E. E. HAMPTON & C. G. SMITH.

PILOT LIGHT SHIFTING ATTACHMENT FOR VEHICLES.

APPLICATION FILED SEPT. 11, 1907.

941,574.

Patented Nov. 30, 1909.

2 SHEETS—SHEET 1.

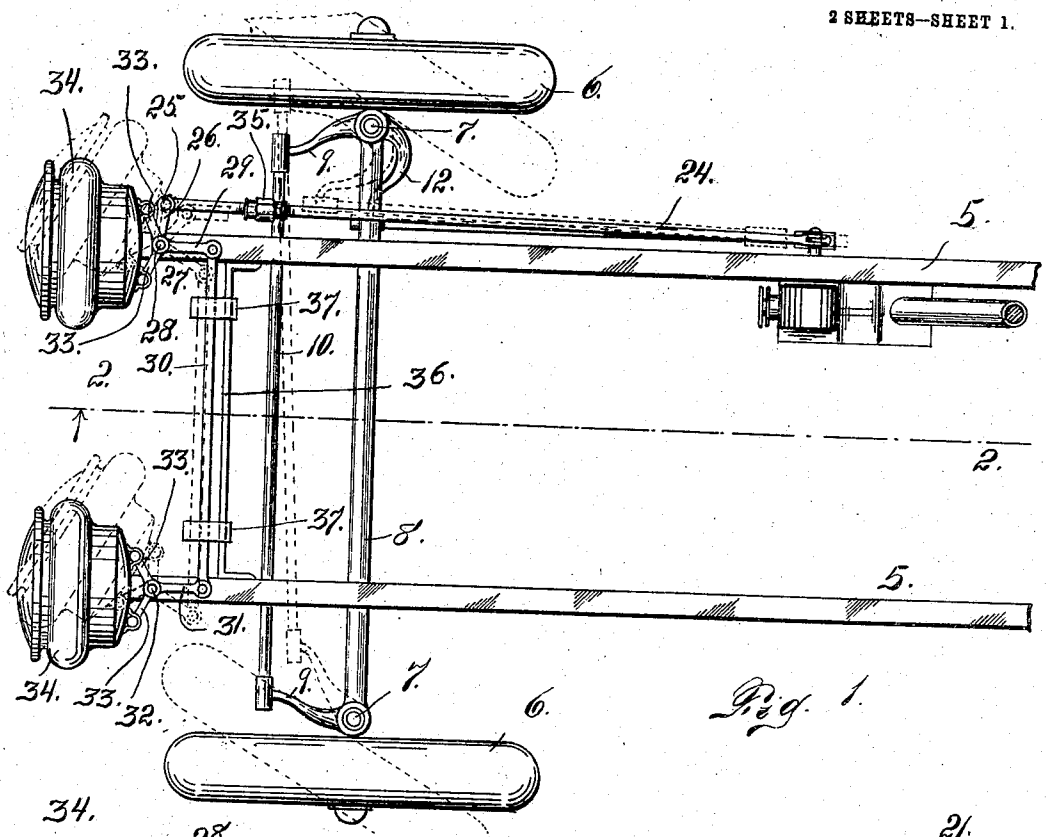

Fig. 1.

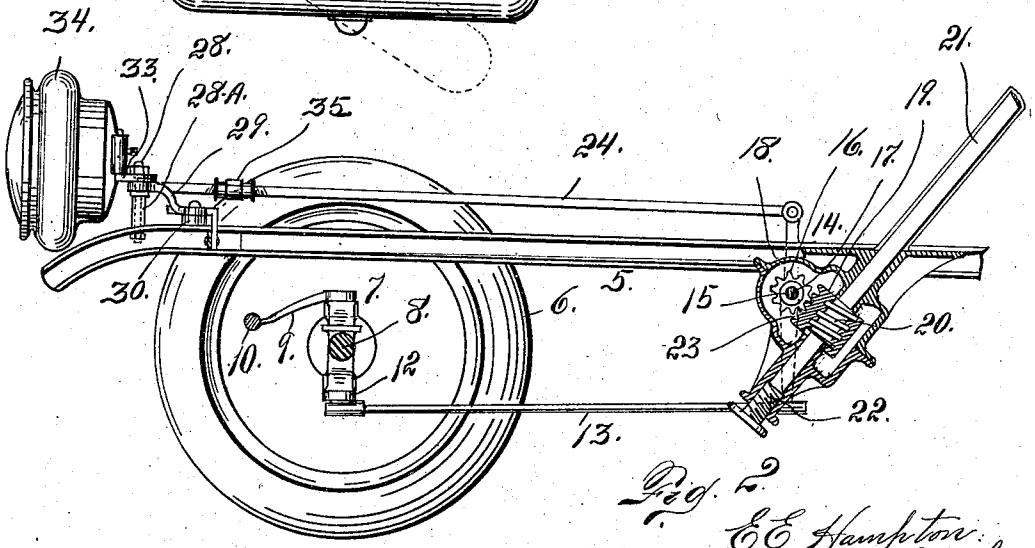

Fig. 2.

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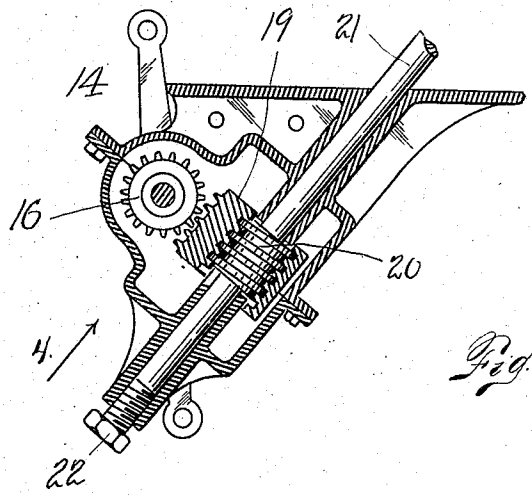

Fig. 3.

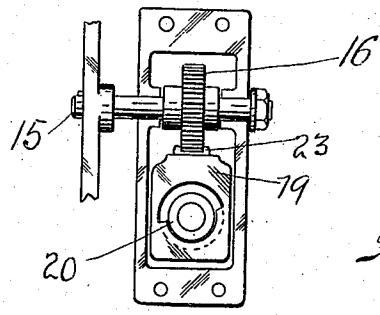

Fig. 4.

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UNITED STATES PATENT OFFICE.

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PILOT-LIGHT-SHIFTING ATTACHMENT FOR VEHICLES.

941,574. Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed September 11, 1907. Serial No. 392,314.

To all whom it may concern:

Be it known that we, ERNEST E. HAMPTON and CICERO G. SMITH, both citizens of the United States, residing at Palisade, in the county of Mesa and State of Colorado, have invented certain new and useful Improvements in Pilot-Light-Shifting Attachments for Vehicles; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to an attachment for the steering gear of self propelled vehicles, whereby the pilot lights of a machine, street car or locomotive, are shifted to harmonize with the changed position of the front wheels of the vehicle, street car or locomotive, the said light shifting means being actuated simultaneously with the movement of the wheels, whereby the lights shall be exposed in front of the machine, street car or locomotive, simultaneously with its change of direction. This is important, in order to avoid accidents.

Without an attachment of this character, immediately after the machine changes its direction the lights will be exposed in the line of the original direction of travel and an appreciable period of time will elapse before the entire machine shall have changed its position, to cause the lights to be exposed in front.

The object of our improvement is to overcome this difficulty and to this end the invention consists of the features, arrangements and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a top plan view of a portion of a vehicle equipped with our improvements. Fig. 2 is a side elevation of the same partly in section. Figs. 3 and 4 are views of detail parts.

The same reference characters indicate the same parts in both views.

Let the numeral 5 designate the side frame bars of a self-propelled vehicle. The front wheels 6 of the vehicle are mounted on stub axles journaled at 7 in the extremities of the main axle 8, the latter being suitably mounted upon the frame work of the machine. The pivoted extremities of these stub axles are provided with forwardly extending crank arms 9 connected with the opposite extremities of a transverse rod 10, whereby when one of the crank arms is actuated, the other crank arm will be simultaneously operated. The stub axle at one extremity of the machine is provided with an additional crank arm 12 connected with the lower extremity of the journal 7, the arm 9 being connected with the upper extremity of the stub axle journal. The crank 12 is connected with the forward extremity of an operating rod 13, whose rear extremity is connected with the lower arm of a lever 14 having a hub 15 carrying a toothed wheel 16 suitably journaled on a part 17 mounted on the frame and inclosed by a housing 18. Within this housing is also inclosed a combined nut and rack 19 in which is threaded the worm portion 20 of an operating shaft 21 suitably journaled in the housing, the lower extremity of the latter being closed by a screw plug 22 against which the lower end of the shaft abuts. The device 19 is cogged or toothed as shown at 23 to engage the teeth of the wheel 16 for actuating the lever 14.

To the upper extremity or upper arm of the lever 14 is connected an operating rod 24, whose forward extremity is connected as shown at 25 with an arm 26 of a bell crank lever 27 made fast to a vertically disposed pin 28 journaled in a suitable bearing 28^A mounted on the forward portion of one of the frame bars 5, the arm 29 of the bell crank lever being connected with a transverse rod 30 whose opposite extremity is connected with an arm 31 rigidly connected with an upwardly directed pin 32 suitably journaled on the machine. The holding arms or links 33 for the lamps 34, are mounted on the pins 28 and 32 and are made fast thereto whereby the lamps are made to turn therewith.

The rod 24 is provided with a turn buckle nut 35 for adjusting the length of the rod 24, so that the lamps may be adjusted to occupy a straight line position with the wheels 6 as shown by full lines in Fig. 1.

The two frame bars 5 are connected near their forward extremities by a rigid transverse bar 36. To this bar 36 are applied two plates 37 adapted to overlap the transverse connecting rod 30, whereby the latter is held

in its normal position, regardless of the tendency of the lamps by the downward movement due to their weight, to throw the rod upwardly. By reason of these plates 37, the lamps are held in the proper position regardless of such tendency.

When the vehicle is in use, and the operator turns the steering shaft 21, the worm 20 acting on the rack nut 19, shifts the toothed wheel 16, and operates the lever 14, to throw the rod 24 rearwardly and the rod 13 forwardly. The forward movement of the rod 13 throws the vehicle wheels and their connections to the dotted line position in Fig. 1, while the rearward movement of the rod 24 imparts a corresponding movement to the lamps 34 by virtue of the operation of the parts heretofore described. In this way the position of the lamps is made to harmonize with the changed position of the wheels due to the operation of the steering gear in making the sharpest turns.

The combined nut and rack are shown as inclosed within a casing and it will be seen from the diameter of this nut in respect to the width of the casing shown in Fig. 1 that the nut is prevented from turning by contact with the interior walls of said casing.

Having thus described our invention, what we claim is:

1. In an automobile or similar vehicle, the combination of a steering rod, a worm-wheel on said rod, a gear in connection with said worm-wheel, connections comprising a lever and shaft therebetween and the wheels for changing the angular position of the latter, a plurality of lamps, a rotatable upright on which each lamp is mounted, connections between said lamps, an arm fixed to one of said uprights, and connections between said worm-wheel and arm, comprising a rod and a lever on said shaft to which the rod is connected, whereby said lamps are moved angularly concurrently with the angular movement of the wheels.

2. In an automobile or similar vehicle, the combination of the steering wheels, a plurality of lamps, a steering rod, a worm-wheel on said rod, a pair of rods, one extending to the steering wheels and the other to the lamps, and upwardly and downwardly extending arms forming operating means for said rods and operating means between the said arms and the worm, substantially as described.

In testimony whereof we affix our signatures in presence of witnesses.

ERNEST E. HAMPTON.
CICERO G. SMITH.

Witnesses as to the signature of Ernest E. Hampton:

A. J. O'BRIEN,
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Witnesses as to the signature of Cicero G. Smith:

THOMAS A. RANDLE,
MORTON L. CARDELL.