No. 893,337. PATENTED JULY 14, 1908.

G. L. LYNN.

TIDE WHEEL.

APPLICATION FILED JAN. 7, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

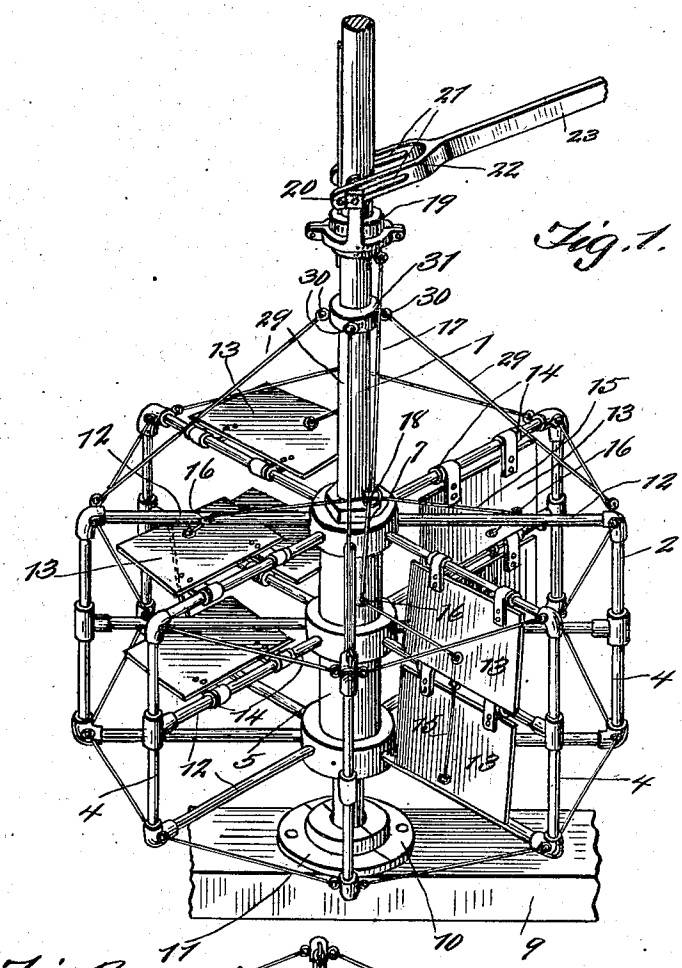
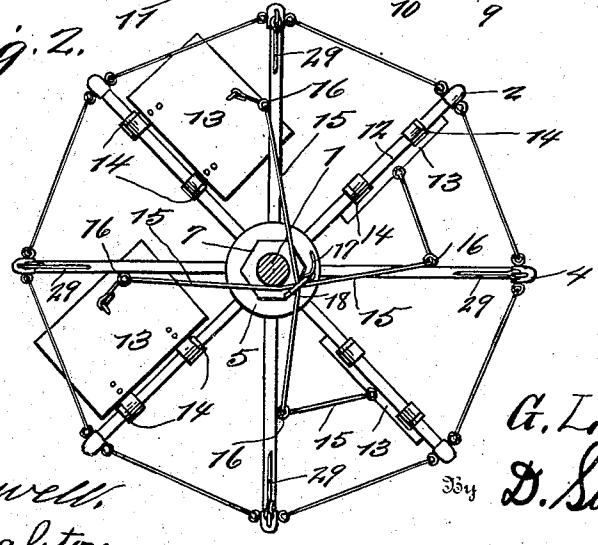


Fig. 2.



Witnesses

F. G. Fennell.

H. A. Knighton

Inventor

G. L. Lynn

By D. Swift & Co.

Attorneys

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2 SHEETS—SHEET 2.

Fig 3.

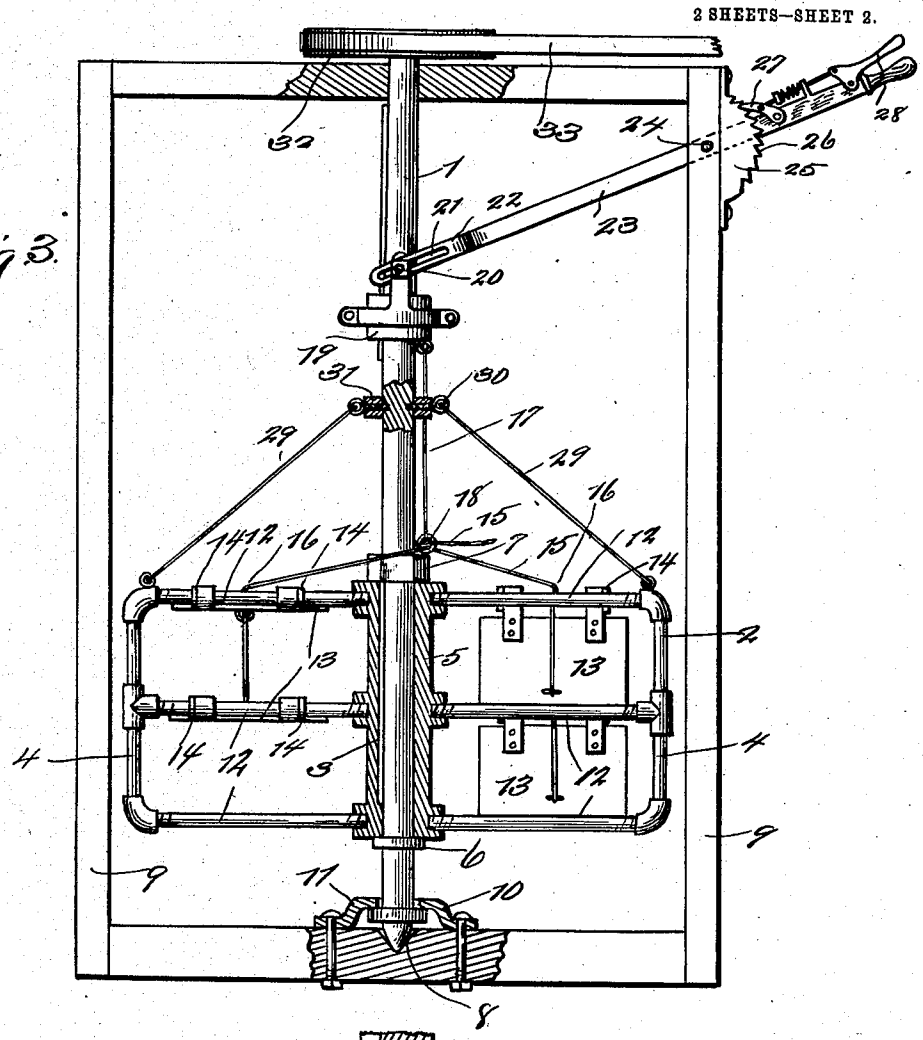
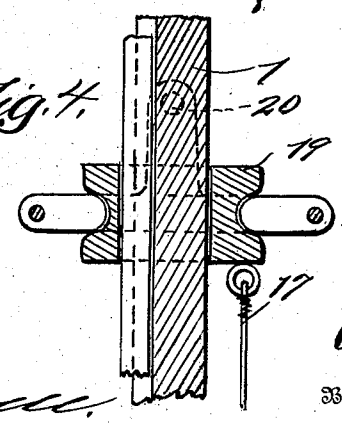


Fig. 4.



Witnesses

S. C. Brown.

H. C. Knighton

Inventor

G. L. Lynn.

By D. Swift & Co.

Attorneys

UNITED STATES PATENT OFFICE.

GEORGE L. LYNN, OF PEACH, WASHINGTON.

TIDE-WHEEL.

No. 893,337. Specification of Letters Patent. Patented July 14, 1908.

Application filed January 7, 1908. Serial No. 409,708.

To all whom it may concern:

Be it known that I, GEORGE L. LYNN, a citizen of the United States, residing at Peach, in the county of Lincoln and State of Washington, have invented a new and useful Tide-Wheel; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention pertains to a new and useful submerged water-wheel for any size stream of running water; this wheel being of the above character, may be used in streams where turbines, overshot, and other wheels, which are commonly employed, are useless on account of backwater.

This invention, in its broadest scope, dwells in the special construction of the device, which is provided with propelling blades, and having means whereby as one set of blades are forced down by the current, another set upon the opposite side of the wheel are drawn up, so as to feather against the current of water.

A further object of the invention resides in the novel means for raising the entire set of blades, so as to stop the wheel, which means comprises a collar slidably mounted upon the driving shaft of the apparatus, a slotted lever for raising said collar and flexible means connecting between the collar and the blades, as shown.

This invention comprises further combinations of elements which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the hereinafter set forth description and the accompanying drawings in connection therewith, wherein

Figure 1 is a perspective view of the wheel. Fig. 2 is a top plan view of the wheel, showing the same submerged in a stream. Fig. 3 is an elevation of the wheel, showing the same partly in section. Fig. 4 is a detail view of a part of the wheel.

Like reference characters are used for indicating similar elements and features throughout the several illustrations.

In regard to the drawings, 1 designates the driving shaft of the device, to which is splined the polygonal shaped frame 2, by means of the feather 3, as clearly shown in Fig. 3, which frame is composed of tubular sections 4, and a central shell or sleeve 5, as shown. This rests upon a shoulder 6 of the said shaft, and held from upward displacement by the member 7. The lower end of the shaft is journaled in a bearing 8 of the frame 9 and held therein by means of the segment plates 10 and 11. The said polygonal shaped frame is connected to the shell or sleeve by means of the tubular sections 12 radiating from the said sleeve.

Pivotally mounted upon the section 12 are the blades 13, which are prevented from outward or inward displacement by the collars 14, as clearly shown. Connected between each set of oppositely disposed radiating blades is the cable 15, which travels through the eye-bolts 16, as shown. It will be observed, by an observation of the drawings, that as the current acts upon one set of blades, so as to throw them down, the oppositely disposed set of blades will be drawn up, by the cable 15.

To raise the entire plurality of blades, a cable 17 is provided, one end of which is connected to the cable 15, as at 18, while the other end thereof is connected to a collar 19, slidably mounted upon the driving shaft, which collar is provided with lugs 20, which engage the slots 21, of the forked end 22, of the lever 23, which is pivoted, as at 24. To hold the lever in adjusted position, a quadrant 25 having teeth 26 is fixed to the frame 9, with which quadrant a pawl 27 coöperates; said pawl being operated by means of a hand grip 28 carried by the said lever, as shown.

To prevent the polygonal shaped frame from sagging, cables 29 are connected thereto and to the eyes 30 of the collar 31, which is carried by the driving shaft, as shown. To transmit power from the said shaft, a pulley 32 is mounted upon the end thereof, about which pulley a belt 33 travels, as clearly shown.

Having thus fully described the invention, what is claimed as new and useful, by the protection of Letters Patent, is:—

In a device as set forth, a driving shaft, a frame carried thereby comprising a polygonal shaped portion, a sleeve splined to the shaft and the radiating sections, a pair of radiating blades pivotally carried by the radiating sections, said radiating sections having collars to prevent outward and inward displacement of the blades, cables connected between

each set of oppositely disposed radiating blades whereby as one set of blades is thrown down the other set will be thrown up, and means for raising the entire set of blades so as to stop the device, comprising a collar slidably mounted upon the shaft, a cable the lower end of which is connected to the first-named cable, while its upper end is connected to the collar, and a forked lever having slots to engage said collar for raising the same, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE L. LYNN.

Witnesses:
F. A. DUNCAN,
GEO. L. DUNCAN.