

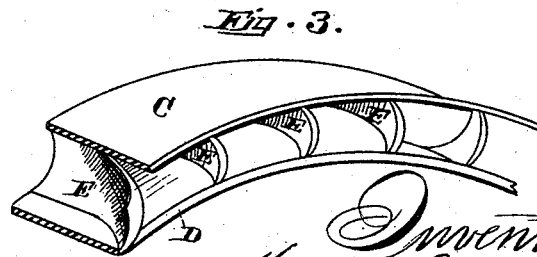
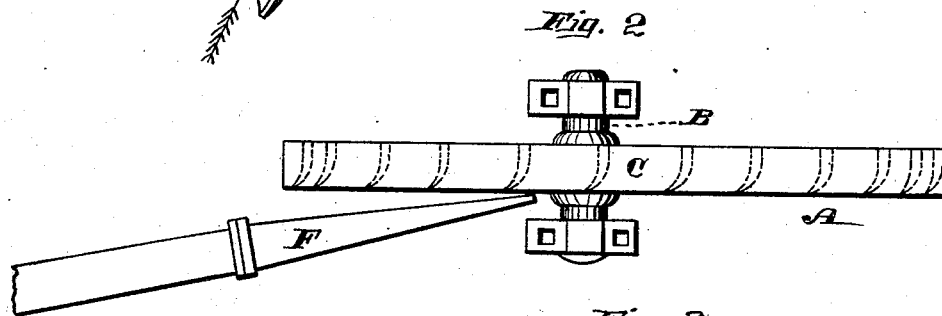
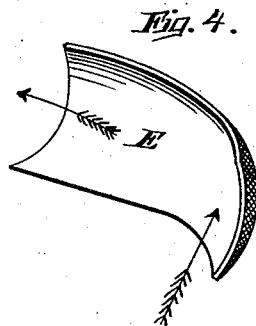
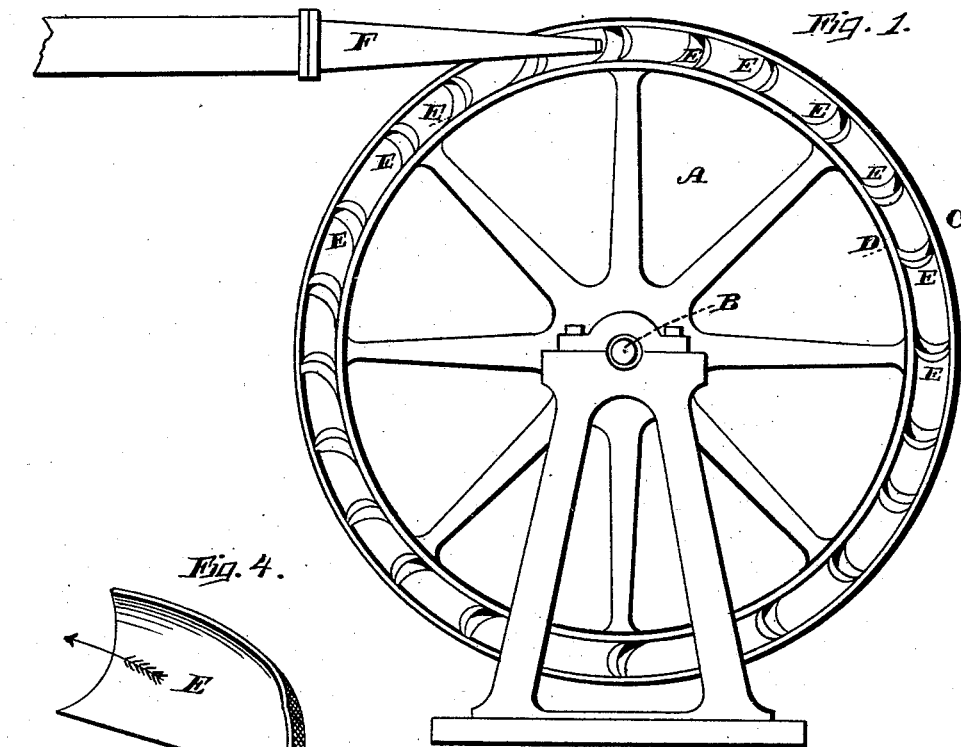
(No Model.)

M. C. TAYLOR.

WATER WHEEL.

No. 266,922.

Patented Oct. 31, 1882.



Witnesses
E. C. Strong
Wm. A. Brooks

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Michael C. Taylor
By Dewey & Co. Attys

UNITED STATES PATENT OFFICE.

MICHAEL C. TAYLOR, OF GRASS VALLEY, CALIFORNIA.

WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 266,922, dated October 31, 1882.

Application filed February 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL C. TAYLOR, of Grass Valley, county of Nevada, State of California, have invented an Improved Water-
5 Wheel; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of water-wheels, and more particularly to that class, which receive the force or impact of a stream
10 of water under pressure upon buckets or flanges upon the rim of the wheel, and are commonly known as "hurdy-gurdy" water-wheels.

My invention consists of a water-wheel having concentric rims and buckets secured transversely between said rims, said buckets having a sharp curved end, within the face of
15 which they receive the stream, and thence extending with an inclined curved face for conducting and discharging the waste water upon
20 the other side of the wheel, substantially as hereinafter more fully set forth and claimed.

Referring to the accompanying drawings, Figure 1 is a side view of my invention. Fig. 2 is a top view. Fig. 3 is an enlarged section
25 of the rims and bucket. Fig. 4 is a view of a bucket.

Wheels of this class are usually placed upon a horizontal axis and revolve in a vertical plane, receiving the water from a suitable nozzle below or above.
30

Let A represent the wheel upon a horizontal axis, B. It is provided with a peripheral rim, C, and another rim, D, nearer to the center, both being of equal width, which is determined by the power of the steam available. A
35 space is left between these rims, in which are secured transversely the buckets E. The degree of excellence in wheels of this class depends upon two things. The first is to provide a good surface for the impact of the water, and the second is to obtain that shape of
40 bucket or flange which will enable it to free itself of the water instantly and not be impeded by its reaction. My bucket E, I therefore make of the shape shown in Fig. 4. It has an equal width, in order that it may be inclosed top and bottom between the rims. One end is curved, and its back is so beveled down as to make the edge of the curved end as thin
50 as possible, so that it may with better effect cut into the steady stream as the wheel by its revolution brings each bucket into position. The face of the bucket is curved, the curved lines in the direction of its length gradually
55 approaching straight lines, while in width

those at the bottom of the bucket become more curved, so that the lower edge is in a vertical plane forward of the upper edge. The buckets are secured between the rims so that their lower edges lie about transversely. This gives
60 to the greater portion of the face of the bucket a direction at an angle with the rims.

It represents the nozzle from which the stream is directed. I prefer to place it at the top of the wheel. It lies as close to the edge of the
65 rims as possible, and is just sufficiently inclined from the parallel to direct its stream within the curved end and upon the face of the buckets. On account of the curvature of the end the stream may be directed well within it,
70 and may be very nearly at right angles therewith, thus giving to the buckets the full benefit of a straight force. The waste water follows the inclined curve of the buckets across the wheel and discharges at the opposite side.
75 Its reaction does not impede the wheel, as by the shape of the buckets its force is retained, though gradually lessened to the discharge side. Thus the buckets free themselves readily after utilizing to the greatest extent the
80 power of the stream.

The width of the rims C D and the length of the buckets may be varied in accordance with the head of water. Where great force of stream is available the buckets should be longer
85 in order to utilize its force to the end. By discharging the water upon the side opposite to that upon which it enters it cannot interfere with the stream. The rims C D and the buckets E may be all cast together, or they may be
90 constructed in any practicable manner.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a water-wheel, A, operated by receiving
95 a stream of water under pressure, and having concentric rims C D, the buckets E, secured transversely between said rims, said buckets having a sharp curved end, within the face of which they receive the stream, and thence
100 extending with an inclined curved face for conducting and discharging the waste water upon the other side of the wheel, substantially as herein described.

In witness whereof I hereunto set my hand.

MICHAEL C. TAYLOR.

Witnesses:

S. H. NOURSE,
C. D. COLE.