

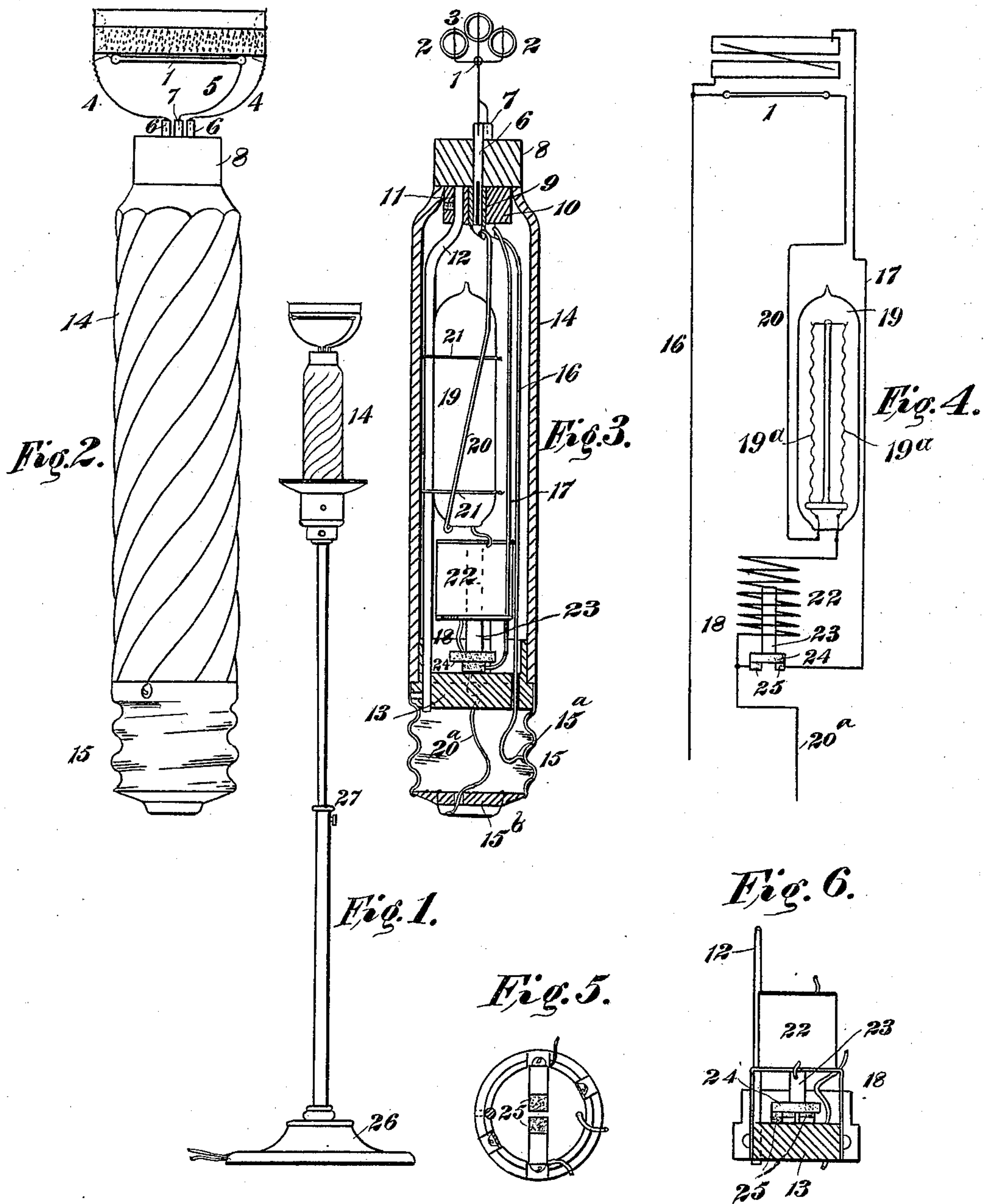
**No. 685,501.**

**Patented Oct. 29, 1901.**

**A. J. WURTS.**  
**DESK OR TABLE LAMP.**

(Application filed Feb. 21, 1900.)

(No Model.)



**WITNESSES:**

WITNESSES:  
 Edwin D. Dodge  
 W. Sumner Leihart

INVENTOR

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BY

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# UNITED STATES PATENT OFFICE.

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## DESK OR TABLE LAMP.

SPECIFICATION forming part of Letters Patent No. 685,501, dated October 29, 1901.

Application filed February 21, 1900. Serial No. 6,081. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER JAY WURTS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Desk or Table Lamps, of which the following is a specification.

My invention relates to electric lamps of the Nernst class in which the light-emitting body becomes conductive only when raised to a proper temperature by externally applied heat.

The object of my invention is to provide a portable lamp for use upon desks and tables—one which shall throw the light mainly downward and which shall be simple and compact in construction and attractive in appearance. With these ends in view I have devised the lamp illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the lamp and its supporting-stand, the shade which will ordinarily be employed being, however, omitted. Fig. 2 is an enlarged elevation of the upper or main portion of the structure shown in Fig. 1. Fig. 3 is a longitudinal section of the structure shown in Fig. 2. Fig. 4 is a diagram of the circuits of the lamp. Figs. 5 and 6 are detail views of the heater-cut-out switch mechanism.

The lamp which I have illustrated in the drawings is shown as having a single glower 1, of usual construction, though a plurality of glowers may obviously be employed, if desired. Slightly above and at the two sides of the glower 1 are located a pair of heaters 2. Located directly above the glower and between the heaters 2 is a tube 3, which substantially closes the space between said heaters. This tube 3 might be provided with a heating-conductor, if desired; but, as shown, it is a dummy and is employed for the double purpose of reflecting the light from the glower downward and also to prevent the circulation of air between the two heaters, thus insuring the transmission of the major portion of the heat to the glower.

The heater-wires for the tubes 2 will preferably be disposed in the form of helices about the surface of the tubes, as indicated by broken lines in Fig. 2, and connected to

the terminal wires 4 by twisting the ends about such wires, as indicated. The terminal wires are shown as bent into the ends of the tubes 2 and 3, thus serving as supports therefor. One end of the glower 1 is shown as connected to one of the heater terminal wires 4 and the other end as having a terminal wire 5. The lower ends of the terminal wires 4 are connected to pins 6 and the lower end of terminal wire 5 to a similar pin 7. These pins 6 and 7 are set in an insulating-block 8 and project beyond the lower side of the same, the projecting portions being split, so as to make spring-contact with tubular sockets 9 in an insulating-block 10. By reason of this construction the block 8 and the parts supported thereby may be readily inserted in operative position and as readily removed when desired. The block 10 is also provided with a socket 11, into which fits the upper end of a rod 12, the lower end of such rod being supported in an insulating-block 13. The blocks 10 and 13 are respectively mounted in the upper and lower ends of a suitable casing 14, preferably having the semblance of a candle. The block 13 also supports a contact-base 15, such as is ordinarily employed in connection with incandescent electric lamps, the one shown in the drawings being of the well-known Edison type. The casing 14 contains the conductor 16, leading from the terminal 15<sup>a</sup> of the base 15 to the socket 9, corresponding to one terminal of the heater and the corresponding terminal of the glower, the conductor 17, leading to the socket 9, corresponding to the other terminal of the heater, the switch mechanism 18 for breaking the heater-circuit when the glower-circuit becomes established, the chamber 19 for the current-restraining device 19<sup>a</sup>, and the conductor 20, leading from one terminal of the current-restraining device to the socket 9, corresponding to the independent terminal of the glower. The chamber 19, which is preferably air-tight and contains an inert gas—such, for example, as hydrogen—is supported from the rod 12 by means of wires 21, as indicated in Fig. 3. The cut-out mechanism 18 for the heater comprises a solenoid 22, connected in series with the current-restraining device and the glower and to the source of current by con-



ductor 20<sup>a</sup> and contact-piece 15<sup>b</sup>, a core 23, provided at its lower end with a carbon contact-plate 24, and two stationary carbon terminals 25, one of which is connected to conductor 20<sup>a</sup> and one end of the solenoid and the other to the conductor 17 of the heater-circuit.

The casing 14 and the parts contained in and supported by it are mounted upon a suitable stand, here shown as comprising a suitable base 26 and an extensible telescoping upright portion 27.

It will be readily understood that when the parts are in position the current will first pass through the switch-contact pieces 24 and 25, the conductor 17, the heaters 2, and the conductor 16, and that when the glower has been raised to such temperature by the action of the heaters as to make it conductive the current will be shunted through the solenoid, the current-restraining device, and the glower, and the solenoid will act upon its core to raise the switch-contact 24 out of engagement with the contacts 25, thus breaking the heater-circuit and maintaining this open condition of the heater-circuit during the operation of the lamp. It will also be seen that the construction is such that the light emitted from the glower will be reflected mainly downward, so as to admirably adapt the lamp for use upon a desk or table in connection with any work that it may be desired to perform.

It will probably ordinarily be found advisable to employ a suitable shade in connection with this device, such shade being supported by any suitable means above or around the glower and from the casing 14.

Other additions and modifications may of course be made without departing from the invention, and I therefore desire it to be understood that the form and arrangement of parts shown do not circumscribe the invention.

I claim as my invention—

1. A desk or table lamp of the type described comprising an upright portable stand, a removable, cylindrical holder, containing ballast and cut-out devices and having an insulating-block at its top provided with socket-terminals, an insulating-block provided with pin-terminals to engage said socket-termi-

nals, a glower attached to and supported by said pin-terminals, and a plurality of non-conducting bodies located above the glower to constitute a reflector, at least one of said bodies being provided with a heating-conductor.

2. In a desk or table lamp of the type described, a horizontally-disposed glower, a plurality of non-conducting tubes located adjacent to each other above the glower, at least one of said tubes being provided with a heating-coil, a cylindrical holder containing ballast and cut-out devices and supporting said tubes and glower and a portable stand upon which said holder is removably supported.

3. In a desk or table lamp of the type described, a horizontally-disposed glower, similarly-disposed non-conducting tubes located above the plane of the glower, at least one of which is wound with a heating-conductor, means for automatically cutting the heating-conductor out of circuit when the glower becomes conductive, a cylindrical holder containing said cut-out means and supporting the glower and heater and a portable stand upon which said holder is removably mounted.

4. In a desk or table lamp of the type described, a horizontally-disposed glower, a pair of tubular heaters disposed in a plane above the glower, a heat and light reflecting tube located between the heaters, and a supporting-stand for said parts.

5. In a desk or table lamp of the type described, a stand, a tubular casing having circuit-terminals at its base, glower and heater terminals at its top and intermediate regulating and controlling devices, in combination with a glower; two heater-tubes and a light-reflecting tube located above the glower, and supporting-terminals for said glower and tubes which have a removable engagement with the terminals in the top of the casing.

In testimony whereof I have hereunto subscribed my name this 19th day of February, A. D. 1900.

ALEXANDER JAY WURTS.

Witnesses:

HENRY NOEL POSSER,  
HUGH ANDREW CROOKS.