

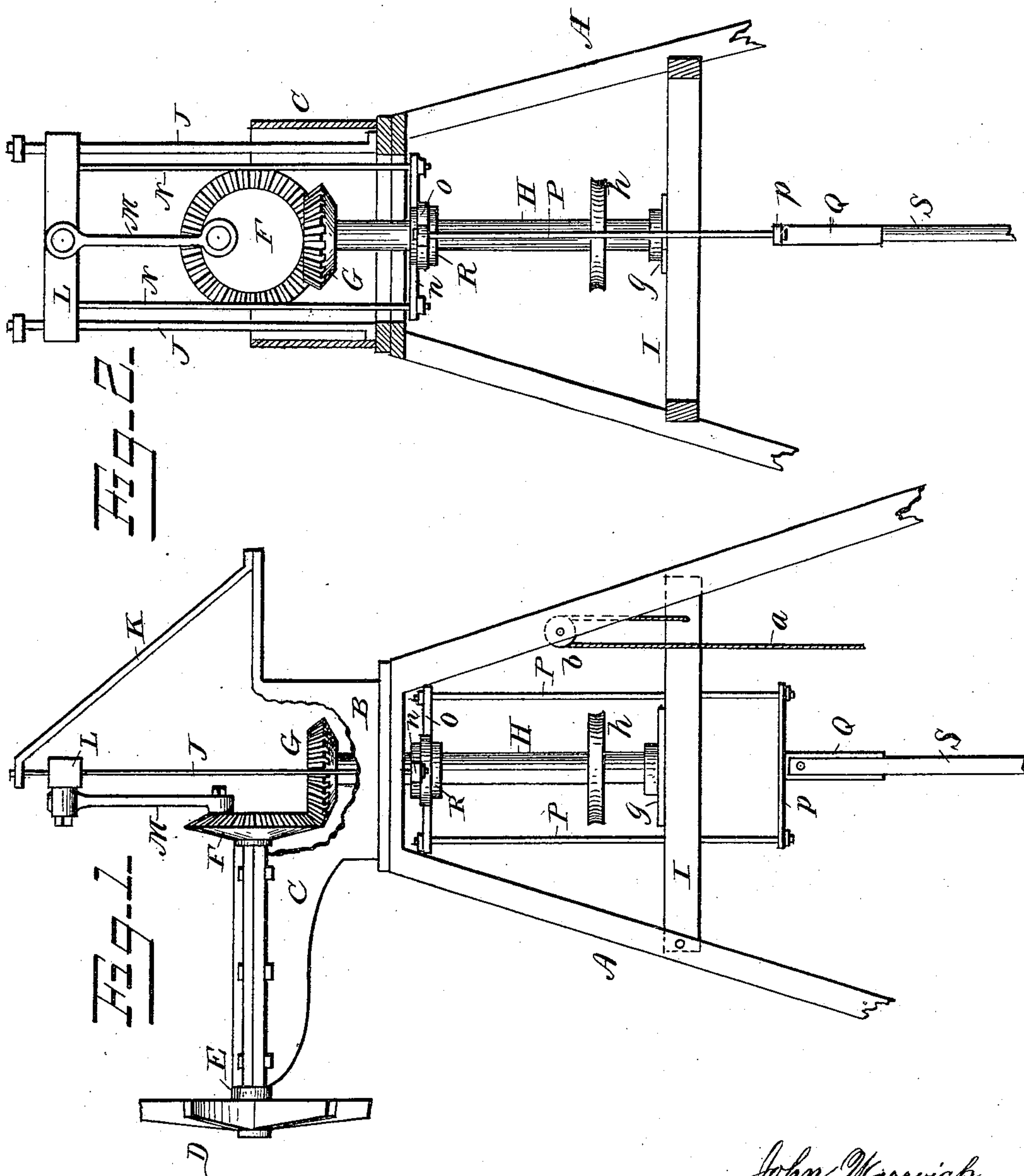
(No Model.)

J. WARWICK & W. C. WESTAWAY.

WINDMILL.

No. 300,818.

Patented June 24, 1884.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN WARWICK AND WALTER C. WESTAWAY, OF DELAVAN, WISCONSIN.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 300,818, dated June 24, 1884.

Application filed July 25, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN WARWICK and WALTER C. WESTAWAY, citizens of the United States, residing at Delavan, in the county of Walworth and State of Wisconsin, have invented a new and useful Windmill, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to windmills; and it consists in a combined geared and pumping windmill constructed and arranged to operate as hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of our improved windmill with a portion of the top broken away, and Fig. 2 is a vertical section of the same.

The same letters refer to corresponding parts in the two figures of the drawings.

Referring to the drawings, A designates the frame of a windmill, upon which rests the stem B of the windmill turn-table C, which carries the operating mechanism of the mill.

D designates the spider of the wind-wheel transmitting motion to the shaft E, which has on its inner end a bevel-gear wheel, F, meshing with a similar wheel, G, on the upper end of shaft H. The latter can be hollow or solid, and has on its lower end a pulley, *h*, by means of which motion can be imparted to any mechanism which it is desired to operate through the revolution of the said shaft. The lower end of shaft H works in a bearing, *g*, attached to an adjustable cross-bar, I, said cross-bar being made adjustable in any suitable manner—for instance, by means of a cord, *a*, and pulley *b*—so that the shaft H can be raised or lowered and the wheel G thrown in or out of gear.

J J designate stationary rods extending up from the turn-table C, and provided with brace-rods K K, connecting the upper ends of rods J with an extended arm of the turn-table, thereby holding the stationary rods from being strained by the operation of the windmill.

L designates a cross head or bar sliding loosely at each end on the rods J J, and connecting with bevel-gear wheel F by means of a pitman, M, and suitable crank-pins. To the cross-head are attached rods N N, which extend downward, and are connected at their lower ends by a cross-bar, *n*, said cross-bar *n* being swiveled to a similar cross-bar, O. To the lat-

ter bar, O, are attached rods P P, which also extend downward, and are connected at their lower ends by a cross-bar, *p*, the latter being provided with a downward extension, Q, to which the pump-pole S is attached. As shown, the cross-bars *n* and O are coupled together, while the shaft H extends upward through the couplings R of said cross-bars.

The operation of our invention is obvious. The shaft E of the wind-wheel is operated in the usual manner, and as it rotates the gear-wheel F is similarly rotated, causing the pitman M to move the cross-head L up and down on the stationary rods J. The reciprocating movement of the cross-head imparts a similar movement to the rods N N, attached thereto, said rods N transmitting the motion to the rods P P through the connection between said rods N and P. From the rods P the motion is transmitted to the pump-pole S, thereby imparting the desired reciprocating movement to the pump. It will be seen that the pumping is performed outside of the shaft H, so that it will not interfere with the revolution of said shaft. By this means the pump can be operated through the reciprocating movement of the cross-head L, while the shaft H is also revolved and may transmit motion to any suitable mechanism by connecting said mechanism with the pulley *h*.

As herein stated, the shaft H can be raised or lowered, and the wheel G thrown in or out of gear, and in that case only the pumping motion can be performed.

The construction above described provides for a mill which can be conveniently used for pumping and for driving machinery, or which can be used for either alone, as may be desired.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a windmill, the combination, with the wheel-shaft E and gear F and the turn-table on which said parts are supported, of stationary rods erected on said turn-table, a cross-head sliding loosely at each end on said rods and connecting with the gear F, and rods N, carried by the cross-head and attached at their lower ends to rods P, which connect with the pump-pole S, substantially as set forth.

2. In a windmill, the combination, with the

wheel-shaft E, gear F, and the turn-table on which said parts are supported, of stationary rods J, extending up from the turn-table, and provided with brace-rods K, a cross-head, L, sliding loosely on the rods J, and connecting with the gear F by means of a pitman, M, rods N, carried by the cross-head and connected at their lower ends by cross-bar *n*, and a cross-bar, O, attached to the bar *n*, and provided with rods P, the latter being suitably connected to the pump-pole S, as set forth.

3. In a windmill, the combination, with the wheel-shaft E, gear F, turn-table C, shaft H, and gear-wheel G, of stationary rods J, extending up from the pivot and provided with brace-rods K, a cross-head, L, sliding loosely on the rods J, and connecting with the gear F by means of a pitman, M, rods N, carried by the cross-head and connected at their lower ends by a cross-bar, *n*, and a cross-bar, O, attached to the bar *n*, and provided with rods P, the latter connected at their lower ends by a cross-bar, *p*, provided with a downward ex-

tension, Q, to which the pump-pole is attached, the pumping mechanism operating outside of the shaft H, whereby said shaft can be used to transmit power to other mechanism, as herein set forth.

4. In a windmill, the combination, with the wheel-shaft E, gear F, and the turn-table on which said parts are supported, stationary rods J, erected on said pivot, a cross-head working on said rods and connecting with the gear F, a shaft, H, working in its lower end in an adjustable cross-bar, I, and carrying a gear-wheel, G, meshing with the wheel F, and devices for connecting the cross-head with the pump-pole S, for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JOHN WARWICK.

WALTER C. WESTAWAY.

Witnesses:

A. H. KENDRICK,

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