

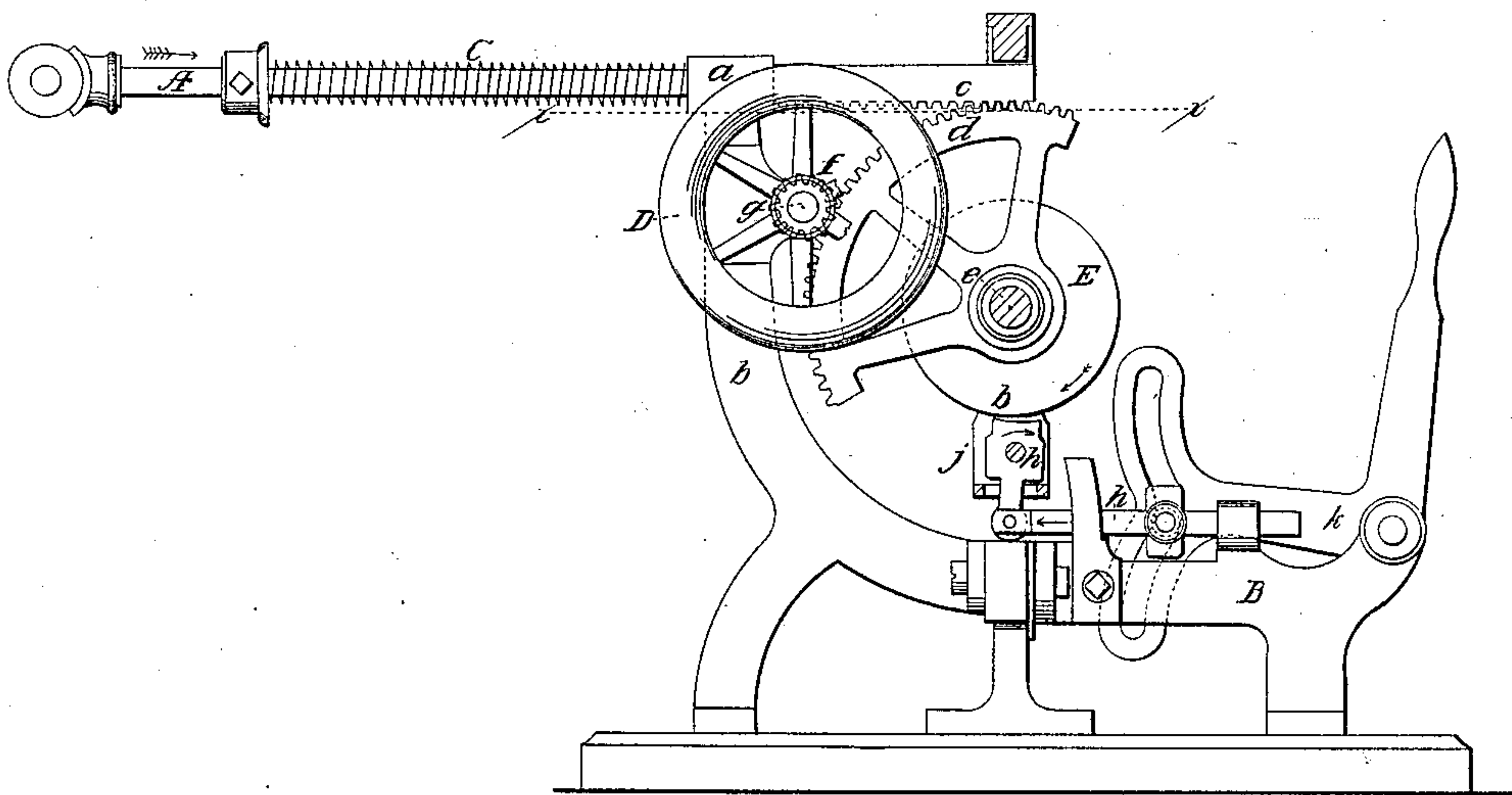
*P. Louis,*

*Governor.*

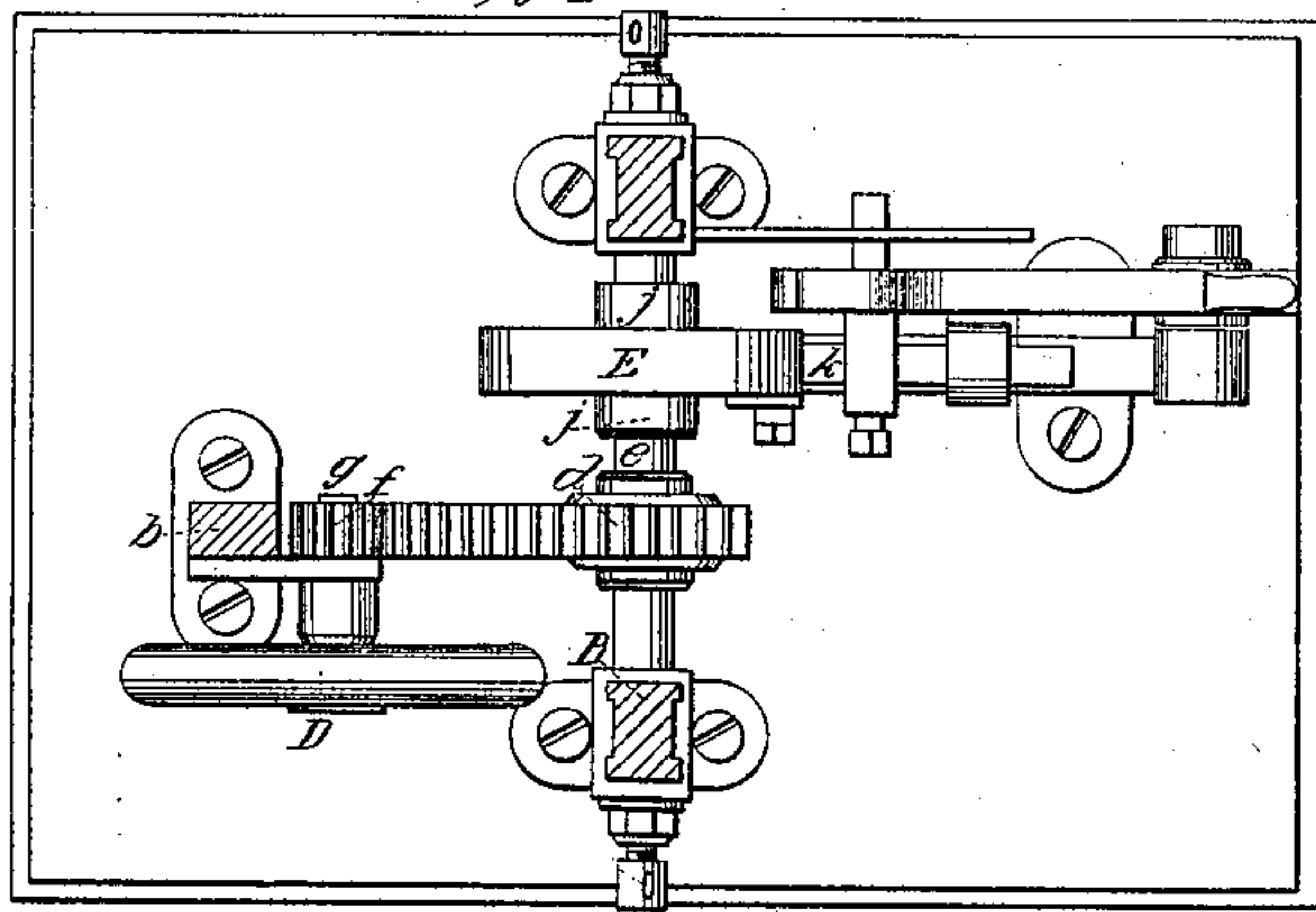
*N<sup>o</sup> 44,325.*

*Patented Sep. 20, 1864.*

*Fig. 1*



*Fig. 2*



*Witnesses:*

*Jos. Busch  
Henry Morrison*

*Inventor:*

*Peter Louis*

# UNITED STATES PATENT OFFICE.

PETER LOUIS, OF NEW YORK, N. Y.

## IMPROVEMENT IN GOVERNORS.

Specification forming part of Letters Patent No. 44,325, dated September 20, 1864.

*To all whom it may concern:*

Be it known that I, PETER LOUIS, of the city, county, and State of New York, have invented a new and Improved Governor; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention. Fig. 2 is a horizontal section of the same, taken in the plane indicated by the line *x x*, Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in combining the rod which opens and closes the governor or throttle valve, or which bears a similar relation to the source of power and parts to transmit said power to the working machines, with a spring and with a fly-wheel to which an intermittent rotary motion is imparted in such a manner that when the intervals characterizing the intermittent motion are long, and consequently the motion of the fly-wheel slow, the spring has power enough to overcome the momentum of the fly-wheel and to carry the valve-rod back to its original position after each stroke or motion of the fly-wheel; but if the intervals characterizing the intermittent motion of the fly-wheel shorten, and in consequence thereof the circumferential velocity of the fly-wheel increases, the momentum of the fly-wheel overcomes the power of the spring and the valve-rod moves back, so as to close the valve and regulate the speed of the engine or other machine with the greatest nicety and entirely independent of the position of the governor, rendering the same of peculiar value for the purpose of regulating the speed of marine engines.

A represents a valve-rod, which is fitted in a horizontal or any other convenient position in a socket, *a*, in the upper or outer end of an arm, *b*, extending from the frame B.

If my governor is used for regulating the speed of a steam-engine, the rod A connects with the throttle-valve; but said governor may be used with equal advantage for horse-powers, wind-wheels, water-wheels, or other sources of power, and in these cases the rod A has to connect either to the brake or to the device for changing the position of the sails,

or to the gate, or, in short, to that part which bears the same relation to the working parts of the machine as the throttle-valve does toward the piston of a steam engine. A spring, C, which is placed on the rod A, or bears on it in any other convenient manner, has a tendency to throw the same in the direction of the arrow marked near it in Fig. 1, and to open the valve, and the rear end of said rod forms a toothed rack, *c*, which gears in a toothed segment or wheel, *d*. This segment is firmly keyed to a shaft, *e*, and it gears in a pinion, *f*, on a shaft, *g*, which bears the fly-wheel D.

E is a pulley or drum, which is mounted on the shaft *e*, and to which an intermittent rotary motion is imparted by the action of a dog, *h*. This dog is hinged to a pivot, *i*, which has its bearings in a strap, *j*, that straddles the pulley E and is suspended from the shaft *e*. The upper surface of said dog is so adjusted in relation to the periphery of the drum E' that by swinging it backward, in the direction of the arrow marked on it in Fig. 1, its edge *l* is pressed up against the periphery of the drum and the two are rendered rigid, and by moving it in the opposite direction it releases the drum. The lower end of the dog is pivoted to the end of a rod, *k*, to which a reciprocating motion is imparted by a bell-crank, *k'*, so slotted and curved as to give a forward motion to the dog at each stroke either in or out of the piston, or by any other suitable connections from the rock-shaft or any other suitable part of the engine. If the rod *k* moves in the direction of the arrow marked thereon in Fig. 1, the edge *l* of the dog is pressed up against the periphery of the drum, and as the motion of the rod proceeds the drum is caused to rotate in the direction of the arrow marked on it in Fig. 1, and by this motion the fly wheel D is rotated and the valve-rod A moved in the direction of the arrow marked thereon. As the rod *k* recedes, the dog releases the drum and the spring C carries the rod A, fly-wheel D, and drum E back to their original position; but if the motion of the rod *k* is rapid the momentum of the fly-wheel imparted to it by its rotary motion increases and overbalances the power of the spring, preventing the same from turning the drum E back to its original position before the dog takes a fresh hold of its periphery, and by a few rapid strokes of the rod *k* the valve-rod A is drawn in as far as the spring C will allow,



and the valve is closed. As soon as this takes place, the speed of the engine, and consequently that of the rod *k*, relaxes, and the momentum of the fly-wheel *D* is spent before the dog takes a fresh hold of the drum, so as to allow the spring *C* to act and to carry said drum back to its original position. The valve opens again, and the motion becomes uniform and the valve oscillates back and forward with each stroke.

This governor works independent of the position of the fly-wheel or any other part, and it is therefore particularly applicable as a marine governor.

It is obvious that the mechanism hereinbefore described for imparting an intermittent motion to the valve-rod *A* and fly-wheel *D* may be changed in various ways without interfering with or changing the result, and I

do not wish to confine myself to any particular manner of producing this motion.

I claim as new and desire to secure by Letters Patent—

1. The rod *A* and spring *C*, or their equivalents, in combination with the fly-wheel *D*, constructed and operating substantially as and for the purpose herein shown and described.

2. The bell-crank *k'*, slotted and curved as described, in combination with the dog or its equivalent, and arranged so as to give a forward motion to the dog at each stroke, either in or out, of the piston.

PETER LOUIS.

Witnesses:

THEO. TUSCH,

WILLIAM TREURIN.