

C. S. Corsett

Water Wheel.

No 81,254.

Patented Aug. 18, 1868.

Fig: 1

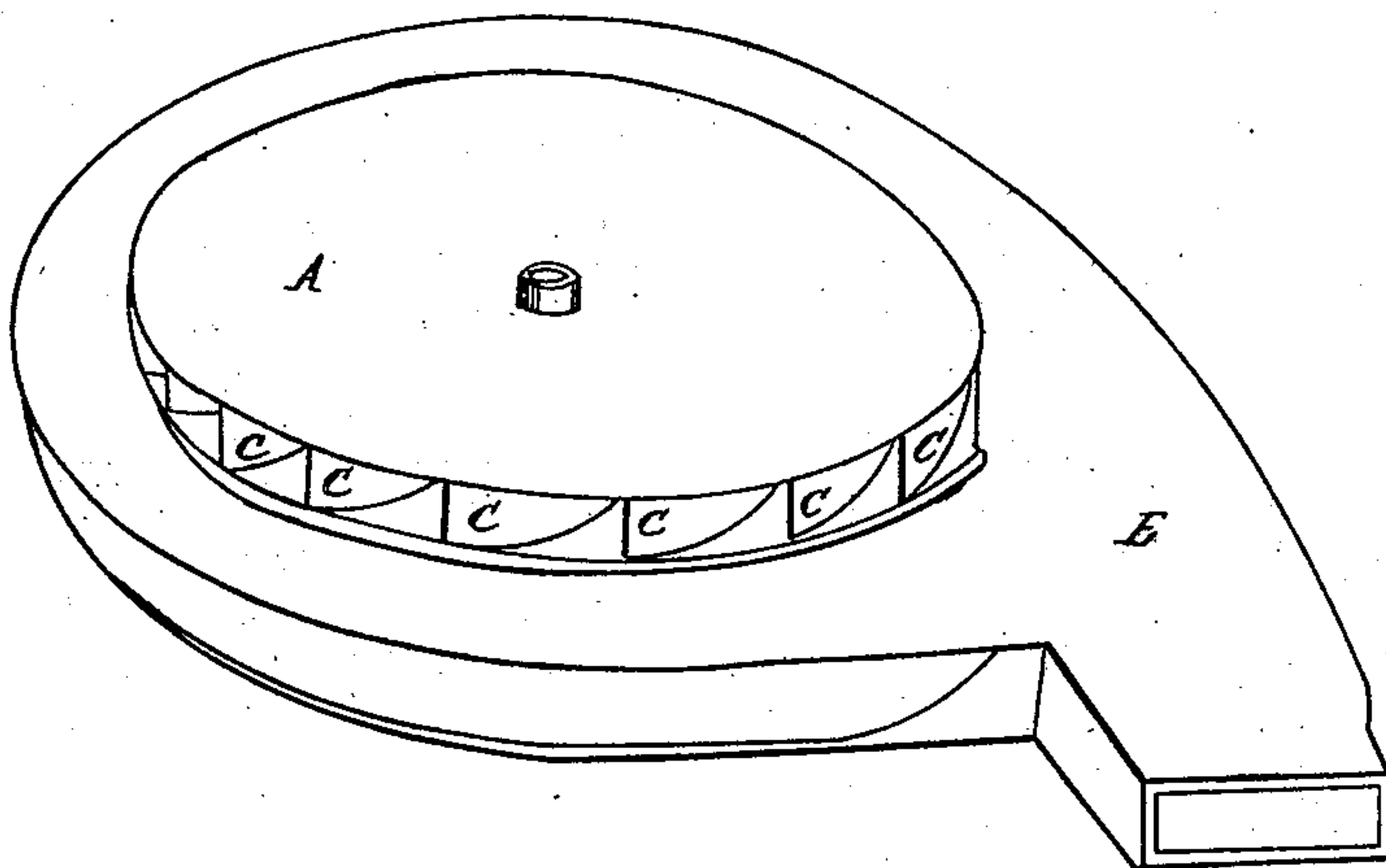


Fig: 2.

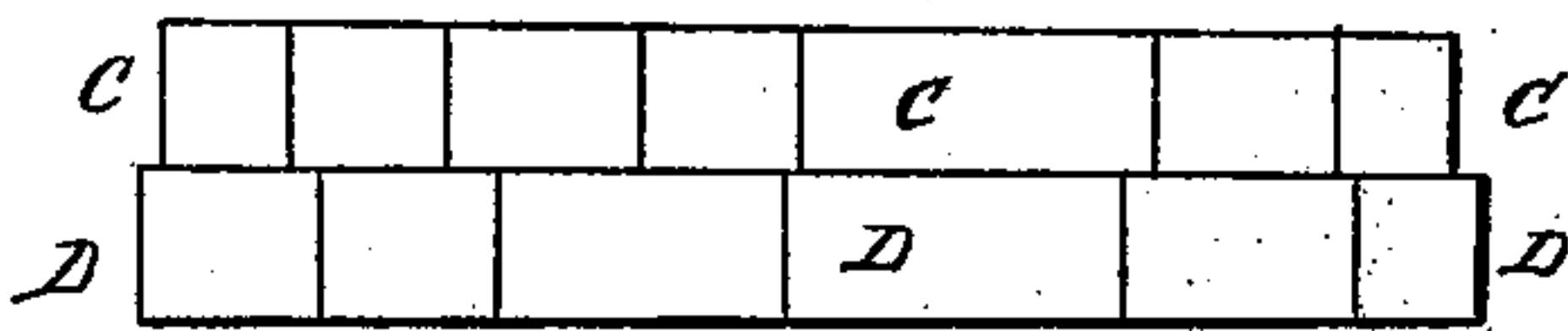


Fig: 3

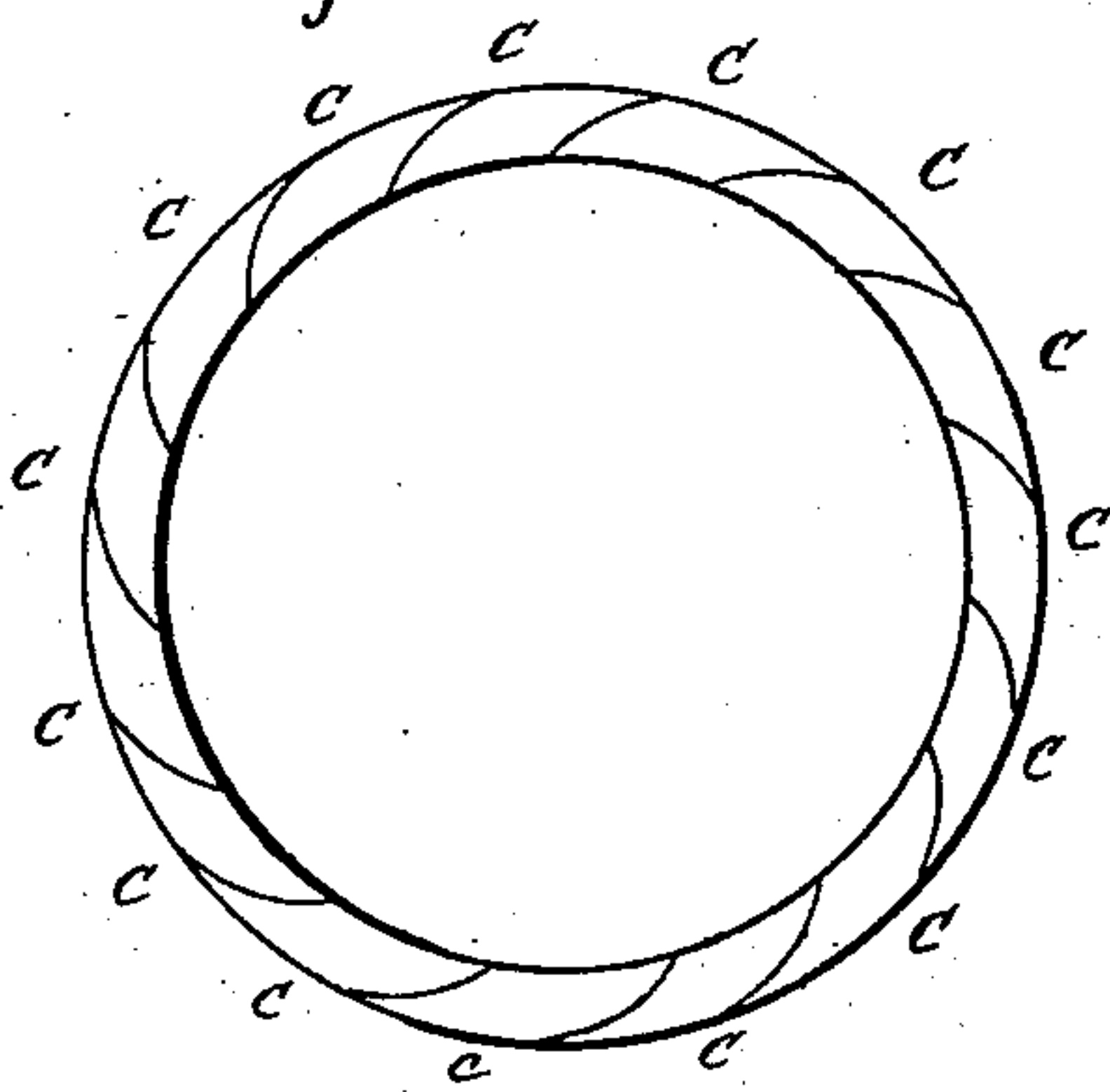
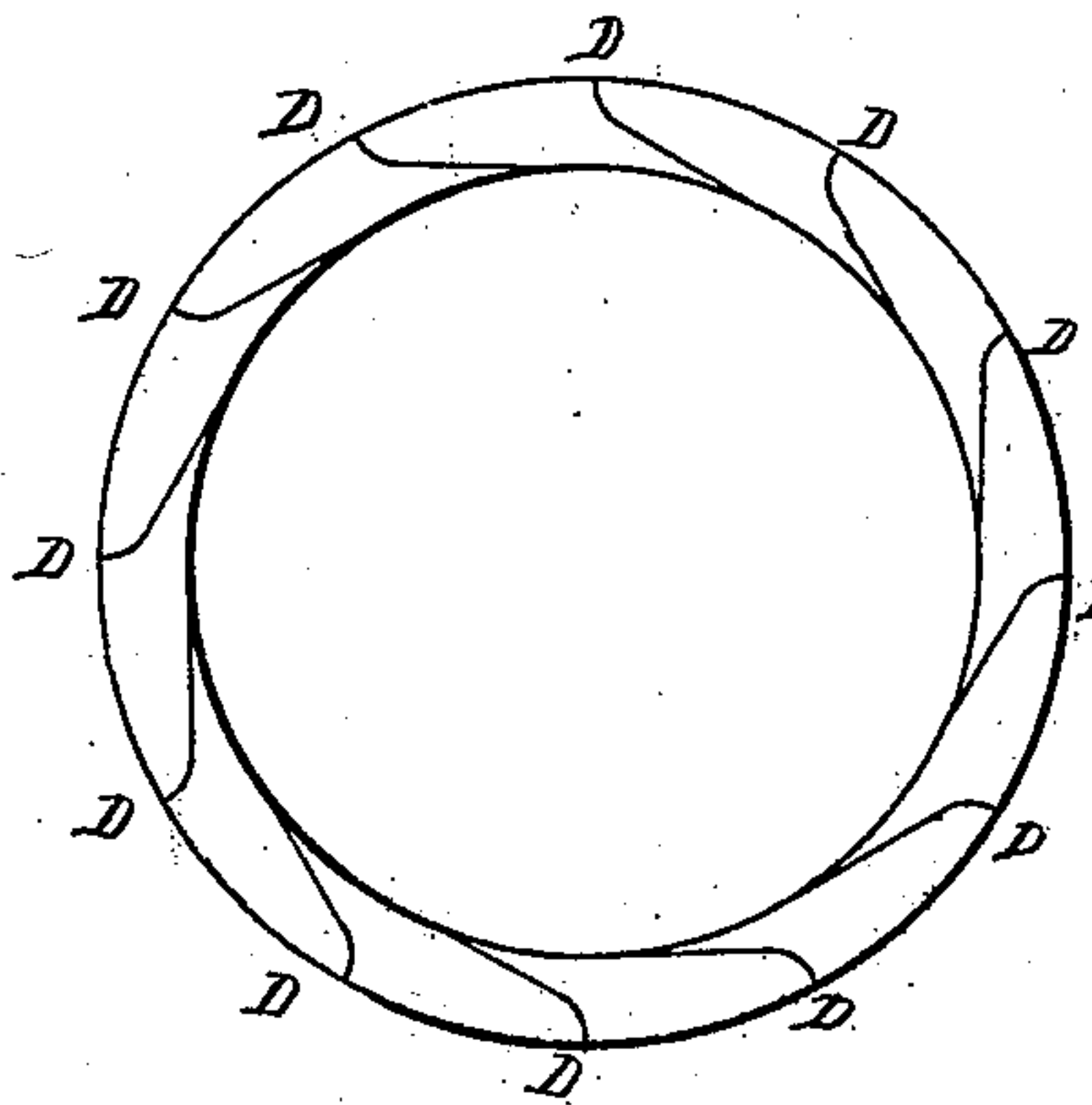


Fig: 4



Witnesses:

W. H. Beebe
J. F. Emory

Inventor:

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United States Patent Office.

CHARLES S. CORSETT, OF MIDDLEVILLE, MICHIGAN.

Letters Patent No. 81,254, dated August 18, 1868.

IMPROVEMENT IN WATER-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, CHARLES S. CORSETT, of Middleville, Barry county, Michigan, have invented a new and improved Mode of Constructing Water-Wheels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and in which—

Figure 1 is a perspective view of the double wheel, with the scroll or chute attached.

Figure 2 shows the double wheel, with the scroll or chute removed.

Figures 3 and 4 are transverse views, showing the form and arrangement of the buckets on the upper and lower section of the wheels.

The nature of my invention consists in so combining a double water-wheel, having its upper face concave and its lower convex, with a scroll or chute, that when the scroll or chute is placed under water, the current received will pass through the same, to the buckets of the lower section of the wheel, and be discharged at the centre, the water passing thence to the upper wheel or section, whence it will be discharged at the periphery of the same.

I am aware that double wheels have heretofore been used, and also a scroll or chute, therefore I do not pretend to be the first to apply the broad principle involved, *i. e.*, placing a double wheel in the chute or scroll. But it is a well-known and admitted fact, by all millers who have ever attempted to use the wheels referred to, that the increase of power afforded by the arrangement was most trifling in the amount, while, on the other hand, practical experiment has fully attested the fact that by simply constructing the wheel with concave and convex faces, as according to my plan, its power is increased fully from (25) twenty-five to (33) thirty-three per centum.

And another great advantage possessed by my invention is that the chute or scroll is constructed with a solid bottom, which insures that the full force of the water admitted through its mouth shall be conveyed, without any waste, directly to the wheel. And the wheel, operating, as it does, under water, the solid bottom has another great advantage. It securely guards and protects the wheel from all obstruction, while the height of the scroll is such as to insure the utmost freedom of discharge by the upper section of the wheel.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A is a water-wheel, composed of upper and lower sections, C D, of the same diameter, and only differing from each other in the shape and arrangement of their respective buckets, as shown in figs. 3 and 4. This wheel, A, is not constructed with a flat face, as is the usual custom with wheels of a like character, but with concave and convex faces, as clearly shown in fig. 1.

B is the scroll or chute in which the wheel has its bearing, and in which it operates. This scroll or chute, B, has a solid bottom, which is provided with a step or other suitable bearing, in which rests the spindle or upright shaft which passes through the opening *a*, in the centre of the wheel A, and to which the wheel is attached, and by whose action it is revolved. *f* is the mouth of the chute or scroll B, and through which the water is admitted and conveyed to the section D of the wheel A.

The water is applied to the lower buckets through the scroll under water, by which arrangement a greater "head" is gained. The water passes to the centre of the wheel, and discharges with a direct motion upon the upper buckets, with the full power of the water. The water, it will be seen, is used at the end of the lever, which produces more power than other wheels which apply and discharge at the edge. The top and bottom of the wheel are made concave and convex for the purpose of applying the water in the best way to the upper buckets by a centrifugal motion, which motion prevents the current of water from being broken, until it is applied to the upper buckets and discharged.

I use three-eighths ($\frac{3}{8}$) of the diameter of the wheel for buckets, and for every three (3) feet of circumference, I place five (5) buckets. I take one-third of three-eighths ($\frac{1}{8}$ of $\frac{3}{8}$) of the diameter of the wheel, and curve the buckets, as shown in the drawing, and then run on a straight line back, lapping the other bucket one and a half

($1\frac{1}{2}$) inch. The upper bucket is struck with a circle from the inner edge of the lower bucket to the periphery, reducing the issue one-third ($\frac{1}{3}$) less than the lower bucket.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

The wheel A, composed of sections C and D, when the upper and lower surfaces of the same are concave and convex in form, and the whole is constructed and arranged substantially as described, as and for the purposes specified.

CHARLES S. CORSETT.

Witnesses:

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