(No Model.)

J. DETLEF.

WINDMILL TOWER.

No. 456,193. Patented July 21, 1891.

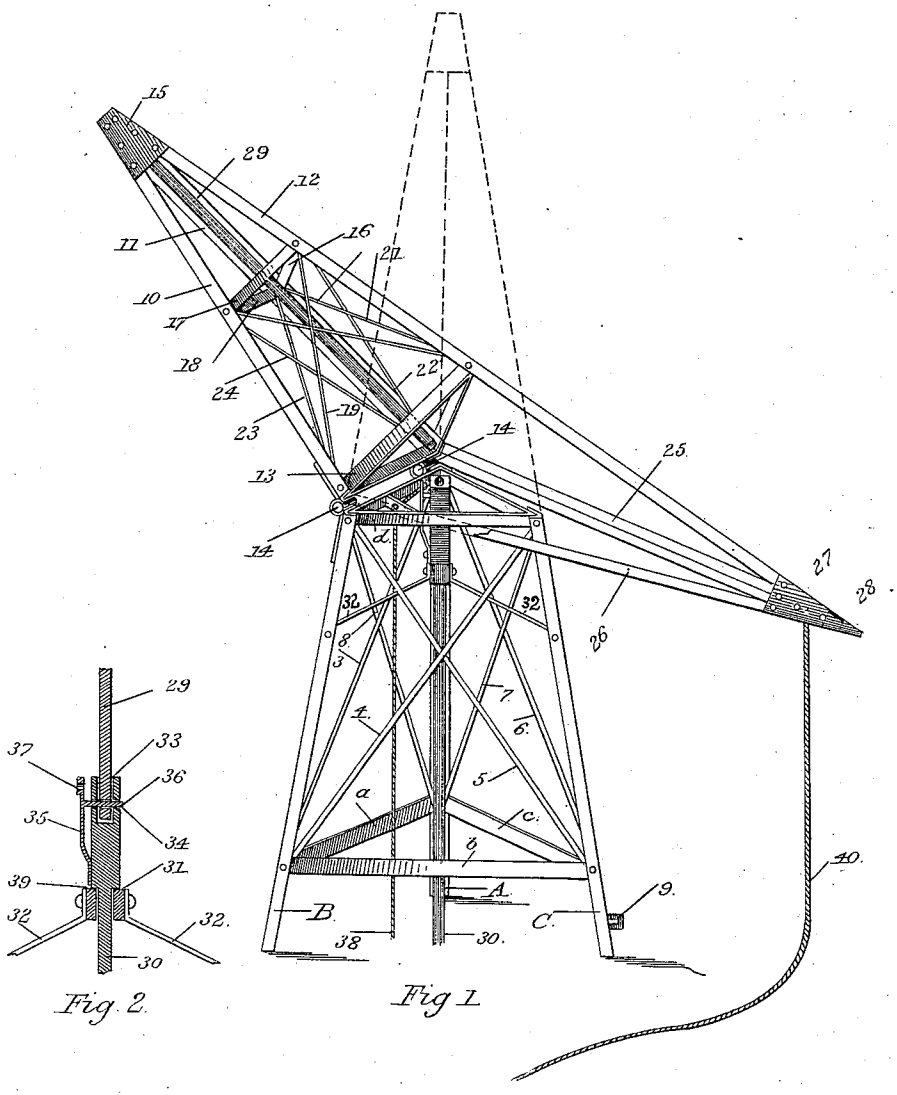


Fig. 1

Fig. 2

Witnesses
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UNITED STATES PATENT OFFICE.

JULIUS DETLEF, OF GRAND MOUND, IOWA.

WINDMILL-TOWER.

SPECIFICATION forming part of Letters Patent No. 456,193, dated July 21, 1891.

Application filed February 10, 1891. Serial No. 380,902. (No model.)

To all whom it may concern:

Be it known that I, JULIUS DETLEF, a citizen of the United States, residing at Grand Mound, county of Clinton, and State of Iowa, have invented a new and useful Windmill-Tower, of which the following is a specification.

My invention relates to a windmill-tower constructed in two sections, the sections being joined by hinges, the tower being provided with a sectional pump-rod, arranged to be coupled or uncoupled at pleasure; and the object of my improvement is to retain the upper section of the tower in a vertical position when desired, or released to swing downward by the side of the lower section. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of my invention, showing the upper section of the tower partially swung from a vertical position, the dotted lines illustrating it when in a vertical position; and Fig. 2 is a detail view of the means for coupling the two sections of the pump-rod together.

Similar letters and figures refer to similar parts throughout both views.

The lower section of the tower consists of three angular posts A, B, and C, forming the corners of a pyramidal base, which posts are joined together near the lower end of the base by the brace *a b c* and at their upper end by the triangular frame *d*. The posts are further strengthened by the braces 3, 4, 5, 6, 7, and 8. At the lower end of the post C, upon its outer angular corner, is secured a staple 9. The upper section of the tower consists, also, of three angular posts 10, 11, and 12. At the lower end of the posts 10 and 11 is a triangular frame 13, which secures the lower ends of the posts 10 and 11 together, and also to which triangular frame is attached the post 12. This triangular frame is of the same size and form substantially as the triangular frame *d*, and upon the side of such frame connecting posts 10 and 11. The frame is hinged to the top of posts A and B by the hinges 14.

The posts 10, 11, and 12 are joined together at their upper ends and secured in such position by the plate 15. Said posts are also further secured together by the braces 16, 17, and 18, and by the braces 19, 21, 22, 23, and 24. The corner-posts are V-shaped, as shown in the drawings, and the post 12 is extended downward from the base of the upper section, so as to reach nearly to the ground, and such post is strengthened by means of the side braces 25 and 26, which extend from the bottom of such post to the triangular base 13, to which they are respectively attached, the bottoms of such braces being secured to the bottom of the post 12 by the triangular plate 27. The plate 27 and post is perforated, as at 28, so that when the upper section is brought to a vertical position, as shown by the dotted lines in Fig. 1, the staple 9 passes through such perforation, and the upper section is secured in position by means of placing a pin through such staple outside of the plate.

The pump-rod is constructed in two sections, 29 being the upper section and 30 the lower section. The lower section is held in position by the collar 31, which is held in position by the braces 32, which are secured, respectively, to a post A B C. The upper end of the lower section of pump-rod 30 is vertically perforated, as shown in Fig. 2 at 33, and it is also perforated crosswise, as at 34. At the side of the upper end of such pump is secured the spring 35, the upper end of which is provided with a pin 36, which enters the perforation 34 in the pump-rod, and such spring is also provided at its upper end with a perforation 37, through which is passed a rope 38. The lower end of the pump-rod 29 is also crosswise perforated, so that when the lower end of such rod is dropped into the vertical perforation 33 of the lower section of pump-rod 30 its perforation will register or be in line with the perforation 34 in the upper end of the lower section of pump-rod 30. By means of the rope 38 the pin 36 may be withdrawn from the perforation 34 sufficient to permit the two sections of the pump-rod to be disconnected. The upper portion of the lower section of pump-rod 30 is provided with a shoulder 39. The upper section of pump-rod 29 is secured centrally in the upper section of the tower, and the lower section of the pump-rod 30 is also secured in a vertical position centrally within the lower section of the tower. The collar 31

is placed in such position within the tower that when the shoulder 39 rests upon the collar 31 the lower section of pump-rod 30 will be just below the bottom of the upper section of pump-rod 29; but when the two sections are connected the shoulder 39 will be above the collar 31, and the lower section of the pump-rod 30 will then be supported by the upper section 29 by means of a pin 36. The lower part of the post 12, near the plate 27, may be weighted in such a manner as shall be found expedient to equalize the weight of a windmill when placed upon the top of such tower, and a rope 40 may be secured to the end of such post for the purpose of controlling the swing of the upper section of the tower, and also for the purpose of swinging such upper section to its vertical position.

I am aware that windmill-towers have heretofore been described in which a swinging mast has been used, and I am also aware that a pump-rod constructed in two parts for a windmill has been heretofore described.

I do not broadly claim such features; but

What I claim as new, and desire to secure by Letters Patent, is—

A windmill-tower having a triangular base with three posts, the tower being composed of an upper and lower section, the sections being hinged together upon one side, one of the corner-posts of the upper section being extended and provided with means for locking the bottom of such post to the bottom of the corresponding post of the lower section, combined with the pump-rod arranged within the tower and formed in two sections, the upper section arranged to drop within a vertical perforation in the lower section, such sections being secured together by a spring-actuated pin passing through registering crosswise perforations in such sections, and means for withdrawing the pin, substantially as described.

JULIUS DETLEF.

Witnesses:
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