(No Model.)

T. O. PERRY.

WINDMILL DERRICK.

No. 375,378. Patented Dec. 27, 1887.

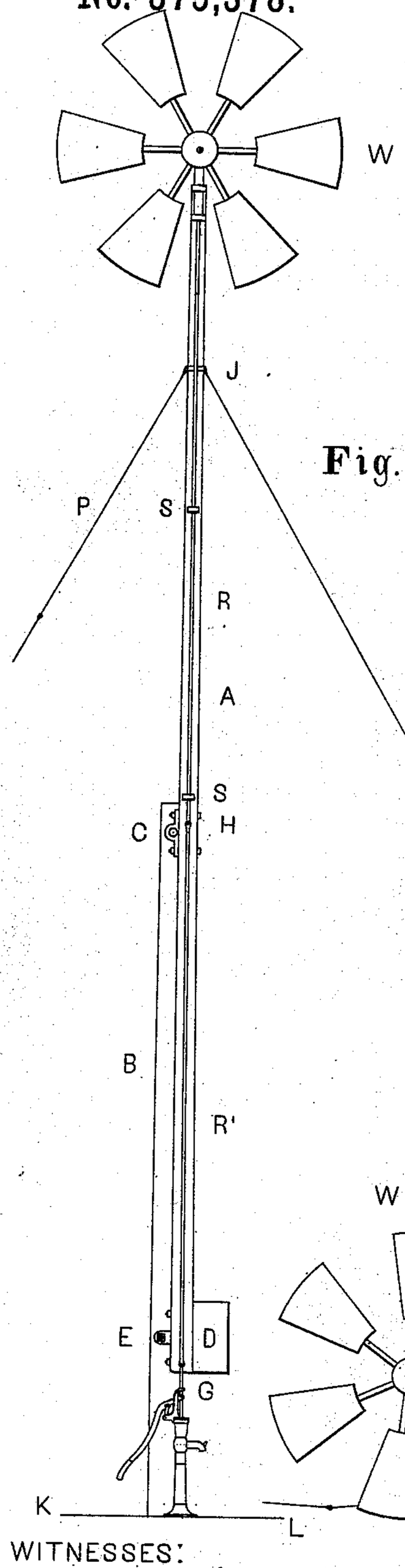
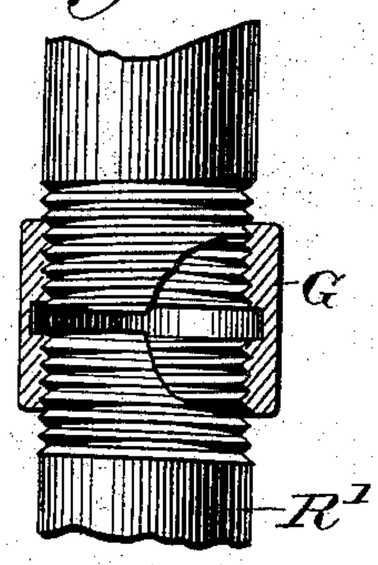


Fig. 1.

Fig. 3.



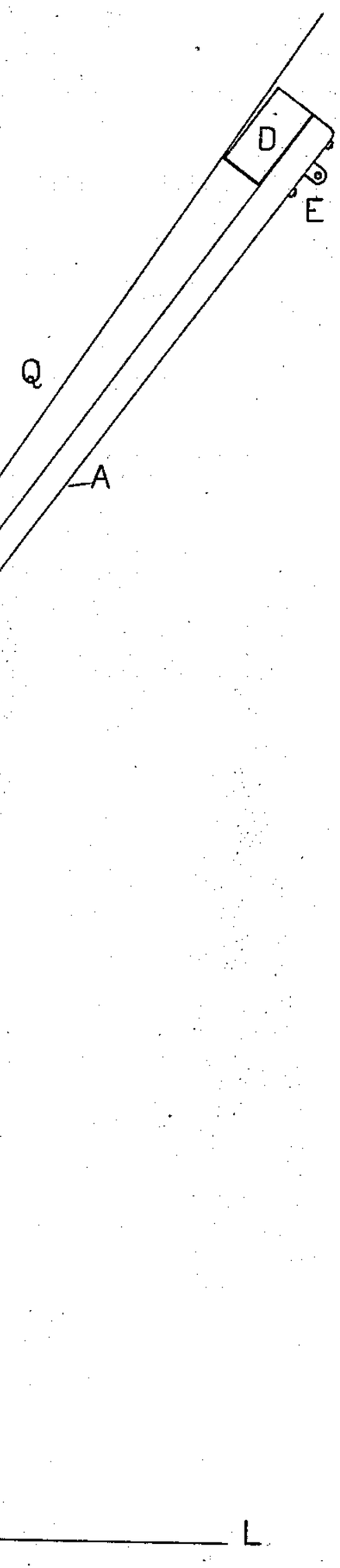


Fig. 2.

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THOMAS O. PERRY, OF TECUMSEH, MICHIGAN.

WINDMILL-DERRICK.

SPECIFICATION forming part of Letters Patent No. 375,378, dated December 27, 1887.

Application filed September 13, 1886. Serial No. 213,368. (No model.)

To all whom it may concern:

Be it known that I, THOMAS O. PERRY, a citizen of the United States, residing at Tecumseh, in the county of Lenawee and State of Michigan, have invented a new and useful Windmill-Derrick, of which the following is a specification.

The objects of my invention are, first, to provide a support for sustaining a windmill high in air while in use, and which shall admit of readily lowering the windmill to the ground or where it can be easily reached, so as to do away with the necessity of climbing whenever it may be desirable to oil the bearings or make repairs, or so as to avoid damage in case of storm, and, second, to facilitate the erection of the windmill and reduce cost. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows the derrick supporting a windmill high in air ready for use; and Fig. 2 illustrates the method of lowering the windmill to the ground for oiling, &c. Fig. 3 is a sectional detail of the coupling G on the rod R′.

Similar letters refer to similar parts in all cases.

K L represent the surface of the ground, from which rises a fixed post or support, B, held firmly by any suitable means in an upright position. The post B supports a mast, A, on a horizontal pivot, C, at or near the top of the post. To the top of the mast A is secured a windmill in the ordinary way, and at the foot of the mast a weight, D, is attached, so that the mast, with windmill and weight, may balance, or nearly so, on the pivot C. At the foot of the mast is also attached an ear, E, which is bolted or in some way fastened to the post B, so as to secure the mast in an upright position when the windmill is in use. The mast may be further steadied, if necessary, by guys P Q, attached to the mast at J and secured at their lower ends to any convenient fixed objects. The fastening at E may be dispensed with if guys are used to hold the mast upright.

The windmill is supposed to impart, by means of a shaft or rod, R R′, either rotary or reciprocating motion to machinery of some kind on the ground or somewhere beneath the pivot C, and the shaft or rod R R′ is provided with a flexible joint or hinge, H, opposite or near to the pivot C. In case of a revolving shaft there should be a universal joint in line with the axis of pivot C. In the drawings the windmill is represented as attached to a common pump, F, and if the reciprocating rod R′ below pivot C be sufficiently flexible no trouble will arise from a small displacement of the joint H. Otherwise the rod R′ may have another joint at G near the foot of mast A. The rod R is provided with guides S, one of which should be attached to the mast near the joint H. R R′ also might represent a pipe for conveying compressed air down from an air-compressor worked by the windmill above, in which case the guide S would represent a staple for holding the pipe in place.

In order to lower the windmill for oiling, &c., it is only necessary to take off the nut or loosen the fastening which secures the foot of mast A to post B and turn the mast on its pivot until the windmill is brought to the ground or within reach; and of course the reverse of this process raises the windmill again to its working position. When guys P Q are used, the guy Q should be unhitched at its lower end before attempting to swing the mast from its vertical position, and the flexible guy P can conveniently be used as a means for pulling the windmill down. The mast A will of its own accord return to the vertical position if the weight D be so heavy as to somewhat overbalance the windmill. The addition of the weight D to the foot of the mast may not always be necessary, as the weight of the mast itself may be so distributed with reference to the pivot C that it, with windmill attached at top, will properly balance; neither is the joint H in the rod R R′ indispensable, as the rod or shaft R′ may be simply disconnected at G near the ground whenever it is required to turn the mast on its pivot, and both parts of the rod or shaft R R′ may be supported in guides or bearings fixed at suitable intervals along the mast A. In this case the rod or shaft R′, when connected at G, might serve as sufficient fastening to hold the mast in upright position.

A mast pivoted and balanced as herein shown and described would be useful for sup-

porting not only windmills, but other apparatus which requires occasional attention, such as electric lamps, signals, &c.

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

1. In combination with a windmill actuating a rod or shaft for communicating motion, a sustaining-mast pivoted to a fixed support and balanced so that on being released it may be readily turned about its pivot from its normal upright position to bring the windmill to the ground or within easy reach for oiling and such attentions as may be occasionally required, substantially as herein shown and described.

2. In combination with a windmill sustained by a mast pivoted to a fixed support, a shaft or rod having a suitable joint or hinge at or near the axis of the pivot about which the mast is turned, so that the windmill, without uncoupling or disturbing the shaft or rod, may be lowered to within easy reach for oiling and such attentions as may be occasionally required, substantially as herein set forth.

3. In combination with a windmill sustained by a mast pivoted to a fixed support, a rod or shaft for communicating motion, having at or near the foot of the mast a release joint or coupling, whereat the rod or shaft may be disconnected, so as to allow the mast to swing on its pivot as required for lowering the windmill, substantially as set forth.

4. In combination with a windmill sustained by a mast pivoted to a fixed support, a rod or shaft for communicating motion, held by guides or bearings attached to the mast, and having at or near the foot of the mast a release joint or coupling, whereat the rod or shaft may be disconnected, so as to allow the mast to swing on its pivot as required for lowering the windmill, substantially as and for the purpose herein set forth.

5. In combination with a mast pivoted to a fixed support and sustaining at its upper end a windmill or other apparatus requiring in normal use a fixed elevation, means for securing a mast in its normal upright position by means of fastening which admits of ready releasing whenever it may be desired to swing the mast on its pivot in order to lower the windmill or apparatus, substantially as and for the purpose herein specified.

6. The combination embracing the windmill or apparatus W, mast A, pivot C, support B, and detachable fastening E, substantially as and for the purpose herein shown and described.

7. The combination embracing the windmill or apparatus W, mast A, pivot C, support B, and guys P Q, substantially as and for the purpose herein set forth.

8. The combination embracing the windmill W, mast A, pivot C, support B, guides or bearings S, and rod or shaft R R′, having detachable joint or coupling G, substantially as and for the purpose herein set forth.

9. The combination embracing the windmill W, mast A, pivot C, support B, detachable fastening E, guide S, and rod or shaft R R′, having hinge or joint H, substantially as and for the purpose herein specified.

10. The combination embracing the windmill W, mast A, pivot C, support B, guys P Q, guide S, and rod or shaft R R′, having hinge or joint H, substantially as and for the purpose herein specified.

11. The combination embracing the windmill W, mast A, pivot C, support B, detachable fastening E, guys P Q, guides or bearings S, and rod or shaft R R′, substantially as and for the purpose herein set forth.

12. The combination embracing the windmill W, mast A, weight D, pivot C, support B, detachable fastening E, guide or bearing S, and rod or shaft R R′, substantially as and for the purpose herein set forth.

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Witnesses:
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