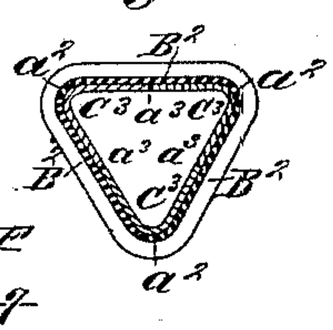
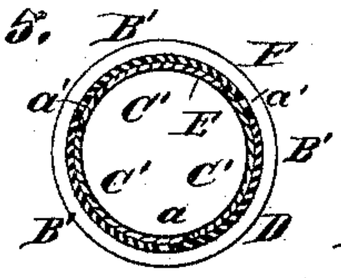


Fig. 5.



Attest:

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UNITED STATES PATENT OFFICE.

SAMUEL H. TERRY, OF ST. LOUIS, MISSOURI.

METALLIC POLE.

SPECIFICATION forming part of Letters Patent No. 467,526, dated January 26, 1892.

Application filed March 12, 1890. Serial No. 343,631. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. TERRY, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Metallic Poles, of which the following is a specification.

My invention relates to metallic poles which are tubular or hollow in construction.

It consists, first, in placing one tubular section inside another, the sections being coextensive in length with each other, and, second, in the construction and combination of parts hereinafter particularly described and claimed.

The objects of my invention are to get strength in the pole with the least possible weight of material and to make a continuous pole out of sectional pieces which are cheaply and easily made, so that when the same is constructed it forms a pole as strong and durable as if made in but one continuous piece without a joint; and my object is, further, to secure the greatest amount of bearing in the parts, so that they will not move on each other and allow the pole to twist and become weakened, but will make a stiff and rigid pole. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my pole where the outer and inner members are each made of one cylindrical piece of sheet metal, having the outside member broken away to show the inside member. Fig. 2 is a transverse section of the same drawn on line 2 2, Fig. 1. Fig. 3 is a transverse section of a pole having two inside and two outside members, each member being semicircular in cross-section and having a binding-ring surrounding them. Fig. 4 is an elevation of my pole where the outside and inside members are each made of three pieces, and the outside member is cut away to show the inside member. Fig. 5 is a transverse section of the same drawn on line 5 5, Fig. 4. Fig. 6 is an elevation of my pole made approximately in a triangular shape in cross-section. Fig. 7 is a transverse section of the same drawn on line 7 7, Fig. 6.

A represents the pole throughout the drawings.

In Fig. 1 the pole consists of a single outer longitudinal cylindrical piece of metal B and a single inner longitudinal cylindrical piece of sheet metal C, the one being coextensive with the other in length, and the outer piece of sheet metal made to encompass the inner one. The inner piece of sheet metal C is made of a single piece of sheet metal bent transversely into a circle and having its edges in contact with each other. The outer piece of sheet metal B is made of a single piece of sheet metal bent transversely into a circle and having its edges almost in contact when it envelops the inner piece C. The two pieces can be made of very thin sheet metal, and when put together with the binding-rings make a very rigid and strong pole.

D D D are strong metallic binding-rings, which surround the outer piece of sheet metal B, and when driven down or shrunk onto it will bind it securely to the inner piece C. It will be borne in mind that the diameter of the inside piece C is somewhat larger than the inner diameter of the outside piece B, so that when the outside one is put on the inside one and the rings D are driven on or shrunk on the inside surface of the outer piece B will impinge on the outer surface of the piece C, and will thus have all the friction of the surface of the inner and outer members B and C to hold them in relative position to each other when the rings D are driven down or shrunk on. The slot *a* of the inner member C must not be placed in contact with the slot *a'* on the outer member, but must be placed to the right or left, so as in no instance to come in juxtaposition with said slot.

The pole A in Fig. 4 is made of three longitudinal pieces composing the outside of the pole, which, for the sake of distinction, I designate B', and of three longitudinal inner pieces, which I designate C'. These pieces are concave and convex in cross-section, as shown at Fig. 5, and are made by passing them through a set of convex and concave rollers. When the pieces C' are put together edge to edge, they form a substantial circle in cross-section, and the diameter of this circle thus formed coincides or is a little larger than the inside diameter of the tube formed by the union of the pieces B', so that when the tube formed by the union of the pieces C'

is surrounded by the tube formed by the union of the pieces B′ the joints of the inner tube *a* will not be in juxtaposition with the joints *a′* of the outer tube, but will break joints, as shown in Figs. 4 and 5. Care must be taken to have the outside circumference of the inner tube equal to or slightly larger than the inside circumference of the outside tube, so that when the rings D are driven or shrunk on the convex surface of the outer tube will press throughout its whole surface on the convex surface of the inner tube, and thus securely bind the outer tube to the inner tube throughout its entire length of circumference.

The inner tube in Fig. 6 is made of three longitudinal pieces of angle-iron, which, when put together, form, approximately, a triangle in cross-section, with a lateral joint about midway between the corners, designated by a^3, as seen at the break in Fig. 6 and in Fig. 7. These pieces in this figure I designate C^3.

The outer tube or member of the pole in Fig. 6 is made of three longitudinal pieces of sheet metal, with their edges meeting each other, forming a longitudinal seam at the corners of the pole. These seams or joints are designated in this figure by letter a^2, and the outer longitudinal pieces of which the outer tube is composed I designate B^2 by way of distinction from the members B′ in Fig. 4, which, however, serve the same purpose as B′ in Fig. 4. I also, for the same reason, designate the longitudinal pieces which form the inner tube C^3 by way of distinction from the pieces C′ in Fig. 4, which, however, serve the same purpose as those in Fig. 4.

The rings D are the same throughout the several figures, except that they coincide with the outer surface and are adapted to the form of pole on which they are used.

I designate the inner tube throughout the several figures by the letter E and the outer tube by the letter F.

It is obvious that other forms can be used when desirable without departing from the spirit of my invention, and also that a pole thus formed of inner and outer members with the lateral joints of the outer members not in juxtaposition with the joints of the inner members will be a cheap, strong, and durable pole, because of the extensive binding-surfaces of the outer tube coming in contact with the outer surface of the inner tube. I do not intend to limit my invention to a pole made without transverse joints, as shown, for it is obvious that a pole made as shown may be placed on top of another larger pole and bound thereto by one of the binding-rings, and thus make a longer pole composed of two or more poles, as shown in my patents dated October 1, 1889, and being No. 411,877, and of March 16, 1886, No. 338,115, without departing from the spirit of my invention.

Now what I claim as new, and for which I ask Letters Patent of the United States to be granted to me, is—

1. A hollow metallic pole composed of an outer and inner member approximately coinciding with each other in length and bound together by binding-rings surrounding the whole, substantially as described.

2. In a hollow metallic pole having an outer and inner member, the outer member composed of a multiple of concave longitudinal pieces of metal, and the inner member composed of a multiple of like pieces of metal having convex surfaces adapted to impinge on the concave surface of the outer member, and the joints of the inner member in non-juxtaposition with the joints of the outer member, in combination with binding-rings surrounding the whole, substantially as described.

3. In a hollow metallic pole, a section of the pole composed of an outer and inner member, the inner surface of the one member impinging upon the outer surface of the other approximately throughout their respective lengths and securely fixed to each other by binding-rings surrounding the whole.

4. In a hollow metallic pole, a section of the same having an outer and inner member and having one of said members composed of a multiple of longitudinal pieces laterally joined to each other, and the whole surrounded by binding-rings, substantially as and for the purposes set forth.

5. In a hollow metallic pole having an outer and inner member approximately coextensive with each other, one or both of said members being composed of a multiple of longitudinal pieces of metal joined together at joints in non-juxtaposition with the joint of the other, and the whole surrounded and securely bound together by binding-rings, substantially as described.

SAMUEL H. TERRY.

Witnesses:
R. R. SWEET,
WM. M. ECCLES.