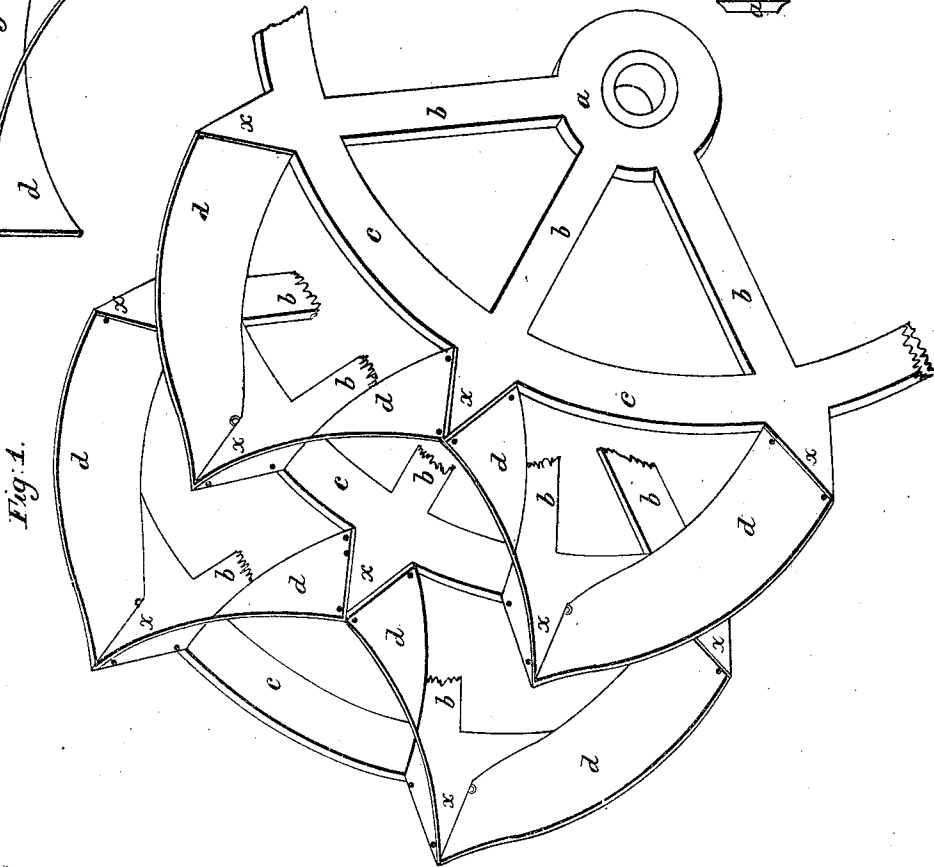
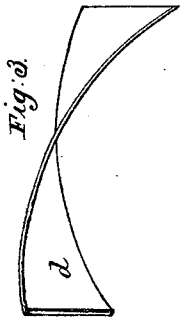
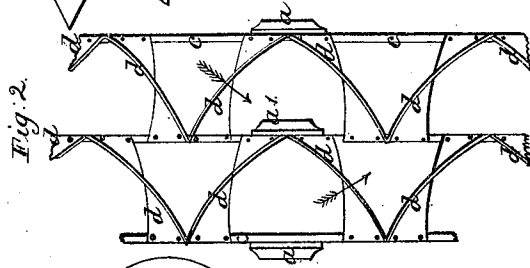
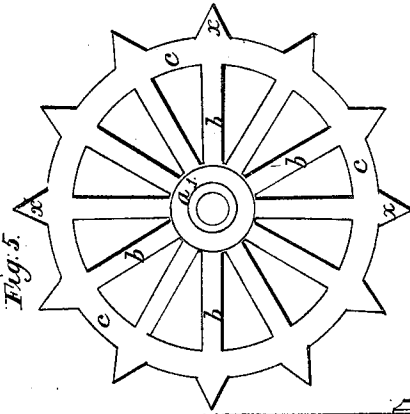
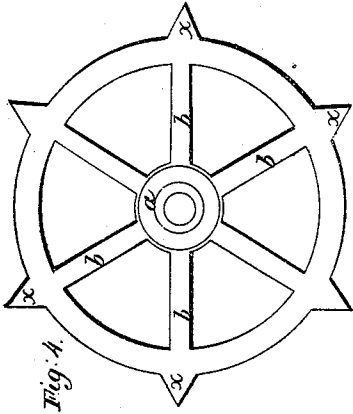


J. Snyer.
Paddle Wheel.

No 25,871

Patented Oct. 18, 1859.



UNITED STATES PATENT OFFICE.

JAMES SPEERS, OF WEST MANCHESTER, PENNSYLVANIA, ASSIGNOR TO HIMSELF, AND
ALEX. POSTLEY AND JOHN WIBLE, OF ALLEGHENY COUNTY, PENNSYLVANIA.

PADDLE-WHEEL.

Specification of Letters Patent No. 25,871, dated October 18, 1859.

To all whom it may concern:

Be it known that I, JAMES SPEERS, of West Manchester, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wheels for Propelling Steamboats, Ships, and other Sailing Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Similar letters refer to similar parts.

The nature of my invention consists in arranging two or more series of buckets or floats of paddle wheels of steamboats ships and other vessels, in a zigzag position, said buckets or floats being twisted or curved for the purpose of giving to each bucket or float and to each series of the buckets or floats a double action viz. to throw the water from right to left, and toward each series of the buckets or floats, thereby giving to the wheel or wheels a sculling action. The whole to be combined arranged and constructed in the manner hereinafter described.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1, is a perspective view, representing a broken section of the wheel. Fig. 2, is a top and sectional view. Fig. 3, is a perspective view of one of the buckets or floats representing the twist or curve in them. Fig. 4, represents the arrangement of the outside flanges furnished with arms and braces. Fig. 5, represents the inside or middle flange furnished with arms and braces.

(*a* and *a'*) are the flanges which are placed on the axle or shafts of the wheel in the usual manner, (*b*) are arms which are secured in and to the flanges (*a* and *a'*) in the ordinary way; the arms (*b*) are furnished with wedge shaped points marked (*x*) these wedge shaped points give to the buckets or floats the desired curve, (*c*) are braces or rings which are used for the purpose of bracing and holding the arms in their proper position.

(*d*) are the buckets or floats which are secured to the wedge shaped points (*x*) of

the arms (*b*), the buckets or floats are twisted or curved, said twist or curve being equal to the incline or slope of the wedge shaped points of the arms (*b*); the angle, incline or slope of the points marked (*x*) of the arms should in all cases be about the same as that represented in the accompanying drawings for experience has demonstrated the fact that this inclination is the best.

It will be observed that the middle flange (*a'*) see Fig. 5, has twice as many arms as the outside flange (*a*), see Fig. 4.

The operation of my improvement is as follows—The buckets or floats enter the water endwise or on an inclination, and the water is thrown from right to left as indicated by the red arrows in Fig. 2, thus the water is thrown from one series of buckets or floats to the other set thereby giving the wheel or wheels a sculling action and avoiding the vacuum made in the water by one bucket or float lifting and removing water from the next bucket or float following—which has been the case in all paddle wheels constructed heretofore.

I am aware that paddle wheels have been constructed having the buckets or floats placed in a zigzag position and I am also aware that the buckets thus placed have been slightly twisted in their length for the purpose of bringing the ends together.

I wish it to be clearly understood that I do not claim the zigzag position of the buckets or floats nor do I claim slightly twisting the buckets or floats in their length for the purpose of bringing the ends together, but

What I do claim as of my invention and desire to secure by Letters Patent of the United States is—

The arrangement of the flanges (*a* and *a'*), the arms (*b*) with points (*x*), the braces (*c*) and floats (*d*), when used for the purpose of constructing a propeller substantially in the manner herein set forth.

JAMES SPEERS.

Witnesses:

JAMES J. JOHNSTON,
ALEXANDER HAYS.