

J. Taylor, Water Wheel.

No 2,732.

Patented July 20, 1842.

Fig 2.

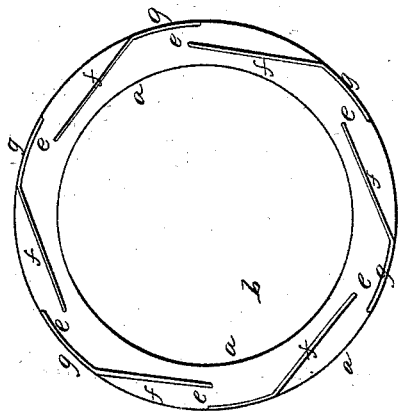


Fig 3.

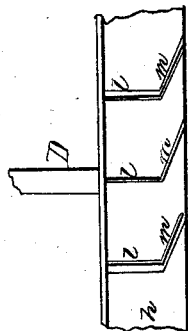


Fig 1.

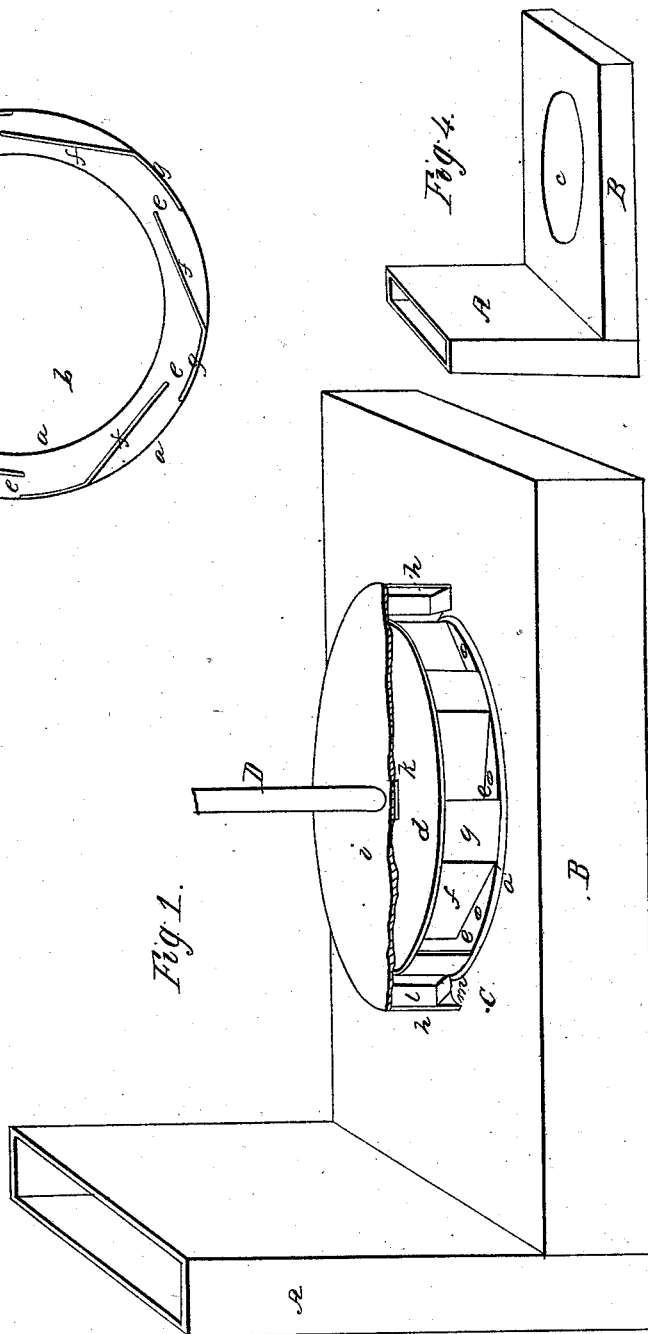
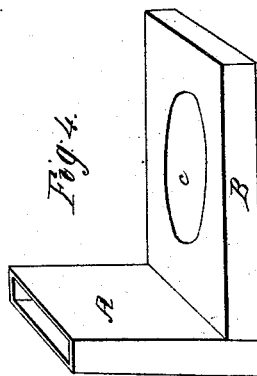


Fig 4.



UNITED STATES PATENT OFFICE.

JESSE TAYLOR, OF AUBURN, NEW YORK.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 2,732, dated July 20, 1842.

To all whom it may concern:

Be it known that I, JESSE TAYLOR, of Auburn, Cayuga county, State of New York, have invented a new and useful Improvement in Water-Wheels, of which the following is a full and accurate description, reference being had to the accompanying drawings, making part of this specification, the same letters of reference being used to designate like parts in the several figures.

There is a vertical flume A, Figures 1 and 4, communicating at bottom with a horizontal reservoir B, covered on top, but having a circular opening *c*, Fig. 4, in said cover to allow of the water rising through it into a cylindrical chamber or cistern secured on the top of said reservoir, as shown at *c*, Fig. 1. This cistern consists of a circular bottom plate *a*, Figs. 1 and 2, secured on the top of the reservoir by bolts *n n* or in any other convenient manner, and having an opening *b* at center of much the same size as that marked *c* in the top of the reservoir, over which it fits, and of a circular plate *d*, Fig. 1, covering the upper end of said cylindrical cistern, between which and the bottom plate *a* referred to a series of guides or plates are arranged, forming the circular side of said cistern, and shown at Figs. 1 and 2, leaving passages *e e* between them for directing or shooting the water upon the wheel, which revolves around this cistern, as shown at Fig. 1, where the wheel is represented in place, but with a portion removed, so as to exhibit the construction of the cistern. The plates or guides referred to consist of two portions, one of which *f*, Figs. 1 and 4, is straight, its lower edge resting on the bottom plate *a* of the cistern and its upper edge supporting the top plate *d* of said cistern, and of a curved portion *g*, Figs. 1 and 4, arranged between the top and bottom plates *d* and *a*, its upper edge being adapted to that of the upper plate *d* and its lower edge to that of the lower plate *a*, so as to form a portion of the circular part of the cylindrical cistern, the straight portion *f* of the guide being placed obliquely between the top and bottom plates of the cistern, forming with the edges of said plates an angle of about forty-five degrees and with the curved portion of

the plate an angle of one hundred and thirty-five degrees, more or less. Around this cistern so constructed the wheel revolves. It consists of a rim or hoop *h*, covered by a circular plate or head *i*, forming a cylinder closed above and opened below to allow of its being placed over the cistern, on the top of which it is stepped, the shaft which passes down through the center of the circular head *i* resting its lower end in a box formed on the top plate *d* of the cistern, as shown in Fig. 1, where D is the shaft passing through the circular top *i* of the wheel, a portion of which is removed, and *k* the step on the top plate of the cistern. The buckets of the wheel are plates secured by their upper edges to the under side of the circular top *i* and by their outer edges to the inside of the rim *h*. They extend from said top plate to the lower edge of the rim and consist of two parts—a straight portion *l* and an inclined part *m*, Fig. 3—the plate bent at its lower end before reaching the bottom of the rim, so as to form an angle of about one hundred and thirty degrees, more or less. The straight portion of the bucket running from the under side of the top *i* of the wheel is first acted on by the water as it passes through the openings *e e* of the cistern, while the inclined portion of the bucket receives the water in passing from the wheel and is acted upon by its gravity, by means of which arrangement a double effect is produced by the operation of the water.

Another advantage is possessed by this wheel over others now in use. Owing to the water being confined between the top and rim of the wheel the friction of the gudgeon or the lower end of the shaft on its bearings will be lessened, as the water in pressing against the top of the wheel will tend to lift it up, lessening by this means the weight upon the step.

Instead of stepping the shaft upon the top plate of the cistern, I sometimes make an opening in said top plate for the shaft to pass through and step it on the bottom of the reservoir.

Having set forth the nature and construction of my improvement, what I claim, and desire to secure by Letters Patent, is—

The combination of a wheel constructed as aforesaid with a cylindrical chamber or cistern arranged within said wheel, having openings or passages, formed in the manner described for delivering the water on the buckets of said wheel and supplied from a reservoir placed below it, the top of said cistern

being closed to allow of its operating, all as described.

JESSE TAYLOR.

Witnesses:

JOHN P. HULBERT,
A. V. R. HULBERT.