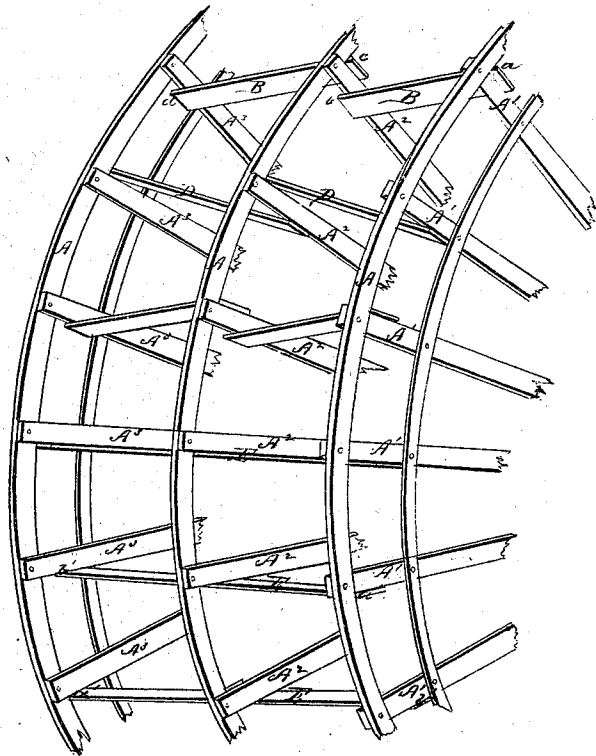


W. H. Holland,
Paddle Wheel.

No. 105,943.

Patented Aug. 2. 1870.



Witnesses.

H. H. Beadle.
S. J. Royce.

Inventor.

Wm. H. Holland
by Chas. F. Brown.
Associate Atty-

United States Patent Office.

WILLIAM H. HOLLAND, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 105,943, dated August 2, 1870.

IMPROVEMENT IN PADDLE-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same

I, WILLIAM H. HOLLAND, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Steamboat Paddle-Wheels, of which the following is a specification.

The drawing represents a section of my improved wheel in perspective.

The object of my invention is to produce a wheel that shall overcome the jar incident to side-wheel steamboats, and a wheel that can be cheaply made and easily attached.

The nature of my invention consists in the arrangement of floats, as will hereinafter more fully appear.

The frame-work of the wheel is composed of rims or rings A and arms A^1 A^2 A^3 , &c., to which are attached the sets of floats B B and D D. Said floats extend half way across the wheel, one of the floats, B, running from the upper sides of the arms A^1 to the opposite sides of the arms A^2 , and the other from the upper sides of the arms A^2 to the opposite sides of arms A^3 , while the position of floats D D is the reverse, that is, passing from the upper sides of arms A^3 to the opposite sides of arms A^2 , and from the upper sides of arms A^2 to the opposite sides of arms A^1 , each set of floats being placed in parallel planes inclining outward in opposite directions from the axis of the wheel, the floats B inclining from *a* to *b* and from *c* to *d*, as shown, and the floats D inclining in the opposite direction, and alternating in position, as above stated.

Instead of having the floats extend half way across, they may be long planks, like B B, but preserving the same relative positions, that is, dropping from *a* to *b*.

The advantage of the construction shown is the simplicity of attaching the floats to old wheels, and the relief from jar, as the positions of the floats tend to secure a constant graduated pressure against the water by the float beginning to strike at one end first and gradually taking hold, while the alternating inclinations of the sets of floats from the axle tend to equalize the resistance across the face of the wheel while in contact with the water, and enable it to work backward as well as forward.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The floats B B and D D, arranged with reference to each other and to the axis of the wheel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. H. HOLLAND.

Witnesses:

CARROLL D. WRIGHT,
CHARLES F. BROWN.