

No. 896,703.

PATENTED AUG. 25, 1908.

C. BERGENER.
VEHICLE LAMP.

APPLICATION FILED SEPT. 13, 1907.

Fig. 1.

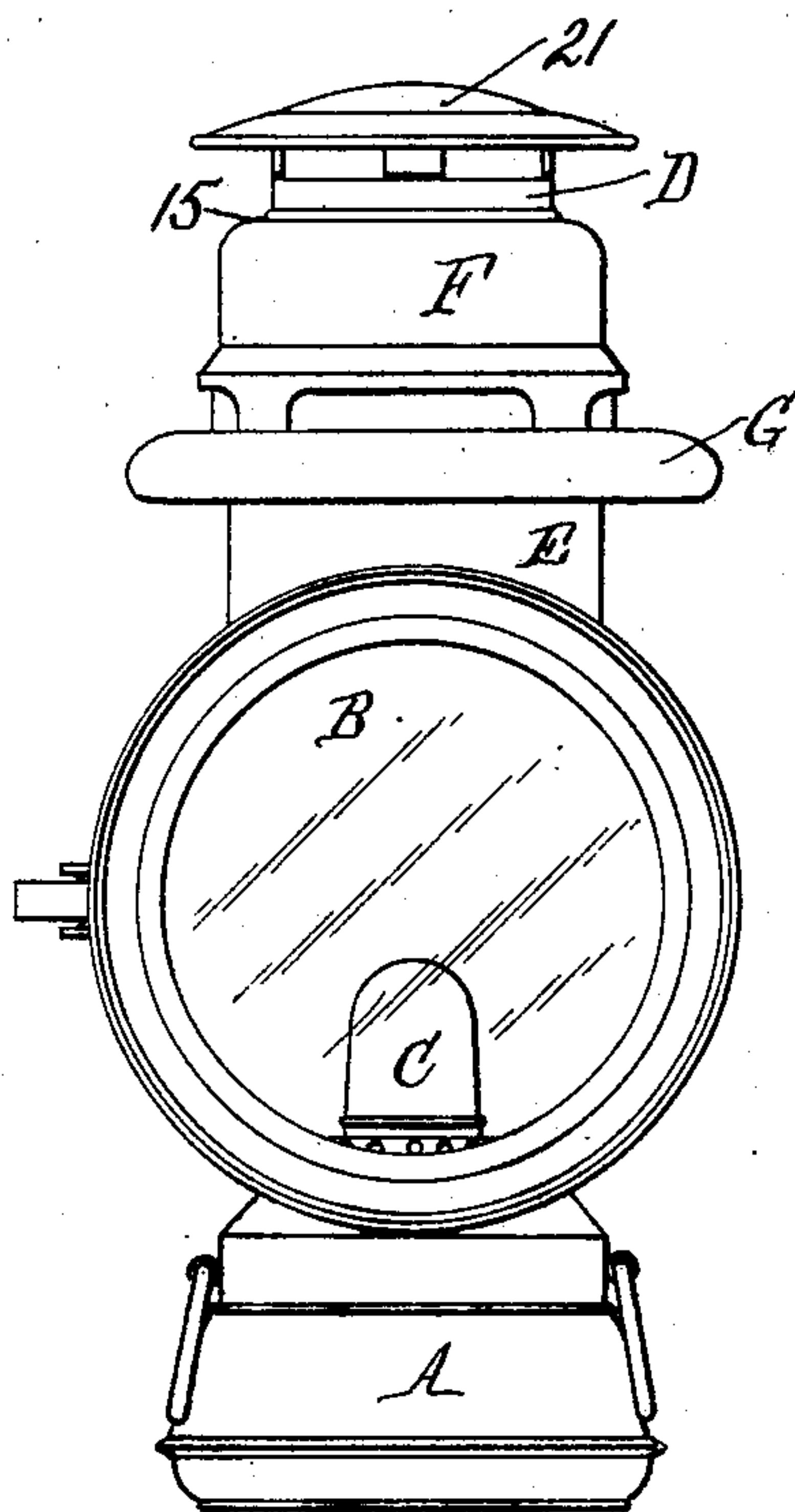


Fig. 3.

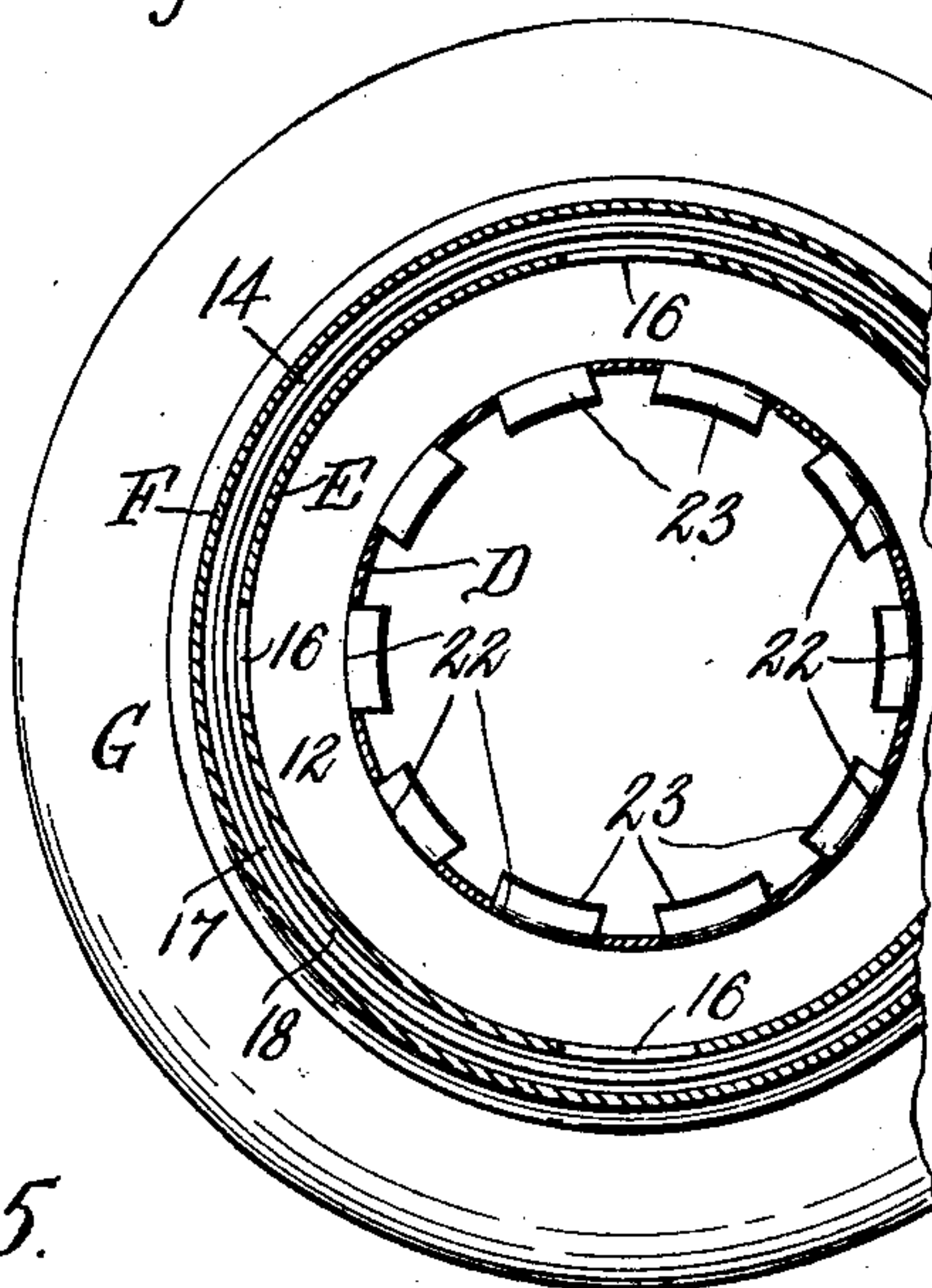


Fig. 5.

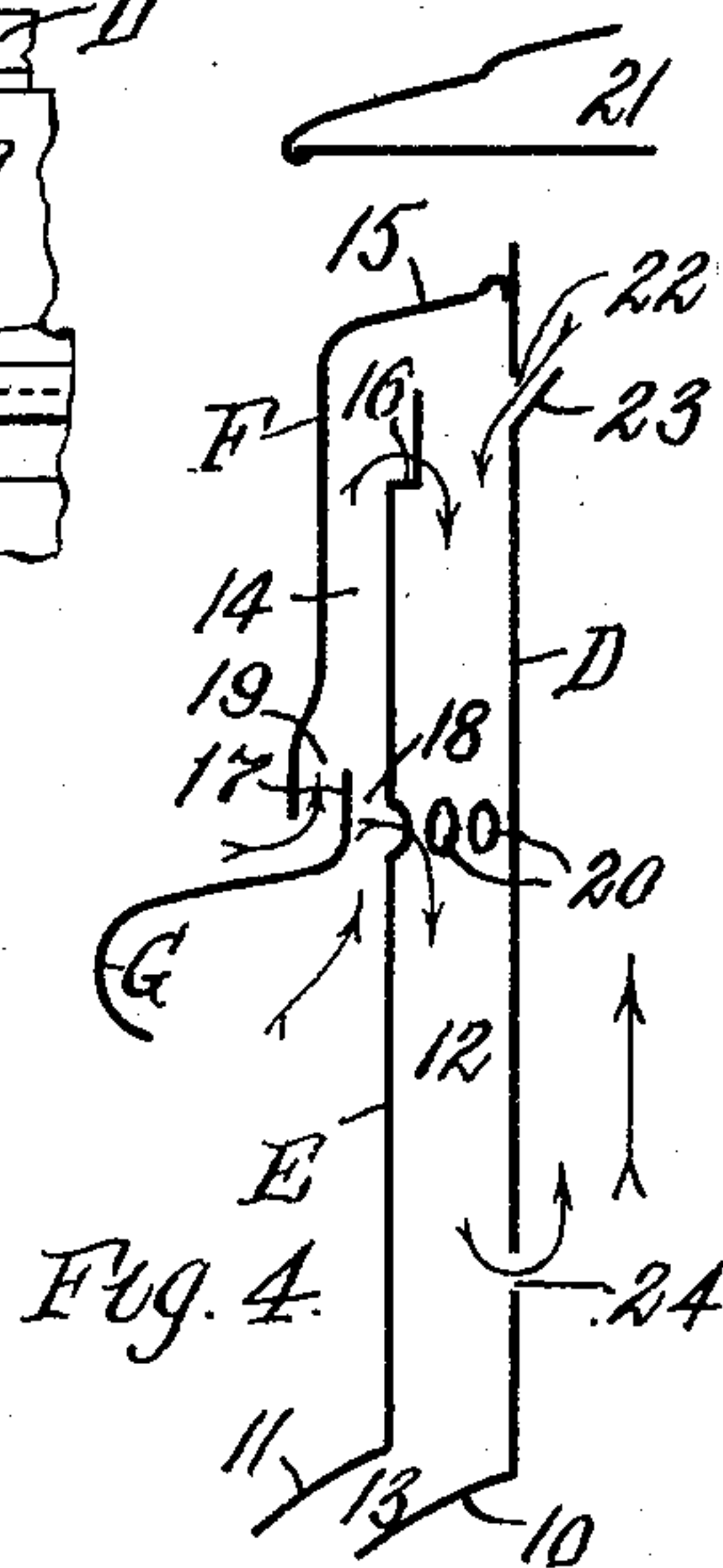
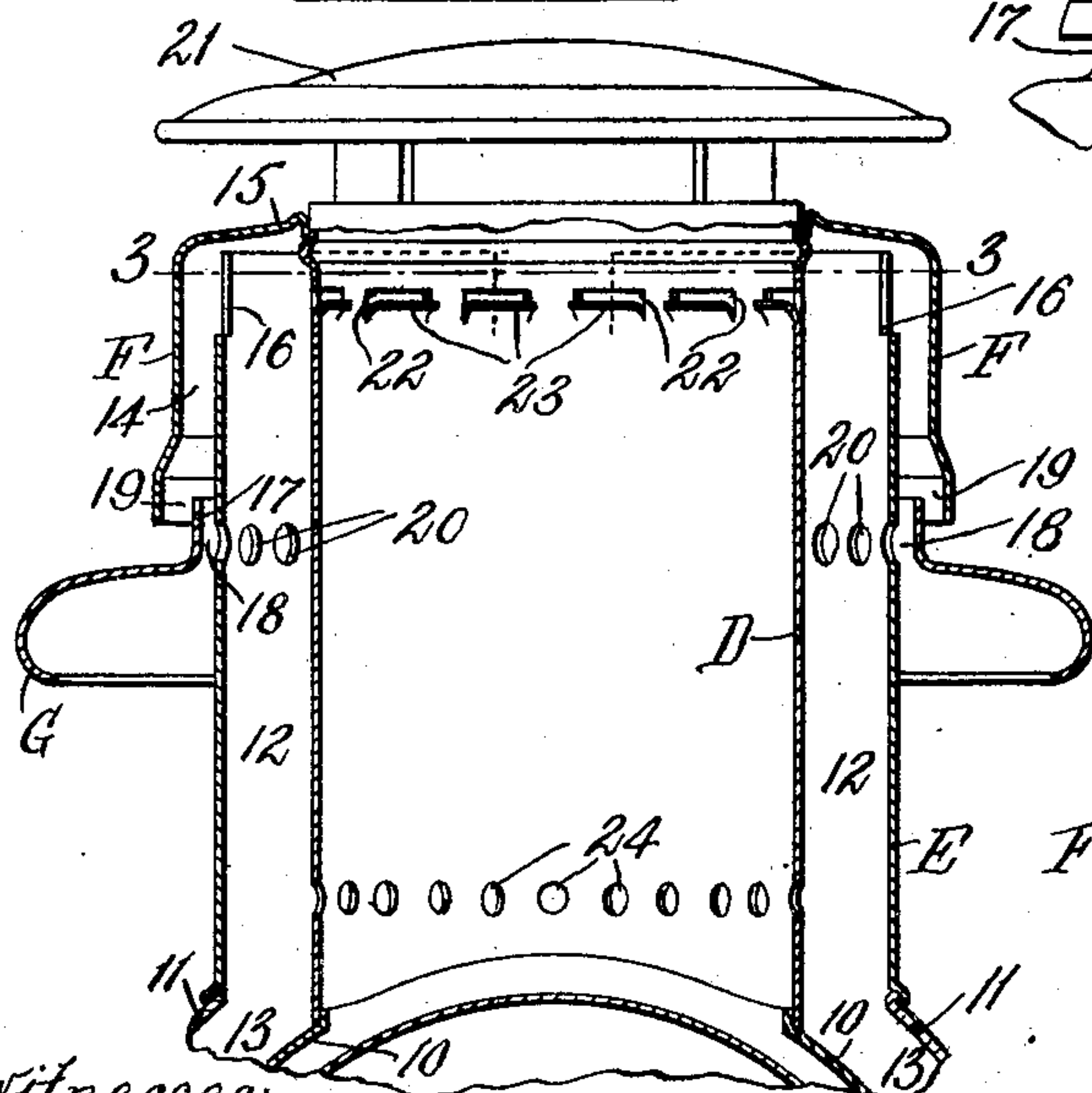
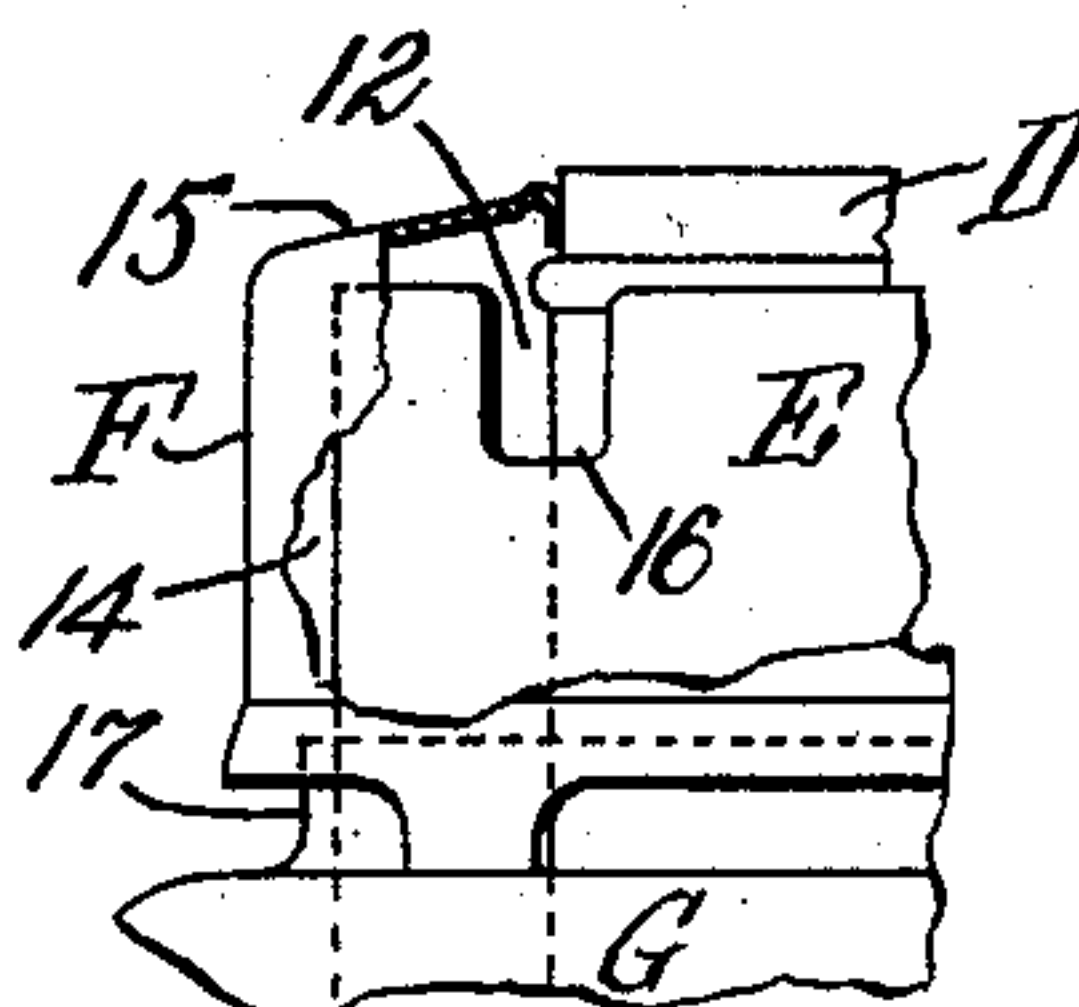


Fig. 2.

Witnesses:
A. G. Diamond.
E. A. Volk.

Inventor.
Charles Bergener
By Wilhelm Parker & Ward
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES BERGENER, OF ROCHESTER, NEW YORK, ASSIGNOR TO C. T. HAM MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK.

VEHICLE-LAMP.

No. 896,703.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed September 13, 1907. Serial No. 392,625.

To all whom it may concern:

Be it known that I, CHARLES BERGENER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Vehicle-Lamps, of which the following is a specification.

This invention relates to that class of vehicle lamps which comprise a metallic flame chamber into which the burner projects from below, a metallic chimney which extends upwardly from the flame chamber, and an annular air duct or passage which surrounds the metallic chimney and extends from the upper portion of the latter downwardly and communicates with the burner below the flame chamber and supplies the same with air for supporting the flame. The air inlets by which the external air enters the upper end of this descending air duct are usually provided with overhanging annular deflectors which direct the air into the duct or passage in a downward direction. When such lamps are exposed to rain or flying mud, as they often are in use on automobiles and other vehicles, the rain or mud enters this air passage and fills the same more or less. This is particularly objectionable in the case of wet mud because the heat in the flame chamber and chimney dries or bakes the mud in the air passage and this causes the latter to become filled by accumulations of mud until the lamp becomes unserviceable for want of air supply to the burner.

The object of this invention is to construct the air inlet devices of the descending annular air passage in such manner that they will effectually prevent the entrance of rain and mud into the passage and keep the latter free for a copious supply of air to the burner under the varying conditions of exposure to which such lamps are subjected in actual use.

In the accompanying drawings: Figure 1 is a front elevation of a vehicle lamp embodying this invention. Fig. 2 is a vertical transverse section of the upper portion of the lamp, on an enlarged scale. Fig. 3 is a fragmentary horizontal section in line 3—3, Fig. 2. Fig. 4 is a diagrammatic sectional elevation of one side of the upper portion of the lamp. Fig. 5 is a fragmentary elevation of the upper air chamber.

Like reference characters refer to like parts in the several figures.

A represents the oil pot and B the flame

chamber into which the burner C projects from below and which comprises an inner wall 10 and an outer wall 11, as usual.

D represents the metallic chimney which is mounted upon the inner wall 10 of the flame chamber, and E represents the upright cylindrical wall which surrounds the chimney and is mounted upon the outer wall 11 of the flame chamber.

12 represents the descending annular air passage which is formed between the chimney D and the outer wall E and which divides above the flame chamber into branches 13, formed between the walls 10 and 11 of the flame chamber and leading to the under side of the burner in a well known manner.

F represents the outer wall of the air chamber 14 which is open at the bottom for the reception of the outer air and closed at the top 15 to inject the air into the upper end of the descending air passage 12. The annular top 15 of this air chamber is secured to the upper portion of the chimney D above the upper edge of the annular wall E of the descending air passage 12, which edge is provided with notches 16 or other communications through which the air passes from the chamber inwardly into the descending passage 12.

G represents an annular deflector arranged below the air chamber 14 for deflecting the air upwardly into the lower end thereof. This deflector is preferably provided with an upwardly projecting annular collar 17 which is arranged at a short distance outwardly from the cylindrical outer wall E of the descending air passage, so as to leave an annular air passage 18 between the collar 17 and the wall E, through which air can flow upwardly along the outer side of the wall E and enter the air chamber 14. This collar 17 projects preferably into the lower portion of the air chamber 14, as shown, and is separated from the outer wall of the air chamber by an annular air passage 19.

An annular row of openings 20 is preferably formed in the wall E of the descending air passage inside of the injecting flange or deflector G for admitting outside air into the descending air passage below the upper or inlet end thereof. The air becomes heated in the upper portions of the air chamber 14 and descending air passage 12 and the resulting rarefaction of the air interferes somewhat with the downward flow of the air

through the passage 12. The cool outer air entering through the openings 20 commingles with the heated air flowing downwardly through the passage 12 and accelerates the downward flow of the air to the burner.

Air currents blowing against the top of the lamp are deflected upwardly by the cylindrical wall E and the deflector G and flow upwardly into the air chamber F and pass through the openings 16 into the upper end of the descending passage 12 and from the latter to the burner and then upwardly through the flame chamber and the chimney D. The air current flowing downwardly through the descending passage 12 is augmented and cooled by air which enters said passage through the openings 20.

If rain or mud strikes the lamp top the same is shed downwardly and prevented from entering the descending air passage by the wall F of the air chamber and the deflector G, these parts guarding effectively the inlet openings 16 and 20 of the descending passage. The latter is thereby kept clear and free for the passage of the air and the air supply to the flame is properly maintained under all conditions.

The chimney is surmounted by the usual cap 21 and the upper portion of the chimney is preferably provided with openings 22 which are arranged below the closed top of the air chamber and through which air can pass from the chimney into the upper portion of the descending passage 12. Air currents which blow across the chimney below the cap 21 and enter the chimney pass in part through these openings into the descending air passage, and this action can be promoted by deflectors 23 which project upwardly and inwardly from the lower ends of these openings. These deflectors also serve to deflect the column of hot products of combustion which ascends in the chimney away from these openings.

Openings 24 are preferably formed in the lower portion of the chimney for admitting fresh cool air from the descending passage into the lower part of the chimney. The cool air so admitted to the chimney cools the latter in flowing along the inner side of the chimney and assists in keeping the ascending column of hot products of combustion away from the upper air openings 22.

I claim as my invention:

1. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith a descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top which extends from said chimney outwardly over said wall, said air chamber being open at its lower end for the admission of air and said upright wall having within the upper portion of said air chamber a communication

through which the air flowing upwardly through said chamber passes inwardly into said descending passage, and a deflector which is arranged around said surrounding wall below the open lower end of said air chamber and deflects the air upwardly into said chamber, substantially as set forth.

2. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith a descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top which extends from said chimney outwardly over said wall, said air chamber being open at its lower end for the admission of air and said upright wall having within the upper portion of said air chamber a communication through which the air flowing upwardly through said chamber passes inwardly into said descending passage, and a deflector arranged around said surrounding wall below the open lower end of said air chamber, said surrounding wall being provided with air inlet openings inside of said deflector, substantially as set forth.

3. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith a descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top which extends from said chimney outwardly over said wall, said air chamber being open at the lower end for the admission of air and said upright wall having within the upper portion of said air chamber a communication through which the air flowing upwardly through said chamber passes inwardly into said descending passage, and a deflector which is arranged around said surrounding wall below the open lower end of said air chamber and provided with an upwardly projecting collar which is separated from said surrounding wall by an inner air passage and from the wall of said air chamber by an outer air passage, substantially as set forth.

4. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith a descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top which extends from said chimney outwardly over said wall, said air chamber being open at the lower end for the admission of air and said upright wall having within the upper portion of said air chamber a communication through which the air flowing upwardly through said chamber passes inwardly into said descending passage, a deflector which is arranged around said surrounding wall below the open lower end of said air chamber and deflects the air upwardly into said chamber, and air openings formed in the upper portion

of said chimney below the top of the air chamber and provided with inwardly and upwardly projecting deflectors, substantially as set forth.

- 5 5. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith a descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top
10 which extends from said chimney outwardly over said wall, said air chamber being open at the lower end for the admission of air and said upright wall having within the upper
15 portion of said air chamber a communication through which the air flowing upwardly

through said chamber passes inwardly into said descending passage, the lower portion of the chimney being provided with openings which admit air to the chimney from the descending passage, and the upper portion of the chimney being provided below the top of the air chamber with openings which admit air from the chimney to the descending passage, substantially as set forth. 20

Witness my hand in the presence of two subscribing witnesses. 25

CHARLES BERGENER.

Witnesses:

EDWARD WILHELM,
C. B. HORNBECK.