No. 865,580. PATENTED SEPT. 10, 1907.

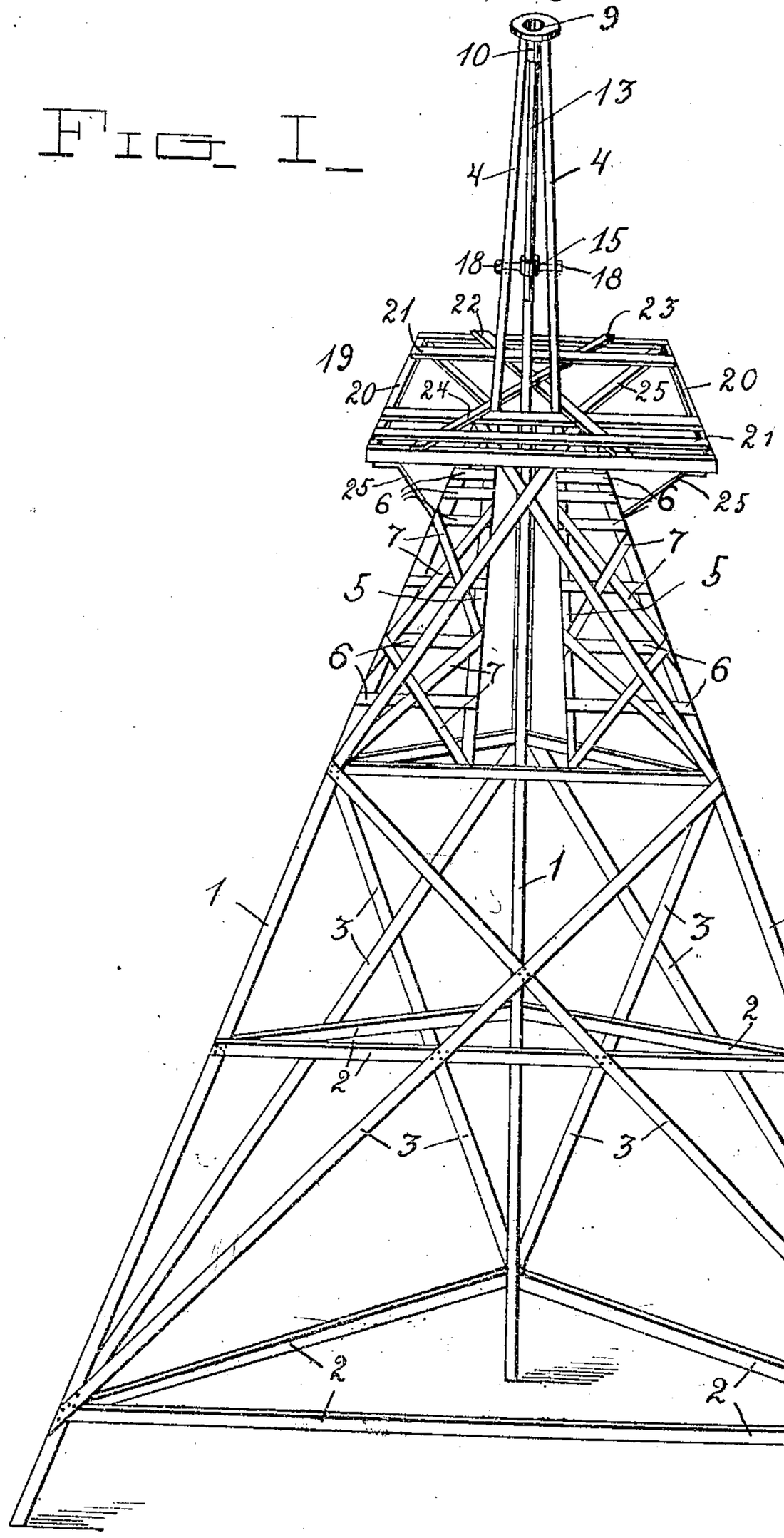
J. H. EUBANK.

WINDMILL TOWER.

APPLICATION FILED JUNE 22, 1907.

3 SHEETS—SHEET 1.

FIG. I.



Witnesses

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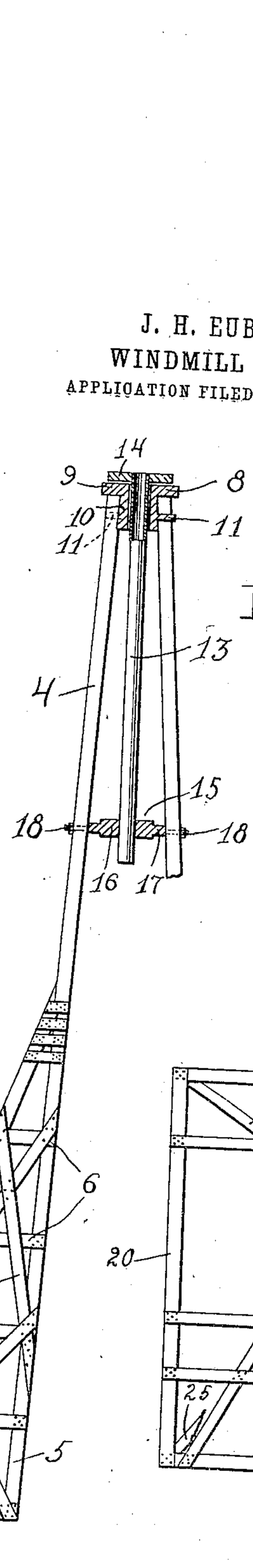

FIG. 2.

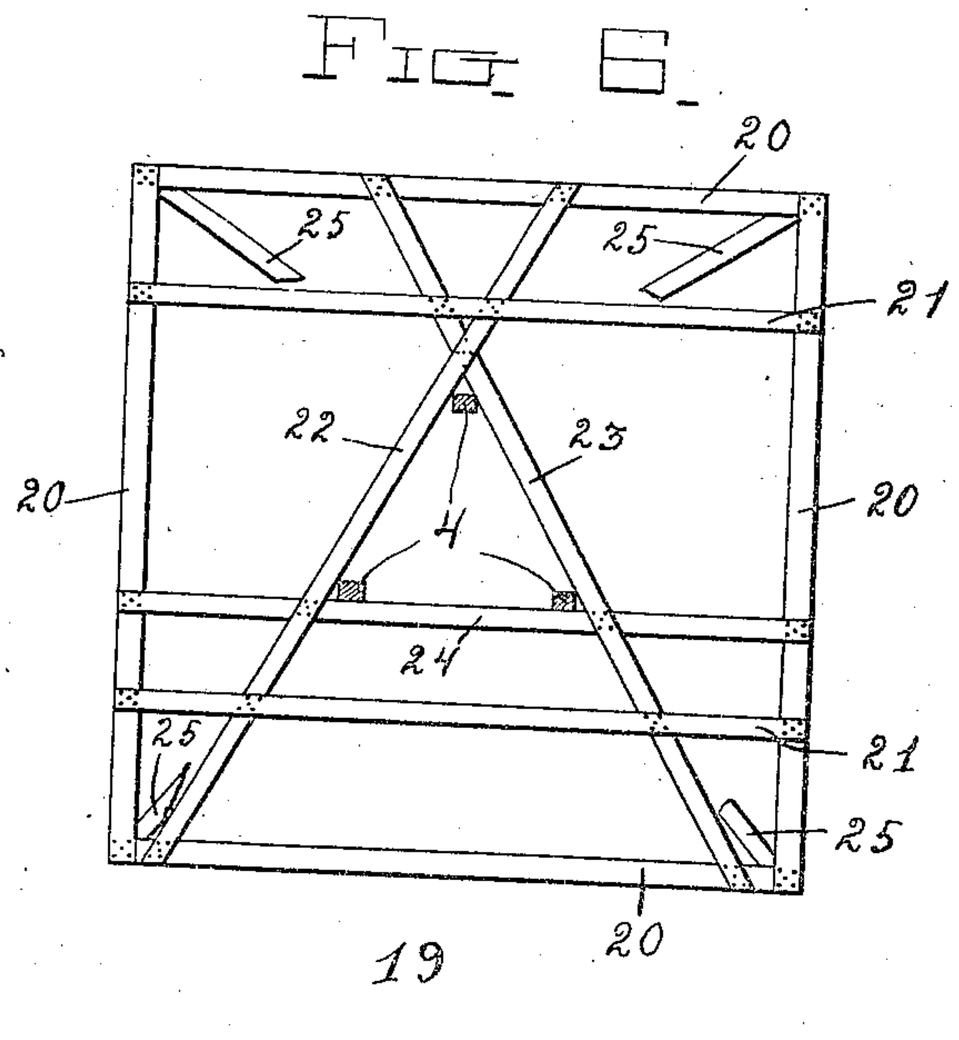

FIG. 6.

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3 SHEETS—SHEET 3.

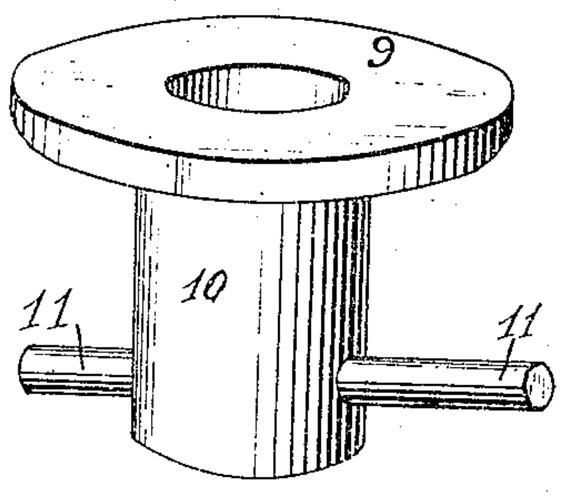


FIG. 4.

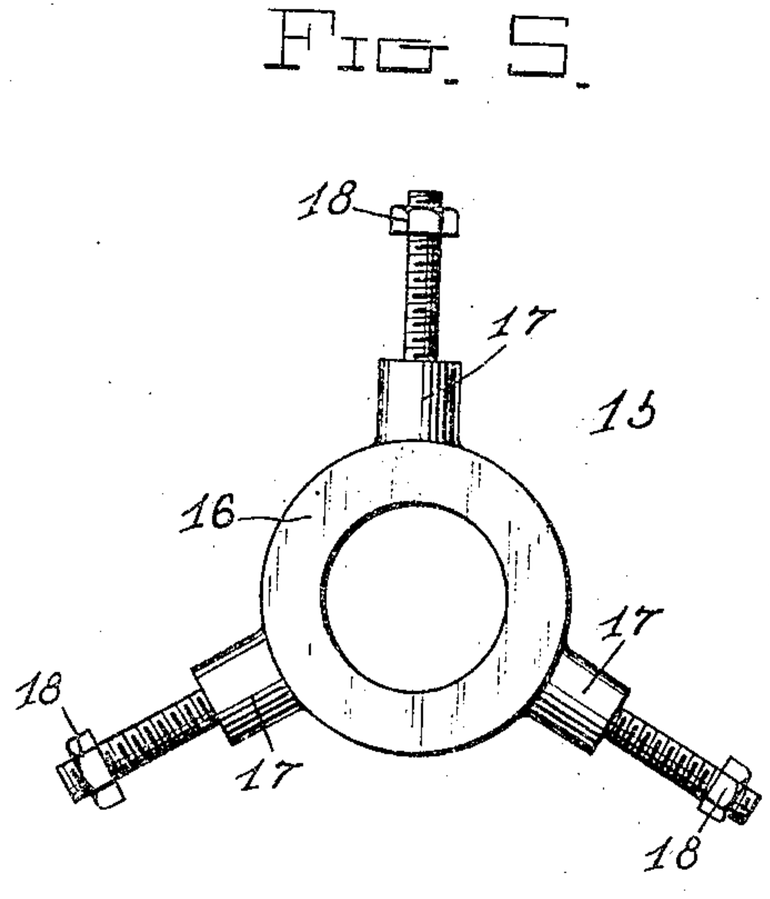
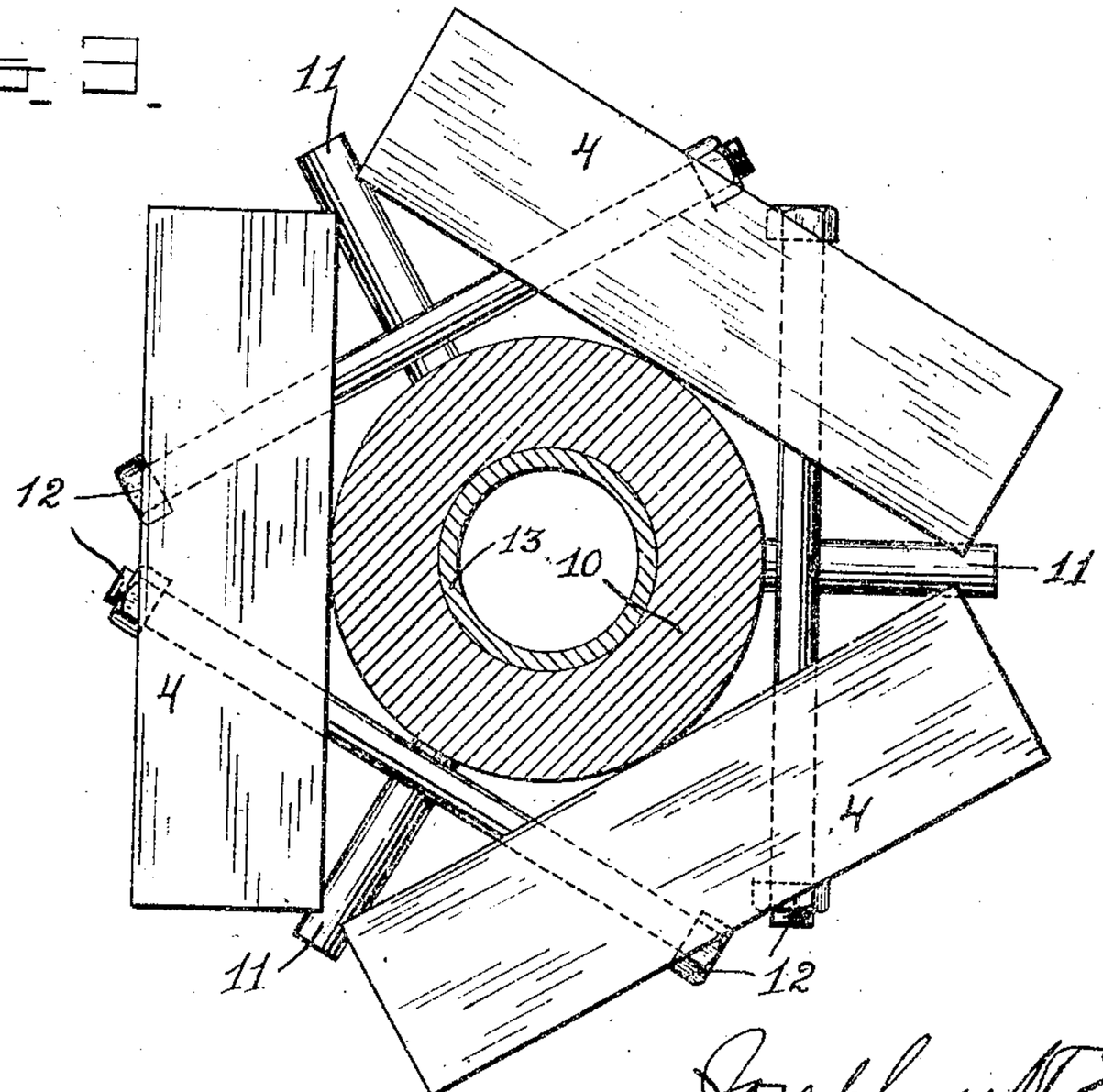


FIG. 5.

FIG. 3.



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UNITED STATES PATENT OFFICE.

JOSEPHUS H. EUBANK, OF YSLETA, TEXAS.

WINDMILL-TOWER.

No. 865,580. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed June 22, 1907. Serial No. 380,286.

To all whom it may concern:

Be it known that I, JOSEPHUS H. EUBANK, a citizen of the United States, residing at Ysleta, in the county of El Paso and State of Texas, have invented certain new and useful Improvements in Windmill-Towers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in towers for windmills or the like, and consists of the novel construction and combination and arrangement of parts hereinafter described and claimed.

The object of the invention is to improve the construction of towers of this character and to provide one which will be strong and durable, which may be made at a comparatively small cost and which will be well adapted for the purpose intended.

The above and other objects, which will appear as the nature of the invention is better understood, are attained in the preferred embodiment of my invention illustrated in the accompanying drawings, in which

Figure 1 is a perspective view; Fig. 2 is a detail vertical section through the upper portion of the tower; Fig. 3 is a detailed horizontal section of one kind of bedplate through the lower portion of the bedplate showing the manner in which the standards are secured upon it; Fig. 4 is a detailed perspective of one kind of bed plate; Fig. 5 is a detailed view of one kind of spider which connects said standards. Fig. 6 is a detail horizontal section, showing the manner in which the platform is constructed and connected to the tower.

The preferred embodiment of my invention illustrated in the drawings, is in the form of a tripod tower having three upwardly and inwardly converging corner posts 1 united at suitable intervals by horizontal brace girths 2 and also by crossed diagonal braces 3. The upper ends of the corner posts 1 do not meet, but are united by the uppermost girths 2 and have connected to them standards 4 which latter also converge upwardly and inwardly. There are, of course, three of the standards 4 and they are of such length that their lower ends 5 project downwardly into the upper portion of the tower and are connected to the upper portions of the posts 1 by framing or bracing consisting of a plurality of cross bars 6 and crossed diagonal braces or brace bars 7, as more clearly illustrated in Fig. 2. The upper converging ends of the standards 4 are united by a bed plate 8 consisting of a circular upper portion 9 and a depending body portion 10 on which latter are formed three radially projecting studs 11 to receive the upper ends of the standards between them, as clearly shown in Fig. 3.

The standards are secured to the bed plate or head 8 beneath its upper portion 9 by a plurality of bolts or similar fastenings 12 which are passed angularly through the adjacent sides of the standards beneath the pins 11 and upon the outside of the body 10, as clearly shown in said Fig. 3. The body 10 of the head or bed plate 8 is tubular and in it is rotatably mounted a guide tube or sleeve 13 which depends from a rotary plate or head upon which the windmill is mounted. This working head 14 may be of any suitable form and construction and may be retained upon the bed plate in any suitable manner so that it can rotate freely and permit the wind wheel to face the wind at all times. The tube or sleeve 13 is adapted to serve as a guide for the pump rod or other connection and its lower end is adapted to be centered and braced by a truing spider 15 The latter, as clearly shown in Fig. 5, comprises a hub portion 16 apertured to receive the tube 13 and from which radiate three arms 17 having threaded outer ends to project through openings in the standards 4 and to receive clamping nuts 18. Upon the upper portion of the tower is arranged a horizontal platform 19 preferably of rectangular form, as shown in Fig. 6, and consisting of four side bars 20 united by parallel cross bars 21 and by three angularly arranged intersecting cross bars 22, 23, 24. The three last mentioned bars have their central portions secured to the uppermost girths 2 so that the platform is disposed at the upper ends of the corner posts. The four corners of the platform are supported by angular braces 25, as clearly shown in Fig. 1.

From the foregoing it will be seen that my improved tower is composed of a comparatively small number of parts which may be wood or metal, and that it may be easily erected at a small cost. The peculiar manner of constructing the upper portion of the tower provides a structure which is especially well adapted for supporting a windmill, since it is comparatively light and at the same time strong, rigid and durable.

While the embodiment of the invention shown and described is in the form of a tripod tower, that is, one of triangular shape in cross section, it will be understood that it may be rectangular or of other cross sectional shape.

Reference is made in this application to the bedplate and spider to show the manner in which they can be used with my new tower.

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

1. A tower comprising an upwardly tapering main frame, upwardly converging standards having their lower ends projecting into the top of the main frame and suitably secured to the latter, and their upper ends projecting above the same, a bed plate or head uniting the upper ends of said standards and having a tubular body portion, a rotary head arranged upon said bed plate and having a depending tubular guide to extend through the body portion of said bed plate or head, and a spider connecting the intermediate portions of said standards and adapted to receive the lower portion of said tubular guide, substantially as described.

2. A tower comprising an upwardly tapering main frame composed of corner posts united by horizontal girths and braces, upwardly converging standards having their lower ends projecting into the top of the main frame and their upper ends projecting above the top of the same, means uniting the lower ends of the standards to said corner posts, a bed plate or head uniting the converging upper ends of said standards, said bed plate or head being provided with a vertical opening, a rotary head arranged upon the bed plate and having a depending tubular guide to extend through the opening in the bed plate, a spider uniting the intermediate portions of said standards and adapted to receive said guide, and a platform having crossed or intersecting bars secured to the uppermost horizontal girths, substantially as described.

3. A tower comprising an upwardly tapering main frame having corner posts and horizontal girths uniting the upper ends of said posts and spacing them apart, converging standards having their lower ends projecting into the open top of the main frame and adjustably connected to the latter and their upper ends projecting above the top of the main frame and suitably connected, a platform having crossed or intersecting bars secured to said horizontal girths, and braces connecting the outer portions of the platform to the main frame, substantially as described.

4. A tower comprising a main frame, converging standards arising therefrom, a bed plate or head having a depending body provided with projections to receive the upper ends of the standards between them, and fastenings passed through adjacent standards for uniting them to said bed plate, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOSEPHUS H. EUBANK.

Witnesses:
A. G. FOSTER,
L. E. SCARBOROUGH.