

No. 637,420.

Patented Nov. 21, 1899.

M. C. ROBBINS.  
TOWER FOR WINDMILLS.

(Application filed June 5, 1899.)

(No Model.)

Fig. 1.

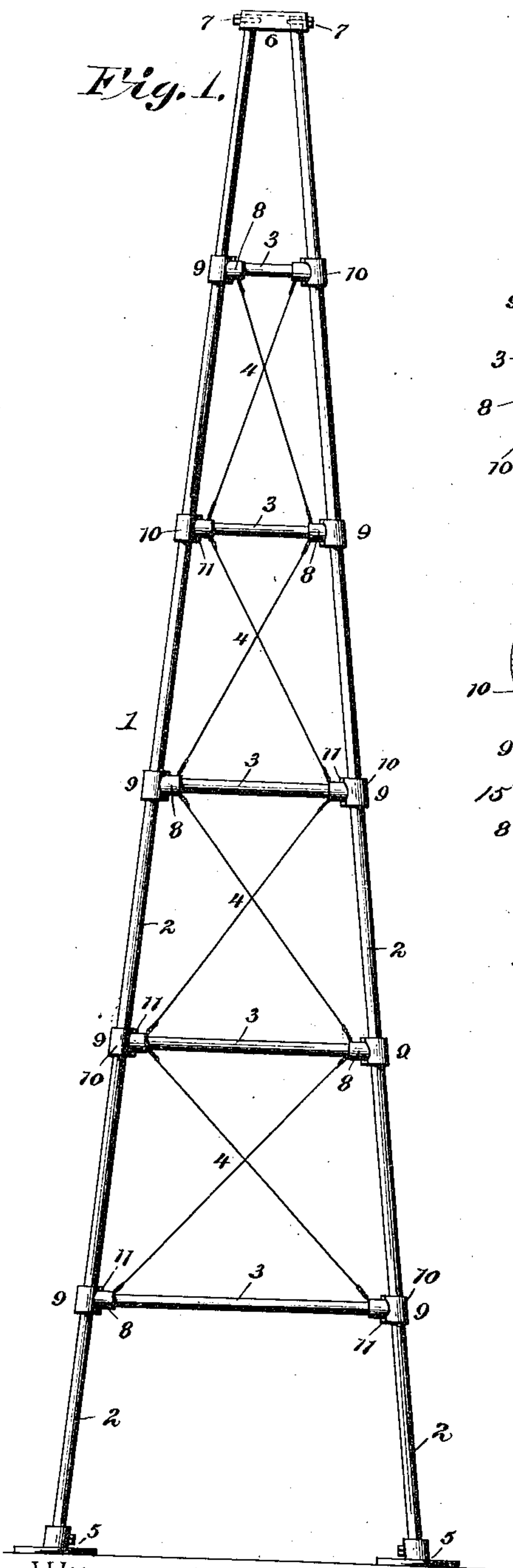


Fig. 2.

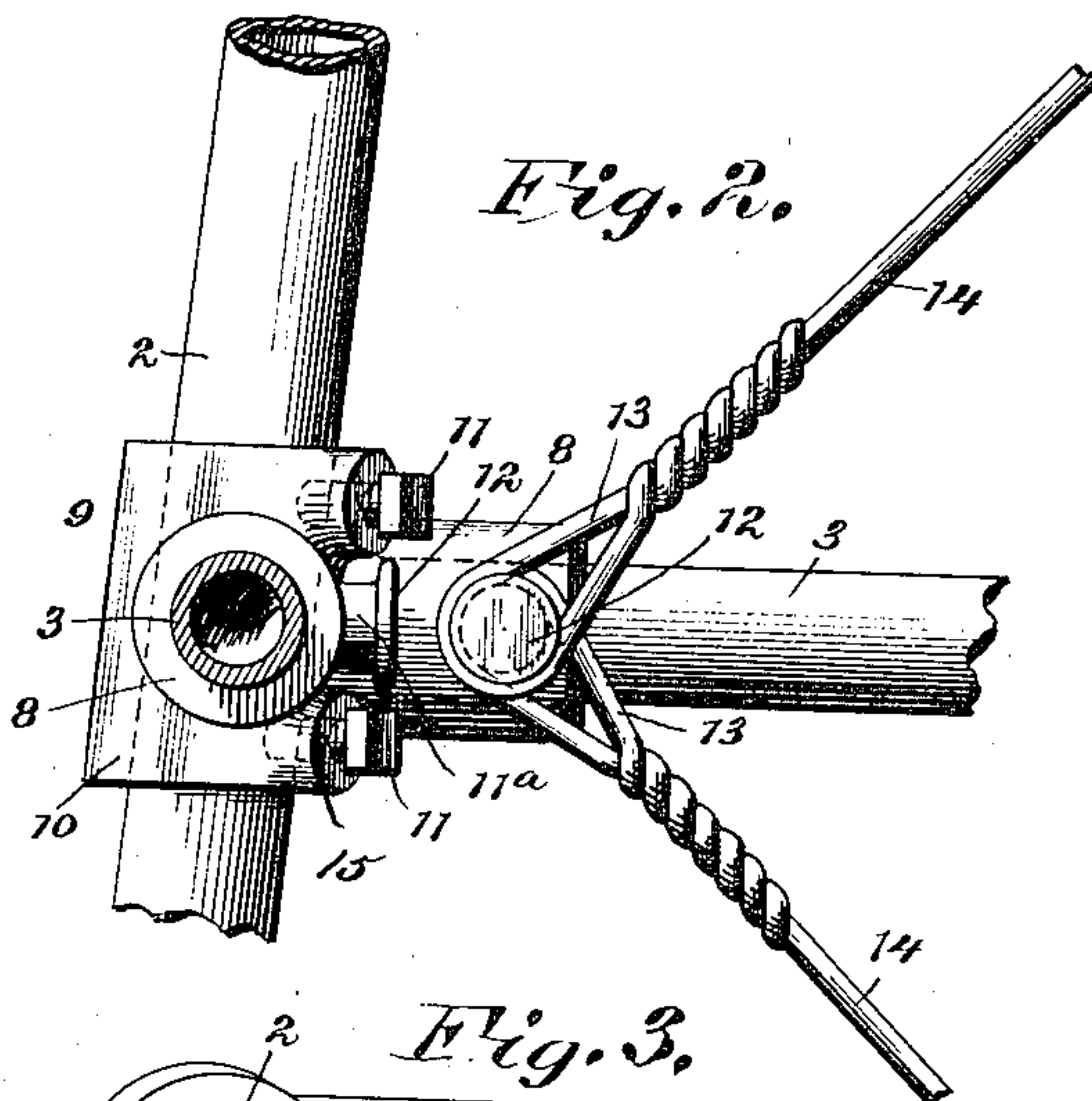


Fig. 3.

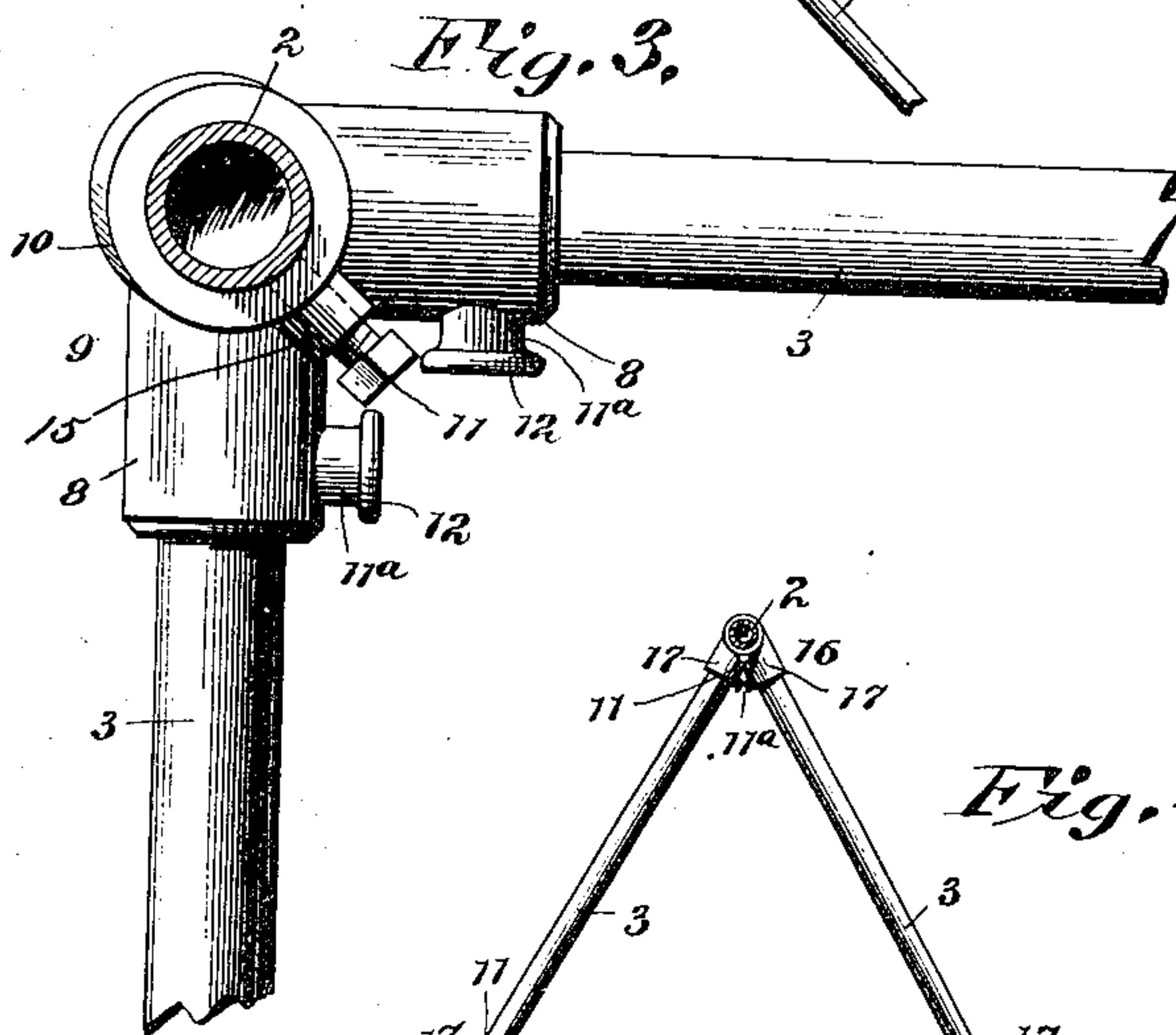


Fig. 4.

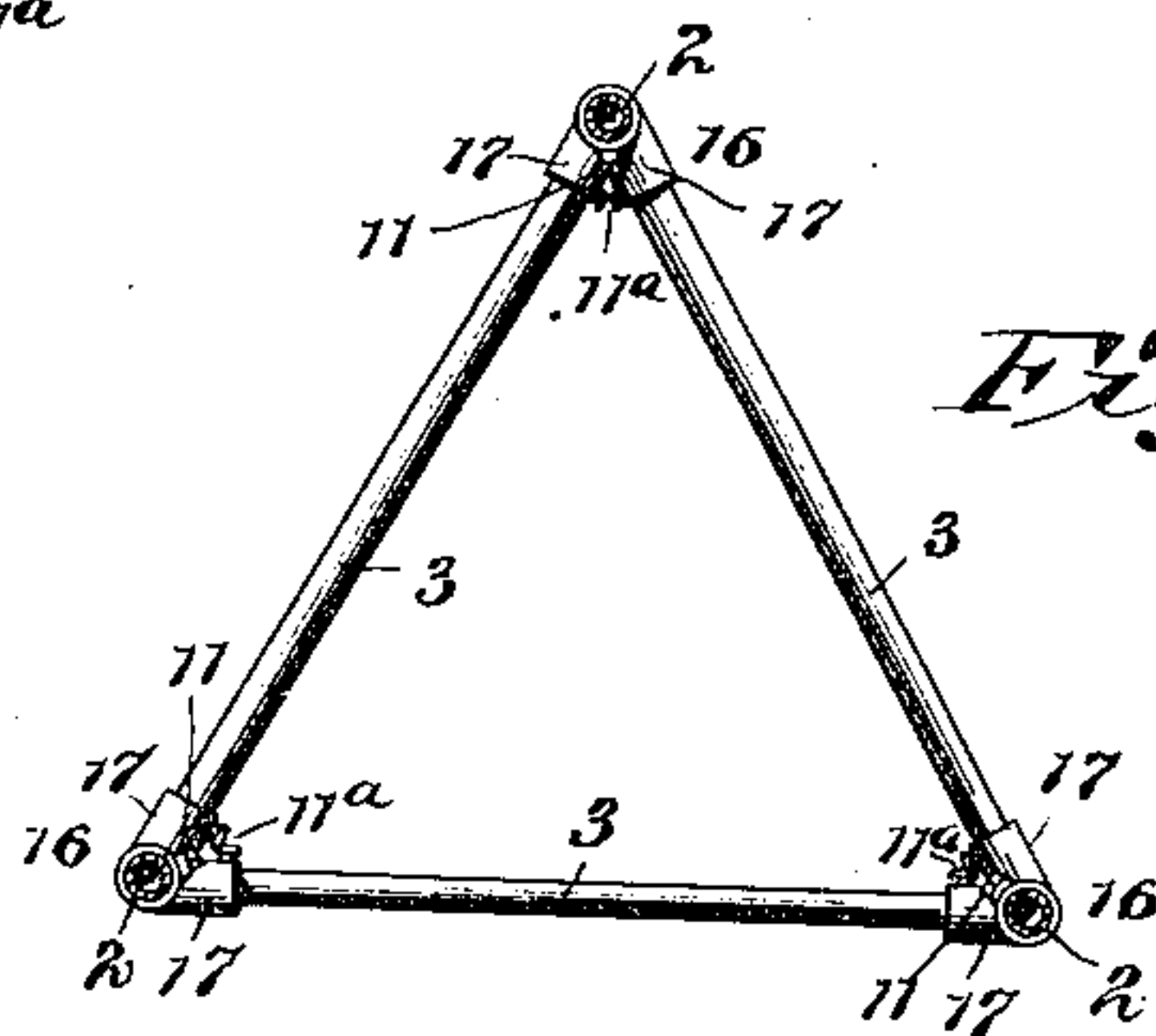
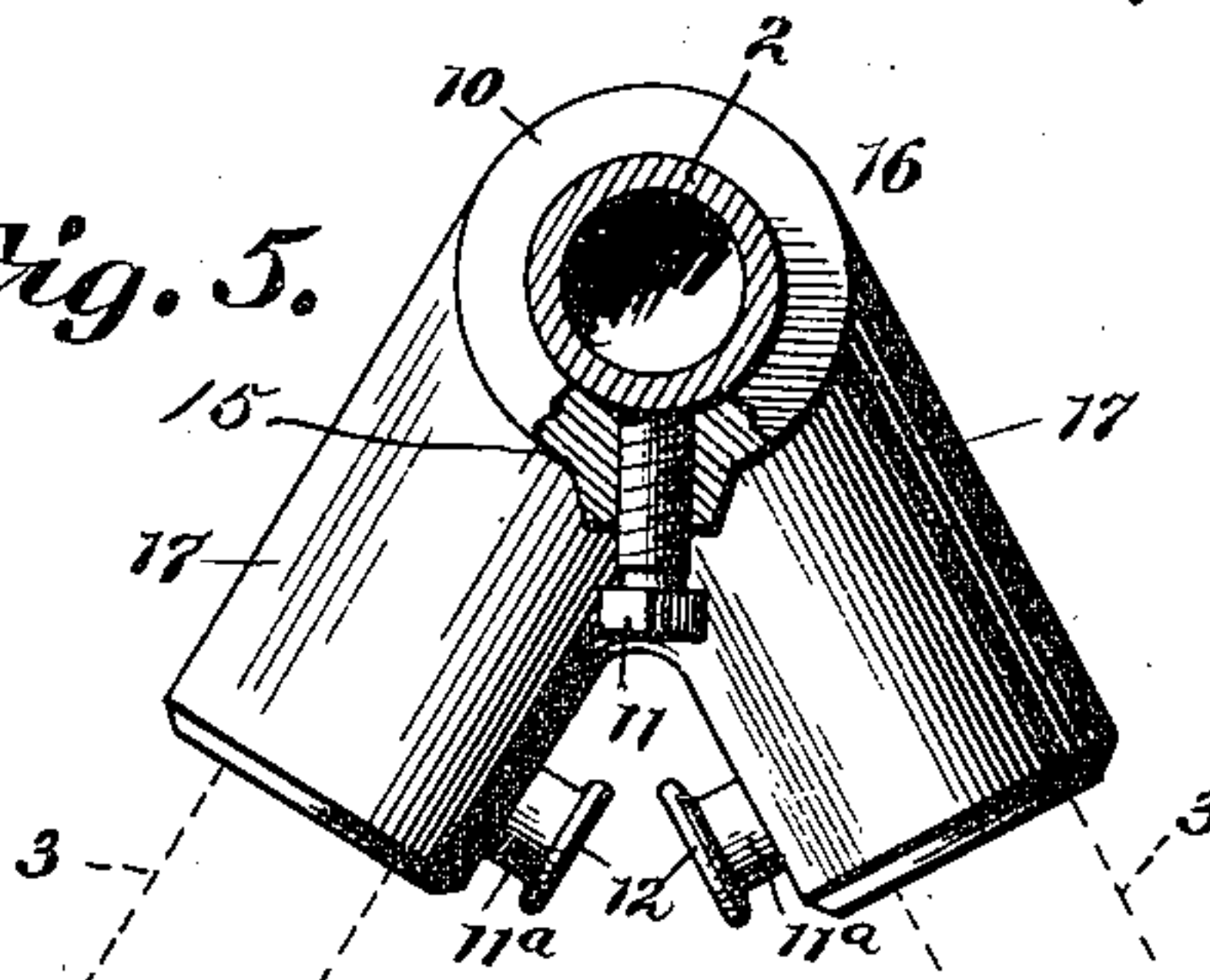


Fig. 5.



Witnesses

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By his Attorneys,

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# UNITED STATES PATENT OFFICE,

MICHAEL C. ROBBINS, OF HARRISONVILLE, MISSOURI.

## TOWER FOR WINDMILLS.

SPECIFICATION forming part of Letters Patent No. 637,420, dated November 21, 1899.

Application filed June 5, 1899. Serial No. 719,517. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL C. ROBBINS, a citizen of the United States, residing at Harrisonville, in the county of Cass and State of Missouri, have invented a new and useful Tower for Windmills, of which the following is a specification.

The invention relates to improvements in towers for windmills.

The object of the present invention is to improve the construction of towers for windmills and to provide a simple and comparatively inexpensive one adapted to be rapidly erected and capable of distributing the strain throughout the entire structure, whereby such strain will be rendered uniform.

A further object of the invention is to provide a tower of this character which will be firm and rigid under both vertical and lateral strain.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a side elevation of a tower constructed in accordance with this invention. Fig. 2 is a vertical sectional view of a portion of the tower, one of the couplings being shown in elevation. Fig. 3 is a horizontal sectional view. Fig. 4 is a horizontal sectional view of a triangular tower. Fig. 5 is a sectional view of one of the couplings thereof.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a tower rectangular in cross-section and composed of tubular corner-posts 2, horizontal cross-pieces 3, and inclined or diagonal cross-pieces 4, constructed of wire and forming a wire lacing, as clearly illustrated in Fig. 1 of the accompanying drawings. The corner-posts are stepped in suitable sockets of base-plates 5, and their upper ends are connected to a cap 6 by clips 7, preferably U-shaped and provided with nuts, as shown. The horizontal cross-pieces, which connect the posts, are arranged at the sides of the tower, and their terminals fit in horizontal sockets 8 of couplings 9, which are provided with upright sockets or collars 10 for the re-

ception of the corner-posts and which are adjustably secured to the same by clamping-screws 11, located at the inner side of the couplings, at the top and bottom thereof, as clearly shown in Fig. 2 of the accompanying drawings. The horizontal sockets, which are located equidistant of the upper and lower edges of the upright socket or collar, are arranged at right angles to each other and are provided at their inner sides with rounded lugs or studs 11<sup>a</sup>, having heads 12. The headed lugs or studs receive loops 13 of the wire braces 14, which are constructed of uniform length and which are strained to the proper tension by adjusting the collars on the corner-posts. The ends of the wire braces are looped and the terminals are twisted, as clearly shown in Fig. 2, around the body portion of the wire, whereby they are secured to the same.

The couplings are provided above and below the horizontal sockets with enlargements or bosses 15, which are provided with threaded perforations communicating with the opening of the collar or socket and receiving the clamping-screws 11, which are adapted to engage the corner-posts, whereby the couplings are retained at any desired adjustment.

Instead of constructing the tower rectangular in cross-section, as indicated in Figs. 1, 2, and 3 of the accompanying drawings, it may be made triangular in cross-section, as shown in Fig. 4, and the couplings 16 will be provided with horizontal sockets 17, arranged at an angle of sixty degrees instead of an angle of ninety degrees, as shown in Fig. 3. The sockets 16 are otherwise constructed similar to those heretofore described.

It will be seen that the coupling which connects the cross-pieces and the corner-posts is adjustable on the latter, so that the wire braces may be strained to the proper tension, and each of the headed lugs or studs, which are arranged at the inner sides of the horizontal coupling, receives the adjacent ends of two of the wire braces. The strain is uniformly distributed throughout the entire structure, and the tower, which is perfectly rigid, is adapted to resist vertical and lateral strain.

Changes in the form, proportion, size, and the minor details of construction within the

scope of the appended claim may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

5 In a tower, the combination of the corner-posts, connecting horizontal pieces, the oppositely-inclined braces crossing each other between their ends and provided at their terminals with overlapped loops, the couplings  
10 provided with upright and horizontal sockets to receive the corner-posts and the cross-pieces and having headed studs mounted on the horizontal sockets at the inner sides there-

of and extending through and engaging the said loops, and fastening devices carried by the 15 couplings and engaging the corner-posts and retaining the lugs in engagement with the loops, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 20 the presence of two witnesses.

MICHAEL C. ROBBINS.

Witnesses:

A. B. BOHON,  
A. J. SHARP.