

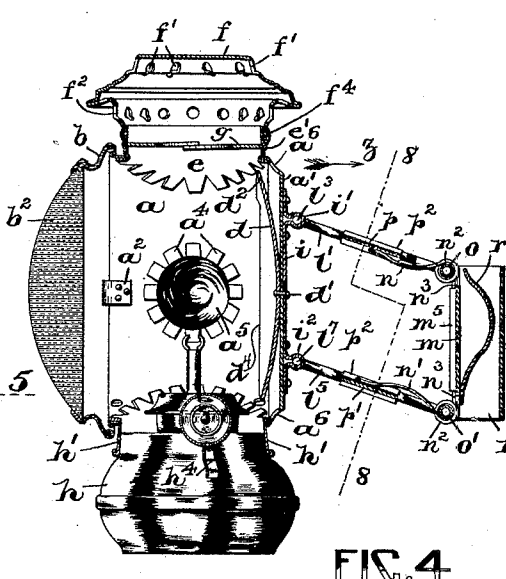
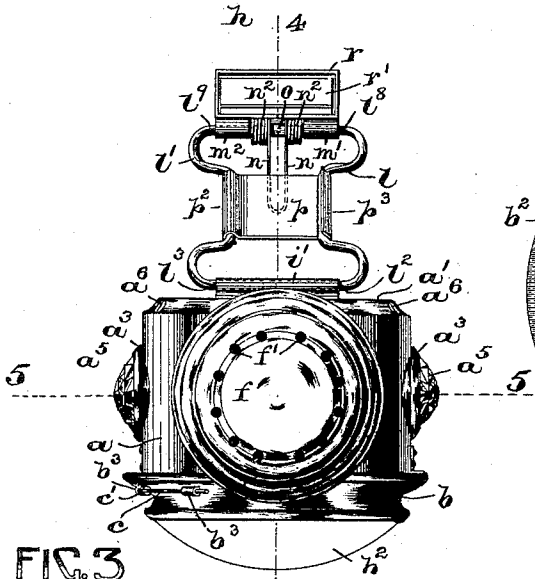
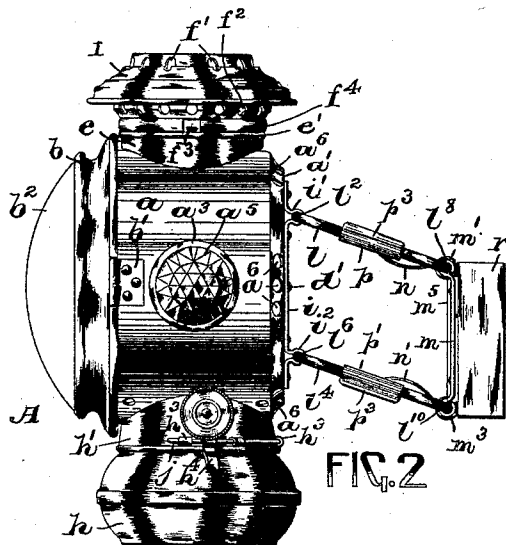
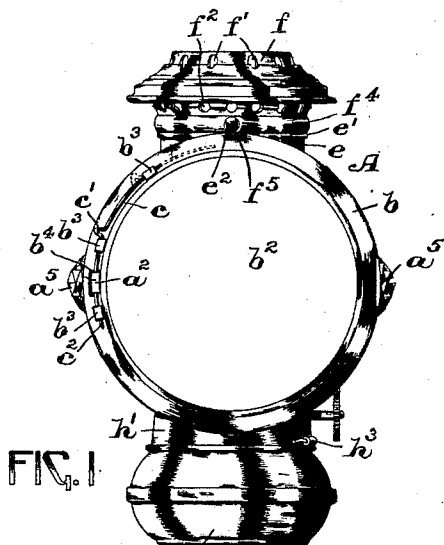
(No Model.)

2 Sheets—Sheet 1.

J. HOLMES.
LAMP FOR BICYCLES, &c.

No. 584,358.

Patented June 15, 1897.



WITNESSES:

Am. H. Campfield, Jr.
Mary J. Brundell

INVENTOR:

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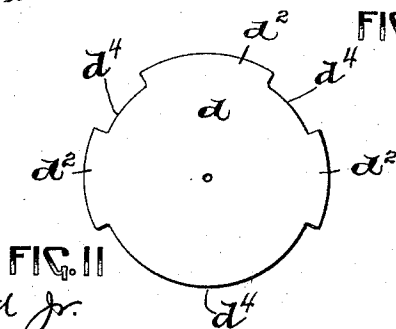
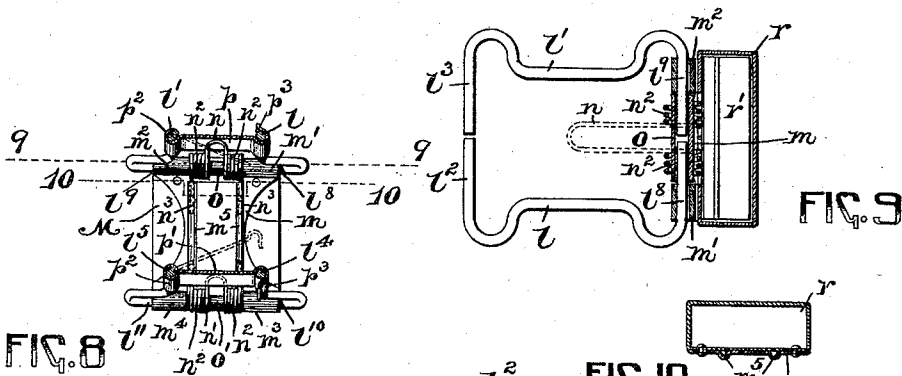
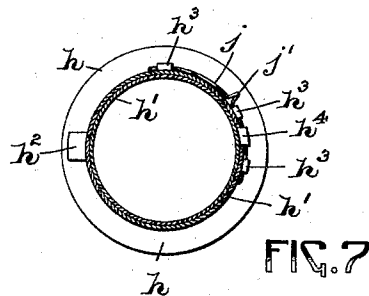
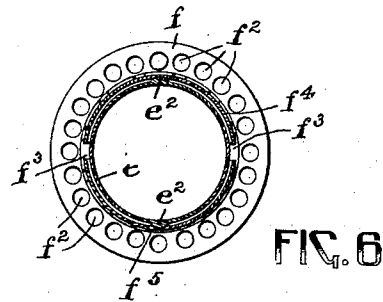
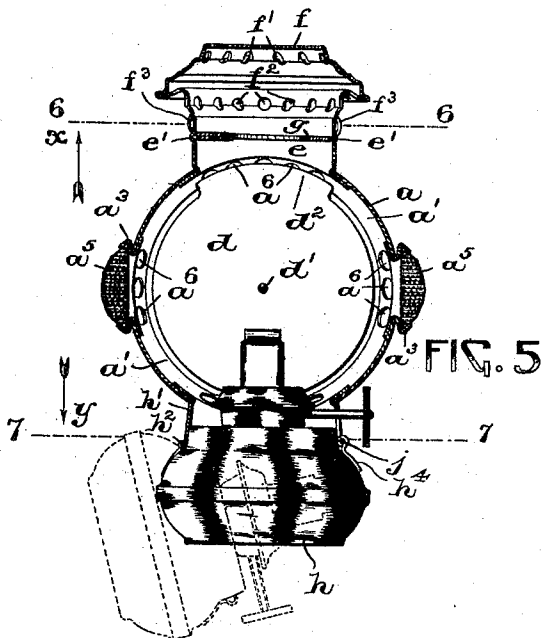
(No Model.)

2 Sheets—Sheet 2.

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WITNESSES:

FIG. 11

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UNITED STATES PATENT OFFICE.

JOHN HOLMES, OF NEWARK, NEW JERSEY.

LAMP FOR BICYCLES, &c.

SPECIFICATION forming part of Letters Patent No. 584,358, dated June 15, 1897.

Application filed October 2, 1896. Serial No. 607,679. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOLMES, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Lamps for Bicycles and other Vehicles; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention has reference to improvements in lamps for velocipedes, bicycles, and other vehicles; and the invention has for its primary object to provide a neat, cheap, and practically-constructed lamp which will not smoke, the construction of the same being such to insure a steady and good light that will illuminate the road for a considerable distance in front of the vehicle.

A further object of this invention is to provide a lamp having a dome or hood provided with means which will prevent too great an egress of the air from the body of the lamp, and thereby prevent the flickering of the flame and an unsteady flame.

A further object is to provide a novel construction of locking or holding device to be used in connection with the bezel or with the oil-well, whereby said parts can be operatively connected with the main body of the lamp.

A further object of this invention is to provide a novel construction of reflector which prevents the light-rays from being projected through the openings for ventilation in the back of the said main body of the lamp; and a further object is to provide a novel construction of spring-support for attaching the lamp to the bracket usually attached to the frame of the vehicle.

Other objects of this invention not here specifically set forth will be evident from the accompanying description of my novel construction and form of lamp.

My invention therefore consists in the novel construction and form of lamp and in the novel arrangements and combinations of parts, as well as the details of construction of

certain parts, all of which will be fully described in the accompanying specification, and finally embodied in the clauses of the claim.

The invention is clearly illustrated in the accompanying sheets of drawings, in which—

Figure 1 is a front view, and Fig. 2 a side view, of a lamp construction embodying the principles of my invention. Fig. 3 is a top view of the lamp, and Fig. 4 is a vertical section of the lamp, taken on line 4 4 in said Fig. 3. Fig. 5 is a vertical section taken on line 5 5 in Fig. 3. Fig. 6 is a horizontal section, taken on line 6 6 in Fig. 5, looking in the direction of arrow *x*; and Fig. 7 is a similar section taken on line 7 7 in said Fig. 5, but looking in the direction of arrow *y*. Fig. 8 is a cross-section, taken on line 8 8 in Fig. 4, looking in the direction of arrow *z*. Fig. 9 is a horizontal section, taken on line 9 9 in Fig. 8, on a slightly-enlarged scale; and Fig. 10 is a similar section taken on line 10 10 in said Fig. 8. Fig. 11 is a front view of a modified form of construction of reflector adapted to be used in connection with my novel construction of lamp.

Similar letters of reference are employed in all of the above-described views to indicate corresponding parts.

In said views, A indicates the complete lamp, which comprises a main body, a hood or ventilator at the top, and an oil-reservoir at the bottom having a burner, with spring-actuated supporting or holding devices at the back of the main body for securing the lamp in position on the lamp-bracket on the frame of the bicycle or other vehicle. Said main body of the lamp consists, essentially, of a cylindrical shell or cup *a*, which is closed at the back, as at *a'*, and has hinged to its open frame, as at *b'*, a bezel *b*, provided with a lens or other suitable glass front *b²*, substantially as illustrated in Figs. 1 to 4, inclusive. As will be seen from Figs. 1 and 3, said bezel *b* is provided with a number of looped portions *b³*, which are struck up in the metal of the bezel or are soldered fast or otherwise secured to the bezel and in which is arranged to slide therein a lock-pin or bolt *c*, provided with a bent portion *c'*, which forms a finger-piece and at the same time secures said pin or bolt in its operative position in the loops *b³* and

prevents its displacement therefrom. The bezel *b* is provided with an opening *b*⁴, through which a loop *a*² near the open edge of the shell *a* of the lamp and formed or secured thereon in any well-known manner can be passed, through which the free end *c*² of said pin or post *c* can be forced and thereby hold the bezel and its lens in the closed position against the open part of the shell or cup *a*, as will be clearly understood.

Secured in suitable openings in the opposite sides of the shell or cup *a* by means of prongs *a*⁴ on the metallic rings *a*³ are colored glass jewels or windows *a*⁵. The back *a*' of said shell *a*, as will be more especially seen from Figs. 2 and 5, has a series of holes or perforations *a*⁶ for the purpose of ventilation, and *d* is a suitable reflector, which is secured against the inner surface of said back *a*' by means of a pin or rivet *d*', as clearly indicated in Figs. 4 and 5. To prevent the light-rays from being projected through said holes or perforations *a*⁶ to dazzle the sight of the rider, said reflector is provided with an enlargement *d*² at the top, which extends directly in front of the upper row of openings *a*⁶ in the back of said shell *a* and with the reduced portions *d*⁴ adjacent to said enlargement to provide a considerable air-space around the edge of the reflector, as clearly indicated in Figs. 4 and 5, or said reflector may be provided with several such enlargements and reduced portions *d*⁴, as in Fig. 11, which, when the reflector is secured in position in the shell *a*, are arranged directly in front of the openings *a*⁶ at the top and sides of the back *a*', as will be understood, and it will be seen that no light from the flame within the body of the lamp can shine through said openings *a*⁶ to the annoyance of the rider. Secured over an opening in the top of said shell *a* of the lamp is a suitably-constructed collar *e*, having an annular bead *e*', into which is sprung a flat split ring *g*, made from sheet metal, and is securely held in said bead by the spring action of the metal. On the top of said collar *e* and directly above the said bead *e*' is a suitable hood *f*, provided with openings or perforations *f*¹ and *f*² for the egress of heat and gases of combustion from the flame in the shell *a*. Said hood *f* is removably arranged on the collar *e* by forcing a cut-away part *f*³ in a bead *f*⁴ on the hood over a teat or projection *e*², formed in the collar *e*, and by means of a partial turn of the hood *f* on said collar *e* said bead *f*⁴ is forced over said teat until a circular opening *f*⁵ in said bead *f*⁴ is brought directly over said teat or projection *e*², when the several parts naturally spring into holding engagement and the hood is held in its locked position on the collar *e*, as clearly indicated in Fig. 6, until said teat or projection *e*² is again forced from the opening *f*⁵, when the hood is again turned on the collar *e*. When the said ring *g* has been secured in position in the bead *e*' in said collar *e* and the hood *f* is also in place on said collar, then said

ring *g*, which is flat in cross-section, as shown in Figs. 4 and 5, will prevent too great an egress of the heat or gases from the shell *a* of the lamp, and the flame, which would otherwise flicker and be unsteady, will burn with a very steady and good light. Said ring *g* also serves the purpose of a shield to prevent the light-rays from within the main body of the lamp from being reflected through said openings or perforations *f*¹ and *f*² in the said hood *f* to dazzle the sight of the rider on the bicycle behind the lamp.

The shell *a*, which, as has been stated, forms the main body of the lamp, is provided in the bottom with an opening, over which is secured a collar *h*', to which is hinged, by means of a hinge *h*², an oil-reservoir *h*, provided with a suitable burner, substantially as illustrated in said Figs. 4 and 5. To hold said reservoir in its operative position in said collar *h*', the latter, as will be seen more especially from Figs. 2 and 7, is provided with a number of looped portions *h*³, which are formed integral with said collar, or may be made separate therefrom and secured thereto in any well-known manner, and in which is arranged a lock-pin or bolt *j*, provided with a bent portion *j*¹, which acts as a finger-piece and at the same time secures said pin or bolt in its operative position in said loops *h*³ and also prevents the displacement therefrom.

The shell forming the oil-reservoir *h* is provided with a looped portion *h*⁴, which can be forced through a suitably-slotted portion or opening in said collar *h*', through which the free end of said pin *j* can be forced, as shown in Fig. 7, to hold said oil-reservoir in the proper positions. (Indicated in Figs. 1, 2, 4, and 5.) From the above description it will be seen that when the said pin or bolt *j* is withdrawn from the loop *h*⁴ the oil-reservoir swings on its hinge portion, and by setting the said reservoir in an upright position and tilting the main body of the lamp said oil-reservoir can readily be filled with a fresh supply of oil.

In order to maintain the lamp *A* in its proper position on the frame of the bicycle or other vehicle, I have secured to the back *a*' of the shell *a* of the lamp-body a supporting-plate *i*, provided at the top with ears *i*¹ and correspondingly-arranged ears *i*² at the bottom, which form suitable loops for the ends *l*² and *l*³ of a pair of upper supporting-frames *l* and *l*' and for the ends *l*⁶ and *l*' of a pair of lower supporting-frames *l*⁴ and *l*⁵, as will be clearly evident from an inspection of Figs. 2 and 4. The opposite ends *l*⁸ and *l*⁹ of the upper frames *l* and *l*' respectively are pivotally arranged in certain ears *m*¹ and *m*² on a socket-plate *m*, while the ends *l*¹⁰ and *l*¹¹ of the lower frames *l*⁴ and *l*⁵ respectively are pivotally arranged in certain ears *m*³ and *m*⁴, also on said socket-plate *m*, as will be clearly seen from an inspection of Fig. 8. When the ends of the respective frames *l* and *l*' and the frames *l*⁴ and *l*⁵ have thus been pivotally arranged in the several loops or ears on the

plate *i* and the socket-plate *m*, certain springs *n* and *n'*, having their coiled parts *n*² arranged over certain reinforcing-tubes *o* and *o'* to stiffen the free ends of said frames, also have their free ends *n*³ forced down into tubular or socket-like portions *m*⁵, formed on or in said plate *m*, (see Figs. 8 and 10,) while the opposite end portions of the said springs *n* and *n'* respectively bear against the under side of a latch-plate *p*, which connects the two frames *l* and *l'*, and against the upper surface of a latch-plate *p'*, which connects the two frames *l*⁴ and *l*⁵. Each latch-plate *p* and *p'* is provided with a hinge-like portion *p*², whereby said plates can be pivotally secured to one set of said frames, as *l'* and *l*⁵, while at the opposite edge each latch-plate has a catch portion *p*³, which can be sprung over the other set of frames, as *l* and *l*⁴, and with the ends of said springs *n* and *n'* bearing against said latch-plates *p* and *p'* in the manner stated. The several parts of the device are thereby operatively held together, as will be clearly evident, and can also be separated at will for the purposes to be hereinafter fully set forth. The said socket-plate *m* is suitably secured to the ordinary socket *r*, which is provided on the inside with a spring *r'*, which when the socket *r* is forced down upon the usual form of bracket on the frame of the vehicle is firmly pressed against said bracket and the socket, and in consequence the lamp is securely and safely held in place on the vehicle. By this arrangement of the two springs *n* and *n'* the action of one spring is to counteract the action of the other spring, whereby when passing over rough roads there will be less jolting of the lamp and hence less danger of lowering or extinguishing the flame. By means of the hinged latch-plates *p* and *p'* the several parts of the lamp carrying or supporting device can be readily separated, which is of the greatest advantage in that either of said springs *n* and *n'* can be readily replaced, should they become broken or useless.

From the above description it will be seen that I have devised a simply-constructed lamp for bicycles and other vehicles, and I am also aware that many changes may be made in the several arrangements and combinations of parts as well as in the details of construction of the same. Hence I do not limit my invention to the exact arrangements and combinations of the parts as herein described, and illustrated in the accompanying drawings.

Having thus described my invention, what I claim is—

1. A lamp for bicycles or other vehicles, comprising therein, a main body, having a lens in the front and a closed back *a'* provided with openings or perforations, as *a*⁶, and a reflector *d* having one or more enlargements, as *d*², arranged in front of said openings or perforations *a*⁶, and the reduced por-

tions adjacent to said enlargement or enlargements, to secure considerable air-space at the edge of the reflector, substantially as and for the purposes set forth.

2. A lamp for bicycles or other vehicles, comprising therein, a main body *a*, provided with an opening in the top, a collar *e* over said opening, having an annular bead *e'*, and a flat split ring *g* arranged in said bead *e'*, and a hood on said collar *e*, substantially as and for the purposes set forth.

3. A lamp for bicycles or other vehicles, comprising therein, a main body *a*, provided with an opening in the top, a collar *e* over said opening, having an annular bead *e'*, a teat *e*² on said collar, and a hood *f*, having a bead *f*⁴, a cut-away part *f*³ and an opening *f*⁵ in said bead *f*⁴, substantially as and for the purposes set forth.

4. A lamp for bicycles or other vehicles, comprising therein, a main body *a*, provided with an opening in the top, a collar *e* over said opening, having an annular bead *e'*, a teat *e*² on said collar, and a hood *f*, having a bead *f*⁴, a cut-away part *f*³ and an opening *f*⁵ in said bead *f*⁴, all, substantially as and for the purposes set forth.

5. In a lamp for bicycles or other vehicles, in combination, with the main body of the lamp, a supporting-plate on said lamp-body, a socket-plate having ears, a reinforcing-tube between said ears, a supporting-frame pivotally connected with said supporting-plate and said socket-plate, and a spring encircling said reinforcing-tube and operatively connected with said supporting-frame, substantially as and for the purposes set forth.

6. In a lamp for bicycles or other vehicles, in combination, with the main body of the lamp, a supporting-plate on said lamp-body, having ears, a socket-plate, as *m*, having ears, and holding-frames, *l*, *l'*, *l*⁴ and *l*⁵, removably arranged in the ears of said supporting and socket plates, latch-plates *p* and *p'* pivotally connected with two of said holding-frames, having catch portions *p*³ adapted to be engaged with the remaining two of said holding-frames, and spring, as *n* and *n'*, operatively connected with said holding-frames, substantially as and for the purposes set forth.

7. The combination, with a supporting-plate, as *i*, having ears, and a socket-plate, having ears, of a pair of supporting-frames having their free ends removably and pivotally arranged in said ears, and a latch-plate pivoted to one of said frames and having a catch portion *p*³, adapted to be forced over the other supporting-frame, substantially as and for the purposes set forth.

8. The combination, with a supporting-plate, as *i*, having ears, and a socket-plate, having ears, of a pair of supporting-frames having their free ends removably and pivotally arranged in said ears, a latch-plate pivoted to one of said frames and having a catch portion *p*³, adapted to be forced over the other

supporting-frame, and a spring connected with said supporting-frames, substantially as and for the purposes set forth.

9. The combination, with a supporting-plate, as *i*, having ears, and a socket-plate, having ears, of a pair of supporting-frames *l* and *l'* having their ends *l*² and *l*³ pivotally arranged in the ears on said plate *i*, and their ends *l*⁸ and *l*⁹ pivotally arranged in the ears
10 on said socket-plate, a catch-plate pivoted to one of said frames, said plate having a catch portion *p*³, adapted to be forced over the other

supporting-frame, a reinforcing-tube on said ends *l*⁸ and *l*⁹ of said supporting-frames, and a spring encircling said tube and in engagement with said latch-plate, substantially as and for the purposes set forth. 15

In testimony that I claim the invention set forth above I have hereunto set my hand this 29th day of September, 1896.

JOHN HOLMES.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.