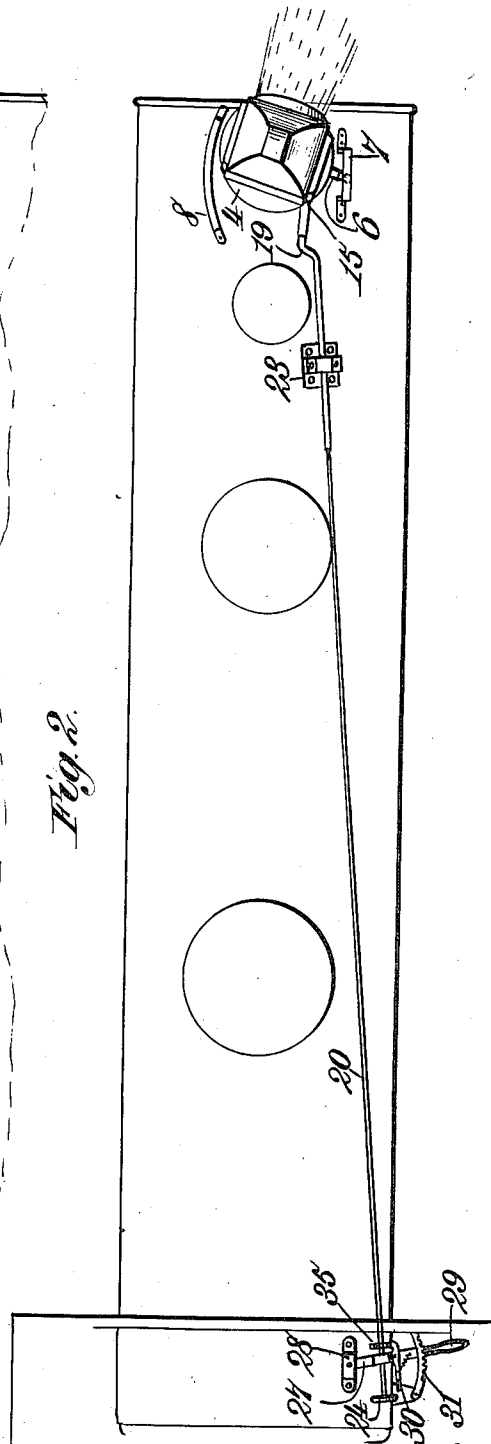
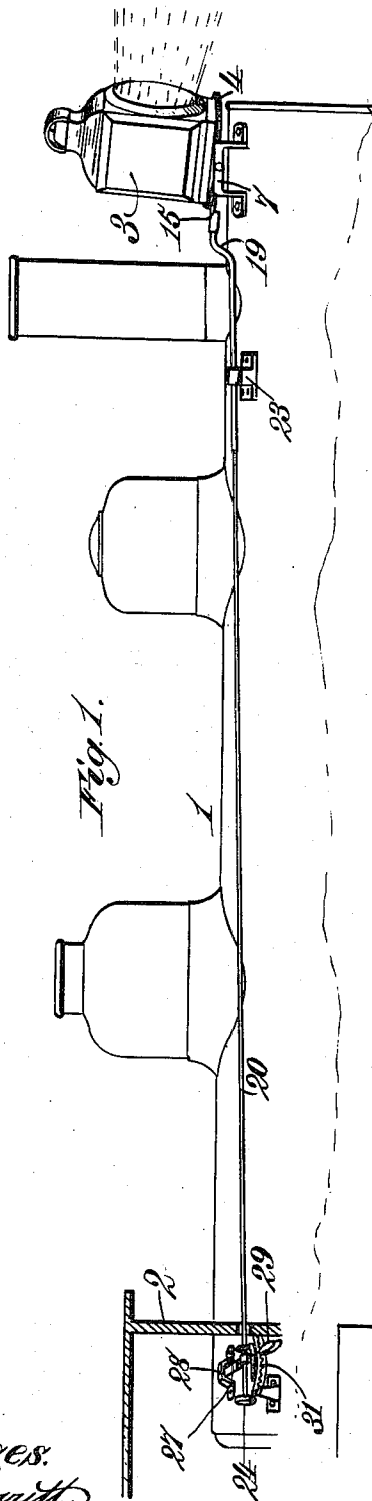


C. F. TURNER.
HEADLIGHT ADJUSTER.
APPLICATION FILED AUG. 25, 1909.

984,620.

Patented Feb. 21, 1911.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

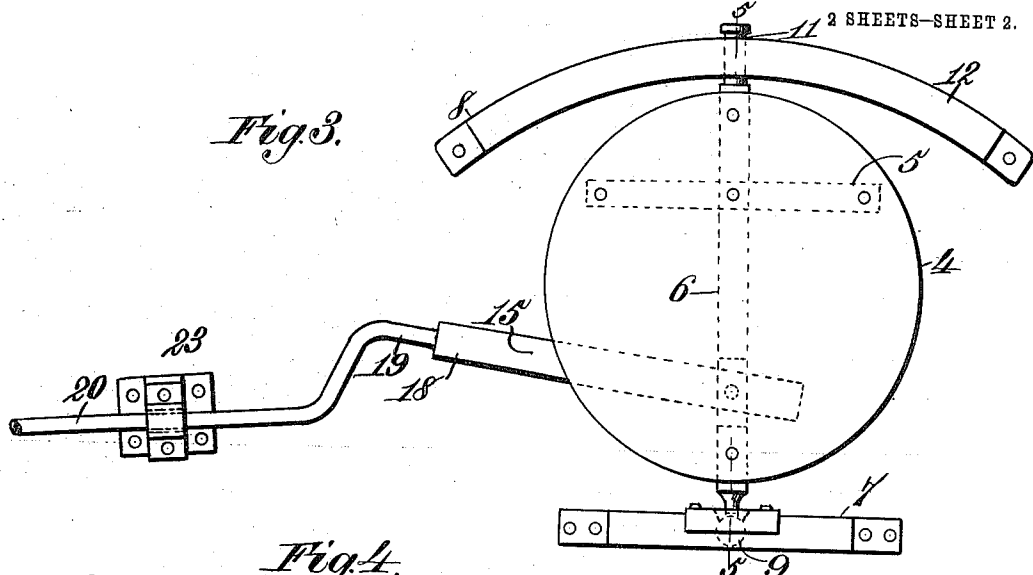


Fig. 4.

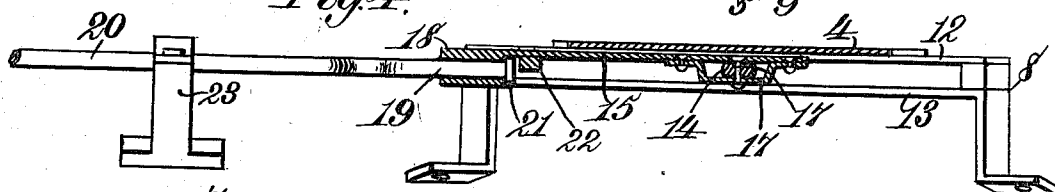


Fig. 5.

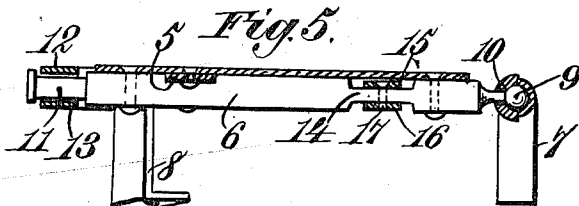


Fig. 6.

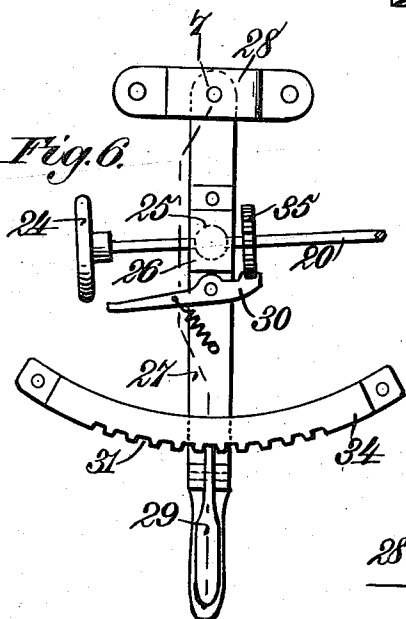
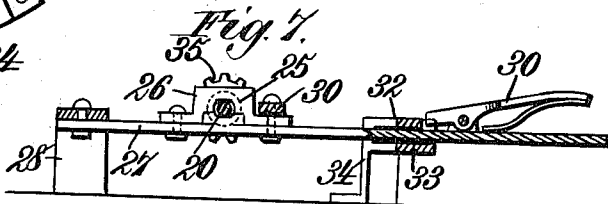


Fig. 7.



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UNITED STATES PATENT OFFICE

CHARLES F. TURNER, OF BOISE, IDAHO, ASSIGNOR OF ONE-FOURTH TO EMERY WILLIAMS, ONE-FOURTH TO HARRY LE ROY, AND ONE-FOURTH TO EDWARD J. DOCKERY, ALL OF BOISE, IDAHO.

HEADLIGHT-ADJUSTER.

984,620.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed August 25, 1909. Serial No. 514,611.

To all whom it may concern:

Be it known that I, CHARLES F. TURNER, a citizen of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented new and useful Improvements in Headlight-Adjusters, of which the following is a specification.

The present invention is an improvement in headlight adjusters, and its principal object, stated broadly, comprehends the production of an extremely simple and effective mechanism of the type specified, constructed in such a manner as to admit of the lamp or light of a locomotive being readily turned about either a horizontal or a vertical axis, whereby the beam of light may be elevated or lowered or thrown to either side, to perfectly illuminate the track, the different adjustments being effected by the engineer within the cab.

More especially, the invention resides in the particular form of adjusting mechanism employed, its object in this connection being the reduction of the number of operating parts to a minimum, without in any way impairing the efficiency of these parts or weakening the mechanism as a whole.

With the above ends in view, the mechanism, briefly described, consists essentially of but two elements, namely, a rocking lamp-carrying plate, and an operating rod so constructed and connected with the plate as to permit it to be either rotated or shifted endwise; in the first instance, the movement of the rod will rock the plate, and, in consequence, vary the elevation of the light beam, while in the second instance, its movement will swing the plate bodily sidewise, thereby throwing the beam to one side or the other of the locomotive. Means are, of course, provided for effecting the retention of the plate in the desired position subsequent to its adjustment.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a fragmental side elevation of a locomotive equipped with the improved head-light adjuster, the cab being shown partly in section. Fig. 2 is a plan view of Fig. 1. Fig. 3 is an enlarged detail plan

view of the lamp-carrying plate, illustrating the connection of the operating rod therewith. Fig. 4 is a side elevation, partly in section, of Fig. 3. Fig. 5 is a vertical section taken on the line 5—5 of Fig. 3. Fig. 6 is a detail plan view, on the same scale as Fig. 3, illustrating the lever connected to the operating end of the rod. Fig. 7 is a vertical section taken on the line 7—7 of Fig. 6.

Reference being had to said drawings, and to the numerals marked thereon, 1 designates in a general manner, a locomotive of any conventional type, 2 the cab thereof, and 3 the lamp or head-light, the last-mentioned element being likewise of any preferred or ordinary construction.

The lamp, which is located at the forward end of the locomotive boiler, as is customary, is mounted upon and attached to a metal plate 4 provided with a brace 5 and a diametrically-arranged bar 6 bolted or otherwise fastened to its under face. Bar 6 is, in turn, connected to a pair of brackets 7 and 8 disposed upon opposite sides of the plate, one end of said bar terminating in a spherical knob 9 which fits in a cup-shaped bearing 10 provided upon the bracket 7, while its other end is formed with a reduced cylindrical neck 11 arranged to travel between the spaced horizontal members 12 and 13 of which the upper section of the bracket 8 is composed. The last-mentioned bracket is arcuate in shape, and both it and the bracket 7 are rigidly secured to the boiler. The connection 9, 10 between the bar and the bracket 7 is, in effect, a ball-and-socket or swivel joint, and as such permits the plate to be rocked about a horizontal axis, as well as to be shifted or swung bodily sidewise about a vertical axis, during which latter movement the neck 11 will travel in the corresponding direction between the bracket members 12 and 13, above referred to. Bar 6 is also reduced adjacent its knob end, as indicated by the numeral 14, (Figs. 3, 4 and 5), and this portion is engaged upon opposite sides by the forward end of a strap 15 and by a bracket 16 with which the latter is provided at such point, the connection between said strap, bracket and bar being effected by a pivot pin 17. The extent of the cut away or

reduced portion 14 of the bar is sufficient to permit a limited swinging or pivotal movement of the strap.

In the sleeve 18 with which the rear end 5 of said strap is provided, there is loosely fitted the cranked forward end 19 of the operating rod 20, displacement of said end from such position being prevented by the disposition of its headed terminal 21 between the inner end of the sleeve and a depending lug 22 formed upon the lamp-carrying plate. Rod 20 extends loosely through a guide bracket 23 attached to the boiler and its rear end projects into the cab 2 through an opening formed in the front wall thereof. 15 This rod is designed to have either a rotary or an endwise movement imparted thereto by the engineer within the cab, the former movement being effected by means of a hand-wheel 24 secured to its rear end. To effect the endwise movement of said rod, it is provided adjacent its hand-wheel with a spherical collar or knob 25 which fits in a cup-shaped bearing 26 provided centrally 20 of a lever 27 pivoted at its inner end to a bracket 28 rigidly secured within the cab, preferably to the rear or inner end of the boiler.

When the rod is rotated, the engagement 30 of its crank end 19 with the sleeve end 18 of the strap 15 will have the effect of tilting or rocking the plate 4 about the horizontal axis of the latter. Consequently, the lamp mounted upon said plate will likewise be 35 tilted, and the elevation of the beam of light cast thereby will be correspondingly varied according to the direction in which the operating rod is turned, the strap 15 having a slight pivotal or swinging movement imparted thereto at such time, as will be apparent. On the other hand, an endwise 40 movement of the rod will have the effect of swinging the lamp-carrying plate bodily to one side or the other, according to the direction in which said rod is moved, thereby causing the light beam to travel from right to left, or vice versa. It will thus be obvious that the lamp may be shifted in any desired direction, so as to throw its beam up 50 or down, to the right, or to the left, and that such operation is effected in each instance by the movement of the rod 20 connected with the lamp-carrying plate.

To retain the plate in position subsequent 55 to its adjustment, there is attached to the lever 27 a pair of spring-pressed pawls 29 and 30, the former of which is located at the free or handle end of said lever, and the latter centrally thereof. Pawl 29 is arranged for engagement with a series of rack 60 teeth 31 formed upon the upper of the two members 32 and 33, which compose the upper section of a bracket 34 and between which said lever travels. Pawl 30 is ar-

ranged to engage a ratchet wheel 35 secured 65 to the operating rod. While these retaining devices are preferably in the form shown and described, it will be understood that they may be replaced by others of a somewhat similar nature.

Further description of the invention and its manner of operation is deemed unnecessary.

What is claimed is:

1. In an apparatus of the class specified, 75 the combination of a lamp-carrying member, and means for supporting the same; a strap carried by said member; and an operating rod having one end thereof connected to said strap, for turning said member about either 80 a horizontal or a vertical axis.

2. In an apparatus of the class specified, the combination of a lamp-carrying member, and means for supporting the same; a strap attached thereto; and an operating 85 rod provided at one end with a crank engaged with said strap, for turning said member about either a horizontal or vertical axis.

3. In an apparatus of the class specified, the combination of a lamp-carrying member, 90 and means for supporting the same; an operating rod connected at one end with said member; and separate devices connected to the other end of said rod for imparting a rotary and an endwise movement thereto, 95 to turn said member about either a horizontal or vertical axis.

4. In an apparatus of the class specified, the combination of a lamp-carrying member, and means for supporting the same; an 100 operating rod connected at one end with said member; means for rotating said rod, to turn said member about a horizontal axis; and additional means for moving said rod endwise, to turn said member about a vertical 105 axis.

5. In an apparatus of the class specified, the combination of a lamp-carrying member, and means for supporting the same; an 110 operating rod connected at one end with said member; separate devices connected to the other end of said rod for imparting a rotary and an endwise movement thereto, to turn said member about either a horizontal or a vertical axis; and separate means for 115 retaining said rod in adjusted position after operation by either of said motion-imparting devices.

6. In an apparatus of the class specified, the combination of a lamp-carrying member, and means for supporting the same; an 120 operating rod connected at one end with said member; a hand wheel secured to said rod, for rotating the same, to turn said member about a horizontal axis; and a lever connected 125 to said rod for imparting an endwise movement thereto, to turn said member about a vertical axis.

7. In an apparatus of the class specified, the combination of a lamp-carrying member and supporting means therefor; an operating member provided with a crank connected with the first-named member; means for rotating the operating member, to turn said first-named member about one axis thereof; and additional means for moving said operating member endwise, to turn the first-named member about its other axis.

8. In an apparatus of the class specified, the combination of a lamp-carrying plate and supporting means therefor; a strap attached to said plate; and a rotatable rod provided with a crank connected to said strap, for tilting said plate about its horizontal axis.

9. In an apparatus of the class specified, the combination of a lamp-carrying plate and supporting means therefor; a socketed member carried by the plate; a rod provided with a crank fitted in the socket in said member; means for rotating the rod, to tilt said plate forward or backward; and additional means connected to said rod for shifting the same endwise, to swing said plate sidewise.

10. The combination of a pair of spaced brackets; a supporting member arranged therebetween and having a universal-joint

connection with one bracket, and a traveling connection with the other bracket; and means for operating said member.

11. The combination of a pair of spaced brackets; a supporting member arranged therebetween and having a universal-joint connection with one bracket, and a traveling connection with the other bracket; and a rod having one end thereof connected with said member for tilting and swinging the same.

12. The combination of a pair of spaced brackets, one of which has a bifurcated section; a member arranged between said brackets and provided at diametrically-opposite points with projecting supports, one of which is adapted to travel in the bifurcation of said bracket, the other support having a universal-joint connection with the other bracket; and means connected with said member for tilting and swinging the same.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES F. TURNER.

Witnesses:

GUSTAVE KROEGER,
J. C. JOHNSTON.