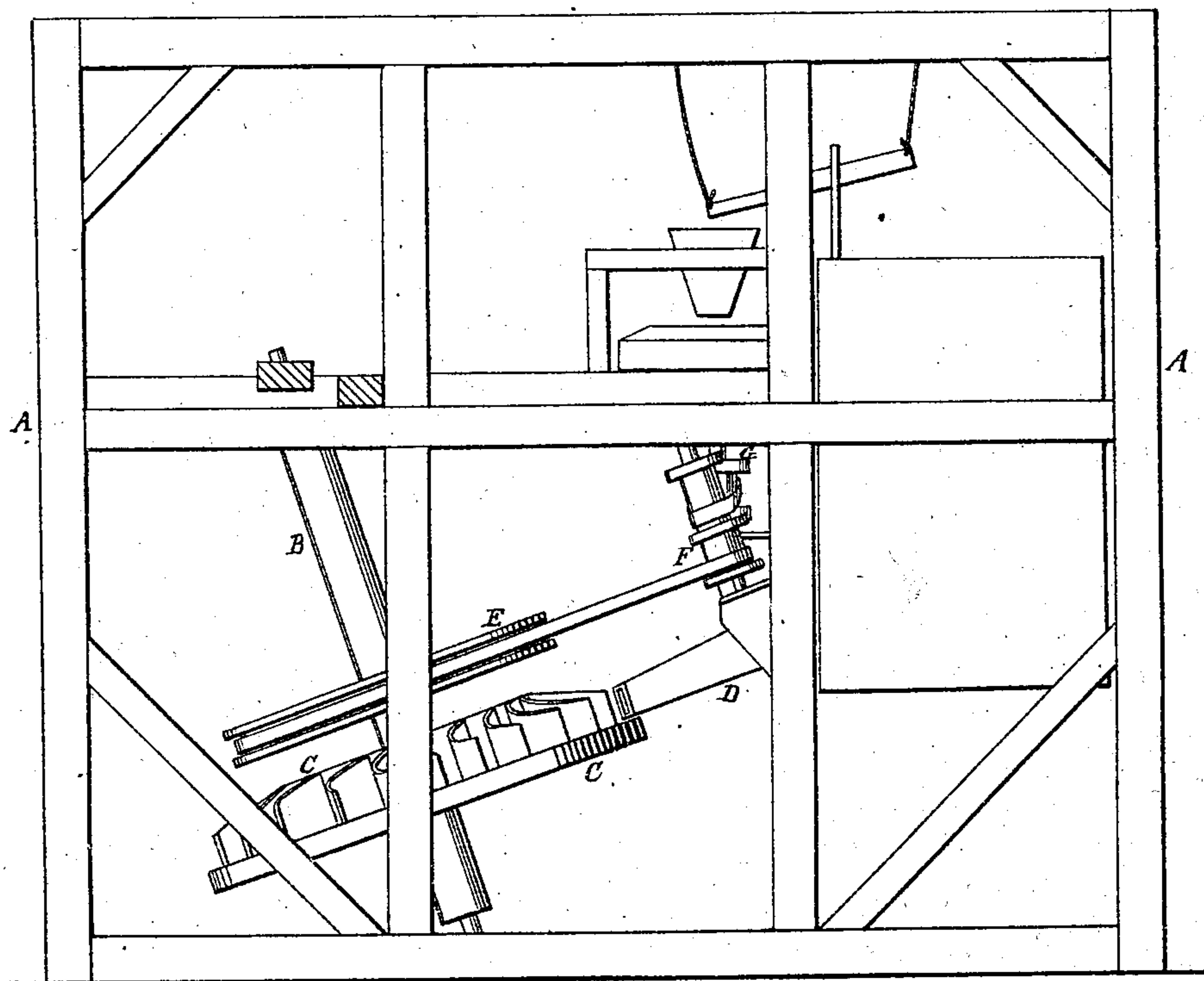


J. T. GILMORE.
WATER WHEEL.

No. 2,900.

Patented Dec. 31, 1842.



UNITED STATES PATENT OFFICE.

JNO. T. GILMORE, OF FAYETTEVILLE, NORTH CAROLINA.

INCLINED WATER-WHEEL.

Specification of Letters Patent No. 2,900, dated December 31, 1842.

To all whom it may concern:

Be it known that I, JOHN T. GILMORE, of the town of Fayetteville, in the county of Cumberland and State of North Carolina, have invented a new and useful machine for the better application of water-power consisting of the inclined water-wheel and belt-gearing; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

A represents the frame of a common grist mill in which the inclined water wheel and belt gearing are placed.

B represents the shaft of the water-wheel 13 feet long, 16 inches in diameter, journals 3 inches, top journal running into a round box or piece of copper, bottom journal running into a copper step.

C represents the inclined water wheel 10 feet in diameter to the outside of buckets, which are made of wood, sheet or cast iron, each bucket forming a half circle of 9 inches diameter and are fastened on the soling or sheeting and to a circular rim of wood which incloses them on the inner side; they are 18 inches high on the side nearest the shaft, 9 inches high at the circumference of the wheel where they are open, and are 24 inches apart. As the wheel revolves, the concavity of each bucket is presented to the trunk D when the water is let upon the wheel near its greatest elevation. If necessary a trunk can be placed near the bottom of the pond and the water let upon the lowest bucket of the wheel; speed of water wheel 16 revolutions per minute. On the shaft of water wheel is a drum 8 feet in diameter as at E, driving an intermediate pulley as at F 12 inches in diameter 3 feet in length. The shaft, drum and water-wheel are inclined at an angle of $22\frac{1}{2}$ degrees, presenting the highest part of the water wheel to the pond; the intermediate pulley has the same inclination as the shaft of the water wheel and directly in front of the drum and connected with it by a band 5 inches in width. This pulley drives the

spindle shaft as at G, by a band 5 inches in width. The intermediate pulley must stand in front of the greatest elevation or depression of the drum and the spindle shaft at a right angle from them.

The inclined water wheel and belt gearing will save in their operation one half of the water now required for the tub mill or saw mill. The inclined water wheel and belt gearing will cost not more than \$50 above the tub or saw mill and can be put in any frame as will be seen by the model. The overshot and undershot wheels are too expensive for common use, difficult to keep in order and not adapted to level countries for want of a sufficient fall. The inclined water wheel and belt gearing are adapted to every machinery that is propelled by water. The water wheel may be placed at any angle to suit the convenience of the pond, may be enlarger or reduced in its construction, as well as the drum and intermediate pulley so as to give speed to the millstone without running the water-wheel too fast. This wheel contains two principles—percussion and gravity; the latter is in constant operation so long as the water remains in the bucket during the revolution of the wheel; this is so because the wheel is made to run slower than the water would descend on a smooth surface having the same inclination as the wheel.

I do not claim to be the inventor of the inclined wheel; that no doubt is very ancient; but I do claim the invention of the inclined water-wheel with buckets made as above described as I do not know or believe that such a wheel was ever before known or used in such a manner as to combine percussion and gravity in the manner set forth.

I therefore desire to secure by Letters Patent —

Only the inclined water-wheel constructed with buckets of the aforesaid description to be applied to any machinery propelled by water power.

JOHN T. GILMORE.

Attest:

WM. A. CAMERON,
THO. L. HYBANT.