

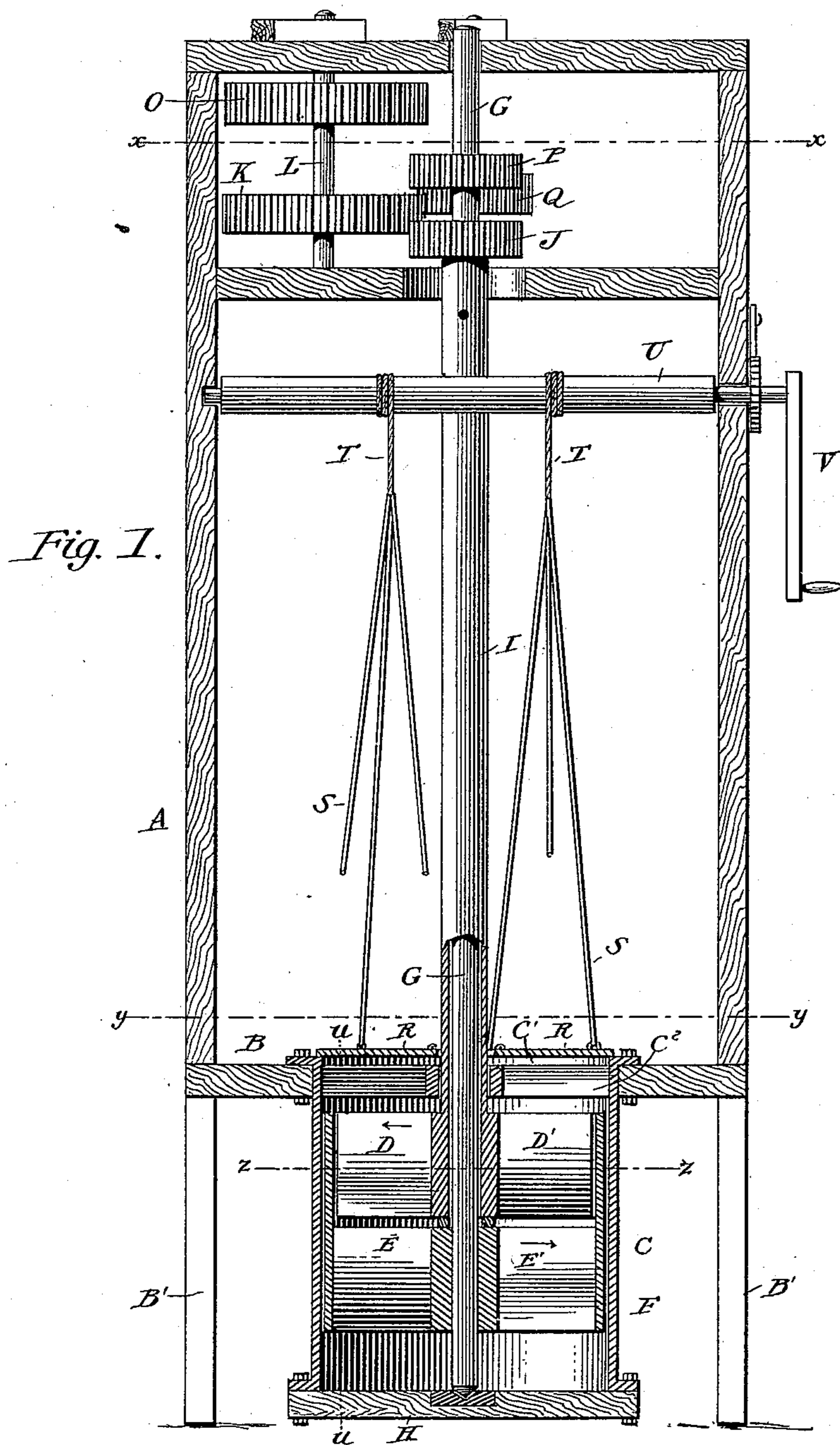
(No Model.)

2 Sheets—Sheet 1.

J. F. ROHM.
WATER WHEEL.

No. 405,053.

Patented June 11, 1889.



WITNESSES:

J. Clark.
C. Sedgwick

INVENTOR:

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Fig. 2.

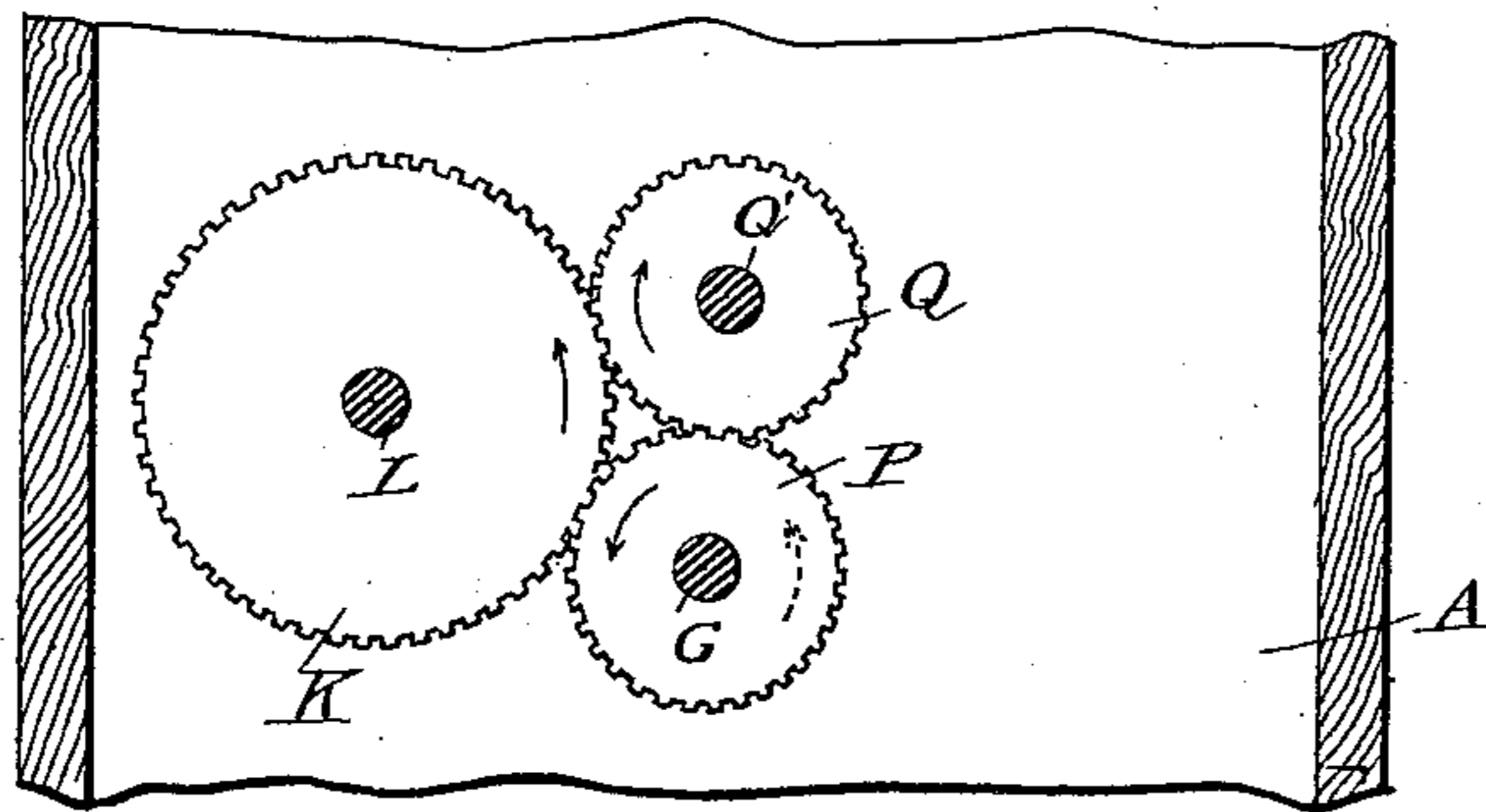


Fig. 3.

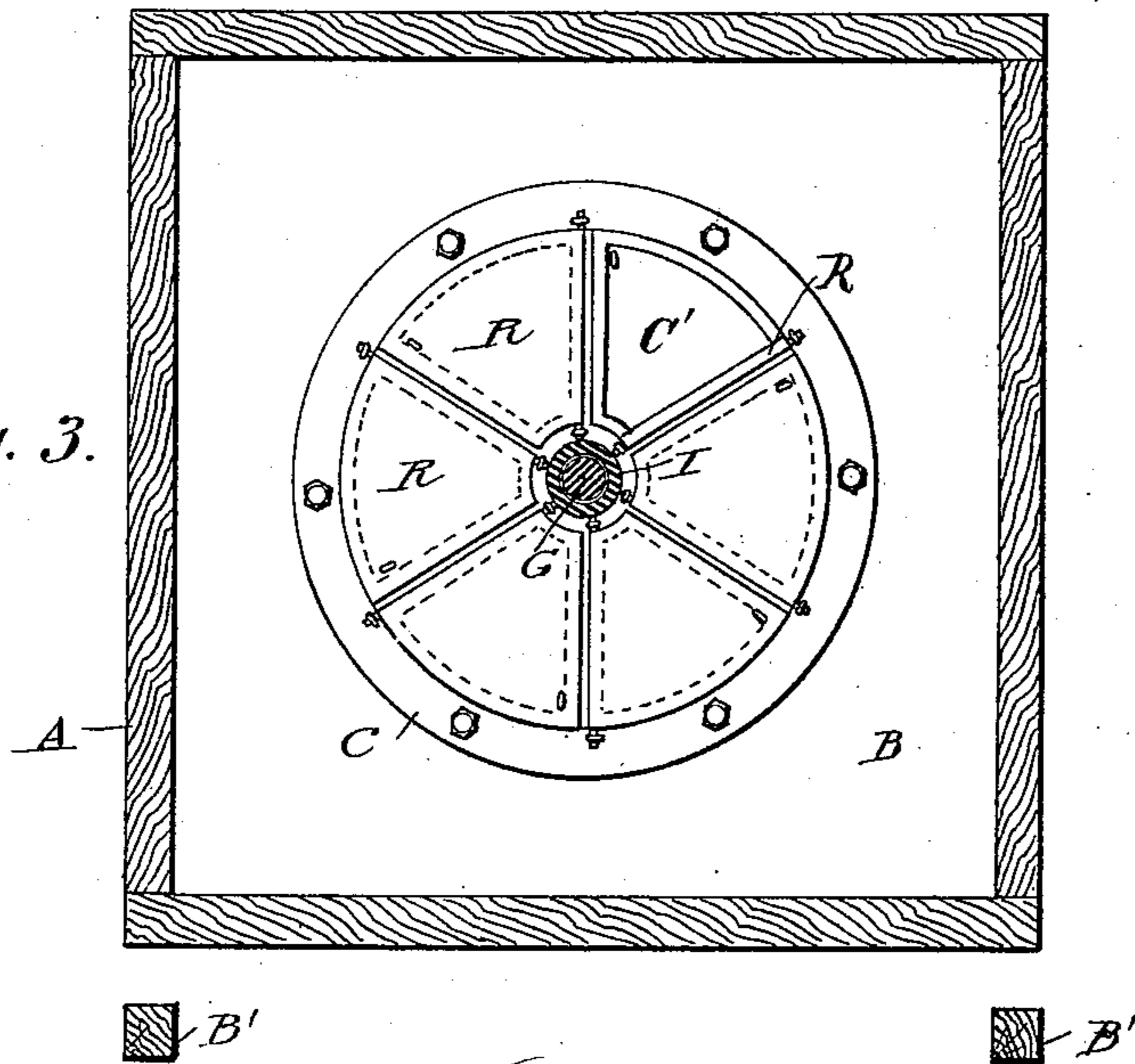


Fig. 4.

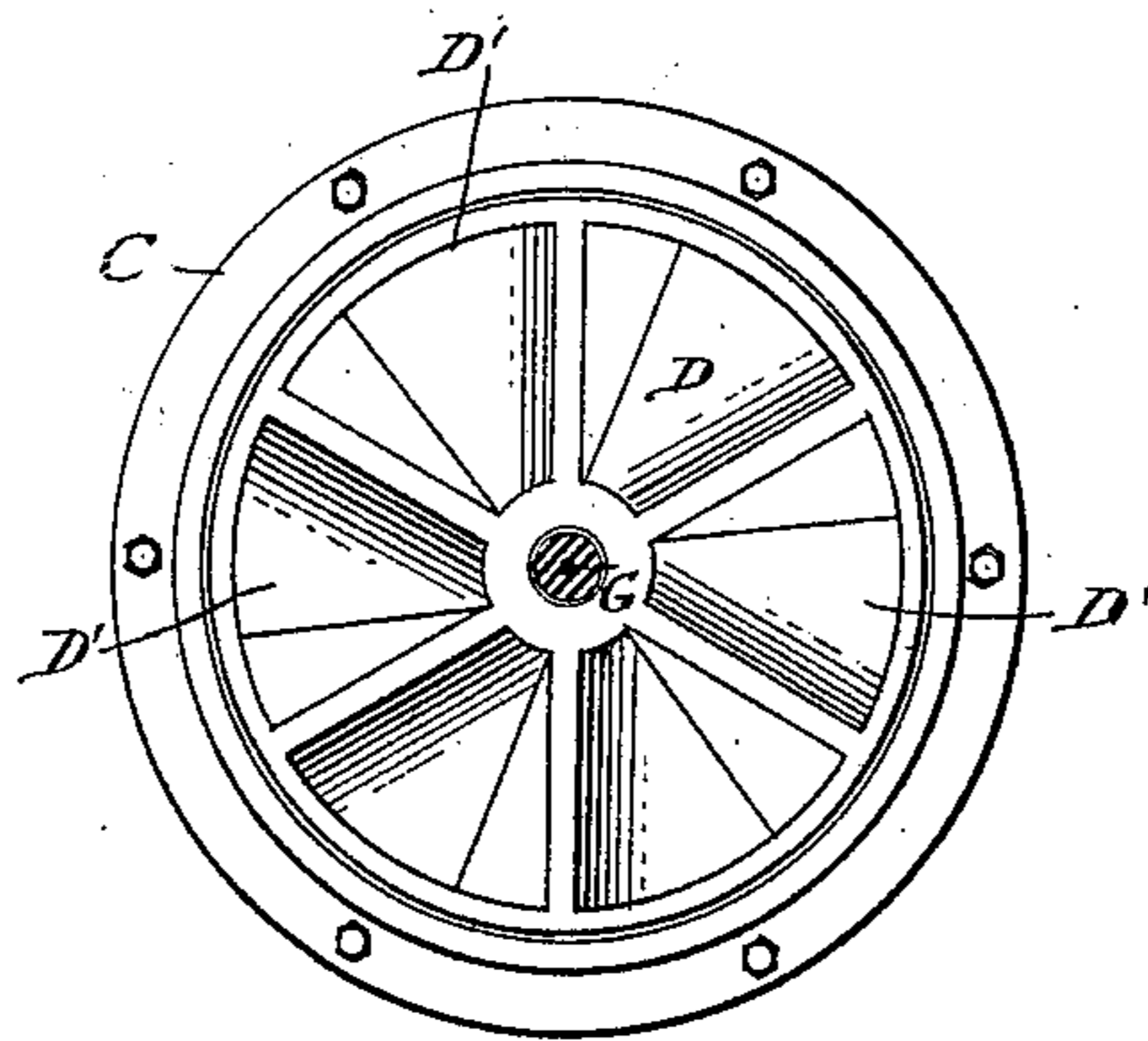
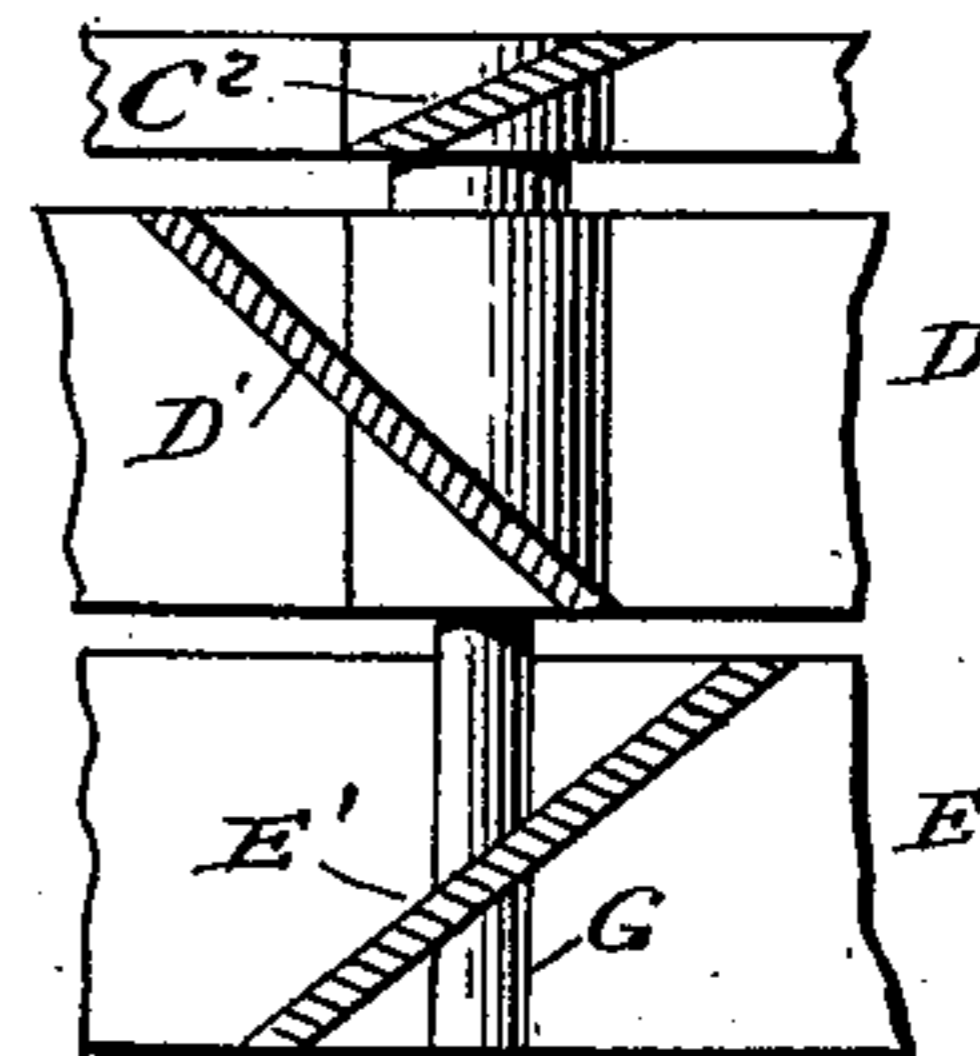


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES T. ROHM, OF LOCUST GROVE, PENNSYLVANIA.

WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 405,053, dated June 11, 1889.

Application filed August 17, 1888. Serial No. 282,973. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. ROHM, of Locust Grove, in the county of Fulton and State of Pennsylvania, have invented a new and Improved Water-Wheel, of which the following is a full, clear, and exact description.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a central side elevation of my improvement. Fig. 2 is a sectional plan view of the same on the line *xx* of Fig. 1. Fig. 3 is a similar view of the same on the line *yy* of Fig. 1. Fig. 4 is a like view of the same on the line *zz* of Fig. 1, and Fig. 5 is a sectional side elevation of the same on the line *uu* of Fig. 1.

My improved water-wheel is mounted in a closed casing A, having the bottom B, which supports in its center the water-wheel casing C, in which are held the water-wheels D and E, of which the former is provided with buckets D', which discharge upon the buckets E' of the water-wheel E. The latter is provided with an annular rim F, which incloses the buckets of the wheel E and extends upward sufficiently to inclose also the buckets D' of the water-wheel D. By reason of the rim F, I am enabled to place the surrounding casing C from six to ten inches from the wheels, which effectually prevents the possibility of the water freezing and preventing the rotation of the wheels.

The water-wheel E is secured to the shaft G, mounted at its lower end on the cross-beam H, secured to the lower end of the water-wheel casing C, the upper end of the shaft being mounted in suitable bearings on the top of the casing A.

The water-wheel D is secured to the lower end of a hollow shaft I, through which said shaft G passes, and said hollow shaft I carries on its upper end a gear-wheel J, which meshes into the gear-wheel K, secured to the main driving-shaft L, provided with a gear-wheel O or other means for transmitting the motion of the main driving-shaft L to other ma-

chinery. On the shaft G is mounted the gear-wheel P, which meshes into the intermediate gear-wheel Q, secured to an auxiliary shaft Q', mounted to rotate in suitable bearings in the upper end of the casing A. The intermediate gear-wheel Q also meshes into the gear-wheel K, thus transmitting the rotary motion of the shaft G to said gear-wheel L in conjunction with the motion of the shaft I.

In the upper end of the water-wheel casing C are a number of openings C', in which are held the inclined stationary buckets C², leading to the inclined buckets D' of the water-wheel D, and the buckets of the latter discharge upon the inclined buckets of the water-wheel E, as illustrated in Fig. 5. The openings C' of the water-wheel casing C can be opened or closed by the covers R, hinged at one edge to the top of the water-wheel casing C, and the opposite end of each cover is connected by a rod S with the ropes T wound upon the drum U, mounted in suitable bearings on the frame A, and provided with a crank-arm V for turning said drum. Several of the rods S are connected with one rope T. Suitable means are employed for holding the drum U in position. The casing A is supported at its bottom B by the posts B'.

The operation is as follows: The water is discharged into the casing A above its bottom B, and the covers R are opened to any desired height by turning the crank V so as to rotate the drum U, thus winding up the ropes T, whereby the covers are swung upward to any desired height. The water in the casing A then passes through the openings C' over the inclined buckets C² upon the water-wheel D, which is thus rotated in one direction, and the water, after leaving the water-wheel D, passes upon the water-wheel E and rotates the same in the opposite direction, after which the water passes out at the lower end of the water-wheel casing C. Thus it will be seen that the water-wheels D and E rotate in opposite directions. The water-wheel D, by its shaft I and the gear-wheel J, imparts a rotary motion to the gear-wheel K in one direction, and the water-wheel E, by its shaft G and the gear-wheel P, imparts a rotary motion to the intermediate gear-wheel Q in another direction, and as the

latter gear-wheel meshes into the gear-wheel K it imparts a motion to said gear-wheel K in the same direction as the motion it receives from the gear-wheel J. Thus the opposite
5 rotary motion of the two water-wheels D and E are transmitted in one direction to the gear-wheel K.

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

The combination, with the water-wheel casing, of the upper horizontal rimless water-

wheel D, having inclined buckets D', and the lower horizontal water-wheel E, having oppositely-inclined buckets E' and a surrounding
15 rim extending upwardly and inclosing the rimless wheel, a space being formed between the exterior of the rim and the interior of the casing, substantially as and for the purpose specified.

JAMES T. ROHM.

Witnesses:

CYRUS MENTZER,
ULYSSES G. MENTZER.