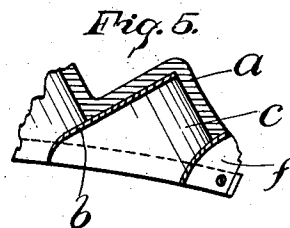
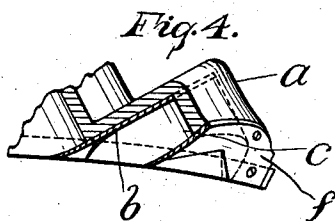
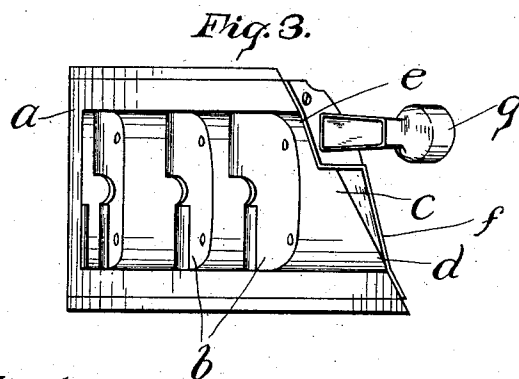
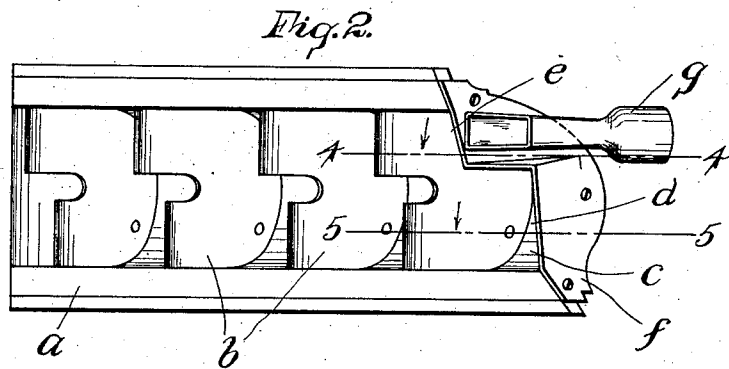
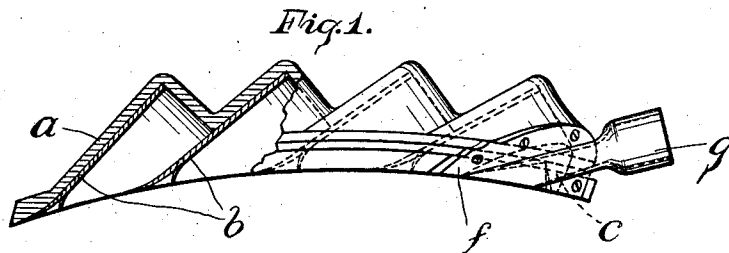


W. J. A. LONDON.
STEAM TURBINE.
APPLICATION FILED JULY 24, 1911.

1,021,541.

Patented Mar. 26, 1912.



WITNESSES:

M. A. Shuckersow
Louis Lucia.

INVENTOR.
W. J. A. London.

BY

H. Z. Hart
HIS ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM J. A. LONDON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE TERRY STEAM TURBINE COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

STEAM-TURBINE.

1,021,541.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed July 24, 1911. Serial No. 640,122.

To all whom it may concern:

Be it known that I, WILLIAM J. A. LONDON, a subject of the King of England, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Steam-Turbines, of which the following is a specification.

This invention relates to improvements in turbines of the "Terry" type illustrated in U. S. Patent #741,385, and has especial reference to improvements in the reversing unit, and particularly in the initial reversing chamber thereof.

In the drawings—Figure 1 is a side elevation of a reversing unit embodying my invention. Fig. 2 is a front view thereof. Fig. 3 is a view looking into the reversing unit in about the plane of the division plates. Fig. 4 is a section on the line 4, 4 of Fig. 2. Fig. 5 is a section on the line 5, 5 of Fig. 2.

In turbines of what is known as the "Terry" type where the buckets are arranged in step formation about the periphery of the rotor and have a curved rear wall, and the reversing unit has one or more reversing chambers of corresponding shape and placed mouth to mouth with the buckets of the rotor, the actuating fluid in expanding takes a spiral course from one bucket to a reversing chamber back to the same bucket, then to the next reversing chamber and so on, as clearly described in the above mentioned patent. Now it so happens that all of the steam delivered by the jet to any bucket is not caught by the first or initial reversing chamber but some of it escapes beyond the jet nozzle thus destroying to some extent the efficiency of the apparatus. It has been suggested to supply an additional reversing chamber to be located back of the jet, but such a construction is objectionable for many reasons.

By my invention I provide a means for collecting all of the steam or actuating fluid delivered by the jet nozzle by increasing the depth of the receiving side of the initial reversing chamber so that the top wall of this initial chamber lies back of, or above, the jet, the chamber being tapered toward the delivery side with the result that all of the actuating fluid delivered is utilized for the actuation of the rotor. The number of re-

versing chambers is not increased and the structure can be manufactured readily and without increased cost. The frame of these reversing units as indicated at *a* in the drawings is usually cast to shape, the division plates *b* being preferably made from sheet metal, as illustrated in my Patent #992,433. *c* denotes the initial reversing chamber having its receiving side *d* deeper than the delivery side *e* so that the top or rear wall *f* on the receiving side lies above or back of the jet *g*.

I claim as my invention:

1. In a fluid actuated turbine, a reversing unit, the initial reversing chamber of said unit being of greater depth on its receiving side than on its delivery side, substantially as described.

2. In a turbine, the combination with a rotor and a reversing chamber in operative relation therewith, of a jet nozzle located in operative relation to said reversing chamber on the delivery side thereof, the top plate for said chamber being arranged in two different planes, that part of said top plate covering the receiving side of said chamber being in a plane above, or back of, said nozzle outlet.

3. In a turbine, a reversing chamber having a flat bottom plate, and a top plate arranged in different planes whereby the receiving side of said chamber is substantially deeper than its delivery side.

4. In a turbine, the combination with a rotor, of a reversing chamber having a flat bottom plate, and a top plate arranged in different planes whereby the receiving side of said chamber is of greater depth than the delivery side, and a jet nozzle located adjacent to the delivery side of said chamber, with its outlet below or in front of the higher plane of said plate.

5. In a turbine, the combination with a rotor, of a reversing chamber and a jet nozzle arranged adjacent to the delivery side of said chamber, said chamber having a rearward or upward extension beyond the outlet of said nozzle.

WILLIAM J. A. LONDON.

Witnesses:

WILBUR F. SHEPARD,
E. T. FITZ GERALD.