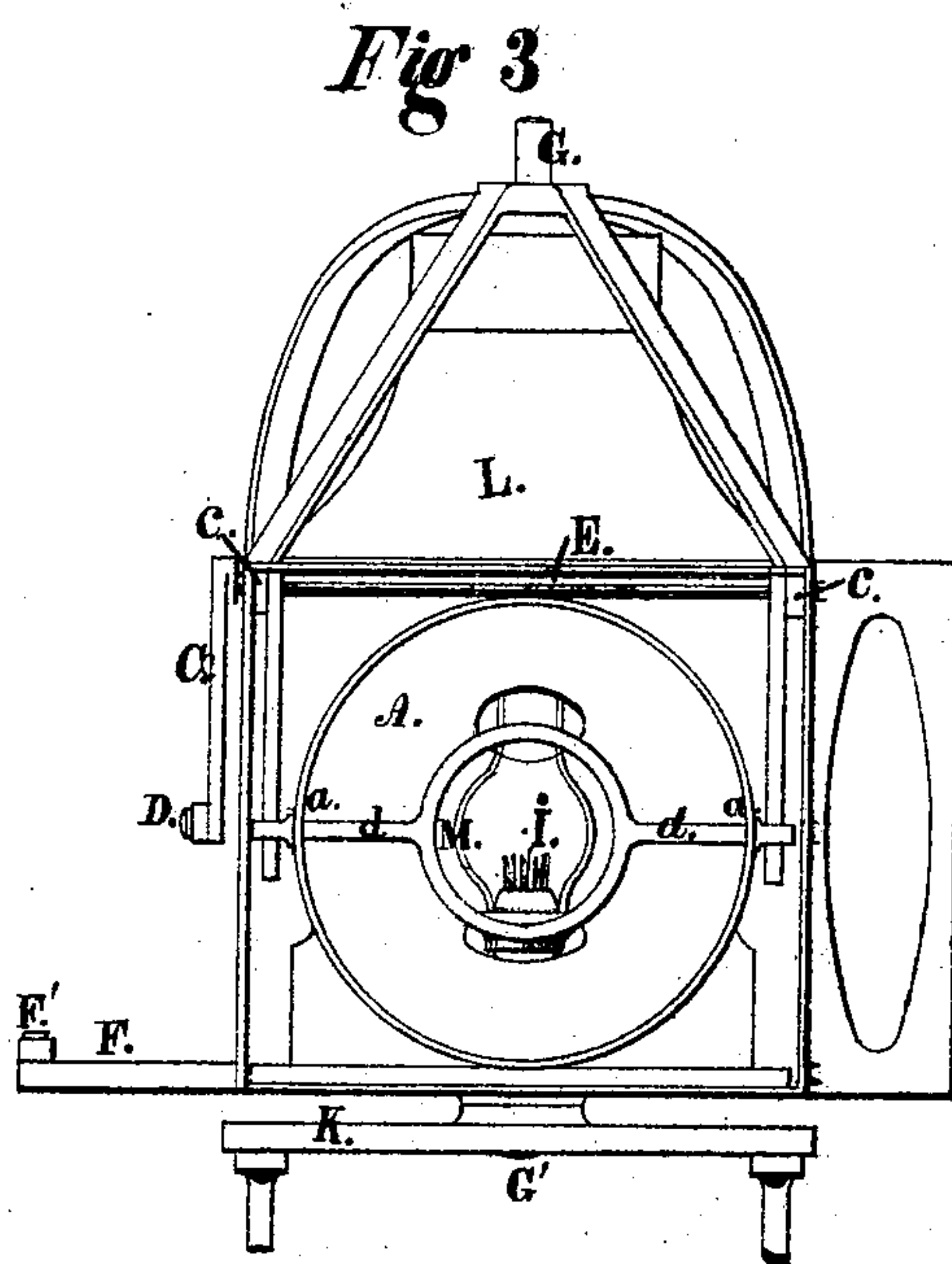
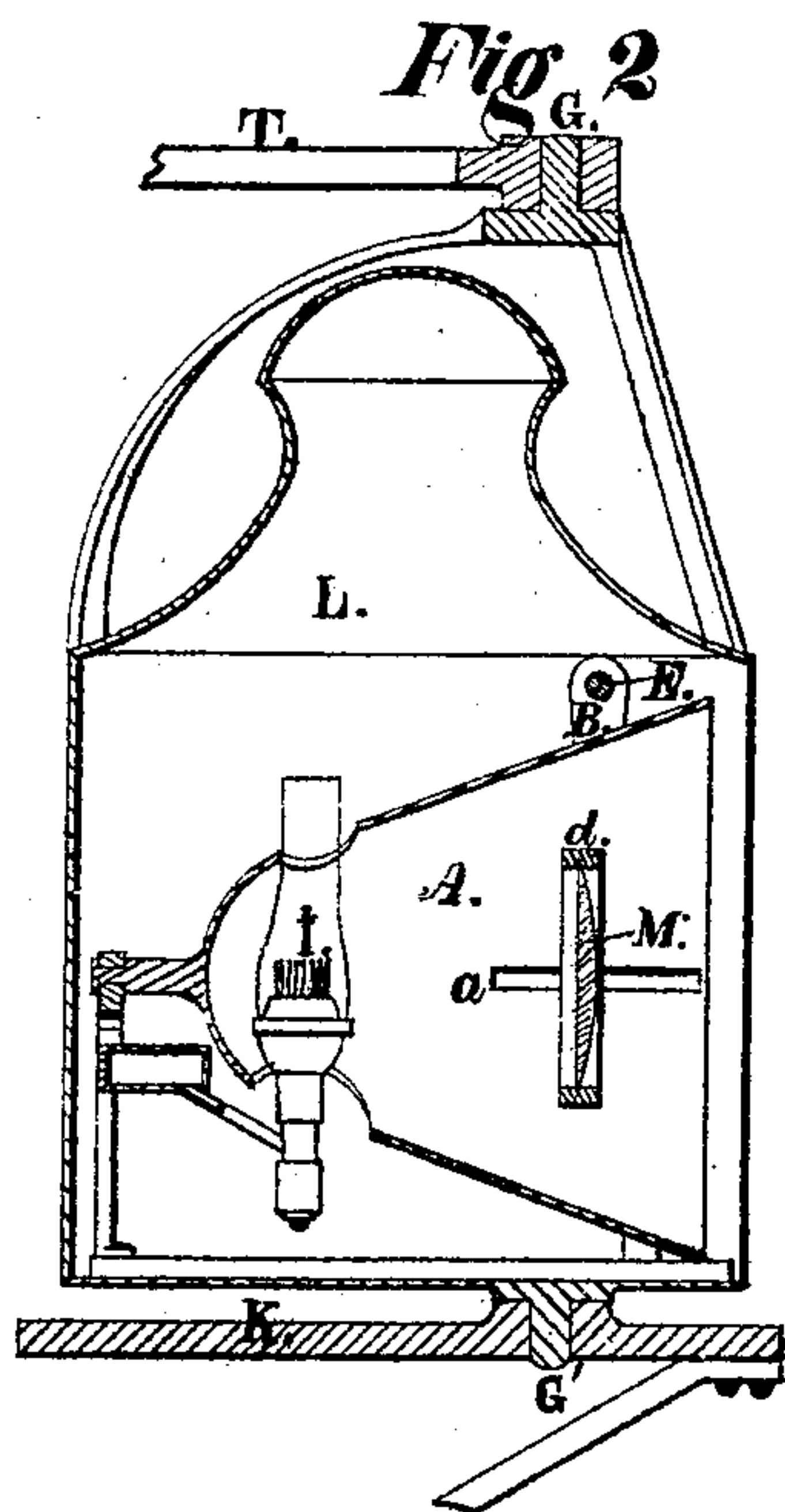
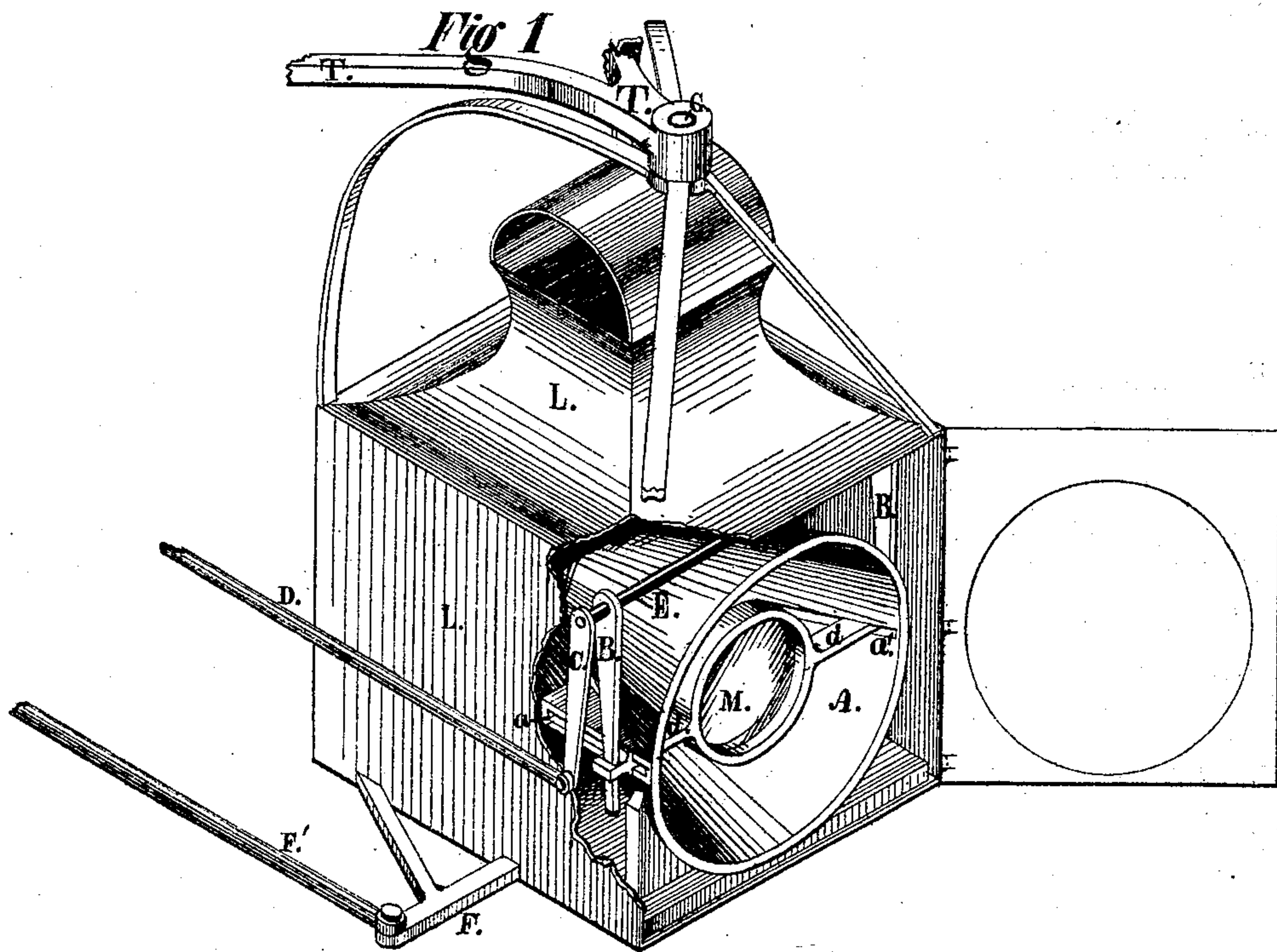


P. F. STOUT.
Locomotive Head-Lights.

No. 141,183.

Patented July 22, 1873.



Witnesses:

Stanley Williams
Jas. M. Fowler

Inventor:

Peter F. Stout, By
C. M. Stout, Attorney

UNITED STATES PATENT OFFICE.

PETER F. STOUT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM C. ROBERTS, OF SAME PLACE.

IMPROVEMENT IN LOCOMOTIVE HEAD-LIGHTS.

Specification forming part of Letters Patent No. **141,183**, dated July 22, 1873; application filed February 5, 1873.

To all whom it may concern:

Be it known that I, PETER F. STOUT, of Philadelphia, county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Head-Lights for Locomotives, of which the following is a specification:

My invention relates to the construction and arrangement of the machinery hereinafter more fully described, by means of which the lens or bull's-eye mounted in the reflector and in front of the lamp is rendered adjustable, so that the engineer in charge of the locomotive can, at will, move such lens back and forth to and from the lamp, and therefore can throw an intense light upon any desired point on the track to be run over, whether far or near.

In the accompanying drawings, Figure 1 represents a front perspective view of a head-light embracing my improvements. Fig. 2 represents a central longitudinal vertical section of the head-light and box containing it, and embracing my said improvements. Fig. 3 represents a front end view of the same.

L is the box containing the reflector, lens, and lamp, and T is a bent bar having each end attached to the chimney of the locomotive, and in this bar the upper pivot G has its bearings, and in the plate K the lower pivot G' has its bearing, as shown. A is the reflector. *a a* are longitudinal horizontal slots therein. I is the flame of the lamp used. M is a plano-convex lens, the plane side next the lamp, and *d d* are two arms attached thereto, having slots in the outer end of each for the insertion of the lower ends of the arms B B, the upper ends of which are fixed upon the vibrating shaft E, and this shaft has bearings in the box L, as shown in Figs. 2 and 3. The arms *d d* of the lens-frame are provided with boxed

slots *a a*, as shown, in which they are moved back and forth by means of the lever O and rod D in the hands of the engineer, and by means of the arms F and rod F' the containing-box is vibrated on its pivots to the right and left.

By means of the refractive power of the lens all the rays of light thrown by the lamp directly, and those reflected upon it by the reflector A, are focalized in front of the head-light, and by moving the lens by the mechanism shown to or from the lamp, the engineer may illuminate any particular portion of the track in front at will, be it far or near, but within the limits of the action of the lens, of course, which action will depend upon the degree of convexity of the lens, and the size and proportion of the reflector, and the extent of the play of the lens to and fro in the reflector; and then, as before stated, the light can be thrown to the right or left in running around curves, by turning the box itself upon its pivots G G'.

It is manifest that the lamp itself, by a simple change of mechanism, might be made to move toward and away from the lens while the latter should remain stationary, and the result would be the same in throwing the concentrated rays to various distances in the front.

What I claim as my invention is—

The combination of the lens M, arms *d d*, slots *a a*, vibrating rod E, and arms B B, constructed and arranged substantially in the manner and for the purpose described.

PETER F. STOUT.

Witnesses:

STANLEY WILLIAMS,
W. C. ROBERTS.