

No. 836,836.

PATENTED NOV. 27, 1906.

D. R. SCHOLES.
TRANSMISSION TOWER.
APPLICATION FILED FEB. 21, 1906.

2 SHEETS--SHEET 1

Fig. 3.

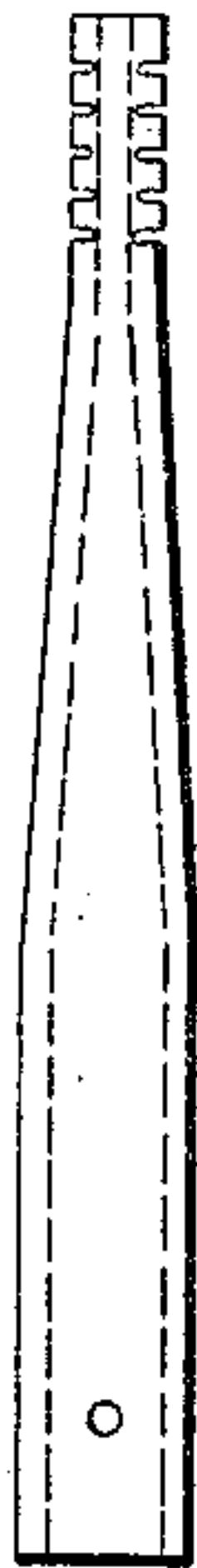


Fig. 2.

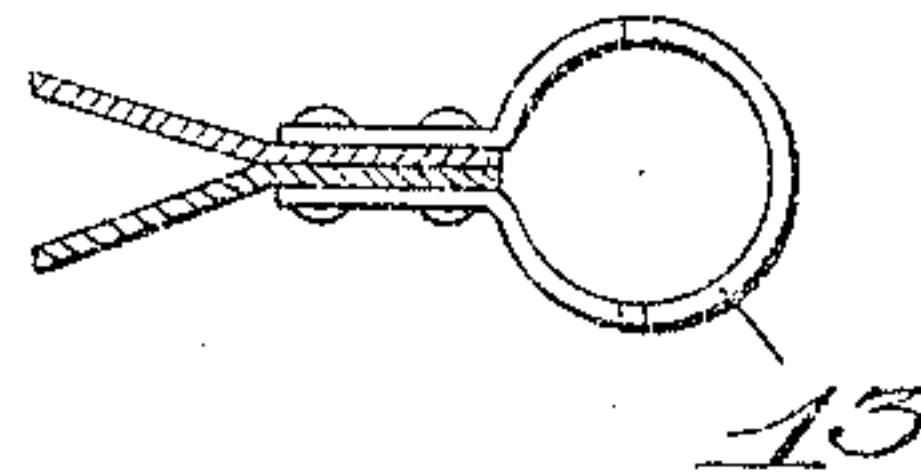
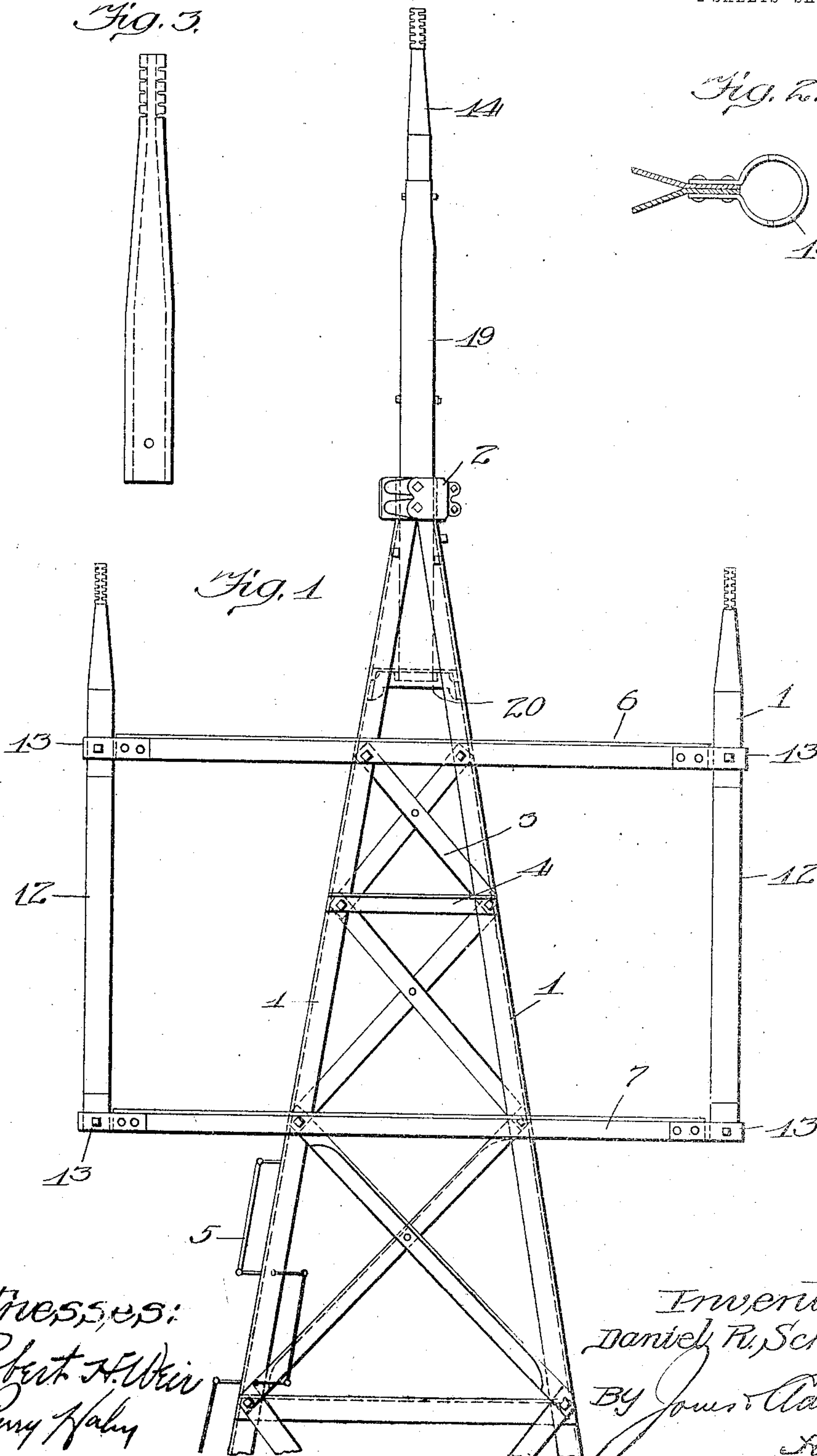


Fig. 1.



Witnesses:

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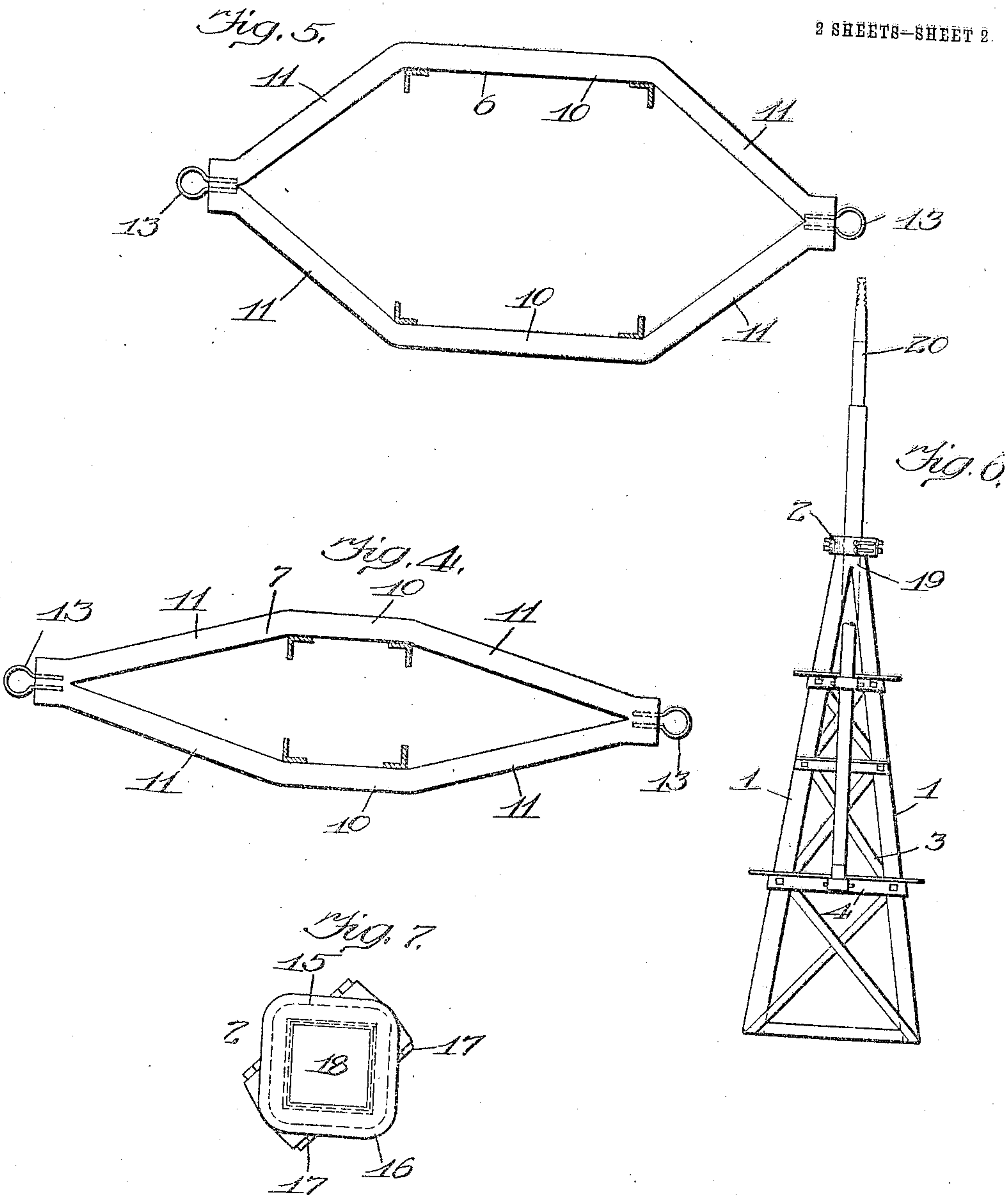
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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

DANIEL R. SCHOLES, OF CHICAGO, ILLINOIS, ASSIGNOR TO AERMOTOR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

TRANSMISSION-TOWER.

No. 836,836.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed February 21, 1906. Serial No. 302,227.

To all whom it may concern:

Be it known that I, DANIEL R. SCHOLES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Transmission-Towers, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to structural-iron towers, and particularly to towers for electric transmission-wires, my particular object being to provide cross-arms for said towers which shall have maximum strength with a minimum amount of material and which shall be capable of withstanding great lateral strain.

I have illustrated my invention in the accompanying drawings, in which—

Figure 1 is a side elevation of the upper portion of my tower. Fig. 2 is a detail showing the manner of connecting the vertical posts to the cross-arms. Fig. 3 is a detail view of one of the insulator-pins to which the transmitting-wires are connected. Fig. 4 is a plan view of the upper cross-arm. Fig. 5 is a plan view of the lower cross-arm. Fig. 6 is an end elevation of the upper portion of my tower, and Fig. 7 is a detail view of means for clamping the converging ends of the legs of the tower together.

In the preferred embodiment of my tower I provide four posts 1, preferably formed of angle-iron, which converge at their top and are suitably tied together by means of the top clamp 2. Diagonal braces 3 and horizontal braces 4 are secured to the posts at suitable intervals in a manner to brace the tower to give the same the greatest rigidity. One of the parts may be provided with a ladder 5 to permit the ready ascent of the tower.

At a short distance from the top of the tower cross-arms 6 and 7, which carry the insulator-pins for supporting the transmission-wires, are secured. These arms are constructed in the manner illustrated in Figs. 4 and 5. Each arm comprises a pair of angle-irons mounted upon opposite sides of the tower and having substantially parallel intermediate portions 10 and converging end portions 11. The angle-irons are bolted or riveted to the posts of the tower, and the converging ends are bolted or riveted to-

gether. The intermediate parallel portions 10 of the angle-irons comprising the lower cross-arm are spaced much wider apart than are those of the upper cross-arms to accommodate the increased width of the tower at this point. The outer ends of the upper and lower cross-arms 7 and 6 are connected together by means of vertical braces 12, which are secured to the converging ends of the angle-pieces comprising the arms by means of straps 13, which are arranged to fit around the vertical bracing-posts and be riveted to the converging end of the angle-pieces comprising the cross-arms. The vertical braces are preferably cylindrical in shape and at their upper ends are arranged to support insulator-pins 14, the lower ends of which are adapted to fit into the upper ends of the braces, bolts being arranged to pass through the vertical brace and a portion of the insulator-pin to hold the same in position. It will be noted with respect to this construction of cross-arms that any tendency of the transmission-wires to twist the vertical supports or braces in a vertical plane will be resisted by the upper and lower arms, and any tendency to twist the cross-arms in a horizontal plane will be resisted by the peculiar construction of the arm.

The upper ends of the posts 1 of the tower are preferably clamped together by means of a clamp, as illustrated in Fig. 7, which comprises clamping portions 15 and 16, arranged to fit over the converging ends of the posts, the two portions being secured together by bolts 17. A central opening 18 extends through the clamp, through which is arranged to pass a central vertical support 19 for the insulator-pin 20. The lower end of the support 19 is arranged to be secured in position between the four posts of the tower by a cross-arm 20, which is secured to the posts of the tower.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a tower, of a cross-arm therefor having a truss formation and formed of a pair of members arranged upon opposite sides of said tower, and having substantially parallel intermediate portions and converging end portions.

2. The combination with a tower, of a cross-arm therefor having a truss formation

and formed of a pair of angle-irons secured upon opposite sides of the tower and having substantially parallel intermediate portions and converging end portions.

5 3. The combination with a tower, of a pair of cross-arms therefor each formed of a pair of members arranged upon opposite sides of said tower and having substantially parallel intermediate portions and converging end portions, and vertical members connect-
10 ing the ends of said cross-arms.

4. The combination with a tower, of a pair of cross-arms therefor, each comprising a pair of members arranged upon opposite
15 sides of said tower, and having substantially parallel intermediate portions and converging end portions, vertical members connecting the ends of said arms and insulator-pins carried by said vertical members.

20 5. The combination with a skeleton tower, of a pair of cross-arms therefor, each comprising a pair of angle-irons arranged upon opposite sides of said tower and having substantially parallel intermediate portions, and
25 converging end portions, cylindrical vertical braces connecting the outer ends of said cross-arms.

6. A cross-arm for towers of truss forma-

tion having intermediate portions thereof engaging the tower and converging end portions projecting beyond the sides of the tower. 30

7. A cross-arm for towers having a truss formation and formed of a pair of members, one arranged on each side of the tower and
35 having an intermediate portion engaging the tower and converging end portions projecting beyond the sides of the tower.

8. A cross-arm for towers having a truss formation and having an intermediate portion engaging each leg of the tower and converging end portions projecting beyond the
40 sides of the tower.

9. A cross-arm for towers having a truss formation and formed of two members, each
45 member having an intermediate portion engaging two legs of the tower the end portions of said members converging and projecting beyond the sides of the tower.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses. 50

DANIEL R. SCHOLLES.

Witnesses:

W. PERRY HAHN;
M. R. ROCKFORD.