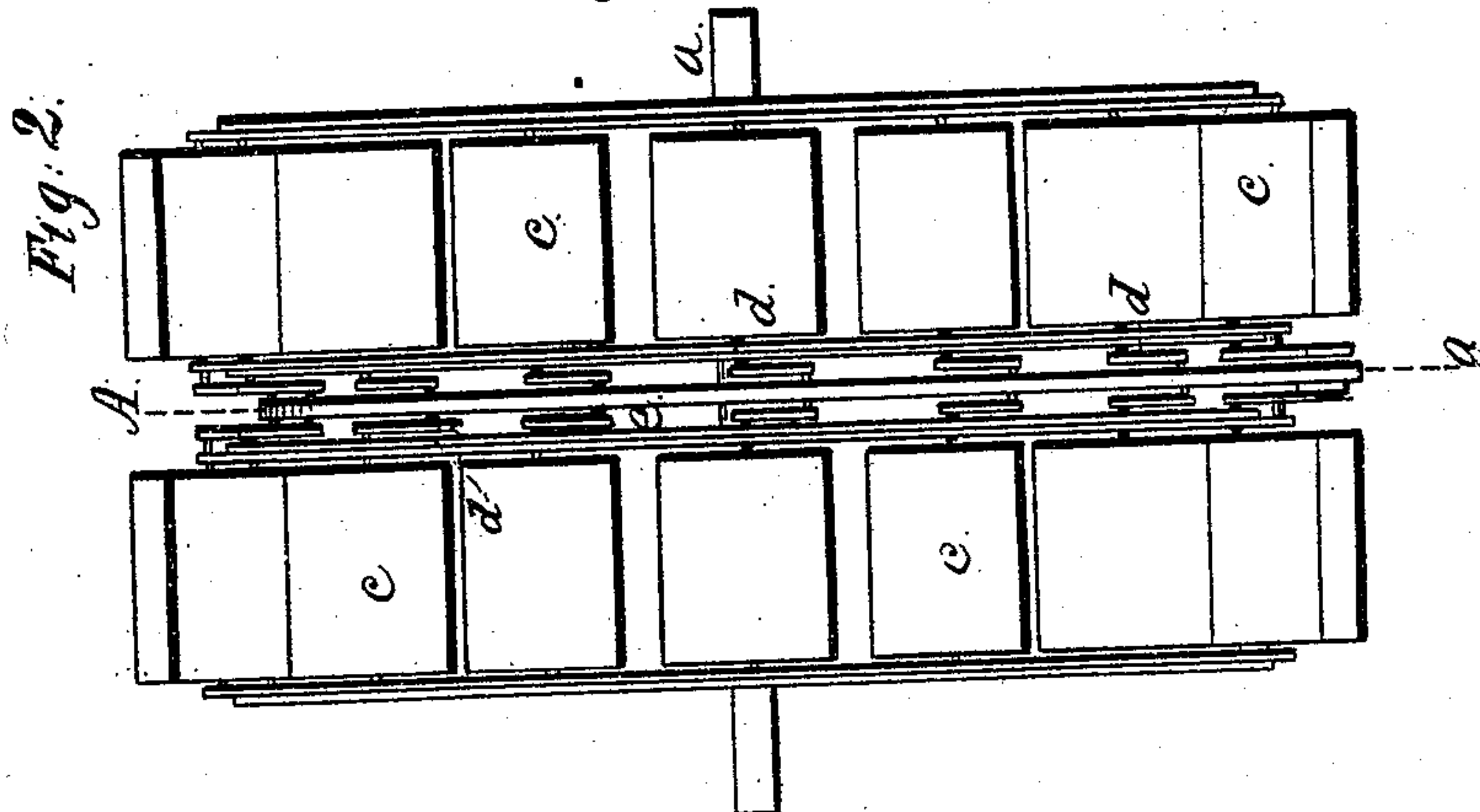
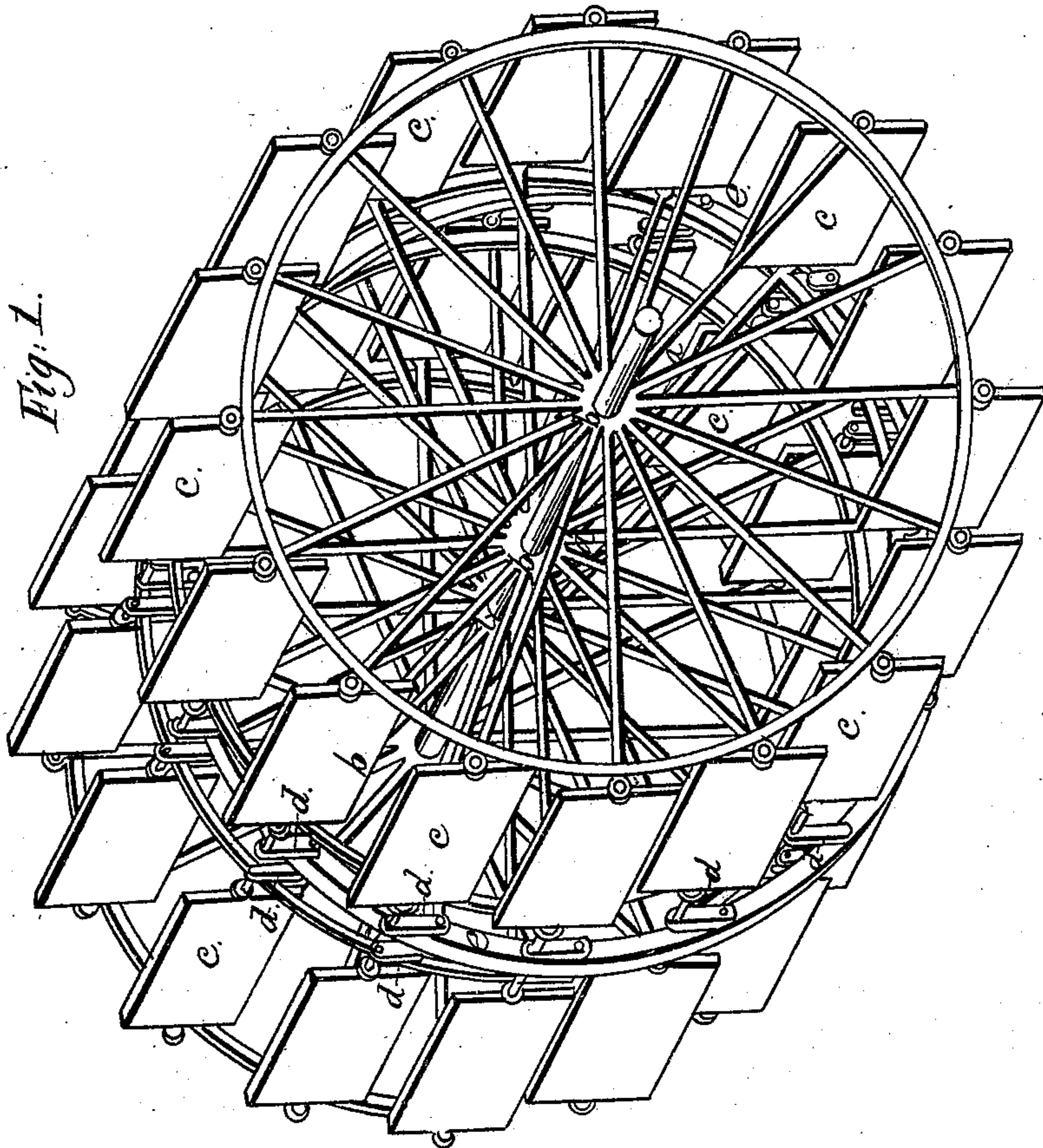


Sheet 1. 2 Sheets

T. I. Jones.

Paddle Wheel.

N^o 10,424. Patented Jan. 10, 1854.

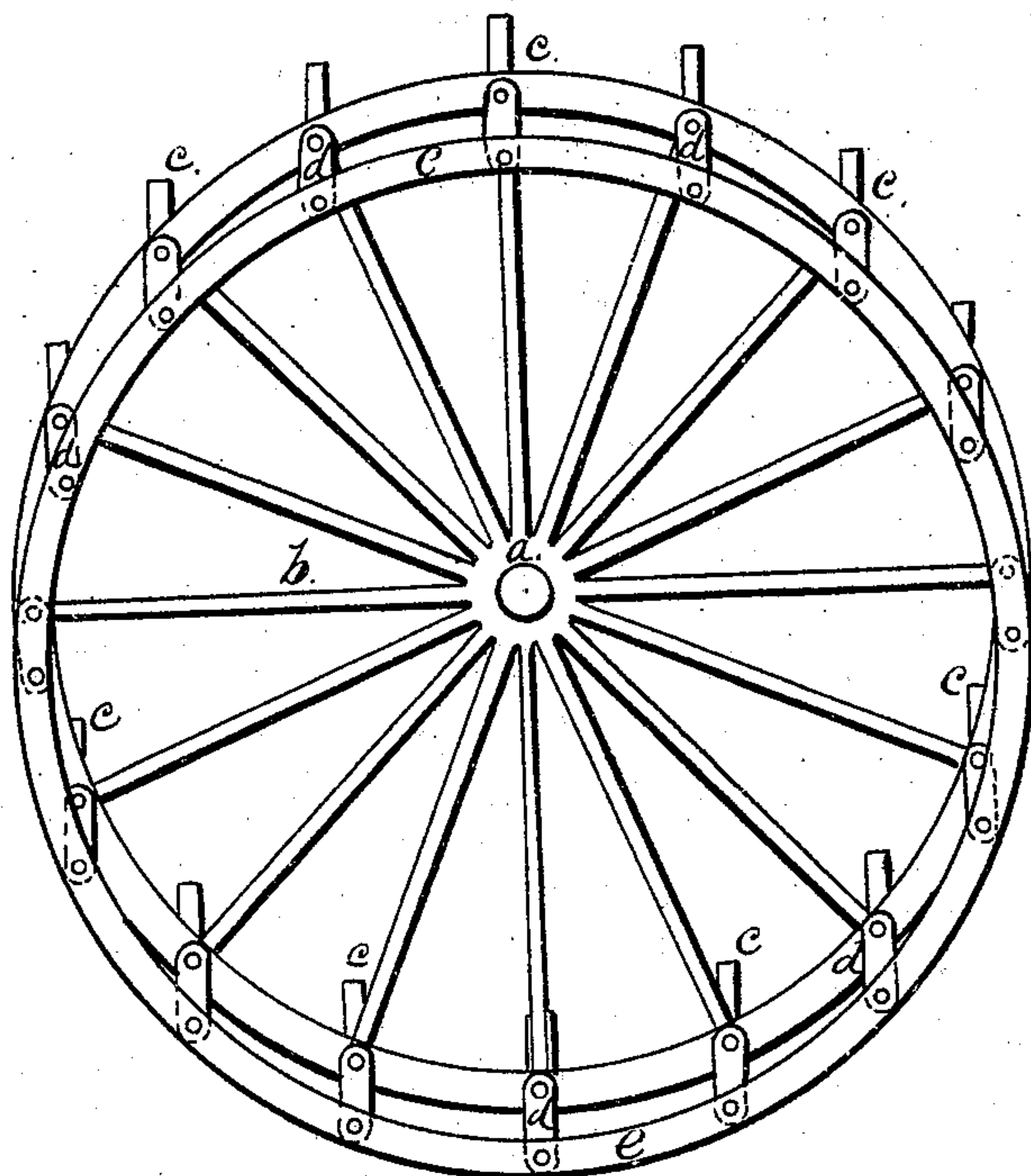


Sheet 2. 2 Sheets.

T. L. Jones.
Paddle Wheel.

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Fig. 3. A. a.



UNITED STATES PATENT OFFICE.

THOMAS L. JONES, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JAMES B. JONES.

IMPROVEMENT IN FEATHERING PADDLE-WHEELS.

Specification forming part of Letters Patent No. **10,424**, dated January 10, 1854.

To all whom it may concern:

Be it known that I, THOMAS L. JONES, of Poughkeepsie, New York, have invented certain new and useful Improvements in Paddle-Wheels for Propelling Steamboats and other Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, an elevation, and Fig. 3 a vertical section taken at the line A *a* of Fig. 2.

The same letters indicate like parts in all the figures.

Numerous attempts have been made to construct paddle-wheels which in the rotation should maintain the paddles in a vertical position instead of radial, with a view to have them enter and leave the water without shock and without lifting or throwing up the water, the paddles for this purpose being connected with the wheel by journals and provided with crank-arms connected with another wheel or ring placed eccentric to the main wheel to maintain the parallelism of the paddles, the eccentricity of the secondary wheel or ring being equal to the length of the crank-arms on the paddles; but all these attempts have failed to render available a principle in itself ingenious and judicious, because of practical defects in the mode of application.

The object of my invention is to improve the modes of application of this principle heretofore tried and render it practically efficient; and to this end my invention consists in constructing the wheel in two parts, with a space between for the suspension-ring, the paddles being also divided in the middle of their length, that is—made in two parts journaled at each end, and each half provided with a crank-arm to form the connection with the eccentric suspension-ring, by which arrangement and combination I avoid undue strain on the paddles, such as would be experienced if the paddles were made of the entire length and the crank-arms at one end.

In the accompanying drawings, *a* represents the main shaft of the paddle-wheel, and *b b b* four sets of arms, constituting when properly braced the paddle-wheel. A narrow space is left between the two inner sets of arms. The paddles *c* are made of less than one-half the length of the wheel, so that there are two paddles in the lengths. These paddles are provided with journals at each end, and about the middle of their width, fitted to turn in appropriate boxes in the arms, and the journals on the inner ends extend through the arms and are provided with crank-arms *d*, formed with the usual crank-wrist. All these cranks should be made of equal length, and their wrists are all fitted to appropriate holes or boxes in a metal ring *e*, which is thus suspended to the crank-arms of the two sets of paddles and in the space left between the two inner sets of arms. This ring should be made thin and the required weight obtained by its depth, and being thus suspended to all the crank-arms it will be obvious that it will hang eccentric to the wheel just equal to the length of the crank-arms on the paddles, and that as the wheel is turned its weight hanging on the paddles will maintain the paddles in a vertical position, and this, too, without undue friction and strain on the boat, without danger of breaking the connection when the paddles meet with some sudden strain or jar.

As the paddles are hung in the middle, the pressure to which they are exposed will be balanced, or nearly so, except at the moment of entering and leaving the water, and hence the strain on the suspension-ring will not be very great.

I am aware that it has been attempted to maintain the parallelism of the paddles by means of a suspension eccentric ring; but in that case the two parts of each paddle were simply connected by the wrist (at one edge) to which the eccentric ring was suspended, and thus connected were merely journaled to the wheel at their outer ends. Thus constructed it will be obvious that the paddles could not resist the strain necessary to the

propulsion, and hence the wheel under such a combination and construction could not be practically useful.

I claim—

In combination with the mode described of maintaining the paddles in parallel planes by means of the suspension-ring, making the wheel and paddles in two parts, with a space

between for the reception of the suspension-ring, substantially as and for the purpose specified.

THOS. L. JONES.

Witnesses:

WM. H. BISHOP,
CHAS. W. BAMBURGH.