No. 840,586. PATENTED JAN. 8, 1907.

F. RECH.

STREET LAMP.

APPLICATION FILED FEB. 16, 1906.

Fig. 1

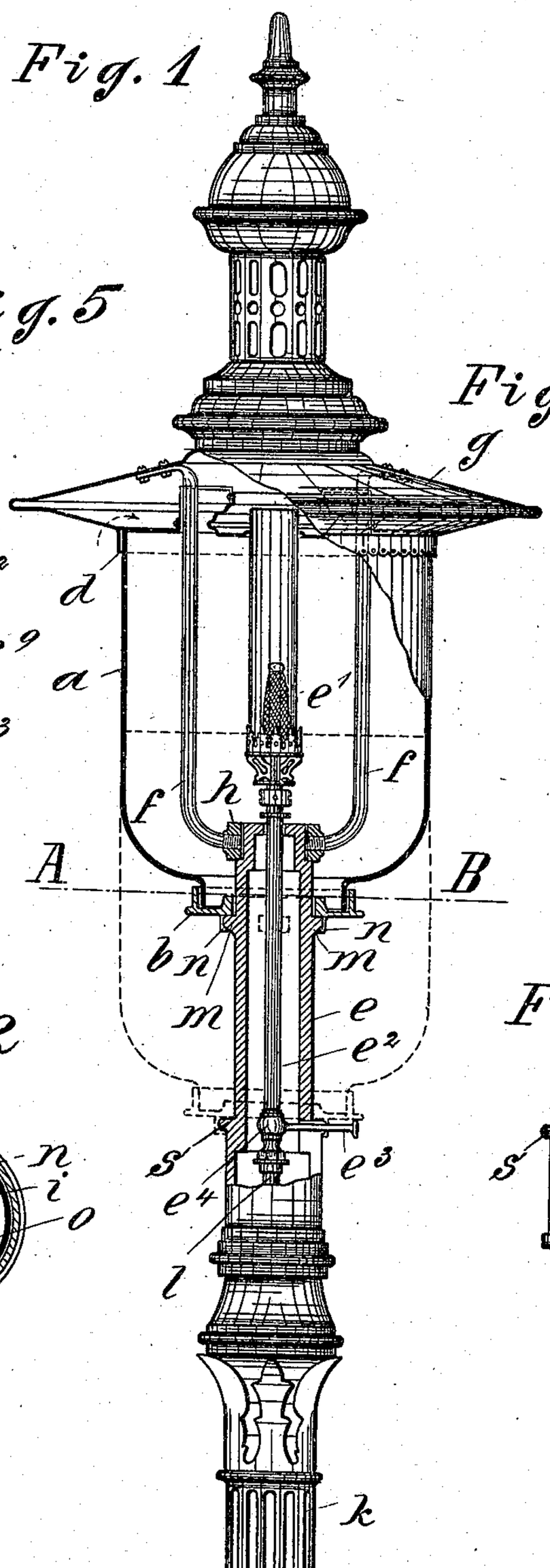


Fig. 5

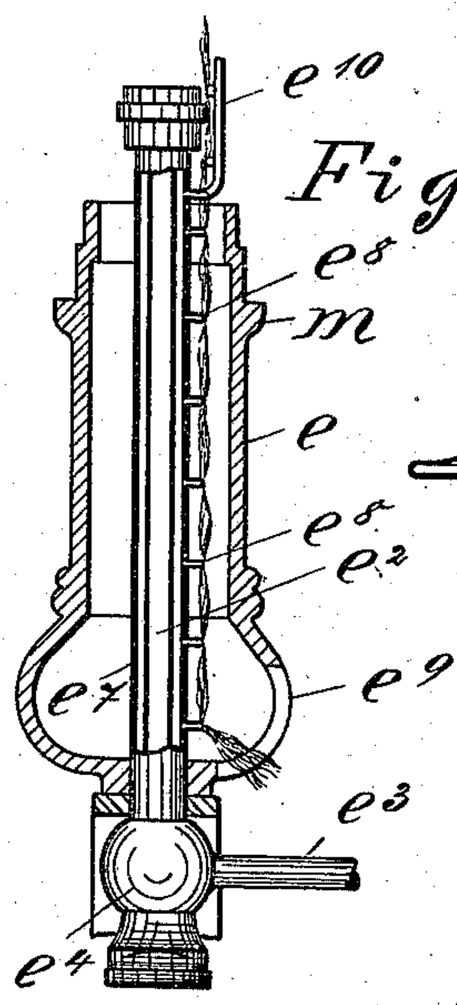


Fig. 4

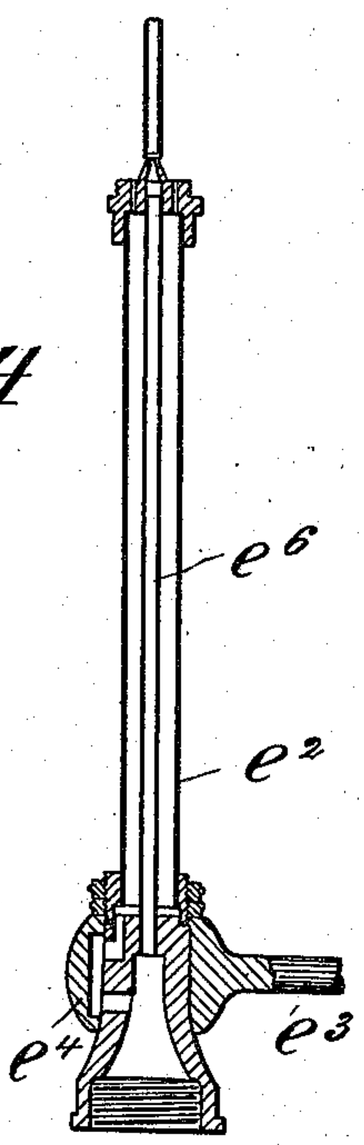


Fig. 2

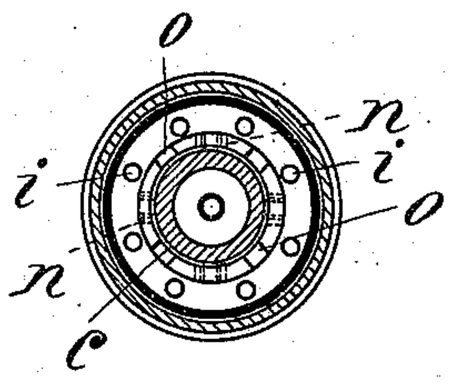
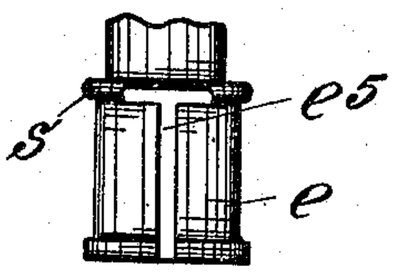


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

FRIEDRICH RECH, OF EHRENFELD, NEAR COLOGNE, GERMANY.

STREET-LAMP.

No. 840,586. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed February 15, 1906. Serial No. 301,313.

To all whom it may concern:

Be it known that I, FRIEDRICH RECH, a citizen of the Empire of Germany, residing at Ehrenfeld, near Cologne-on-the-Rhine, in the Empire of Germany, have invented a new and useful Street-Lamp, of which the following is a specification.

In ordinary street-lamps with globes the roof is supported by several arms or posts, which may be disposed within or without the globe or both at a time and are connected with the lamp-post in a suitable manner, while the globe rests on a ring secured on the said arms or posts. For cleaning and replacing the globe and the parts of the burner of such a street-lamp it was hitherto necessary to turn up either the whole roof or a part of the same, since the gas-conduit below, more particularly the broad supporting-ring, rendered the interior of the lamp inaccessible from below. The cleaning of the lamp from above after turning up the roof or a part of the same is, however, objectionable for various reasons. If the whole roof were to be turned up and the heavy globe were to be lifted from its seat, this would be a most difficult task, especially in winter, when the hands of the lamp-trimmer are quite stiff with cold. If, on the contrary, only a part of the roof were to be turned up and if the lamp-trimmer were to put his hand through the opening for cleaning the internal parts and the globe, the space between the burner, the incandescent mantle, and the globe would be far too narrow to facilitate a comfortable and thorough cleaning.

My invention relates to improvements in street-lamps whereby the said inconveniences are avoided and a thorough cleaning of the interior of the lamp is rendered easy and possible.

The objects of my improvements are, first, to form a sufficiently long part of the lamp-post between the point where the roof-carriers are secured and a point above the key for the gas-cock as a guide, on which the ring supporting the globe can be moved up and down; second, to provide means on this guide and to so arrange the said ring that it can be secured in the upper position in an easy manner, and, third, to provide means for lighting the gas in an easy manner. I attain these objects by the constructions illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the street-lamp and a part of the lamp-post, partly in section. Fig. 2 is a horizontal section through the line A B in Fig. 1. Fig. 3 is a side view of a part of the lamp-post on the same level with the same part in Fig. 1. Fig. 4 is a vertical longitudinal section, on an enlarged scale, through the gas-conduit shown at Fig, 1; and Fig. 5 is a vertical longitudinal section through a modification of the upper part of the lamp-post and of the gas-conduit.

Similar letters of reference refer to similar parts throughout the several views.

A socket *e* is arranged to be fastened on the upper end of the lamp-post *k* in Fig. 1 and is made mostly cylindrical. It serves for supporting on a shoulder near its upper end a ring *h* and on another shoulder *s* below a ring *b*. The ring *h* is rigidly connected with several (here two) vertical arms *f f* and may be secured on the socket *e* in any known manner, be it by means of a set-screw (not shown) or by means of a screw-thread. The arms *f f* are arranged for supporting a roof *g*, which may be of any known and approved construction, the only essential point being that it be provided with an opening or a flange *d*, in which the upper edge of a globe *a* can engage and by which the latter is protected from horizontally shifting under the action of any wind or storm. The ring *b* is to support the globe *a* and is provided with several (here four) cuts *o o*, through which a corresponding number of projections *m m* on the socket *e* can pass. The ring *b* is, moreover, provided with several (here four) pairs of noses *n n* and with several air-holes *i i*. The opening *c* of the ring *b* is made slightly larger in diameter than the guiding part of the socket *e*.

It will be seen that the ring *b* can be turned and brought into such a position in which the projections *m m* can pass through its cuts *o o* if it is moved upward on the socket *e*. Above the projections *m m* the ring *b* can be turned through a convenient angle (here forty-five degrees) until the projections *m m* can engage between its noses *n n*, whereupon the ring is moved a little downward until it rests on the projections *m m*. Then the own weight of the ring *b* and the globe *a* will pre-

vent these parts from shifting upward and the noses *n n* will prevent the ring *b* from turning. In this simple manner the ring *b* with the globe *a* can be secured in the upper position.

The socket *e* is provided with a T-slot e^5, in which the key e^3 of a special gas-cock can engage. The latter is of a construction shown at Fig. 4. Its stationary plug e^4 is rigidly connected on the one hand with the upper end of a gas-pipe *l* below and on the other hand with two concentric tubes e^2 and e^6 above. The internal small tube e^6 is placed in permanent communication with the gas-pipe *l* and leads upward to a pilot-light within the burner *e'*. The annular space between the two tubes e^2 and e^6 communicates through narrow holes (see Fig. 4) with the burner *e'*, which latter may be of any known and approved construction and is provided with an incandescent mantle, as shown at Fig. 1. The key e^3 is so arranged that in its one extreme position it covers the two passages shown in the plug e^4 at Fig. 4 and that in its other extreme position it puts the said two passages in communication by means of a vertical channel provided in it, so that gas can pass from the gas-pipe *l* to the burner *e'*.

This street-lamp is operated as follows: During the day the key e^3 of the gas-cock occupies the one position, so that gas is supplied only to the pilot-light through the small internal tube e^6. For lighting the lamp it is only necessary to turn the key e^3 into its other extreme position, when gas will pass from the gas-pipe *l* through the two passages in the plug e^4 and through the channel in the key e^3 to the burner *e'*, where it will be lighted by the pilot-light and will burn. Air will be admitted through the air-holes *i i* of the ring *b* and, if so preferred, also through holes provided in the lower part of the roof *g*, (as indicated by an arrow,) also through the annular slit between the flange *d* and the upper edge of the globe *a*.

If in the day-time it is desired to clean the lamp, the lamp-trimmer will have first to lift a little the ring *b* with the globe *a* to withdraw the noses *n n* of the ring *b* from the projections *m m* of the socket *e*, next to turn the ring *b* with the globe *a* until the cuts *o o* of the ring *b* are above the projections *m m*, and finally to lower the ring *b* with the globe *a* into the position indicated by dotted lines in Fig. 1, in which the ring *b* rests on the shoulder *s* of the socket *e*. Thereby a space between the upper edge of the globe *a* and the flange *d* of the roof *g* will be formed, which space is very ample and permits the lamp-trimmer to clean the inside of the globe *a* and the internal parts easily and comfortably. After cleaning he can move the ring *b* with the globe *a* upward, turn them and lower them a little until the projections *m m* of the socket *e* engage between the noses *n n* of the ring *b*.

In the modification shown at Fig. 5 the cylindrical part of the socket *e* is made a little larger in diameter, so as to leave ample space between its inside and the two gas-tubes e^2 and e^7. The external tube e^7 is provided with a vertical series of thin and short tubes e^8 and, moreover, with a small bent tube e^{10}, which extends into the incandescent mantle, or nearly so, and is itself provided with several thin and short tubes e^8. The distance between the several thin and short tubes e^8 should not exceed the height of a gas-flame. The annular space between the two concentric tubes e^2 and e^7 is closed at the upper end and is put in permanent communication with the gas-pipe *l*, (and not the internal tube e^2, as before.) The internal tube e^2 communicates with the burner *e'* and can be put in communication with the gas-pipe *l* by means of the key e^5. Of course the construction of the key e^5 and the plug e^4 of the gas-cock will in this case require to be amended in any known manner. The socket *e* is provided with a large opening e^9, through which a flash-pipe of any known construction can be introduced.

This modified street-lamp is operated as follows: During the day gas in a small quantity is permitted to escape from the several thin and short tubes e^8, which, however, is of no importance. For lighting the lamp the lamp-lighter first brings his flash-pipe near the opening e^9, so as to light the gas escaping from the lowermost tube e^8, whereupon the flame so formed will light the gas escaping from the next tube e^8 and the new flame so formed will light the gas escaping from the following tube e^8, and so on, so that a whole series of pilot-lights extending into the incandescent mantle is instantly produced, as is clearly shown at Fig. 5, and next the lamp-lighter turns the key e^5, so as to admit gas from the gas-pipe *l* to the burner *e'*, where it will be lighted by the uppermost pilot-light.

The cleaning of this modified street-lamp is effected much in the same manner as before.

The new street-lamp presents the following advantages: First, the arms *f f* being within the globe *a* need not be made excessively strong for supporting the roof *g* with perfect safety; second, the lamp is cheapened, since no ornamental knobs and the like are required; third, all shadows formed are reduced to a minimum; fourth, reflectors can be easily disposed within or without the arms *f f* or the globe *a* or both at a time, there being no considerable limit to the size of the reflectors; fifth, with the aid of the reflectors the illuminating power of the lamp can be concentrated and increased; sixth, owing to the small distance between the arms *f f* there is almost no limit to the shape of the globe *a*

and smaller globes than hitherto may be employed.

The street-lamp may be varied in many respects without departing from the spirit of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a street-lamp, the combination with a lamp-post having a cylindrical upper part which is provided intermediate its length with a plurality of projections in a horizontal plane and at its lower end with a shoulder, of a ring movable on the cylindrical upper part of said lamp-post and provided with a plurality of cuts, through which the projections can pass, also on its lower side with a plurality of noses, between which the projections can engage, a plurality of arms secured at the upper end of the cylindrical upper part of said lamp-post, a roof supported by said plurality of arms and provided with a concentric flange, and a globe surrounding said plurality of arms and adapted to be secured in said ring and to engage in the flange of said roof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRIEDRICH RECH.

Witnesses:

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