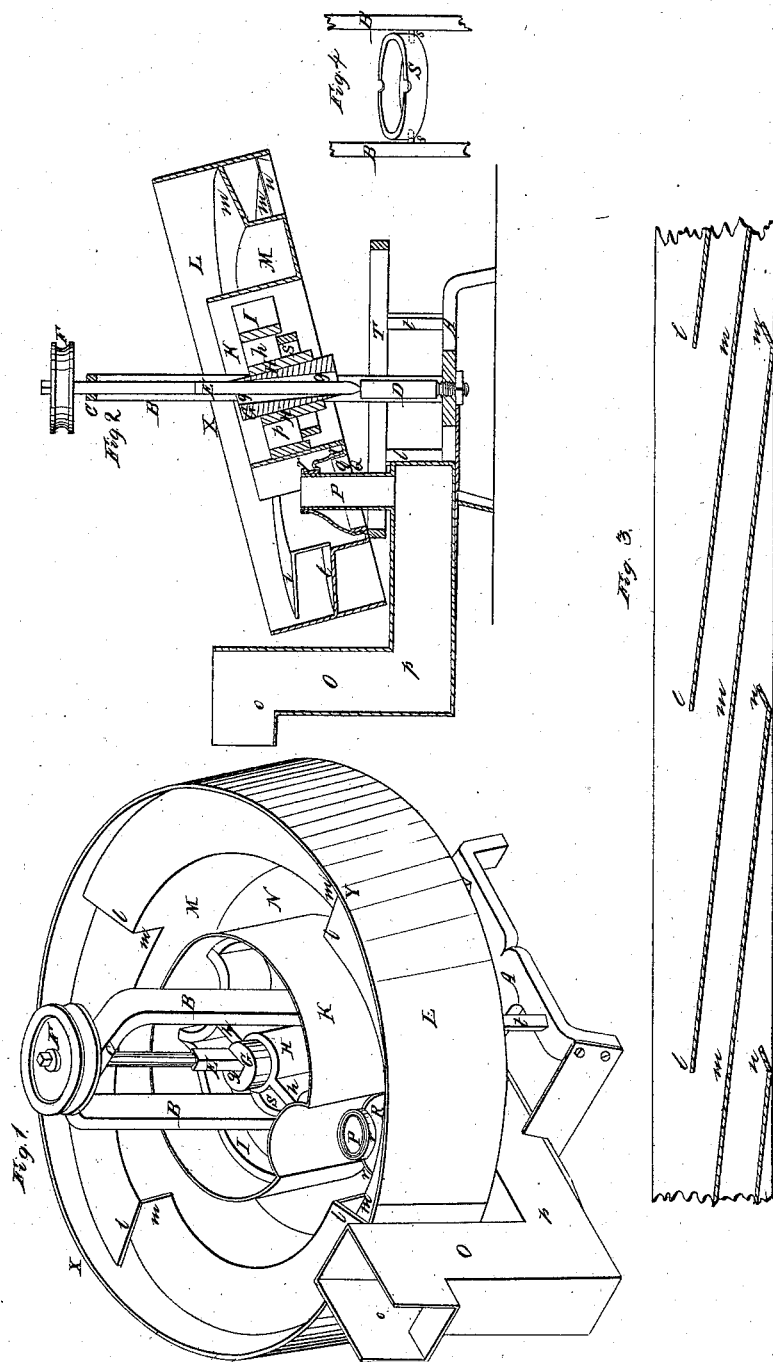


J. A. Wiszt,

Water Wheel,

N^o 3,583.

Patented May 10, 1844.



UNITED STATES PATENT OFFICE.

JOHN A. WISZT, OF PHILADELPHIA, PENNSYLVANIA.

WATER AND ANIMAL POWER.

Specification of Letters Patent No. 3,583, dated May 10, 1844.

To all whom it may concern:

Be it known that I, JOHN A. WISZT, of the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Water and Animal Powers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an isometrical projection of the complete machine, Fig. 2 a vertical transverse section of the same, Fig. 3 a representation of the circular wheel-rim stretched showing the arrangement of the buckets, and Fig. 4 represents the rim S, showing the manner of its support.

Construction.—On a suitable base A, and near its center, stand the two uprights B, which at their upper extremities are bent at a right angle (or nearly so) meeting as at C,—or C may be a separate top-rail fastened to the uprights in the usual manner. On the center of the base A, and between the uprights B, stands the short upright D, which has on its top a conical concavity, in which the lower (correspondingly shaped) gudgeon of the vertical shaft E rests and moves. The upper end of said shaft passes through the top-rail C, and is furnished on its extremity with a pulley F. The lower half of the shaft E, which is square or nearly so, is embraced by a solid cylindrical block of metal G in the following manner, viz: the block G is perforated from top to bottom by an aperture *g* (which is oblong in its horizontal section) in such a manner as that that side of it, which forms the central or inner-one on the top, becomes the outer-one on the bottom, and vice versa, as more distinctly shown in Fig. 2. The block G again is surrounded by a rim H, from which branch the two arms *h*, and which are substantially connected with the larger rim I, to which the wheel or circular platform (as the case may be) is fastened. The wheel itself is composed of an inner rim K, an outer rim L, and an intermediate one M. The bottom N of the wheel comprises the space between the rims K and M only. Between the outer rim L and the intermediate one M are placed the buckets, which are formed by the last named two rims and the plates *l—m*, the top *l* of each bucket constituting the bottom *m* of the next follow-

ing-one. The buckets, when stretched, form an angle of about 12 degrees (more or less) with either of the rims L or M. Their arrangement is more distinctly shown in Fig. 3, where also may be seen that they are furnished on their lower extremities with short head-plates *n*, which form with the main plates an angle of about 150 degrees. Transversely the plates *l—m* are not placed at right angles, but at an angle of about 105 degrees with the outer rim L, so as to have a descending tendency toward the center-shaft if the wheel was standing horizontally. The drawing and model represents the wheel with four buckets, but there may be more or less.

On the side of the wheel where the water is obtained, is placed the conductor O, which receives the water at *o*, where it has a vertical position. Then at *p* it takes a right angular turn toward the wheel, continuing horizontally as far as to the bottom of the wheel, where its top is furnished with a vertical, cylindrical tube P, which extends through a somewhat larger circular aperture Q in the said bottom N of the wheel. This aperture Q has a narrow flange *q*, to the inner side of which and the outer side of the upper end of the tube P a sort of bag R of some flexible waterproof material is fastened by means of tight-fitting rings *r*. On the inner side of the uprights B project horizontally two short pins *s* (see Fig. 4), on which the circular rim S rests and vibrates, for which purpose the said rim has two notches or indentations on its underside. Two other similar indentations are on the upper edge of the rim for the arms *h* (above mentioned) to rest in. Four standards *t* on the base A support a circular rim T, on which the bottom of the wheel rests when in operation.

Operation.—The water from the mill-race enters the conductor O at *o*, which conducts it through the tube P into the wheel, the height of the top of this tube depending on the quantity and fall of water obtainable. In consequence of the water entering at this single spot, its weight will gradually depress that side of the wheel until its bottom rests on the rim T, the aperture *g* through the block G, from its peculiar construction, permitting the shaft E to retain its vertical position, but notwithstanding being acted upon by the wheel through means of the block G. The space between the inner rim K and the

intermediate one M being filled up to the edge of the lowest bucket, the water, still entering, will naturally rush into the bucket, pressing the outer edge of the wheel gradually down, until the next bucket presents itself to receive the surplus-water in the space between K and M, and so on. Although the wheel is not revolving, but merely performing a circularly-undulating motion, it will cause, in consequence of its solid connection with the rim H by means of the arms *h* and rim I—the block G to revolve, and with it, of course, the shaft E and the pulley F, by means of which (with the aid of other well known contrivances) motion is communicated to any machinery used. The rim S, resting on the pins *s* above-mentioned, supports the wheel under its arms *h*, and performs an oscillating motion. The rim T supports the wheel on its bottom, in order to take off as much weight as possible from the center. The standards *t*, shown in the drawing as being permanent, may be furnished with screws, or by other means be made to raise or lower the rim T as circumstances may dictate. Instead of the wheel a circular platform may be substituted, on which a horse, mule, or any other animal is to

travel, premising however that its starting point is not at lowermost side, but half-ways up, as for instance at X or Y.

What I claim as my invention and desire to secure by Letters Patent is:

The above described horizontally-inclined water-wheel, hung to a vertical shaft by means of the perforated cylindrical block E, the rims H and I and the arms *h*, supported by the rims T and S, which latter oscillates on two pins for that purpose driven into the uprights of the stationary frame;—said wheel performing a circularly-undulating motion, and acting upon the vertical shaft in such a manner as to give to it a horizontally-rotary motion, which by means of a pulley on the end of said shaft communicates motion to any desired machinery. Instead of the wheel, a circular platform for a horse, mule, or any other suitable animal, may be substituted, the construction and arrangement of the other parts remaining substantially the same, as described.

JOHN ADAM WISZT.

Witnesses:

FRANCIS BERNE,
J. H. GODDARD.