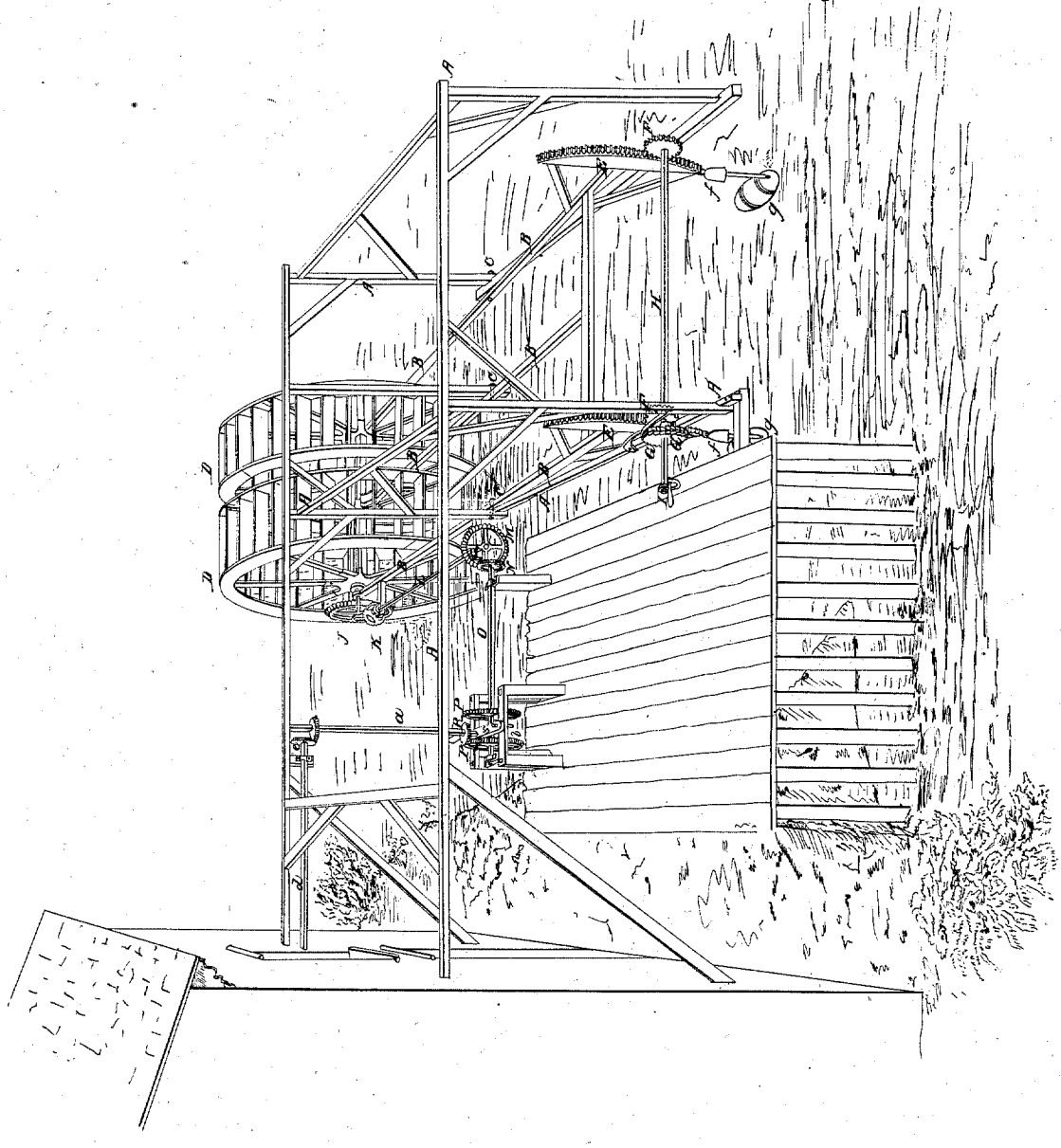
7537X

Dingley & Savage,

Water Wheel,

Patented Apr. 16, 1833.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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Amasa Dingley & Israel Savage of Maine
Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Amasa Dingley and Israel Savage themselves of their improvement in tide and current water wheels for driving mills and other machinery

To all whom it may concern. Be it known that We Amasa Dingley of Winslow in the County of Kennebec and State of Maine and Israel Savage of Waterville County of Kennebec and State of Maine, have made an improvement in tide and current water wheels for driving mills and other machinery, which is described as follows. This improvement consists in raising or depressing the water wheels to suit the rise or fall of the water, and in combining and concentrating the power of several water wheels by means of connecting shafts and gearing so as to unite the whole force in one or more places for grinding or other purposes. To effect these objects, the following machinery and arrangement is employed. The machinery consists in the frame for supporting the water wheels having an axle or centre with the segment cog wheels working into pinion wheels for raising or depressing the water wheels. The connecting shafts and gearing with the mode of governing the motion. The frame to support the water wheels is erected on or connected with a wharf, and is made of a size and strength adapted to receive the several parts of the machinery to be hereafter described. The water wheels are each suspended in a frame adapted to the size of the wheels. The wheel is placed at one end and a segment wheel at the other, turning on an axle in the centre supported in the frame first mentioned. To balance the wheel weights are added on the end with the segment wheels. The several frames containing the water wheels are connected together by scale beam braces turning on centre pins to give the frames a simultaneous and regular movement when used in tide water. A stay is attached to the end with the segment wheel to regulate the dip of the wheel in the water. These segment wheels (one on each side) work into pinion wheels fixed on an axle and having ratchet

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wheels fixed on an axle, and having orbital wheels for bearing the water wheels in any position. A crank handle is put on the axle of the pinion wheels for turning them and the segment wheels, when required to adjust the position of the water wheels. A cog wheel is placed on the shaft of the water wheel which works into a pinion fixed on a shaft turning on gudgeons supported on the frame of the water wheel. At the other end of this shaft is another bevel cog wheel working into a small pinion on the driving shaft. This shaft is placed horizontally and in the same line with the shaft upon which the water wheel is suspended, upon the driving shaft are two bevel cog wheels facing inward. A perpendicular shaft having a small pinion on the lower end is made to work into either of the before mentioned bevel cog wheels, by a shifting lever placed in the centre supported and turning on a pin and by which the motion of the wheel is reversed. Another pinion is placed on each end of a long shaft, placed horizontally for conveying the power to any distance. There may be any number of these shafts and pinions according to the number of water wheels &c

Operation. A frame to receive the water wheels is erected on the current of a river or where the tide ebbs and flows. The Mill House being on shore. By turning the crank handle placed on the axle of the pinion wheels, which work into the segment wheels, the water wheels are brought to act on the current at any required depth. and in case of tide water the Buoys have the same effect. The bevel wheels on the axle of the water wheels turn the cog wheels on the small shaft, that work into and turn the cog wheel and shaft with the bevel wheels upon it which also turn the cog wheel on the shaft for conveying the motion as well as the vertical shaft with its cog wheel. The invention here claimed is the before described combination and arrangement of machinery by which the water wheels are made to work in the water at any required depth also in conveying the motion to any required distance. For a further illustration of our invention, we refer to the model and drawing of the same deposited in the Patent office. In testimony whereof we ---- hereunto subscribe our names, this 9th day of ---- 1833

Witness } Wm. Elliot
(Seal) (Seal) Wards } Robt Clarke.

Amasa Dingley (Seal)
Israel Savage (Seal)

Drawing Made