

(No Model.)

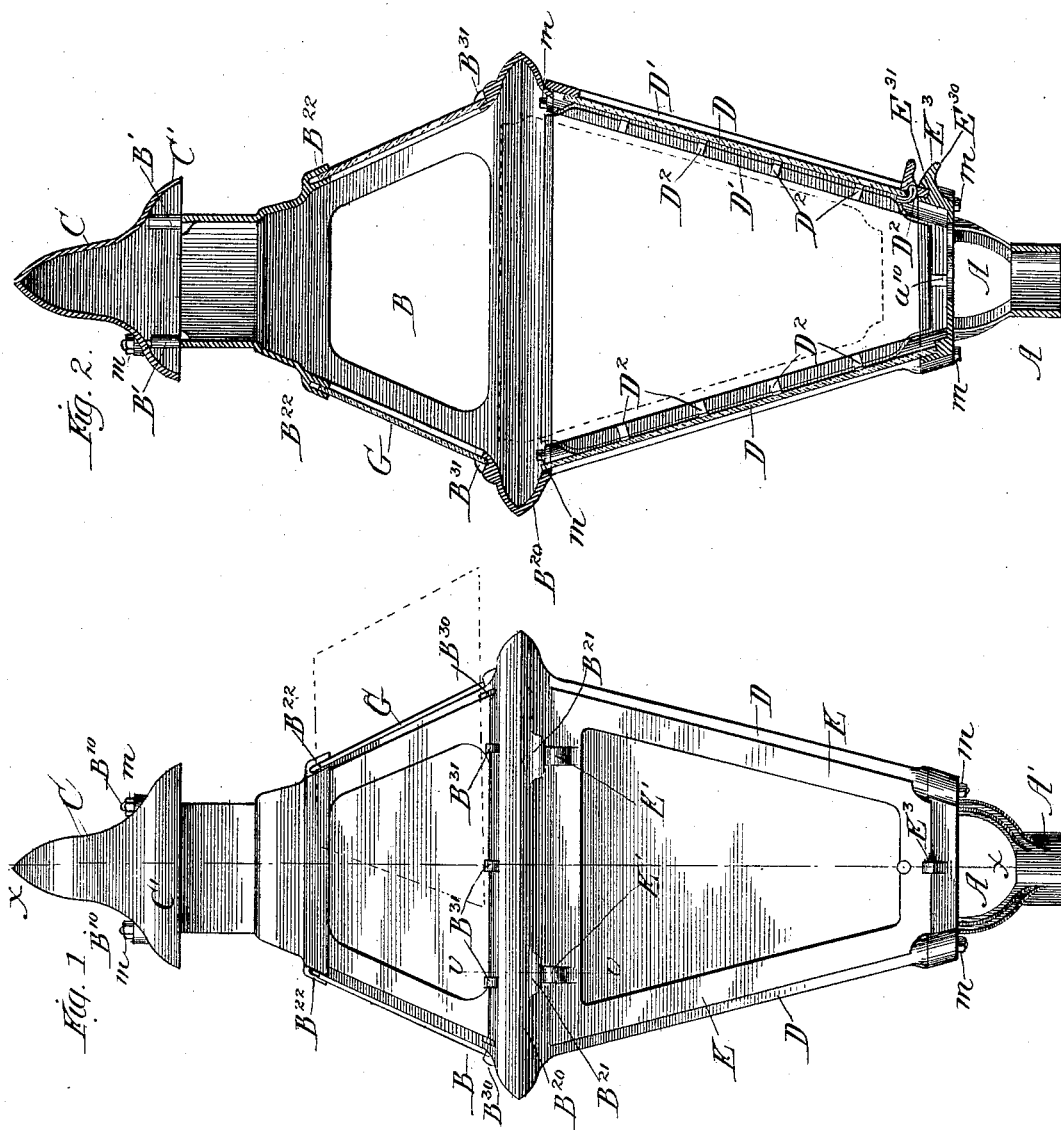
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J. EGAN.

STREET LAMP.

No. 347,478.

Patented Aug. 17, 1886.



Witnesses:

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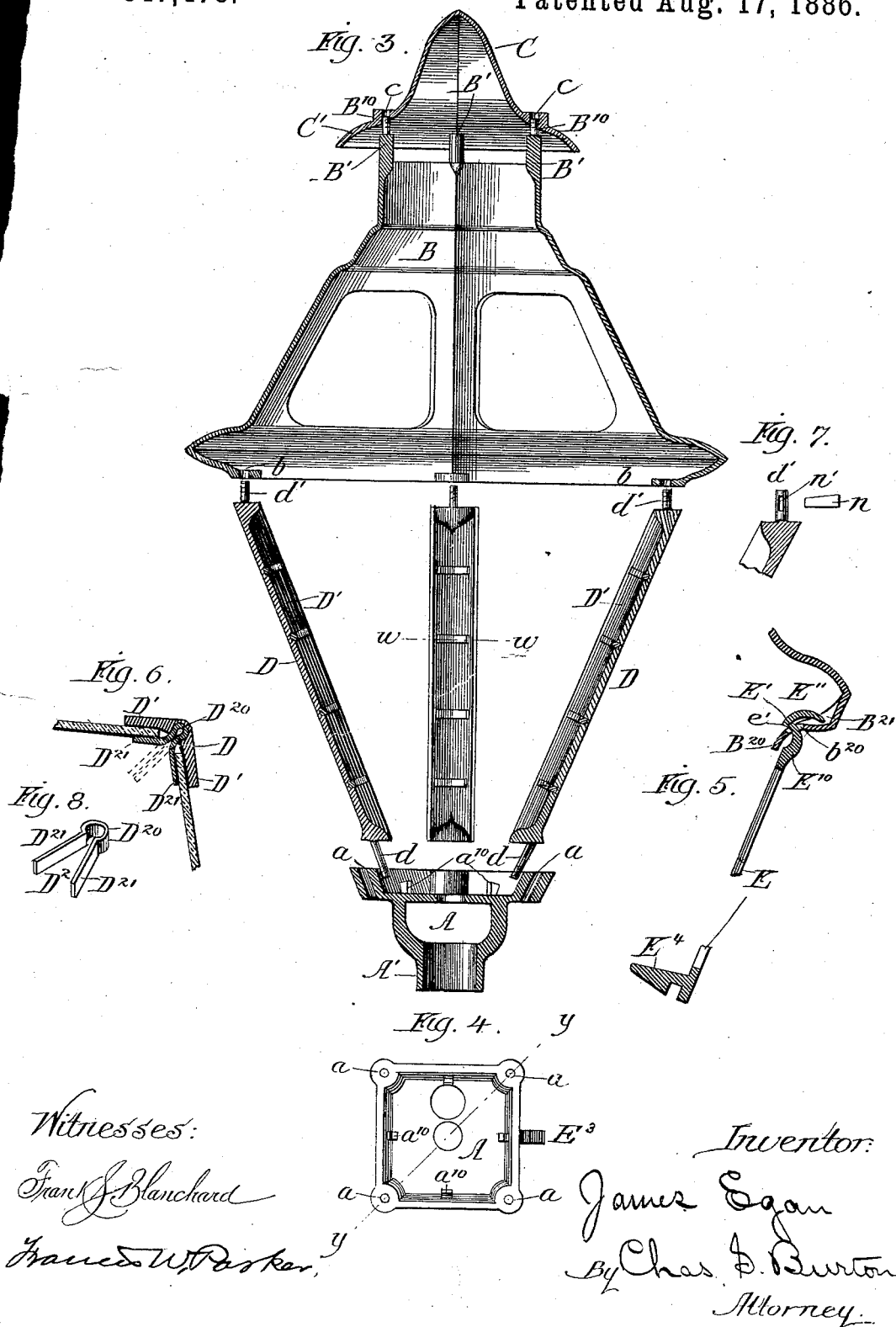
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# UNITED STATES PATENT OFFICE.

JAMES EGAN, OF CHICAGO, ILLINOIS.

## STREET-LAMP.

SPECIFICATION forming part of Letters Patent No. 347,478, dated August 17, 1886.

Application filed May 7, 1886. Serial No. 201,490. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES EGAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
5 invented certain new and useful Improvements in Street-Lamps, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming part thereof, wherein—

10 Figure 1 is a front elevation; Fig. 2, a vertical section through *x x*, Fig. 1. Fig. 3 is a diagonal vertical section at the plane indicated by the dotted line *y y* on Fig. 4, which is a plan of the base-frame. Fig. 5 is a vertical section through the hinge of the door, taken  
15 at *v v*, Fig. 1. Fig. 6 is a detail transverse section through one of the corner-posts, as taken at *w w*, Fig. 3. Fig. 7 is a detail section showing a modification of the tongue on  
20 the upper end of the corner-iron. Fig. 8 is a perspective of the flexible lug which is set in the corner-irons to hold the glass.

A is the base-frame of the lamp, which terminates below in the socket or ring A', by  
25 which it is connected to the post when in use.

B is the upper frame, which terminates above in the corner-posts B' B' B' B', upon which rests the cap C, which has the peripheral depending lip, flange, or curtain C' overhanging  
30 the upper frame, B, outside the posts B', leaving avenues for the escape of smoke and for draft and ventilation, but preventing access of rain and undue effect of wind upon the flame.

35 D D D D are the corner-iron posts which connect the base-frame A with the upper frame, B, and thereby support both the said upper frame and its cap C.

The parts thus far described in some form  
40 more or less similar to that in which they are herein shown are common to many familiar forms of street-lamps of prismatic shape.

This invention relates to the details of structure and those which will be particularly described hereinafter.  
45

In order to render the lamp convenient in shipment and to save expense of transportation, it is adapted to be "knocked down" or dismantled by providing the base-frame with  
50 the holes *a a a a* at the corners, and the upper frame, B, with the like holes *b b b b* at the lower corners, and forming the corner-iron

posts D D D D with the terminal bolts *d'* and *d*, which enter and pass through the holes *b* and *a* at top and bottom, respectively, protruding beyond the upper surface of the upper frame and beyond the lower surface of the base-frame, and provided with nuts *m* or keys *n* outside said frames, respectively. When nuts  
55 *m* are to be used, the bolts *d* will be threaded and "cast in" the corner-posts D by being laid in the "core-prints" in the mold in a manner which is familiar to metal-workers, the object being to dispense with the necessity of machine-work on the parts after casting.  
65 When the key *n* is to be used, the projecting bolt or tongue may be cast integral with the corner-iron, but is preferably prepared by well-known methods, as in case of the threaded bolt. In similar manner the cap is secured  
70 detachably to the top of the upper frame, B, the corner-posts B' terminating in upwardly-projecting tongues or bolts B'<sup>10</sup> of either of the forms described, and the cap being provided with the holes *c c c c* to receive said tongues or bolts,  
75 which preferably project above the surface of the cap, and are provided with the removable stop—either the nut *m* or the key *n*—as in the case of the bolts on the corner-irons D. The lower tongues, *d*, on the corner-irons D follow  
80 the general direction of the said corner-irons and project obliquely downward and inward, the holes *a a a a* being made in the same direction. The tongues or bolts *d'* at the upper end of the corner-irons project vertically upward,  
85 being thus at an oblique angle to the general direction of said corner-irons.

The order of assembling the parts is that the corner-irons are each separately connected to the base-frame by inserting their tongues *d*  
90 in the holes *a*, respectively, and then the top frame is connected to the corner-posts by being set down upon them, the tongues *d'* entering their respective holes *a* at once. When the stops, nuts *m*, or keys *n* are applied to the  
95 protruding ends of the tongues *d'*, and the corner-posts thereby bound rigidly to the upper frame, the convergence of the four tongues *d*, engaged, respectively, in the converging holes *a*, prevents the withdrawal of the said tongues,  
100 and so causes the base-frame to be held securely on the lower end of the corner-irons without the use of any nut or key applied to the tongues *d*, and when used such nuts or

keys are only as an additional safeguard and to prevent undue strain upon the tongues.

The corner-irons D are made with their two lips D' D' set at an obtuse angle, such that a horizontal section taken when the corner-irons are in position in the lamp, and therefore inclined outward, shall be a right angle. Set into the metal of these angle-irons and protruding within the angle—that is to say, between the lips D' D'—are the lugs D<sup>2</sup>, made of flexible metal, set in the mold, so as to be “cast in” the corner-irons. They are preferably made, as seen in Fig. 8, of strips of sheet metal bent to form the loop D<sup>20</sup> and the two ends D<sup>21</sup> D<sup>21</sup>. The loop D<sup>20</sup> serves as a head, around and into which the metal flows in casting, and so secures the lug in place. These lugs are formed first with the two ends D<sup>21</sup> D<sup>21</sup> side by side and projecting about in a plane bisecting the angle of the lips D' D', and all the lugs in each corner-iron are set to project in the same plane. This permits the pattern which has the core-prints for these lugs to be withdrawn from the sand in molding; but when completed the ends D<sup>21</sup> are bent, one to one side and the other to the other, and serve as clasps to retain the side glasses of the lamp, as hereinafter explained.

E is the door-frame. It is suspended by the lugs E' E', formed on its upper edge and engaged in the apertures b<sup>20</sup> b<sup>20</sup> in the depending flange B<sup>20</sup> of the upper frame. The lugs E' are formed with the root or initial part E<sup>10</sup> curved concave inward and downward, and the terminal part E<sup>11</sup> making an angle with the initial part and curved concave outward and downward.

To insert the lug in the aperture of the frame, and thereby hang the door in place, the terminal part is introduced through the aperture b<sup>20</sup>, the door being lifted up above horizontal position, and while the lug is pressed and held up so that the concave surface bears against the upper edge of the slot b<sup>20</sup> the door is swung down, causing the terminal curve E<sup>11</sup> to pass through the aperture, bringing the heel or angle e' within beyond the lower inner edge of the slot b<sup>20</sup>, the door being then allowed to drop until it is sustained by the initial part E<sup>10</sup> of the lug resting on the lower edge of the aperture b<sup>20</sup>. This is its working position while hinged, and while thus hung it cannot become detached except by pressing the door up while it is swung out so as to bring the upper terminal curve against the upper edge of the aperture b<sup>20</sup>, and then, while holding it thus, swinging it still farther out and up above the horizontal position. This complex movement cannot occur except by positive intention, and the door is therefore safely secured for operating, and may nevertheless be readily removed for any purpose. When in operating position, the terminal part E<sup>11</sup> of the lugs extends outward beyond the plane of the lip or flange B<sup>20</sup>, and instead of making an aperture through the flange in which it may play I prefer to form for it the pocket B<sup>21</sup>, as seen in Figs. 1 and 5,

To retain the glass in the door, I cast in its bottom and side bars the flexible lugs D<sup>2</sup>, like those cast in the corner-irons, and bend them over to clasp the glass.

The glasses F in both the door and the other three sides of the lamp are inserted by taking advantage of their trapezoidal shape, and first lifting them up far enough to allow them to pass by the overlapping lugs, as shown in dotted line, Fig. 2, and then passing them laterally by the said lugs onto the lips of the corner-irons, and then sliding them down until stopped by the base-frame A, on which may be formed the lugs a<sup>10</sup>, as stops for the glasses. The function of said stops is supplied in the case of the door by the flexible pin D<sup>2</sup>, cast therein, as described.

In order that the upper glasses, G, may be readily inserted and removed, I form on the frame B, overhanging the upper bars, B<sup>2</sup>, the lips B<sup>22</sup>, and on the lower bars, B<sup>3</sup>, the stops B<sup>30</sup> B<sup>30</sup>, one at each end of the glass, and the stops B<sup>31</sup> B<sup>31</sup> below the glass. The distance from the line of the stops B<sup>30</sup> to the line of the stops B<sup>31</sup> is less than the width of the overhanging lip B<sup>20</sup>, so that the glass G, being inserted endwise over the stop B<sup>30</sup> and under the lip B<sup>22</sup>, as shown in dotted outline in Fig. 1, may be passed in until it runs off the stop B<sup>30</sup> and drops down on the stops B<sup>31</sup>, when it will still be retained under the lip B<sup>20</sup>, and thereby safely kept in place, though easily removable at will.

To secure the door shut, I provide upon the base-frame A the taper-nosed catch E<sup>3</sup>, the nose E<sup>30</sup> engaging the lower edge of the door and crowding it up as it swings inward, and the notch E<sup>31</sup> receiving the edge of the door when close against the frame. The hinge formed by the lugs E' in the apertures b<sup>20</sup> permits the door to rise as described without becoming disengaged above. A like catch, E<sup>4</sup>, may be formed on the door and engage the edge of the frame. Such a form is shown in Fig. 5, and I make it as a precaution, to be used in case of breaking off the catch E<sup>3</sup>.

I claim—

1. The angle-irons D, in combination with the flexible lugs D', made of pieces separate from the angle-irons, inserted and secured in the metal of the latter, and protruding within the angle of said angle-iron, substantially as set forth.

2. The angle-iron corners D, in combination with the flexible lugs D<sup>2</sup>, formed with a head, D<sup>20</sup>, and thereby secured in the metal and protruding within the angle of said angle-iron, substantially as set forth.

3. The angle-iron corners D, in combination with the flexible strip folded to form the head D<sup>20</sup> and the two lugs D<sup>21</sup> D<sup>21</sup>, and secured by means of the head embedded in the metal of the angle-iron corner, and having the lugs protruding within the angle thereof, substantially as set forth.

4. In combination with the frame having the apertures b<sup>20</sup> b<sup>20</sup>, the door having the lugs E' E', comprising the portion E<sup>10</sup>, concave down-

ward and inward, and the portion E<sup>11</sup>, concave downward and outward, substantially as and for the purpose set forth.

5 5. In combination with the frame having the apertures b<sup>20</sup> b<sup>20</sup> and the interior pockets, B<sup>21</sup>, above said apertures, the door having the lugs E' E', comprising the part E<sup>10</sup>, concave inward, and the terminal part E<sup>11</sup>, concave outward, substantially as set forth.

10 6. The frame B, having the upper bar, B<sup>20</sup>, and the lip overhanging said bar, the lower bar provided with the lugs forming end stops,

and the lugs forming bottom stops, the width of the overhanging lip being greater than the difference in height of the end stops and the 15 bottom stops, substantially as set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 22d day of April, 1886.

JAMES EGAN.

Attest:

CHAS. S. BURTON,  
JAMES C. McDERMOTT.