

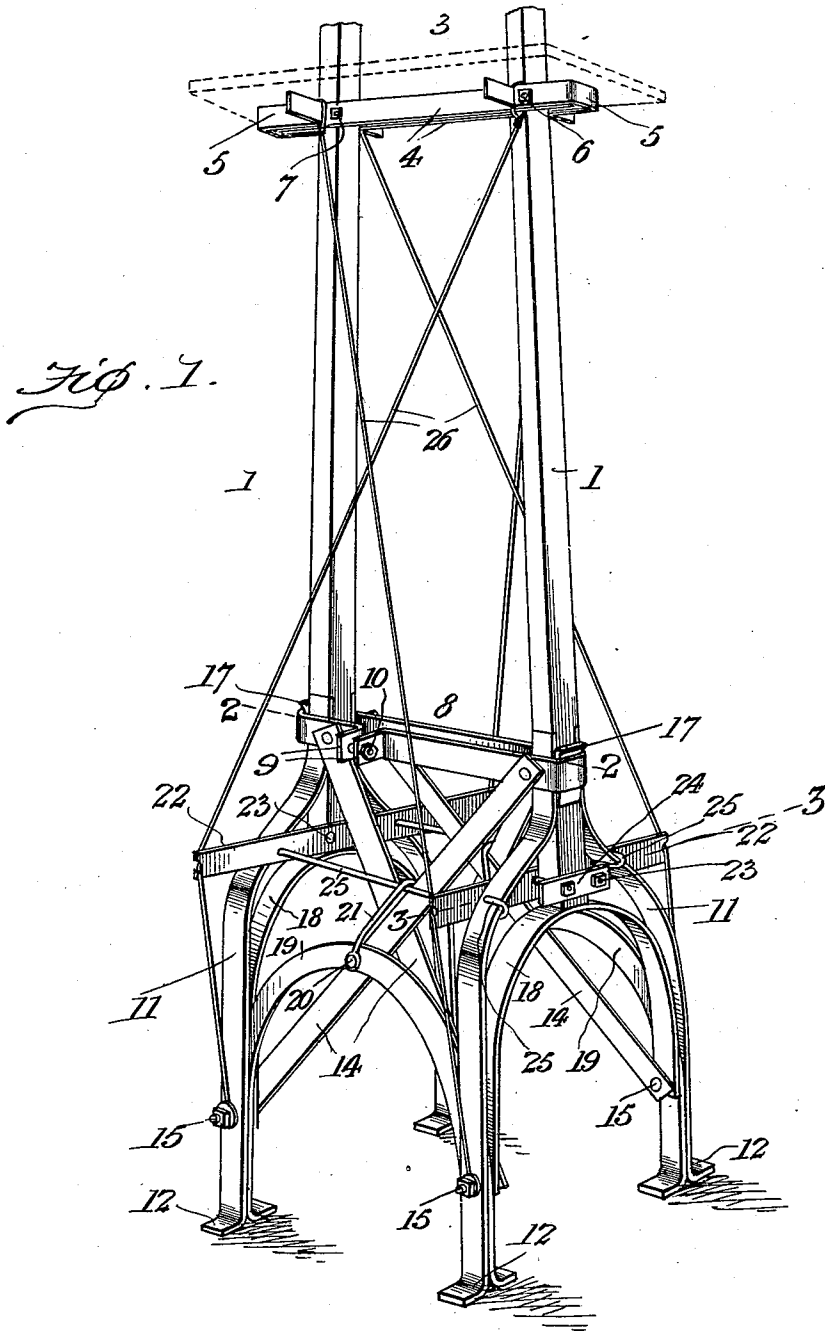
No. 742,885.

PATENTED NOV. 3, 1903.

S. B. MARTIN.
WINDMILL TOWER.
APPLICATION FILED APR. 3, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

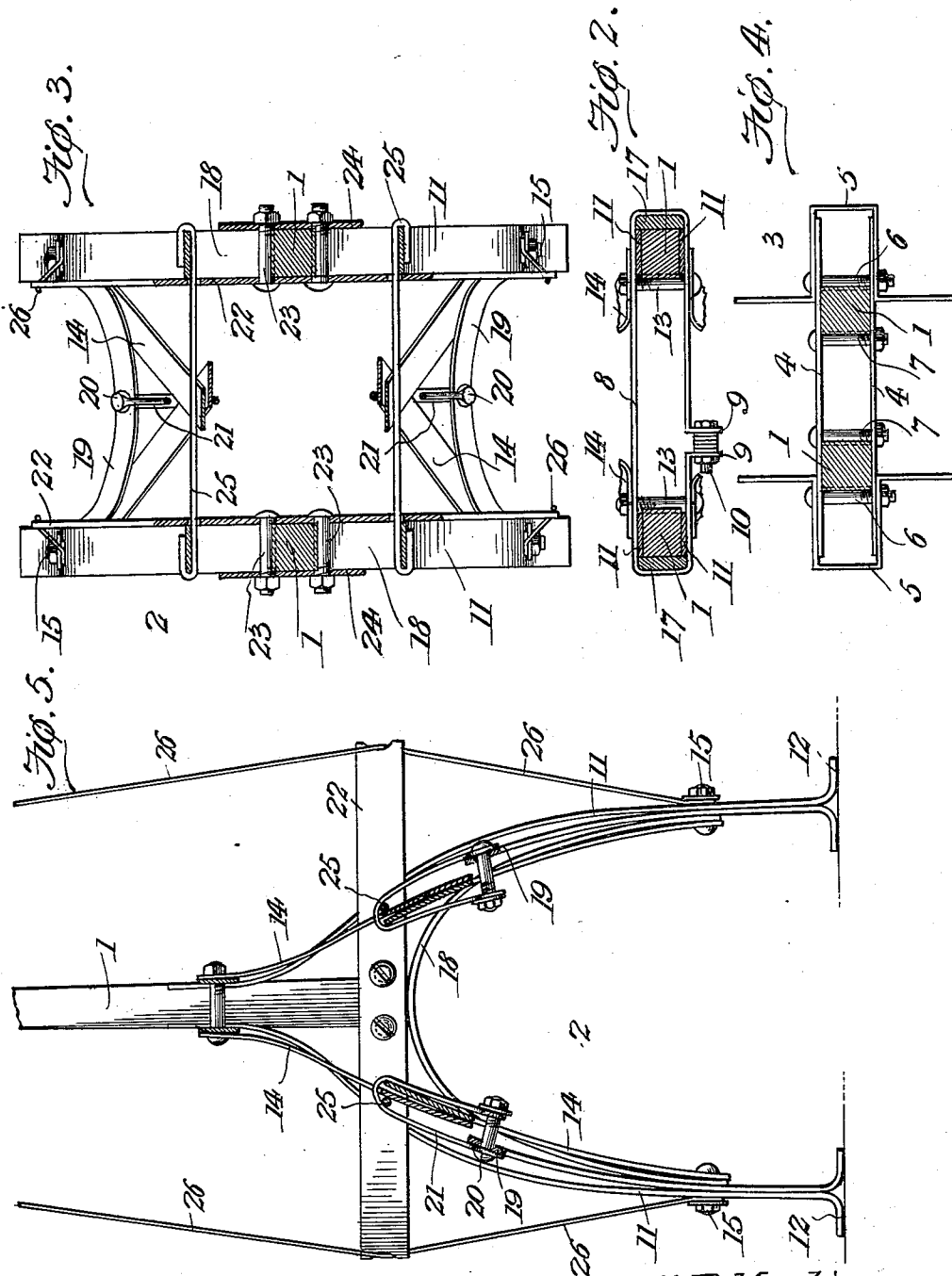


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UNITED STATES PATENT OFFICE.

SAMUEL B. MARTIN, OF DALTON, OHIO.

WINDMILL-TOWER.

SPECIFICATION forming part of Letters Patent No. 742,885, dated November 3, 1903.

Application filed April 3, 1903. Serial No. 150,957. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL B. MARTIN, a citizen of the United States, residing at Dalton, in the county of Wayne and State of Ohio, have invented a new and useful Windmill-Tower, of which the following is a specification.

My invention relates to windmill-towers, and has for its objects to produce a device of this character which will be comparatively simple of construction, efficient, and durable in operation; and one in which the masts or uprights will be firmly and securely supported by the main framework or superstructure.

With these and other objects in view the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a windmill-tower constructed in accordance with my invention. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1. Fig. 4 is a detail sectional view. Fig. 5 is a detailed sectional elevation.

Referring to the drawings, 1 indicates a pair of substantially vertical masts or uprights, and 2 the underlying framework or superstructure which sustains the same. These masts, which are suitably spaced apart, are braced near their upper ends one from the other by means of a platform-supporting frame 3, comprising a pair of parallel plates 4, situated one at either side of the masts, and a pair of substantially U-shaped members 5 of strap metal arranged one at each end of the plates 4 and secured thereto by transverse bolts 6, which lie at the outer transverse edges of the masts 1 and which serve, in conjunction with transverse bolts 7, lying at the inner transverse edges of the masts, to maintain the platform-supporting frame in position.

8 indicates a horizontal tie-band, which is composed of strap metal and embraces the masts adjacent to their lower ends, the meeting ends of the tie-band being angularly bent to form fingers 9, which receive a lag-bolt 10, which is operable for placing the tie-band under tension. Seated between the inner faces of the tie-band and the outer lateral faces of

each mast are the upper ends of a pair of main frame members or supports 11, which diverge laterally from their point of meeting with the masts for a suitable distance and then extend downward in vertical parallel relation, with their lower terminal ends angularly bent to form horizontal anchoring-feet 12. Secured to each side of the strap adjacent to the inner transverse edges of the masts by horizontal bolts 13 are the upper ends of a pair of braces 14, which are crossed below the strap and extend diagonally in opposite directions and have their lower ends secured by bolts 15 to the frame members 11 at a point just above the ground. The bolts 13, which secure the upper ends of the diagonal braces to the tie-band, extend transversely through the tie-band in contact with the inner transverse faces of the masts and serve, in conjunction with the tie-band, to form sockets for the reception of the ends of the masts, which are frictionally held in their respective sockets by means of adjustable wedges 17, which are inserted between the outer transverse faces of the masts and the adjacent inner faces of the tie-band and which may be driven inward from time to time to compensate for expansion or contraction of the metal, thus preventing looseness of the parts, as will be readily understood.

Each mast rests at its lower end upon the crown of an arched member 18, composed of suitable strap metal bent to U shape and inserted in an inverted position between the frame members 11, with its lower ends connected to the frame members by means of the bolts 15.

19 19 indicate a pair of arched frame members situated one at each side of the superstructure and secured to the frame members 11 by means of the bolts 15. These arched frame members are each in the form of an inverted U and have their lower terminals angularly bent to form the inner halves of the anchoring-feet 12, the outer halves of which are formed by similarly bending the lower ends of the frame members 11, as above described. At this point it may be well to direct attention to the fact that the bolts 15 serve as a common connection for the members 11 18 19 and braces 14. Secured to the crown of each frame mem-

ber 11 by means of a bolt 20 is a tie member 21, which is secured between the outer end of the bolt and the outer face of the member and extends upward around the cross-braces 14 and thence downward and is secured to the bolt between the inner head of the same and the said braces 14.

22 22 indicate a pair of horizontal bars which are secured to the inner transverse faces of the masts at their lower ends each by means of a pair of horizontal bolts 23, which lie in contact with the opposite lateral faces of the mast and which receive at their outer ends a clamping-plate 24, which may be acted upon by the bolts 23 for clamping the bar 22 tightly against the inner face of the mast. The bars 22 are further supported by means of brace-rods 25, which are bent at their ends to form hooks for engagement with the frame members 11, these rods being extended through perforations in the bars 22, thus serving the double function of sustaining the bars and bracing the frame members 11 in pairs one from the other. The outer ends of the bars 22 are notched for the reception of guy-wires 26, secured at their upper ends to the bolts 6 and at their lower ends to the bolts 15 and which serve the function of bracing the masts 1.

From the foregoing description it will be seen that I produce a comparatively simple structure which will at the same time be strong and durable and one by which the masts will be firmly and securely sustained in their vertical position, and, further, that the masts are securely connected to the superstructure at their lower ends without the employment of bolts or the like passing through the masts. In attaining these ends it is to be understood that I do not limit myself to the precise details herein shown and described, inasmuch as minor changes may be made therein without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. The combination with a pair of masts, of a tie-band embracing the same, frame members having their upper ends seated between the masts and tie-band, and braces connecting the tie-band and frame members.

2. The combination with a pair of masts, of a tie-band embracing the same adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-

band, and adjustable wedges interposed between the tie-band and masts.

3. The combination with a pair of masts, of a tie-band embracing the masts adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-band, braces connecting the tie-band and frame members, horizontal bars associated with the frame, and guys extending from the upper ends of the masts to the frame members and engaging the bars.

4. The combination with a pair of masts, of a tie-band embracing the masts adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-band, braces connecting the tie-band and frame members, and bolts connecting the braces to the band and bearing against the masts.

5. The combination with a pair of masts, of a tie-band embracing the masts adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-band, braces connecting the tie-band and frame members, and arched members connecting the frame members in pairs at the ends of the structure and serving as a rest for the lower ends of the masts.

6. The combination with a pair of masts, of a tie-band embracing the masts adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-band, braces connecting the tie-band and frame members, arched members connecting the frame members in pairs at the ends of the structure and serving as a rest for the lower ends of the masts, and arched members connecting the frame members in pairs at the sides of the structure.

7. The combination with a pair of masts, of a tie-band embracing the masts adjacent to their lower ends, frame members having their upper ends seated between the masts and tie-band, horizontal bars clamped to the masts at their centers, and brace-rods connecting the frame members in pairs at opposite sides of the structure and extending through the horizontal bars for supporting the same.

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

SAMUEL B. MARTIN.

Witnesses:

ERNEST F. SCOTT,
WALTON C. SCOTT.