(Model.)

K. ANUNSEN.

TURBINE WATER WHEEL.

No. 248,125. Patented Oct. 11, 1881.

Fig. 1.

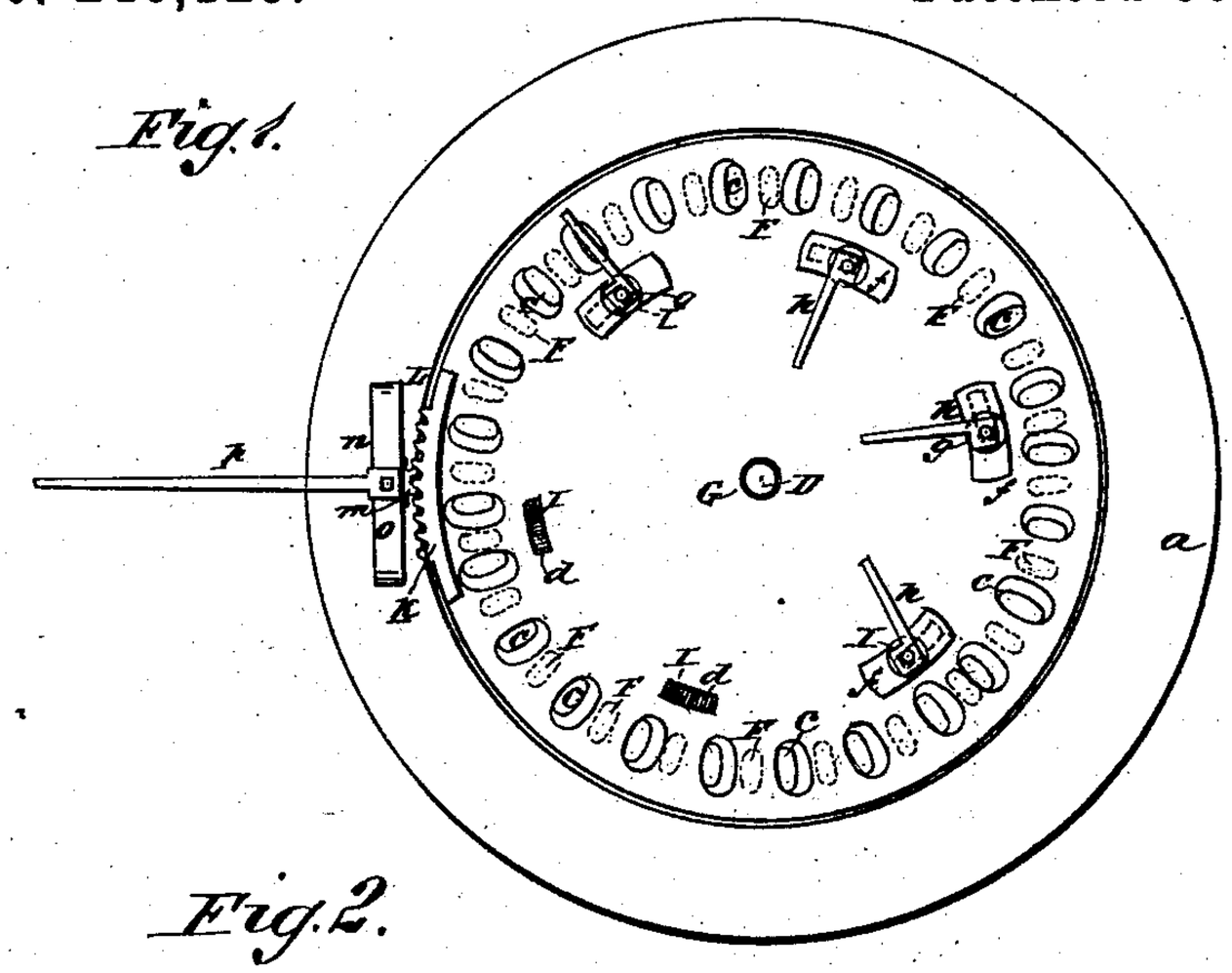


Fig. 2.

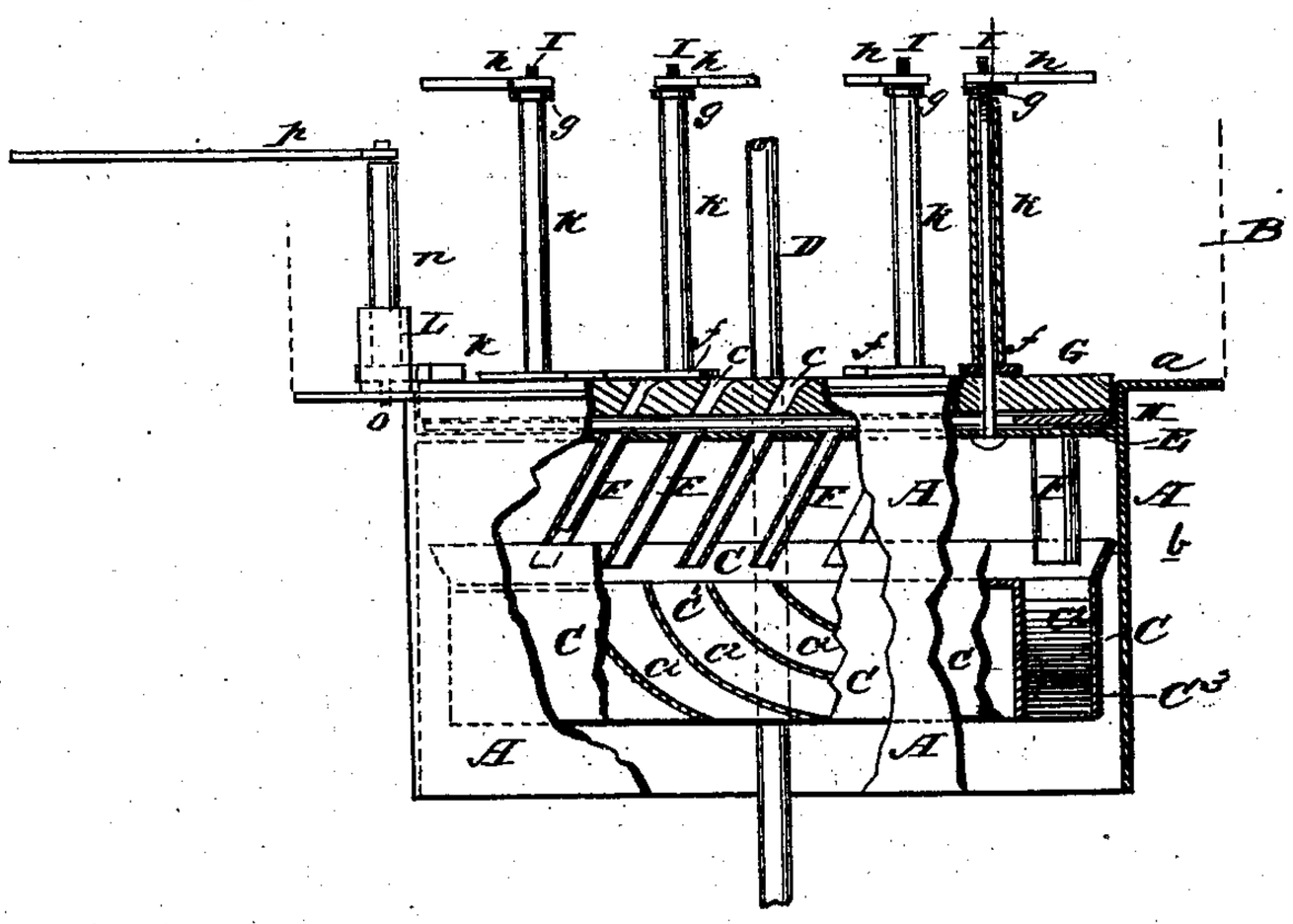
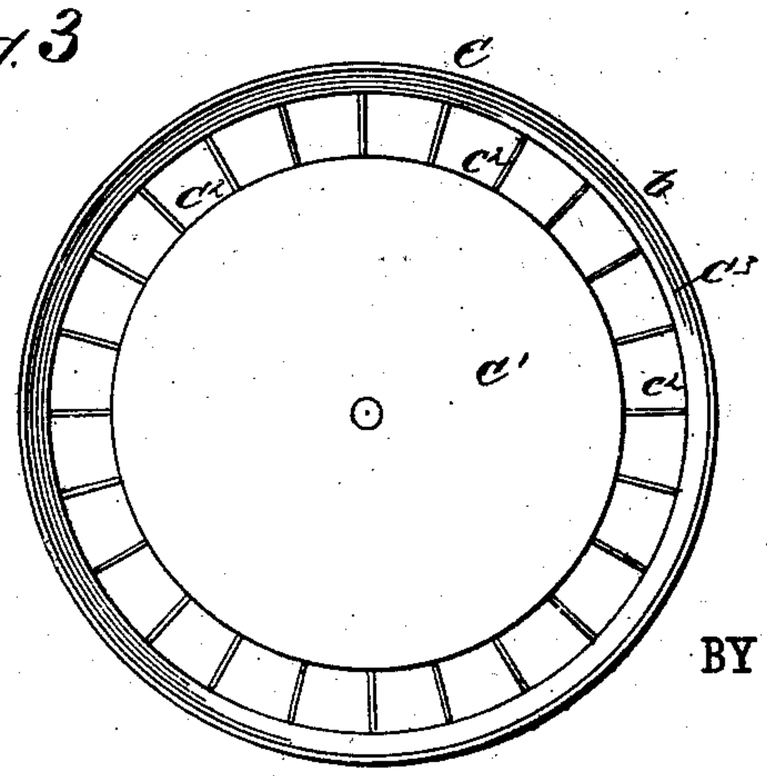


Fig. 3



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KITTIL ANUNSEN, OF WINCHESTER, WISCONSIN.

TURBINE WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 248,125, dated October 11, 1881.

Application filed July 13, 1881. (Model.)

To all whom it may concern:

Be it known that I, KITTIL ANUNSEN, of Winchester, in the county of Winnebago and State of Wisconsin, have invented certain useful Improvements in Turbine Water-Wheels, of which the following is a specification.

The object of this invention is to construct a cheaper and more economical water-wheel provided with a novel cut-off to regulate or cut off the supply of water.

The invention consists of a vertical circular case containing a horizontally-revolving water-wheel having inclined buckets, and containing above said wheel a fixed circular platform having a circle of inclined tubes inserted through it near its periphery, which tubes extend downward to deliver water into the buckets; and it consists, further, of a movable circular disk or cut-off covering the face of the tube-platform, and having a circle of inclined apertures corresponding with the tubes, which cut-off is capable of being rotated to close the tubes or to bring the apertures in coincidence with them; and it further consists of novel devices for operating said cut-off, all of which will be hereinafter set forth.

Figure 1 is a plan of the improved water-wheel with parts removed to exhibit other parts. Fig. 2 is a side elevation of the same, partly in section, and with parts broken away to exhibit other parts. Fig. 3 is a plan of the bucket-wheel.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the circular case, having about its top an annular flange, *a*, about which the flume B (indicated in dotted lines, Fig. 2) is designed to fit. In the lower part of this case A is the revolving wheel C, fixed centrally on a shaft, D, that is designed to be suitably stepped, and that projects vertically upward to deliver power. This wheel C consists of a central drum, C′, from which radiate downward-curving plates C^2 to a flanged outer ring, C^3, the lower edge of which is flush with the lower edges of the plates or buckets C^2, while its flanged upper edge, *b*, extends above them, and thereby serves to hold and direct the water upon them.

In the upper part of the case A is fixed the tube-platform E of equal diameter with the inside of said case A, and through this platform E, near its periphery, are rigidly inserted a series of tubes, F, at an inclination of, say, twenty degrees, or thereabout, that are flush with the top of said platform E, and have their free ends preferably extended below the upper edge of the wheel-flange *b*, the inclination of said tubes F being the opposite of that of the buckets C^2.

Above the tube-platform E, within the case A, is the circular cut-off G, having upon its under side (in contact with the tube-platform E) an annular washer, H, of rubber or other elastic substance to make a water-tight joint between them. A ring of inclined apertures *c c* is formed through said cut-off G near its periphery, equaling in number the tubes F and coinciding therewith.

Screw rods or bolts I I are passed up through the tube-platform E and through curved slots *d d* in the cut-off G, and over these bolts I are placed washers *f f* to cover the slots *d d*, and over them also are placed tubes K K, whose lower ends rest on the washers *f*. Over the protruding upper end of the bolts I are placed washers *g*, resting on the tops of the tubes K, and above the washers *g* are the handled nuts *h h*, by the turning of which in one direction the tubes K K are forced down upon the washers *f f* and the cut-off G, thereby forced and clamped down upon the platform E, immovable in any desired position, while if the nuts *h* be turned in the opposite direction the cut-off G can be rotated as may be desired, the slots *d d* permitting sufficient movement thereof for regulating the supply of water to the tubes F.

The rotating mechanism L of the cut-off G consists of a notched or toothed segment, *k*, secured on the cut-off G, near the edge thereof, a toothed quadrant, *m*, fixed on a vertical post or rod, *n*, that is pivoted in a step, *o*, on the flange *a* of the case A, and of a handle or lever, *p*, fitted on the top of said post or rod *n*. By turning said lever *p* to the extreme in one direction, the apertures *c c* are made to coincide with the tubes F, so that a full supply of water may be afforded to the wheel C, while by turning it in the extreme opposite direc-

tion the flow of water through the tubes F is cut off, and between these extremes the supply of water can be adjusted at will.

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

1. An improved turbine water-wheel, constructed substantially as herein shown and described, consisting of case A, wheel C, shaft D, stationary tube-platform E, provided with downwardly-projecting inclined tubes F, and cut-off G, provided with inclined apertures *c c* and suitable clamping and rotating devices, as set forth.

2. In a turbine water-wheel, the combination, with the casing A, the wheel C, and the apertured cut-off G, of the stationary platform E, provided with downwardly-projecting inclined tubes F, substantially as and for the purpose set forth.

3. In a turbine water-wheel, the combination, with the platform E, provided with downwardly-projecting inclined tubes F, and arranged in the upper part of the casing, of the cut-off G, provided with inclined apertures *c*, and arranged above the said platform and adapted to be clamped and rotated substantially as and for the purpose set forth.

4. In a turbine water-wheel, the combination, with the tube-platform E, and slotted cut-off G, of the bolts I, washers *f g*, tubes K, and nuts *h*, substantially as herein shown and described, whereby the said cut-off is fixed in position, as set forth.

KITTIL ANUNSEN.

Witnesses:
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