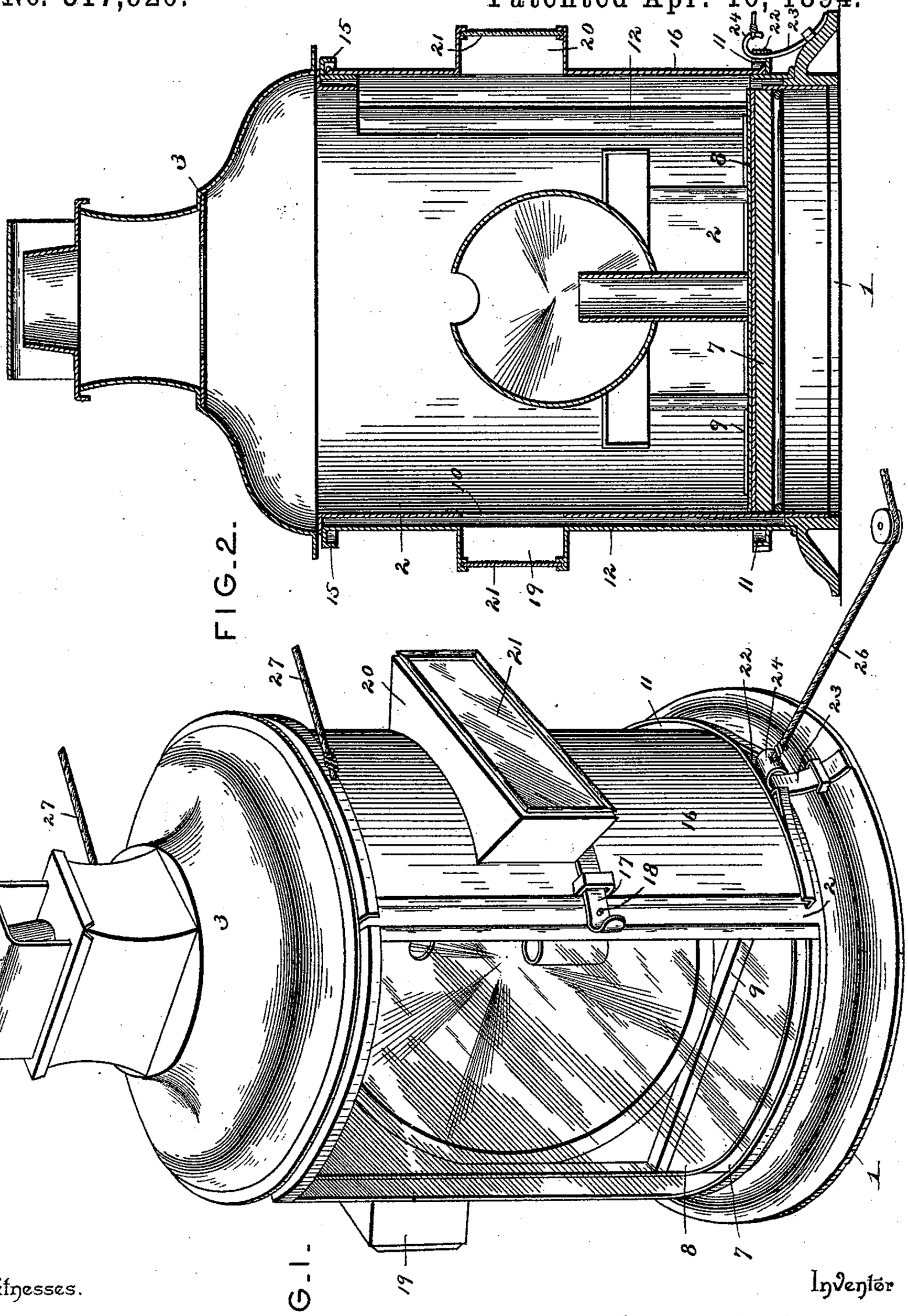
(No Model.) 2 Sheets—Sheet 1.

E. C. GLAZIER.

HEADLIGHT.

No. 517,920. Patented Apr. 10, 1894.



Witnesses.

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(No Model.) 2 Sheets—Sheet 2.

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FIG. 4.

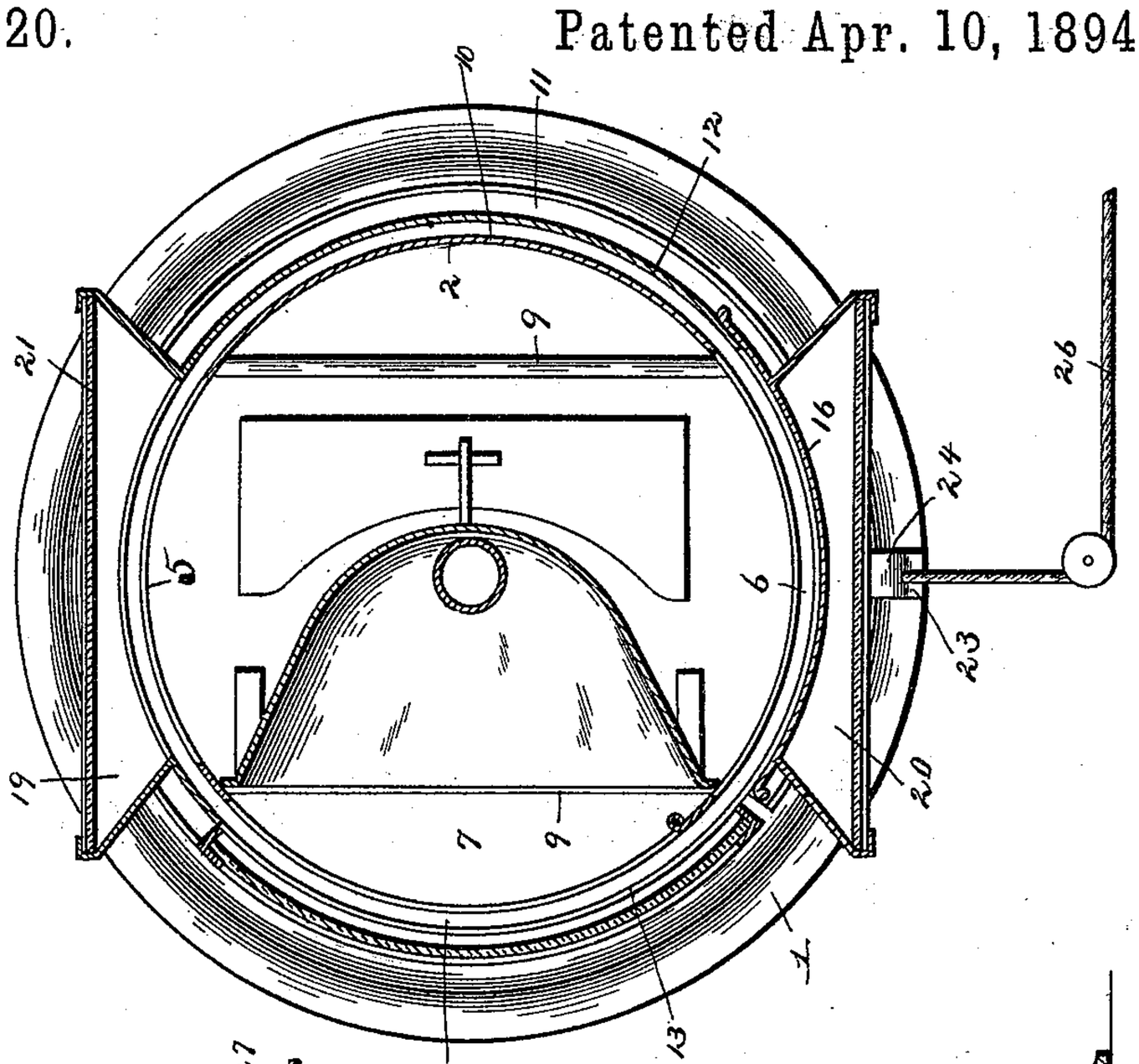
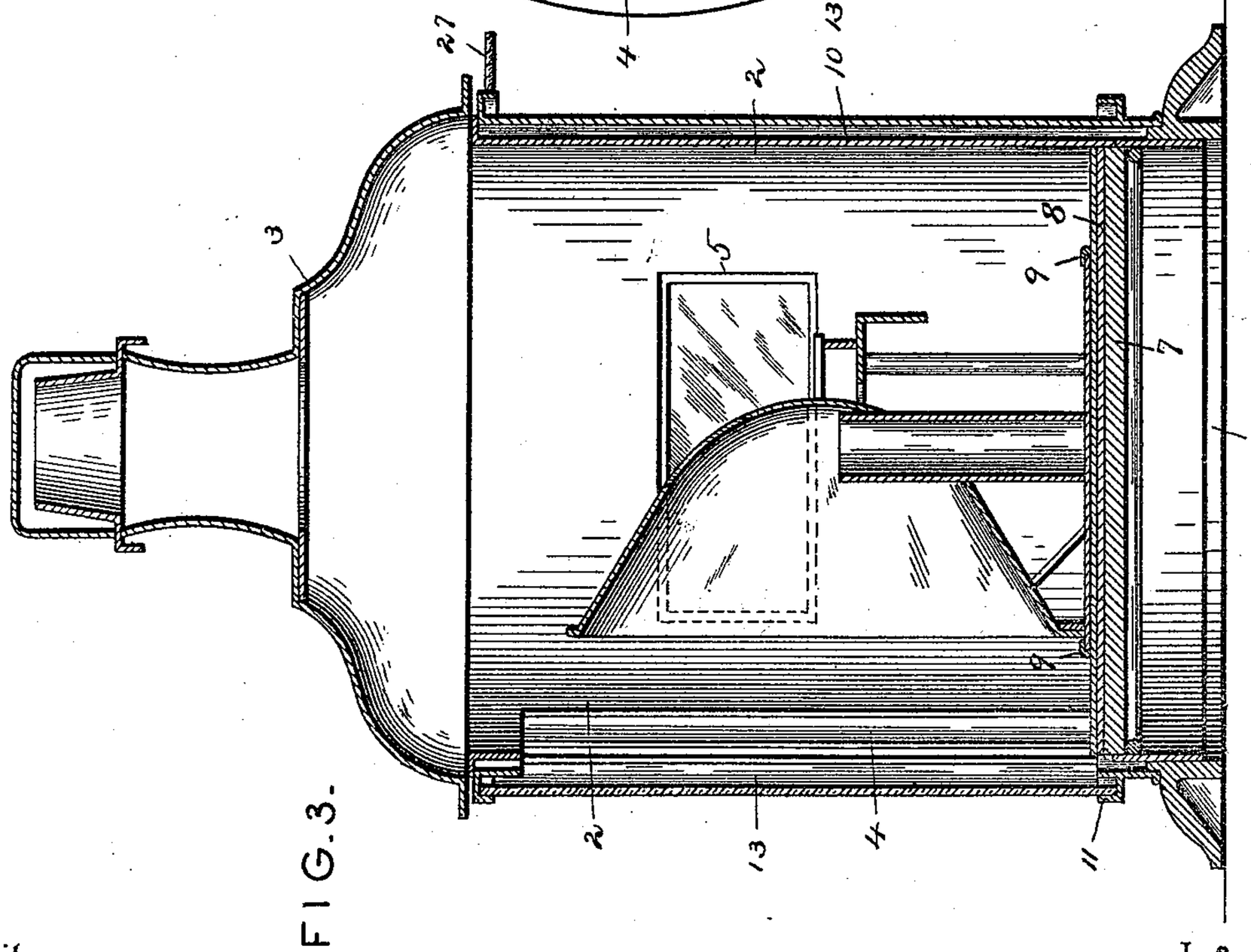


FIG. 3.



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UNITED STATES PATENT OFFICE.

ELIAS C. GLAZIER, OF ROCHESTER, NEW YORK.

HEADLIGHT.

SPECIFICATION forming part of Letters Patent No. 517,920, dated April 10, 1894.

Application filed April 13, 1893. Serial No. 470,245. (No model.)

To all whom it may concern:

Be it known that I, ELIAS C. GLAZIER, 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 Locomotive-Headlight, of which the following is a specification.

My invention relates to improvements in headlights for use upon locomotives; and the objects in view are to produce a simply constructed headlight which may if desired be operated from the cab of the locomotive, and is adapted to be darkened as when sidetracked or to expose signals to an approaching train, and at all times to expose to the view of passing trains at either side the number of the locomotive carrying the same; to arrange such a door for gaining access to the headlight as will be uninfluenced by the strong winds or drafts to which it is subjected and hence accidental opening of the same avoided; and finally to obviate the great air-pressure against the glass at the front of the locomotive as is generated by rapidly moving trains.

With these and other objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a headlight constructed in accordance with my invention, the same being shown in such position as to expose the reflected light as when running. Fig. 2 is a vertical transverse sectional view through the opposite number-carrying lights. Fig. 3 is a vertical transverse sectional view at a right angle to that of Fig. 2. Fig. 4 is a horizontal transverse sectional view.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing the invention I employ an annular metal base 1, the same having any desired external ornamental configuration, and secured within this annular base is the inner, and in the present instance, stationary, cylinder 2. This cylinder 2 rises from the base a suitable distance, and is surmounted by a dome 3 of ordinary formation. The cylinder 2 is provided with the reflector light opening 4, and at one side of the same with a transverse slot or opening 5 located between the upper and lower ends of the cylinder, and diametrically opposite the same or at the opposite side of the reflector-light opening with a door-opening 6. Supported in the lower end of the cylinder 2, flush with the upper edge of the base 1, is a disk-like bottom 7, the same being covered with a sheathing 8 of metal, upon whose upper side a pair of parallel guide-ways 9 are located, the same being of a distance apart agreeing with the width of the door-opening 6 and adapted to receive the usual reflector and its support. That portion of the cylinder diametrically opposite the reflector-light opening 4 may be imperforate to form a dark-side 10.

When I speak of the dark-side hereinafter in the specification I mean to include either an imperforate wall or a proper signal as indicated.

The upper edge of the base 1 is surrounded by an annular rib 11, and encircling this rib and swiveled upon the base is the outer revolving cylinder 12. This cylinder 12 is provided with a glass covered reflector-light exposing opening 13, the glass panel therein being curved or partially cylindrical as shown and therefore serving to divide or diffuse the strong air-pressure coming thereagainst and generated by the rapidly moving train. This air-pressure is very considerable and oftentimes breaks flat panels of glass employed in locomotive headlights. By curving the same, however, and making them partially cylindrical the air becomes deflected and is prevented from exerting its pressure against the glass panel at such an angle as to cause damage.

At one side of the reflector-light glass covered opening, the outer cylinder 12 is provided with a door-opening 14, and above and below the same is provided with curved ways 15, in which is mounted the transversely curved sliding door 16 adapted to cover the opening, and inasmuch as the ways extend in rear of said opening, the door may be slid from over and expose the opening, thus giving access to the interior of the headlight for the purpose of adjusting the lamp or otherwise attending to it, and also for cleaning the interior of the light. The door is secured in position, as closing the opening 6 of the inner cylinder 2, by any suitable securing device, such for instance as the spring-hasp 17, which is perforated to

engage with a lug 18 on the side of the door-opening. Diametrically opposite the door-opening the outer cylinder 12 is provided with a transverse slot 19, the same being of a shape and location as will adapt it to align with the opening 5 of the inner cylinder, and a corresponding slot 20 is formed in the sliding door itself. These openings are flanged and provided with colored glass panels 21, upon which appears the figures or numerals representing the number of the locomotive. The lower way in which the door slides is at diametrically opposite sides provided with notches 22, whose approach at each side is inclined, and into these notches there is adapted to engage a spring detent 23 secured to the base and having an eye 24. A cord 26 leads from the eye to the cab of the locomotive, and cords 27 lead from opposite sides of the outer cylinder to the cab, so that as will be obvious the engineer or his fireman may withdraw the detent and by operating the cords oscillate the outer cylinder to the right or left. By swinging the cylinder entirely around so that its imperforate or dark-side is brought opposite the reflector-light opening of the inner cylinder, it will be seen that no light will be shown to an approaching train, and thus the engineer of such train will be notified that the way is clear and that the lights he sees are those of a side-tracked train. Heretofore curtains have been employed for this purpose, said curtains being located in some instances upon the inner side of the head-light, and in other instances upon the outer side. Either arrangement, however, has objections, the first instance being objected to in that the heat from the light was so great as to soon char and destroy the curtain; and when said curtain was located upon the outside, as in the second instance, it would become wet and frozen and oftentimes inoperative, so that the arrangement has not been satisfactory. By my arrangement, however, the light will be positively shut off by mechanical operation in the cab of the locomotive, if the cords should be employed, or, if desired, instead of exposing an entirely dark-side I, as before stated, may employ at said dark side a goggle or semaphore. When either the light or dark side of the lantern is to the front, it will be seen that the opposite number-bearing channels are at the sides of the lamp and in alignment with openings 5 of the inner cylinder, so that their numbers will always be exposed to view to the engineers of passing trains, whether the lamp be arranged so as to present a dark or light front.

It will be obvious that I may omit the cords for operating the head-light, and operate the same by hand, as is now the case; also that the relative functions of the inner and outer cylinders may be changed, that is to say, the inner cylinder may be movable and the outer cylinder immovable, the whole being comprehended as within my invention, as are also any changes in the details that will suggest themselves to a skilled mechanic.

Having described my invention, what I claim is—

1. A head light for locomotives comprising a stationary cylinder 2 having a light opening and a dark side, a stationary dome 3 surmounting the cylinder, and an exteriorly revolving cylinder 12 entirely surrounding the stationary cylinder and having a glass covered reflector-light exposing opening and a dark side, substantially as specified.

2. A head light for locomotives comprising the inner stationary section having side and front openings, and the revolving outer section having the glass covered light-exposing opening at the front, and at opposite sides the number-bearing illuminating panels, which are carried by the revolving section in its movement so that in either position of adjustment of the revolving section the number-bearing panels will always be disposed at the sides and exposed to passing trains, substantially as specified.

3. In a headlight for locomotives, the combination with an inner stationary cylinder having a light-exposing opening, at one side of the same provided with a door-opening, and at the opposite side with a slot, of an outer revolving cylinder provided with a glass covered light-exposing opening, at one side with a door having a number-carrying plate mounted in the opening, a number-carrying plate arranged diametrically opposite the same in a corresponding opening, and between said openings diametrically opposite the light-exposing opening having a dark side, substantially as specified.

4. In a headlight for locomotives, the combination with an annular ring whose upper side is provided with an annular rib, an inner stationary cylinder secured to the ring and provided with a bottom, a light-opening, a door-opening, and a slot opposite the same formed in the stationary cylinder, of an external cylinder having corresponding openings, a dark side opposite its light-opening, curved ways formed upon the cylinder, the lower one of which is provided at diametrically opposite sides with notches, a sliding door located in the ways, and a detent secured to the base for engaging the notches, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ELIAS C. GLAZIER.

Witnesses:
EUGENE H. SATTERLEE,
CHARLES E. BOSTWICK.