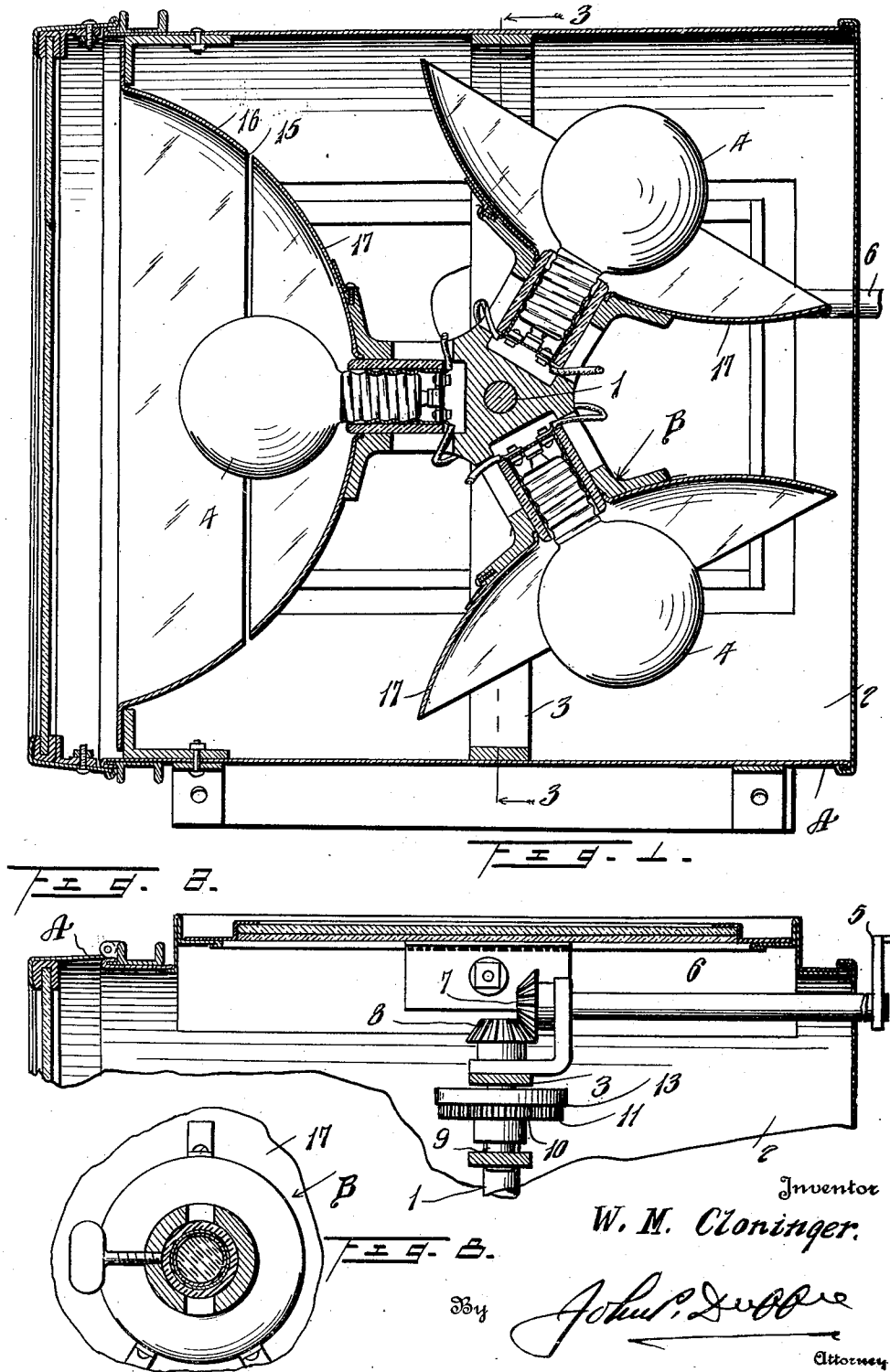


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LOCOMOTIVE HEADLIGHT

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Fig. 3.

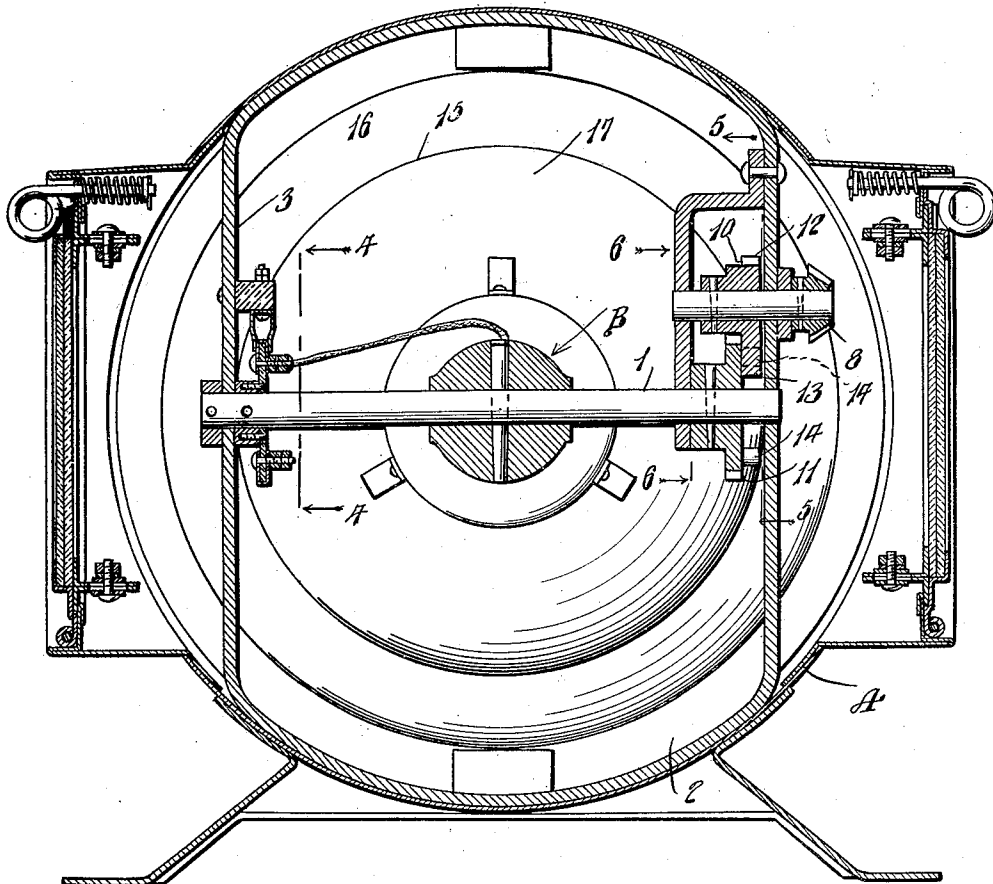
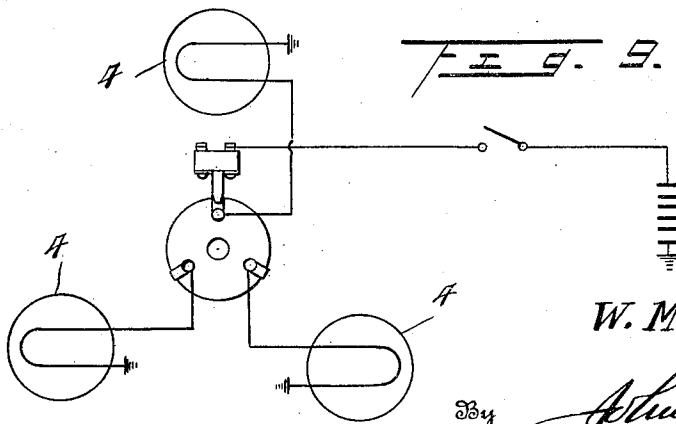


Fig. 4.



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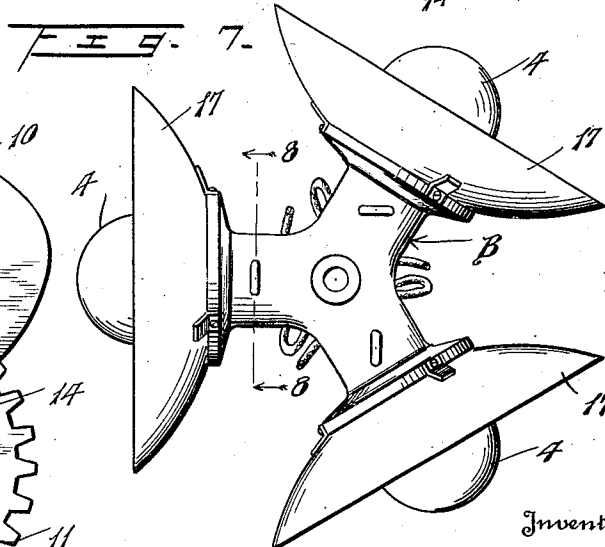
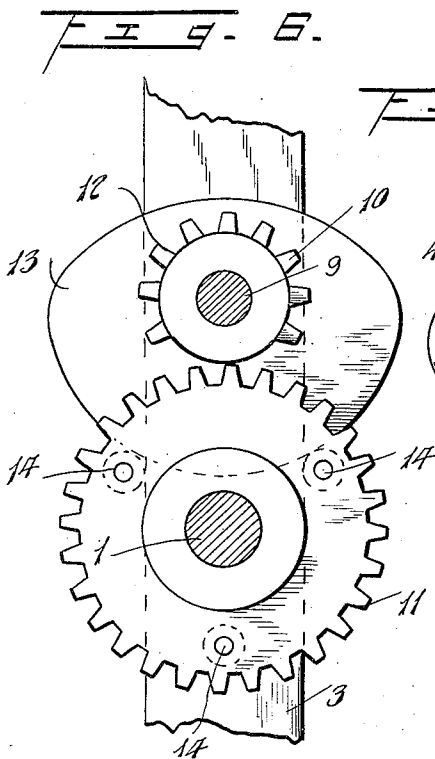
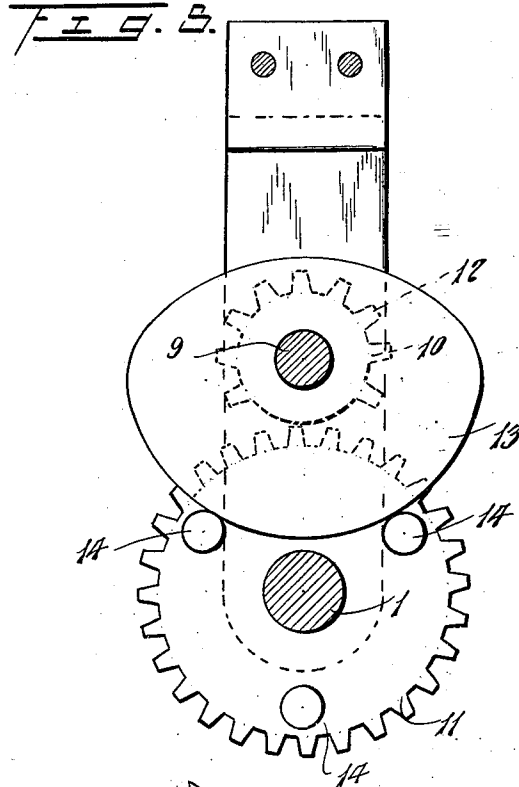
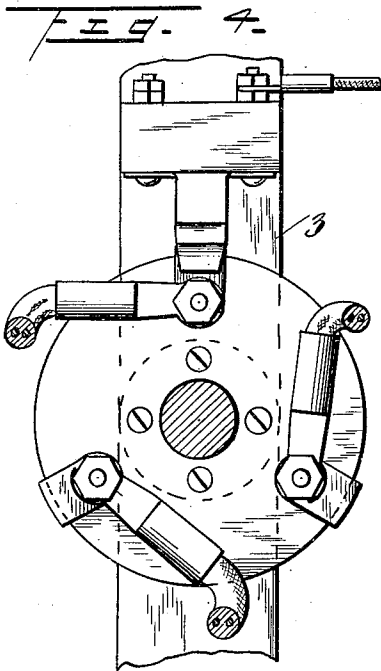
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LOCOMOTIVE HEADLIGHT

Filed March 10, 1931

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UNITED STATES PATENT OFFICE

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LOCOMOTIVE HEADLIGHT

Application filed March 10, 1931. Serial No. 521,600.

This invention relates to new and useful improvements in locomotive headlight replacers.

With the construction or arrangement now in use, many accidents are caused by faulty headlight illumination. This is due to the fact that the electric lamp in the headlight casing often burns out during a trip and this situation is not always immediately noticed by the engineer and even when immediately brought to his attention, some time is required to install a new electric lamp since the engineers must leave the cab and walk along the runway to the head of the engine and remove the burnt out electric lamp after first opening the front of the casing before the new electric lamp can be screwed into place. This operation not only consumes considerable time but is a hazardous undertaking in itself and the engineer may for this reason lose his foot-hold, not only with injurious effect to himself but with disastrous effect to his passengers.

The primary object of my invention is, therefore, to provide a rotating lamp mechanism in which a new electric lamp may be instantly brought or swung into position merely by a simple expedient of turning a lever mounted in the cab of the engine within convenient reach of the engineer.

With the foregoing and other objects in view that will appear as the nature of my invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts illustrated in the accompanying drawings and more particularly pointed out in the appended claim.

In the accompanying drawings, which are for illustrative purposes only and are, therefore, not drawn to scale;

Fig. 1 is a central vertical longitudinal section of a locomotive headlight embodying my invention.

Fig. 2 is a detail horizontal fragmentary section.

Fig. 3 is a vertical transverse section taken on line 3—3 of Fig. 1.

Fig. 4 is an enlarged vertical transverse section, and taken on line 4—4 of Fig. 3.

Fig. 5 is a similar view taken on line 5—5 of Fig. 3.

Fig. 6 is also a similar view, taken on line 6—6 of Fig. 3.

Fig. 7 is a side elevation of the rotating lamp mechanism per se.

Fig. 8 is a vertical transverse section, taken on line 8—8 of Fig. 7.

Fig. 9 is a diagrammatic view of the wiring connections.

Referring to the drawings for a more particular description of my invention and in which drawings like parts are designated by like reference characters throughout the several views. A designates the locomotive head-light and B the rotating lamp mechanism.

As shown, the rotating lamp mechanism comprises a horizontal transverse shaft 1 rotatably mounted in the casing 2 of the headlight, upon the standards 3. This shaft carries a series or plurality of electric lamps 4 which are spaced equi-distances apart around the circumference of the shaft and any one of which may be instantaneously brought or swung into operative position by the simple expedient of turning the hand lever 5 a fraction of a revolution. This lever is mounted in the cab within convenient reach of the engineer, and is operatively connected with the shaft 1 through the following means: A horizontal shaft 6 is journaled in the head-light casing and is provided at its front end with a bevel gear 7 which intermeshes with a second bevel gear 8 carried by the adjacent end of the relatively short transverse shaft 9. The shaft 9 is provided with a mutilated pinion 10 which intermeshes with a gear 11 fixed to the shaft 1. The major toothed portion 12 of the mutilated pinion 10 has a ratio of one to three with the gear 11, that is to say, one revolution of the pinion will produce one-third of a revolution of the gear 11 and shaft 1 in bringing a new electric lamp in proper and accurate focus.

Particular attention is invited to my cam and pin arrangement for successively locking the electric lamps in true operative or focusing position. The cam 13 is of general elliptical form and is carried by the shaft 9 while

the pins 14 are carried by the gear 11. The mutilated pinion and the cam and pin arrangement work in coincidence, that is to say, are so timed that the gear commences to function, to turn the shaft 1 just at the precise time when the cam and pins release this gear or vice versa. In practice, the central portion 15 of the head-light reflector 16 is preferably cut away and each electric lamp provided with a corresponding section 17 which registers with and closes the central opening in the reflector when the corresponding lamp is swung into operative or focusing position.

While my invention is primarily intended for use in connection with locomotive head-lights, it is to be understood that the same may be applied to automobile head-lights, spot lights or other analogous devices.

It will be understood that when a lamp in use becomes burnt out or extinguished on a trip, and a new lamp is brought or swung into position, the electric circuit will be established through the latter through the connections shown in the wiring diagram of Fig. 9. This is merely illustrative of one arrangement whereby this may be accomplished and it is to be understood that any other suitable wiring arrangement may be employed to carry out the desired object.

From the foregoing description, taken in connection with the drawings, it is thought that the construction, operation and advantages of my invention will be readily understood without requiring a more extended explanation.

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

In a device of the character specified, a casing, a stationary reflector in the front end of the casing, a horizontal shaft mounted in the casing, a series of corresponding light reflectors carried by the shaft and adapted to be successively brought into operative position in the casing, an electric lamp associated with each light reflector, a source of electrical energy and means for rotating said horizontal shaft and adapted to close the circuit of each lamp when its associated reflector is brought into operative position, said means comprising a secondary shaft mounted in the casing above the horizontal shaft, a gear carried by one end of the horizontal shaft and provided on one face with a series of circumferentially spaced lateral pins, a mutilated pinion keyed to the corresponding end of the secondary shaft and co-acting with said gear and a cam formed integral with the mutilated pinion and working against said lateral pins.

In testimony whereof he affixes his signature.

WILLIAM M. CLONINGER.