

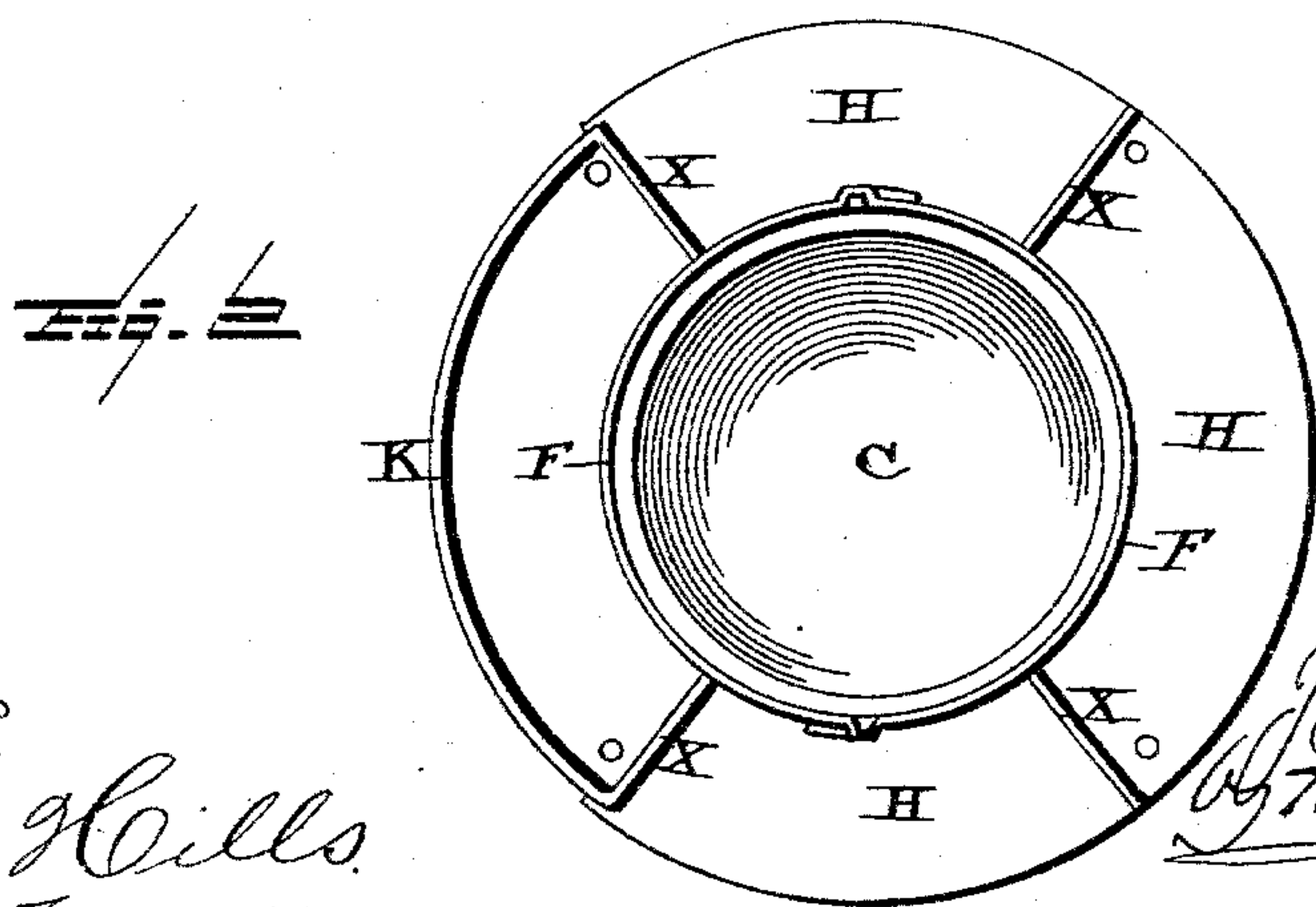
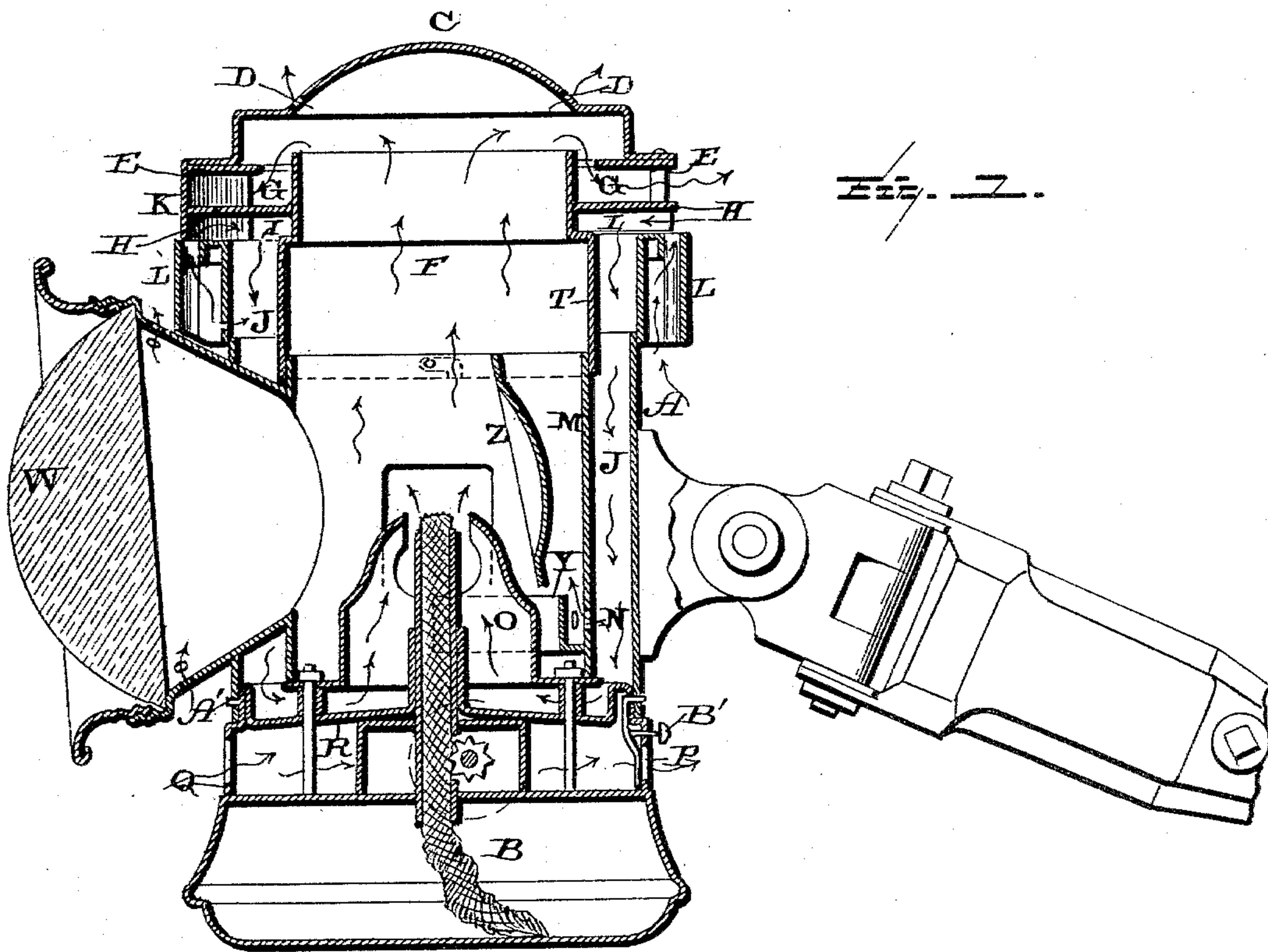
(No Model.)

2. Sheets—Sheet 1.

J. W. BRAGGER.  
BICYCLE LAMP.

No. 597,385.

Patented Jan. 18, 1898.



Witnesses

L. C. Hills.  
E. S. Trull.

Inventor

John W. Bragger,  
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Attorney

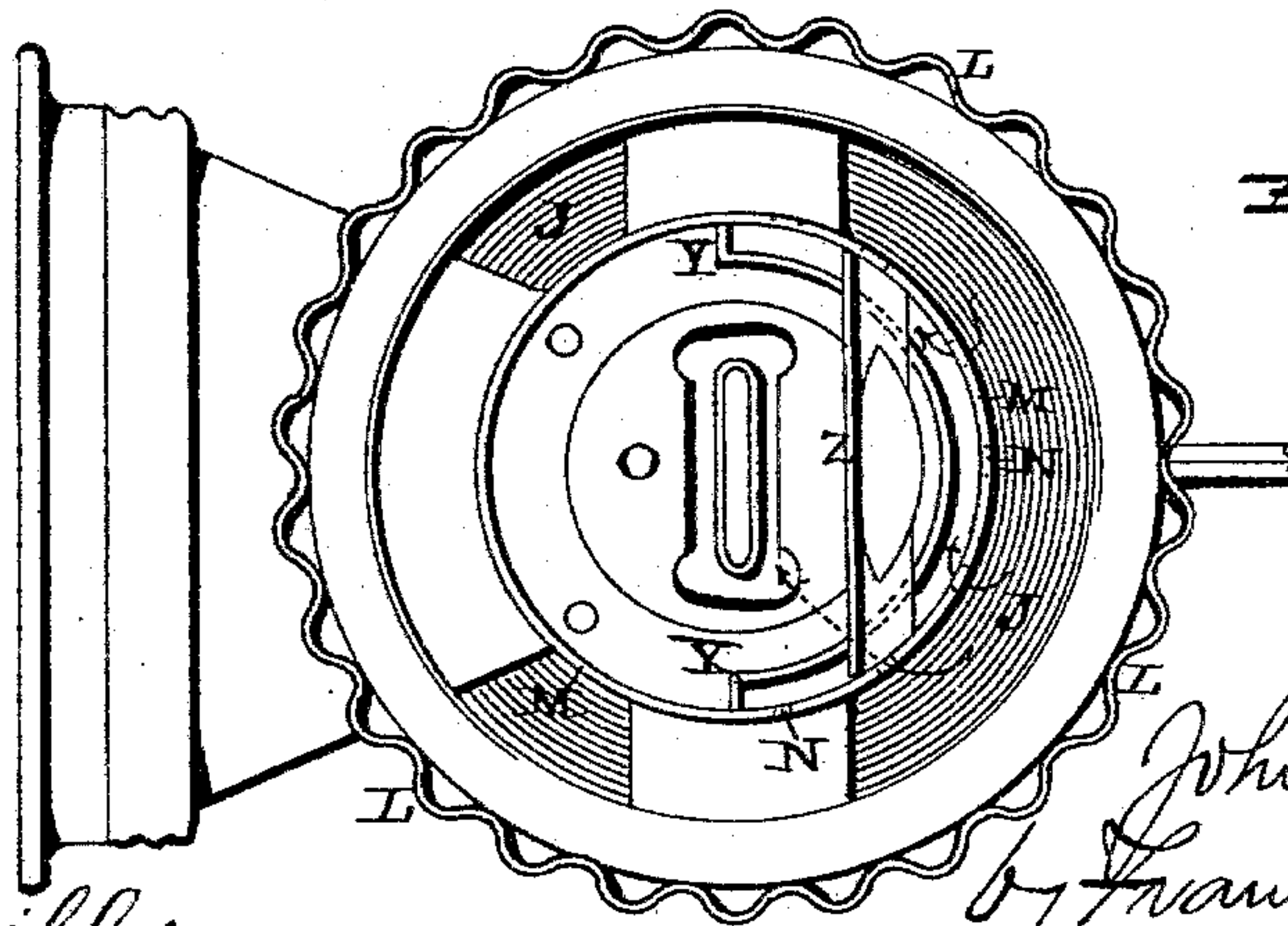
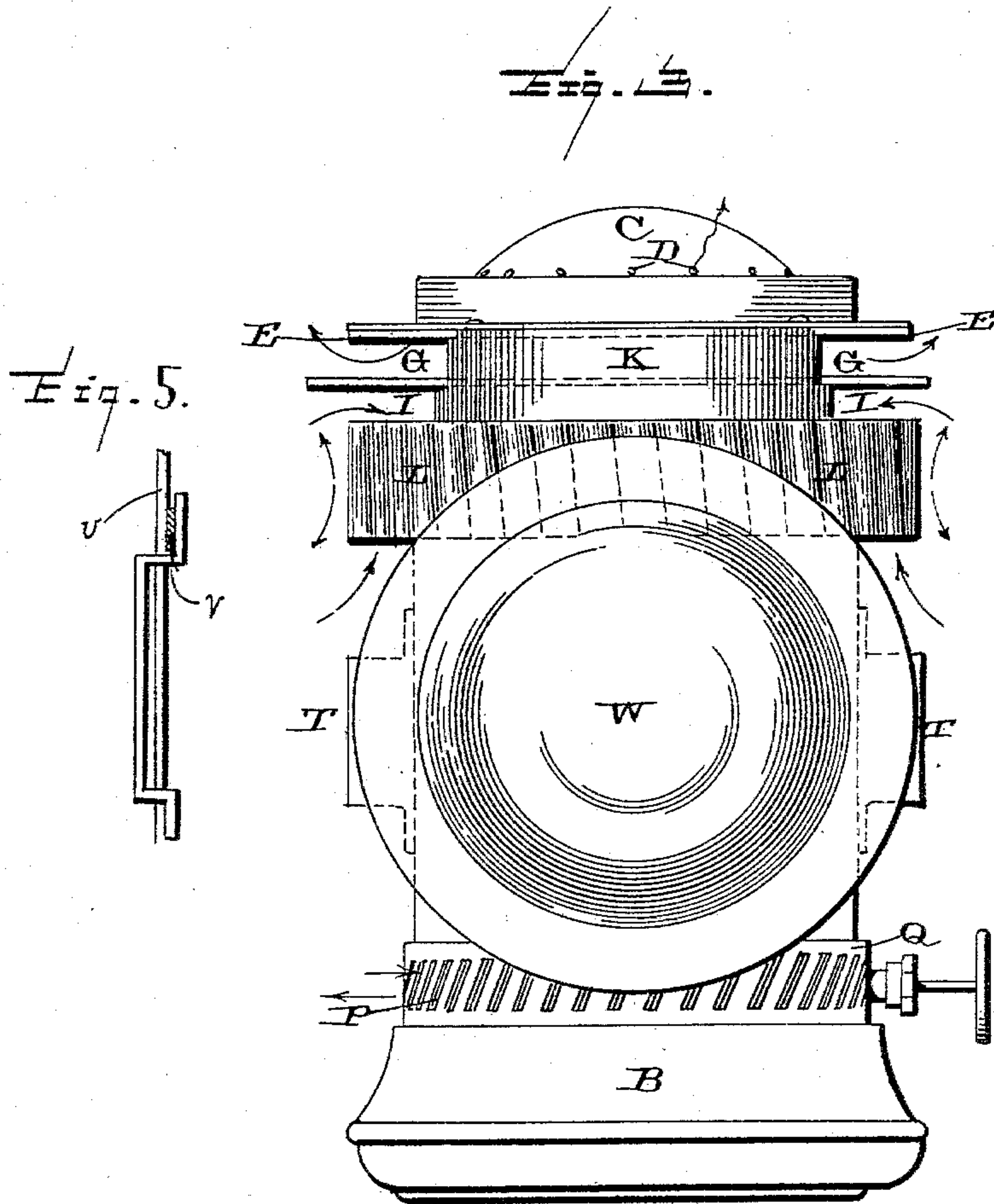
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# UNITED STATES PATENT OFFICE.

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

## BICYCLE-LAMP.

SPECIFICATION forming part of Letters Patent No. 597,385, dated January 18, 1898.

Application filed August 26, 1897. Serial No. 649,663. (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 certain new and useful Improvements in Bicycle-Lamps; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in lanterns, and especially to a bicycle-lamp, in which provision is made for insuring a brilliant light which will not blow out, and to attain these results I construct the lantern, having a removable top with a horizontal dividing-plate, so as to separate the currents of out and in flowing air, and to provide this plate upon its under side with means for catching the side drafts of air and forcing them downward through the air-passage to the burner, so that the burner will always be supplied with a plentiful supply of air, and hence a most perfect combustion insured.

The invention relates more specifically to the provision of a lantern having a peculiar arrangement of parts, together with a corrugated or crimped band about the outer upper portion of the lantern and between which and the outside of the lantern is left a space through which air is allowed to pass, thus catching the side draft, which is deflected into the lantern by an outwardly-projecting horizontal member, thus allowing the air to become somewhat heated before it enters the lantern.

A further part of the invention resides in the manner of hanging the windows of the lantern, which are held to the lantern-body in the manner which will be hereinafter described.

To these ends and to such others as the invention may pertain the same consists, further, in the novel construction, combination, and adaptation of parts, as will be hereinafter specifically described, and then defined in the subjoined claims.

The invention is clearly illustrated in the drawings, which, with the letters of reference marked thereon, form a part of this application, and in which—

Figure 1 is a vertical longitudinal section taken through a lamp which embodies my invention. Fig. 2 is an inverted view of the top of the lamp. Fig. 3 is a front view of the lamp. Fig. 4 is a plan view of the lamp, the cover being removed. Fig. 5 is a detailed view showing the manner of attaching the side windows.

A represents the body of the lamp, which may be of any desired shape, size, or construction preferred, B the lamp-bowl, and C the cover, the bowl and the cover being made removable from the body in the usual manner.

The cover C is provided with a series of perforations D through its top, so that a portion of the hot air and products of combustion will escape through them and thus cause an upward draft and assist in producing a perfect clearance for the lamp and at the same time produce a more brilliant flame than where the clearance is not perfect. The top of this cover C is shaped as shown in Fig. 1, and secured to its edges is a horizontal plate E, which extends inwardly a suitable distance toward the chimney portion F of the cover and thus contracts the vertical portion of the passage G for the escape of the products of combustion, so as to prevent any possibility of sudden gusts of air from entering the top of the lamp and extinguishing the blaze. The chimney portion F of the lamp is contracted at its upper end and extends a suitable distance above the level of this horizontal plate E, as shown, so that the products of combustion will rise above the plate and then descend below it before they can escape through the passage G.

Secured to the upper contracted portion of the chimney F is a horizontal division-plate H, which serves to separate the products of combustion from the fresh air that is flowing into the flame and which plate extends outwardly a suitable distance beyond the outer edges of the cover C and the plate E, as shown, and thereby forms a more perfect separation of the in and out flowing currents than can be done where this plate is made of



a less diameter. Beneath the plate H is the passage I for the inwardly-flowing current of fresh air and which current when it strikes the chimney portions F is turned at right angles, so as to pass down inside of the body of the lamp into the passage J, extending around the entire body.

In order to insure a sufficient supply of air through the horizontal passage I, there is secured to the under side of the division-plate H a series of radial plates X, which are as wide as the passage I and serve to intercept the currents of air which would flow through across the passage I and thus deflect the currents inwardly and downwardly into the passage J, which entirely surrounds the body at all points except where the windows T and the lens W are secured to the inner partition M. These plates X by obstructing the cross-currents of air serve to deflect inwardly a much larger portion of air than would otherwise pass down to the flame.

Secured to the front edge of the cover and extending down to the bottom of the passage I is a vertical deflecting-plate K, which prevents powerful currents of air in either a forward motion of the lamp or when moving directly against the wind from passing directly into the cover and thus impeding the escape of the products of combustion, and also prevents such currents of air from being forced down through the passage J, so as to endanger the flame of the lamp. This plate K being curved, as shown in Fig. 2, serves to deflect the currents of air laterally where they will pass outwardly through the outer edges of the passages G and I, as shown in Fig. 3, and thus produce no ill effects upon the flame, no matter how powerfully the wind may be blowing.

Secured to the outer edge of the top of the lamp-body is the crimped or corrugated plate L, and the crimps or corrugations may extend either vertically or at a suitable angle, as may be preferred. These crimps or corrugations serve to catch gusts of air which strike against the top of the lamp just below the passages G and I and to deflect them upwardly, inwardly, and downwardly, as shown by arrows, and thus serve to break the force of air currents or gusts and prevent them from interfering in any manner with the currents which are passing in and out of the lamp, as would otherwise be the case were this deflector not used. This plate L extends entirely around the top of the lamp, as shown in Fig. 4, and is supported just far enough from the body of the lamp, by means of the upwardly-turned upper edge of the body, to allow currents of air to pass between the top of the heated body and the plate L, and it thereby becomes heated as the air rises between them and before it enters the passage I. This crimped plate or deflector L is a great advantage to the lamp in many respects, and serves to render it impossible for the flame to be extinguished in an ordinary gale.

Formed inside of the body A of the lamp, around the entire inner surface thereof, is the air-passage or downtake J, through which all of the air which passes through the passage I and is fed to the flame passes. As the inner wall or partition M, which connects at its upper edge with the chimney portion T, and the cover become intensely heated, the air in passing down through the passage J becomes heated to a very high degree before passing up through the burner, as shown by arrows in Fig. 1, and hence a more perfect combustion is produced than where the air is fed cold in the usual manner.

In order to prevent a sudden accumulation of air, as when a gust of air enters the passage or when a very strong wind is blowing, openings N are made through the partition M near its lower end and any surplus of air will pass through these openings N into the combustion-chamber without effecting the flame in the slightest degree. These openings N make the flame safe against being extinguished under any circumstances, and the flame will always remain perfectly steady whether the lamp is being used where gusts of air or a continuous blow reaches it. All of the air which passes through the passage J, except what little escapes through the openings N, passes down under the top of the cone O of the burner and hence escapes in a highly-heated condition around the flame, thus producing a most brilliant illumination with very little consumption of oil.

In order to deflect the currents of air upward which pass through the openings N, the narrow semicircular flange or partition Y is placed inside of the lower end of the partition M, as shown in Figs. 1 and 4, to direct the flow of the surplus air up around the reflector Z, as shown.

The cone O is supported, either by means of rods or any other suitable devices, a suitable distance above the top of the plate R, and when the lamp-bowl is attached to the body by means of the projection A' on one side and the spring-catch B' upon the other the outwardly-turned edge of the cone O strikes against the lower edge of the partition M, and then the plate R serves to deflect the downward-flowing currents of air from the passage J inwardly under the cone O.

In order to keep the bowl B of the lamp always cool, openings P are formed through the ring Q, which extends upwardly from the outer edge of the bowl B and makes connection with the partition R, which extends across under the burner, as shown in Fig. 1. Heretofore openings have been made through the partition R, so as to allow the air to pass through this plate to the burner, but this air being almost cold, and it being very undesirable to have cold air pass to the flame in this instance, the plate is imperforate and no air passes through it. The perforations P extending all around the ring Q, the air sweeps directly across the top of the bowl B and thus



keeps the bowl always cool. The hinges or pintles S, upon which the side doors or windows T swing, have their ends bent horizontally inward and then vertically, as shown in Fig. 5. One end of this hinge or pintle is passed through a small round hole in the lamp-body and the other end is passed through a vertical slot U. Into this slot is then slipped a small wedge V, and then the plate or wedge is soldered in place, and the pintle is thus rigidly and very cheaply and simply secured in position. This manner of fastening the windows or doors in place is both very cheap, desirable, and much simpler than the methods heretofore used for that purpose.

I prefer a lens W of the shape here shown, because it concentrates the light and throws a very powerful beam a considerable distance in advance of the rider. This lens is secured in place by means of a ring, which is screw-threaded, so as to make connection with the lamp-body in the usual manner.

Having thus described my invention, I claim—

1. In a lamp, the chimney portion F having the plate G to extend horizontally therefrom, combined with the cover, and the air-passage J, the cover being provided with the plate E which extends horizontally inward above the plate H, but which does not make connection with the chimney portion, whereby a passage is left for the outward flow of the products of combustion, substantially as shown.

2. In a lamp, a cover provided with an inner chimney portion, a division-plate which separates passages for the escape of the products of combustion from a passage for the inward flow of air, the outer edge of the division-plate extending outwardly beyond the outer edge of the top, substantially as set forth.

3. In a lamp, a body, having its upper edge turned outwardly to form a support and the air-passage, combined with a corrugated plate or ring which is secured to the outwardly-turned edge; the corrugated or crimped ring allowing the passage of air between it and the top of the lamp-body, so as to heat the air before it reaches the air-passage, substantially as shown.

4. A hinge or pintle upon which the windows are pivoted and which hinge or pintle has its ends turned inwardly, and then vertically, combined with a lamp-body having perforations through which one end is passed, and a slot into which the other end is inserted, and a plate or wedge which is inserted in the slot, and is then secured in position, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. BRAGGER.

Witnesses:

FRANKLIN H. HOUGH,  
J. M. PFEIFFER.