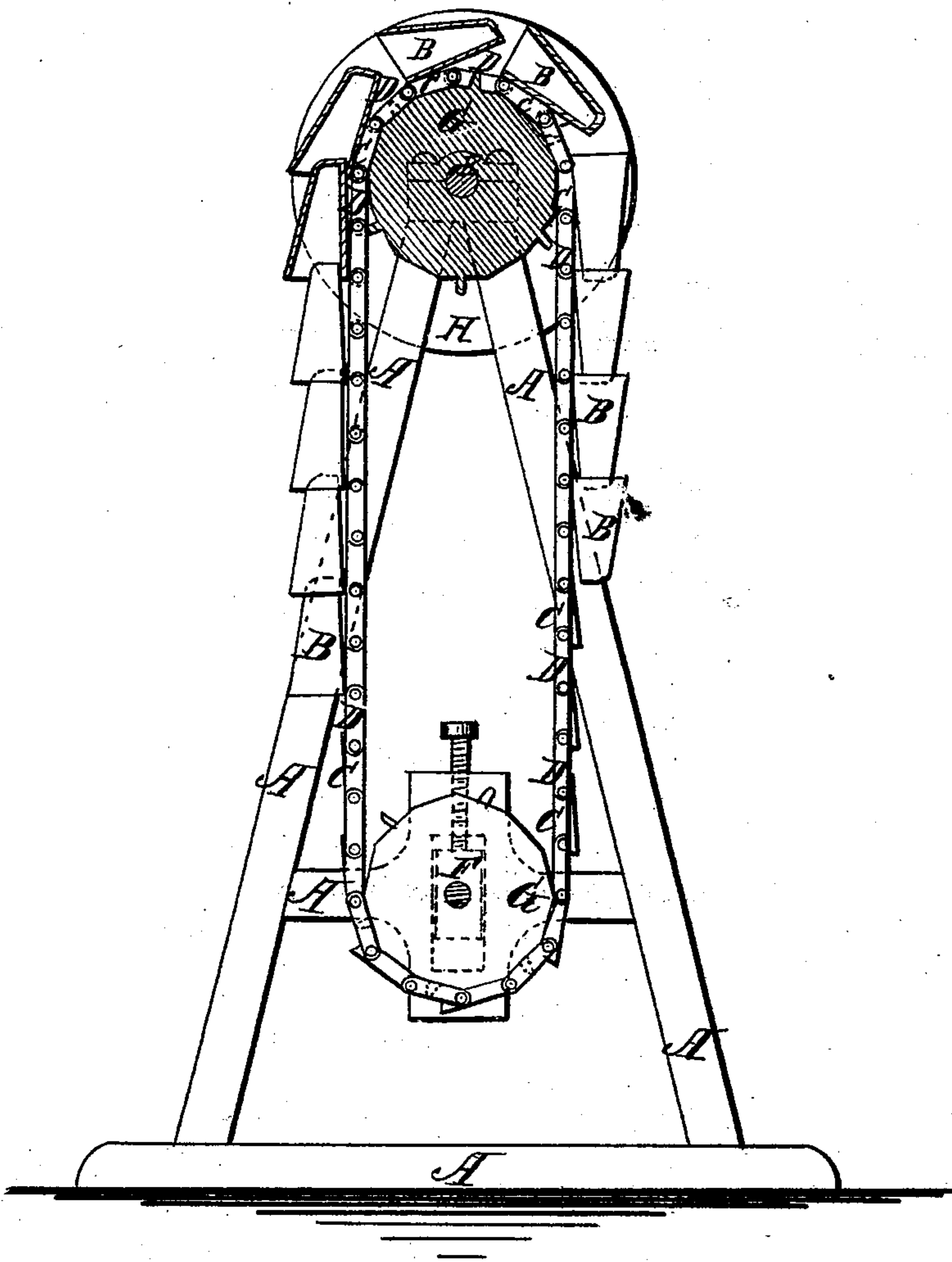


H. S. Stewart,

Water Wheel.

No. 96,629.

Patented Nov. 9, 1869.



Witnesses

A. W. Harguise
Geo. W. Moberg

Inventor
H. S. Stewart
PER *Munn*
Att'y.

United States Patent Office.

H. S. STEWART, OF YREKA, CALIFORNIA.

Letters Patent No. 96,629, dated November 9, 1869.

IMPROVEMENT IN ENDLESS-CHAIN WATER-WHEELS.

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

To all whom it may concern:

Be it known that I, H. S. STEWART, of Yreka, in the county of Siskiyou, and State of California, have invented a new and useful Improvement in Endless-Chain Water-Wheels; 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 drawing, forming part of this specification, in which the figure is a detail sectional view of my improved water-wheel, parts being broken away to show the construction.

My invention has for its object to furnish an improved water-wheel, which shall be so constructed as to utilize a much larger proportion of the power of the water than can be done with water-wheels constructed in the ordinary manner, and which shall also be so constructed that it may be taken apart and transported from place to place, as required; and

It consists in the construction and combination of the various parts of the wheel, as hereinafter more fully described.

A represents the frame-work, by which the wheel is supported.

B are the buckets, to the rear sides of which, near their ends, are attached links C, which links are pivoted at their ends to intermediate links D, so that the buckets may be attached to the alternate links of endless chains.

The length of the links C D, and the depth of the buckets B, are so regulated, that as the buckets pass into vertical positions, the bottom of each bucket may enter the mouth of the preceding bucket, thus economizing space, and preventing the swash of the water.

To enable this to be done, the links C, to which the buckets B are attached, are made with a rise or projection of such a height as to carry the lower parts outward a little more than the thickness of the inner side of said buckets, as shown in the drawing.

E and F are the shafts, to which the wheels or pulleys G are attached, around which the endless chains pass, to which the buckets are attached.

The wheels G are made polygonal in form, each face being of the same length as the links C D of the chains.

The pulleys G are provided with teeth or spurs, against which shoulders or stops, formed upon the links, strike, so that the endless chain of buckets may carry the said wheels and shafts with them in their revolution.

The upper shaft E revolves in stationary bearings, attached to the upper part of the frame A, and the lower shaft F revolves in movable bearings, placed in a slot in the lower part of said frame-work A, and which bearings are provided with screws by means of which the position of said bearings may be adjusted to regulate the tautness of the endless chains of buckets.

H is the drive-pulley, from which the motion is communicated to the machinery to be driven, and which is attached to the end of the shaft E.

The water is conducted into the buckets B in the ordinary manner, and the wheel may be used as an overshot or breast-wheel, as may be desired.

If desired, the chains C D may be replaced by cables or other flexible connections that will allow the buckets to pass around the pulleys G and shafts E F, and carry said shafts and pulleys with them in their movements.

This construction causes it to occupy less space than wheels constructed in the ordinary manner, and also enables it to be conveniently taken apart and transported from place to place, or "packed" into mountainous districts, where other wheels could not be taken.

It should be observed that a water-wheel thus constructed can be used with the greatest advantage where a high-head of water is attainable.

Having thus described my invention,

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

1. A chain for power water-wheels, composed of plain links D, and inclined links C, the latter holding the buckets off from frictional contact with the former, as shown and described.

2. The chain, composed of links C D, in combination with polygon-shaped shafts F G, each side of said polygons corresponding in width to the length of one of said links, as and for the purpose specified.

3. The arrangement of the buckets B upon the inclined faces of the links C, in the manner set forth, so that when the links C D are aligned, one bucket will be within another, as described.

The above specification of my invention, signed by me, this 18th day of June, 1869.

H. S. STEWART.

Witnesses:

FRANK BLOCKLEY,
JAMES T. GRAHAM.