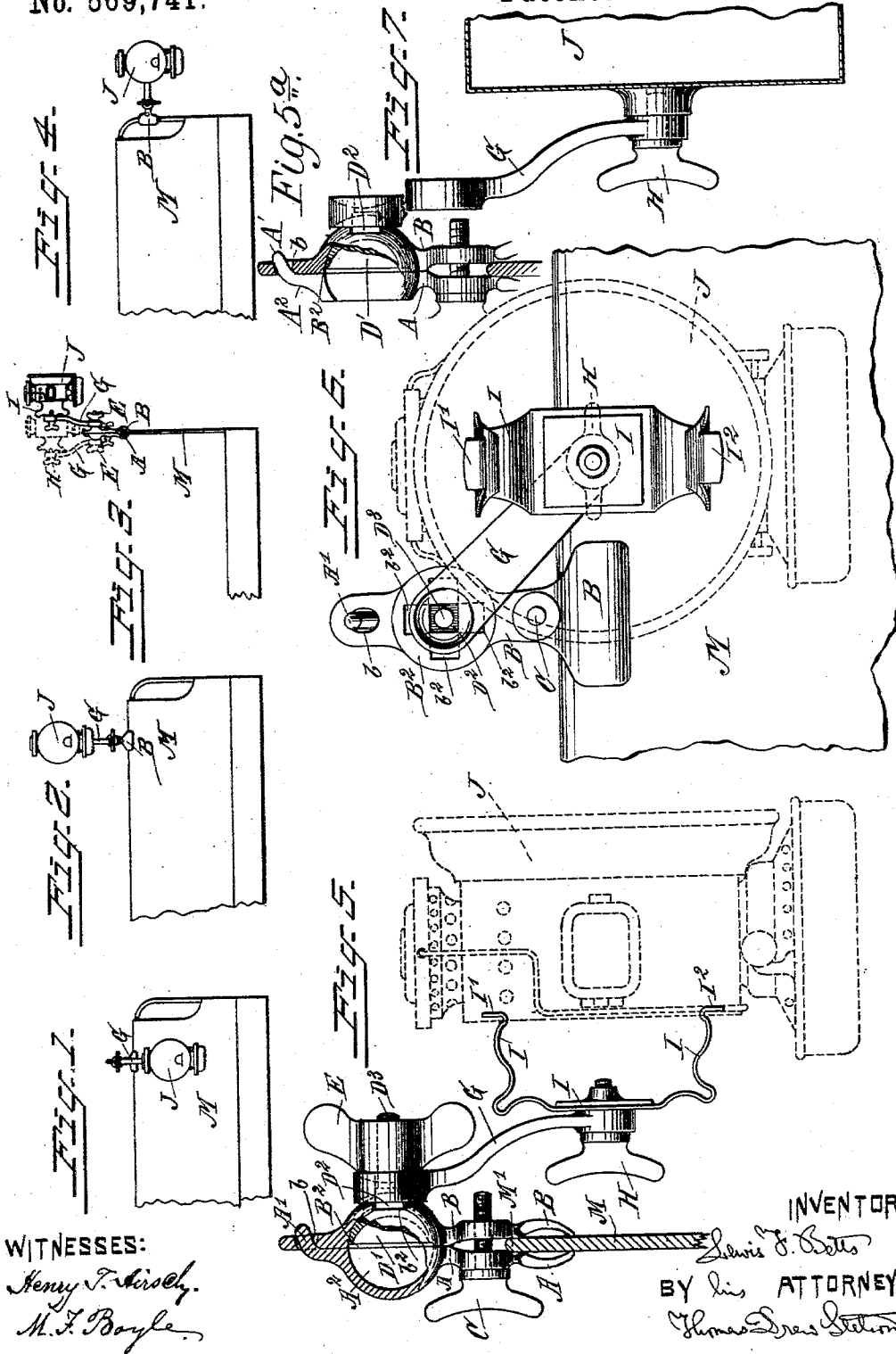


(No Model.)

L. F. BETTS.
LAMP SUPPORT.

No. 569,741.

Patented Oct. 20, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEWIS F. BETTS, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE BETTS
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LAMP-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 569,741, dated October 20, 1896.

Application filed October 7, 1895. Serial No. 564,881. (No model.)

To all whom it may concern:

Be it known that I, LEWIS F. BETTS, a citizen of the United States, residing in Brooklyn, Kings county, in the State of New York, have invented a certain new and useful Improvement in Lamp-Supports, of which the following is a specification.

My invention is intended more especially for use on the dashboards of light carriages, and I will describe it as thus applied.

It will be understood that what I term the "dashboard" is the ordinary shield made of leather stretched on an iron frame carried at the front of the vehicle. My support is adapted to hold firmly against displacement by matching closely upon the thickened edge of the dashboard and to allow choice of a variety of positions for the lamp.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a front view of a portion of the carriage with my lamp-support attached at the upper edge and so adjusted as to carry the lamp in front below the top of the dashboard. Fig. 2 is a front view corresponding to Fig. 1, but with the lamp-support extended upward, so as to carry the lamp above the dashboard. Fig. 3 is a corresponding side elevation. In addition to the other adjustments the holder may adjust the lamp forward or backward in either of its positions. The strong lines in this figure show the lamp carried in its forward position and the dotted lines in its rearward position. Fig. 4 is a view corresponding to Fig. 1, but with the lamp-support attached to one side of the dashboard and holding the lamp extended out from that side. The remaining figures are on a larger scale. Fig. 5 is a side elevation, partly in section and corresponding to Fig. 1, but having the lamp in dotted lines. Fig. 5^a is a section of a portion corresponding to Fig. 5, showing a modification. Fig. 6 is a front view showing one of the possible ways of arranging my support so that it extends obliquely downward and to one side, with the lamp shown in front in dotted lines. Fig. 7 is a side view showing a modification.

Similar letters of reference indicate corre-

sponding parts in all the figures where they appear.

A and B are the two halves of a clamp hinged together by the tongue or toe A', engaging in a hole *b* in the part B and confined and released by means of a thumb-screw C. Below this each part has a portion widened and adapted to match partially around the outer and inner faces of the edge M' of the dashboard M. Above the screw C and between it and the hinge A' *b* each part presents a hemisphere, as indicated by A² B². In the center of the back face of the part B² is a liberal aperture *b*², in the form of a Greek cross. For convenience of description I shall apply the terms "upper" and "lower" to these variously-adjustable parts, assuming that the device is attached in the position shown in Figs. 1, 5, and 6.

I will use the letter D to indicate the whole of a peculiar bolt, using supernumerals therewith to designate special parts.

D' is a hemispherical head matching in the interior of the part B². Adjacent to the head the bolt is square, as indicated at D², Fig. 5. The remainder of its length is screw-threaded. Its general outline is indicated by D³. A thumb-nut E is tapped on the part D³ of this bolt. The arm G, which is confined thereby, is finished correspondingly concave on two opposite faces. The nut E has its acting face swelled to correspond with the spheroidal surface of the part B².

H is a thumb-screw inserted through the opposite end of the arm G and tapped through a sufficiently-thickened portion of a spring I, which is equipped with lips I' I², adapted to engage in corresponding pockets formed in the back of the lamp and to serve as a carrier for the latter. I shall refer to this as the "carrier."

I prefer to use with this invention the style of lamp set forth in the patent to me dated June 4, 1895, No. 540,296, but any other style of lamp may be used which is equipped with pockets to receive the lips I' I² of this spring. The outline of such lamp is indicated by J in the several figures.

As shown in Fig. 6, the hole through the upper part of the arm G is square, and as shown in Fig. 5 the square portion of the

bolt projects beyond the face of the spherical bearing B^2 to enter and fill said hole. This permits the arm G to be moved into either of the notches b^2 and adjustably clamped in one of four positions ninety degrees apart. This adjustment is independent of the four positions in which the arm may be adjusted on the square portion of the bolt.

That face of the upper end of the arm G which is presented against the spheroidal bearing B^2 is hollowed to the same curvature, affording a fair bearing between the spheroidal surfaces, allowing the arm to be set in either of the several positions above mentioned, so that the outer end of the arm will be moved rearwardly to a greater or less extent and hold the lamp in a slightly-turned position to throw its rays to either side or upward or downward, according to the notch b^2 occupied.

The arm G, and consequently the lamp J, may be held quite stiffly with the bolt D in the central portion of the aperture b^2 , but in such case it is held only by the friction induced by the tightness with which the nut E is set up. The four branches or rectangular pockets in the aperture b^2 allow of an additional locking. When the arm extends upward or downward, a little change in the inclination forward or backward will cause the bolt D to assume an angular position, bringing its square portion D^2 into the upper or lower pocket, and when thus placed it will be held not only by the friction induced by the tightening of the nut, but also by having its rectangular portion held in the pocket as a rectangular screw-head is seized by a wrench. If it is desired to incline the lamp to the left side, this is easily effected by liberating the parts and turning them so as to bring the square portion D^2 of the bolt D into the pocket on the left side of the hole b^2 ; or, if it be desired to incline the lamp to the right, a corresponding movement is made, bringing the square portion D^2 of the bolt into the pocket on the right side of the aperture. The tightening of the nut E holds it firmly in any of these positions.

Another more radical change in the adjustment is effected by liberating the parts and turning the arm G to the right or to the left or downward. The latter position is shown in Figs. 5 and 6. The same provisions are available for holding the arm at a variety of inclinations while extending downward. That is to say, if the arm is inclined forward while extended downward it will bring the square portion of the bolt D into the uppermost of the rectangular pockets. If the arm is rolled to the left or to the right while extended downward, it will bring the square portion of the bolt into the corresponding right or left pocket of the aperture b^2 . The lamp may be inclined backward to a small extent while in the depressed position as far as is permitted before it makes contact with some obstruction.

A considerable downward inclination can

be given to the lamp, notwithstanding the presence of the square-shanked screw D, by turning the arm G into an inclined position, inclining to the right or to the left from the central swivel. Fig. 6 shows it thus adjusted and the screw E omitted in this figure. In this position the rectangular pockets in the edges of the aperture b^2 are not available to receive the square portion D^2 of the bolt, and the rigidity of the fixture, unlike the other conditions described, will depend on the tightness of the grip of the nut alone.

The arm G may be adjusted to extend horizontally to the right or to the left, and in either of these positions the pockets may be available to hold it firmly. Fig. 4 shows such a position. If it is to be partially revolved, so as to present its face inclined downward, the square portion D^2 of the bolt is received in the lower pocket of the aperture b^2 . If it is to be similarly set to look a little upward, the square portion may be received in the upper pocket. If it is to be inclined backward or forward, so as to incline its face and reflector outward or inward from the center line of the road, the square portion may be received in the corresponding pocket at the right or left side.

It remains to describe one more adjustment to which I attach importance. This is attained by temporarily removing the nut E from the bolt D, taking off the arm G and turning it so that the face which has been presented before to the nut E shall be presented to the spherical bearing B^2 , as shown in dotted lines in Fig. 3. When this change is made, the clamp A^2 should be detached from the dashboard and the entire device reversed, so that the lamp in the new position will still present its face forward in the direction that the carriage is moving. Thus conditioned, the crook in the arm G will hold the lamp further rearward, so as to bring the plane of the lamp nearly over the dashboard instead of holding it considerably in advance thereof, which latter results from the previously-described adjustment. With the holder in this position all the changes above described may be made, except that the arm G cannot, obviously, be extended downward.

It will be observed that the screw H, which holds the carrier-spring I to the arm G, is capable of being removed and inserted through the parts in the opposite direction. This gives another range of adjustments.

If in any adjustment of the parts the lamp presents its front in the wrong direction, it is obvious that the evil can be remedied by simply unclamping the device from the dashboard and reversing it thereon.

The spherical quality of the swivel which connects the arm G to the clamp is of more consequence than simply to allow the lamp to be set a little forward and backward; it allows the lamp to be inclined to the right or left and upward or downward. When the lamp is equipped with a concave reflector, the light

is concentrated near the axis of the reflector. This is an important quality, allowing the light to be projected forward directly at a level or to be inclined downward upon the road and turned more or less to either side, as desired.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention. A flat portion with an aperture may take the place of the hollow hemispherical portion A^2 of the clamp A, as indicated in Fig. 5^a. The working face of the nut E need not be strictly spheroidal; it is only important that it be adapted to reach into the spheroidal cavity in the arm and make a firm contact. The spherical contact is only important on the other face, the contact of the arm G with the swell B^3 . The hinge, at $A' b$, may be variously modified, so that there is sufficient strength and freedom of movement.

Parts of the invention can be used without the whole. Much of the benefit can be attained by attaching the arm G in some other manner to the lamp; as, for instance, without the spring I and without any slots in the lantern to receive the lips thereof. The arm G might be secured with thumb-screws tapped directly into a sufficiently thick back in a lantern, or with an extra piece attached in any convenient way. Fig. 7 shows such a modification. I prefer the construction represented in the principal figures.

My lamp-support can be attached to other places than dashboards. The clamps A B will go on various other parts of a carriage or buggy; as, for instance, the side irons that are on the side of the seat, sometimes in the form of a handle.

I claim as my improvement—

1. In a lamp-support, a pair of dashboard-engaging clamps, and their operating-screw, one of said clamps having a hemispherical

part provided with a central opening and intersecting slots b^2 , in combination with a lamp-supporting arm mounted on a swivel-bolt having a head bearing in the hemispherical clamp and a squared portion extending through the opening thereof, and a clamp-nut E, the arrangement being such that the squared portion of the bolt may be moved into either of the vertical or horizontal slots b^2 , and retained by bearing therein against rotation to hold the arm and lamp to throw more of the light upward, downward, or to either side, substantially as herein specified.

2. In a lamp-support, a pair of dashboard-engaging clamps, one of which has a hemispherical part provided with a central opening and intersecting slots b^2 , in combination with an offset arm for supporting a lamp and mounted on a bolt swiveled in the hemispherical part and having a square portion, the opposite faces of the engaged end of the arm being curved to secure a proper bearing when reversed, together with a clamp-nut E, substantially as herein specified.

3. In a lamp-support, a pair of clamps adapted to engage with the dashboard of a carriage, in combination with a lamp-supporting arm having its end provided with a squared opening, a swivel-bolt having a squared portion extending through an opening in one of the clamps intersected by a slot b^2 , said squared portion also entering the corresponding opening of the arm, together with a clamping-nut, substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

LEWIS F. BETTS.

Witnesses:

J. B. CLANTICE,
M. F. BOYLE.