P. GREGERSEN.

FEATHERING PADDLE-WHEELS.

No. 169,690. Patented Nov. 9, 1875.

Fig. 1.

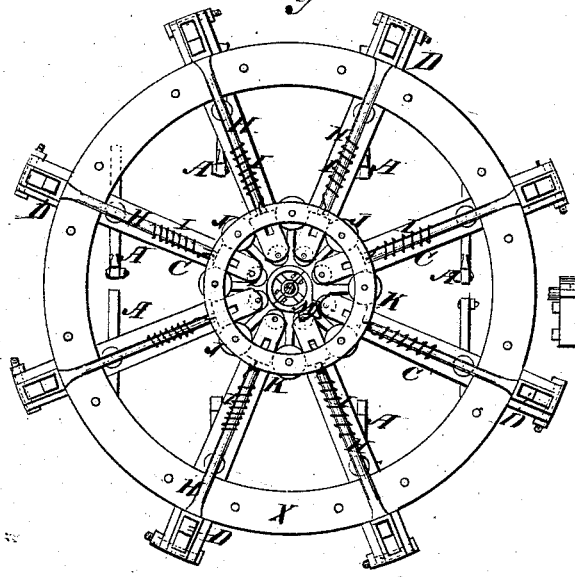

Fig. 2.

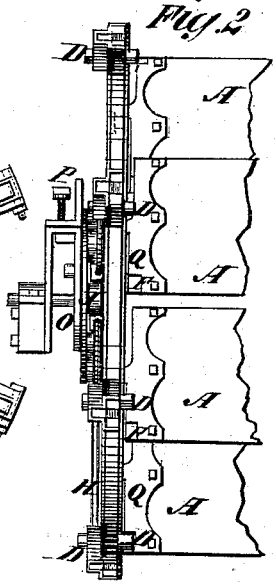

Fig. 7.

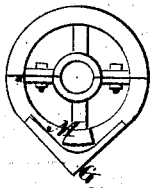

Fig. 8.

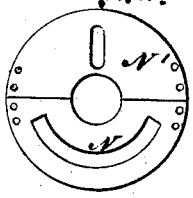

Fig. 9.

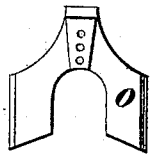

Fig. 3.

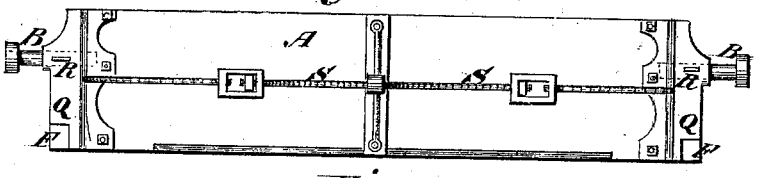

Fig. 10.

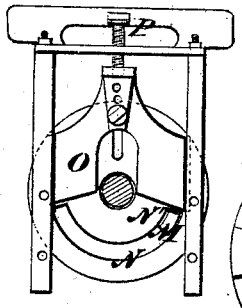

Fig. 4.

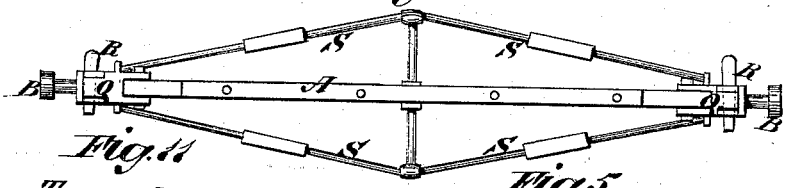

Fig. 11.

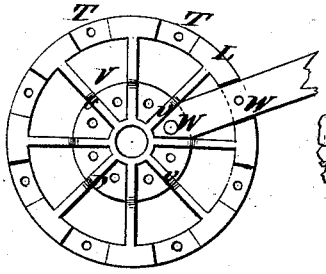

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

PETER GREGERSEN, OF WAUZEKA, WISCONSIN, ASSIGNOR TO HIMSELF AND PHILLIP MILLER, OF SAME PLACE.

IMPROVEMENT IN FEATHERING PADDLE-WHEELS.

Specification forming part of Letters Patent No. **169,690**, dated November 9, 1875; application filed September 17, 1875.

To all whom it may concern:

Be it known that I, PETER GREGERSEN, of Wauzeka, in the county of Crawford and State of Wisconsin, have invented a new and Improved Feathering Paddle-Wheel, of which the following is a specification:

The invention will first be described in connection with drawing, and then pointed out in the claims.

Figure 1 is a side elevation of my improved paddle-wheel. Fig. 2 is a front elevation. Fig. 3 is an elevation of one of the paddles. Fig. 4 is a top view. Fig. 5 is a side elevation of one of the arms. Fig. 6 is a longitudinal section of the arms. Fig. 7 is a side elevation of the cam for working the stops. Fig. 8 is a side elevation of a contrivance for holding the cam and allowing it to shift for working the stops whichever way the wheel turns. Fig. 9 is an adjusting contrivance for varying the cam to cause it to work the stops earlier or later. Fig. 10 is a side elevation of contrivance for working the regulator; and Fig. 11 is an elevation of a portion of the hub of the paddle-wheel, showing the construction.

Similar letters of reference indicate corresponding parts.

A represents the paddles, which are hung by pivots B above the center to the arms C, so that they can hang vertically edgewise while the wheel revolves, and so enter and leave the water vertically. D represents the stops to hold the paddles to the water during the time they are to do the work, and for releasing them as soon as the work is done, to allow them to rise vertically out of the water, and enter vertically again. Said stops are fixed in the slots E of the wheel-arms, so that the corners F of the paddles bear against them until they are to be let free, when the stops are pushed out by the cam G beyond the outer edges of the paddles, said stops being attached to sliding rods H. The rods are immediately pulled back again by springs I, to be ready for catching the paddles again when they enter the water. These rods are guided at the outer end by the stop, and at the hub of the wheel by the friction-rollers J, fixed between the ring K and one of the parts L of the hub. The cam is fixed loosely on the shaft of the wheel, with a stud, M, projecting through the curved slot N of a stationary disk, N′, which allows the cam to shift right or left as the wheel turns forward or backward, and holds it in position for working the stops alike, whether the wheel turns one way or the other. O is an adjusting-slide, to work up and down over the ends of the slot by a screw, P, to limit the range of the cam in shifting from side to side. The paddles are armed at each end with a casting, Q, having the pivot B attached in a socket, and fastened by a key, R; also having a slot for a stop, D, and also having connections for the tension-braces S. The arms also have a casting, Y, for holding the paddle-pivots and the sliding stops. The hubs of the wheel are composed of two parts, L, each having notches T, and flanges U and V, for the arms C, which are secured by clamping them between the two parts, and bolting the whole together through the holes W. The arms are also bolted, near the outer end, to the rings X, making a very strong and substantial construction.

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

1. The combination of paddles A, pivoted above the center, the rods having stops D, the cam G, and the springs I, all arranged substantially as and for the purpose specified.

2. The cam G and slotted disk N′, combined with the paddle-wheel and the stop-rods, in the manner described, for changing as the wheel turns forward or backward.

3. The combination of adjusting-slide O with the shifting-cam and disk N′, substantially as specified.

4. The metal heads Q, having pivot B and tension-rod connections, in combination with a paddle, substantially as specified.

PETER GREGERSEN.

Witnesses:

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CHARLES LESTER.