

(No Model.)

E. L. KENOYER.
EQUALIZING DEVICE FOR WINDMILLS.

No. 455,255.

Patented June 30, 1891.

FIG. 2-

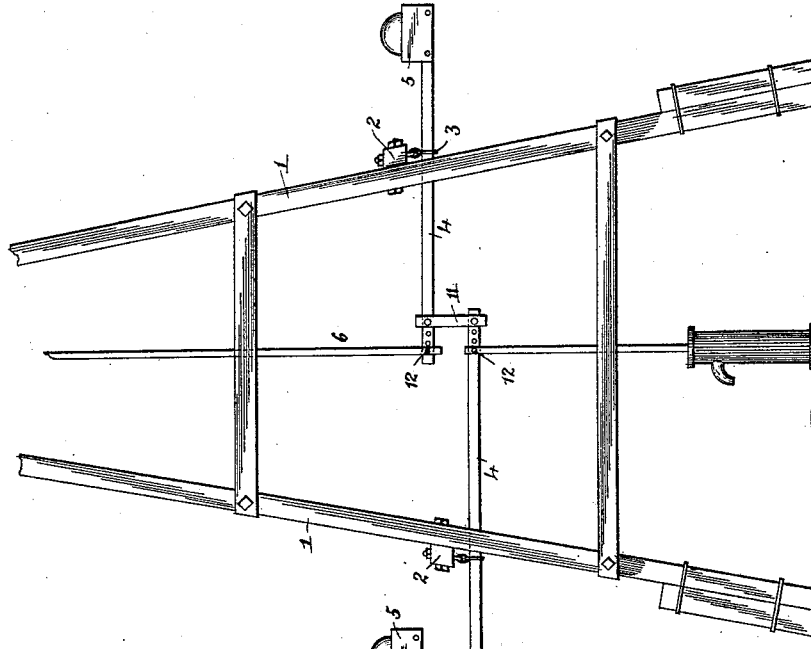
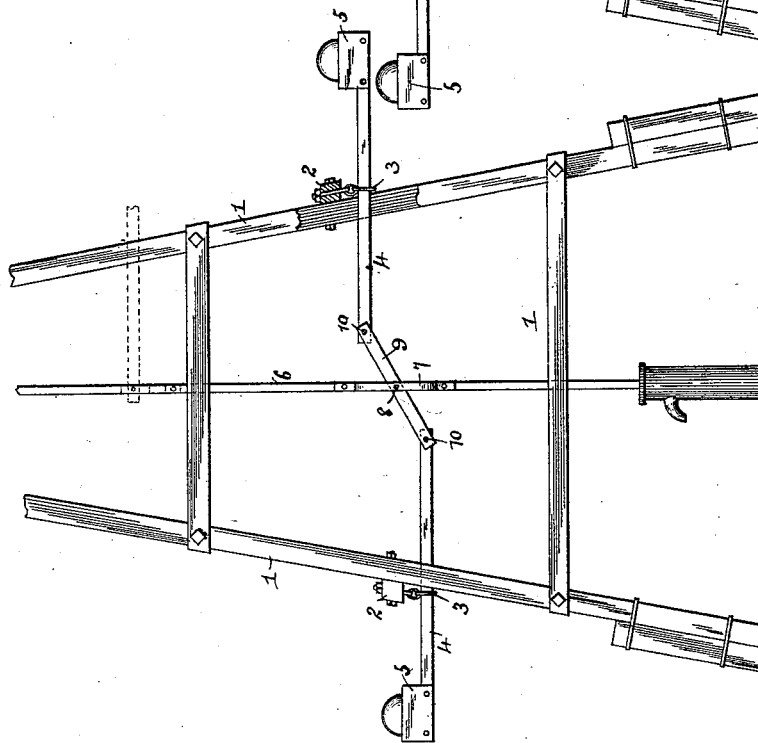


FIG. 1-



Witnesses:

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UNITED STATES PATENT OFFICE.

EDMUND L. KENOYER, OF HANFORD, CALIFORNIA.

EQUALIZING DEVICE FOR WINDMILLS.

SPECIFICATION forming part of Letters Patent No. 455,255, dated June 30, 1891.

Application filed December 26, 1890. Serial No. 375,851. (No model.)

To all whom it may concern:

Be it known that I, EDMUND L. KENOYER, a citizen of the United States, residing at Hanford, in the county of Tulare and State of California, have invented a new and useful Equalizing Device for Windmills, of which the following is a specification.

This invention has relation to an equalizing device designed for employment in connection with windmills and pumps operated thereby.

The objects of the invention are to provide an attachment adapted to relieve the wind-wheel of a portion of the weight of the water and the rod, thus obviating the jerky movement common with the pump-rod and permitting of an increase of speed, together with an assurance of the working of the wheel in light winds.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a windmill provided with an attachment constructed in accordance with my invention. Fig. 2 is a side elevation of a modified construction.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the usual uprights comprised in the tower, each opposite pair of which are connected by transverse fulcrum-bars 2, from each of which depends a loose supporting-ring 3, which supports and serves as a fulcrum for a balance-beam 4, at the outer ends of which are located weights, and in this instance receptacles 5 for the weights.

6 designates the pump-rod, provided between the beams 4 with a keeper 7, in which is pivoted, as at 8, a short lever 9, to the outer ends of which are pivoted, as at 10, the inner ends of the weighted beams 4.

If desired, I may employ a single lever, as indicated by dotted lines, Fig. 1, connecting the same pivotally to the pump-rod. Such latter construction, however, is only adapted for light work, and as a general thing I prefer to employ the two weighted beams.

In Fig. 2 I have illustrated a modification, and in said construction I employ the two weighted beams, one located above the other, as shown, and the ends of said beams are somewhat longer than in the previous construction, so that the inner ends pass each other and the extremity of the lower lever is connected to a point near the extremity of the upper lever by means of a connecting-bar 11. In this instance, also, the pump-rod is formed in sections, the lower end of the upper section being pivoted, as at 12, to the inner end of the upper weighted beam, while the upper end of the lower section is pivoted to the lower beam near its end. In both instances the effect and operation are substantially the same. The weight at the outer end of the lever is sufficient to counterbalance the work of the pump, and does not in any way encumber the machinery. The weight is sufficient to counterbalance the weight of the pump shaft or rod and one-half of the water lifted. For example, if the weight of the rod be one hundred pounds and the weight of the water one hundred pounds, I place one hundred and fifty pounds upon the outer ends of the levers. A hundred pounds of this weight will balance the pump-rod, while the remaining fifty pounds will balance or be equal to one-half of the weight of the water lifted. As the pump-rod descends it of course equals one hundred pounds of the weight, thus leaving the mill but the remaining fifty pounds of weight to handle. By my invention the mill will run smooth and free from any of the jerking common to all pumps, may be operated with one-fourth the power required to operate the ordinary windmill, may be operated by extremely light winds, and withal obtains all the results of the ordinary mill.

Having described my invention, what I claim is—

1. The combination, with the tower, the pump-rod, and the pump, of a pair of levers weighted at their outer ends, fulcrumed at each side of the pump-rod, and arranged one higher than the other, a short lever pivoted to the pump-rod, and pivots connecting the inner ends of the weighted levers with

the ends of the short lever, substantially as specified.

- 5 2. The combination, with the tower and the pump-rod, of levers weighted at their outer ends and fulcrumed at opposite sides of the rod, and connections between the levers and between the latter and the pump-rod, substantially as specified.

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

EDMUND L. KENOYER.

Witnesses:

F. A. BLAKELEY,
J. R. BECKWITH.