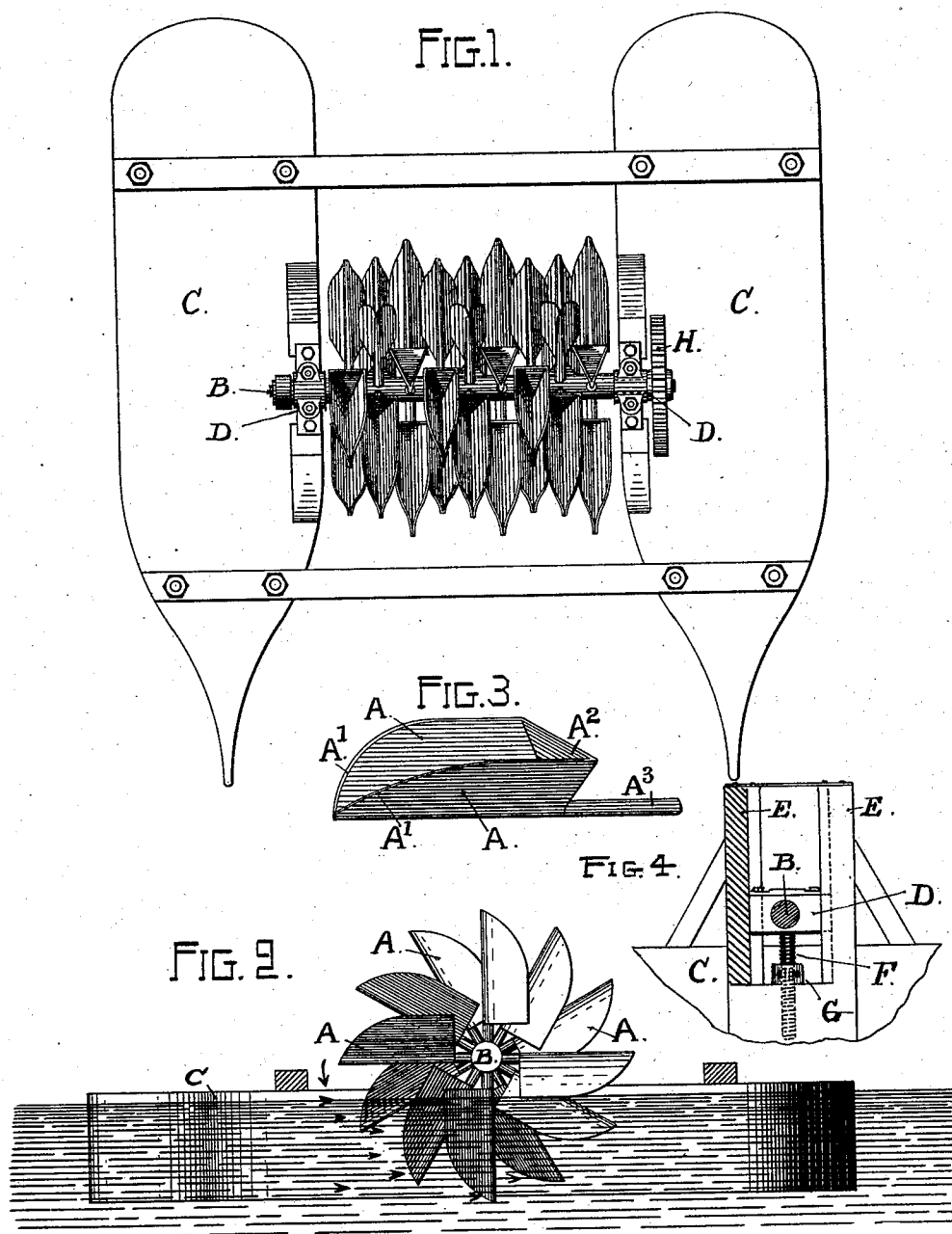


(No Model.)

A. KRUSE.
CURRENT WATER WHEEL.

No. 576,132.

Patented Feb. 2, 1897.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

ADOLPH KRUSE, OF SAN FRANCISCO, CALIFORNIA.

CURRENT WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 576,132, dated February 2, 1897.

Application filed May 5, 1896. Serial No. 590,299. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH KRUSE, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Current Water-Wheels, of which the following is a specification.

My invention relates to improvements made in water-wheels to operate by the flow of the tides and the currents of a stream for driving machinery and doing other work; and the improvements have for their object the production of a simple and durable wheel or apparatus at low cost and in which the force or strength of the moving currents are utilized or rendered effective to their fullest extent.

To this end my said invention consists in a novel construction of wheel and the combination thereof with a floating structure for supporting the wheel in working position, as hereinafter fully described, and pointed out in the claim, reference being had to the drawings that accompany and form part of this specification, in which—

Figure 1 is a plan or top view of my improved current-wheel. Fig. 2 is a longitudinal vertical section. Fig. 3 is a detail view of buckets in perspective. Fig. 4 is an elevation of the adjustable bearings or boxings.

The buckets of the wheel are of peculiar construction, being made in shape somewhat like a flour-scoop with flaring sides A A, rounded on the front edges A' and joined at the rear by a straight back A². The sides, converging at an acute angle, are joined together along the bottom, giving the bucket a V shape at any point of cross-section.

Each bucket is connected to the shaft by a rigid spoke or arm fixed by its inner end in a hole or socket bored in the shaft at right angles to the axis thereof and having the bucket fixed on its outer end, the arm being arranged along the angle of the V-shaped bottom.

In setting the buckets on the shaft they are arranged in a special manner and in such close order that while one bucket is a short distance behind and to one side of the next bucket the adjacent side of the bucket that leads will overlap or set over the bucket next behind it.

The flaring sides of the bucket are made flat and are rounded at the outer end, or that end of the bucket which enters and leaves the water in advance of the square back end, in order, first, that the flaring sides will act to gather the water and secure the greatest amount or degree of pressure against the inside of the bucket and that there will be the least possible resistance by the water against the sides of the bucket, and, secondly, that the water will not be lifted up or held in the bucket after it has passed beyond the center and is moving upward. The form in which these buckets are constructed, that is, with flat sides set at an acute angle to each other and with equal flare or projection on opposite sides of the arm and with rounded outer edges, is specially designed to secure these results. The form and general construction of this bucket are clearly shown in Figs. 1 and 3. The closed end, joining the two sides together at the back, serves to stiffen and strengthen the sides, and the curved shape of the sides at the front end has the effect of allowing the air to enter rapidly and displace the water as the bucket approaches and leaves the surface of the stream in the upward movement.

The shaft B is supported by sliding boxes D D in upright blocks or guides E E, set and braced on the floats C C. The boxes are made adjustable in a vertical direction and are moved by means of screws F F and nuts G G in order to regulate the dip or submergence of the buckets.

Power is taken from one end of the shaft and transmitted to the point or place of application by means of gears, one of which is shown at H, or by means of pulleys and a belt.

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

The herein-described current water-wheel consisting of a horizontal shaft mounted to rotate in boxes across the open space between two supporting-floats rigidly connected together, buckets secured to said shaft in spiral lines one behind and to one side of the other, each bucket being constructed of two flat sides joined together at an acute angle and

forming a V-shaped bottom, a spoke or arm
fixed in the shaft at right angles to the axis
thereof to which the said sides are rigidly se-
cured along the V-shaped bottom with equal
5 flare or projection, a closed back united to
the said sides at the inner end of the bucket,
and the outer or leading end having rounded
edges, as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand and seal.

ADOLPH KRUSE. [L. S.]

Witnesses:

C. W. M. SMITH,
CHAS. E. KELLY.