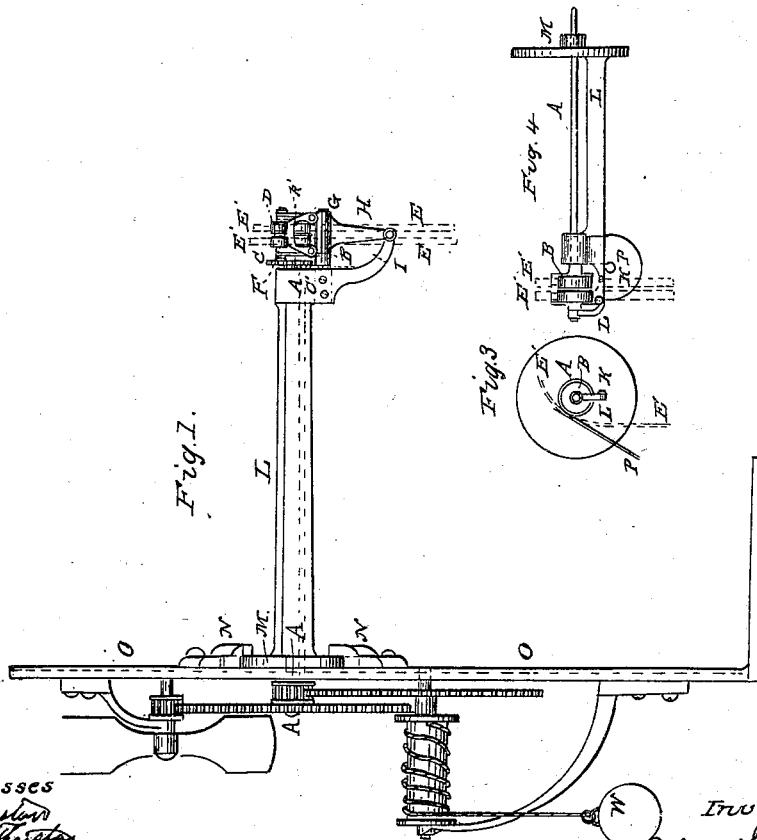
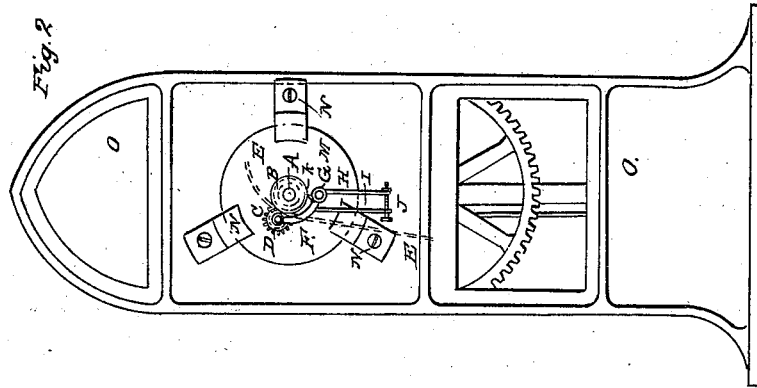


R. H. THURSTON.  
Magnesium Lamp.

No. 54,442.

Patented May 1, 1866.



# UNITED STATES PATENT OFFICE.

ROBERT H. THURSTON, OF PROVIDENCE, RHODE ISLAND.

## IMPROVEMENT IN MAGNESIUM-LAMPS.

Specification forming part of Letters Patent No. 54,442, dated May 1, 1866.

*To all whom it may concern:*

Be it known that I, ROBERT H. THURSTON, of the city and county of Providence, in the State of Rhode Island, have invented a new and useful Improvement in Lamps for Burning Magnesium; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a side elevation. Fig. 2 is a front elevation. Figs. 3 and 4 are details of modifications to be referred to hereinafter.

The accompanying drawings represent an apparatus for burning magnesium in many respects similar to the one which I have already described in a former application for Letters Patent. I propose, however, in this to dispense altogether with guides for the magnesium wire or ribbon, but to burn the same as it issues from the feeding-rollers, thereby economizing the construction of the apparatus, and also to make use of stationary scrapers for clearing off the ashes as they are formed.

B, Fig. 2, is one of a pair of feeding-rollers, which is made to revolve and feed forward the ribbon or wire of magnesium,  $E^2$ , by means of a train of wheels, as shown in Fig. 1, for which the weight W is the prime motor. The particular arrangement of this train of wheels is obvious from the drawings, but need not be particularly described, as it is to be supposed that the feeding-rollers move at a regular and uniform rate of speed, which can be easily accomplished by any mechanic, and they can be set in motion by the use of a weight attached to a cord which is wound around a windlass and regulated by a wind-governor, as shown, or by the use of the sand wheel motor described in my former application referred to.

In Fig. 2 I have shown the pressure-roller D as geared to the roller B, so that the two will move simultaneously, and also an arrangement by which the space between the two rollers can be regulated to admit metal of different thicknesses; but in Figs. 3 and 4 I have shown only a single feed-roller, the pressure-spring P, bearing upon the strip or wire of magnesium, answering the purpose of a second geared roller.

The strip or wire of magnesium will be, by this arrangement, burned upon the surface of the feed-roller instead of at the extremity of the guide, and from the nature of the material it has been found that this can be done successfully.

For the purpose of clearing the ashes from the roller I make use of a scraper,  $k$ , Fig. 1, which is stationary, and bears against the face of the roller as it revolves. Thus, as an incident of the discovery that this metal can be burned upon the surface of the roller quite as well as by the use of a guide, I am enabled to combine with such roller a stationary scraper, which will enable me to dispense with the apparatus for rotating the scraper shown in my former application.

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

1. The use of the feed-roller B as a surface on which to burn a strip or wire of magnesium, substantially as described.
2. The combination of the stationary scraper,  $k$ , with the roller B, substantially as described, and for the purposes specified.

ROBERT H. THURSTON.

Witnesses:

BENJ. F. THURSTON,  
JOHN D. THURSTON.