

No. 874,356.

PATENTED DEC. 17, 1907.

E. C. CARNT & A. FORSTER.

MARINE TURBINE.

APPLICATION FILED OCT. 26, 1906.

Fig. 1

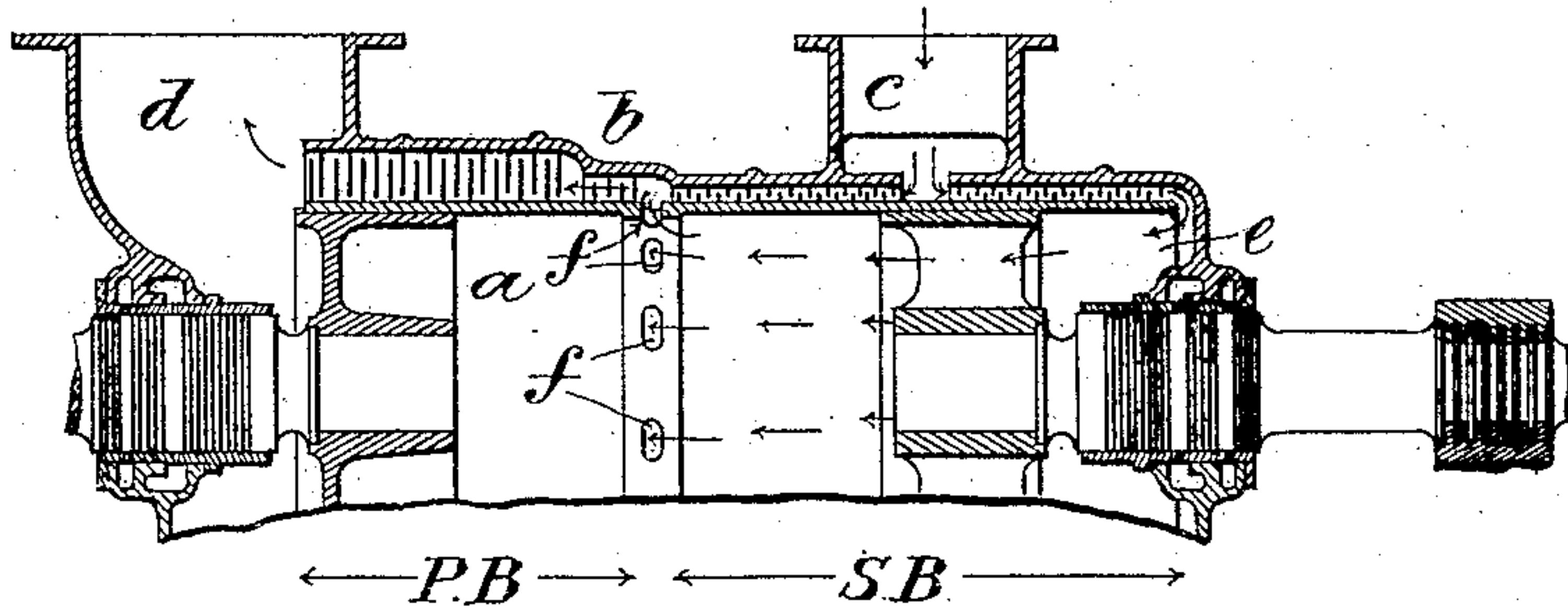


Fig. 2

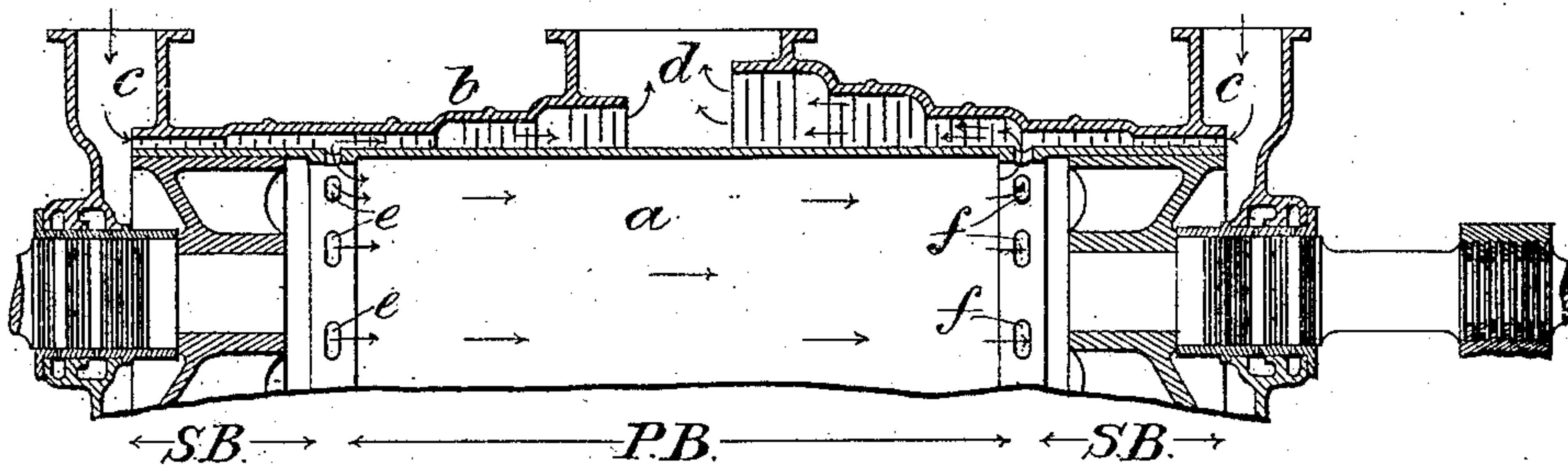
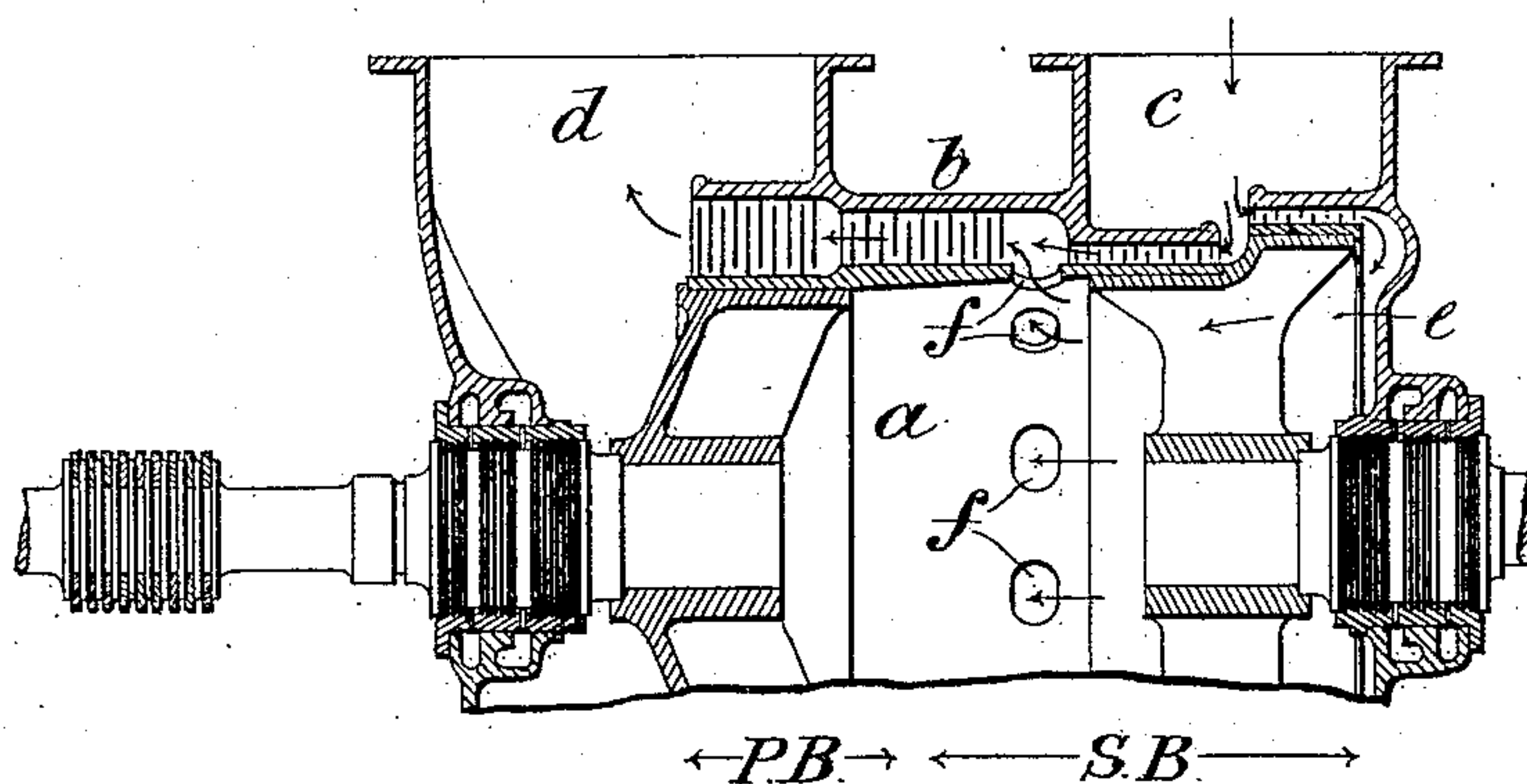


Fig. 3



Witnesses:

Ed. Kesler
W. B. Keefe

Inventors
Edwin C. Carnt

Andrew Forster

James L. Norris.

att'y

UNITED STATES PATENT OFFICE.

EDWIN CHARLES CARNT AND ANDREW FORSTER, OF EAST COWES, ISLE OF WIGHT, ENGLAND,
ASSIGNORS OF ONE-THIRD TO J. SAMUEL WHITE AND COMPANY LIMITED, OF EAST COWES,
ENGLAND.

MARINE TURBINE.

No. 874,356.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, EDWIN CHARLES CARNT and ANDREW FORSTER, both subjects of the King of Great Britain, and residing at East Cowes, Isle of Wight, England, have invented new and useful Improvements in Marine Turbines, of which the following is a specification.

This invention relates to marine turbines of the parallel flow type having all the blading on one drum and consists in the construction of such turbines as hereinafter described, whereby steam direct from the generator first acts on a portion of the blading (herein termed the self balance), so as to balance its own thrust and then in part passes into and fills the entire interior of the drum, thereby keeping it at such a temperature as to minimize condensation in all parts of the turbine and thence passes to another portion of the blading (herein termed the propeller balance) and so acts there in conjunction with the remainder of the steam from the self balance as to balance the propeller thrust.

Each of the Figures 1, 2 and 3 of the accompanying drawing represents a central vertical section of a turbine embodying the said invention, the several turbines illustrated differing only in details of construction.

In all the figures *a* is the drum or rotor, *b* the stationary casing or stator, *c* the steam supply, and *d* the exhaust, and the part or parts of the blading constituting the self balance is or are denoted by the letters S B, and the part constituting the propeller balance is denoted by the letters P, B.

e are apertures through which part of the steam from the self balance enters the drum and *f* are apertures through which the said steam leaves the drum and enters the propeller balance. The arrows indicate the course of the steam through the turbine.

In the construction illustrated in Fig. 1, steam from the forward end of the self balance passes through the aperture *e* into the drum and thence passes through the apertures *f* into the propeller balance where it

acts in conjunction with steam passing thereto from the rear end of the self balance. In the construction illustrated in Fig. 2, part of the steam which has acted in the forward portion of the rear half of the self balance passes therefrom through the apertures *e* into the drum and thence passes through the apertures *f* into the forward portion of the forward half of the propeller balance.

The construction illustrated in Fig. 3 differs from that illustrated in Fig. 1 only in the respect that the forward portion of the self balance is of larger diameter than the rearward portion, the object of the difference being to admit of reduction of length of the turbine.

We claim:—

1. A parallel flow single drum marine turbine oppositely bladed at the steam entry part thereby constituting a self balance and bladed at the remaining part in opposition to the propeller thrust and the whole interior of the drum of which turbine is in communication with the outlet ends of the blading of the self balance and the inlet end of the blading of the propeller balance and constitutes a passage for steam from one to the other.

2. A parallel flow single drum marine turbine oppositely bladed at the steam entry part thereby constituting a self balance and bladed at the remaining part in opposition to the propeller thrust and the drum of which turbine is of larger diameter at the forward part of the self balance than at the other part thereof and has the whole of its interior in communication with the outlet ends of the blading of the self balance and the inlet end of the blading of the propeller balance and constitutes a passage for steam from one to the other.

August 27, 1906.

EDWIN CHARLES CARNT.
ANDREW FORSTER.

Witnesses:

JAMES HUNT,
ERNEST GARDNER.