(No Model.)

J. W. BRAGGER.

HOLDER FOR BICYCLE LAMPS.

No. 577,156. Patented Feb. 16, 1897.

Fig. 1.

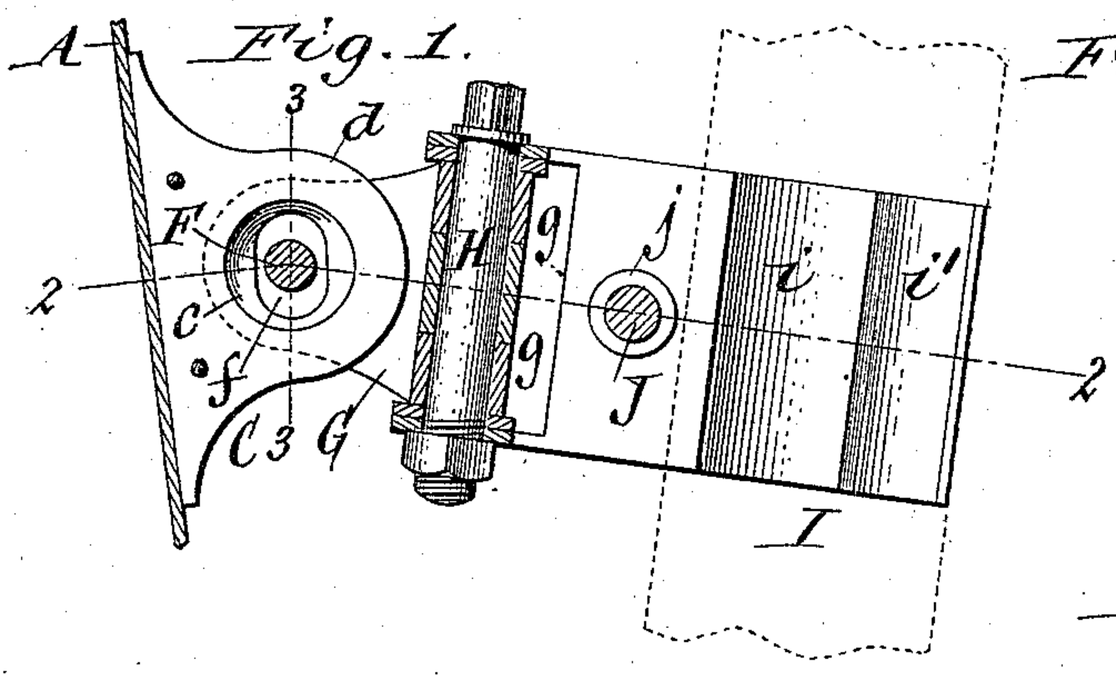


Fig. 3.

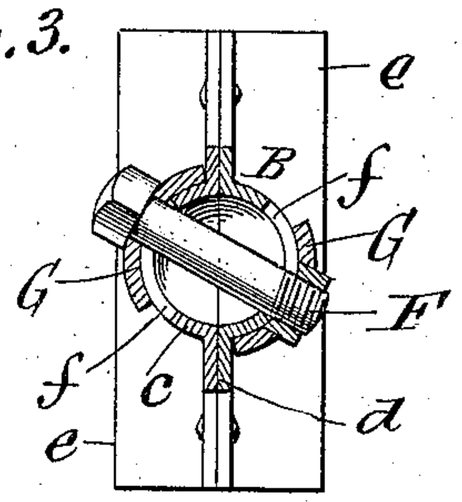


Fig. 2.

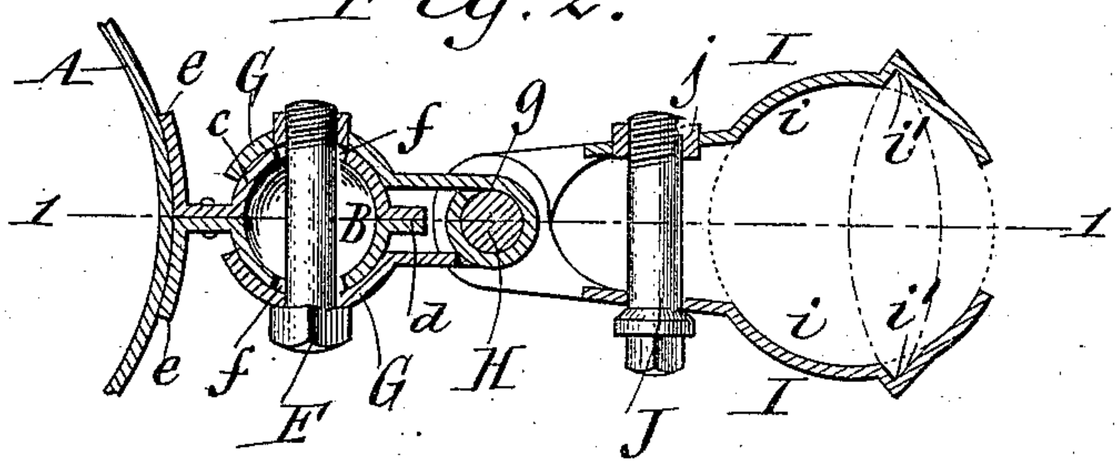


Fig. 6.

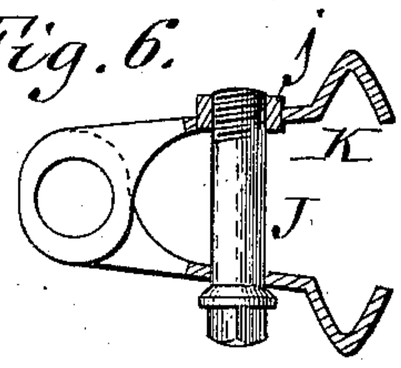


Fig. 7.

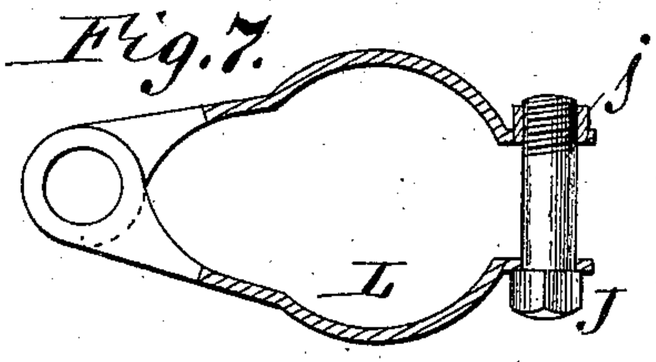


Fig. 4.

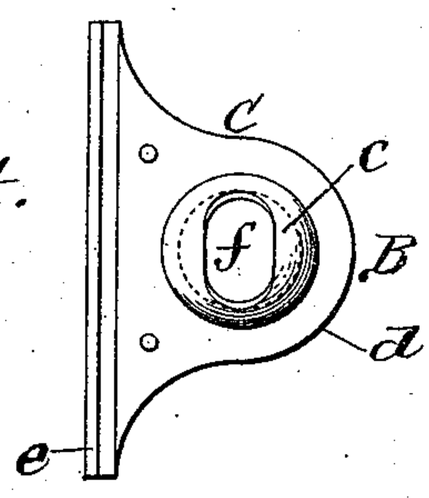


Fig. 5.

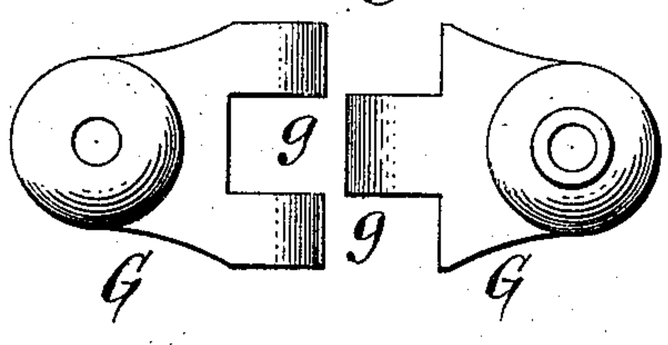
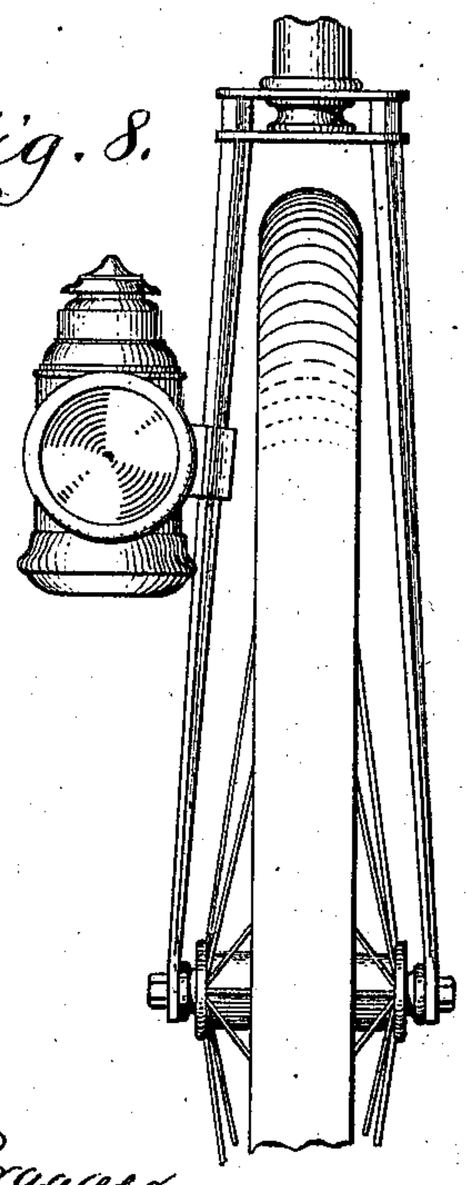


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN W. BRAGGER, OF WATERTOWN, NEW YORK, ASSIGNOR TO THE HITCHCOCK LAMP COMPANY, OF SAME PLACE.

HOLDER FOR BICYCLE-LAMPS.

SPECIFICATION forming part of Letters Patent No. 577,156, dated February 16, 1897.

Application filed August 15, 1896. Serial No. 602,841. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BRAGGER, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented a new and useful Improvement in Holders for Bicycle-Lamps, of which the following is a specification.

This invention relates to a holder for attaching a lamp to a bicycle, and has the object to produce a light and strong holder of simple construction which will permit the lamp to be readily adjusted to the desired position.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of my improved lamp-holder in line 1 1, Fig. 2. Fig. 2 is a horizontal section of the same in line 2 2, Fig. 1. Fig. 3 is a vertical cross-section in line 3 3, Fig. 1. Fig. 4 is a side elevation of one of the two plates which compose the spherical knuckle of the holder. Fig. 5 is a side elevation of the two plates which compose the spherical socket of the holder. Fig. 6 is a top plan view, partly in section, of a clamp adapted to be applied to a bicycle-fork. Fig. 7 is a similar view of a clamp adapted to be attached to a bicycle-head. Fig. 8 is a fragmentary front elevation of a bicycle with a lamp attached to the fork.

Like letters of reference refer to like parts in the several figures.

A represents the rear portion of the casing of a bicycle-lamp.

B represents a spherical knuckle which is attached to the same and projects rearwardly therefrom. This knuckle is composed of two plates of sheet metal C, arranged vertically side by side and each having a semispherical protuberance *c* stamped upon it, so arranged on the plate that when the two plates are secured together side by side the two protuberances will form a hollow ball which is surrounded by two thicknesses of flat metal, forming a vertical double flange or web *d* around the ball. The two plates are secured together by rivets or otherwise and are provided at their front ends with laterally-projecting flanges or wings *e*, which are secured to the lamp by riveting or otherwise. Each of the hemispherical protuberances is provided with a vertically-elongated opening or slot *f* of sufficient width to receive freely a transverse bolt F.

G represents the two side plates of a spherical socket, which are applied to the sides of the spherical knuckle. These plates are preferably stamped out of sheet metal and are provided at their rear ends with interlocking eyes *g*, through which passes an upright bolt H. The spherical socket portions of these plates are somewhat smaller in size than the spherical portions of the knuckle, so that the socket can be shifted on the ball to a certain extent. The transverse bolt, which passes through the spherical knuckle, bears with its head against the outer side of one of the socket-plates and enters with its threaded end a screw-nut which is secured in the other socket-plate by brazing or otherwise.

I represents the two arms of a clamp, which are connected to the rear portion of the spherical socket by the upright bolt H, which passes through the eyes of the socket and through eyes on the front ends of the arms, so that the position of the spherical socket can be adjusted laterally with reference to the clamp. These clamping-arms, as shown in Figs. 1 and 2, are provided with two intersecting sets of depressions *i* and *i'*, the former being cylindrical in form to fit against a steering-head and the latter being angular to fit against a fork. The two arms of the clamp are tightened against the part of the bicycle which they grasp by a transverse bolt J, which enters a screw-nut *j*, secured to one of the jaws. This combination of joints in the lamp-holder enables the lamp to be adjusted in three different planes, in a horizontal plane by a movement about the vertical bolt H as a pivot, in a longitudinal vertical plane by a movement about the transverse bolt F as a pivot, and in a transverse vertical plane by a movement about the longitudinal axis of the spherical joint as a pivot. The transverse bolt F takes part in the last-mentioned movement. This enables the lamp to be placed vertically when the clamp is attached to the oblique front fork.

When the clamp is applied to the fork, as shown in Fig. 8, the clamp projects laterally from the fork in an oblique position, and the lamp would occupy a correspondingly oblique

position but for the spherical joint, which permits the lamp to be placed in a vertical position, as indicated in the figure.

Instead of enlarging the opening through which the transverse bolt of the spherical joint passes merely in an upright direction, as indicated in full lines in Fig. 4, it may be enlarged all around the transverse bolt, as indicated by the dotted circle in the same figure, in which case the transverse bolt is capable of movement not only in a vertical plane, but also forwardly and backwardly in adjusting the spherical socket on the knuckle.

The construction of the knuckle in two parts, of sheet metal, with the double thickness of flat metal forming a vertical flange, web, or fin around the knuckle, produces a very light and rigid knuckle.

Instead of using a clamp with two intersecting sets of depressions like that shown in Fig. 2 two separate clamps K and L may be used, one suitable for attachment to the fork and the other suitable for attachment to the steering-head, as shown in Figs. 6 and 7.

I claim as my invention—

1. The combination with a lamp-case having on its rear side a spherical knuckle which is provided with vertically-elongated openings on opposite sides, of a spherical socket embracing said knuckle and having horizontal eyes at its rear end, a transverse pivot-bolt which connects said socket and knuckle and which is capable of a limited vertical movement in the elongated openings of the latter, and a clamp adapted to be secured to a bicycle-frame and connected with the eyes of the socket by a vertical pivot-bolt, whereby the lamp-case can be adjusted by a horizontal movement about the vertical bolt, by a longitudinal vertical movement about the transverse bolt, and by a transverse vertical movement about the longitudinal axis of the spherical joint, substantially as set forth.

2. A lamp-holder having one of its members provided with a spherical socket and the adjacent member provided with a spherical knuckle composed of two plates secured together side by side and each provided with a semispherical protuberance, substantially as set forth.

3. In a lamp-holder, the combination with a member provided with a spherical socket, of a member provided with a spherical knuckle composed of two plates secured together side by side and each provided with a semispherical protuberance having an opening, and a transverse bolt connecting said socket and knuckle and capable of a limited movement in the openings of the latter, substantially as set forth.

4. A lamp-holder having one of its members provided with a spherical socket and the adjacent member provided with a spherical knuckle composed of two plates secured together side by side and provided with semispherical protuberances and a flat flange surrounding said protuberances, substantially as set forth.

5. In a lamp-holder, the combination with a spherical knuckle, of a spherical socket composed of two plates arranged side by side and provided with eyes arranged in line with each other, a bolt connecting said plates, and a clamp connected with the eyes of the socket-plates by a bolt, substantially as set forth.

6. A lamp-holder provided with a clamp having each of its arms provided with a rounded depression to fit a steering-head and with an angular depression arranged between the ends of the rounded depression and projecting outwardly therefrom, substantially as set forth.

Witness my hand this 10th day of August, 1896.

JOHN W. BRAGGER.

Witnesses:
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