

(No Model.)

E. G. BAILEY.  
PADDLE WHEEL.

No. 505,784.

Patented Sept. 26, 1893.

Fig. 1.

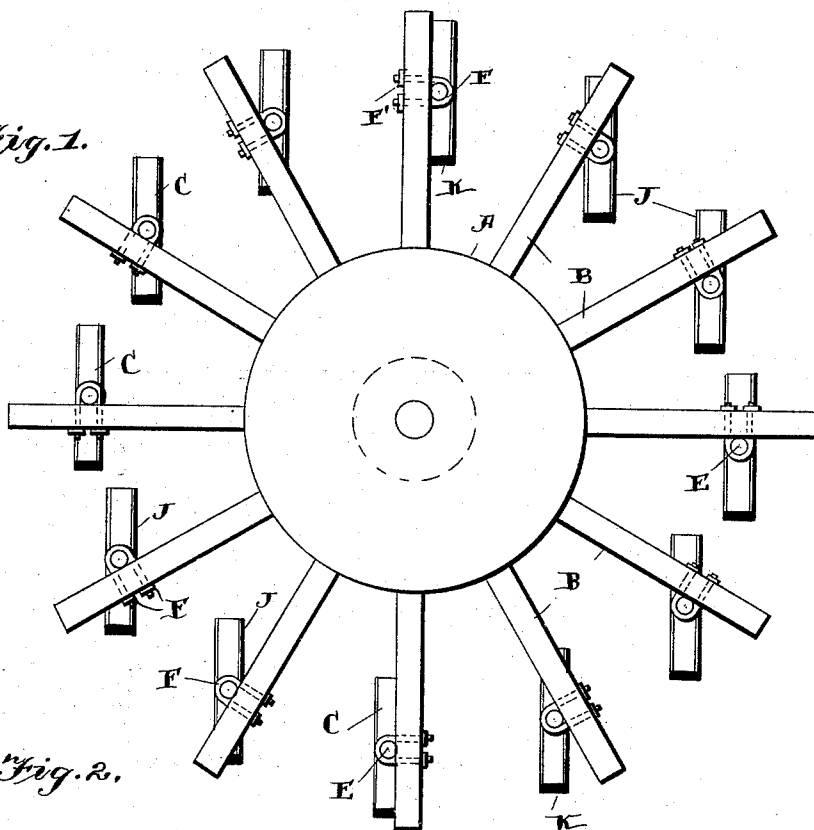


Fig. 2.

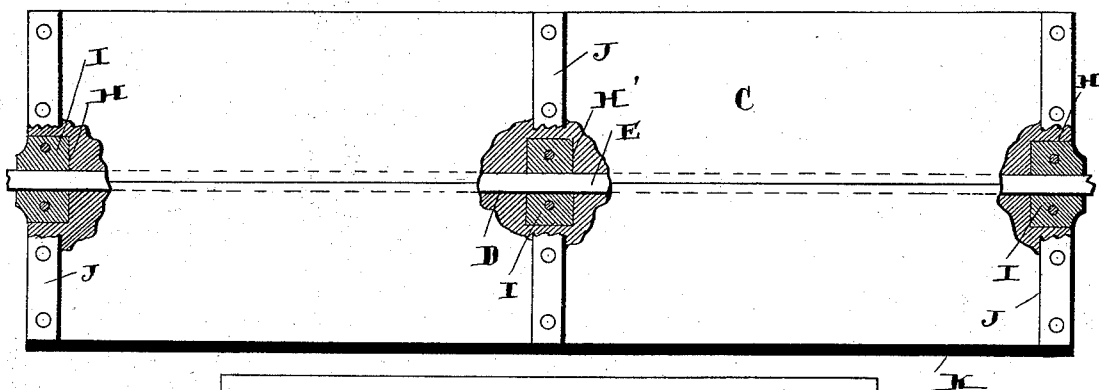
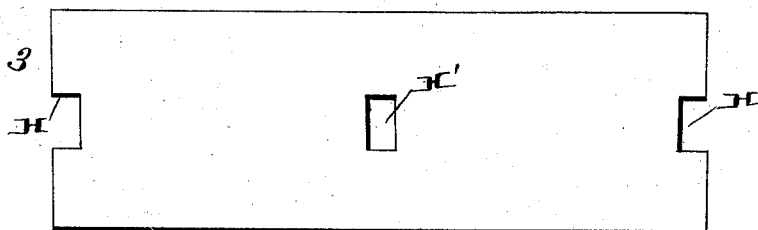


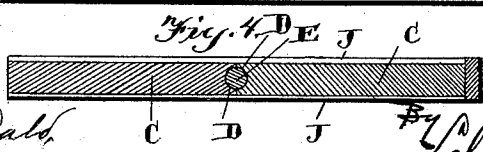
Fig. 3.



WITNESSES.

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Fig. 4.



INVENTOR

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# UNITED STATES PATENT OFFICE.

ELON G. BAILEY, OF REDWOOD FALLS, MINNESOTA.

## PADDLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 505,784, dated September 26, 1893.

Application filed March 27, 1893. Serial No. 467,811. (No model.)

*To all whom it may concern:*

Be it known that I, ELON G. BAILEY, of Redwood Falls, in the county of Redwood and State of Minnesota, have invented certain new and useful Improvements in Paddle-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in paddle wheels, and the object of the same is; first,—to provide improved axial bearings for the paddles, and secondly,—to so construct the same that they will leave the water edge-wise and thus prevent the retarding of the wheel which is occasioned when the paddles leave the water bearing flatly against the same as if to lift a body of the water in their upward movement.

Referring to the accompanying drawings—Figure 1, is an end view of my improved paddle wheel. Fig. 2, is an enlarged detached view of one of the paddles shown partly in section. Fig. 3, shows the blank from which the paddle is formed. Fig. 4, is a cross sectional view of one of the paddles.

A designates the wheel hub and B the spokes radiating therefrom.

C are the paddles which are formed in two longitudinal sections as shown, the adjacent edges of the sections being grooved as shown at D, for the accommodation of the longitudinal rod E, upon which the paddles turn. Each of these rods extends clear across the wheel and is firmly secured to the spokes at its opposite end by the U-shaped clamp F, which extends through the spokes and upon which are run the nuts F', as shown. Each paddle is recessed at its end as shown at H, and also between its ends as shown at H', for the accommodation of bearings I which are held in place in the said recesses by the trans-

verse straps J, which also serve to hold the sections of the paddle securely together. These bearings relieve the paddles from wear, which they would otherwise experience. I prefer to use the three bearing blocks in long paddles, but in shorter ones the center block may be omitted if desired.

In order to have the paddles leave the water in a vertical rather than a horizontal position, which latter would retard the wheel greatly owing to the resistance of the water on the same, I provide the lower longitudinal edges of the paddle with the metallic strip K, which serves as a weight for holding the paddles normally in a vertical position upon the rods, upon which they turn while being elevated from the water.

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

1. The combination of a wheel, a rod fixed thereon, a paddle formed of two longitudinal sections grooved on their adjacent edges through which the said rod extends, the paddle being recessed upon its ends and between its ends, and bearings inserted in the said recesses which encircle the said rod, substantially as shown and described.

2. The combination of a wheel, a rod carried thereby, a paddle formed of two longitudinal sections which are grooved on the adjacent edges through which the said rod extends, bearings carried by the said paddle, which encircle the said rod, and transverse straps for holding the paddle sections and the bearings in place, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ELON G. BAILEY.

Witnesses:

H. D. WOODWORTH,  
A. BIRUM.