

W. SHEPARD.

Improvement in Means for Propelling Vessels.

No. 130,391.

Patented Aug. 13, 1872.

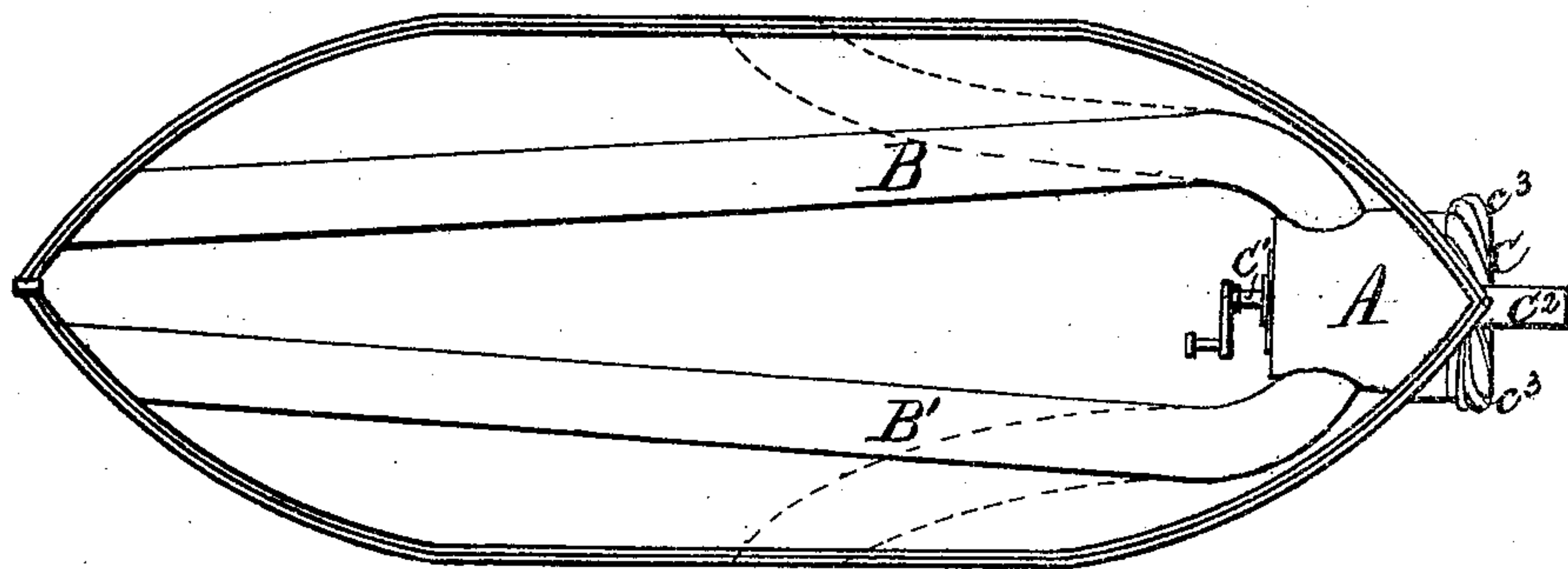


Fig. 1.

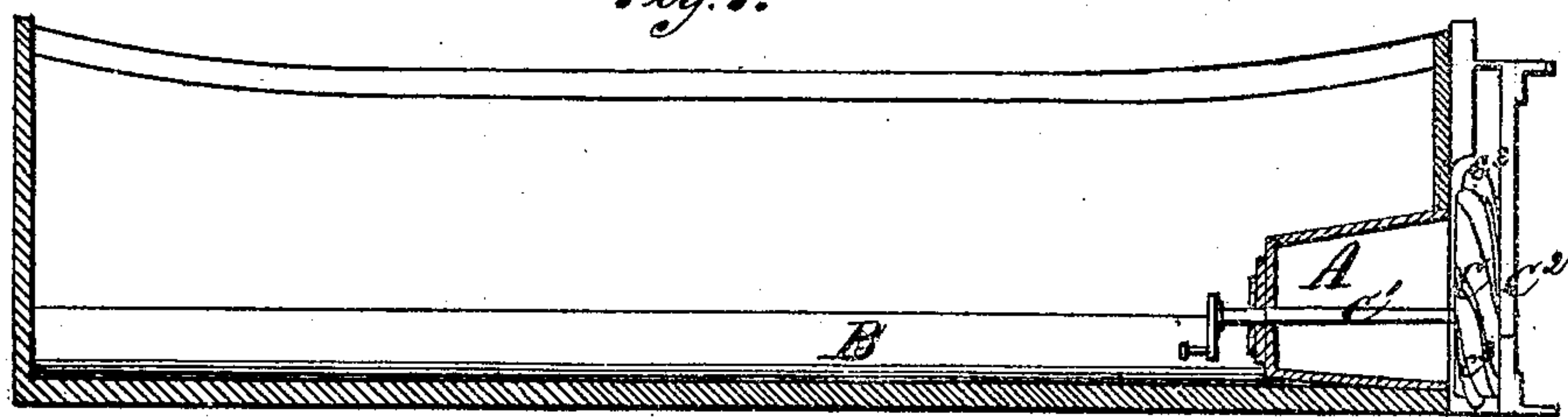


Fig. 2.

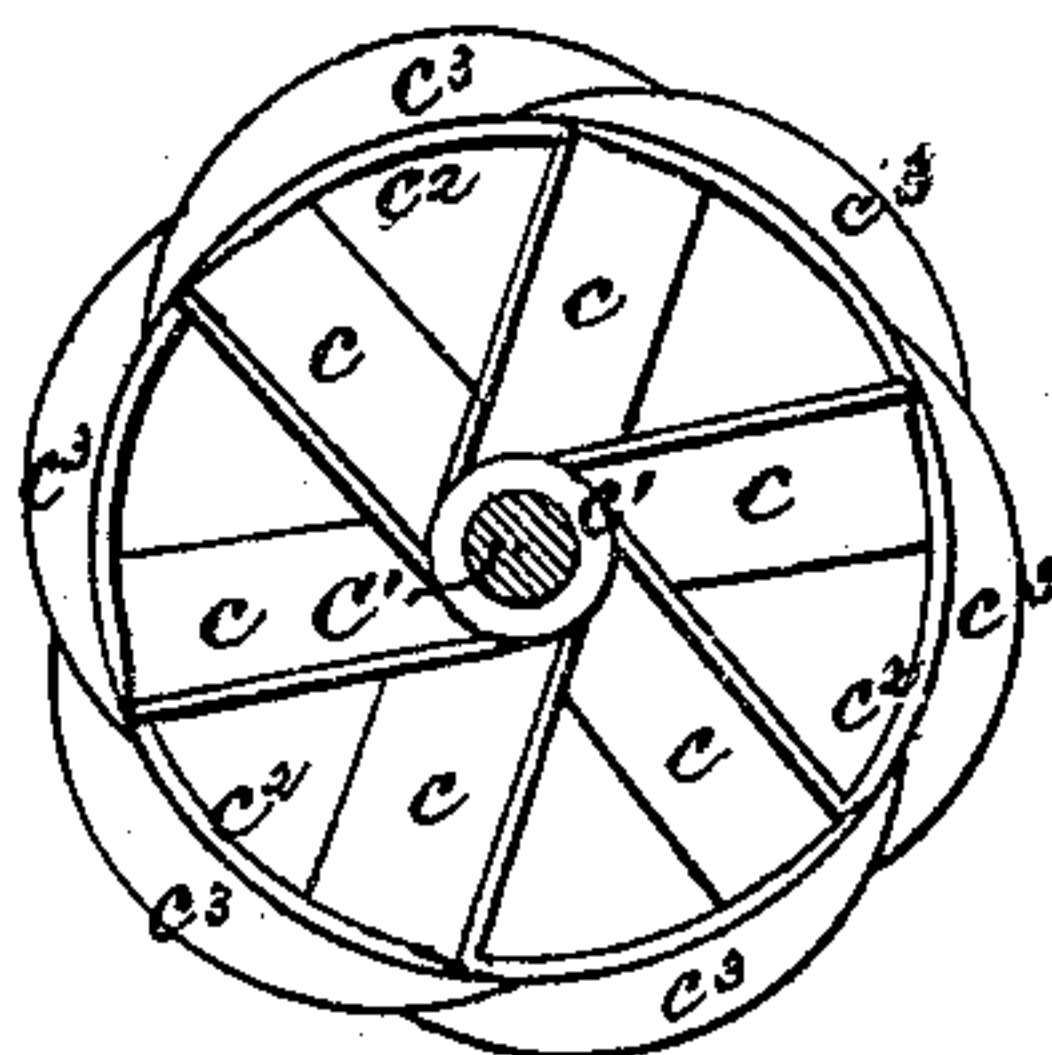


Fig. 3.

WITNESSES:

Robert Burns  
Jno. W. Heathcl.

INVENTOR:

Wm. Shepard.  
per. Heathcl. & Co.  
Attys.

# UNITED STATES PATENT OFFICE.

WILLIAM SHEPARD, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN MEANS FOR PROPELLING VESSELS.

Specification forming part of Letters Patent No. 130,391, dated August 13, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM SHEPARD, of St. Louis, in the county of St. Louis and State of Missouri, have made a certain new and useful Improved Marine Propeller; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to an improved manner of propelling vessels, canal-boats, tugs, as well as sea-going vessels. The object of the construction of propeller here shown is to avoid agitation of water, to force and retain the water at the stern for propulsion and otherwise, to act with greater power and useful effect to produce or receive propulsion than ordinarily achieved. The nature of this invention consists in the combination of a propeller-wheel having inside and outside flukes or blades, with a cylindrical casing and suitable pipes, so that the water is drawn from the bow of the boat to be ejected at the stern, as will hereinafter more fully appear.

To enable those skilled in the art to make and use my said invention, I will now more fully describe the same, referring to—

Figure 1 as a top plan; to Fig. 2 as a longitudinal sectional elevation; to Fig. 3 as an enlarged detail of propeller.

As applied to the hull of vessels, my improved propeller, hereafter described, is arranged as follows: At the bottom and within hull of vessel is secured, properly, a cylinder-casing, A, closed at the "fore" end only. The said cylinder A receives its supply of water through flumes or pipes B B', said water-pipes B B' being bifurcated to allow for proper play of the crank attachment, and further made to pierce the sides of the vessel, (see dotted lines,) or to extend along ship's bottom to the extreme bow. (See Fig. 1.) By thus connecting the pipes B B' to communicate with outside bow of the vessel, the displacement of water from bow is materially assisted, and also the "swells" ordinarily produced are avoided.

Outside the stern of vessel is arranged to operate, for propulsion, the propeller C. The said propeller C consists of diagonal-arranged blades *c*, inwardly secured to a collar or hub, *c*<sup>1</sup>, and circular rim or band *c*<sup>2</sup>, as indicated in Fig. 3. On the outside of band *c*<sup>2</sup> are secured diagonally-arranged, vertical, crescent-shaped flukes or blades *c*<sup>3</sup>, their pitch being greater than inside blades *c*, as shown, (see Fig. 3,) the action of said inward blades *c* being to create a suction for the water passing through pipes B B', and at the same time in propelling action to effect and force the water straight from the stern of the vessel. The shaft C<sup>1</sup> of the propeller is supported in proper journal-bearings in the stern-post C<sup>2</sup>, its opposite end connecting, by proper crank attachment, to the engine or power source, as ordinarily.

The propeller C thus constructed, in its revolving and propelling action, entirely prevents any commotion of water, acts with increased speed and power, and otherwise possesses special advantages for canal propulsion readily apparent; and further, by the combination of the improved propeller with the pipes great advantage is derived, in that it takes only sufficient water from the bow of the boat to prevent swells, the rest of the propelling being done by the crescent-shaped flukes or blades. By such construction and arrangement of parts smaller pipes or flumes can be used than ordinarily, and thus allow a greater carrying capacity to the boat.

Having thus fully described my said invention, what I claim, is—

The propeller C, constructed as described, in combination with cylinder-casing A, pipes B B, and stern-post C<sup>2</sup>, substantially as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

WM. SHEPARD.

Witnesses:

WILLIAM W. HERTHEL,  
ROBERT BURNS.