P. RODRIGUEZ DE LA SEDA Y. ACOSTA.

PADDLE WHEEL.

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Patented Dec. 19, 1911.

1,012,163.

Fig. 1.

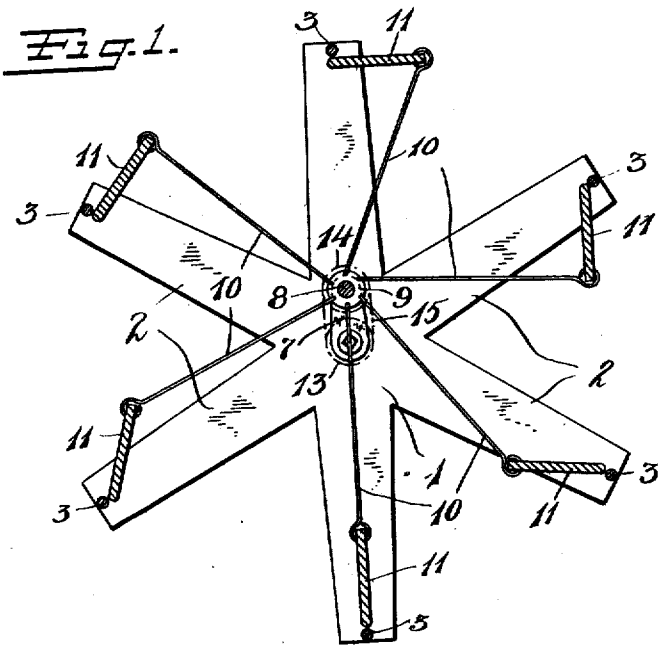
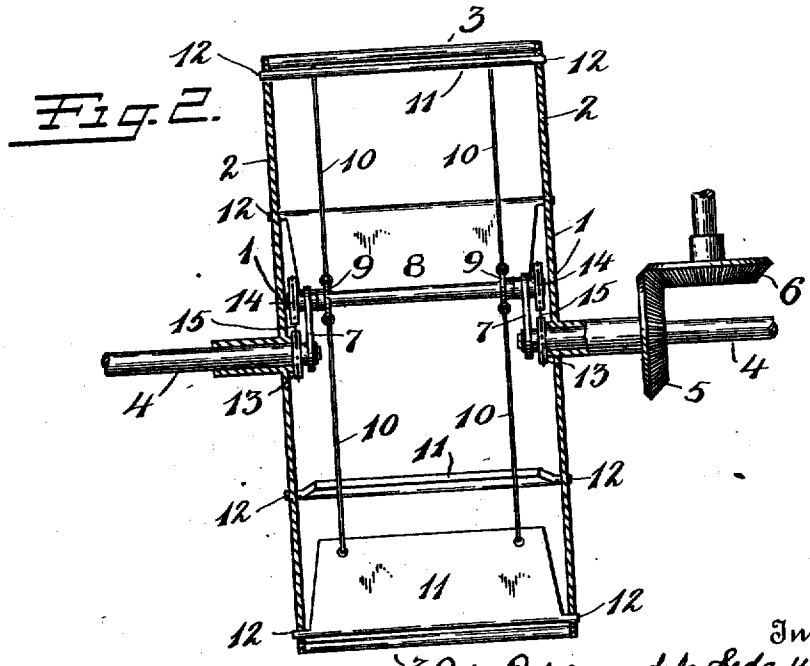


Fig. 2.



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PADDLE-WHEEL.

1,012,163. Specification of Letters Patent. Patented Dec. 19, 1911.

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To all whom it may concern:

Be it known that I, PEDRO RODRIGUEZ DE LA SEDA Y ACOSTA, a citizen of the United States, residing at Ponce, Porto Rico, have invented certain new and useful Improvements in Paddle-Wheels, of which the following is a full, clear, and exact description.

My invention relates to paddle wheels, and has for its object to produce a new and improved feathering paddle wheel.

The following is a description of an embodiment of my invention, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical transverse section of a paddle wheel embodying my invention. Fig. 2 is a vertical longtiudinal section of the same.

Referring more particularly to the drawings, 1 is a frame having a plurality of arms 2, connected at their ends by cross-pieces 3. This frame is revolubly mounted upon stationary shafts 4 and is driven counterclockwise by a bevel gear 5 meshing with a bevel gear 6 connected to any suitable source of power. The interior ends of the shafts 4 have upwardly extending arms 7 rigidly connected thereto, the upper ends of which provide bearings for a shaft 8. This shaft 8 carries rings or flanges 9, which are connected by connecting rods 10 to the free edges of floats 11, pivoted at 12 in the outer ends of the arms 2. The frame 1 has rigidly connected to it sprocket wheels 13. The shaft 8 has rigidly connected to its ends sprocket wheels 14. The corresponding sprocket wheels 13 and 14 are of equal size, and each pair is connected by a chain 15 so that the shaft 8 is caused to revolve about its axis synchronously with the revolution of the frame 1 about its axis. The rods 10 are of such length that when a float 11 is in the lowermost position, it is held thereby in vertical position, and when in other positions, it is moved out of alinement with the arm to which it is pivoted, so that the longitudinal thrust upon the water produced by each float during the revolution of the frame 2 is varied as the float is carried around. When the paddle wheel is wholly submerged, at least two of the floats, and sometimes three, are acting to propel the boat to which the paddle wheel is attached, while the other floats are practically cutting through the water so as not to produce a substantial retarding effect on account of their rotation. The result is to cause the boat to which the wheel is attached to move from right to left when the paddle wheel is revolved counterclockwise. The floats tend to take their positions and cause the shaft 8 to revolve irrespective of the chains 15. The chains 15, however, assist in maintaining the floats in proper position by absolutely insuring a synchronous revolution of the shaft 8. In operation the paddle wheel is preferably wholly submerged. It may, however, be only one-third submerged, if desired.

As will be evident to those skilled in the art, my invention permits of various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. In a paddle wheel, the combination of a stationary support, a frame revoluble thereon, means for revolving said frame, movable floats pivoted in the periphery of said frame, a shaft revoluble about an axis located above the axis of said frame, and connecting rods between said shaft and said floats connected to said floats at points eccentric to their pivots.

2. In a paddle wheel, the combination of a stationary support, a frame revoluble thereon, means for revolving said frame, movable floats pivoted in the periphery of said frame, a shaft revoluble about an axis located above the axis of said frame, connecting rods between said shaft and said floats connected to said floats at points eccentric to their pivots, and means for causing said frame and shaft to revolve synchronously in the same direction.

3. In a paddle wheel, the combination of a stationary support, a frame revoluble thereon, means for revolving said frame, movable floats pivoted in the periphery of said frame, a shaft revoluble about an axis located above the axis of said frame, connecting rods between said shaft and said floats connected to said floats at points eccentric to their pivots, equal sprocket wheels on said frame and shaft, and a sprocket chain connected with said wheels.

4. In a paddle wheel, the combination of a stationary support, a frame revoluble thereon, means for revolving said frame, movable floats pivoted in the periphery of said frame, a shaft revoluble about an axis located above the axis of said frame, and connections between said shaft and the edges

of said floats remote from the pivots of said floats.

5. In a paddle wheel, the combination of a stationary support, a frame revoluble thereon, means for revolving said frame, movable floats pivoted in the periphery of said frame, a shaft revoluble about an axis located above the axis of said frame, connections between said shaft and the edges of said floats remote from the pivots of said floats, equal sprocket wheels on said frame and shaft, and a sprocket chain connecting said wheels.

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