

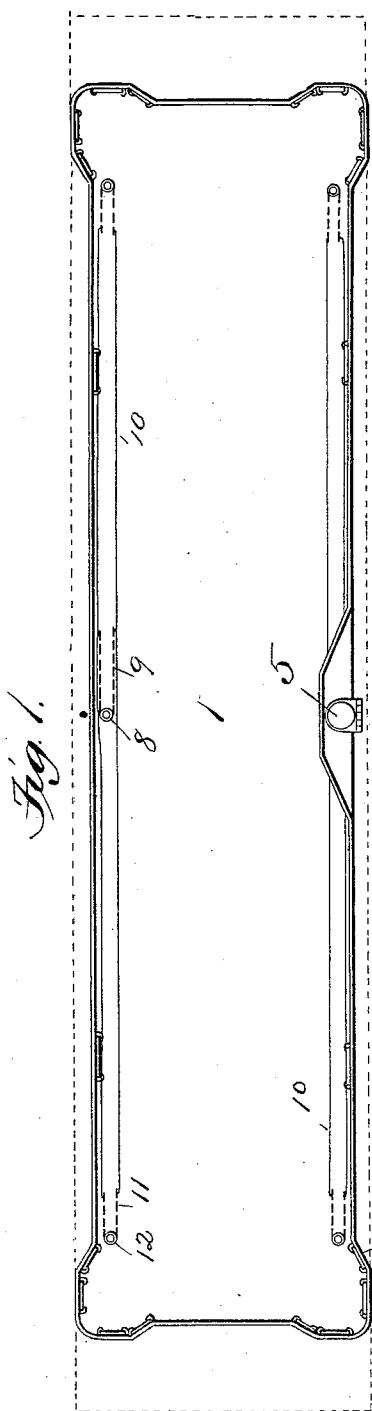
(No Model.)

2 Sheets—Sheet 1.

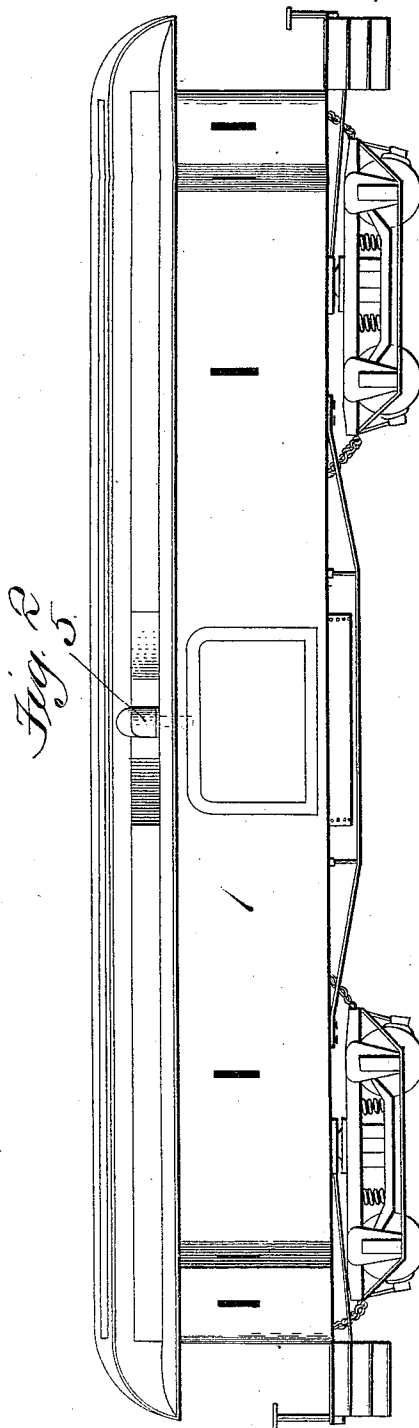
O. G. CATES, Jr.
SEARCH LIGHT.

No. 521,601.

Patented June 19, 1894.



Witnesses
J. R. Cornwall
Hugh K. Wagner



Inventor
Owen G. Cates, Jr.
By Paul Bakewell
his atty.

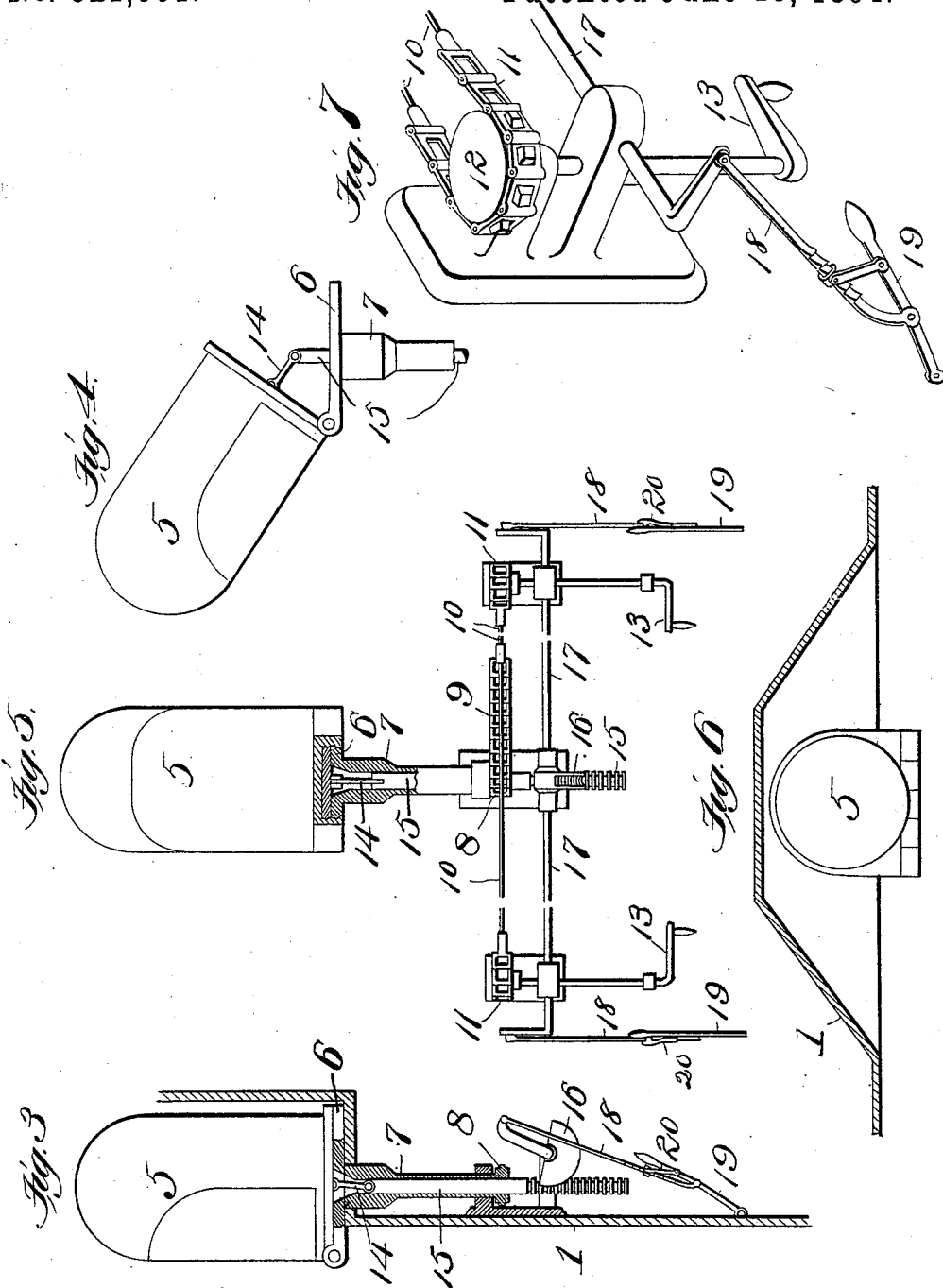
(No Model.)

2 Sheets—Sheet 2.

O. G. CATES, Jr.
SEARCH LIGHT.

No. 521,601.

Patented June 19, 1894.



Witnesses
J. R. Cornwall
Hugh H. Wagner

Inventor
Owen G. Cates, Jr.
By *Paul Bakewell*
his atty

UNITED STATES PATENT OFFICE.

OWEN G. CATES, JR., OF ST. LOUIS, MISSOURI.

SEARCH-LIGHT.

SPECIFICATION forming part of Letters Patent No. 521,601, dated June 19, 1894.

Application filed July 15, 1893. Serial No. 480,594. (No model.)

To all whom it may concern:

Be it known that I, OWEN G. CATES, Jr., a citizen of the United States, residing in the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Search-Lights, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, wherein like symbols of reference denote like parts wherever they occur, and in which—

Figure 1 is a diagrammatical view showing the application of my improvement to a railway car. Fig. 2 is a side elevational view of the same. Fig. 3 is an end elevational view of one of the lights. Fig. 4 is a detached view taken from the same point. Fig. 5 illustrates a detail view, in side elevation, of the lamp and its actuating mechanism, looking from the outside, the side wall, recess and top of the car being omitted. Fig. 6 is a plan view of the same; and Fig. 7 is a detail view.

My invention relates to a new and useful improvement in search lights, and consists in the construction, arrangement and combination of the several parts, whereby the light may be tilted and revolved from some distant point, to throw its rays in a given direction, all as will hereinafter be described, and afterward pointed out in the claims.

I have illustrated in the drawings the adaptation of my improved search light to a railway car, said lights being mounted in recesses in the sides and about midway the length of said car, but I do not wish to be understood as confining myself particularly to a car, as there are other and well known uses to which a search light of this character may be applied.

In the drawings, 1 indicates a car body, in the upper side walls of which, about midway its length, are formed recesses, into which my improved lights are received. These recesses as shown in the lower part of Fig. 1, are formed with flaring walls, to enable a greater area to be included within the radius of the rays from the light.

The lights, I have indicated in the drawings, at 5, in the form of hooded lamps, which are susceptible of being rotated in either direction to reflect the rays from the light, on either end of the car, which lamps are capa-

ble of being tilted, as shown in Fig. 4, to permit the rays of light to be also reflected down.

The lamp is pivotally mounted through the medium of a hinge joint on the outer side of its base when the same is in its normal position, on a revoluble plate 6, which plate or table is provided with a sleeve 7 extending down into the interior of the car, where it finds a bearing in brackets arranged on the side walls thereof. On the lower extremity of this sleeve is a sprocket wheel 8, which receives a short section of chain 9, as shown, whose ends are attached to rods or wires 10 running the length of the car. To the ends of these rods or wires are two short pieces of chains 11, which latter run over sprockets 12 arranged at the end of the car. Handles 13 are provided for the sprockets, which, when actuated, operate to revolve the same, and by the transmission of power being communicated to the sprocket 8, the same is also revolved, which rotates the lamp.

To tilt the lamp while it is in any of its revolved positions, I pivotally connect to its base, about the center thereof, a link 14, whose lower end is pivotally connected to a rod 15 slidably mounted in the sleeve 7. The lower end of this rod is formed with a series of circling teeth in the form of rings, with which a notched or toothed segment 16, mounted on a longitudinal shaft 17 having a bearing in the wall bracket, is adapted to engage and by its mesh therewith elevate the rod, which causes the lamp to assume a tilted position, as shown in Fig. 4, in which it may be also further revolved in any direction without affecting its inclination. To retain the lamp in this tilted position, I provide rock-arms on the ends of the shaft 17, near the ends of the car, and pivotally connect to said arms links 18, which are provided with ratchet teeth on their faces near their lower ends. Pivoted to the sides of the car, so as to be within easy reach of the operator, are levers 19, to which the lower ends of these links are connected, which levers also afford a bearing for and carry a sliding pawl 20 which is adapted to engage the teeth on the link 18, and retain the parts in a fixed or set position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a railway car formed with a recess in its side which opens to the exterior, of a revoluble table mounted in said recess, a lamp base pivoted at one side to said table, a sleeve extending down from the table to the interior of the car, means for revolving the table through the medium of the sleeve, and a rod extending through the sleeve and having a link on its upper end, which link is connected to the pivoted lamp base, through the medium of which rod and link, the lamp base may be tilted, substantially as described.

2. The combination with a railway car formed with a recess in its side which opens to the exterior, of a revoluble table mounted in the recess, a lamp base pivoted at its outer edge to said table, a sleeve extending down from the table to the interior of the car, a sprocket wheel on the lower end of the sleeve, chains for rotating said sprocket in either direction, a rod within the sleeve, a link connecting the upper end of the rod with the pivoted lamp base, said rod having teeth formed on its lower end, and means for operating the rod while the table is in any of its revolved positions, substantially as described.

3. In a search light, the combination with

the revoluble lamp table formed with a hollow sleeve, of a rod slidingly mounted in the sleeve and having a link connection with the lamp base, threads formed on the lower end of the rod, a segment for engaging the threads, and means for operating the segment to elevate the rod, substantially as described.

4. In a search light, the combination with the revoluble lamp table formed with a hollow sleeve, of a threaded rod slidingly mounted in the sleeve and having a link connection with the pivoted lamp base, a segment for elevating the rod through the medium of its engagement with the threads on the rod, a horizontally-disposed rod upon which said segment is fixedly mounted, which rod has rock-arms on its ends, links attached to said rock-arms, and formed with ratchet teeth, an operating lever to which said links are connected, and a pawl pivoted on the lever and sliding on the link, substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 8th day of July, 1893.

OWEN G. CATES, JR.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.