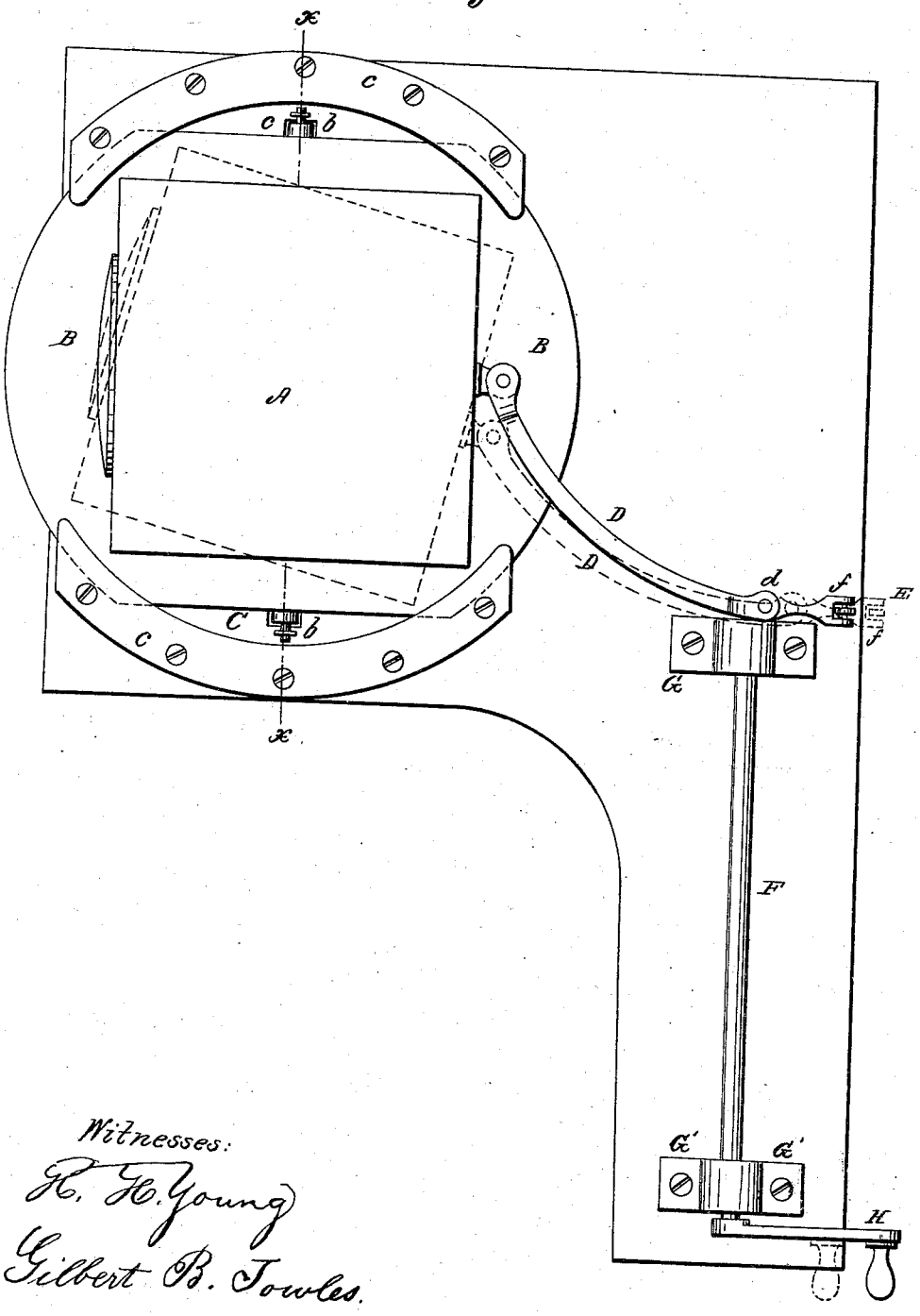
2 Sheets—Sheet 1.

C. D. GIBSON.

Locomotive Head Light.

No. 54,714. Patented May 15, 1866.

Fig: 1.



Witnesses:

R. H. Young

Gilbert B. Fowles.

2 Sheets--Sheet 2.

C. D. GIBSON.

Locomotive Head Light.

No. 54,714. Patented May 15, 1866.

Fig: 2.

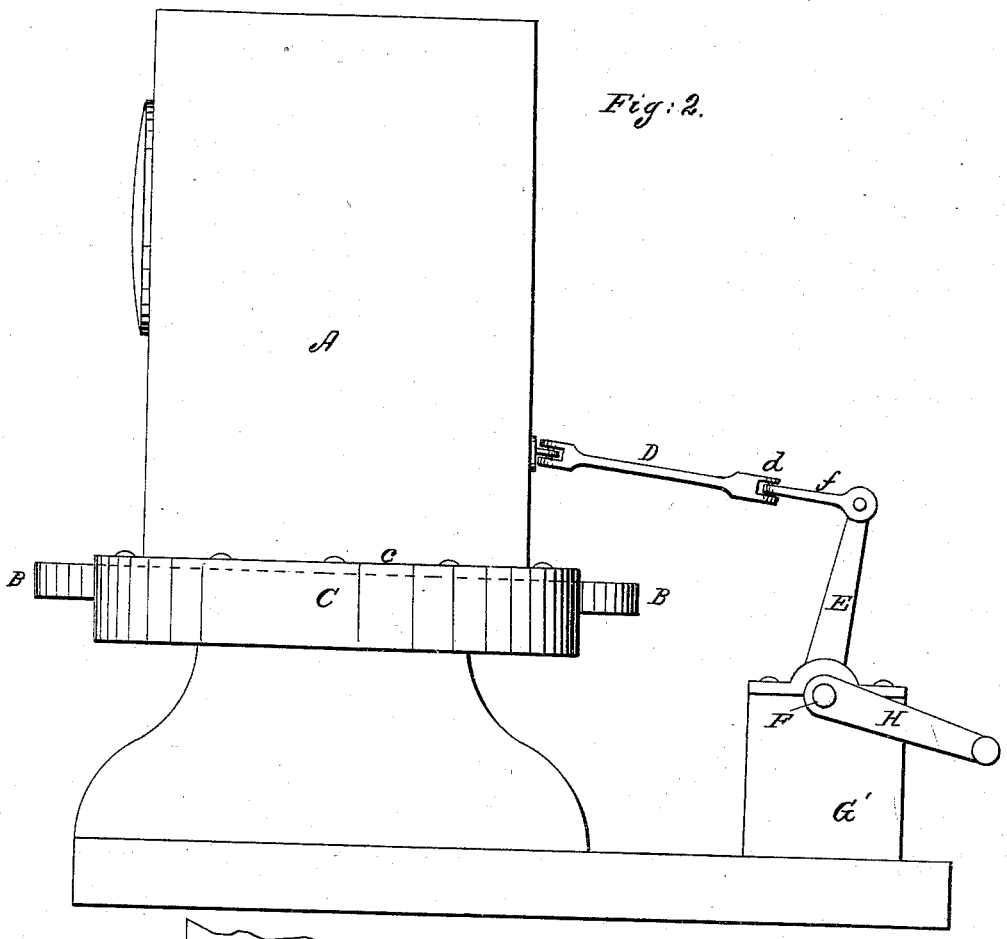
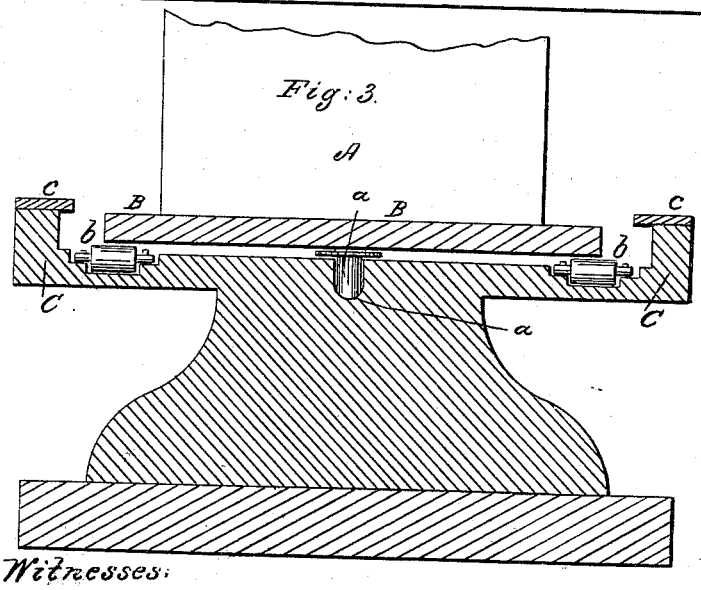


Fig: 3.



Witnesses:

R. H. Young

Gilbert B Towles.

UNITED STATES PATENT OFFICE.

CHARLES D. GIBSON, OF NEW YORK, N. Y.

MECHANISM FOR ADJUSTMENT OF HEAD-LIGHTS.

Specification forming part of Letters Patent No. **54,714**, dated May 15, 1866.

To all whom it may concern:

Be it known that I, CHARLES D. GIBSON, of the city, county, and State of New York, have invented certain new and useful Improvements in the Adjustment of Head-Lights for Locomotives; and I do hereby declare the following to be a full and clear description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view of a head-light with my improved adjustment attached, illustrating the adjustment thereof in red lines; Fig. 2, a side elevation of the same; Fig. 3, a transverse vertical section through the line *x x*, Fig. 1.

Similar letters indicate like parts in each of the drawings.

The nature of my invention consists in placing the adjustment of head-lights on locomotives within the control of the engineer, in order that the rays of light may be concentrated or deflected at any given angle in front of or at either side of the locomotive.

In turning curves it is often of great importance that the rays of light should be concentrated at an angle to suit the side of the curve the train may at the time be traversing, in order to insure safety; and it is also important that the means by which the rays of light are to be directed at any given angle should be within the control of the engineer, and the mechanism so arranged as that he may, by the simple movement of a lever or crank, control the adjustment of the head-light or fix it at any given point.

The head-light A is secured to a revolving plate, B, which is provided on its lower face with a suitable central socket-pin, *a*, fitting into a corresponding central socket in the upper face of the stationary platform C. This arrangement or its equivalent constitutes the axis for the revolution of the head-light. The upper face of said platform is further provided with six or more suitable sockets, in which the friction-rollers *b* have their bearings. These rollers sustain the weight of the head-light, the plate B resting thereon, as seen in Figs. 1 and 3 of the accompanying drawings.

Secured to the upper outer rim of the platform C are two semicircular plates or strips, *c c*, arranged to overlap the circular part of plate B, as illustrated in dotted lines, Fig. 1. These, together with the circular recess on platform C, constitute a way or guide for the lower plate of the head-light to revolve within.

Pivoted to the rear side of the head-light is a curved lever, D, which is connected at *d* to an arm, *f*, which latter is pivoted to the elbow-joint E of the main shaft F, having its bearings in uprights G G′, and provided with an ordinary crank attachment, H, as seen in Figs. 1 and 2 of the drawings.

The end contemplated by this invention is placing the adjustment of the head-light of a locomotive under the immediate control of the engineer and enabling him to deflect the rays of light therefrom at any angle desired without leaving his position in the cab. The head-light, therefore, may occupy its usual position on brackets in front of the engine, and the main shaft, (designated in the drawings by the letter F,) connecting with the lever attached to the head-light, may go through the hollow pipe that forms the present hand-rail and enter the cab at such a point as to place the vertical lever attached to said shaft on the same line with the other levers ordinarily within the cab. Thus a simple movement of the lever will revolve the head-light in either direction, as illustrated in red lines, Fig. 1.

The head-light may be secured at any given point during its adjustment by simply employing the usual notched bar for the lever within the cab to catch into, or any equivalent or well-known device therefor.

I contemplate on heavy locomotives, or when otherwise desirable, using cog-gearing, either complete or in segments, for revolving or adjusting the head-light, the construction and arrangement of which will be the equivalent of the device herein described, and illustrated in the drawings.

The accompanying drawings illustrate only the horizontal movement of the head-light. I contemplate, however, the adjustment of the head-light by means of levers or gearing, so that the same may be raised or lowered by the engineer, in order that he may, in ascending or descending an incline, throw the rays of light on any part thereof or on the level road ahead of him.

It is evident that the movable plate supporting the head-light and the mechanism attached thereto will require to be protected from the

weather, which may be effected by affixing sheet india-rubber around the exposed parts thereof. Sheet metal, however, or other suitable material may be used.

The adjustment of head-lights as herein described, it will be seen, is also applicable to the light in front of the pilot-house of vessels.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A movable locomotive head-light, when its adjustment to any given angle is placed under the control of the engineer or driver, substantially in the manner and for the purpose herein described.

2. The central plate, B, and support C, when combined with lever D, arm *f*, elbow-joint E, and shaft F, or their equivalents, substantially in the manner and for the purpose herein described.

The foregoing specification of my improved mechanism for adjusting head-lights on locomotives signed by me this 29th day of January, A. D. 1866.

CHARLES D. GIBSON.

In presence of—
WILLM. TOSHACK,
CHARLES D'W. GIBSON.