G. A. HARTER.

LAMP CLUSTER.

APPLICATION FILED MAY 20, 1908.

965,296. Patented July 26, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

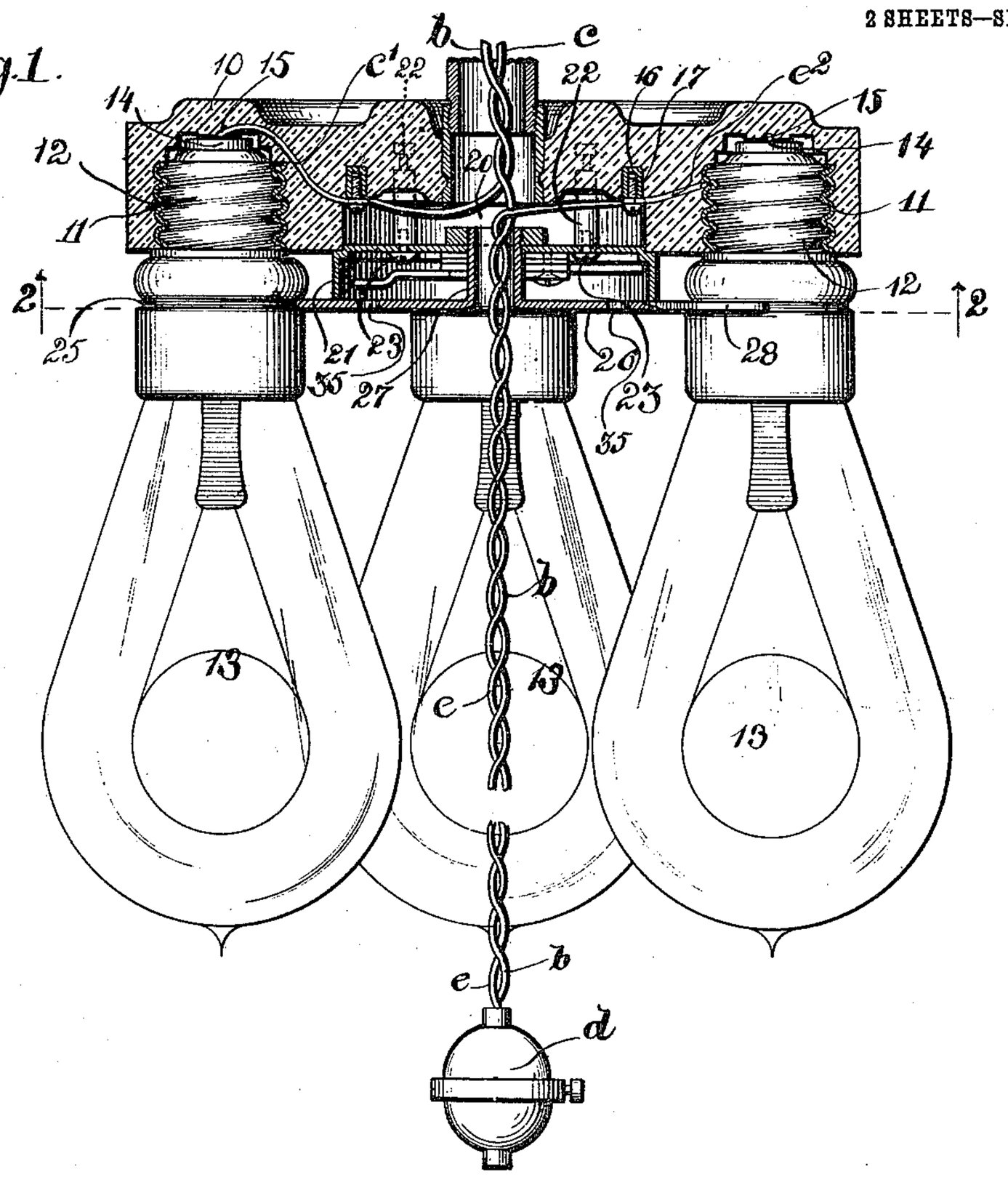
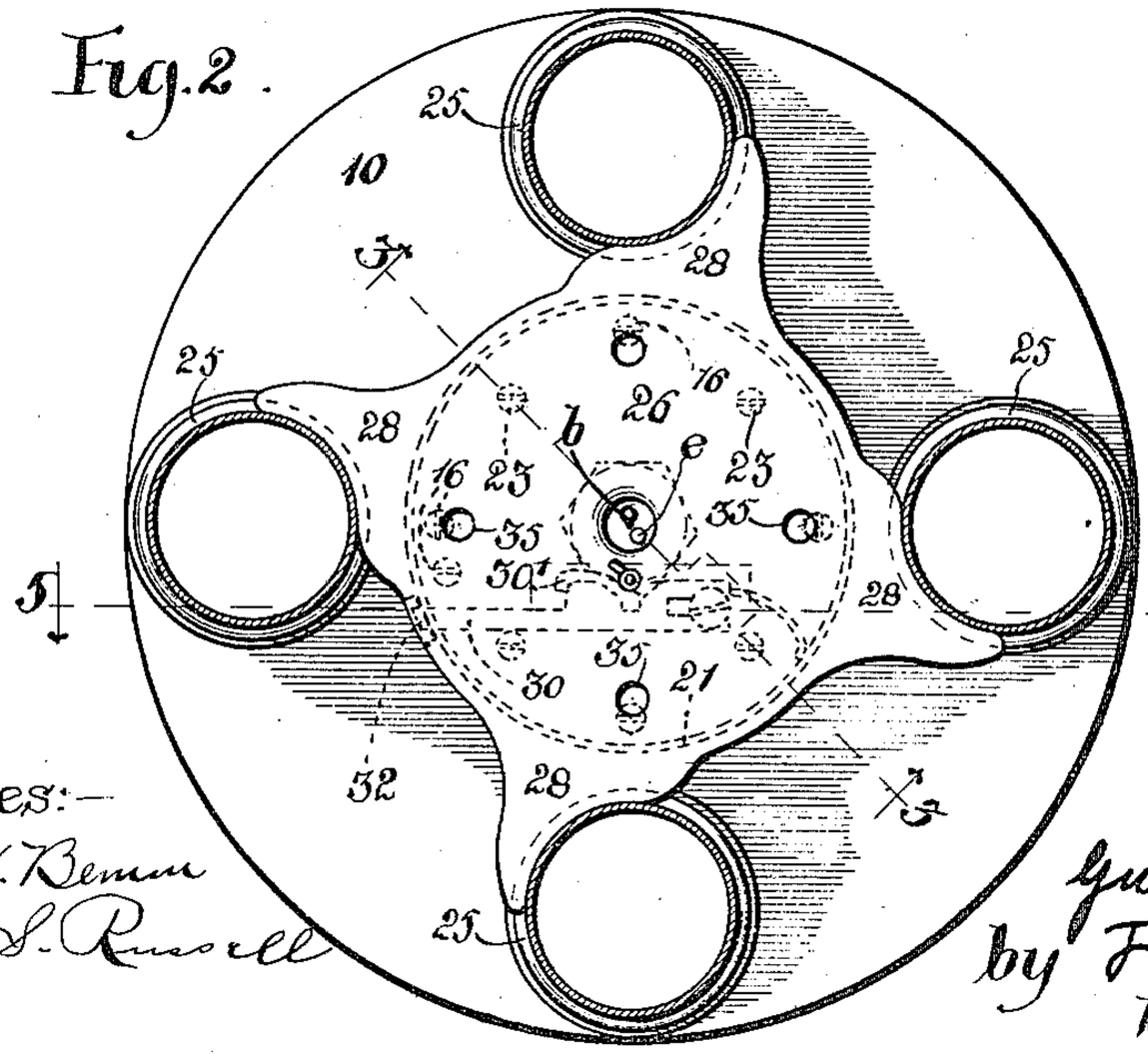


Fig. 2.



Witnesses:—
Frank W. Bemm
Leone S. Russell

Inventor:—
Gustav A. Harter
by Freudenbach
his Atty.

G. A. HARTER.

LAMP CLUSTER.

APPLICATION FILED MAY 20, 1908.

965,296.

Patented July 26, 1910.

2 SHEETS—SHEET 2.

Fig. 3.

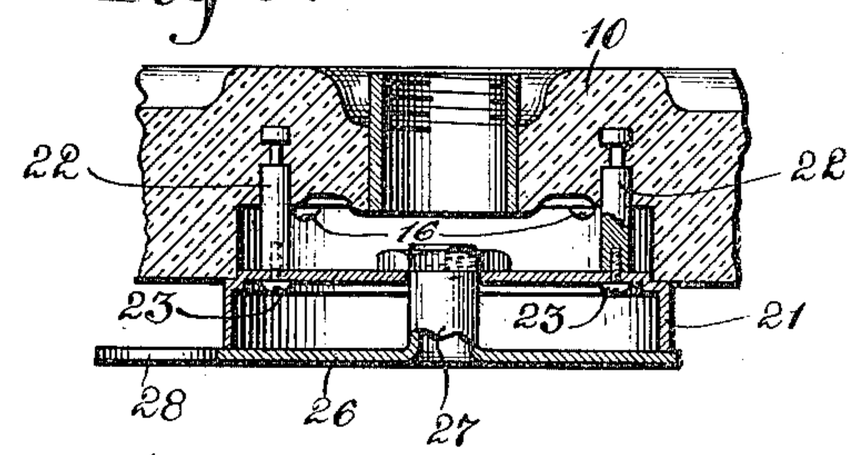


Fig. 4.

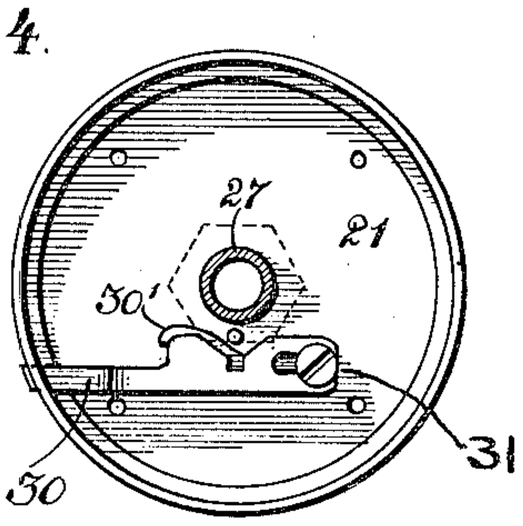


Fig. 5.

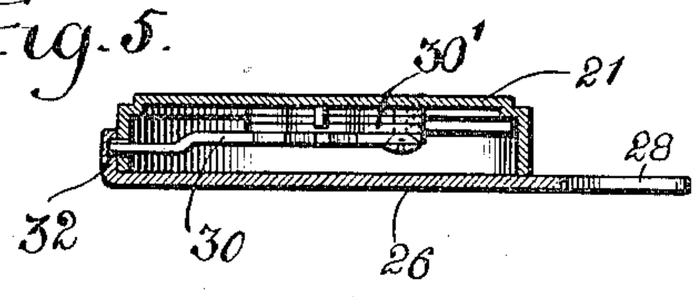
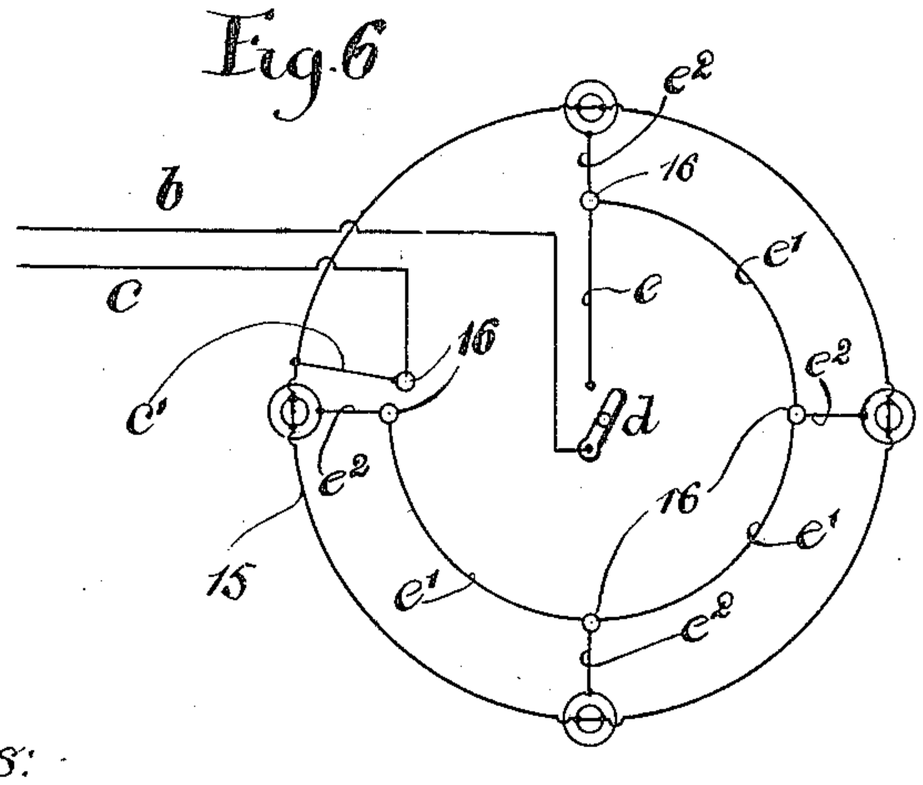


Fig. 6



Witnesses:
Frank Benno.
Leone S. Russell

Inventor:-
Gustav A. Harter
by Fred Gerlach
his Atty.

UNITED STATES PATENT OFFICE.

GUSTAV A. HARTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO VINCENT HARTER, OF CHICAGO, ILLINOIS.

LAMP-CLUSTER.

965,296. Specification of Letters Patent. Patented July 26, 1910.

Application filed May 20, 1908. Serial No. 433,834.

To all whom it may concern:

Be it known that I, GUSTAV A. HARTER, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lamp-Clusters, of which the following is a full, clear, and exact description.

The invention relates to clusters for incandescent electric lamps.

It is now common practice to employ clusters embodying a plurality of sockets for electric lamps in exposed places, *e. g.*, at the entrances of stores or other places of business. It has been found in practice that frequently lamps of special construction have been removed by unauthorized persons or stolen because of their value.

The invention designs to provide an improved lamp-cluster embodying a series of lamps and which comprises means for preventing removal of the lamps, or access to the electric wiring by unauthorized persons, thus making it safe to employ these lamp-clusters in exposed placed.

The invention further designs to provide a lamp locking-device which may be connected to a porcelain base in such manner that it cannot be removed when the lamps are locked.

The invention further designs to provide an improved lamp-cluster.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Figure 1 is a central vertical section of a lamp-cluster embodying the invention. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is an inverted plan of the lock-case and lock. Fig. 5 is a section through the lock-case and lamp locking-plate on line 5—5 of Fig. 2. Fig. 6 is a diagrammatical view of the electric connections for the lamps of the cluster and the switch.

The body or base 10 of the cluster is usually formed of porcelain or a suitable non-conducting material. Sockets 11 in circular series are embedded in the base 10 in the process of manufacture and are each adapted to receive a lamp-base 12 of an electric incandescent lamp 13, each socket serving as one of the conductor-terminals for the lamp. The socket-walls are formed with a screw-thread to receive a corresponding threaded base-portion of the lamp-base 12 whereby the lamps will be held in the socket and in contact with the conductor-terminals. Each lamp-base as well understood in the art, is provided with a conductor-tip 14, insulated from the lamp-base 12 and which is adapted to contact with a conductor at the base of the lamp-socket. A nipple 15 is embedded in the cluster-body 10 for the leading-in conductors and through which they extend for connection to the binding-screws which are respectively connected to the conductor-terminals in the cluster. The cluster is usually sustained by connecting nipple 15 to a fixture pipe through which the leading-in wires are extended.

As illustrated in Fig. 6 one of the line-conductors *c* is connected to a binding-post 16 which is connected by a conductor *c'* with a conductor 15, which is embedded in the cluster-body and has portions thereof exposed for contact with the tip 14 of each of the lamps. The other line-conductor *b* is connected to a drop-switch *d* which comprises a switch-member adapted to place a conductor *e* into circuit with the conductor *b*. The conductor *e* is connected to a binding-post 16 which is connected by a conductor *e'* to a binding-post for each of the screw-threaded sockets 12, each of the binding-posts 16 of this series being connected to one of the sockets by a branch-conductor e^2.

Metallic screw-sockets 16 are embedded in the cluster-body and are adapted to receive screws 17 for suitably connecting the conductor-wires. A recess or pocket 20 is formed centrally in the underside of the cluster-body, through which the leading-in wires are extended in connecting them to the binding-post 16. A lock-case or support 21 is disposed in or underlies the recess 20 in the cluster-body and is secured thereto by studs 22 having their upper portions embedded and secured in the procelain cluster-body in the process of manufacture, and their lower portions are adapted to receive screws 23 which extend through the top wall of the lock-case and secure the case to the studs 22 and the cluster-body. This lock-case is usually cup-shaped, may be formed of sheet metal, and provides a chamber in which the lock may be held.

Each lamp is provided with an annular groove or recess 25 which is disposed near

the bottom of the cluster body when the lamp is in its socket, adapted to receive holding-means which prevent movement on the lamps to secure them against removal from the cluster-body. This holding-means consists of a locking-plate or disk 26 rotatably connected to the lock-case by a hollow-stud 27 which extends through an opening in the top-wall of the case 21 and a nut which holds the case and plate together. The locking-plate is provided with holders or arms 28, one for each lamp of the series, which are adapted to fit into the recesses 25 of the lamps respectively, to lock them against longitudinal movement or turning. All of the bolts being operated by the locking-plate, causes all of the lamps of the series to be simultaneously locked or unlocked. The locking-plate is secured against rotation by a suitable lock such as a key-operated lock, comprising tumblers 30′ and a slidable bolt 30, which is held at one end by a screw 31 and at its other end in the wall of lock-case 21. This bolt 30 is adapted to be shifted by a suitable key adapted to pass through a key-hole formed in the locking-plate and its outer end is adapted to pass into a pocket 32 formed in the locking-plate. Thus, when the bolt 30 is shifted to engage and hold the locking-plate, and the latter is held in position so that arms 28 will hold the lamps, the latter will be secured against removal. When removal of the lamps is desired, the bolt 30 will be withdrawn from engagement with the locking-plate by the key and then the plate will be free to be rotated to permit withdrawal of the arms 28 from the recesses 25 in the lamp-bases of the entire series of lamps.

In many instances it is desirable to employ a drop-switch for the lamps of the cluster. The switch-cord in which the electrical conductors *b*, *e* for the switch are disposed, depend from the cluster-body and extend through the hollow-stud 27 of the locking-plate 26.

It sometimes becomes necessary to inspect the electrical-connections in chamber 20 of the cluster and for that purpose the lock-case and plate 26 are removably connected to the cluster-body by screws 23. To prevent removal of the lock-case and locking-plate only when the lamps are not locked in the cluster, openings 35 are formed in the locking-plate and are disposed to render the screws 23 accessible with a screw-driver when the locking-plate is in inoperative position, being disposed so that the screws will be inaccessible when the locking-plate is in position to lock the lamps. Resultantly, the lock-case and locking-plate cannot be removed, and the electrical connections are inaccessible when the lamps are locked. When, however, the locking-plate has been unlocked and rotated to release the lamps by the manipulation of lock-bolt 30 by the proper key and the locking-plate rotated to bring openings 35 into registry with screws 23, the lock-case and locking-plate may be removed, the screws 23 being then accessible by a screw-driver.

The invention is not to be understood as restricted to the details illustrated and described, since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a lamp-cluster, the combination of a cluster-body provided with means for removably holding a plurality of electric lamps, means for holding said plurality of lamps against withdrawal from the cluster-body, and a lock for securing the holding-means for said plurality of lamps in operative position.

2. In a lamp-cluster, the combination of a cluster-body provided with a plurality of lamp-sockets, electric lamps removably held in said sockets, means for holding said plurality of lamps against withdrawal from the cluster-body and a lock for securing the holding-means for said plurality of lamps in operative position.

3. In a lamp-cluster, the combination of a cluster-body provided with a plurality of lamp-sockets, lamps removably held in said sockets and provided with bases having grooves therein, holding-means adapted to enter said grooves to secure all of said lamps against withdrawal from the sockets and a lock for securing said holding-means for said plurality of lamps in operative position.

4. In a lamp-cluster, the combination of a cluster-body provided with a plurality of lamp-sockets, electrical connections for the lamps in said body, electric lamps removably held in said sockets, means for holding said plurality of lamps against withdrawal from the sockets, and a lock for securing the holding-means for said plurality of lamps in operative position.

5. In a lamp-cluster, the combination of a cluster-body provided with a plurality of lamp-sockets and a central recess, electrical connections for the lamps extending through said recess, means for holding the lamps against withdrawal from the socket, locking-means for securing said holding means in operative position, and means for covering said recess to inclose said connections.

6. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets and having a central recess therein on its under side, electric lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets,

locking-means for securing said holding-means in operative position, and a lock-case covering said recess.

7. In a lamp-cluster, the combination of a cluster-body provided with a plurality of lamp-sockets, lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, and locking-means for securing said holding-means in operative position, said holding-means and said locking-means being removably connected to the cluster-body.

8. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, locking-means for securing said holding-means in operative position and for removably connecting the holding-means and the locking-means to the cluster-body.

9. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, means for holding lamps against withdrawal from the sockets, locking-means for securing said holding-means in operative position, and means for removably connecting the holding and locking-means to the cluster-body, said connecting-means being inaccessible when the holding-means is in operative position.

10. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, a lock for securing said holding-means in operative position, a lock-support, and means for removably connecting said support to the cluster-body.

11. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, and having a central recess therein on its under side, electric lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, a lock for securing said holding-means in operative position, a lock-support, means for removably connecting said support to the cluster-body, and means for rendering said connecting-means inaccessible when the holding-means is in operative position.

12. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, a lock for securing said holding-means in operative position, a support in which said lock is mounted removably connected to the cluster-body, studs secured to the cluster-body, a lock-support, and means for removably connecting said support to said studs.

13. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets and having a central recess therein on its under side, electric lamps removably held in said sockets, means for holding the lamps against withdrawal from the sockets, a lock for securing said holding-means in operative position, a support in which said lock is mounted removably connected to the cluster-body, studs secured in the cluster-body, a lock-support, means for removably connecting said support to said studs, and means for rendering said connecting-means inaccessible when the holding-means is operative.

14. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, electrical connections in said body, rotatable holding-means for engaging said lamps to secure them against withdrawal from the sockets, and a lock for securing said holding-means in operative position.

15. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, electrical connections in said body, a locking-plate provided with means for engaging said lamps to secure them against withdrawal from the sockets, and a lock for securing said plate in operative position.

16. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, electrical connections in said body, a locking-plate for the lamps rotatably connected to the cluster-body, and a lock for securing said plate in operative position.

17. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric lamps removably held in said sockets, electrical connections in said body, a lock-support secured to said body, a locking-plate rotatably connected to said support for holding the lamps against withdrawal, and a lock for securing said plate against rotation.

18. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric-lamps removably held in said sockets, electrical connections in said body, a lock-case secured to the cluster body, a locking-plate rotatably connected to said case, provided with means for engaging the lamps to secure them against withdrawal from the sockets, and a lock for the plate in said case.

19. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric lamps removably held in said sockets, electrical connections in said body, means for holding the lamps against withdrawal from the sockets, a support for said holding-means, and locking-means for

securing the holding-means in operative position, said support and locking-means being disposed so that switch-connections may be extended therethrough.

20. In a lamp-cluster, the combination of a cluster body provided with a plurality of sockets, electric lamps removably held in said sockets, electrical connections in said recess, a lock-support having a central opening therein, means for engaging the lamps to secure them against withdrawal from the sockets, and a lock for securing the holding-means in operative position.

21. In a lamp-cluster, the combination of a cluster-body provided with a plurality of sockets, electric lamps removably held in said sockets, electrical connections in said body, a lock-support provided with a central opening therein, holding-means for preventing the withdrawal of the lamps, rotatably connected to said support and open at its center whereby the switch-connections may extend centrally through said support and said holding-means, and a lock for securing the holding-means in operative position.

22. In a lamp-cluster, the combination of a cluster-body provided with a plurality of electric lamp-sockets and a central recess, electrical connections extending through said recess, a series of lamps held in said sockets, a lock-case removably connected to said body and beneath said recess, a locking-plate rotatably connected to said case, a lock in said case for securing the plate against rotation, said plate and said case being provided with central openings through which switch-conductors may be extended.

GUSTAV A. HARTER.

Witnesses:
FRED GERLACH,
LEONE S. RUSSELL.