W. H. FIEROE.

POWER WHEEL.

APPLICATION FILED OCT. 20, 1909.

985,152. Patented Feb. 28, 1911.

Fig. 1.

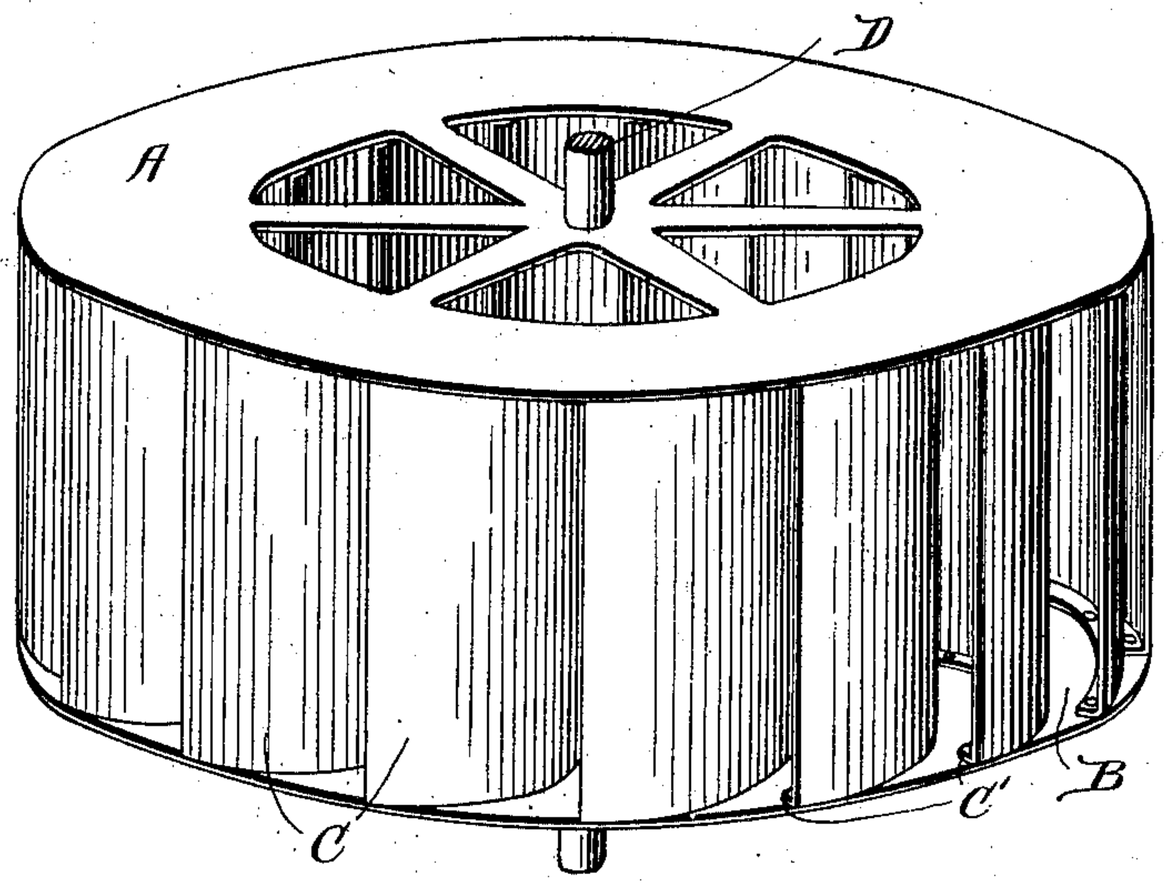


Fig. 2.

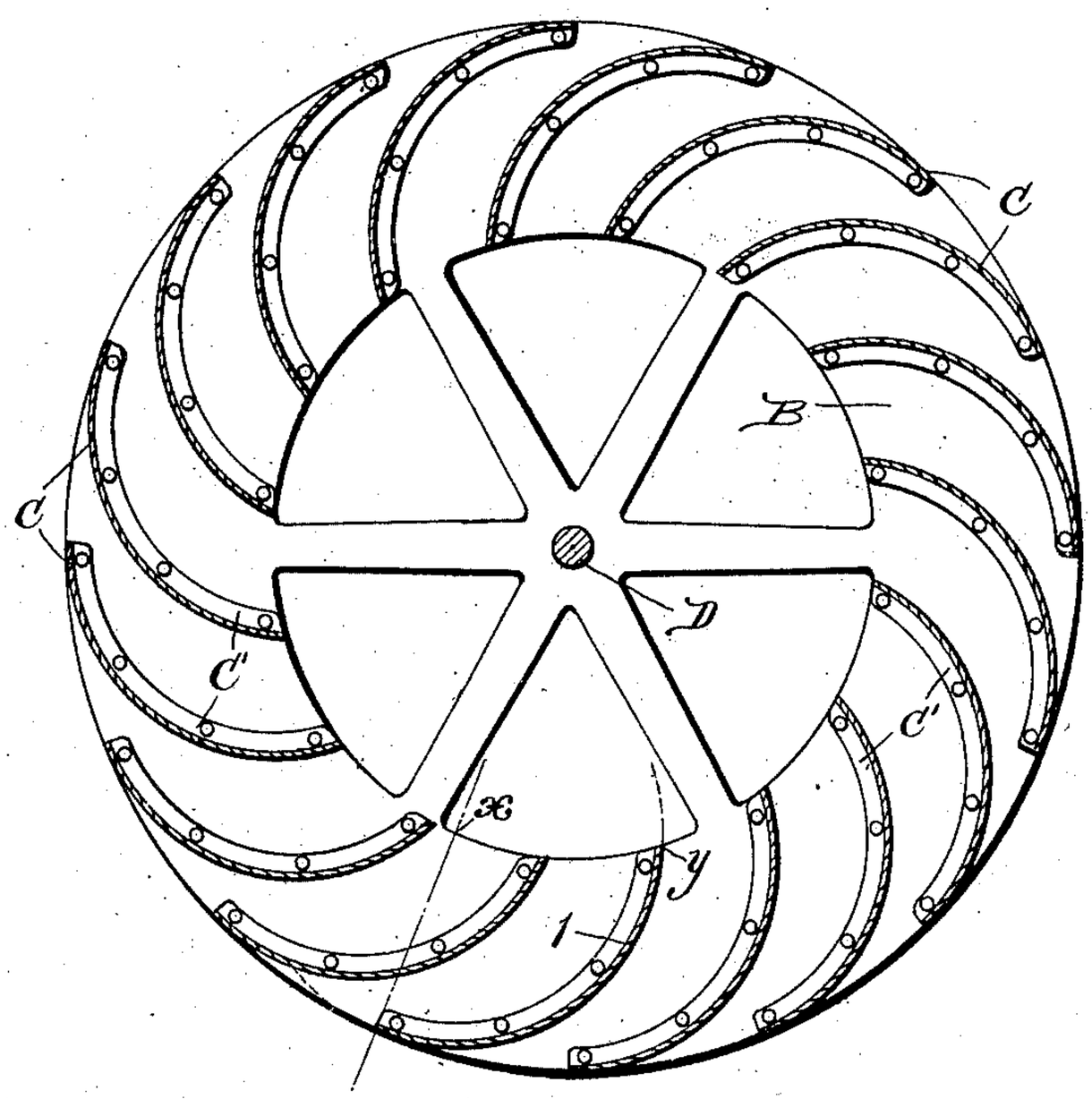
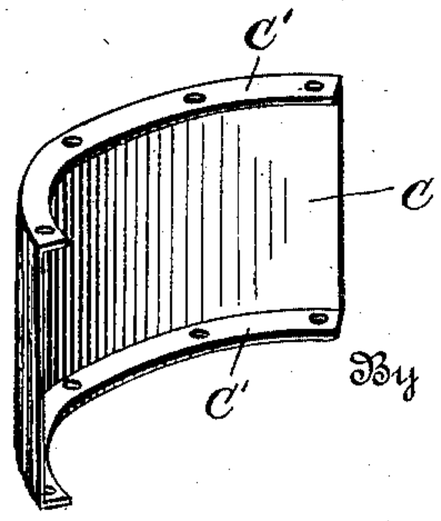


Fig. 3.



Witnesses

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POWER-WHEEL.

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To all whom it may concern:

Be it known that I, WALTER H. FIEROE, a citizen of the United States, residing at Atlantic City, in the county of Atlantic and State of New Jersey, have invented a new and useful Improvement in Power-Wheels, of which the following is a specification.

This invention relates generally to a power wheel, and more particularly to a water wheel adapted to be arranged vertically within a stream, but it will be understood that the said wheel can be used as a wind-wheel, or can be used in connection with any force.

The object of the invention is to provide a wheel of such construction that when properly arranged the said wheel will rotate constantly in but one direction, and this constant revolution continued irrespective of the direction of the current, and also maintained during shifting, or conflicting forces or influences.

Another object is to provide a wheel of such construction that it will be acted upon twice by the impelling force, that is once upon the first contact, or entrance, and secondly upon the exit of said force, as it will be understood water or air will pass entirely through the wheel, acting first upon one set of blades, and then upon another set, as it passes from the wheel.

Another object of the invention is to provide a wheel of such construction that a maximum number of blades will be acted upon by the actuating force both in entering and in leaving the wheel.

With these various objects in view my invention consists in constructing a wheel comprising a top and bottom circular plate having a series of blades secured therebetween, said blades being curved and arranged upon curved lines, contained entirely within the said plates.

The invention consists also in certain details of construction, and novelties of combination all of which will be fully described hereinafter, and pointed out in the claim.

In the drawings forming a part of this specification:—Figure 1 is a perspective view of a wheel embodying my invention. Fig. 2 is a horizontal sectional view. Fig. 3 is a detail perspective showing one of the blades.

In carrying out my invention, I employ an upper circular plate A, and a lower circular plate B, and between these plates are arranged the curved blades C, each blade having an upper and lower flange C′, by means of which it is securely riveted to the upper and lower plates A and B.

D indicates a vertical shaft upon which the wheel is mounted, and in the present instance, I have shown the central portion of the top and bottom plate in the form of a spider, but it will of course be understood that this central portion can be made solid or closed, that is with respect to the central portions of the plates.

It will also be understood that the wheel can be made of any size desired, both as regards height and diameter.

The blades C are curved and arranged in a peculiar manner as herein shown in order to receive the maximum effect of the actuating force, and these blades are in the form of a curve; that is each blade is an arc of a circle, which touches but does not intersect the circle within which it is arranged. By this it is meant that the outer ends of the blades are arranged just within and practically tangential to the outer edge of the circular plate, and the inner end of each blade terminates at the point which is in the arc of the circle from which all the curves are struck, and this circle will of course be concentric with the outer circle.

Referring to the drawings x indicates the center from which the curve of the blade marked 1 is struck, and this blade stops at the point marked y, and these points x and y are both within the circle and all of the blades are on curves struck from points within this circle, and furthermore it will be noted that the point from which the circle is struck is in the same radial line as the outer end of the blade.

I have found that a wheel constructed as herein shown and described, and arranged vertically within a stream will receive and transmit a maximum amount of power, for the reason that water upon entering will exert pressure upon a number of the blades, and then in passing through and escaping will exert pressure upon a number of blades upon the opposite side, but pressure will always tend to drive the wheel in one direction, and it is immaterial what the direction of the force may be, and furthermore, it will be understood that the wheel will operate equally as well in opposing and conflicting forces, and from this it will be understood that a wheel constructed in accord-

ance with my invention can be used in the ocean or in running streams, and the result will be exactly the same, namely that the wheel will constantly rotate in one direction.

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

A power wheel comprising upper and lower circular plates and a series of curved blades arranged between said upper and lower plates and attached thereto, said blades being of uniform thickness throughout their lengths, said blades being so arranged that their inner ends touch a circle struck from the center of the wheel, their outer ends touching a circle also struck from the center, each blade being curved upon an arc struck from a point in the said inner circle, the outer ends of said blades touching the outer circle tangentially.

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Witnesses:
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