

No. 641,613.

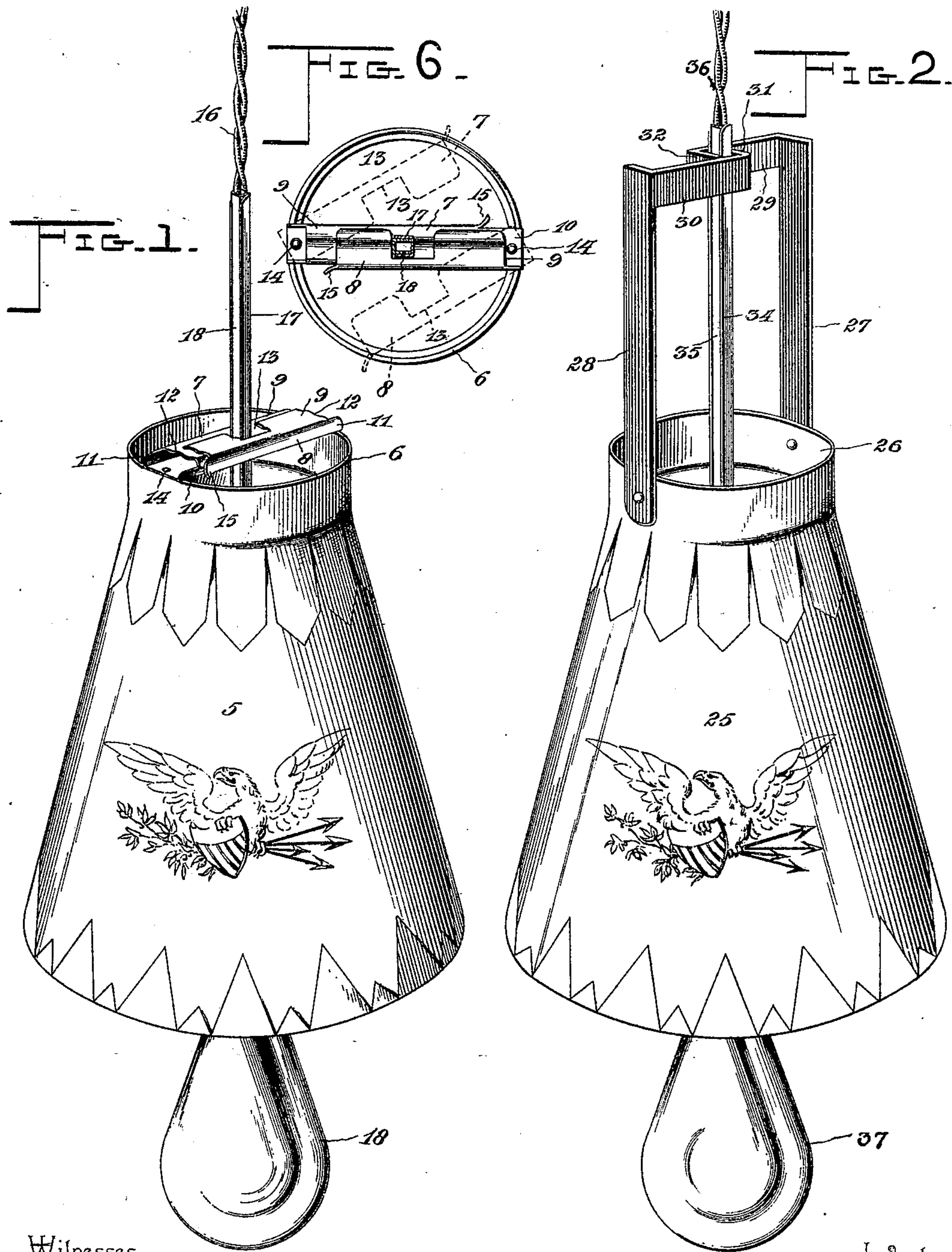
Patented Jan. 16, 1900.

W. D. SMITH.
SHADE FOR ELECTRIC LIGHTS.

(Application filed Aug. 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

John F. Sufferwid
Georg. Chanale

By His Attorneys.

Inventor
Watson D. Smith.

C. A. Snow & Co.

No. 641,613.

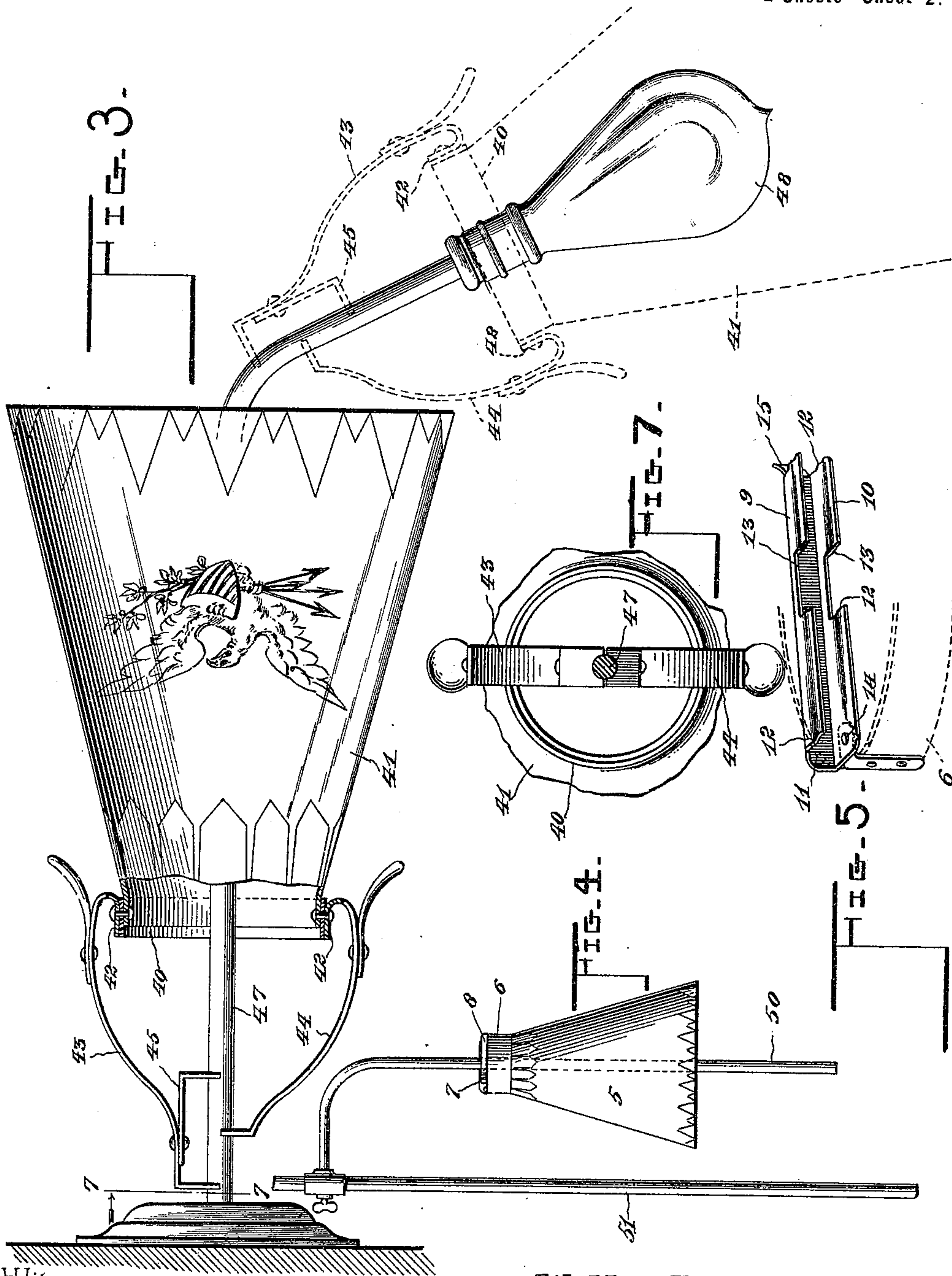
Patented Jan. 16, 1900.

W. D. SMITH.
SHADE FOR ELECTRIC LIGHTS.

(Application filed Aug. 1, 1899.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

John F. Seufferheld
Georg H. Chandler

By his Attorneys,

Walton D. Smith, Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WALTON DUANE SMITH, OF PROPHETSTOWN, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM McNEILL, OF SAME PLACE.

SHADE FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 641,613, dated January 16, 1900.

Application filed August 1, 1899. Serial No. 725,785. (No model.)

To all whom it may concern:

Be it known that I, WALTON DUANE SMITH, a citizen of the United States, residing at Prophetstown, in the county of Whiteside and State of Illinois, have invented a new and useful Shade for Electric Lights, of which the following is a specification.

This invention relates to lamp-shades in general, and more particularly to that class employed in connection with electric lights of the incandescent type, although, as it will be readily appreciated from the following description, it may be applied to a lamp of other style and may also be applied to a gas-burner, &c.

The object of the invention is to provide a simple and effective means for holding a shade at different elevations with respect to the light and also to provide means for enabling the adjustment of the shade with respect to an incandescent lamp supported from a flexible wire and in such a manner as to prevent injury to the insulation of the wire.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing one form of the invention applied to an incandescent electric light suspended from a flexible wire. Fig. 2 shows a different construction of the clutch mechanism employed under the same conditions as shown in Fig. 1. Fig. 3 is a side elevation of a third form of clutch mechanism and showing a shade applied to a metallic bracket of tubular form, to the end of which is fixed an incandescent electric light. Fig. 4 is a side elevation showing a shade provided with the clutch mechanism illustrated in Fig. 1 applied to the supporting-tube of a light. Fig. 5 is a detail perspective of one of the elements of the clutch shown in Fig. 1. Fig. 6 is a detail plan view of the clutch mechanism detached from the shade, the positions of the clutch elements being indicated in dotted lines. Fig. 7 is a section on line 7 7 of Fig. 3 with portions of the shade omitted.

Referring now to the drawings, in constructing a shade in accordance with one form of the invention there is formed a canopy 5 of any desired form and material, although there is shown in each instance a frusto-conical

shade. At the minor end of the shade 5 is fixed a spring-metal ring 6, preferably of cylindrical form, and at diametrically opposite points at its upper edge there are attached or formed clutch members 7 and 8. The clutch members 7 and 8 are similar in construction, and each consists of a plate comprising parallel members 9 and 10, connected by a web 11, and the inner faces of which members are separated by an interspace. The members 9 and 10 are correspondingly corrugated, and one of said clutch elements has its parallel members separated a sufficient distance to receive the opposite elements, the element thus received having its free edges bent inwardly, as shown at 12 in Fig. 1 of the drawings, thus forming, in effect, a box. Both clutch elements are formed of spring metal, and their dimensions are such that when one is passed into the other the outer element will be expanded until the corrugated portions are in meshing positions, when it will contract to hold the elements in engagement.

The outer edges of the members 9 and 10 of each clutch element are recessed, as shown at 13, the recesses of each element being in vertical alinement. These clutch elements are pivotally connected at diametrically opposite points of the ring 6 through the medium of pins 14, passed through the lowermost members 10 of each element and through the inwardly-directed portion of a plate fixed to the outer face of said ring, although, as will be readily understood, this inwardly-directed portion may be integral with the ring. This pivotal connection of the clutch elements with the ring 6 is such that when the ring is in its normal position and the clutch elements are in engagement the members 9 and 10 of one element will partially cover the recesses 13 of the opposite element, resulting in the formation of a rectangular perforation through the engaged elements. The central point of each recess 13 of each clutch element lies on the same side of the center of the ring 6 as a pivot 14 of that element, and thus, as it will be seen upon reference to Figs. 1 and 6 of the drawings, if the ring be compressed on a line connecting the pivots 14 the clutch elements will be caused to slide with respect to each other, and thus increase the corresponding dimension of the said rectangular

perforation. When the ring is released, its elasticity will draw the clutch elements into their original positions, and if, while the ring is compressed, a body be passed through the vertical perforation of the clutch and the ring be then released, if such body have a proper dimension the clutch will grip it firmly, and thus will support the ring 6 and the shade connected therewith. In order to facilitate the disengagement of the clutch element, the web 11 of each element is continued slightly beyond the free end of the latter and is turned outwardly to form a finger-piece 15, as shown.

In the application of this device to a lamp supported by a flexible wire 16, as shown in Fig. 1 of the drawings, there is provided for said wire a rigid casing comprising two plates 17 and 18, each of which is U-shaped in cross-section and of spring metal, one of said plates being adapted to receive and frictionally hold the other and the separation of the webs of such plates being less than the diameter of the wire 16 when said plates are moved inwardly to their limit of motion. Thus these plates may be disposed to inclose a portion of a wire 16 with one of the plates inclosing the other, and may be so adjusted that their frictional engagement will prevent separation of the plates and also prevent sliding of the plates with respect to the wire under normal conditions. In practice after these plates have been disposed upon the wire the clutch elements are separated, as shown in dotted lines in Fig. 6, and the shade is then passed upwardly and over the lamp 18 and to a position with the ring 6 encircling the plates 17 and 18. The ring is then compressed and the clutch elements are moved into mutual engagement and to receive in their recesses 13 the mutually-engaged plates 17 and 18. Upon then releasing the ring 6 the elasticity thereof will operate the clutch elements to cause frictional engagement of the end walls of the recesses 13 with the plates 17 and 18, respectively. To adjust the shade vertically or longitudinally of the plates 17 and 18, it is only necessary to compress the ring 6, when the clutch elements will release said plates and the desired movement may be given to the shade.

In Fig. 2 of the drawings there is shown a modification which includes a shade 25, having a ring 26 fixed thereto, and the same in every respect with similar portions of the structure shown in Fig. 1. Pivoted to diametrically opposite points of the outer surface of the ring 26 are uprights 27 and 28, each of which has at one edge of its upper end inwardly-directed extensions 29 and 30, respectively, which are disposed mutually parallel and the extremities 31 and 32 of which are bent at right angles to the direction of the opposite extensions 29 and 30. These portions 31 and 32 normally are separated by a slight interspace, but which interspace may be increased by inward compression of the uprights, as will be readily understood. In

connection with this last-named structure there may be employed plates 34 and 35, the same in every respect as the plates 17 and 18, and which are adapted to be disposed upon the supporting and conducting wire 36 of a lamp 37, the normal separation of the extremities 31 and 32 being less than the least diameter of the removable plates 34 and 35. In the application of this form of the invention the shade is passed upwardly over the lamp in the same manner as above described and the uprights 27 and 28 are swung in opposite directions upon their pivots to separate the extremities 31 and 32 from the opposing extensions 29 and 30. The assembled plates 34 and 35 are then entered between the extremities of the extensions 29 and 30 and the uprights 27 and 28 are then returned upon their pivots to lie parallel with the axis of the ring 26, said uprights having been previously pressed inwardly to separate the extremities 31 and 32 a sufficient distance to permit the entrance therebetween of the plates 34 and 35. When the extremities 31 and 32 are in contact with the extensions 29 and 30, the uprights are released, when the elasticity of their material will cause the extremities 31 and 32 to mutually approach and frictionally engage the plates 34 and 35. When it is desired to adjust the shade, it is only necessary to press the uprights inwardly to cause the extremities 31 and 32 to release the plates 34 and 35, when the shade may be adjusted, and when the uprights are released the shade will be held in its position.

It will of course be understood that, if desired, the uprights 27 and 28 may be of inelastic material or may have a rigid mechanical structure, in which event the ring 26 is of spring material, or, if desired, both the ring and the uprights may be entirely of spring metal, the operation being the same in each instance.

In Fig. 3 of the drawings there is shown a third form of clutch mechanism which is adapted for engagement with the casing of conductor-wires. In this instance a ring 40, preferably of spring material, is fixed to the minor end of a shade 41, and at diametrically opposite points thereof are pivotally connected the inwardly and upwardly directed extremities 42 of spring-plates 43 and 44. The plates 43 and 44 are continued upwardly and inwardly and each has its upper extremity turned inwardly at right angles to the axis of the ring 40, and the inner edge of each inturned extremity is concaved, as shown in Fig. 7 of the drawings, to snugly fit against a correspondingly-formed body. Fixed to the plate 43, adjacent the inturned extremity thereof, is a supplemental plate 45, extending in the direction of the ring 40 and parallel with the axis thereof and to a point below the inwardly-directed upper extremity of the plate 44, at which point the plate 45 has its lower extremity directed inwardly and parallel with the extremities of plates 43 and

44 and has the edge of its end provided with a semicircular recess in alinement with the recess in the extremity of the plate 43. The positions of the plates 43 and 44 are such that normally the upper intumed extremity of the plate 44 will lie between the intumed extremities of plates 43 and 45. Thus if these extremities are separated the spring quality of the plates 43 and 44 will exert a gripping action between the intumed extremities. In the application of this form of the invention to a body, such as the tubular casing 47, through which the conducting-wires of a lamp 48 are passed, the plates 43 and 44 are swung in opposite directions upon their pivots and the shade is then passed upwardly and over the lamp. The plates 43 and 44 are then returned upon their pivots to lie at diametrically opposite sides of the casing 47, the plates 43 and 44 having their upper ends further separated to permit this adjustment. The upper ends of said plates being then released, their semicircular recesses, which receive the casing 47 and the walls of said recesses, will be frictionally engaged with the casing to prevent displacement of the shade. In this form of invention the plates 43 and 44 may be of rigid instead of spring material, and the ring 40 be of spring material, or both may be of spring material, or the plates may be of spring material and the ring rigid.

In Fig. 4 of the drawings there is shown a shade supplied with a clutch device similar to that shown in Fig. 1 of the drawings, and which clutch is engaged with a tubular hanger 50, adjustably mounted upon an upright 51 and intended as a table-lamp.

It will of course be understood that in practice the specific construction herein shown and described may be varied in form and arrangement, and also that any desired material, proportions, and sizes may be observed without departing from the spirit of the invention.

From the foregoing description it will be seen that the structure presents a shade which may be adjusted with respect to the lamp with great ease, and thus by its use an electric lamp may be allowed to have a constant illumination, while the shade may be adjusted to cover different portions thereof, and thus to effect a dimming of the light. This adjustment and consequent dimming may be performed as easily as the turning down of an ordinary oil-lamp.

Having described my invention, what I claim is—

1. A lamp-shade comprising a canopy having a clutch connected therewith and adapted for engagement with a support, said clutch comprising a spring-ring and a plurality of elements pivotally connected with the ring and adapted for slidable engagement with each other to exert a clutching action, substantially as specified.

2. The combination with a canopy, of a spring-ring carried thereby, and clutch ele-

ments connected with the ring and extending inwardly thereof and adapted to move into and out of their engaging positions to recede and approach when the ring is distorted and released.

3. The combination with a canopy, of a spring-ring fixed thereto, clutch elements pivotally connected at opposite sides of the ring and adapted to be swung into and out of mutual engagement, and to slide with respect to each other as the ring is distorted and released, to operate the clutch, substantially as specified.

4. The combination with a canopy, of a spring-ring carried thereby, and clutch elements connected with the ring at opposite sides thereof, each of said elements having an inwardly-extending portion provided with a clutch-jaw adapted to cooperate with a similar portion of the opposite element, said jaws being adapted to recede and approach as the ring is distorted and released, substantially as specified.

5. The combination with a canopy, of a spring-ring fixed to the canopy, and clutch elements connected with the ring and having inwardly-directed portions provided with laterally-extending clutch-faces adapted to exert a clutching action, said elements being adapted for slidable contact to move the clutch-faces toward or away from each other, and means for holding the clutch-faces normally in a predetermined position, substantially as specified.

6. The combination with a canopy, of a spring-ring fixed to the canopy, and clutch elements connected with the ring and having inwardly-directed portions provided with laterally-extending clutch-faces adapted to exert a clutching action, said elements being adapted for slidable contact to move the clutch-faces toward or away from each other, and means for holding the clutch-faces yieldably in a predetermined position, substantially as specified.

7. The combination with a canopy, of a spring-ring fixed to the canopy, and clutch elements pivotally connected with the ring and having inwardly-directed portions provided with laterally-extending clutch-faces adapted to exert a clutching action, said elements being adapted for slidable contact to move the clutch-faces toward or away from each other, and means for holding the clutch-faces normally in a predetermined position, substantially as specified.

8. The combination with a canopy, of a spring-ring fixed to the canopy, and clutch elements connected with the ring and having inwardly-directed portions provided with laterally-extending clutch-faces adapted to exert a clutching action, said elements being adapted for slidable contact to move the clutch-faces toward or away from each other, and means for holding the clutch-faces yieldably in a predetermined position, substantially as specified.

9. The combination with a canopy, of a spring-ring fixed thereto, and spring-pressed clutch elements connected with the ring and extending inwardly thereof, and adapted to exert pressure in opposite directions upon an interposed body passed through the ring and out of engagement therewith, substantially as specified.

10. The combination with a canopy, of a spring-ring connected therewith, and clutch elements pivotally connected with the ring and having clutching-faces adapted normally to lie mutually adjacent and adapted for movement into and out of their engaging positions as the ring is distorted and released, the clutching-faces lying above and inwardly of the ring, substantially as specified.

11. The combination with a canopy, of a clutch element pivoted thereto and having vertically-aligning recesses, and a second clutch element pivoted to the canopy and having vertically-aligning recesses adapted to align with the first-named recesses, said elements being adapted to lie one within the other, and means for holding said elements yieldably in a clutching position, substantially as specified.

12. The combination with a canopy, of a spring-ring carried thereby, a clutch element pivotally connected with the ring and having a clutching-face, and a second clutch element pivotally connected with the ring and adapted to receive the first-named element and having also a clutching-face adapted to cooperate with the first-named face, substantially as specified.

13. The combination with a canopy, of a spring-ring carried thereby, a clutch element carried by the ring and having a clutch-face, said element having longitudinal corrugations, a second clutch element longitudinally corrugated and carried by the ring and having a clutch-face, and adapted to receive the first-named element with their corrugations intermeshing, said elements being adapted for slidable movement with respect to each other to establish and destroy the clutching action, substantially as specified.

14. A device of the class described comprising a casing adapted for application to a wire or other lamp-hanger and including two elements which have separate members and a

connected web, one of said members being adapted to inclose the other member and slide toward and away from it to exert different degrees of clamping action thereagainst.

15. A device of the class described, comprising a casing adapted to receive a wire or other lamp-hanger and including two elements each having separate members and a connecting-web, one of said elements being adapted to receive the other element throughout its length and slide toward and away from it to exert different degrees of clamping action thereagainst.

16. In a lamp-shade, the combination with a casing adapted for application to a cord or other lamp-hanger and including similar elements in slidable engagement to exert a clamping action upon the hanger, of a canopy having a spring-operated clutch adapted to engage the casing and clamp it upon the hanger.

17. In a lamp-shade, the combination with a casing adapted for application to a cord or other lamp-hanger and including similar elements in slidable engagement to exert a clamping action upon the hanger, of a canopy having a spring-operated clutch adapted to engage the elements of the casing and move them toward each other to exert a clamping action.

18. In a lamp-shade, the combination with a casing adapted for application to a cord or other lamp-hanger and including similar elements in slidable engagement to exert a clamping action upon the hanger, of a canopy having spring-operated clutching-jaws adapted to engage the elements of the casing to support the canopy and clamp said elements upon the hanger.

19. The combination with a canopy, of clutch elements pivoted thereto and adapted for mutual cooperative clutching action, said elements being independently movable upon their pivots in directions transversely of their clutching movements to establish and destroy their clutching relation.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALTON DUANE SMITH.

Witnesses:

A. B. CASE,
E. G. MATHIS.