

No. 817,430.

PATENTED APR. 10, 1906.

D. C. KLINE.  
LEVER LIFT FOR LANTERN GLOBES.  
APPLICATION FILED JAN. 20, 1906.

FIG. 1.

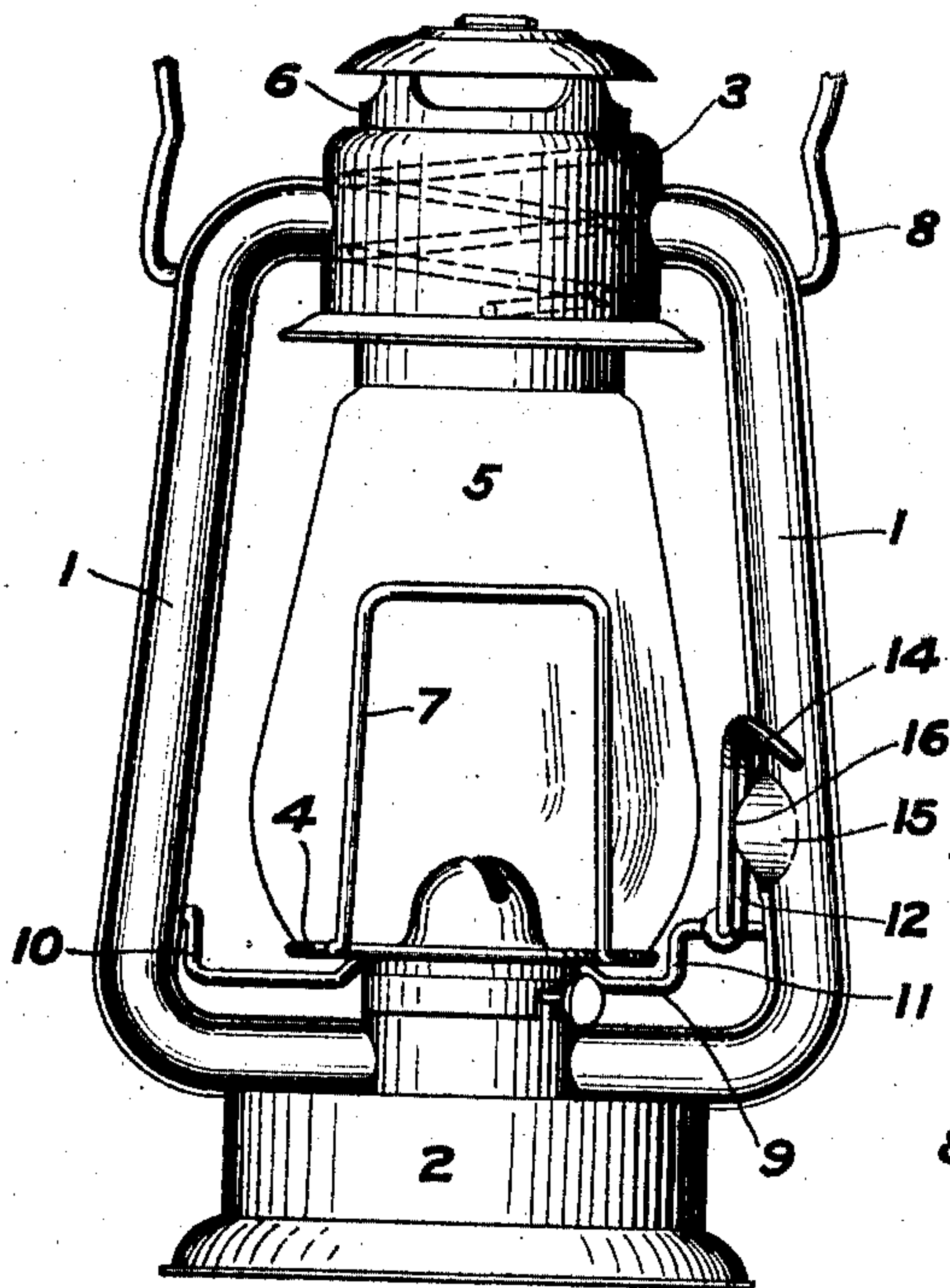


FIG. 3.

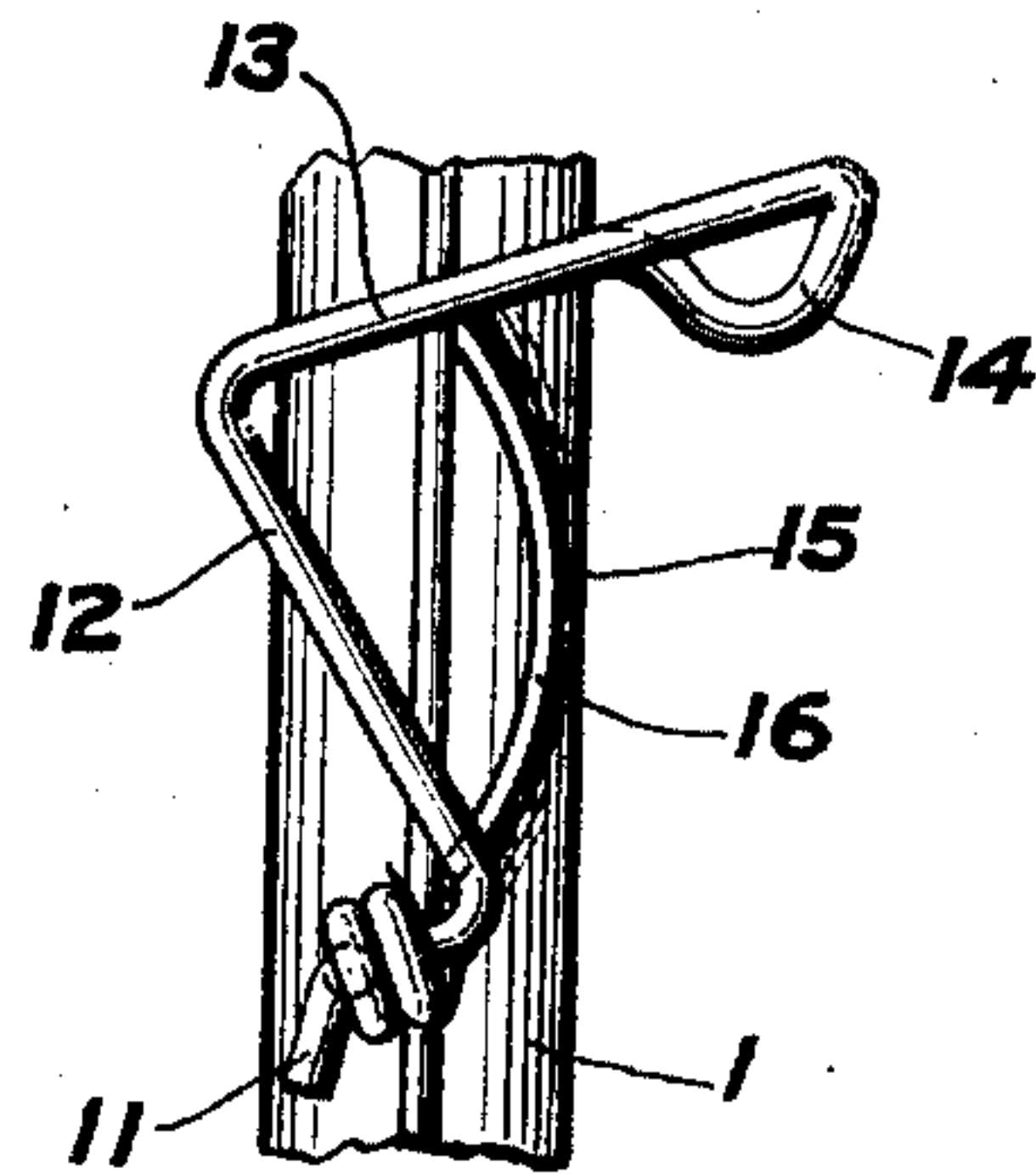


FIG. 2.

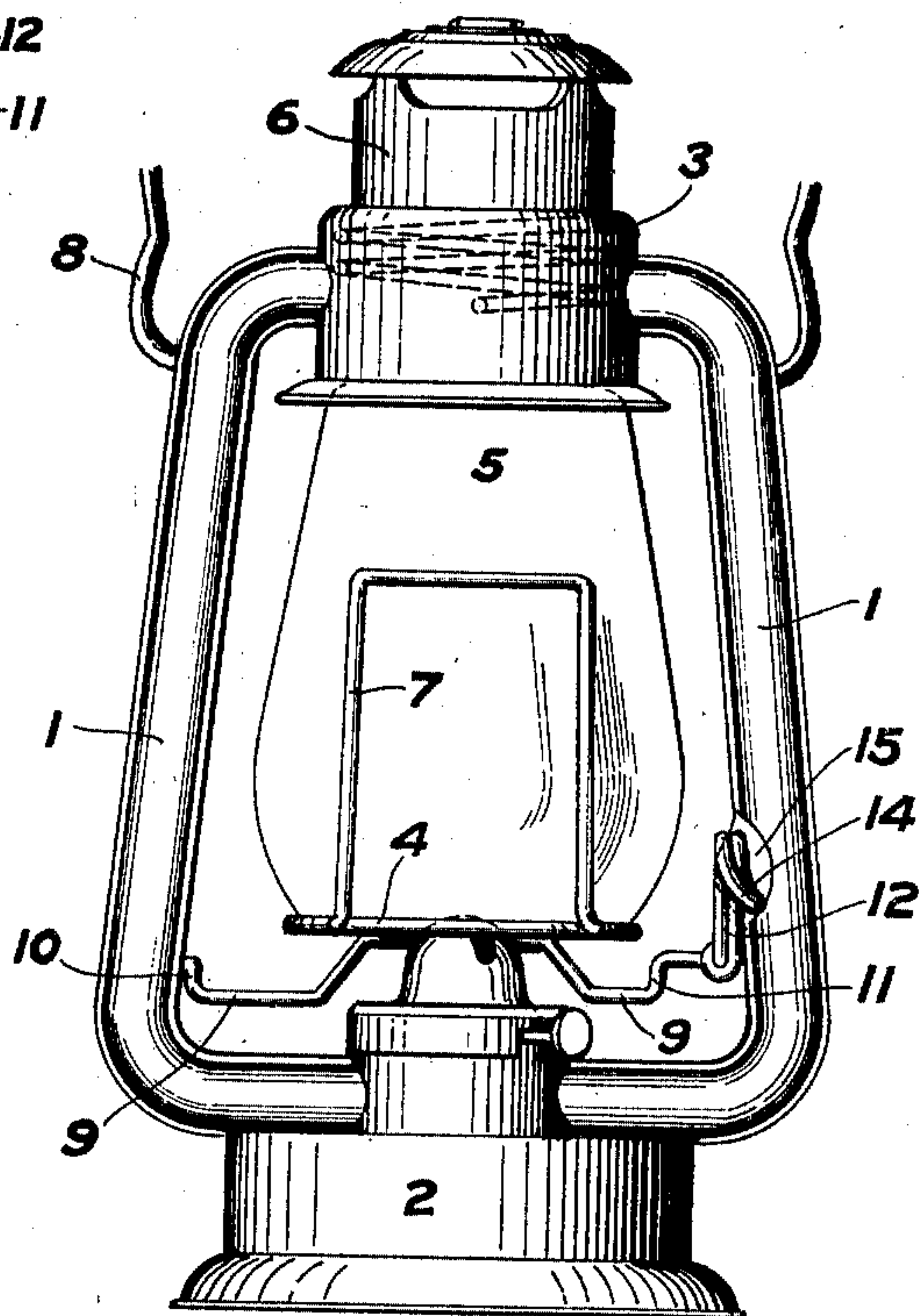
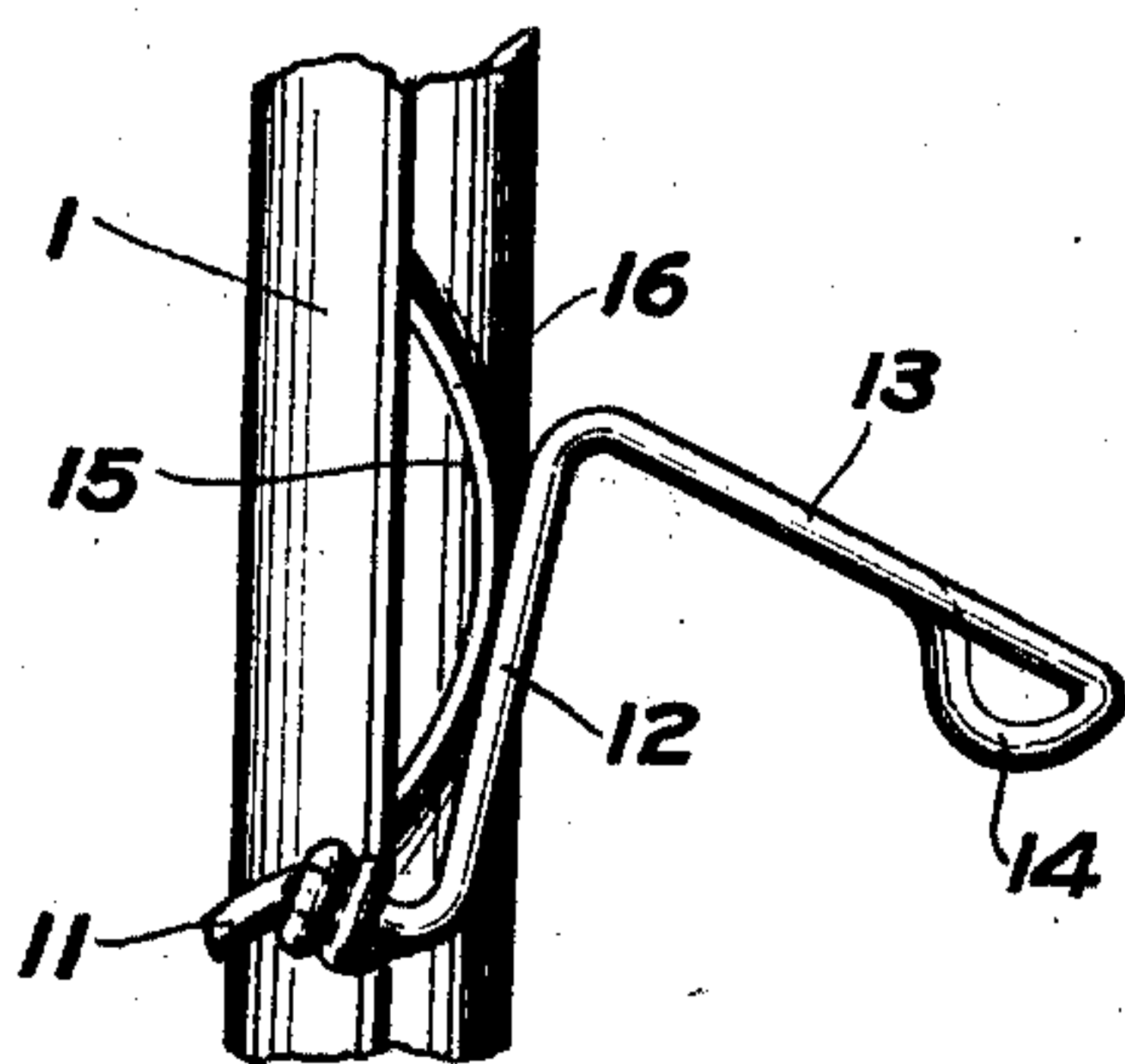


FIG. 4.



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# UNITED STATES PATENT OFFICE.

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## LEVER-LIFT FOR LANTERN-GLOBES.

No. 817,430.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed January 20, 1906. Serial No. 296,980.

*To all whom it may concern:*

Be it known that I, DAVID C. KLINE, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Lever-Lifts for Lantern-Globes, of which the following is a specification.

This invention relates to lever-lifts for lantern-globes; and it consists in the mechanism hereinafter described and claimed.

The object of the invention is to provide a lever-lift device that is smooth and of easy operation and is locked with certainty in the lifted position.

In the drawings, Figure 1 is an elevation of a lantern embodying this invention, showing the globe lowered into its normal position. Fig. 2 is a similar elevation showing the globe raised. Fig. 3 is an enlarged view of the locking parts for the lever-lift when the globe is in the lowered position, and Fig. 4 is a like view of the same parts when the globe is in the elevated position.

The lantern shown in the drawings is of the ordinary cold-blast type; but it is obvious that the invention is applicable to lanterns of the hot-blast type as well.

In the present instance the lantern has a frame composed of the air-tubes 1 1, the font 2, to which the lower ends of the air-tubes are attached, the head 3, to which the upper ends of the air-tubes are attached, a globe-plate 4, a globe 5, and a spring-actuated globe-holder 6. The spring-actuated globe-holder constitutes means for holding the globe upon the globe-plate. The lantern in the present instance is supplied with guard-wires 7, which, however, are not parts of this invention. A bail 8 is also shown in and upon the lantern. The foregoing parts are all of the usual construction.

To the under side of the globe-plate 4 is hinged at its middle a crank-like lifter 9, curved at its middle to pass around to one side of the globe-plate, as shown in Fig. 2, and having offset or crank-like ends 10 and 11, whose terminals project into sockets in the lantern-frame. In the present instance these sockets are in the inner side of the side tubes 1 1. The said terminals are of such length that the said lifter may be compressed between said terminals without releasing

them from their sockets in the lantern-frame. From the lifter 9 adjacent to the end 11 and preferably upward therefrom extends the arm 12, from the outer end of which extends substantially at right angles thereto the continuation 13, ending in the thumb-piece 14. This thumb-piece is set diagonally to the plane of the arm 12 and continuation 13, above mentioned, and said arm is adapted to move in an arc adjacent to the inner side of a side tube 1. Upon the lantern-frame, and in the present instance upon the inner side of said side tube 1, is fastened the catch-plate 15 in such position as to be engaged by the lever-arm 12 and its continuation 13 in the manner described below.

The catch-plate 15 is curved, as shown most clearly in Figs. 3 and 4, and has an edge curved, preferably, in the arc of a circle, as shown in Fig. 1, against which the arm 12 and continuation 13 rub in passing from the position shown in Fig. 3 to that shown in Fig. 4, and inasmuch as the edge 16 of the catch-plate 15 has the double curvature above described the movement of said arm 12 and continuation 13 across it from the position in Fig. 3 to that in Fig. 4 is smooth and easy, and in this movement the lifter 9 is compressed endwise by the pressure upon the said arm and its continuation. When, however, they reach the position shown in Fig. 4, the arm 12 will have slipped off the edge 16 of the catch-plate 15 and the lifter 9 will spring back into its normal position, thus throwing the arm 12 against the convex back of the plate 15.

It will be noted that in each movement from the position of Fig. 3 to that of Fig. 4 the continuation 13 rests upon the edge 16 of the catch-plate 15 and substantially at right angles thereto during all its movement, and consequently the compression of the lifter is gradual and smooth, and at the end of the movement the arm 12 springs behind the plate 15 and holds the lantern securely in the elevated position. The diagonal position of the thumb-piece 14 is such that when the thumb is placed flat upon said piece, fitting naturally against it, and pressure is then applied the tendency is to compress the lifter 9 and to make the movement along the catch-plate the more easy. So, too, in releasing the lever-lift from the position of elevation of



the globe-plate, as shown in Figs. 2 and 4, when the thumb is applied upon the thumb-piece 14 pressure is applied, and the natural tendency is to compress the lifter 9, and so to force the arm 12 to the left in Fig. 2 and out of engagement with the back of the catch-plate 15. Upon tilting the arm 12 toward the left in Fig. 4 until its continuation rests upon the edge 16 of the catch-plate 15 the tendency of the expansion of the lifter 9 will be to force the globe-plate into position. This, however, is desirable as relieving friction and may be essential if the spring globe-holder 6 acts with sufficient force.

15 A convenient mode of making the lifter 9 and arm 12, continuation 13, and thumb-piece 14 is of a single piece of wire, as shown in the drawings. At the crank 11 the thumb-plate 14 is made of a loop in said wire and the arm 12 and continuation 13 are made of parallel pieces of wire, and near the terminal of the crank 11 one portion of the arm 12 is coiled around the other portion thereof, as shown most clearly in Figs. 3 and 4.

25 It will be noticed that the curvatures of the plate 15 and the angles of the arms 12 and 13, together with the pivotal point of that end of the lifter, produce the result that the continuation 13 when engaging the edge of the plate 15 is substantially radial thereto and that when the parts are in the caught position for holding the globe lifted the arm 12 rests against the back of the plate 15 and tangentially thereto.

What I claim is—

1. In a lever-lift device for lantern-globes, the combination of a lantern-frame, a globe-plate, means for yieldingly holding the globe on the globe-plate, a longitudinally-compressible crank-lifter attached to the globe-plate and having terminals socketed in the frame; a lever-arm attached to said lifter, and a catch-plate formed in a substantially circular curve and having an edge formed in a substantially circular curve along which edge said arm slides in rocking said lifter and against the exterior convex surface of which plate the said arm springs into a position tangential thereto.

2. In a lever-lift device for lantern-globes, the combination of a lantern-frame, a globe-plate, means for yieldingly holding the globe on the globe-plate, a longitudinally-compressible crank-lifter attached to the globe-plate and having terminals socketed in the frame, a bent lever-arm attached to said lifter, and a catch-plate formed in a substantially circular curve and having an edge formed in a substantially circular curve along which edge one portion of said arm slides in rocking said lifter radially to the curvature in said plate and against the exterior convex surface of which plate the other portion of said arm springs into a position tangential thereto.

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