

*W. Fields.
Paddle Wheel.*

N^o 71,153.

Patented Nov. 19, 1867.

Fig: 1.

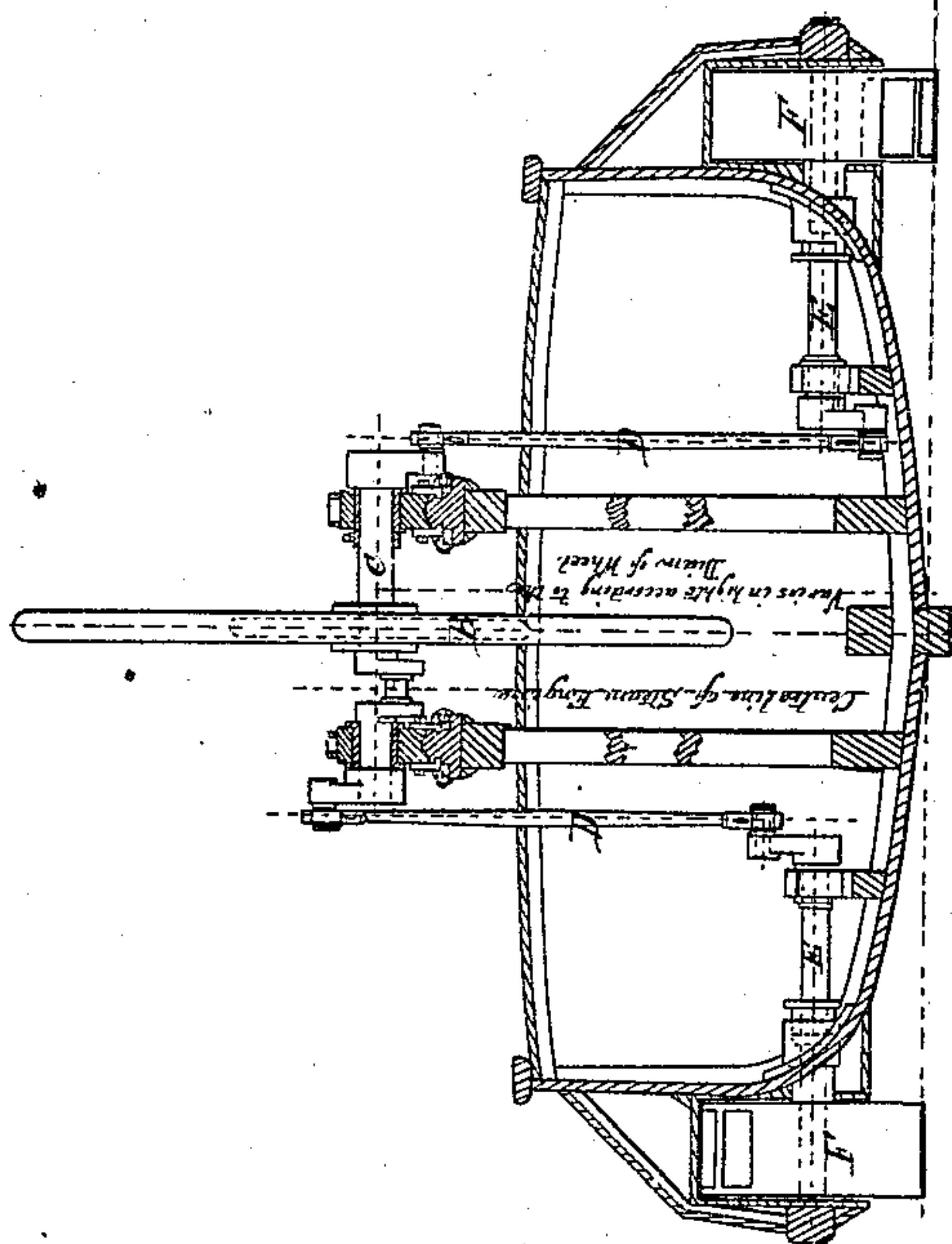
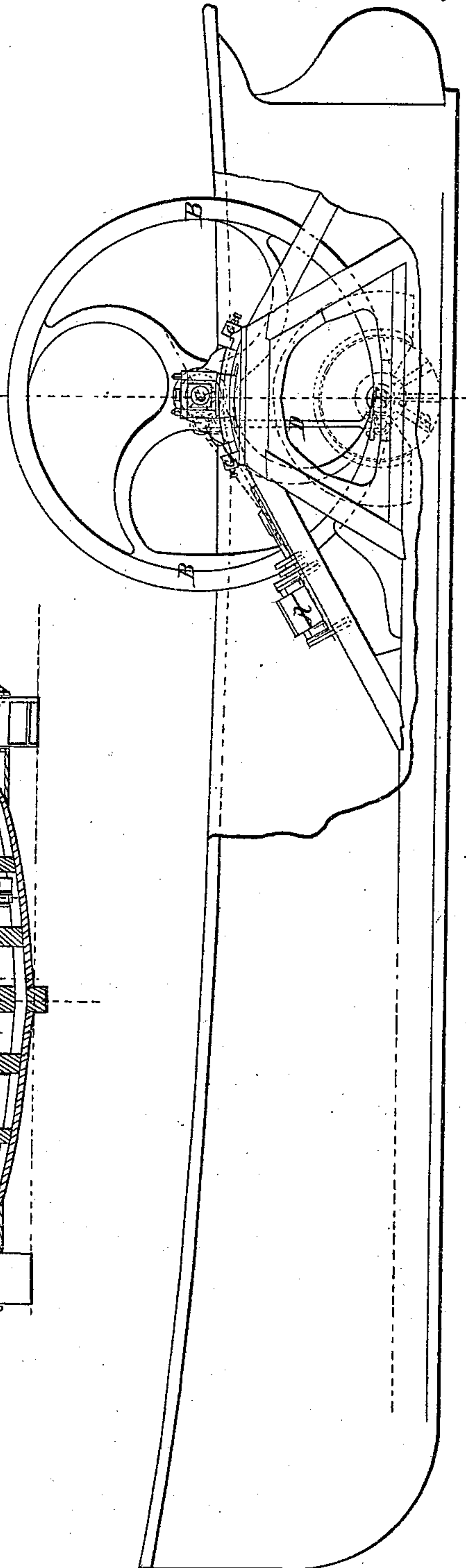


Fig: 2.



*Witnesses.
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United States Patent Office.

WILLIAM FIELDS, OF WILMINGTON, DELAWARE.

Letters Patent No. 71,153, dated November 19, 1867.

IMPROVED PROPELLER.

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

Be it known that I, WILLIAM FIELDS, of the city of Wilmington, in the State of Delaware, have invented a new and improved Mode of Propelling Ships; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a transverse section of the vessel, showing the propellers with their connecting-wheels and other machinery, forming in combination the improvement claimed, and

Figure 2 a horizontal section or side view of the same.

I construct my wheel of wood or other suitable material, from four to five feet in diameter, set in and covered above by a casing of wrought iron of from two-thirds to three-fourths of the diameter of the wheel in height, constructed so as to give the wheel sufficient play. From one-eighth to one-fourth of the wheel F, I make solid, or boxed of wood or iron. This solid or boxed portion of the wheel, when passing through the cylinder or covering, creates a vacuum, causes the water to be thrown or forced back of the buckets in a straight line, and prevents the flow of back-water, so common to wheels of the ordinary construction, accelerates the motion of the wheel, and saves much of the propelling power required from the engine. The boxing or wheel-house covering the casing I construct of wood, sloped or curved, so as to present as little resistance to the water as possible. I set stuffing-boxes to the shaft, on the outside and inside of the casing, so as to prevent the air passing into the casing.

I set the shaft of the wheels from six inches to one foot from the water-line. I place a weighted wheel, B, upon a shaft or crank-axle, C, connecting this with the wheel-shafts E by means of the levers or arms D D. This wheel is for the purpose of increasing the driving-power.

Wheels constructed upon this principle require less power to drive them, and consequently great speed is obtained in the application of the ordinary power, and may be set at the sides or stern of the vessel.

I am aware that weighted wheels have long been used in machinery, as well as stuffing boxes, crank-axles, &c. I do not claim these as my invention.

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

A propeller for vessels consisting of a wheel, F, having from three-fourths to seven-eighths of its circumference bucketed, and the balance solid or boxed, set in a casing of sheet iron, covered by a wheel-house, in combination with a weighted driving-wheel D, working upon a crank-axle, C, connected with propeller shafts E E by means of the links or arms D D, constructed and arranged as above described and shown by the drawings.

WILLIAM FIELDS.

Witnesses:

WM. B. WIGGINS,
JAMES MOORE.