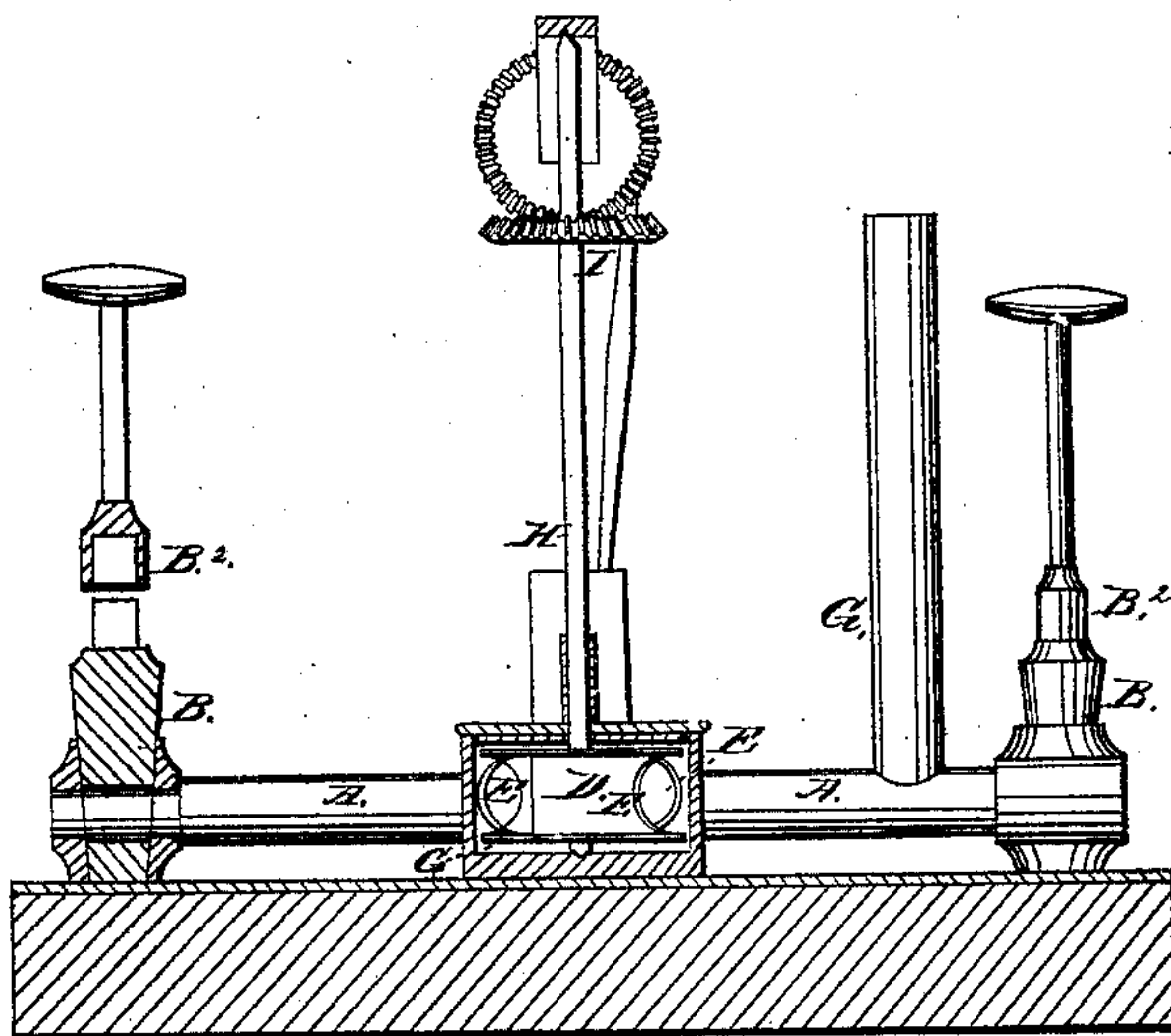


*W. P. Kirkland.*  
*Marine Motor*

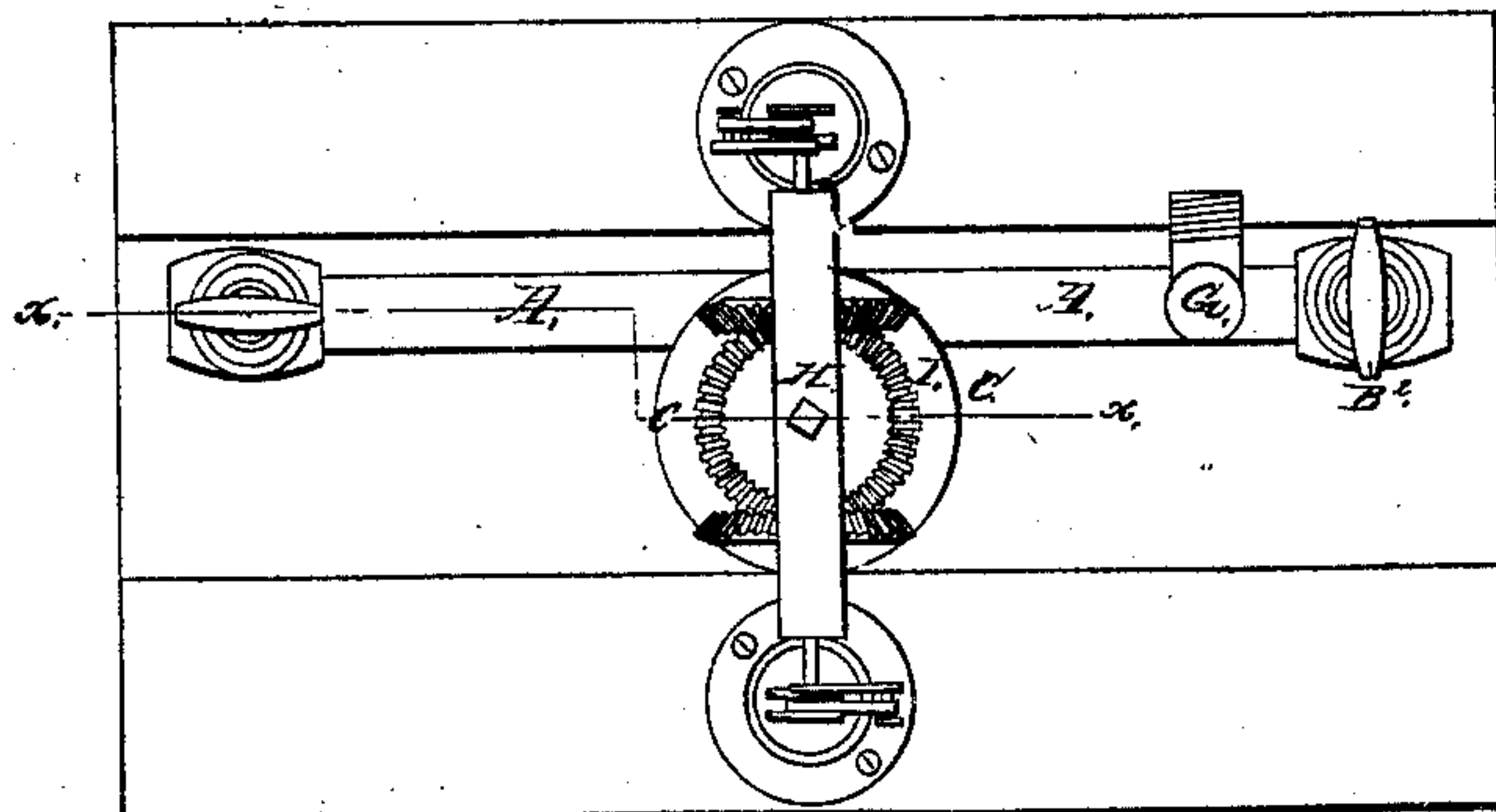
*No 61,211.*

*Patented Jan. 15, 1867*

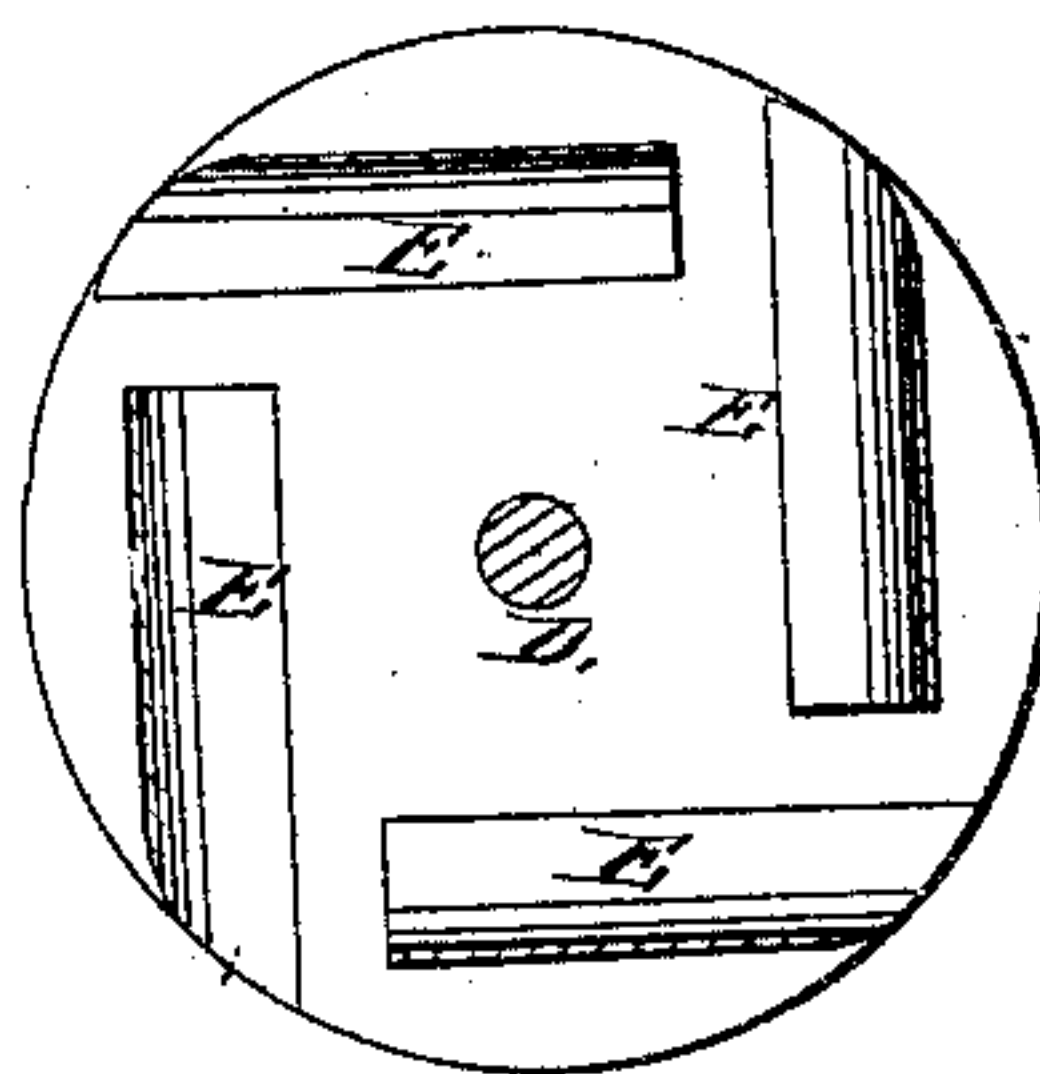
*Fig. 2.*



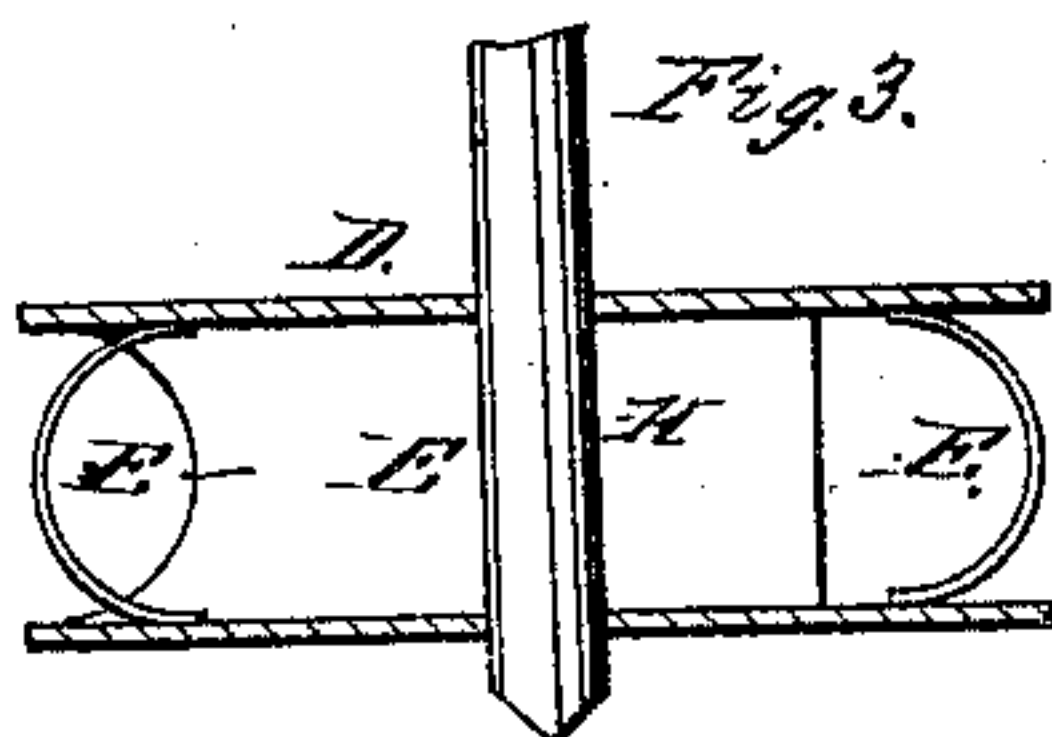
*Fig. 1.*



*Fig. 4.*



*Fig. 3.*



*Witnesses:*  
*J. M. D. Livingston*  
*Alex. S. Roberts*

*Inventor.*  
*W. P. Kirkland*  
*Per M. M. M. M.*  
*Attorneys*

# United States Patent Office.

W. P. KIRKLAND, OF SAN FRANCISCO, CALIFORNIA.

*Letters Patent No. 61,211, dated January 15, 1867.*

## IMPROVED MARINE MOTOR.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. P. KIRKLAND, of the city and county of San Francisco, State of California, have invented new and useful "Improvements in Marine Motors;" 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.

The nature of this invention consists in applying as a motive or driving power the speed or force generated by the propulsion of a vessel through the water, which result I obtain by so arranging a suitably-shaped water-wheel within the keel or bottom portion of the vessel, immersed in the water, that, as the vessel moves through the water, it will be acted upon thereby, and thus made, through any suitable arrangement of connecting parts, to operate the ship's pump or pumps, or any other desired mechanism of the vessel.

In accompanying plate of drawings my improvements are illustrated—

Figure 1 being a plan or top view, and showing one form of application.

Figure 2, a vertical section taken in the plane of the line *x x*, fig. 1.

Figures 3 and 4, detail views of the water-wheel employed, to be hereinafter referred to.

A, in the drawings, represents a hollow keel or pipe, provided with a stop-cock B at each end, the discharge end being the largest. Each stop-cock is to be provided with a governing-rod, B<sup>2</sup>, and at or near the middle of the pipe A a recess or chamber, C, is made, in which a horizontal water-wheel, D, (see figs. 3 and 4,) with semi-tubular buckets E, is placed. At the discharge end of the pipe A a water pipe G is attached, to which pipe it is intended to affix a hose. The horizontal water-wheel D is attached to an upright shaft, H. On the upper end of the upright shaft H a horizontal cog-wheel, I, is secured, for the purpose of gearing into such other machinery as may be necessary to connect it to a vessel's pump or pumps. The pipe A is to be firmly attached to a vessel's bottom, or within or upon her keel, under water, and openings made in the planking of the vessel sufficient to allow the upper portions of the stop-cocks, water-wheel, recess, and water pipe to project upwards within the vessel. The upright shaft and its cog-wheel attachment are to extend above deck, as also the water pipe and governing-rods to the stop-cocks. The vessel being under way, the forward stop-cock is opened, and a current of water thus forced through the pipe A with a velocity equal to the vessel's speed through the water, and coming in contact with the semi-tubular buckets of the water-wheel, causes it to revolve, and with it the upright shaft and cog-wheel attachments, thus working the pumps or other machinery connected with such shaft cog-wheel. This service having been performed by the water, it passes out to the sea again; or, if required above deck to extinguish a fire, for washing, or other purposes, by closing the stop-cock in the discharge end of the pipe it will travel or pass up through the water pipe. By attaching a "patent log," so called, or an ordinary log-line to the upright shaft, and opening both stop-cocks to their utmost capacity, the speed of the vessel can be ascertained or determined with the utmost accuracy.

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

The pipe A, having stop-cocks B B, water-wheel D, and water pipe G, in combination with any suitable device connected with the said water-wheel for transmitting its power, when arranged together substantially in the manner and for the purpose specified.

The above specification of my invention signed by me on this                      day of

W. P. KIRKLAND.

Witnesses:

H. S. BROMLEY,

JAS. P. DAMERON.