

G. K. GLENN.

Feathering Paddle-Wheels.

No. 141,135.

Patented July 22, 1873.

Fig. 1.

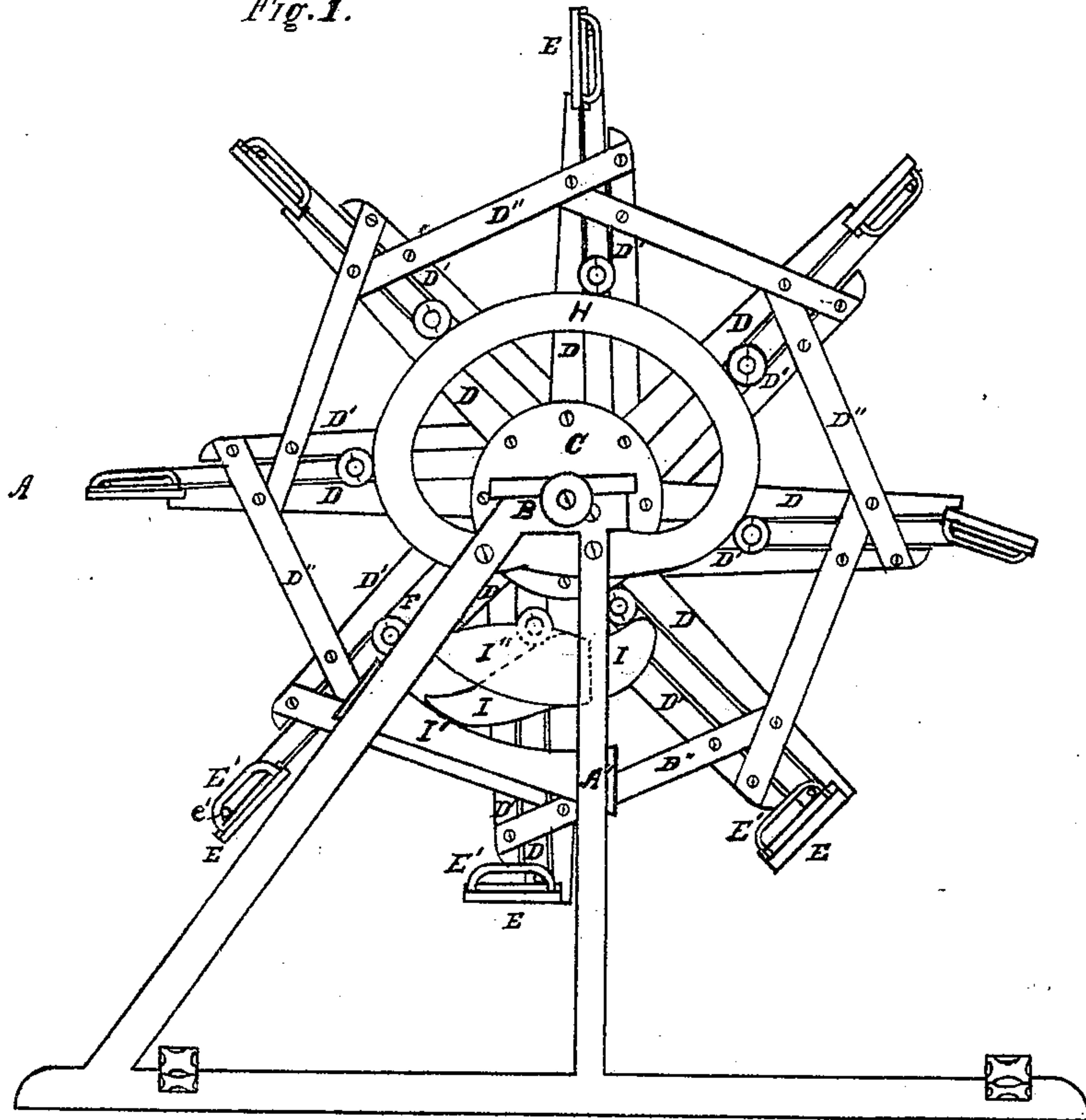
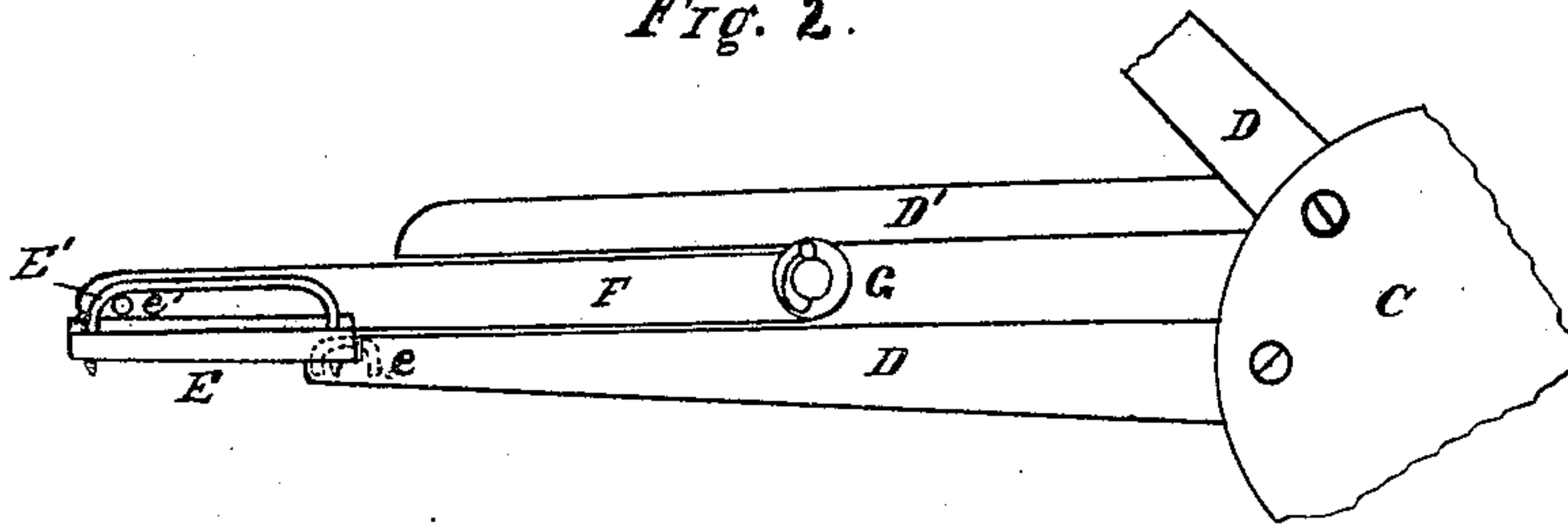


Fig. 2.



WITNESSES.

Thomas J. Sutherland
John H. Lawlor

INVENTOR.

George K. Glenn
By Girdley & Warner
Attys

UNITED STATES PATENT OFFICE.

GEORGE K. GLENN, OF ASHTON, ILL., ASSIGNOR OF ONE-HALF HIS RIGHT
TO JOHN L. ROBINSON AND MICHAEL ROBINSON, OF SAME PLACE.

IMPROVEMENT IN FEATHERING PADDLE-WHEELS.

Specification forming part of Letters Patent No. **141,135**, dated July 22, 1873; application filed
May 17, 1873.

To all whom it may concern:

Be it known that I, GEORGE K. GLENN, of Ashton, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Paddle-Wheels; of which improvements the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 represents a side elevation of my improved paddle-wheel, and Fig. 2 a like representation of one of the paddle-arms and its attachments.

Like letters of reference indicate like parts.

The object of my invention is to so construct a paddle-wheel that the paddles will be automatically folded upward and forward during the rotation of the wheel in one direction, and when they have reached, or nearly reached, a vertical position in the water, and so remain until they are carried above its surface, thus feathering in the water and resuming their original position at the proper time. For the purpose of accomplishing the objects above set forth, my invention consists in hinging the paddles to fixed arms, and in employing sliding arms, operated by means of cams during the rotation of the wheel in one direction, and connected to the paddles in such a manner that the latter will be folded and unfolded at the proper time by means of the sliding arms, and remain in their original position when the wheel is rotated in the reverse direction; all of which will be hereinafter more fully described and particularly set forth.

In the drawing, A represents the wheel, and A' is its support. B is the shaft of the wheel. C is the wheel-hub. D D are paddle-arms, and D' D' are supplemental or auxiliary arms. D'' D'' are braces for the arms D and D'. E E are the paddles, hinged to the outer end of the arms D D, as shown at e, Fig. 2. E' E' are bent rods or loops attached to the paddles. F F are sliding arms, arranged between

the arms D and D'. e' e' are pins, extending from the outer end of the arms F F and through the loops E' E'. G G are friction-rollers on the inner end of the arms F F. H is a rigid cam. I is a cam, the rear part of which is rigid, and the forward part of which is pivoted to the rear part, so as to be capable of a vertically-tilting movement. I' is a rest or support for the forward part of the cam I; it also supports the arms F F when they are in a pendent position. I'' is a brace.

When the wheel is rotated in the direction indicated by the arrows, and the paddles have reached a vertical, or nearly vertical, position in the water, the rollers G G strike the inclined face of the cam-block I, and the arms F F are thereby drawn toward the center of the wheel. As soon as the pins e' e' reach the upper end of the loops E' E', the paddles are tilted forward and upward, and are retained in that position, thus feathering in the water while they remain in it. By the time the paddles have left the water the rollers G G strike the cam H, and the paddles are thus returned to their original position, and there remain until the rollers G G again reach the cam I. When the wheel is rotated in the reverse direction the rollers G G pass under the rear end of the cam I, and the forward end of that cam, when struck by the rollers, tilts upward and allows them to pass, and the position of the paddles is thus unaltered.

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

In a paddle-wheel, the combination and arrangement of the hinged paddles E E provided with the bent rods or loops E' E', the sliding arms F F provided with the rollers G G, or their equivalents, and with the pins e' e', extending into the loops E' E', the cam H, and the pivoted cam I, all substantially as and for the purposes specified.

GEORGE K. GLENN.

Witnesses:

N. C. GRIDLEY,
F. F. WARNER,