

(No Model.)

J. J. SMITH.
SUBMERGED CURRENT MOTOR.

No. 582,000.

Patented May 4, 1897.

Fig. 1.

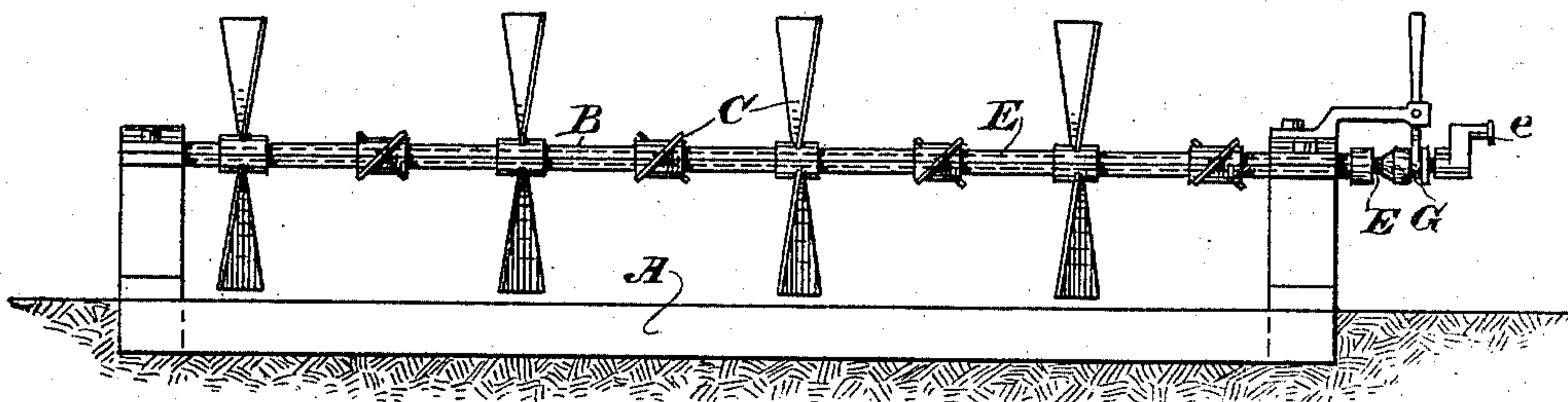


Fig. 2.

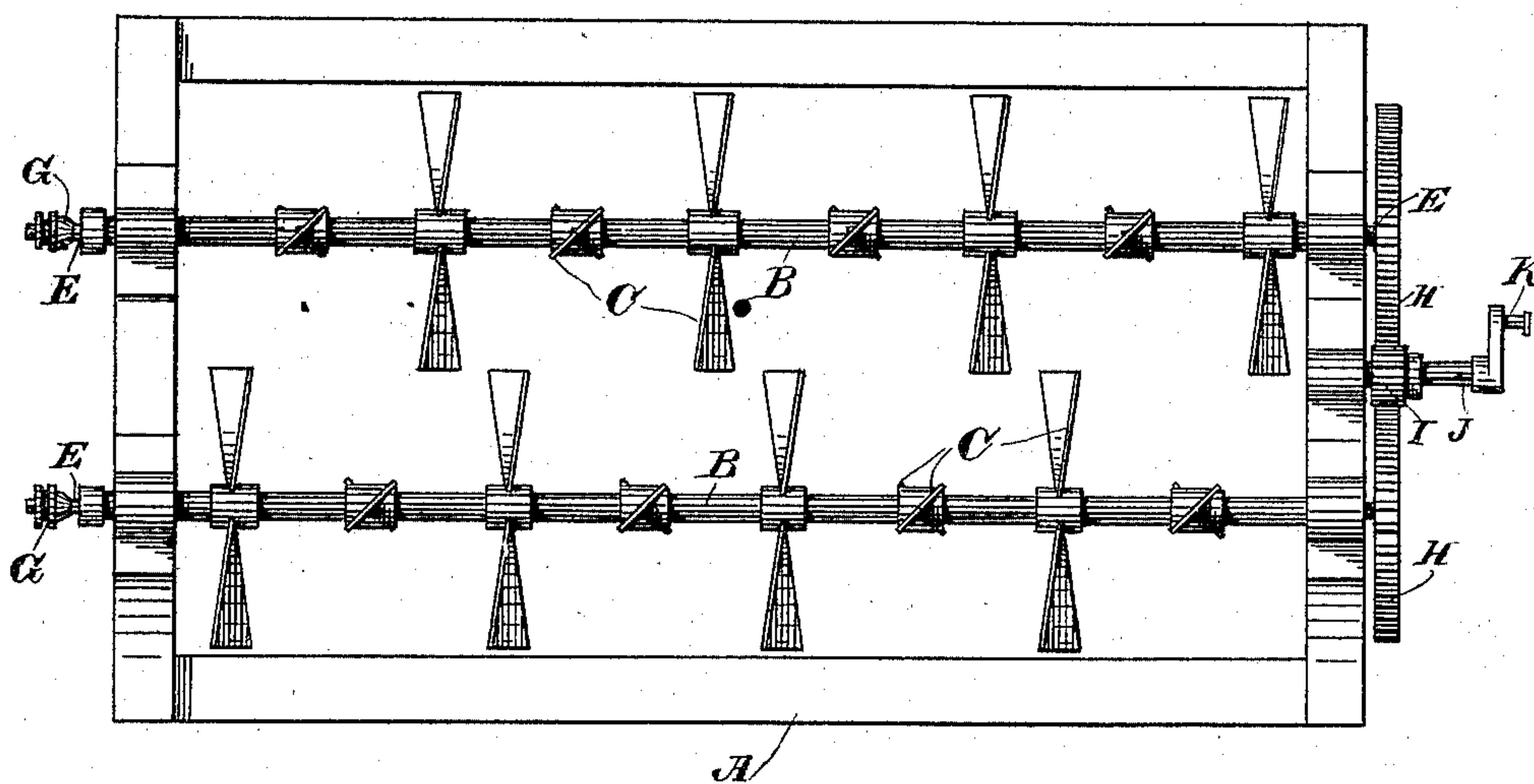
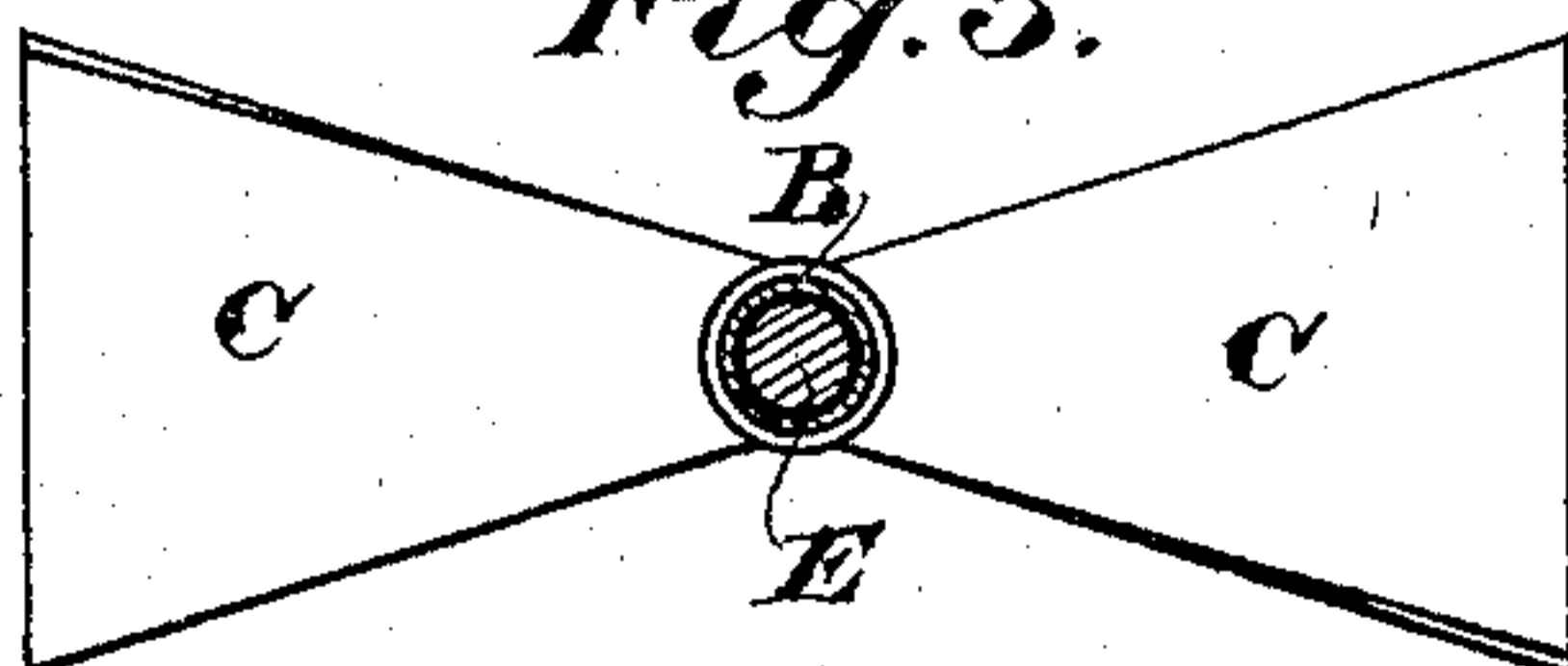


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN J. SMITH, OF AUBURN, CALIFORNIA.

SUBMERGED CURRENT-MOTOR.

SPECIFICATION forming part of Letters Patent No. 582,000, dated May 4, 1897.

Application filed September 4, 1896. Serial No. 604,844. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. SMITH, a citizen of the United States, residing at Auburn, county of Placer, State of California, have invented an Improvement in Submerged Current-Motors; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an apparatus for applying the power of a current of water flowing in a ditch, sluice, or other waterway, or the action of the tide or waves or other water in motion.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my apparatus. Fig. 2 is a plan view showing the application with two sets of power wheels and shafts. Fig. 3 is a section through one of the shafts.

A is a frame of any suitable or convenient description which may be fixed or anchored in the waterway so as to remain stationary. Upon this frame is journaled one or more shafts B, having fixed upon them the propeller-like blades C. The shaft is made hollow and the blades are fixed to it in pairs, standing alternately at right angles with each other and at such a distance apart that the full application of the current to each pair of blades will not be interfered with by the preceding ones. This tubular shaft has fitted inside of it a second shaft E, which is journaled in suitable boxes at each end and carries upon one or both ends, as may be desired, a driving mechanism e, through which power is applied from the shaft to any pump or other device which it will be desired to drive. A friction-clutch mechanism G of any suitable construction

serves to connect the outer revolving shaft with the inner shaft or to disconnect it therefrom when it is desired to stop the machinery. It will be manifest that two or more of these concentric shafts may be arranged side by side, each carrying a series of propeller-blades, in which case the power of the two may be consolidated by means of gear-wheels H, fixed upon the ends of the inner shafts and meshing with a common intermediate gear or pinion I, fixed upon the shaft J, through which power may be transmitted to pumps or other machinery by means of a crank K or other power-transmitting mechanism.

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

An improved current-motor consisting of a plurality of parallel shafts journaled upon a frame with their axes in the line of movement of the current in which the frame is immersed, gears upon the ends of said shafts and an intermediate gear with which they engage through which motion is transmitted to a common shaft, tubular shafts having a series of propeller-blades fixed thereon out of line with each other, and with the blades of one shaft operating substantially in the plane of the spaces between adjacent blades of the companion shaft, said tubes being independently turnable upon their respective interior shafts, and clutch mechanisms by which one or more of the interior shafts and exterior tubes may be united to turn in unison, or disconnected to allow of independent movement.

In witness whereof I have hereunto set my hand.

JOHN J. SMITH.

Witnesses:

FRANK ROBERTS,
JAS. M. BERRY.