(No Model.)

J. W. PARK.

ADJUSTABLE BRACE FOR WINDMILL TOWERS.

No. 562,971. Patented June 30, 1896.

Fig. 1

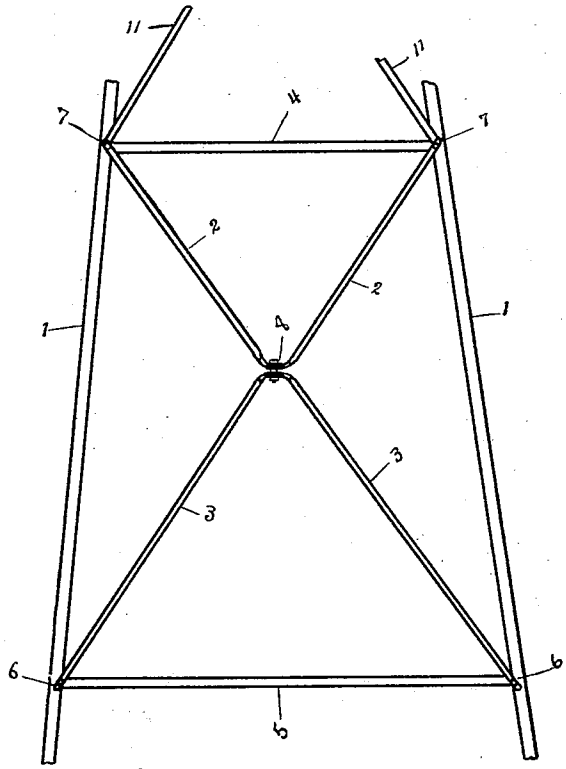
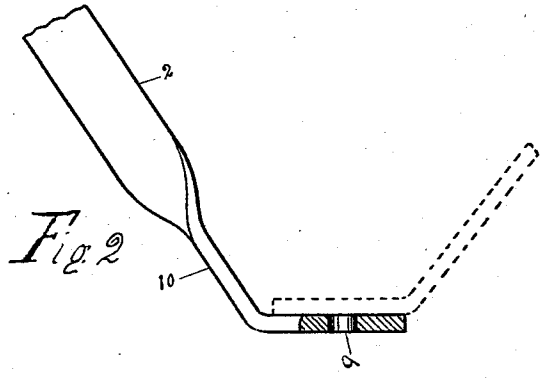


Fig. 2



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UNITED STATES PATENT OFFICE.

JOHN W. PARK, OF GOSHEN, INDIANA.

ADJUSTABLE BRACE FOR WINDMILL-TOWERS.

SPECIFICATION forming part of Letters Patent No. 562,971, dated June 30, 1896.

Application filed August 29, 1895. Serial No. 560,869. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. PARK, a citizen of the United States, residing at Goshen, in the county of Elkhart, in the State of Indiana, have invented certain new and useful Improvements in Adjustable Braces for Windmill-Towers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in adjustable braces for towers, but specially designed and adapted for use in the construction of windmill-towers.

My invention comprises a four-part brace for the sides of a metallic tower, having diagonally-arranged brace-sections pivotally secured at their outer ends to the tower-posts, and having their inner and meeting ends adjustably connected and rigidly secured by a single holding or drawing bolt without the aid of additional parts.

The object of my invention is to provide a simple, economical, and efficient brace for metallic towers whose four-part diagonal sections can readily and conveniently be adjusted and tightened at their meeting ends by a single operator and by the tightening of a single bolt.

In the accompanying drawings similar reference-numerals indicate corresponding parts in both views.

Figure 1 is view in elevation of my improved adjustable brace in position upon a tower, showing the relative arrangement of the diagonal brace-sections and the manner of tightening and securing the same. Fig. 2 is a detail of one of the meeting ends of my improved brace-sections with the overlapping end of the adjacent brace-section in position thereon shown in dotted outline.

The corner-uprights or inclined posts 1, of any suitable number or length, design, strength, or material, are preferably of angle-iron, and are rigidly braced laterally by the horizontal brace-girts 4 and 5, of any proper construction, and secured to the tower posts in the usual or other proper manner.

The metallic brace-sections 2 and 3, of proper size and strength, are arranged in pairs, as seen in Fig. 1, with their outer ends pivotally secured to the outer face of the tower-posts by proper bolts or pivots 7 and 6, respectively. The inner ends 10 of the said brace-sections are bent or twisted to a position in which the sides thereof are at right angles to their relative position in the remaining portion of the said sections, and the free end of the said twisted portion is then so bent as to form an obtuse angle therewith, and so arranged as to be in a horizontal position when in use, as seen in Fig. 2. The horizontal portion of the said end 10 is then centrally perforated, as at 9, for the screw-threaded holding and adjusting bolt 8, and the adjacent sections 2 have their inner ends overlapping with the coincident perforations 9 for the said bolt. The said brace-sections 3 are similarly constructed, and have the same relative arrangement, their outer ends being pivotally mounted on the said tower-posts by the bolts or pivots 6, and their inner and twisted ends, constructed as above described, are also centrally perforated and overlapped. The screw-threaded bolt 8 is then placed in the registering perforations 9 of the two pairs of brace-sections 2 and 3, Fig. 1, which can thereby readily and conveniently be adjusted or tightened at pleasure. On account of the inclined position of the tower-posts the sections 2 of the upper pair are somewhat shorter than those of the lower pair. In the same manner any desired number or series of the said braces can be employed and mounted in like manner, as at II, Fig. 1.

It will thus be seen that my four-part brace can readily be adjusted to a position of any desired tension by means of a single bolt, or the sections thereof can be conveniently removed or replaced by a single operator.

Having thus described my invention and the manner of employing the same, what I claim as my invention, and desire to secure by Letters Patent, is—

The combination in a metallic tower, of the upright posts rigidly connected by proper brace-girts, as shown, the adjustable braces arranged upon the angularly adjacent sides of said metallic tower, and comprising two pairs of rigid diagonal brace-sections having their outer ends secured to the tower-uprights,

and having the inner and overlapping ends of each of said pairs adjustably connected and secured midway the said uprights, by a single holding-bolt, and the screw-threaded bolt by which the meeting ends of the said sections are secured.

Signed by me, at Goshen, Elkhart county, State of Indiana, this 15th day of August, A. D. 1895.

JOHN W. PARK.

Witnesses:
CHAS. G. SIMS,
WM. J. DAVIS.