

(No Model.)

R. J. ARMOUR.

TAIL LAMP FOR RAILROAD TRAINS.

No. 372,054.

Patented Oct. 25, 1887.

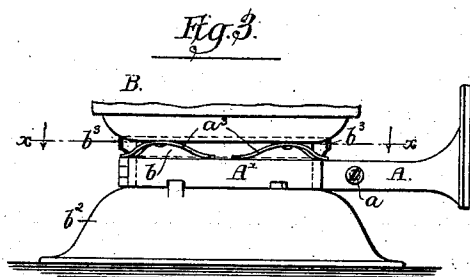
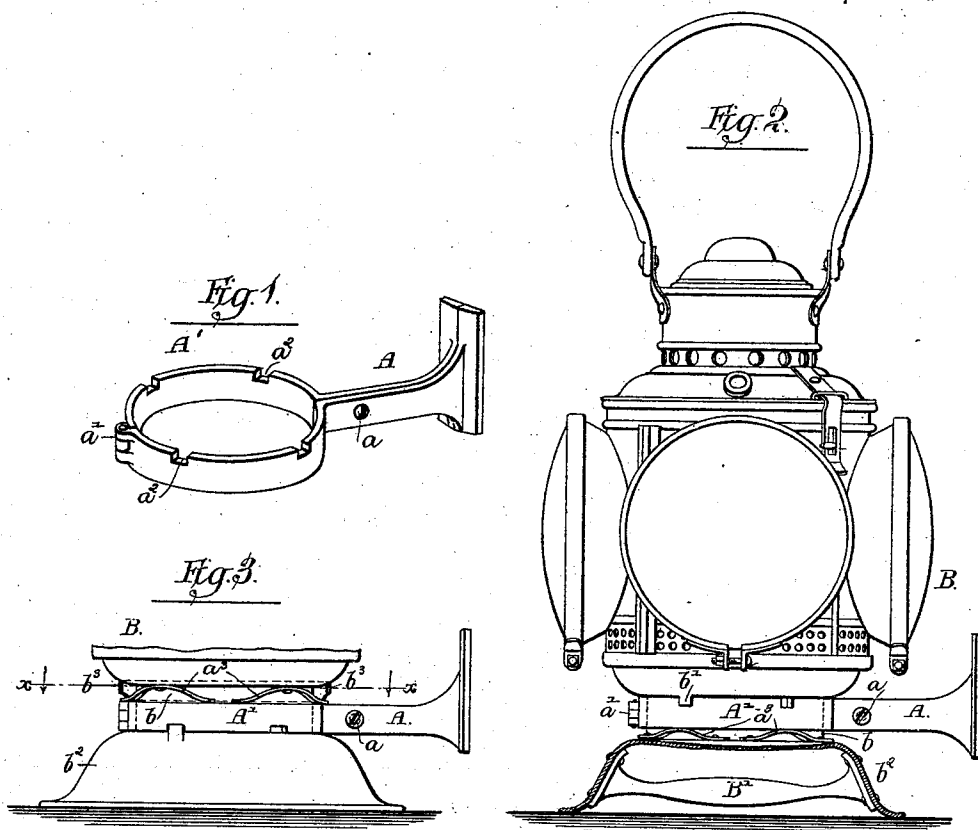
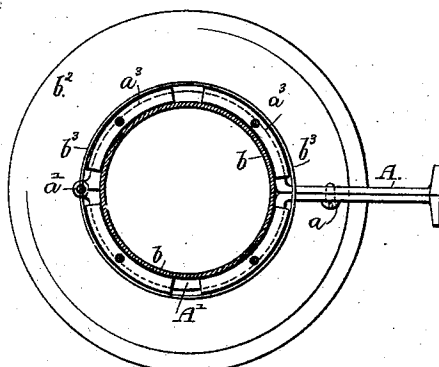
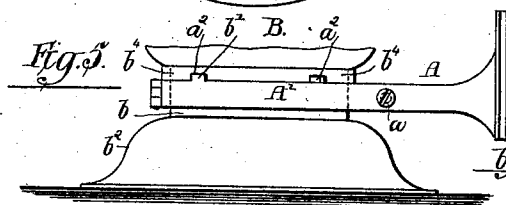


Fig. 4.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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TAIL-LAMP FOR RAILROAD-TRAINS.

SPECIFICATION forming part of Letters Patent No. 372,054, dated October 25, 1887.

Application filed February 28, 1887. Serial No. 229,100. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. ARMOUR, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Tail-Lamps for Railway-Trains; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference
10 marked thereon, which form a part of this specification.

Tail-lamps for railway-trains are those lamps which are put out at the rear of trains as signals to trains which may follow. Each lamp
15 has glasses of different colors for the variation of the signal, and to change the signal the lamp is turned to bring the proper color of glass to the rear. Such lamps are usually supported by a bracket removably attached to the corner-post of the car and embracing a circular
20 part of the lamp near the base thereof, and to change the signal the lamp is rotated by hand in the bracket. For this purpose a cross bar or handle has been placed within the open
25 base accessible when the lamp is in its elevated position, and a spring-latch, in reach of the thumb of the hand which grasps the handle, has been employed to engage the lamp with the clamp or ring of the bracket at each
30 of the four positions to which it may be rotated. This latch has been constructed to work laterally or horizontally only.

My improvement relates to devices for locking the lamp in each of its several signaling
35 positions; and it consists, primarily, in a latch device constructed and arranged to operate by a vertical movement of the lamp, and, secondarily, in the combination, with the lamp and its supporting-bracket, of a spring operating
40 in a vertical direction, as will be more fully understood from the following description and the appended claims.

Referring to the drawings as illustrations of certain forms in which my invention may be
45 practically embodied, Figure 1 is a perspective view of a bracket for the support of a tail-lamp having a series of notches in the upper edge of the bracket-ring to receive a suitable projection fixed upon the lamp. Fig. 2 is a
50 side elevation of a tail-lamp supported in the bracket of the form shown in Fig. 1. Fig. 3 is a fragmentary view in elevation of a lamp

supported in a bracket having notches in its lower edge, the lamp being upheld to retain the projection thereon within a notch of the
55 bracket by means of a spring or springs which rest upon the bracket and sustain the lamp. Fig. 4 is a view in horizontal section through xx of Fig. 3, looking downward, intended to more fully show the springs of Fig. 3. Fig. 60
5 is a modification of the construction shown in Figs. 1 and 2, being merely a reversal of the position of the notches and the projection which engages them.

A is the bracket having a ring, A', said
65 bracket being commonly made in two parts secured together by a screw or screws, a , and in this instance joined by a hinge, a' , though often unattached at this point.

B is a signal-lamp, the cylindric neck b of
70 which between the body and the base of the lamp is embraced snugly, but freely, by the ring A'. The neck b of the lamp is vertically wider than the ring A' of the bracket, so that the lamp may be raised and lowered a short distance within and while embraced by the ring.
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In Figs. 1 and 2, a^2 a^2 are upwardly-open notches (usually four in number, corresponding with the number of faces of the lamp) formed in the ring A', and b' of Fig. 2 is a
80 projection fixed to the lamp in position to set down into any one of the notches a^2 over which it may be brought. Said projection and notches are of course so arranged that when the projection is in one of the notches a particular face of the lamp will be properly directed for the desired signal effect.
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It is obvious that in the construction above explained it is only necessary to raise the lamp and turn it to bring either face thereof to the
90 rear and to lock it in a required position by engagement of the projection b' with an appropriate notch a^2 , and that such engagement will be made and maintained by the weight or gravity of the lamp.
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B' is a cross bar or handle secured in the downwardly-open base b^2 of the lamp, by which handle the lamp may be seized in lifting and turning it.

If the gravity of the lamp be thought insufficient to retain the projection b' in engagement with the notch a^2 , a vertically-acting spring or series of springs may be employed to press the engaging parts of the lamp and bracket-
100

ring toward each other. Such a series of springs is shown at a^3 , Fig. 2, being indicated in the form of bent plate-springs bearing at their middle points upon the ring A' and at their ends upon a ledge at the base of the neck b of the lamp. These springs are of course curved to conform with the circular form of the neck. It is, however, to be understood that I am not restricted to this or any other particular form or arrangement of a spring or springs, since, obviously, they may be made of various forms and variously applied.

In Fig. 3 the notches a^2 in the bracket-ring A' are shown opening downwardly, and the projection b' on the lamp which engages with said notches is located at the base of the neck b . In this case gravity of the lamp will manifestly tend to force the projection out of the notch, although the engagement and disengagement of the parts is by vertical movement of the lamp, as in the construction previously described. In the case illustrated in Fig. 3 the lamp is therefore sustained in some suitable way to hold the lamp in non-rotating engagement with the bracket-ring. For this purpose springs a^3 , similar to those of Fig. 2, are shown attached centrally to the body of the lamp and bearing at their free ends upon the upper edge of the bracket ring A' , said springs being sufficiently stiff to reliably sustain the weight of the lamp and to require the lamp to be pulled downwardly to disengage it from the ring preparatory to rotating it to a new position.

Fig. 4 shows the springs a^3 in plan view as applied in Fig. 3.

In the arrangement of the springs shown in Fig. 3 a depending guard-flange, b^3 , may be fixed to the body of the lamp just outside said springs to more reliably retain the latter in place, the arm of the bracket A and the hinge a' thereof being desirably narrower than the ring A' , to allow the lamp to be drawn down properly without obstruction from said guard-flange.

In Fig. 5 I have shown the projection b' on the bracket-ring and the notches a^2 in the body of the lamp, a ring, b^4 , containing said notches, being fixed to the lamp-body. This is a mere reversal of the positions of the engaging parts possible of both constructions above described, and is not to be regarded as a departure from the invention illustrated in the preceding figures, and generally I do not wish to be restricted to the precise details of construction herein shown and described.

A material advantage of the construction set forth, wherein the engagement and disengagement of the lamp with the bracket-ring is effected by a vertical movement of the lamp, is found in the greater convenience and haste

with which the signal may be changed; for in the old construction having the thumb-latch it has been found awkward and often very difficult to work the latch in the particular attitude of the hand which the position of the cross-bar required. Moreover, it was necessary to first determine at which end of the cross bar or handle the thumb-latch was located before seizing the handle, and in the dark and when haste was necessary this was liable to occasion an objectionable though only brief delay. In the construction described it is immaterial in which direction the hand grasps the cross-bar, since only, first, a vertical, and then a rotary, movement of the lamp is required, which may be accomplished always without delay or difficulty.

I claim as my invention—

1. The combination, with a bracket having a ring and a lamp supported rotatably in said ring, of mutually-engaging notches and projections on the several parts mentioned, arranged to engage and disengage each other by a vertical movement of the lamp with respect to the bracket ring, substantially as described.

2. The combination, with a bracket having a ring and a lamp supported rotatably in said ring, of mutually-engaging notches and projections on the several parts mentioned, arranged to engage and disengage each other by a vertical movement of the lamp with respect to the bracket-ring, and a spring or springs arranged in position to tend to hold the said parts in engagement, substantially as described.

3. The combination, with a bracket having a ring provided with upwardly-open notches, of a lamp provided with a neck which is embraced by and is wider than the bracket-ring, a projection on the lamp adapted to engage the notches of the ring, and a cross-handle secured to the base of the lamp, substantially as described.

4. The combination, with a bracket having a ring provided with open notches, of a lamp provided with a neck which is vertically wider than and is embraced by said ring, a projection on the lamp adapted to engage the notches of the ring, a spring or springs arranged in position to tend to retain the projection in the notch which it occupies, and a cross-handle secured to the base of the lamp, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

ROBERT J. ARMOUR.

Witnesses:

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