

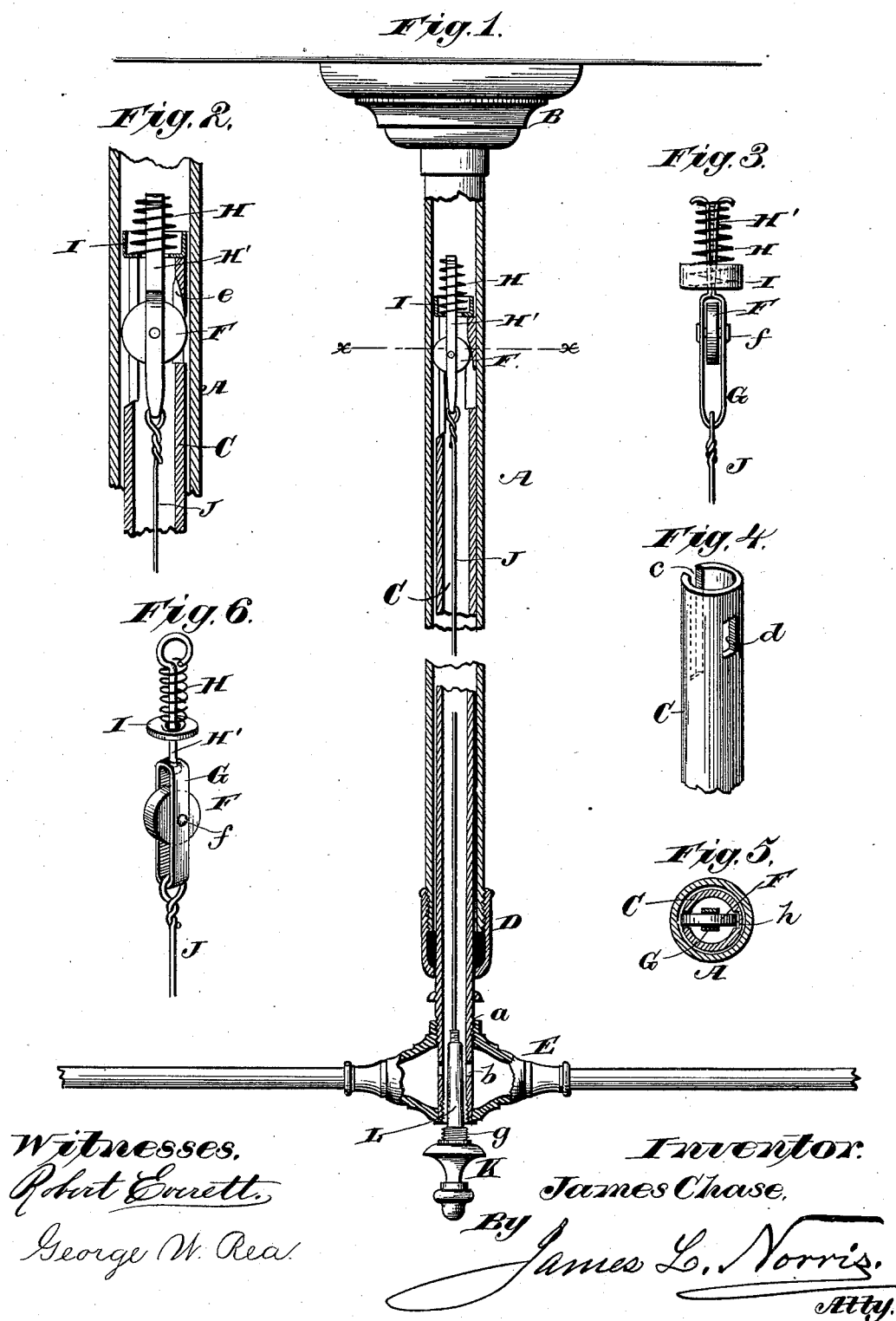
(No Model.)

2 Sheets—Sheet 1.

J. CHASE.
GAS AND OIL CHANDELIER.

No. 302,468.

Patented July 22, 1884.



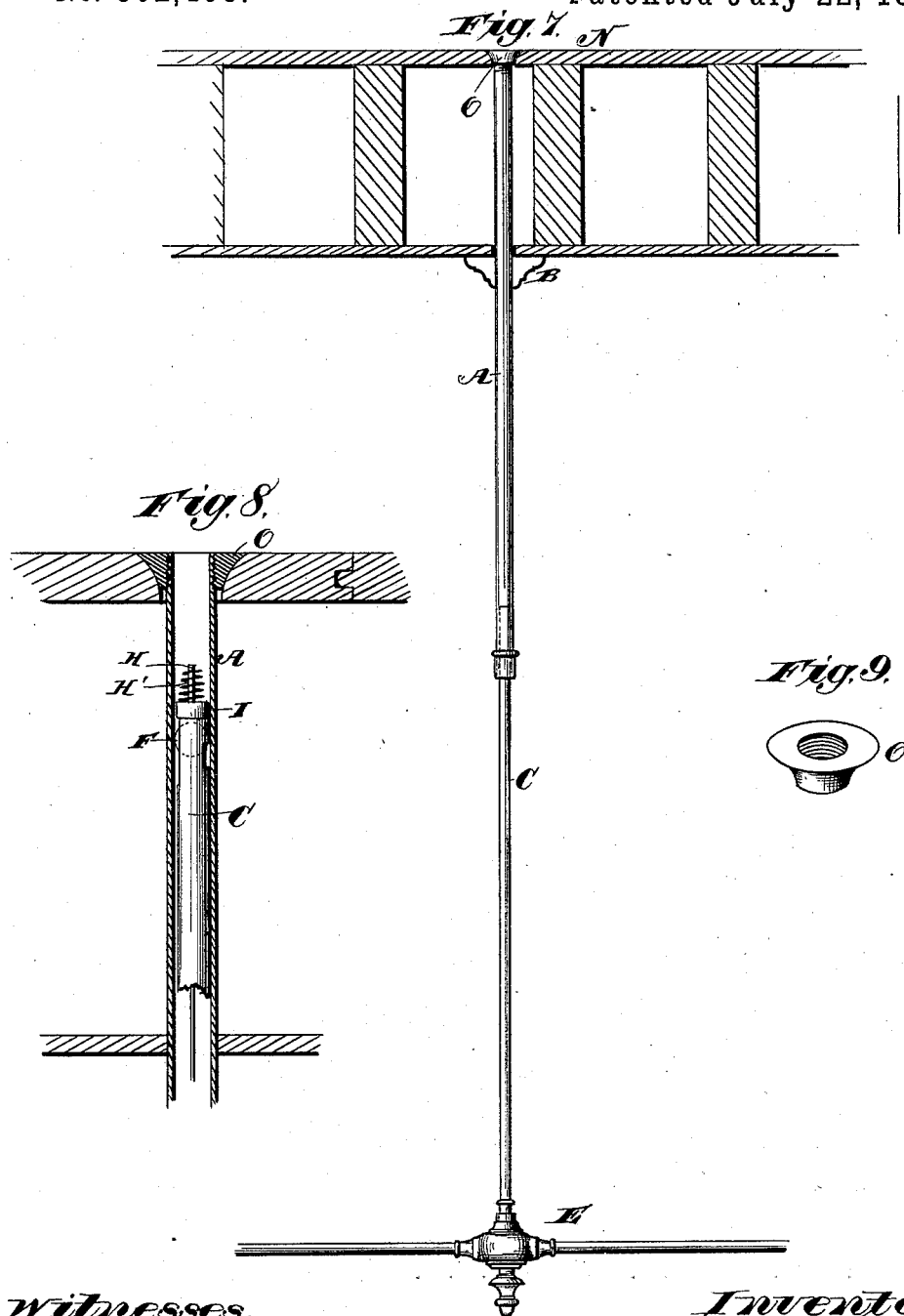
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GAS AND OIL CHANDELIER.

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Witnesses.

Robert Courtt.

George W. Rea

Inventor.

James Chase.

By

James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

JAMES CHASE, OF ROCHESTER, NEW YORK.

GAS AND OIL CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 302,468, dated July 22, 1884.

Application filed February 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES CHASE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Vertically-Adjustable Chandeliers, of which the following is a specification.

My invention relates to vertically-adjustable chandeliers, and has for its object to provide a chandelier with automatically locking and releasing means that will be simple and cheap to construct and effective in operation, the said chandelier also admitting of alteration from an oil to a gas burner, or vice versa; and it consists in the means of which a particular description will be hereinafter given, and an illustration shown in the accompanying drawings, in which—

Figure 1 is a side view, partly in vertical section, showing the relative position of the parts when the device is locked. Fig. 2 is a vertical section of the same with parts broken away, and showing the relative position of the parts when the device is unlocked. Fig. 3 is an edge view of the locking device; Fig. 4, a perspective view of a portion of the inner tube; Fig. 5, a cross-section on the line $x x$ of Fig. 1. Fig. 6 is a perspective view of a slight modification in the detail construction of the locking device. Fig. 7 is a side view of one method of attaching the supporting-pipe to its support, whereby an increased drop is obtained. Fig. 8 is a vertical section through the upper portion of the same, showing the inner tube and locking device applied thereto. Fig. 9 is a perspective of the supporting-cap for the upper section of pipe.

The letter A designates a section of pipe, which may have a rosette, B, at its upper end, and be secured by a screw or other suitable means to the ceiling. A tube, C, is fitted within the pipe A, so as to slide vertically therein, and will be of such smaller diameter than the interior of the outer pipe that it will have more or less lateral play at its upper portion; and at the joint of the pipe and tube there may be placed a cup, D, with any suitable packing material therein to make a close joint. The lower portion of the tube C will be screw-threaded exteriorly at a , for the at-

tachment thereto of the bracket-arms E, which may be used to conduct gas to tips at the extremities thereof, or for the attachment thereto in any suitable manner of oil-lamps, and will also be screw-threaded interiorly at its extremity, and may be formed with the perforations b , for the passage of gas through the arms to the tips when used as a gas-burner. The upper portion of the tube is formed with a vertical slot, c , on one side, and on the opposite side thereto is formed with a slot, d , just above which the inner surface of the tube is inclined or beveled downwardly, so as to form a cam-surface, e , which preferably is recessed, so as to form a flanged guide or way for a roller, F, to travel in. This roller may be variously journaled in suitable bearings, but preferably by a pin, f , passed transversely through the roller and through the sides of a housing, G, formed preferably by folding a flat piece of metal bent into an oblong shape, as shown in Fig. 3, with the two ends extended so as to form a guide-rod, H', for a spiral spring, H, coiled around the same, the extremities of the ends being bent to form hooks to hold the spring to its seat in a cup-washer, I, surrounding said rod between the spring and housing for the roller. The roller is connected to one end of a rod, J, in any suitable manner—say by passing the end of the wire through the looped housing and then entwining it around itself. This wire is then passed through the tube C, so as to bring the bottom of the washer against the top edge of the tube, with the roller fitting normally with one face through the slot c , and the other face in the guide or way of the cam e , the spring drawing the roller so as to press one face of the same against the inside wall of the pipe, and the other face against the cam of the inner tube, so as to throw the tube against the opposite wall of the outer pipe, and thereby wedge or bind the inner tube to the outer pipe, so as to keep the same from dropping. It is obvious that the more weight there is to the lower end of the inner tube the tighter the roller will bite and bind the parts together.

The lower end of the rod J is preferably screw-threaded, so that it may by such means be attached to a knob, K, at the lower end of

the chandelier-fixture; but I prefer to connect it to such knob through or by an intermediate sleeve, L, (shown in Fig. 1,) which may be screwed onto the rod at one end and threaded at its larger and lower end, so as to receive the knob K. By such construction I am enabled to use a lighter rod than when the connection is made direct to the knob. By drawing or pulling down on the knob K, the spring H is contracted and the roller pulled down from off its cam-surface, so that both faces will project through or into the slots *c* and *d*, as shown in Fig. 2, when the roller will be free from contact with the walls of the outer pipe, and the inner tube will fit so loosely within the latter, as also shown in Fig. 2, that it will be free to easily and smoothly slide up or down within the pipe, so that it will appear that when the chandelier is to be lowered it is only necessary to pull lightly on the knob K with the fingers, so as to release the roller, when the chandelier, by its own weight, will drop to any extent it may be permitted, and when the desired adjustment has been made the knob is released from the pressure of the fingers, and the spring H at once retracts the roller to its binding position, (shown in Fig. 1,) and the chandelier is securely held to its adjusted position. In order to raise the chandelier, it is only necessary to push up the tube C, when the friction between the roller and outer tube will press down the roller, so as to release the bite of the same and leave the inner tube free to slide up, the spring again restoring the roller to its normal and binding position the moment the pressure from below is released.

When gas is to be burned instead of oil, the suitable burners will be applied to the arms, and the knob, by means of its threaded portion *g*, screwed into the lower end of the tube, so as to prevent the escape of gas at that point, the sleeve L being of such diameter that the gas will pass between it and the tube through openings *b*, and thence on to the burners. In such case the adjustment of the chandelier should be made before the gas is turned on at the meter. The tube C is free to turn as well as to slide in the outer pipe, so that the burners may be turned to the position desired. The roller is kept from turning independent of the pipe by the walls of the slot *c* and the way *h* of the cam, as shown in Fig. 5.

Instead of forming the housing or block for the roller as described, it may be formed, as illustrated in Fig. 6, by flattening a ring or otherwise forming an unbroken block, in which the roller will be journaled by a pin, and to which a rod, H', will be riveted, the other end thereof being to form a hook to hold the spring H to its place against the washer I, which may be flat, as shown, instead of cup-shaped. The method first described, however, is of fewer parts and requires less riveting.

Under some circumstances it is desirable to have a longer drop than can be had by the

mode of attaching the outer pipe to the ceiling, as illustrated in Fig. 1, and in order to effect such increased drop I extend the outer pipe through the ceiling beyond the rosette B into the space between the timbers or rafters and up to the floor or sheathing N of the apartment or roof above, and through the floor or sheathing I preferably pass a flooring screw-cap, O, with its top face flush with the top of the floor or sheathing, into which cap the upper end of the pipe will screw. Any suitable plug may be used to close the opening in the screw-cap, if considered desirable, and any other suitable fastening device may be used instead of the cap. By such method the length of the drop is increased the length of the pipe between the ceiling and floor above, and the advantage gained is, that the pipe can be run through the ceiling at any point desired, as the support is from the floor above, and not of necessity from such point as the beam can be struck, as in the other method. The operation of the automatic locking and releasing devices is the same, however, as in the other method of attachment.

The parts can be constructed and applied at little expense, are not easy to be deranged, and very effective for the purpose for which they are designed.

I do not claim a wedge-clutch operated by a rod, as in my Letters Patent No. 243,060. In my present invention the friction-roller, acting in combination with the cam-surface in the inner tube, provides greater friction and a more perfect and efficient means for securing the inner and outer tubes in fixed relation after adjustment than does a sliding wedge-block; nor do I claim a friction-clutch for chandeliers composed of a frame carrying friction-rollers acting on wedge-clamps for holding a sliding gas-tube in its adjusted position, as such is not my invention.

Having described my invention and set forth its merits, what I claim is—

1. The combination of the outer pipe, the inner tube, slotted at opposite points and having a cam-surface adjacent to one of the slots, the roller suspended within the tube in proximity to said slots and cam-surface, a spring operating to draw said roller onto said cam and press the same and the inner tube against the inner walls of the outer pipe to lock the parts together, and means for releasing the locking device, substantially as and for the purpose set forth.

2. The combination, with the outer pipe, of the inner tube, slotted at opposite points and having a flanged cam adjacent to one of said slots, a spring-actuated roller to operate in the slotted portion of the tube and over the flanged cam, and means to operate said roller to lock and unlock the tube to the pipe, substantially as and for the purpose set forth.

3. The combination, with the outer pipe and inner tube, of a spring-actuated roller for locking the tube and pipe together, and means for

operating said roller to unlock the parts, substantially as and for the purpose set forth.

4. The combination of the outer pipe, the inner tube, formed with slots at opposite points
5 and with a cam-surface adjacent thereto at its upper portion, a roller suspended within the inner tube and vertically adjustable therein, a rod extending from the journal-bearings of said roller to a point above the end of the tube,
10 a spring around said rod, a washer between said spring and tube, a rod or wire extending through the tube to its lower end, and a device connecting with said rod or wire to move the same and the roller, substantially as and
15 for the purpose set forth.

5. The combination of the outer pipe, the inner tube, interiorly threaded at its lower end and formed with openings near the end, a device at the upper end of the inner tube for
20 locking the tube and pipe together, a rod or

wire extending from said locking device to the lower end of the tube, and a threaded device connected with said rod or wire and adapted to be screwed into the lower end of the tube to close the same, substantially as and for the
25 purpose set forth.

6. In an extensible chandelier, the combination, with the sliding tube, of a fixed tube passed through the ceiling into the space above and secured to a suitable support, whereby the
30 sliding tube may be moved up into said space, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES CHASE.

Witnesses:

J. A. RUTHERFORD,
JOS. L. COOMBS.