

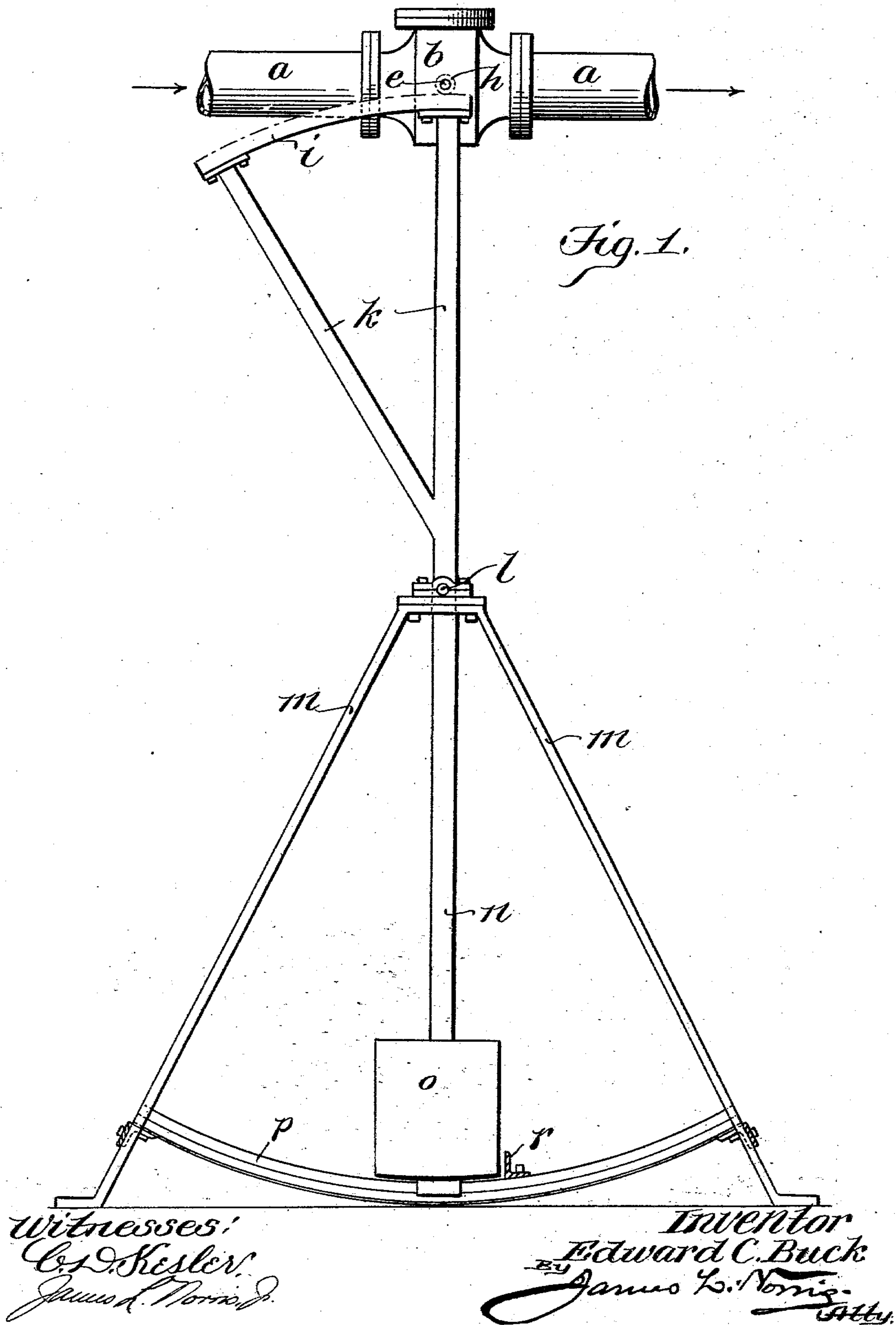
No. 721,012.

PATENTED FEB. 17, 1903.

E. C. BUCK.  
MARINE ENGINE GOVERNOR.  
APPLICATION FILED SEPT. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



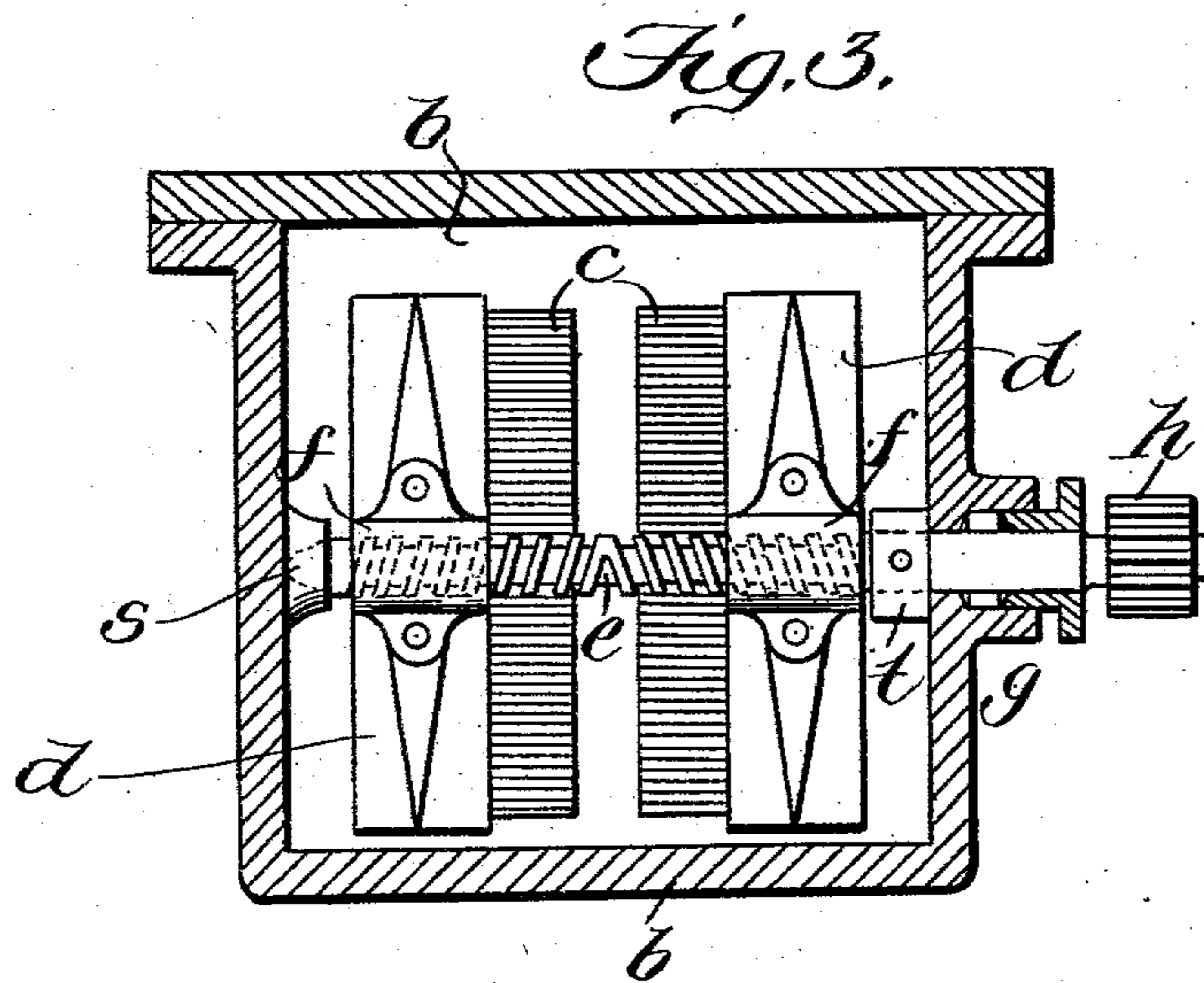
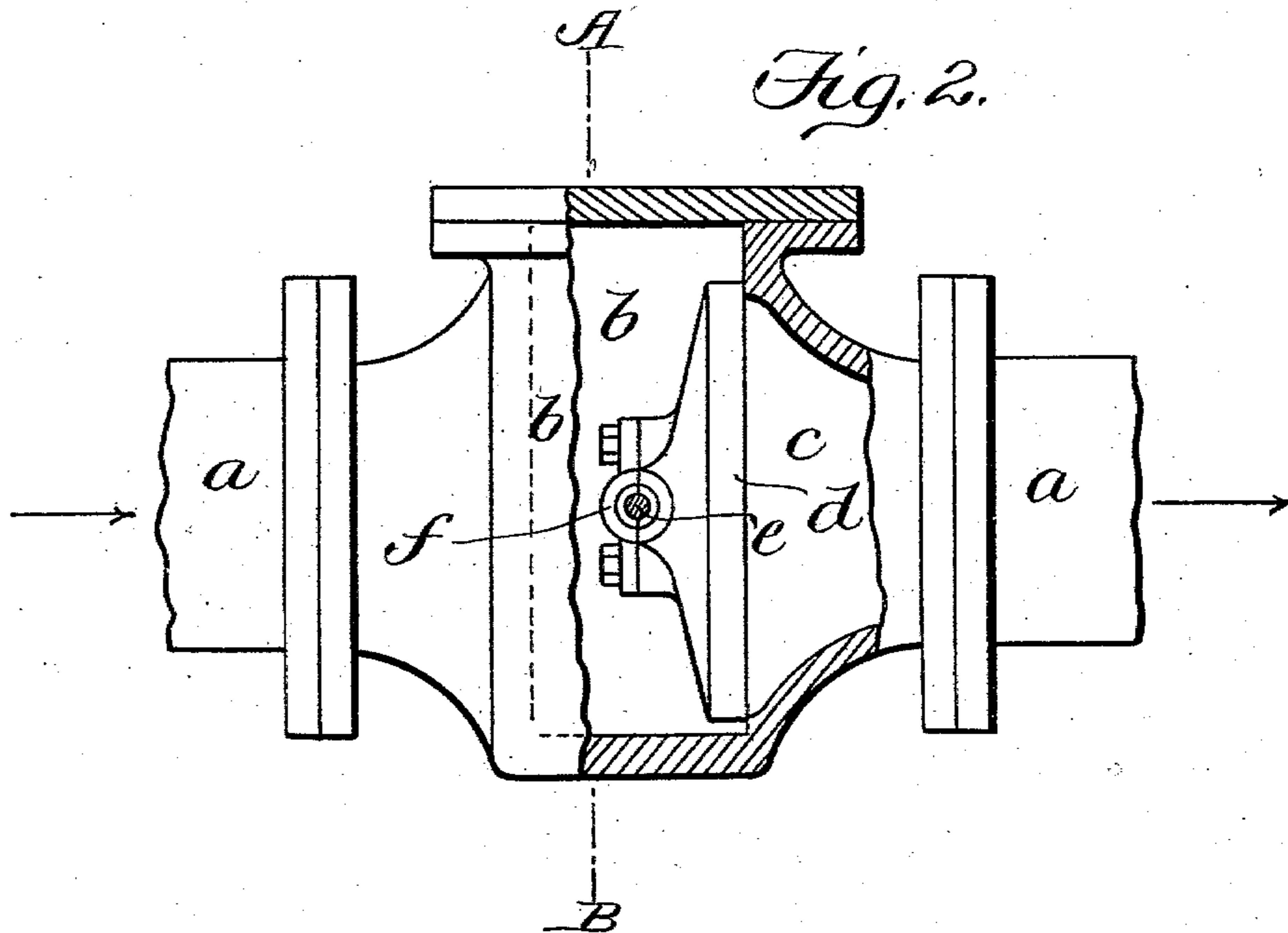
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2 SHEETS—SHEET 2.



Witnesses:  
C. D. Kessler,  
James L. Norris, Jr.

Inventor  
Edward C. Buck  
BY  
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# UNITED STATES PATENT OFFICE.

EDWARD C. BUCK, OF PRETORIA, TRANSVAAL, SOUTH AFRICA.

## MARINE-ENGINE GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 721,012, dated February 17, 1903.

Application filed September 12, 1902. Serial No. 123,157. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD C. BUCK, a subject of the King of Great Britain, residing at Municipal Buildings, Pretoria, Transvaal, South Africa, have invented an Improved Means or Apparatus for Automatically Controlling the Supply of Steam to Marine Engines, of which the following is a specification.

My invention relates to means for automatically regulating or governing the flow of steam in the main steam-pipe, so that when the stern or screw-propeller end of the vessel pitches or rises more or less out of the water the flow of steam to the engine (or engines) is correspondingly more or less reduced or adapted to the altered resistance to the rotation of the propeller.

In order that the invention may be particularly described and ascertained, reference is hereby made to the accompanying drawings, in which similar letters indicate corresponding parts.

Figure 1 is an elevation of the complete apparatus. Fig. 2 is a sectional end elevation of the valve. Fig. 3 is a section of same on the line A B of Fig. 2.

According to my invention I place in the main steam-pipe *a* and as near to the boiler or boilers as convenient a valve or chest *b*, having two steam-ports *c*, with a slide-valve *d* to each, and I actuate the valves by means of a spindle *e*, formed with right and left hand screw-threads thereon working in nuts *f* or equivalent at the back of valves. The spindle *e* is stepped at *s* and is provided with a collar or abutment *t*, whereby longitudinal motion of the spindle is prevented.

On the end of the valve-spindle, which projects through a stuffing-box *g* in the valve-box *b'*, is fixed a toothed pinion *h*, engaging with a toothed quadrant *i*, integral with or attached to a frame *k*, which is pivotally supported at *l* between standards *m*, fixed to the vessel. A bar *n* or portion of the frame carrying the quadrant is prolonged downward and forms, with a suitable weight *o* on its lower extremity, the actuating-pendulum.

When the vessel pitches and raises the stern or screw end of the vessel, the pendulum by its gravitation still retains its vertical position, and the toothed quadrant *i*, gearing with the pinion *h* on the valve-spindle, rotates the spindle *e* and simultaneously

closes the steam-ports proportionately to the degree of pitch or elevation of the stern of the vessel. When the stern again falls, the reverse action takes place and the valves recede and open the steam-ports.

The weighted end of the pendulum is provided with suitable guides *p* to take the strain of the pendulum when the ship rolls, and a stop *r* is placed in a suitable position on the guides so that the pendulum is restricted to only actuating the valves during the rising and falling of the stern.

The position of the pivot which carries the frame or pendulum or other point of suspension may be in a higher or lower position relatively, to suit the requirements of the particular vessel.

I claim—

1. In apparatus for controlling the supply of steam to marine engines, the combination with a pendulum, of a toothed quadrant fixed to a frame integral or fixed to said pendulum and situated above the point of suspension of the pendulum, a valve-chest in the main steam-pipe near to the steam-generator, a pair of steam-ports in said valve-chest, a pair of slide-valves adapted to cover or close said ports, a spindle formed with right and left hand threads engaging nuts upon the back of said slide-valves, and a pinion upon said spindle engaging said toothed quadrant and adapted to be rotated thereby, substantially as set forth.

2. In apparatus as aforesaid the combination with a valve-chest fitted with a pair of slide-valves mounted upon a right and left hand threaded spindle which carries a pinion adapted to be operated by a toothed quadrant attached to a pendulum constructed and operating as described, of guides adapted to support and take the transverse strain of the weighted end of said pendulum when the ship rolls, and a stop for restricting the action of said pendulum to movement in one direction only from the vertical, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of three subscribing witnesses.

EDWARD C. BUCK.

Witnesses:

JAMES WHEELDON,

H. D. BADCOCK,

T. P. BURGESS.