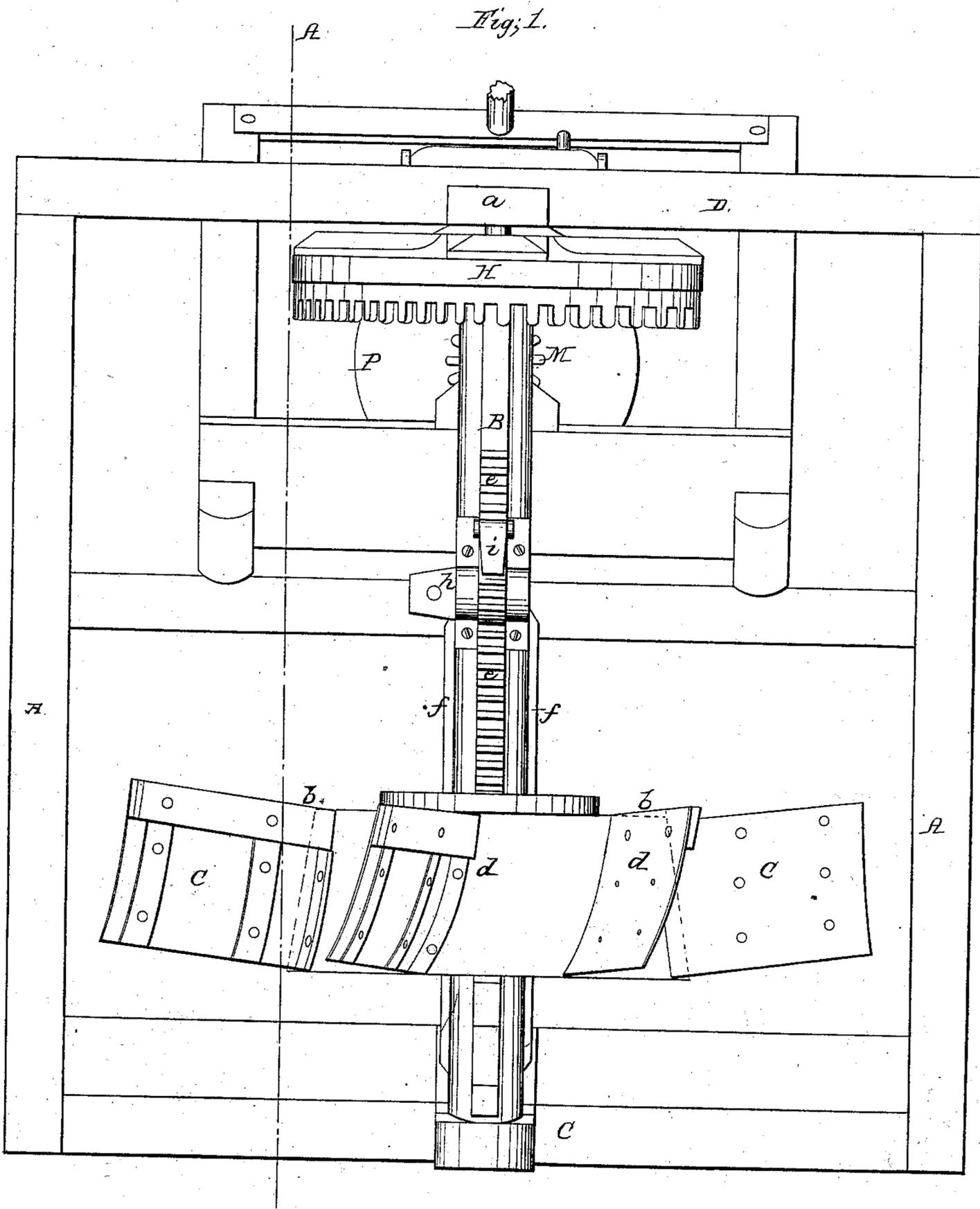


T. Stamp,

Water Wheel,

N^o 17,119.

Patented Apr. 21, 1857.



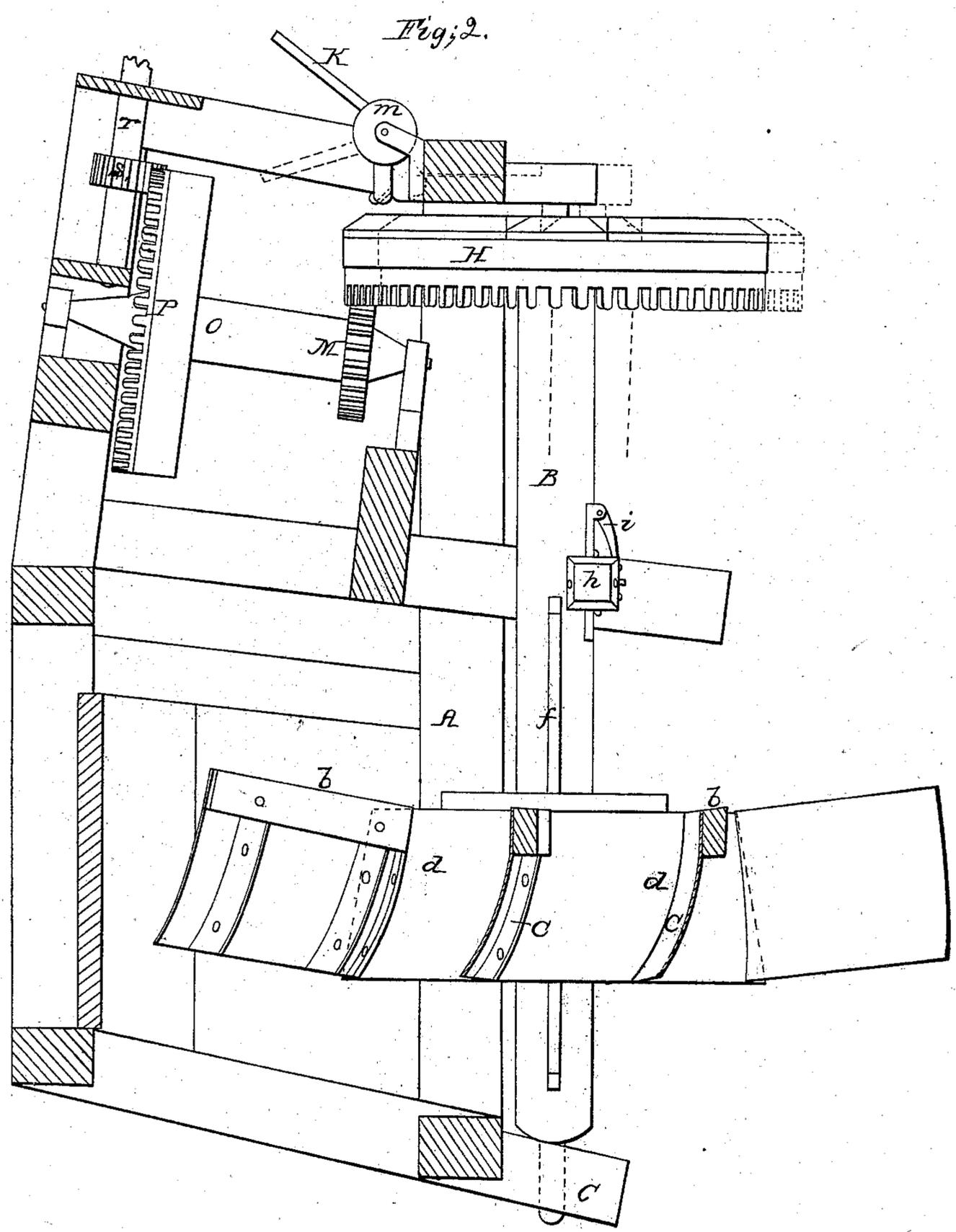
Witnesses;
C. H. Houston
Jas. B. Stamp

Inventor,
Thomas Stamp

T. Stamp, Water Wheel,

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Witnesses;
G. H. Houghton
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UNITED STATES PATENT OFFICE.

T. STAMP, OF WETUMPKA, ALABAMA.

CURRENT WATER-WHEEL.

Specification of Letters Patent No. 17,119, dated April 21, 1857.

To all whom it may concern:

Be it known that I, THOMAS STAMP, of Wetumpka, in the county of Autauga, in the State of Alabama, have invented a new and useful Improvement on Water-Wheels; 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, in which—

Figure (1) is a perspective view, and longitudinal elevation; Fig. (2) is a transverse position of the same.

A A represents the upright timbers of a heavy frame work leaning to the bank of the stream, with an inclination of, from one and a half to two inches to the foot, in the elevation of the frame, more or less, as circumstances may require.

B is an upright shaft fitted in, and resting on the ground sill C, and attached to the cap sill D, by means of a sliding block, through which, the gudgeon at the upper end of the shaft B passes, as seen at (a) Fig. (1).

(b b) is a horizontal wheel, with a hub supporting eight arms, with an elevation from the hub to the outward extremity, forming an angle corresponding with the inclination of the shaft, to which the wheel is attached, and thus forming what may be termed a dished wheel. To the arms of the wheel are attached wings, or open buckets (c c) curved as seen in Fig. (2).

(d d) is a rim surrounding the hub at a distance of about one third of the length of the arms, from the hub, extending down to the depth of the buckets; to this rim, the buckets are secured, and by means of which their inward ends are closed.

(e e) is a toothed rack placed in a longitudinal opening through the center of the shaft B, extending from the lower end to a third or half the length of it, and has a deep groove to a corresponding distance above; the rack passes through and is fastened to the center of the wheel hub.

(f f) are bars of iron secured longitudinally to the shaft, at right angles with the central opening above described, with a projection of nearly their whole thickness. The hub of the wheel which otherwise is fitted loosely on the shaft, by means of grooves formed inside of the eye corresponding with

the projecting bars, is prevented from wrenching on the shaft.

(h) is a pinion secured to the shaft B fitted, and works, into the toothed rack (e e), and by means of lever power operating on the head of the pinion at (h), the wheel is raised and lowered by a sliding movement on the shaft.

(i) is a catch which falls into the space between the cogs of the pinion, to retain the wheel in the desired position on the shaft, when raised or lowered.

K is a lever fastened into the fulcrum roller (m), as seen in Fig. 2, which by a connecting projection, on the under side of the roller, with the sliding block through which the gudgeon of the shaft B passes, at its upper end, by pressing down or raising the lever K the cogged wheel on the top of the shaft is thrown in or out of gear will; this cogged wheel H on the top of the shaft B. The cogs are beveled in a corresponding degree with the inclination of the whole structure, and is fitted in the trundle head M, on the horizontal shaft O, on which is another cog wheel, P. This runs into another trundle head, S, on an upright spindle, T, thus exhibiting the machinery of a grist mill, which is only an attachment to the novel plan of my water wheel, to show its operation.

In order that others may more fully understand the plan of constructing for, and using my water wheel, I will state that the intention is, for the wheel to be propelled by the natural current. For this purpose a swift smooth stream should be preferred. Cut an excavation in the bank or bluff, half the width of the diameter of the wheel, gradually sloped from top to bottom, in length parallel with the stream, a few feet over the whole diameter of the wheel; into this set a substantial frame of heavy timbers, corresponding in dimensions, with the excavation. The frame as previously described is inclined, leaning to the bank. The inside of the frame against the bank is walled with plank, to the height the wheel is intended to be used, this wall commencing at the center of the length, extending in a curve around the wheel where the force of the water is applied, up to the gate; from the gate a radiating wall or dam is constructed of mason or wood work, and is raised to the height where the wheel is to

be run. This wall with one against the bank, extending up the stream, forms the trunk to guide the stream and concentrate its force upon the wheel. The current is broken off when desired to stop the wheel, by means of a sliding shutter fitted in the gate frame, and is shown in my model.

The shaft B is of wood provided with a suitable step at the lower end; in the formation of the step the cup should be attached to the shaft and the pivot in the timber below.

In constructing the wheel the hub may be made of wood or iron; if of wood it should be provided with an iron box set in the eye and grooved as before mentioned, otherwise if made of iron there should be projecting sockets to set the arms in, with bolt fastenings. The number of the arms may be varied from eight to twelve, or sixteen, according to the size of the wheel, which may be from twelve to twenty-five or thirty feet in diameter, with buckets from four to ten feet in length and from two to four feet in depth; these buckets or wings may be made of iron or wood, strongly supported from the arms; the rim around the hub, and attached to the end of the buckets

may be made of wood or iron; the toothed rack and pinion of cast iron, and arranged as before described, for the purpose of sliding the wheel upon the shaft so as to regulate it to the rise and fall of the water; in place of the one rack, two may be used, one on each side, set in opposite grooves cut in the shaft, and thus avoid the necessity of the opening through the shaft.

The building for machinery may be extended out beyond the water frame to any length desired, upon high ground above high water, and connect the machinery with the operative power by the extension of the horizontal shaft.

What I claim as my invention and desire to secure by Letters Patent, is—

So constructing a current water wheel, that it may be raised and lowered, as set forth, in combination with the method described, for regulating the force of current acting thereon, all arranged and combined, as set forth in the accompanying drawings, and specification.

THOMAS STAMP.

Witnesses:

G. H. HOUGHTON,
JAS. B. STAMP.