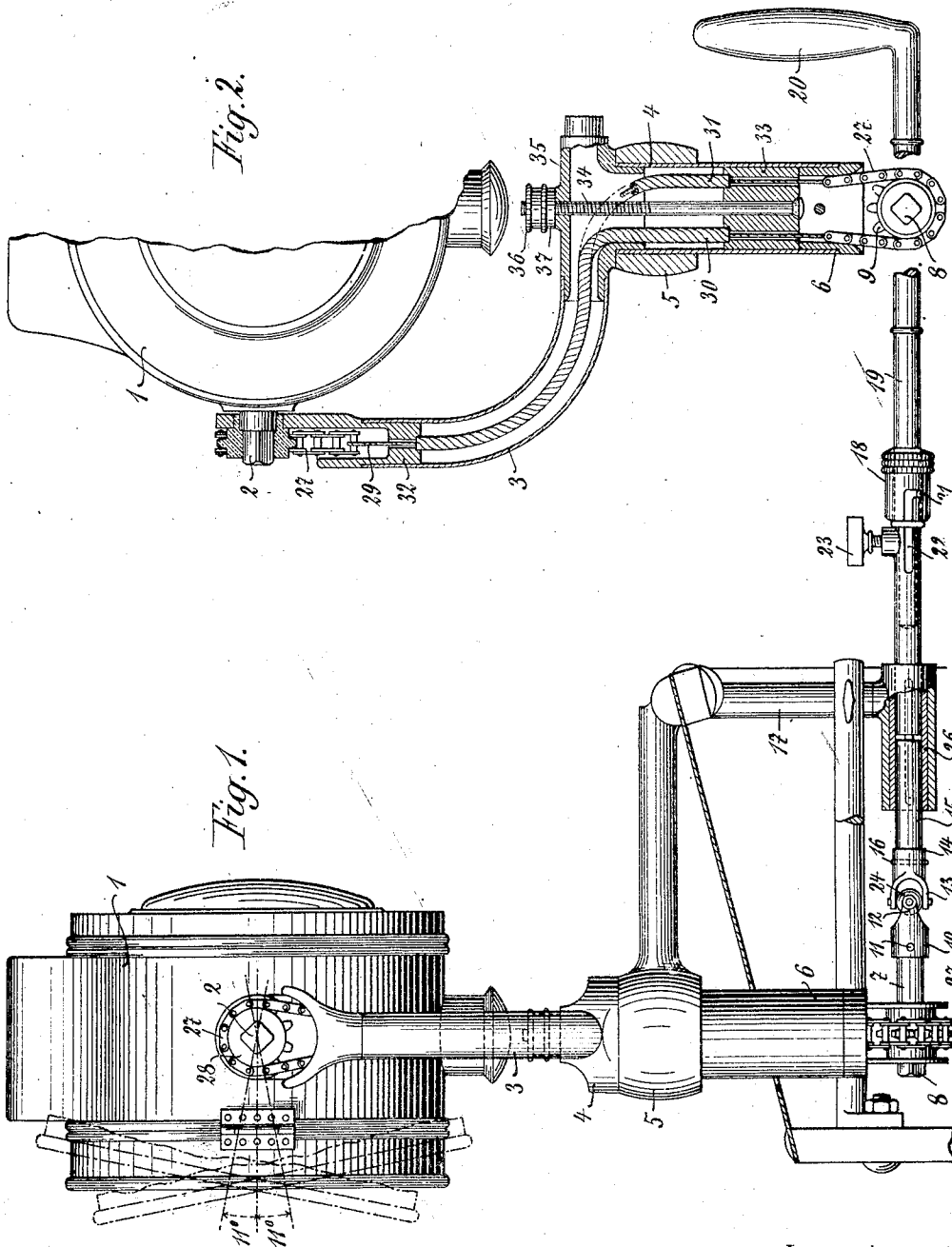


L. M. G. LOURDIN.
 DIRIGIBLE HEADLIGHT.
 APPLICATION FILED FEB. 23, 1912.

1,062,833

Patented May 27, 1913.

2 SHEETS—SHEET 1.



Witnesses
 Katharine C. Mead.
 Geo. H. Byrne

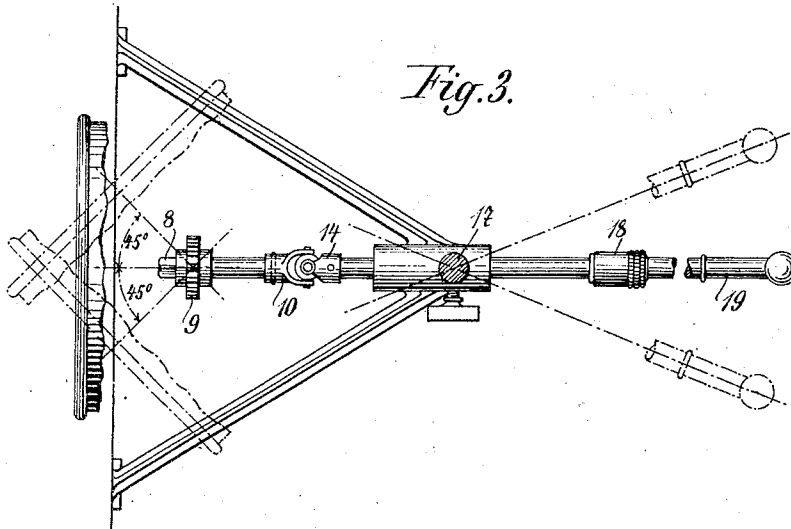
Inventor
 Louis M. G. Lourdin
 By H. H. Mackay Attorney

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UNITED STATES PATENT OFFICE.

LOUIS MARCEL GABRIEL LOURDIN, OF PARIS, FRANCE.

DIRIGIBLE HEADLIGHT.

1,062,833.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed February 23, 1912. Serial No. 679,436.

To all whom it may concern:

Be it known that I, LOUIS MARCEL GABRIEL LOURDIN, citizen of the Republic of France, residing at 11 Rue Demours, Paris, France, have invented certain new and useful Improvements in Dirigible Headlights, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object a pivoted or jointed head lamp or search light carrier adapted to be maneuvered from a distance, and enabling the beam of light to be projected upward or downward as well as to right or left. As this head lamp carrier is more particularly intended to be placed on motor cars, the parts which transmit the various movements to the head lamp are located in as small a space as possible and are at the same time protected, and the driver controls them by means of a single convenient operating handle.

The following specification sets forth with reference to the accompanying drawings how the invention is carried out in practice.

Figure 1 is a side view of the pivoted or jointed head light carrier according to the invention; Fig. 2 is a partial front view, and section through the axis of the supporting fork; Fig. 3 is a diagrammatic plan view on a reduced scale.

The head light is indicated by 1, and is mounted by trunnions 2 in a fork 3, the rod 4 of which may pivot in a socket 5, which serves it as support. The lower end 6 of the rod 4 is provided with arms, through which a rod 7 passes and may turn therein. The rod 7 has a square part 8 on which is mounted a pinion 9 which serves for inclining the head light in a vertical plane, as will be hereinafter explained. The end of the rod 7 is engaged in a socket 10 in which it is fixed by a pin 11. The socket 10 is firmly attached to a fork 12 which is connected with the fork 13 of the socket 14 by means of cross shaped hinge pins 24, so as to form a Cardan joint. In the socket 14 the end of a rod 15 is fitted, which rod is fixed by means of a pin 16. The rod 15 slides inside a sleeve 26 which serves it as support, and the sleeve 26 is itself carried by a vertical shaft 17 about which it can oscillate. In succession to the rod 15 and its prolongation there is another hollow rod terminated by an enlarged head 18, in which is fitted a rod 19 terminated by an elbowed handle 20. In

order to fix the rod 19 exactly in its suitable position, it is provided with a little stud 21, which must encounter the end of the groove 22 when the rod 19 is in place, and this latter is then rendered stationary by tightening up the screw 23. The rod 15 and the rod which follows it are connected together, for instance, by means of a key or in any other suitable way, so that they may be separated or approached one to another in an axial direction, but they cannot turn independently one of another, so that any movement of rotation given to the latter rod 19 is transmitted to the rod 15.

Fig. 3 illustrates the movement of the parts in accomplishing a shifting of the beam of light in the horizontal plane. As there indicated, the handle end of the rod 19 may be swung into one or the other of the dotted line positions around the support 17. The dotted lines on the left of the figure show the resulting corresponding positions of the headlight 1 and its attached parts. The necessary swinging of the Cardan joint to right or left is permitted by a sliding motion of the rod 15 in the socket 26 (see Fig. 1).

It has been stated that the rod 7 has a pinion 9 and this pinion serves for transmitting a movement of rotation by the intermediary of a chain 27 to a pinion 28 keyed on one of the two trunnions 2 of the lamp. As the transmission of this movement between the pinion 9 and the pinion 28 must pass through the interior of the hollow rod 4 and the fork 3, the two portions of the chain (one passing over the pinion 9, the other on the pinion 28) are connected by cables 29, and in order that these cables may be always taut they pass through flexible sheaths 30, 31, formed of helically wound wires, and the ends of these sheaths abut on fixed parts 32 and adjustable parts 33.

The part 33 may be regulated or adjusted by means of a threaded rod 34 passing through the part 35 by an aperture which prevents the rod turning. The threaded rod is held by two nuts 36, 37, which serve for raising and lowering the rod 34, to regulate the tension of the cables in order to compensate for any elongations which may be produced. All the transmission members between the pinion 28 and the pinion 9 are lodged inside the hollow rod 4, so as to enable this latter to be engaged in the support socket 5 or to be removed therefrom without

having to dismount the mechanism, which is at the same time protected by the rod and the support fork of the head lamp.

This mechanism enables the head lamp to be inclined upward or downward by causing it to oscillate about its supporting trunnions. By means of the handle 20, the rod 19 is caused to turn about its axis, this movement of rotation being transmitted to the rod 15 and by the Cardan joint 24 to the rod 7 and consequently to the pinion 9, which causes the lamp to oscillate about its trunnions.

It is evident from this description that it is possible to direct the beam of the lamp at will, either horizontally or vertically or in both directions at once.

Various changes may be made in the structure of this improved device without departing from the spirit and scope of my invention. For instance the Cardan joint, so-called, merely represents a type of a number of universal joints obviously useful in this connection. Equivalent devices may be substituted for this and other specific parts of the improvement, and I do not limit myself to the details herein shown and described.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A dirigible headlight comprising in combination a lamp having trunnions, a revoluble fork having bearings for said trunnions, a revoluble shaft near the end of said fork, a pinion on one of said trunnions, a pinion on said revoluble shaft, connections between said pinions, a second shaft mount-

ed so as to be capable of both swinging and revolving on its axis, and a Cardan joint connecting said shafts, substantially as described.

2. A dirigible headlight comprising in combination a lamp having trunnions, a revoluble fork having bearings for said trunnions, a revoluble shaft near the end of said fork, a pinion on one of said trunnions, a pinion on said revoluble shaft, a sprocket chain on each pinion, cables surrounded by flexible sheathing connecting said chains, a second shaft mounted so as to be capable of both swinging and revolving on its axis, and a Cardan joint connecting said shafts, substantially as described.

3. A dirigible headlight comprising in combination a lamp having trunnions, a revoluble supporting fork therefor, an operating rod, an oscillatory supporting socket therefor, an intermediate rod connected with said operating rod, a shaft connected at one end with said fork and at the opposite end with said intermediate rod by a Cardan joint, a pinion on said shaft, a pinion on one of said trunnions, and connections between said pinions, all arranged substantially as described so that said lamp may be turned in different planes by the respective swinging or rotation of said operating rod, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

LOUIS MARCEL GABRIEL LOURDIN.

Witnesses:

LOUIS TAILFER,
H. C. COXE.