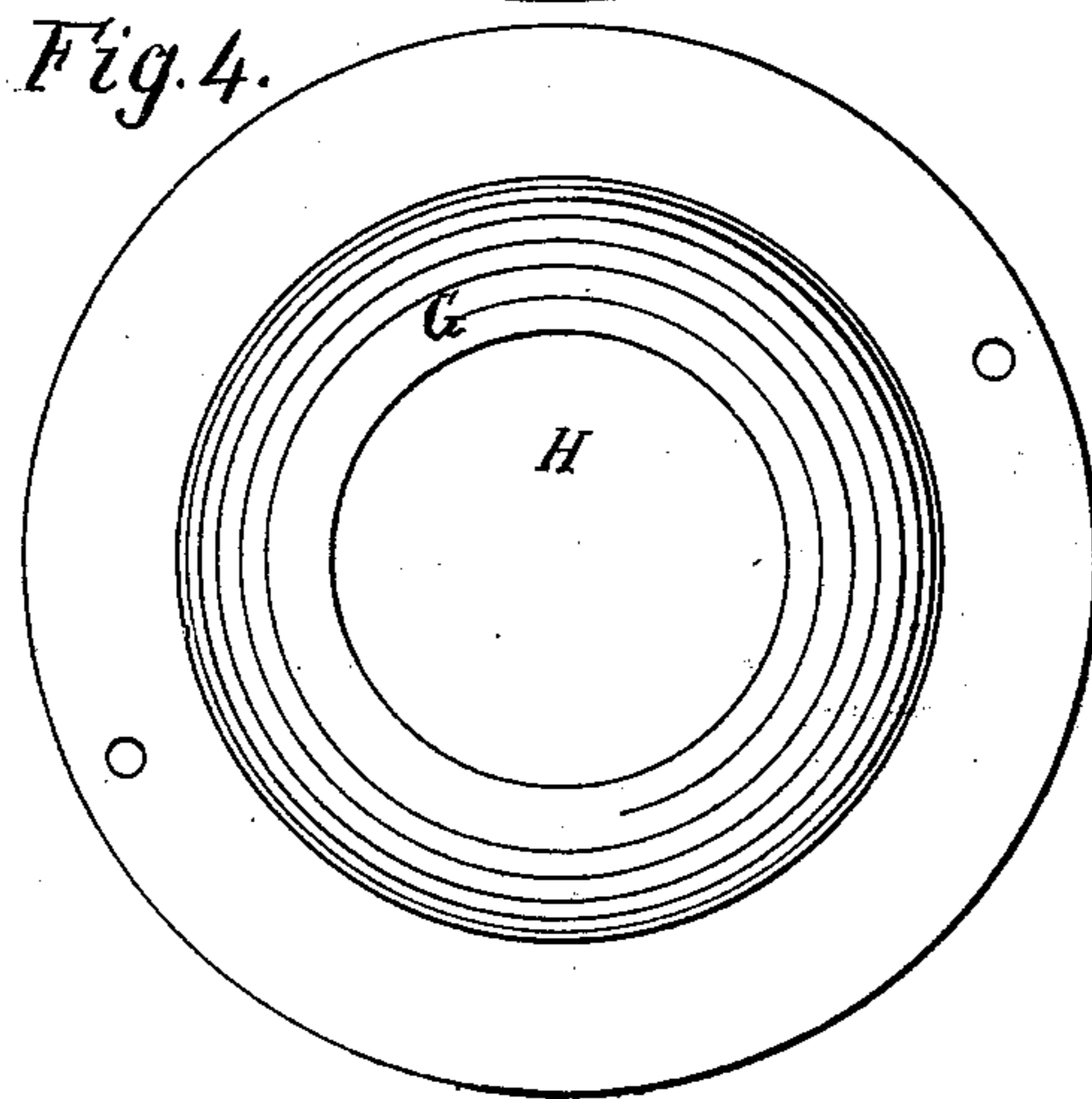
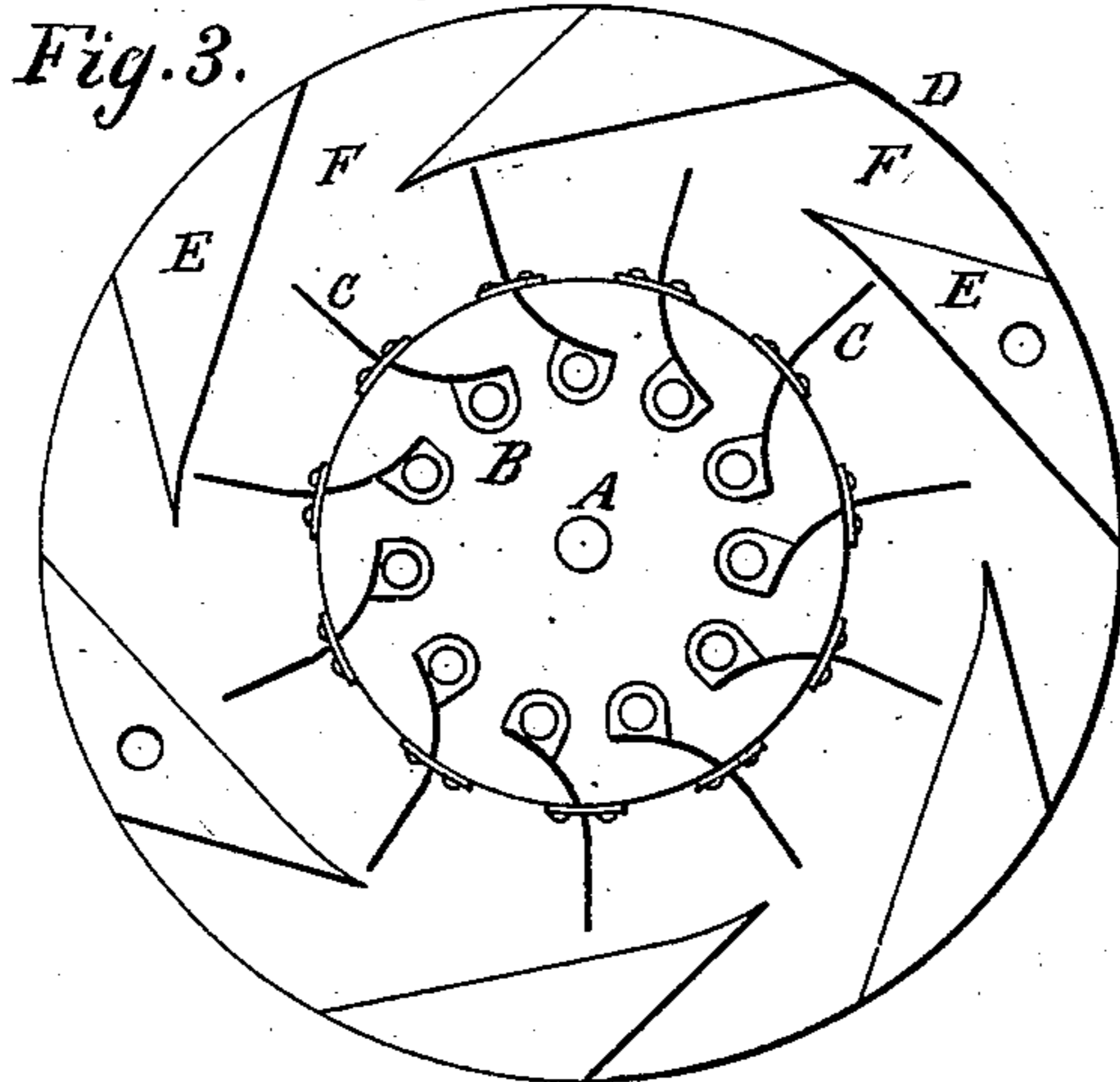
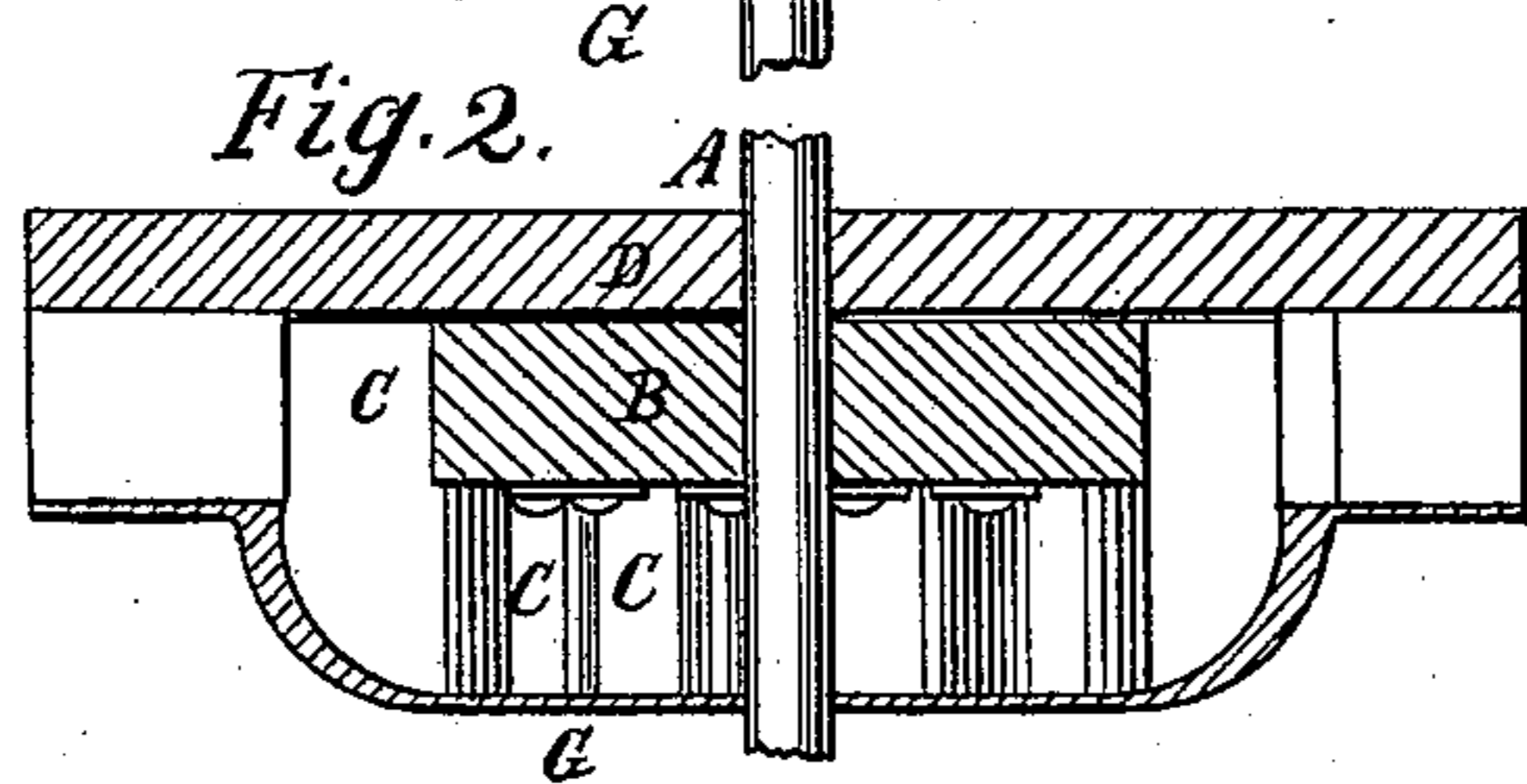
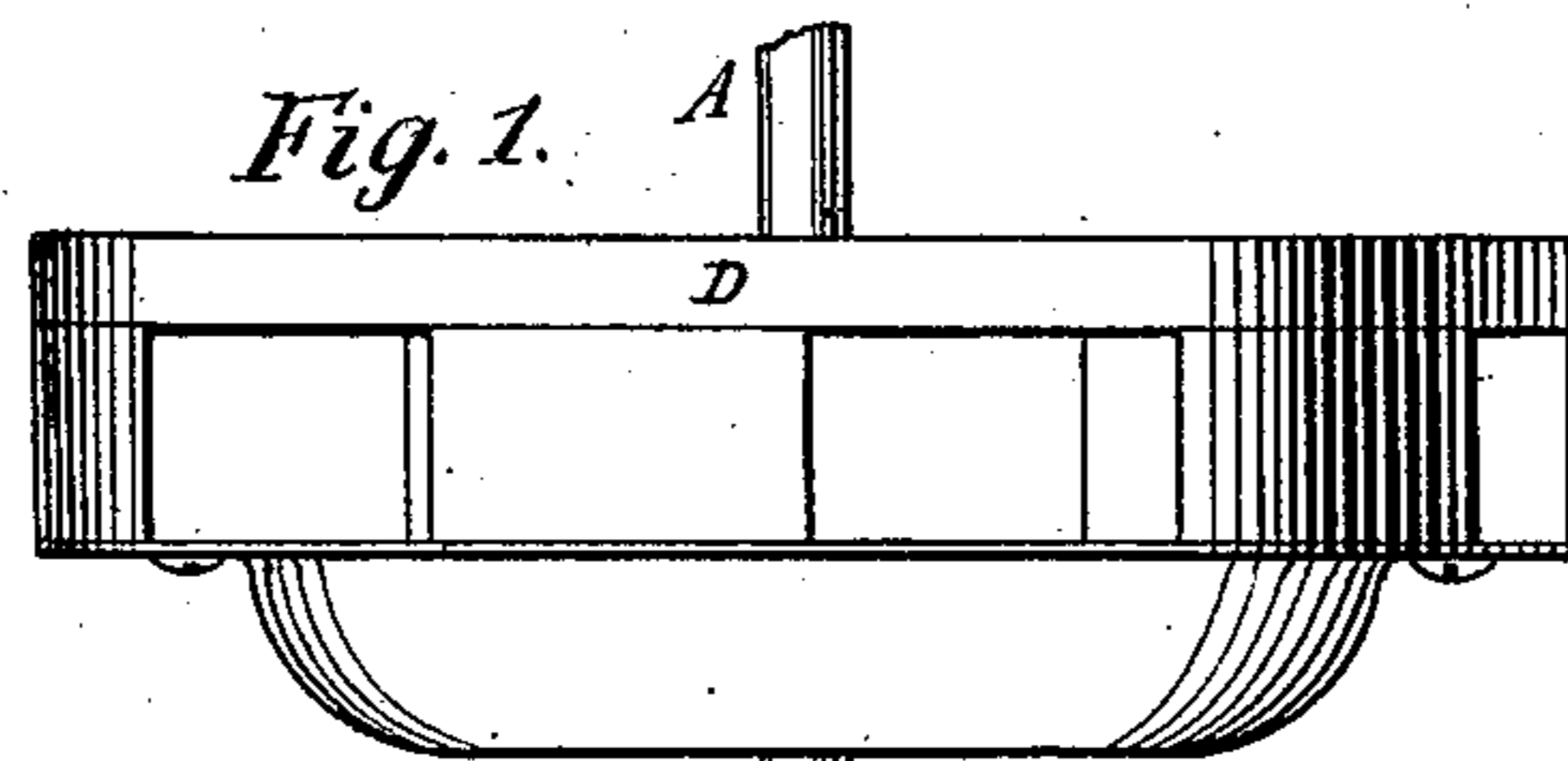


*A. H. Wagner,*

*Water Wheel,*

*No. 43,051,*

*Patented June 7, 1864.*



*Witnesses*

*J. E. Dennis*

*Edw. M. Batty*

*Inventor*

*A. H. Wagner*

*By his Atty.*

*J. Dennis Jr.*

# UNITED STATES PATENT OFFICE.

AUSBENT H. WAGNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES  
AND AUGUSTUS KAESTNER, OF SAME PLACE.

## IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 43,051, dated June 7, 1864.

*To all whom it may concern:*

Be it known that I, AUSBENT H. WAGNER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Water-Wheels; and I do hereby declare that the following specification and accompanying drawings are sufficient to enable any person skilled in the art to make and use my improved water wheel without further invention or experiment.

The nature of my invention and improvement in water-wheels consists in making the floats perpendicular throughout their length and breadth, and radial or nearly radial where they receive the first impulse of the water, and curving them where they extend under the center piece of the wheel, so as to discharge the water in a direction opposite to that in which the wheel moves, and in arranging a concave stationary plate under the wheel to retain and hold the water in contact with the wheel while it is running.

To enable others skilled in the art to make and use my improvements, I will proceed to describe their construction and operation, referring to the accompanying drawings, in which the same letters indicate like parts in each of the figures.

Figure 1 is an elevation of a wheel with my improvements. Fig. 2 is a section showing the wheel cut perpendicularly through the center. Fig. 3 is a plan of the under side of the wheel and chutes which conduct the water to the wheel. Fig. 4 is the bottom concave plate.

In the above mentioned drawings, A is the shaft, and B the center of the wheel, to which the floats *c c* are fastened. These floats are radial or nearly radial where they receive the impulse of the water from the chutes, and perpendicular throughout their whole length and breadth; and that part of the float which passes under the center B is curved, as shown in Fig. 3, so that the water issues tangentially and centrally from the wheel. These floats may be made of wrought or cast iron with flanges, as shown in the drawings, and bolted to the center; or the center and floats may all be cast together. The floats being perpen-

dicular, the wheel can be molded for casting with great facility.

D is the top case or cover of the wheel, provided with a series of guide-blocks, E, forming a series of chutes, F, through which the water passes in a tangential direction against the radial part of the floats, propelling the wheel with great power in proportion to the water expended on the wheel.

To hold the water up between the curved portion of the floats, I make a concave plate, G, and fasten it to the guide-blocks. This plate G is shown in section, Fig. 2, and plan, Fig. 4. It is made concave to correspond with the form of the lower ends of the floats and holds the water up between the floats, and relieves the shaft and pivot of the weight of the water, which is a great and important advantage over fastening the plate to the lower ends of the floats and making it turn with the wheel, so that the shaft and pivot would have to hold up the weight of water on the plate, and thereby greatly increase the friction on the pivot of the wheel and make it wear very fast. The water, when it leaves the wheel, passes through the hole H in the center of the concave stationary plate G.

Although I have not shown any gate to graduate the supply of water to the wheel, I contemplate a cylindrical gate may be arranged around the top D, or such other well-known gate as may be preferred.

Having fully described my improved wheel, what I claim is—

1. Making the floats perpendicular throughout their length and breadth, and radial or nearly radial where they receive the first impulse of the water, and curving them where they extend or pass under the center of the wheel, substantially as shown and described.

2. In combination with the above-described wheel, the stationary concave plate G, placed under the floats to hold the water up between the floats of the wheel.

AUSBENT H. WAGNER.

Witnesses:

CONRAD L. DIEHL,  
AUGUST KAESTNER.