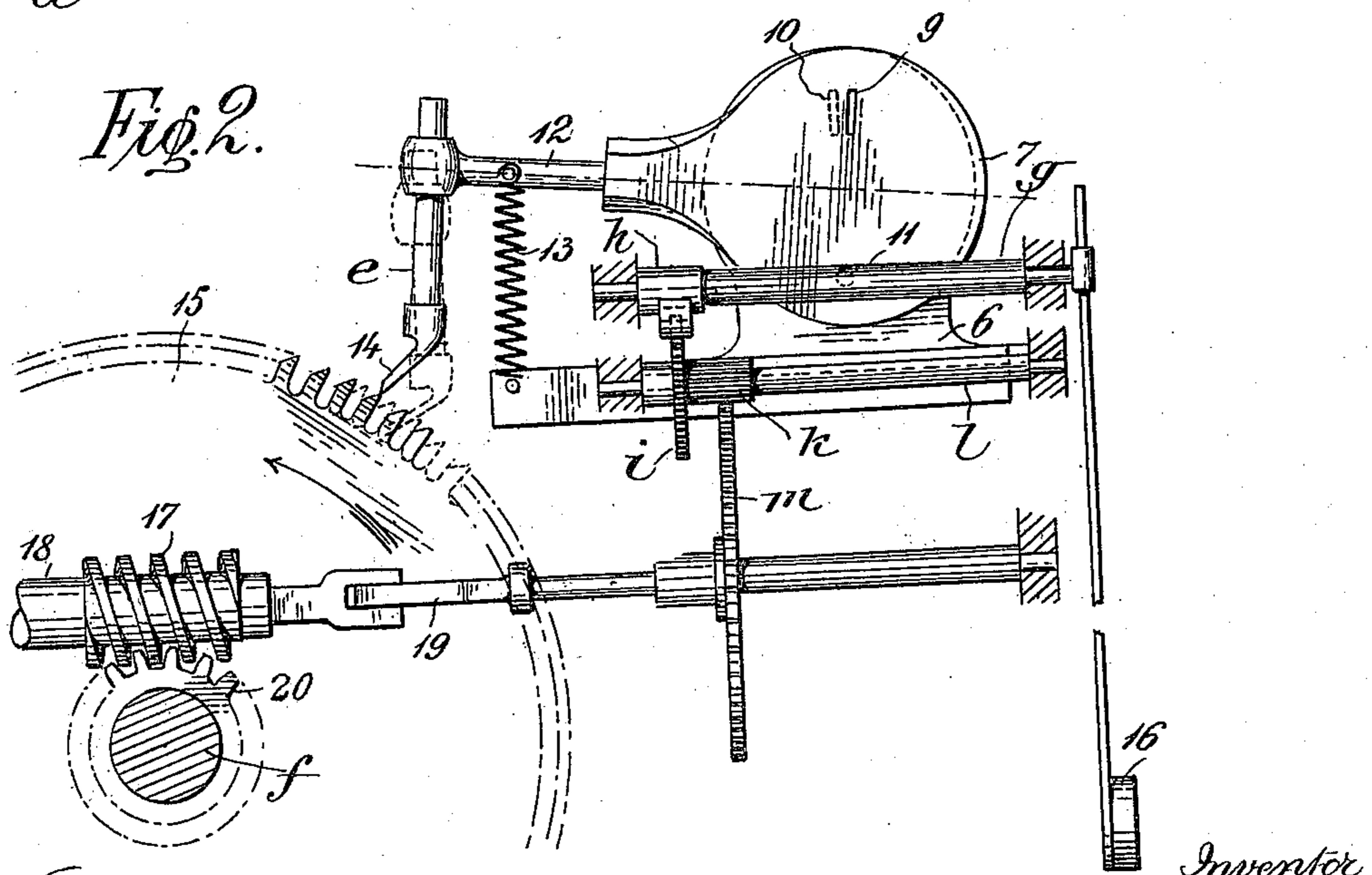
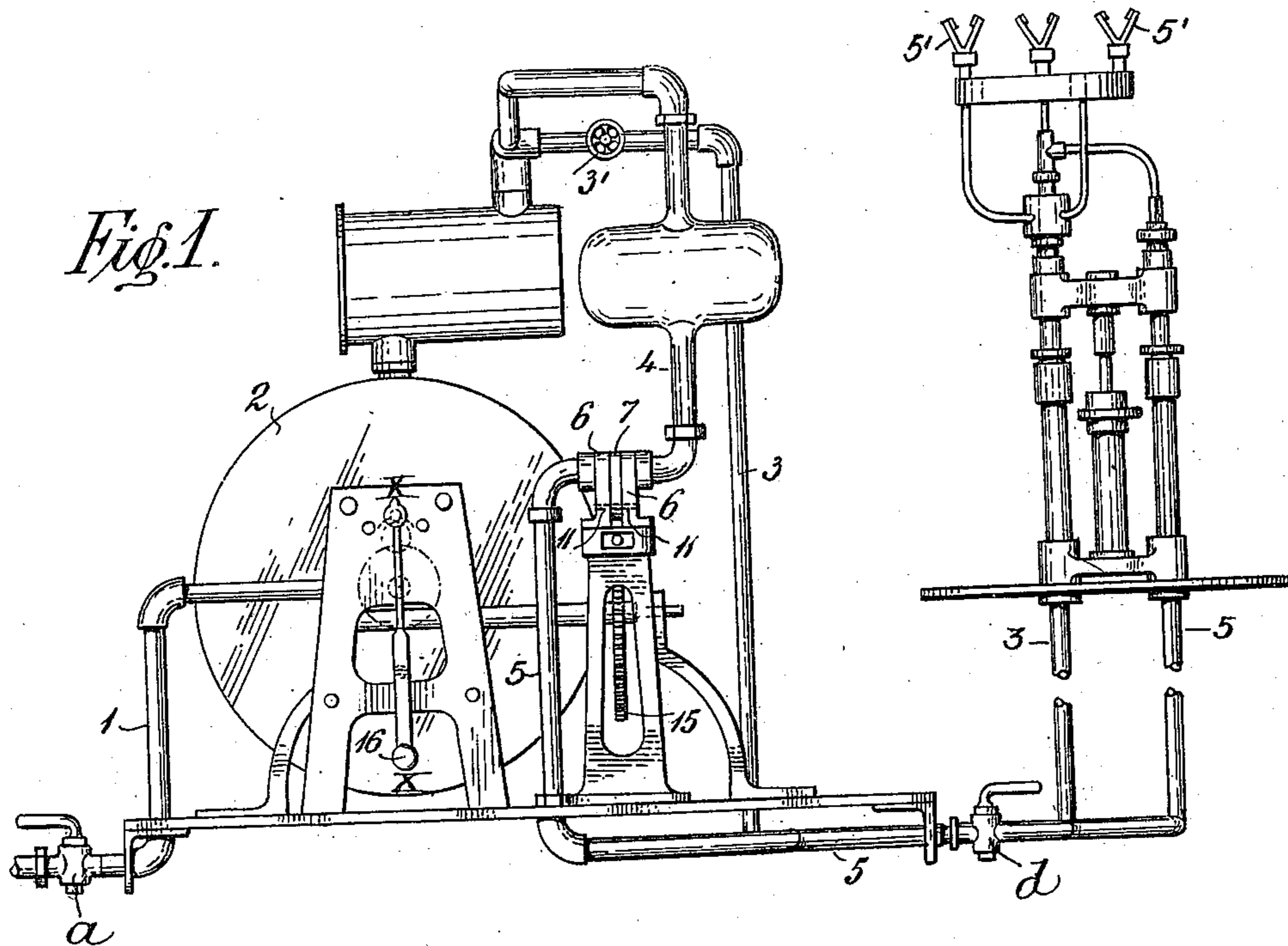


G. ROCCO.  
INTERMITTENT LIGHT APPARATUS FOR SEA LIGHTS.  
APPLICATION FILED APR. 14, 1908.

Patented Feb. 7, 1911.  
2 SHEETS—SHEET 1.

983,840.



Witnesses  
Chas. Smith  
A. J. Berrell

Inventor  
Giuseppe Rocco  
by Harold Terrell  
his atty.

G. ROCCO.  
 INTERMITTENT LIGHT APPARATUS FOR SEA LIGHTS.  
 APPLICATION FILED APR. 14, 1908.

983,840.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 2.

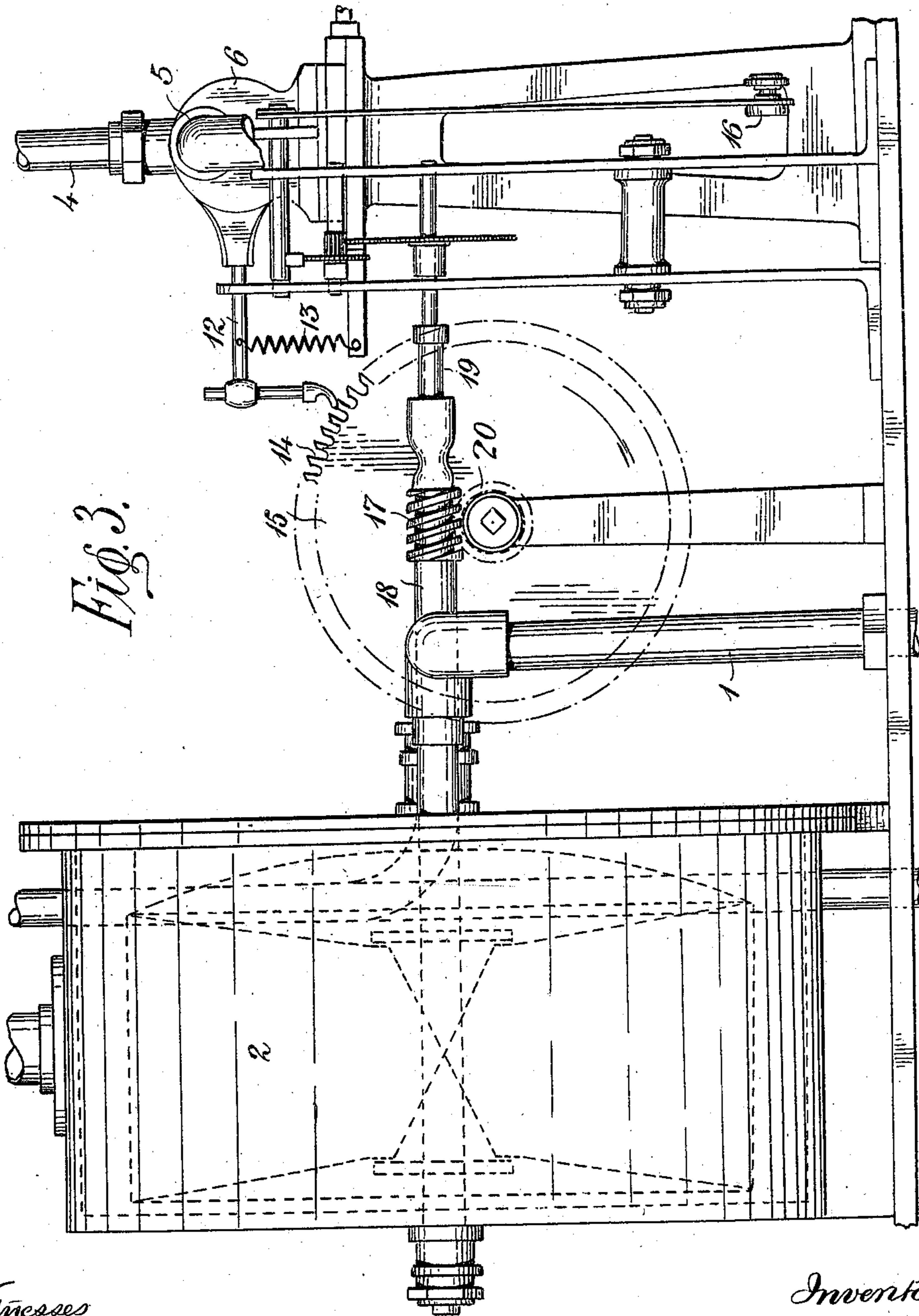


Fig. 3.

Witnesses  
 Charles Smith  
 A. D. Terrell

Inventor  
 Giuseppe Rocco.  
 by Harold Terrell his atty.

# UNITED STATES PATENT OFFICE.

GIUSEPPE ROCCO, OF TRIESTE, AUSTRIA-HUNGARY.

INTERMITTENT-LIGHT APPARATUS FOR SEA-LIGHTS.

983,840.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Original application filed March 23, 1907, Serial No. 364,172. Divided and this application filed April 14, 1908. Serial No. 426,952.

*To all whom it may concern:*

Be it known that I, GIUSEPPE ROCCO, a subject of the Emperor of Austria-Hungary, residing at Trieste, Empire of Austria-Hungary, have invented certain new and useful Improvements in Intermittent-Light Apparatus for Sea-Lights; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This application relates to an intermittent light apparatus for sea lights and particularly to one in which acetylene is employed and is a division of the application for Letters Patent filed by me on the 23rd day of March 1907, under Serial #364,172, on which Letters Patent were granted on the 7th day of July 1908, and numbered 892,893.

I am aware that heretofore intermittent light apparatus have been constructed in which in a single pipe leading to the burners a valve has been provided in connection with means for alternately opening and nearly but not entirely closing the said valve, whereby an intermittent light is produced. An apparatus of this nature however, requires a very exact adjustment of the valve in order to prevent and insure the same from becoming choked by dust or other impurities in the gas, or from other reasons, any one of which is likely to render the same inoperative and thus extinguish the light.

In carrying out my present invention, I preferably employ a wet gas meter through which the gas in a suitable holder passes into two pipes or tubes; one of these tubes being provided with an adjustable throttling device and the other with a valve or equivalent means for alternately opening and closing the same at predetermined intervals; the said pipes or tubes leading independently of one another to a pipe for supplying the burners of the intermittent light. The throttling device aforesaid when placed in one of the said tubes permits a constant flow of a regulatable quantity of gas to the burners of the light; this quantity of gas preferably being just sufficient to maintain small flames which are not visible at any great distance, whereas the aforesaid valve or equivalent means employed in the other tube when open permits a relatively

large quantity of gas to flow to the burners, so that the flames of the light are increased accordingly, and when the said valves or equivalent means are closed, the flow of the gas through the said second tube is shut off and only the small flames are produced in the said burners. I also employ suitable means for automatically operating the aforesaid valve to open and close the same at predetermined intervals as will be hereinafter more particularly described.

In the drawing, Figure 1 is a side elevation of the apparatus comprising my present invention. Fig. 2 is a cross section taken on the line  $x, x$ , Fig. 1, passing through the axis of the pendulum, showing the left hand valve seat indicated at 6 and the tubes 4 and 5 removed for the purpose of more clearly illustrating the construction of the apparatus; and Fig. 3 is an enlarged front elevation showing the entire apparatus in which my present invention is included.

Referring particularly to the drawing, 2 designates a wet gas meter to which through a suitable pipe 1 the gas employed to light the burners passes from a generator or holder, which latter is not shown; the flow of the gas to the said wet gas meter being controlled by a valve indicated at  $a$ . From the wet gas meter the gas passes by two independent paths to the burners at which the same is ignited. One of these paths comprises the tube 3 and the other path comprises the tubes 4 5 between which there is placed a valve, the seats of which are indicated at 6 receiving between them the rocker valve indicated at 7. The tube 5 is preferably provided with a valve  $d$  for controlling the passage of the gas and this tube as well as the tube 3 communicate with the burners indicated at 5<sup>1</sup>.

In the tube 3 I preferably employ a throttling device indicated at 3<sup>1</sup>. This throttling device may be a valve of any well known construction or other means by which a regulatable quantity of gas may pass from the meter to the burner; the quantity of gas being just sufficient to maintain the small flames in the burner which are not visible at any great distance. On the other hand, as hereinbefore described, between the tubes 4 and 5 there is a valve or other device which as shown may comprise a valve having seats 6 similar in every respect and

slightly spaced apart from one another; the tube 4 being connected to one side of one of these valve seats and to the opposite side of the other of said valve seats. This latter tube connects with the tube 5.

Between the valve seats 6 I employ a rocker-valve 7 having an opening 9 therein adapted in one position of the valve to register with the ports 10 in the valve seats 6, and in the other position of the valve to close the said ports 10 thereby permitting the gas to flow freely through the tube 4 or to completely shut off the flow of the gas through this tube 4. This rocker-valve 7 is preferably journaled as indicated at 11 in the valve seats 6 and has secured thereto an arm 12 in the outer end of which is secured a rod *e*. The arm 12 and consequently the rocker-valve 7 are acted on by a spring 13 to maintain the same in a normal initial position.

The rod *e* is provided with a dog 14 adapted to bear against the teeth provided in the periphery of a wheel 15 which is mounted in a suitable arbor and driven by a worm 17 and worm-wheel 20, and the turning of this arbor *f* is controlled by a clock-work having the usual pendulum 16 adapted to swing on an arbor *g* provided with the usual escapement *h* provided with a toothed wheel *i* and pinion *k* and an arbor *l*, the pinion *k* meshing with the toothed wheel *m* which is mounted on the arbor 19; the arbor 19 being coupled to the arbor 18 on which the worm 17 is mounted. The arbor 18 is connected to and turned by the registering mechanism of the gas meter 2.

It will be apparent that in the turning of the wheel 15 that the teeth on the periphery thereof will successively come under and raise the dog 14 on the free end of the rod *e*, thus actuating the rocker-valve 7 against the action of the spring 13 and that when the rocker-valve is brought into the position shown in Fig. 2, the passage of the gas through the tube 4 is shut off, and when one of the teeth of the wheel 15 has passed beyond the dog 14 on the free end of the rod *e* the rocker-valve will be actuated by a spring 13 and moved to the position shown in dotted lines Fig. 2, wherein the port in the rocker-valve coincides with the ports in the valve seats, thereby permitting the gas to flow freely through the tube 4 and thence pass to the burners; it being readily apparent that the regularity of the intermittent light is obtained by and through the

coöperation of the clock-work with the gas meter.

I claim as my invention:

1. In acetylene lighting apparatus the combination with a gas meter and burners, of two tubes communicating at one end with the gas meter and at the other with the burners, means for regulating the passage of the gas through one of said tubes, two valve seats parallel to and opposite each other and placed in the other of the said tubes whereby said other tube is divided into two parts, the said valve seats being provided with ports opposite each other and each communicating with one of the parts of said other tube, a rocker-valve adapted to move between and in contact with said valve seats, the said rocker-valve having a port therein adapted to be moved into and out of line with the ports in both valve seats, and means for actuating said rocker valve, substantially as and for the purpose described.

2. In acetylene lighting apparatus the combination with a gas meter and burners, of two tubes communicating at one end with the gas meter and at the other with the burners, means for regulating the passage of the gas through one of the tubes, two valve seats, parallel to and opposite each other and placed in the other of the said tubes, whereby said other tube is divided into two parts, the said valve seats being provided with ports opposite each other and each communicating with one of the parts of said other tube, a rocker-valve adapted to move between and in contact with said valve seats, the said rocker-valve having a port adapted to be moved into and out of line with the ports in both valve seats simultaneously whereby communication between the two parts of the said other tube is opened, an arm rigidly secured to said rocker valve, a rod secured to said arm, a spring adapted to move said arm in one direction, a wheel, teeth on the periphery of said wheel and adapted to engage the free end of said rod, a gearing adapted to drive said wheel from the gas meter, a clock-work, and means for coupling the gas meter shaft with one of the wheels of the clock-work, substantially as and for the purpose described.

In testimony whereof, I affix my signature, in presence of two witnesses.

GIUSEPPE ROCCO.

Witnesses:

HENRY LOWE,  
VINCENT BURES.