(No Model.)

A. M. RODRIGUEZ.

ELECTRIC LAMP FOR VELOCIPEDES, &c.

No. 568,209. Patented Sept. 22, 1896.

FIG:1.

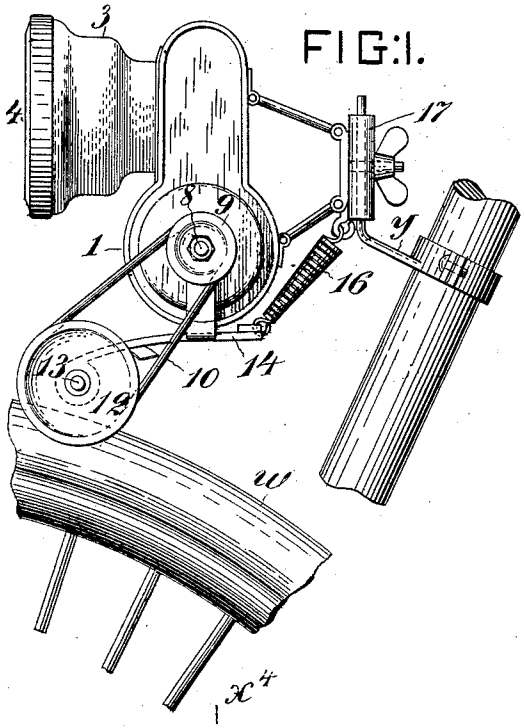


FIG:3.

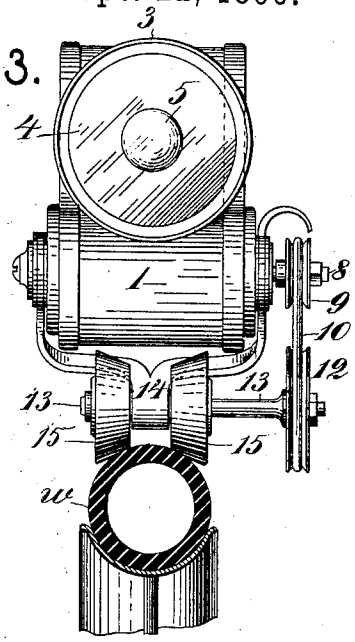


FIG:2.

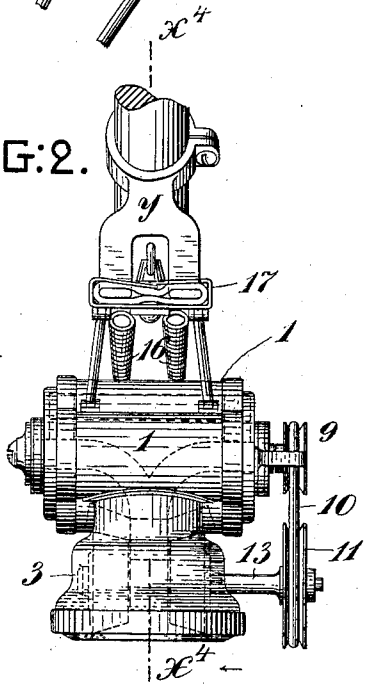
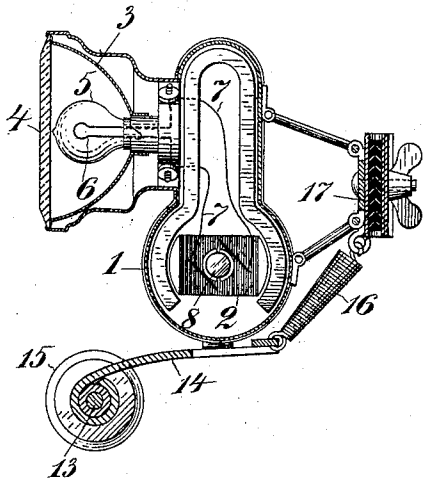


FIG:4.



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ELECTRIC LAMP FOR VELOCIPEDES, &c.

SPECIFICATION forming part of Letters Patent No. 568,209, dated September 22, 1896.

Application filed December 20, 1894. Serial No. 532,442. (No model.)

To all whom it may concern:

Be it known that I, ALFRED M. RODRIGUEZ, a citizen of the United States, residing at Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Electric Lamps for Velocipedes and Similar Wheeled Vehicles, of which the following is a specification.

My invention relates to that general class of lighting devices for velocipedes in which a small dynamo is driven from a wheel of the velocipede and feeds an electric circuit containing an incandescent lamp.

The principal object of the invention is to provide a bicycle with a detachable lamp, including a dynamo, the casing or frame of which may carry the illuminator and the counter or jack shaft through which the dynamo is driven from the wheel of the bicycle; that is to say, the illuminator, dynamo, and driving mechanism have, or may have, a common frame or casing, and this casing has means for readily and conveniently attaching it to and detaching it from the bicycle or velocipede. For illustration, a metal casing containing the dynamo and carrying the illuminator and driving device may have a socket to fit on the usual lamp-bracket of a bicycle, so that when the lamp is in place the front wheel of the bicycle will drive the dynamo.

The invention will be fully described hereinafter, and its novel features carefully defined in the claims.

In the accompanying drawings I have shown my lamp adapted for use on an ordinary bicycle in lieu of the common oil lamp.

In the drawings, Figure 1 is a side elevation of the lamp. Fig. 2 is a plan of same. Fig. 3 is a front view. Fig. 4 is a section taken substantially on line x^4 x^4 in Fig. 2.

1 represents a suitable inclosing casing in which is rotatively mounted a dynamo 2. On and projecting from this casing is a reflector 3, provided with a glass front 4 and containing the bulb 5 of the incandescent illuminator. The terminals of the filament 6 in this globe are connected by metallic conductors 7, forming the circuit fed by the dynamo 2. The bulb, filament, and reflector I call the "illuminator."

On the armature-shaft 8 of the dynamo is fixed a small sheave 9, geared by a belt 10 with a larger sheave 12, fixed on a jack-shaft 13. This shaft 13 is rotatively mounted in a swing-frame 14, pivotally hung on the shaft 8 by preference, or on the casing concentric therewith. On the shaft 13 are fixed two like beveled wheels 15, which are adapted to bear frictionally on the tire *w* (see Fig. 3) of the front wheel of the bicycle, being held up elastically thereagainst by a spring or springs 16, coupled at one end to the frame 14 and at the other end to a socket 17 on the casing or to some part of the latter.

The socket 17 is adapted to fit on the ordinary lamp-bracket *y* of the bicycle, and the attaching part 17 of the lamp may be made of any form or construction to fit the lamp-bracket.

It is not absolutely essential that the swing-frame 14 shall be hung concentrically with the dynamo-shaft, nor that the spring 16 shall be arranged exactly as shown. I prefer to use an elastic belt 10 and to make the faces of the beveled wheels 15 of rubber or other comparatively soft material.

I do not claim, broadly, the employment of a dynamo driven by a wheel of a bicycle to supply a current to an incandescent illuminator for the vehicle, nor is my invention limited to a velocipede, as it may be adapted to other wheeled vehicles; but

What I do claim is—

1. In a lighting apparatus for a vehicle, the combination with a casing or frame adapted to be readily attached to and detached from the vehicle, a dynamo in said casing, and an incandescent light in the circuit fed by said dynamo, of a swing-frame carried by said casing, a jack-shaft rotatively mounted in said frame, a friction wheel or wheels fixed on said shaft and adapted to bear on the vehicle-wheel when the lamp is in position, wheels on the shaft of the dynamo and the said jack-shaft, respectively, and a belt connecting said wheels, substantially as set forth.

2. A lighting apparatus for a bicycle comprising a casing, an illuminator, a dynamo in the casing electrically connected with said illuminator, a swing-frame 14, on the casing, a shaft 13 mounted in said frame, the friction-wheels 15 on said shaft, the springs 16,

between the swing-frame and the casing, and the sheaves and belt by which the shaft 13 drives the armature of the dynamo, substantially as set forth.

3. The combination, with the front fork and front wheel of a bicycle, of a casing for a dynamo supported on said fork, a dynamo in said casing, an incandescent lamp supported on the said casing, a swinging and spring-cushioned frame applied to said casing, and a frictional driving-gear supported on said frame and adapted to transmit rotary motion from the wheel of the bicycle to the armature of the dynamo, substantially as set forth.

4. The combination with the front fork of a bicycle, of a dynamo supported on the same, a swinging and spring-cushioned frame applied to the casing of the dynamo, a shaft supported in bearings at the free end of the frame, a conical or beveled cushioned wheel on the said shaft, and mechanism for transmitting motion from the said shaft to the armature-shaft of the dynamo, substantially as set forth.

5. The combination with the front fork and wheel of a bicycle, of a dynamo supported on said fork, a swinging and spring-cushioned frame supported on the casing of the dynamo, a bearing at the free end of said frame, a jack-shaft supported in said bearing, a conical or beveled friction-wheel on said shaft adapted to bear on the bicycle-wheel, sheaves on the said jack-shaft and the armature-shaft of the dynamo, and a belt over said sheaves, whereby rotary motion of the bicycle-wheel is communicated to said armature-shaft, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ALFRED M. RODRIGUEZ.

Witnesses:
HENRY CONNETT,
PETER A. ROSS.