

No. 743,869.

PATENTED NOV. 10, 1903.

P. J. HEDLUND.
ELASTIC FLUID TURBINE WHEEL.

APPLICATION FILED APR. 30, 1903.

NO MODEL.

Fig. 1.

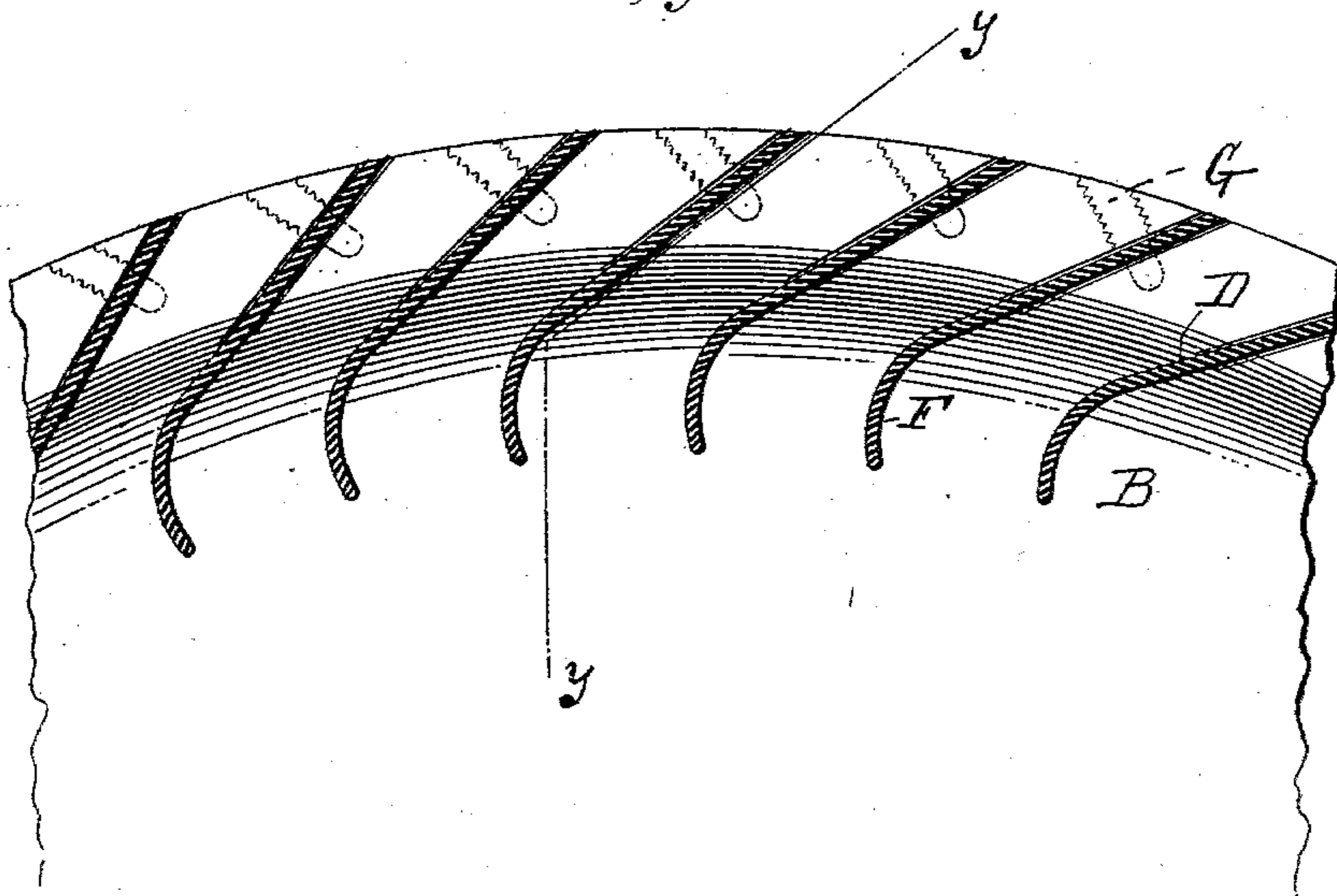
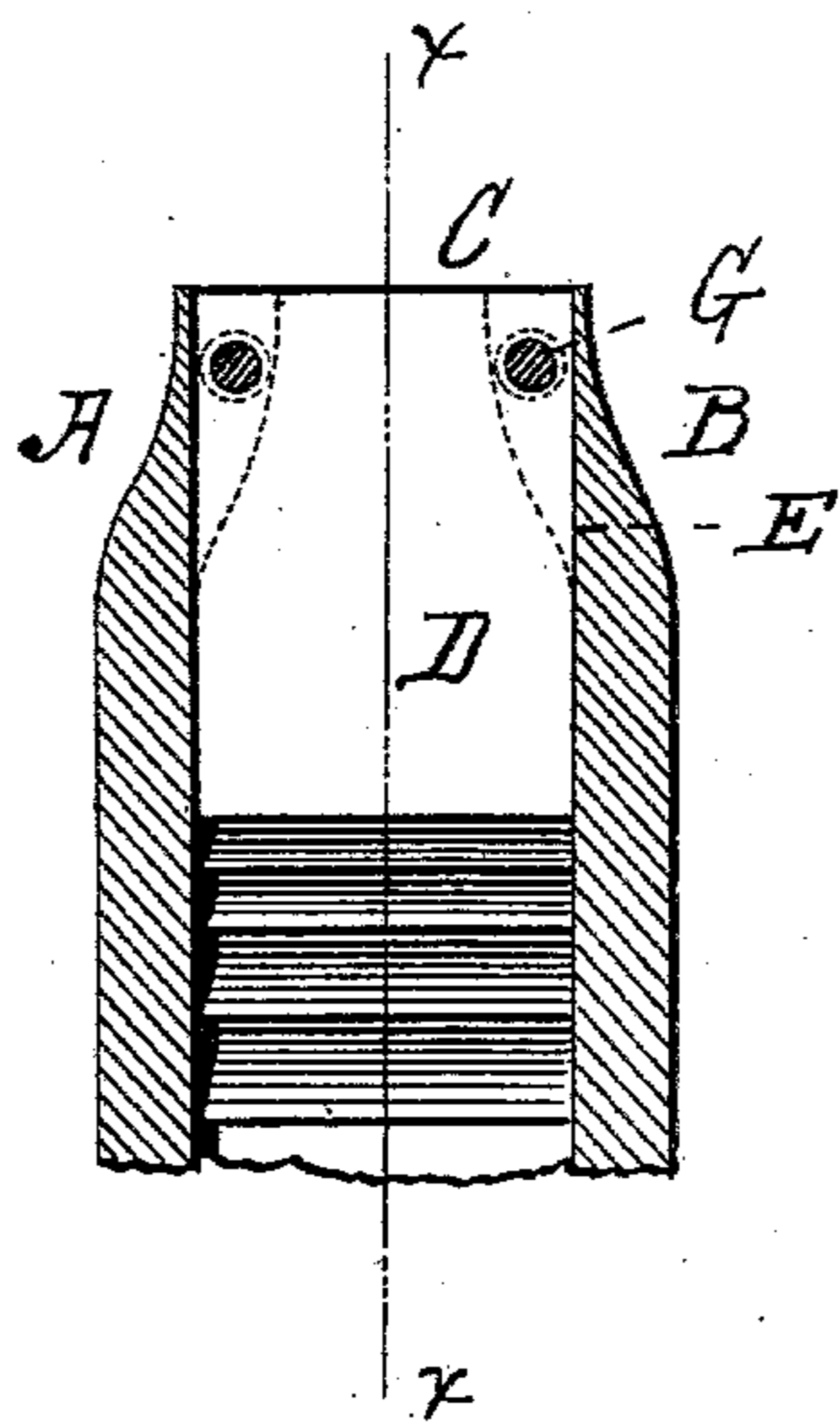


Fig. 2.



WITNESSES:

Gustav Dietrich.

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INVENTOR

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UNITED STATES PATENT OFFICE.

PER JOHAN HEDLUND, OF STOCKHOLM, SWEDEN.

ELASTIC-FLUID TURBINE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 743,869, dated November 10, 1903.

Application filed April 30, 1903. Serial No. 154,994. (No model.)

To all whom it may concern:

Be it known that I, PER JOHAN HEDLUND, of Stockholm, Sweden, have invented a new and useful Improvement in Elastic-Fluid Turbine-Wheels, of which the following is a specification.

The invention relates to an elastic-fluid turbine-wheel and to an improved mode of securing the buckets therein.

In the accompanying drawings, Figure 1 shows a portion of the wheel periphery in cross-section on the line *xx* of Fig. 2. Fig. 2 is a section of the same on the line *yy* of Fig. 1.

Similar letters of reference indicate like parts.

A and B represent the wheel-heads, which at the circumference of the wheel are inwardly inclined to form a contracted annular outlet-opening C. In each wheel-head and on the inner side are milled recesses the bottoms of which form straight and relatively parallel walls. Said recesses are also inclined to radii of the wheel, as shown in Fig. 1. The buckets D have their outer portions with parallel longitudinal edges E to enter said recesses and their inner portions F curved. In order to secure said buckets in said recesses, screw-bolts G are inserted at right angles to

said buckets into tapped openings in the wheel-heads, so that each bolt passes transversely through the recess in each wheel-head and through the portion of the bucket received therein.

I claim—

1. In combination with the heads of a turbine-wheel having parallel recesses on their inner sides, a bucket having its longitudinal edges inserted in said recesses, and bolts in said wheel-heads and passing transversely through said buckets.

2. In combination with the heads of a turbine-wheel inwardly inclined at the periphery to form a contracted annular outlet and having recesses on their inner sides provided with straight and relatively parallel walls, a bucket having its straight longitudinal edges inserted in said recesses and bolts in said wheel-heads passing transversely through said buckets.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PER JOHAN HEDLUND.

Witnesses:

I. A. VAN WART,
WM. H. SIEGMAN.