

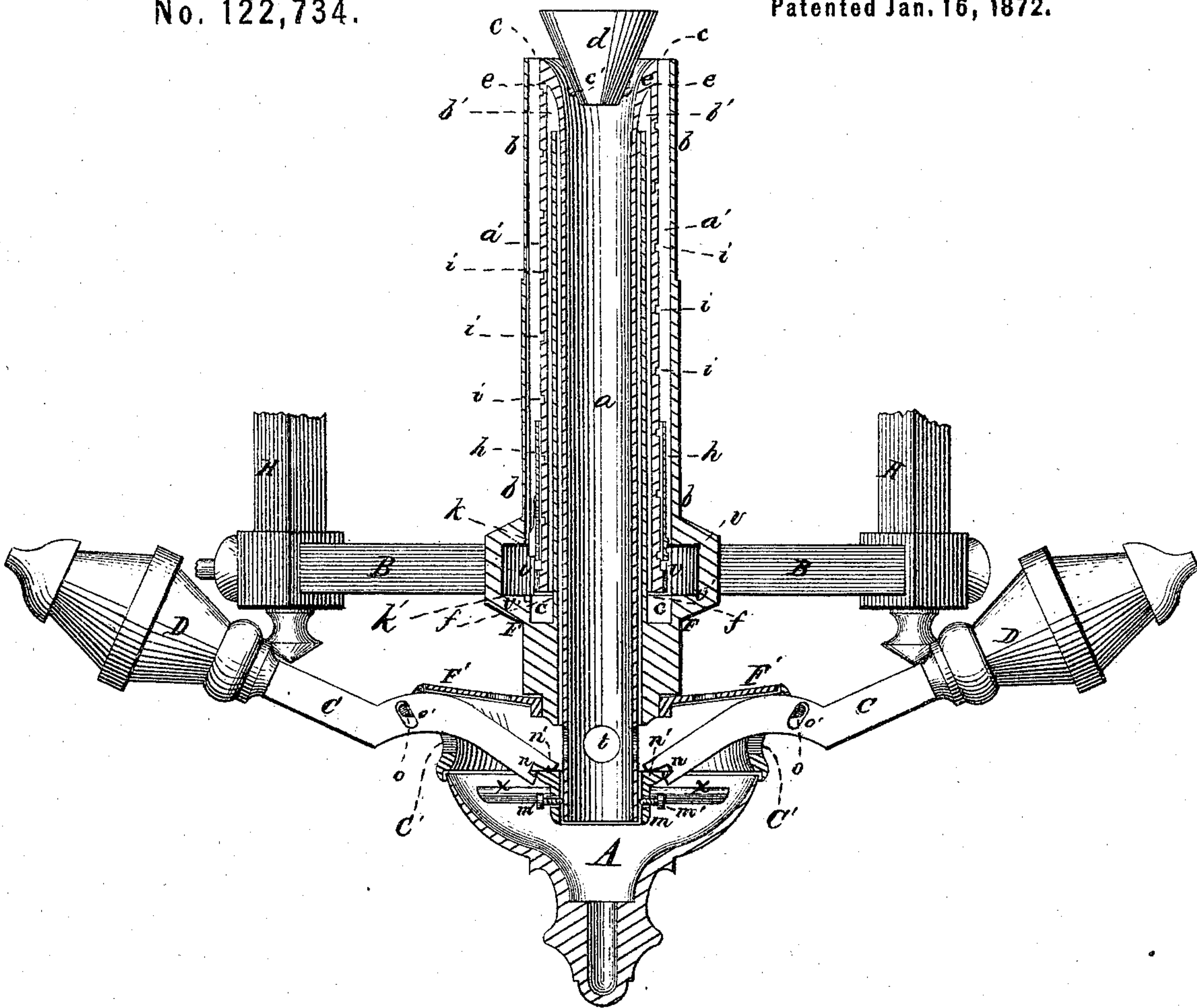
WILLIAM H. PAIGE.

IMPROVED LAMP FOR RAILWAY CARS.

FIG. 1

No. 122,734.

Patented Jan. 16, 1872.



Witnesses.

Charles E. Buckland,
James E. Howard

William H. Paige, Inventor.

By J. A. Curtis, his Atty

(90.)

WILLIAM H. PAIGE.

2 Sheets--Sheet 2.

IMPROVED LAMP FOR RAILWAY CARS.

FIG. 2
No. 122,734.

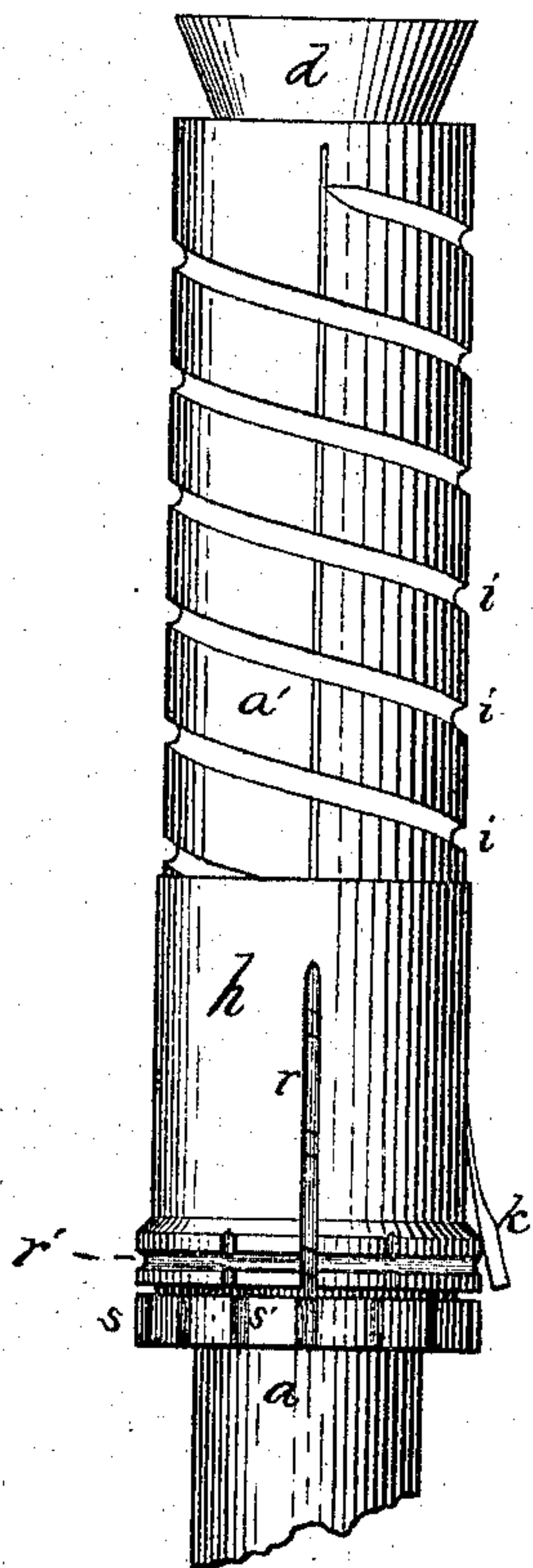


FIG. 3
Patented Jan. 16, 1872.

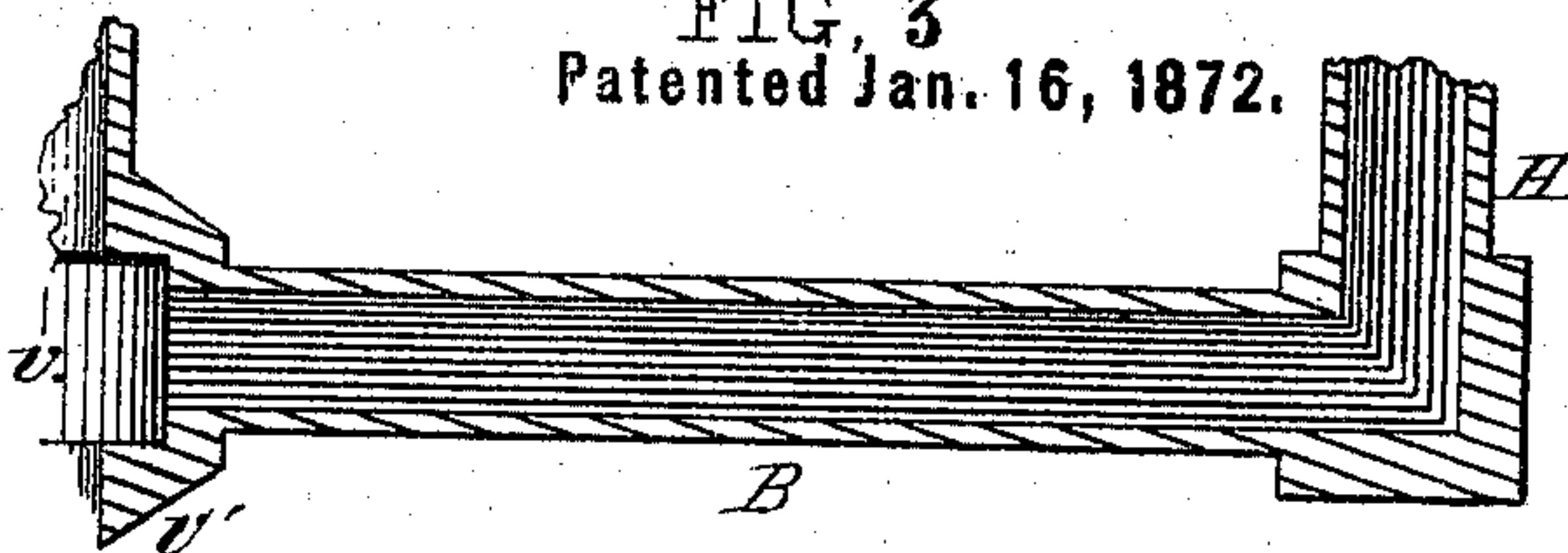
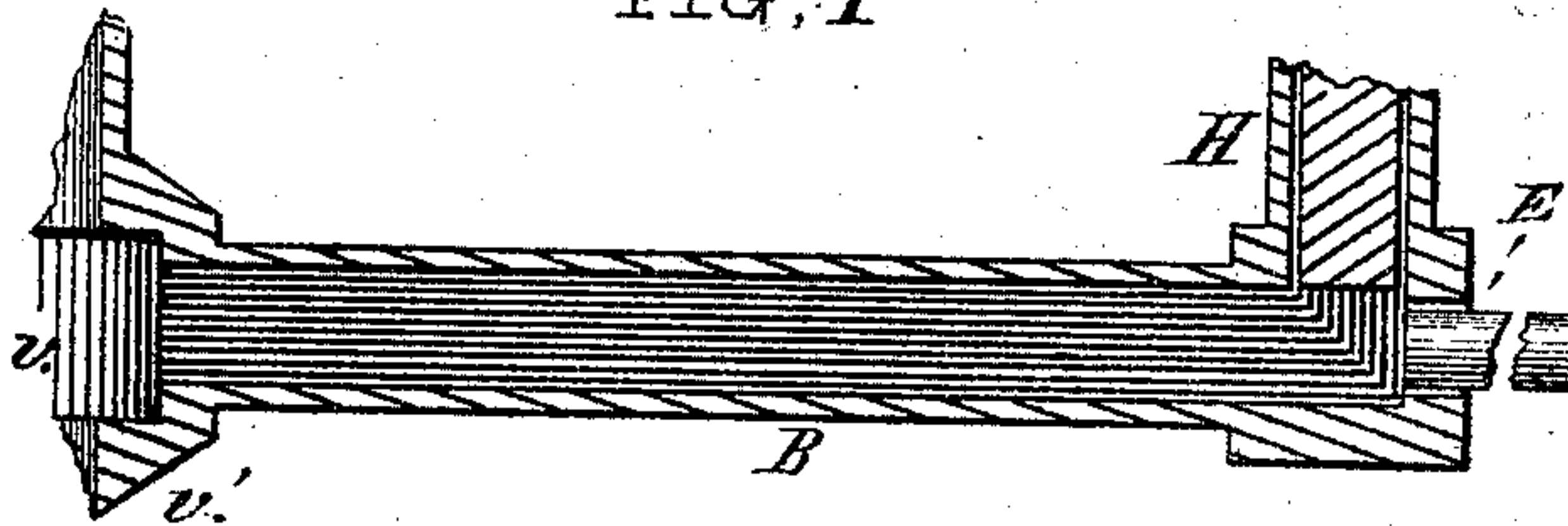


FIG. 4



Witnesses,

Clarence E. Buckland,
Charles E. Howard

William H. Paige Inventor,

By J. A. Curtis, his atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. PAIGE, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JOHN I. MOORE, OF SAME PLACE.

IMPROVEMENT IN LAMPS FOR RAILWAY CARS.

Specification forming part of Letters Patent No. 122,734, dated January 16, 1872.

To all whom it may concern:

Be it known that I, WILLIAM H. PAIGE, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improved Lamp for Railway Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification and to the letters of reference marked thereon, in which—

Figure 1 is a longitudinal vertical section through the lamp. Fig. 2, Plate 2, is a side view of the elevating-tube and wick-holder. Fig. 3 is a longitudinal section of a modification of the arms; and Fig. 4 is a longitudinal section showing another modification of the arm.

My invention relates to a lamp to be attached to the inside of the roof of a railway car; and it consists in the construction of the same, whereby the light is extinguished if an accident should happen to throw the car upon its side, or even at an angle of forty-five degrees to a horizontal plane. This is accomplished by means of two weighted arms swinging upon a pivot, and attached at one end to the lower end of a tube and the wick which is connected with it, so that when the car is tilted one of the weighted arms moves upon its pivot and draws down the tube with the wick. My invention also consists of a combination of tubes and their connection with a pendant at the lower end of the lamp, whereby the wick may be elevated or depressed by turning the pendant; and it also consists of such construction of the arms of the lamp that the oil may be either contained wholly within the arms or introduced from a stationary tank fixed in the upper part of the car through one of the arms to the wick.

That others skilled in the art may be able to make and use my invention, I will proceed to describe its construction and operation.

In the drawing, F represents the body or main part of the lamp, having secured to its lower end the hollow base F'; and the upper part of the main part F is made in two cylinders or tubes, b and f, with a space, c, between them extending down to nearly the bottom of the lamp; and an annular space or groove, v,

extends entirely around the inside of the base F in the enlarged part v', which space or groove v allows the oil to freely surround the wick or its tubing, to which part are attached the arms B, which are secured to the hangers H. These arms B are hollow; and when the oil is to be contained therein as a receptacle to supply the burners the cavity within the arms extends up into the hangers H, as shown clearly in Fig. 3; but when the oil is to be contained in a tank fixed in the upper part of the car only one of the arms B need be made hollow, the hangers H being made solid, the oil passing into the arm B through a tube, E, as shown clearly in Fig. 4. The tube a is of a proper size to fit the inner tube or part f, moving freely therein; and this tube a is connected at the top to the top of the tube a' by a continuous connection, and the outer surface of said tube a' has a spiral groove, i, therein extending from the bottom nearly to the top, as shown in Fig. 2; and the tube a' has a flange or stop, s, at the bottom, around the outside of which are grooves s' for the oil to pass up. A short tube, h, is made to fit the outside of the tube a' properly, but so that it may move or turn freely thereon; and a small pin or projection is made upon the inside of the said tube h, which pin projects into the groove i; and the tube has two cuts or slots, r, therein, one opposite the other, and extending from the bottom nearly to the top, as shown, Fig. 2. These slots serve to give sufficient spring to the short tube h, so that when the small pin or projection on the inside of the tube h as it rises reaches the end of the groove i the tube h may then be pulled off the tube a' for any purpose desirable. The tube h has an annular groove, r', at the bottom in which to secure the wick, and a spring-detent, k, is secured to the side of the tube, which, when the tubes are in place in the lamp, presses outward into the vertical groove k' made in the inside of the outer tube b, as shown in Fig. 1, so that if the inside tube a be turned or rotated the tube a', which is connected to it, also rotates; and the pin which is at the lower end of the short tube h, inside, sets into the groove i, and as the tube a' turns the pin and tube h is carried up or down, as the case may be, the spring-detent k pressing into the groove k', causing

the tube *h* to rise or fall without turning. The pendant *A* is hollow or cup-shaped, and an annular ring, *m*, is fixed centrally therein by means of the arms *x* attached to the ring, and also to the inside of the pendant; and the ring *m* has an annular flange projecting outward at the top, as shown at *n'*. The tube *a* extends down through the base *F'*, and the pendant *A* is secured to the lower end of said tube by means of two set-screws, *m'*, which may be turned in against the tube by introducing the screw-driver through holes made in the side of the pendant. The bent arms *C* have a weight, *D*, at the outer end, and have a slot, *o'*, made therein, and the inner end of the arm is made forked with the upper finger of the fork made the longest, as shown at *n*. Holes *U'* are made in the side of the pendant, through which are inserted the arms, and a fulcrum or pivot, *o*, is inserted through the slot *o'* in each arm, and said fulcrum or pivot is then riveted to the side of the pendant *A*. The perforations *t* in the lower end of the tube *a* allow the air to pass up into said tube to the flame.

The operation of my invention is as follows: The wick is secured to the small tube *h* by tying a thread around the bottom, confining it in the groove *r'*, and this may be done by turning the tube *a* until the tube *h* rises to the top, and when the wick is secured it is turned down in the same way. As the tube *h* rises to the top it is prevented from turning by the detent *k* operating in the perpendicular groove *k'*, and when the pin upon the inside of the lower end of the tube *h* has reached the upper end of the groove *i* it will rise no higher, but may be pulled off the tube *a'* by force, if desirable, for any purpose. As the wick is in place within the lamp the oil, supplied through one or more arms, *B*, passes up to the wick in the space *c*, and, as the pendant *A* is attached to the lower end of the inner tube *a*, the wick may be adjusted to the proper elevation by simply turning the pendant either in one direction or the other. As the space *c* extends a little below the lower end of the tube *a'* said tube and inner tube *a* may be drawn down that distance by simply pulling down the pendant *A* or raising the weight *D* upon the outer end of one of the arms *C*. When the latter is done the longer upper finger of the fork *n* pushes down the tube *a* by forcing down the flange *n'*. The other weight not being raised the flange *n'* passes down by the lower short finger of the fork *n* upon that arm, and that arm is disconnected from the flange *n'*, and if both arms *C* be raised and the pendant *A* be pushed up into place the arms become connected again with the flange. When the lamp is attached to the inside of a roof of a car, if the car should be tilted upon one side

by a sudden lurch, one of the weights *D* would be thrown upward, and the upper finger of the fork at the inner end of that arm would force down the flange *n'* and pendant *A*, and also the tubes *a* and *a'*, and, as the tube *h*, having the wick attached, is confined to the tube *a'*, the wick would also be drawn down, which would at once extinguish the lamp.

Oftentimes more lives have been lost in railroad accidents at night by the cars taking fire from the upsetting of the lamps than by other injuries, and the object of this invention is to furnish a lamp which will not communicate fire to the cars, but will be immediately extinguished, automatically, at the time of the accident.

The upper end of the tube *a* is flared outward, and a button, similar to an inverted cone in form, is secured in the upper opening of said tube *a* to more effectually spread the flame. The button is shown at *d* in Fig. 1, and may be secured to the tube by means of short arms *c'* secured to the button and to the inside of said tube.

The lamp may be made as sensitive in its operation as may be desirable by merely bending the arms *C* more than they are herein shown, for if the arms *C* be bent so that the weights *D* stand more nearly over the fulcrums *o*, the wick will be drawn down and the light extinguished more quickly and easier, and with less tilting to the car. The tank, which is fixed to the car inside, should be supplied with a self-closing valve, so that when the car was tilted more or less the inclination of the car would close the valve.

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

1. I claim the levers *C* hung upon the pivot or fulcrum *o*, and weighted at the outer end and connected at the inner end to the lower end of the tube *a* by means of the fork *n* and flange *n'*, whereby the said tube is drawn down when the weighted end of one of said levers is thrown upward, substantially as described.

2. I claim the tube *a'*, in connection with the tubes *a* and *h*, all being operated in a vertical direction by means of the weighted levers *C*, substantially as described.

3. I claim the movable pendant *A* and the annular ring *m*, whereby said pendant is secured to the tube *a*, and operating to move said tube in a rotary and a vertical direction, substantially as described.

WILLIAM H. PAIGE.

Witnesses:

T. A. CURTIS,
CLARENCE BUCKLAND.

(90)