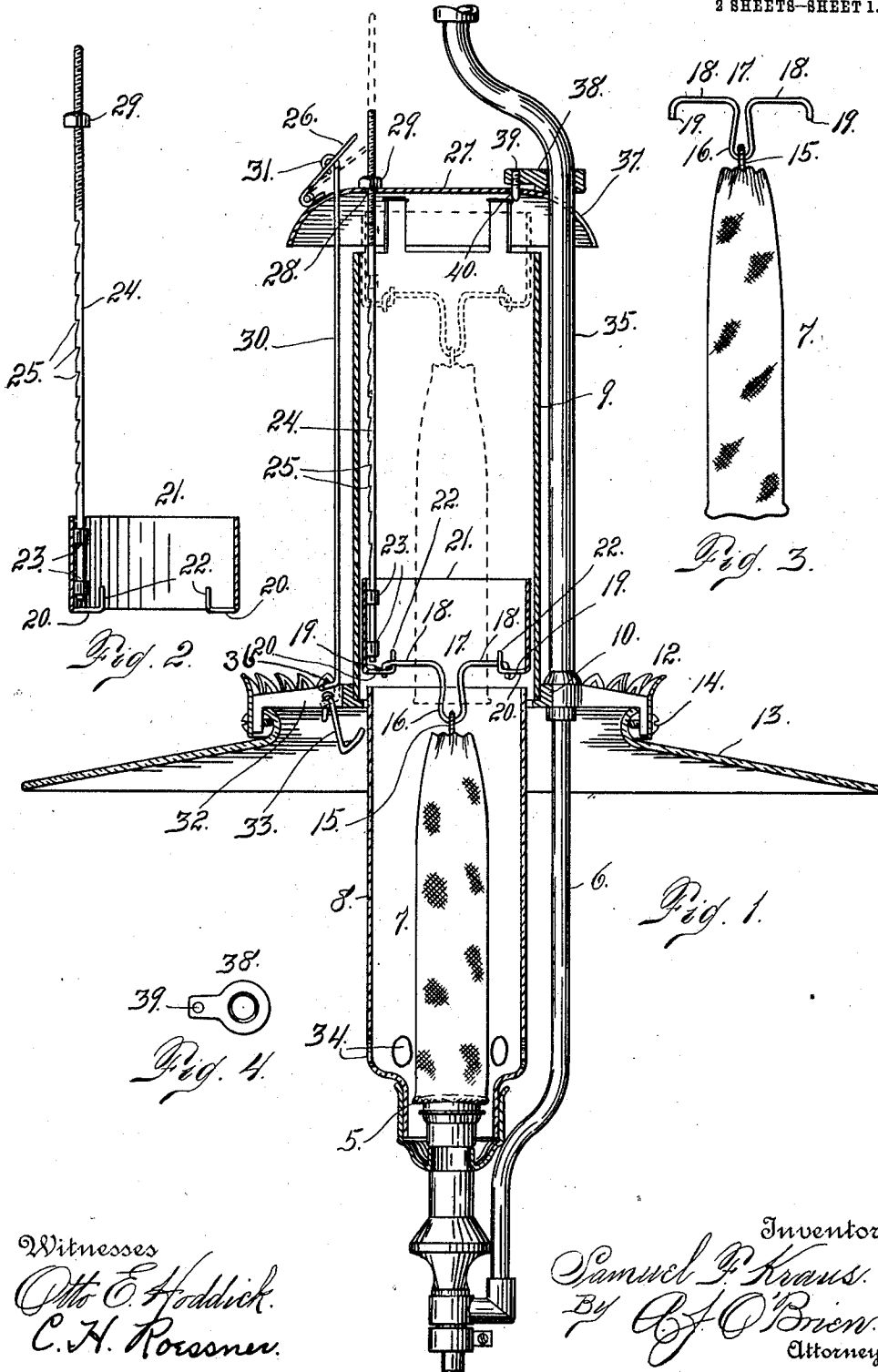


S. F. KRAUS.
STREET GAS LAMP.
APPLICATION FILED SEPT. 21, 1910.

1,003,615.

Patented Sept. 19, 1911.

2 SHEETS—SHEET 1.



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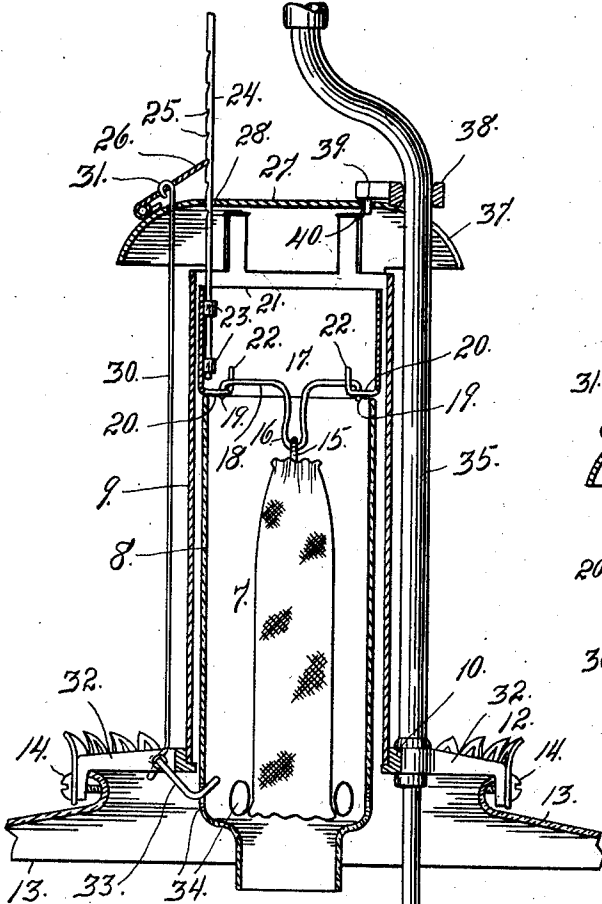


Fig. 5.

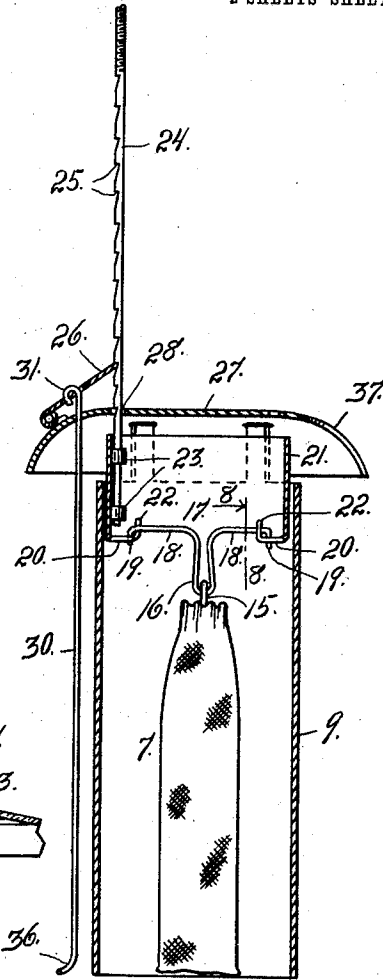


Fig. 6.

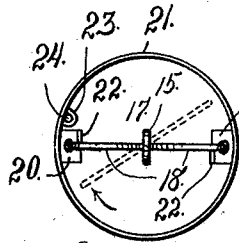


Fig. 7.

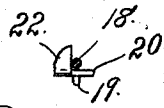


Fig. 8.

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UNITED STATES PATENT OFFICE.

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STREET GAS-LAMP.

1,003,615.

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To all whom it may concern:

Be it known that I, SAMUEL F. KRAUS, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Street Gas-Lamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in gas lamps more especially intended for street use, and in which a mantle of refractory material is employed above the burner to increase the intensity and brilliancy of the light.

The features of my improvement relate to the manipulation of different parts of the lamp structure during the operation of cleaning the lamp or taking it apart.

One very important feature consists in means for raising the mantle upwardly out of the glass chimney and into the metal hood above the chimney, whereby the delicate mantle is protected from injury during the operation of cleaning the chimney, the burner and other parts of the lamp. This feature of the device consists of a guide sleeve from which the mantle is suspended, and a ratchet rod connected with the sleeve and protruding through and above the top of the metal hood, whereby the rod is accessible from the outside of the lamp and may be employed to lift the guide sleeve and consequently the mantle suspended therefrom, upward into the hood above the chimney, a spring pawl located on top of the hood and adapted to engage the teeth of the ratchet rod, being employed for maintaining the mantle in its suspended position during the operation of cleaning the lamp as aforesaid.

Another feature of the invention consists in providing means for supporting the glass chimney in a position raised above the burner, when the mantle is in the raised position, whereby free access is given to the burner and other parts of the lamp located below the chimney.

Still another feature consists in a readily

removable device for connecting the hood of the lamp with the suspension rod. This device consists of a sleeve slidably mounted on the rod and having a tooth or projection adapted to enter a perforation formed in the top of the hood when the latter is maintained in the assembled relation with the other parts of the lamp. The tooth or projection on this sleeve maintains the rod in a slot formed in the edge of the hood cap. When, however, this sleeve is lifted the hood is free to move away from the rod and may then be lifted out of its supporting ring below when it is desired to dismantle the lamp for purposes of cleaning or repair.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a vertical section taken through a gas lamp equipped with my improvements. Fig. 2 is a detail view of the ratchet rod and guide sleeve forming the support for the mantle. Fig. 3 is a detail elevation illustrating the mantle and the suspension hook with which the top of the mantle is connected. Fig. 4 is a top plan view in detail illustrating the dog or keeper employed to connect the rod and hood when the parts of the lamp are in the assembled relation. Fig. 5 is a view similar to Fig. 1, but showing the parts in different relative positions. Fig. 6 is a detail view illustrating the hood portion of the lamp together with the mantle, and the means for supporting the latter in the raised position. Fig. 7 is a top plan view of the guide sleeve forming the support for the mantle, the suspension hook employed in connection with the mantle being also illustrated. Fig. 8 is a detail sectional view taken on the line 8—8 Fig. 6, looking in the direction of the arrow.

The same reference characters indicate the same parts in all the views.

Let the numeral 52 designate the lamp burner; 6 the suspension tube; 7 the mantle; 8 the glass chimney normally surrounding the mantle; and 9 the metal hood supported upon a ring 10 carried by the tube 6. The shade holder 12 is also mounted on the rod, the shade 13 being connected with the holder by means of screws 14 or other suitable fastening devices.

The upper extremity of the mantle is provided with a loop 15 engaging the depending part 16 of a suspension yoke 17 having laterally projecting arms 18 provided with downwardly turned extremities 19 adapted to enter perforations formed in supporting ears 20 with which a guide sleeve 21 is equipped. These ears 20 are provided with reversely arranged, upwardly projecting parts 22 so arranged that when the hooks 19 of the yoke 17 are moved into engagement with the projections 22 of the ears the said hooks will be in position to enter the perforations in the said ears. In this way the upwardly projecting parts 22 of the ears aid in connecting the hook with the guide sleeve of the mantle supporting device. This guide sleeve 21 fits within the hood 9 of the lamp, the said hood being supported above the chimney as heretofore explained.

Connected with the sleeve 21 by means of small clips 23 is a rod 24 having relatively shallow offsets or teeth 25 adapted to engage a spring pawl 26 mounted on the top 27 of the hood. The upper extremity of this ratchet rod protrudes through a perforation 28 formed in the top of the hood, the upper extremity of the rod being threaded to receive a nut 29, whereby the length of the rod extending below the top of the hood may be adjusted within given limits so that a longer or shorter mantle may be employed. It sometimes happens that a portion of the lower part of the mantle is practically destroyed while the upper part is intact. In this case as the lower part of the mantle disintegrates or becomes useless, the mantle may be lowered to compensate for its decrease in length, since it is desirable that the lower extremity of the mantle shall be suspended immediately above the burner.

The dog 26 may be held in such position that it will not engage the ratchet rod, by employing a depending manipulating rod 30 whose upper portion passes through the top of the hood and is connected with the spring pawl 26 as shown at 31. This pawl is mounted on the top 27 of the hood, in suitable proximity to the rod 24 when the latter is raised for the purpose of supporting the mantle, within the hood. As soon as the ratchet rod is drawn upwardly through its perforation in the top 27 of the hood, the spring pawl should be released and allowed to engage a tooth of the rod for supporting the mantle in the position indicated by dotted lines in Fig. 1 and by full lines in Fig. 5. The lower extremity of the rod 30 is bent as shown at 36 forming a sort of foot adapted to rest upon a spider arm 32 of the shade holder 12.

In order to support the glass chimney 8 in a position raised upwardly into the hood, a hook 33 mounted on one of the spider arms 35 of the shade holder is employed. When the

chimney is raised to the upper position, the lower end of the hook 33 is inserted in one of the openings 34 formed in the lower part of the chimney for draft purposes.

When the parts of the lamp are assembled the upper portion 35 of the supporting rod 6, engages a slot 37 formed in the outer edge of the top 27 of the hood. A dog 38 slidable on the said rod and having a tooth 39 entering a small perforation 40 formed in the top of the hood, is employed to maintain the hood and rod in the assembled relation. When, however, the dog is moved upwardly on the rod whereby its tooth 39 is disengaged from the top 27 of the hood, the upper portion of the latter may be moved away from the rod sufficiently to allow the hood to be lifted from its supporting ring 10, for the purpose of dismantling the lamp.

From the foregoing description the use of the novel features of my improved device will be readily understood. When it is desired to clean the lamp, or when for any reason it is desired to remove the mantle from the chimney, the operator grasps the upper protruding threaded extremity of the rod 24 and raises the same until the mantle is lifted into the hood 9 as indicated by dotted lines in Fig. 1 and in full lines in Figs. 5 and 6. In this event it is evident that the chimney and other parts of the lamp below the hood may be cleaned without interfering with the mantle, which, as is well known, is quite delicate and easily injured. In case it is desired to clean the burner, the chimney 8 may be raised into the hood and supported upon a hook 33 which may be passed through one of the perforations 34 in the lower part of the chimney, as illustrated in Fig. 5. Again in the event that it is desirable to remove the hood from the lamp, the dog 38 may be moved upwardly upon the supporting rod 6 above the hood, thus disengaging the tooth 39 from the top of the hood. In this event the hood may be moved away from the supporting rod and then lifted from the ring 10, which normally forms the support for the hood.

Attention is called to the fact that the supporting rod 6 and its upper member 35 constitute a tube or conduit through which the gas is supplied to the burner. This feature, however, has nothing to do with the invention involved in this application.

In further explanation of the operation of the construction, attention is called to the fact that the sleeve 21 together with the mantle suspended therefrom may be raised by the lifting of the chimney 8, since the top of the chimney will engage the lugs 20 of the sleeve 21 and carry the said sleeve together with the mantle and the rod 24 forwardly therewith, and when the hook 33 is connected with the chimney as heretofore explained, this hook serves to support the

chimney and mantle without the aid of the pawl 26. Now if it is desired to remove the chimney while the mantle is still suspended, the pawl 26 will be released to engage a tooth of the ratchet rod, whereby the pawl will serve to support the sleeve and mantle. The hook 33 may then be disengaged from the chimney when the latter may be removed. Attention is called to the fact that the hook 33 is so mounted on the spider arm 32 of the lamp shade holder that as soon as the chimney is lifted to relieve the hook of the weight of the chimney, the hook will automatically swing clear from the chimney. However, if it is desired to lower the chimney and mantle simultaneously to their operating positions, it is only necessary to release the hook from the chimney and as the latter is allowed to move downwardly to its proper position, the sleeve 21 together with the mantle will move downwardly therewith and resume the normal positions which they occupy when the lamp is regularly in use. It will thus be seen that when the chimney and mantle are moved together, it is not necessary to employ the pawl 26 or the teeth of the rod 24 for supporting the mantle, since the chimney constitutes such support, the chimney in turn being supported by the hook 33.

Having thus described my invention, what I claim is:

1. The combination with a lamp having a burner, a mantle and a hood normally located above the mantle, of means for raising the mantle upwardly into the hood, comprising a rod, a guide sleeve connected with the rod and forming a support for the mantle, the sleeve being located within the hood and movable vertically therein, the rod protruding through the top of the hood in which it slides freely, and means adapted to engage the rod for supporting the sleeve and mantle in the raised position when properly adjusted, substantially as described.

2. The combination with a gas lamp having a mantle arranged to cooperate with the burner, and a hood normally located above the mantle, of means for raising the mantle into a position within the hood, comprising a rod protruding through the top of the hood and freely slidable therein, and a sleeve connected with the lower extremity of the rod and located within the hood and forming a support for the mantle, substantially as described.

3. The combination with a gas lamp having a mantle cooperating with the burner, and a hood normally occupying a position above the mantle and provided with a cap, of a sleeve located within the hood and slidable vertically therein, the mantle being connected with the said sleeve, a rod con-

nected with the sleeve and extending through a perforation formed in the top of the hood, the upper extremity of the rod being threaded and provided with an adjusting nut, for the purpose set forth.

4. The combination with a gas lamp having a mantle cooperating with the burner, and a hood normally located above the mantle, of a sleeve located within the hood, a suspension yoke detachably connected with the sleeve and forming a support for the mantle, and a rod connected with the sleeve and extending through an opening formed in the top of the hood, the upper extremity of the rod being provided with a stop engaging the top of the hood, substantially as described.

5. In a gas lamp having a mantle cooperating with the burner, and a hood located above the mantle and provided with a cap, the combination of a sleeve located within the hood, a yoke detachably connected with the sleeve and forming a support for the mantle, a ratchet rod whose lower extremity is secured to the sleeve, the said rod passing through an opening formed in the top of the hood, and a spring pawl mounted on top of the mantle and cooperating with the teeth of the ratchet rod to support the sleeve and mantle in the raised position, substantially as described.

6. In a gas lamp having a mantle cooperating with the burner, and a hood normally occupying a position above the mantle, the combination of a rod passing through a perforation formed in the top of the hood, a sleeve arranged within the hood and vertically movable therein, the said sleeve being connected with the lower extremity of the rod, the mantle being supported by the said sleeve and means adapted to engage the rod for holding the mantle in the raised position.

7. The combination in a gas lamp having a mantle cooperating with the burner, a hood normally located above the mantle, and a chimney surrounding the mantle, of a mantle support vertically movable in the hood, a rod connected with the said support and passing through the top of the hood, the rod having ratchet keys, a spring pawl located on top of the hood, and a manipulating rod connected with the pawl and extending downwardly therefrom, the lamp being provided with a support for the lower extremity of the rod, whereby the spring pawl may be held out of the path of the ratchet rod, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL F. KRAUS.

Witnesses:

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F. E. BOWEN.