C. D. Wright

Water Wheel,

No. 49,578. Patented Aug. 22, 1865.

Fig. 1.

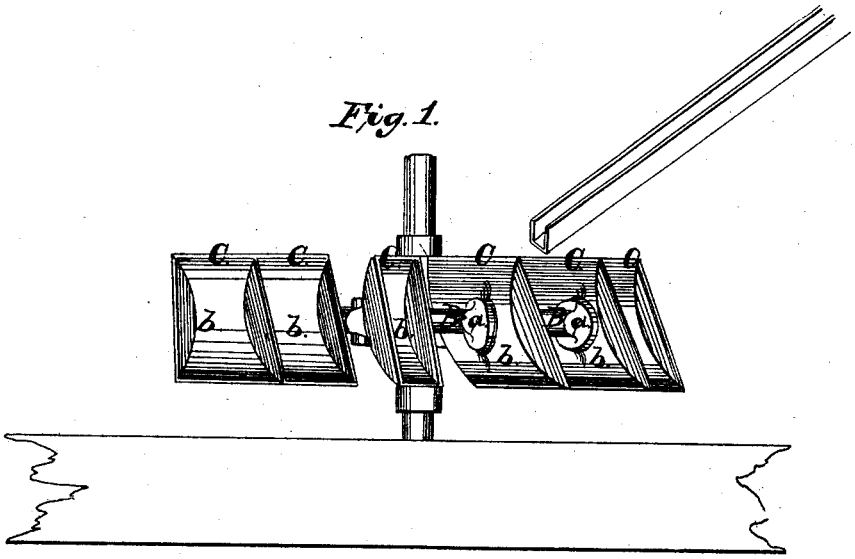
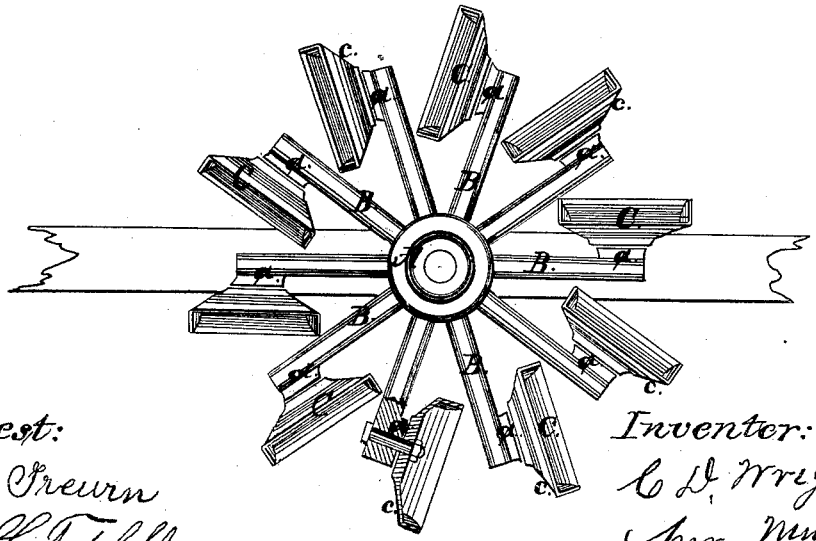


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES D. WRIGHT, OF LEESVILLE, CONNECTICUT.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **49,578**, dated August 22, 1865.

To all whom it may concern:

Be it known that I, CHARLES D. WRIGHT, of Leesville, in the county of Middlesex and State of Connecticut, have invented a new and Improved Square-Dish Water-Wheel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of this invention; Fig. 2, a top view of the same, partly in section.

Similar letters of reference indicate like parts.

This invention relates to an iron water-wheel which actually combines the direct and reacting effect of the water as the same strikes and leaves the wheel.

The buckets are made in the form of a square dish, with flaring sides and a curved bottom, and they are fastened to the arms by means of flanges which are made solid with or otherwise attached to the ends of the arms, and the hub is cast with the shaft-hole and the arms in it, so that a cheap and durable wheel can be produced, and that by the peculiar form of the buckets the water acts in a direct way with great advantage, and, furthermore, a reacting force of the water on the periphery of the wheel is obtained.

A represents the hub of my wheel, which is cast with the shaft-hole and with the arms in it, and which is fitted to a wooden or iron shaft in any suitable manner. Where cheapness is a prime object I use a wooden shaft.

The arms B may be made of wrought or cast iron, and they are provided at their extreme ends with flanges *a*, to which the buckets C are secured. In practice one or two screws will be sufficient to retain each bucket in its place, said buckets being provided with flat seats to fit to the flanges on the ends of the arms, as clearly shown in the drawings, particularly in Fig. 2, where one of the buckets is shown in section. The buckets are cast or otherwise produced of metal, and they are made in the form of square dishes. The bottom *b* of each bucket consists of a segment of a cylinder, and its outside, *e*, is flaring, so that the water, on being discharged over the periphery of the wheel, reacts and all its power is utilized. The water is intended to be let on this wheel through a trough placed at an angle of forty to forty-five degrees, more or less, according to the size of the wheel and the height of the fall. No scroll or guide curves are used, and as the water strikes each bucket somewhat above the middle of its height, it propels the wheel by direct action, and in discharging from the curved bottom and over the flaring side it reacts and a large percentage of its full force is utilized.

By these means a wheel can be produced which is very cheap and durable, and, furthermore, gives a very good effect. No rubbish coming down with the water is able to choke my wheel, and it sustains very little or no obstruction by running in back-water. It is applicable under falls of different height, large or small, though its effect is best under high falls, where the water will strike it with considerable velocity, and on account of its cheapness and simplicity it can be put up in places where a good water-wheel of the ordinary construction would be out of question.

I claim as new and desire to secure by Letters Patent—

The buckets C, formed of a section of a cylinder, with the ends flaring from the bottom and connected to the arms B by the flanges *a*, all substantially as shown and described.

CHARLES D. WRIGHT.

Witnesses:

JAS. H. BROWNELL,

A. E. PURPLE.