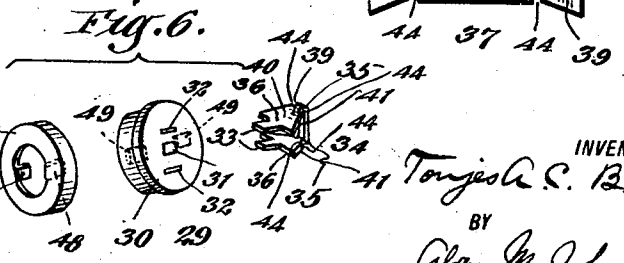
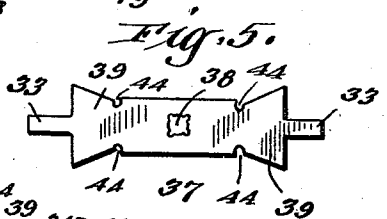
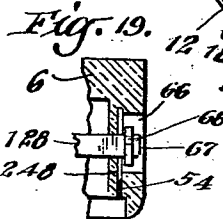
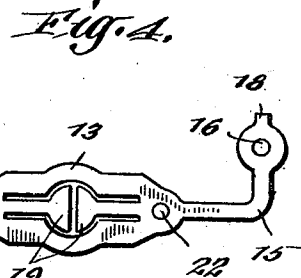
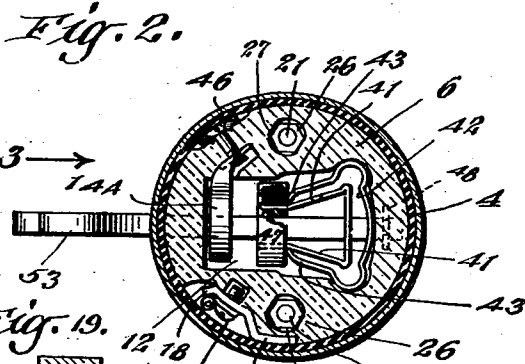
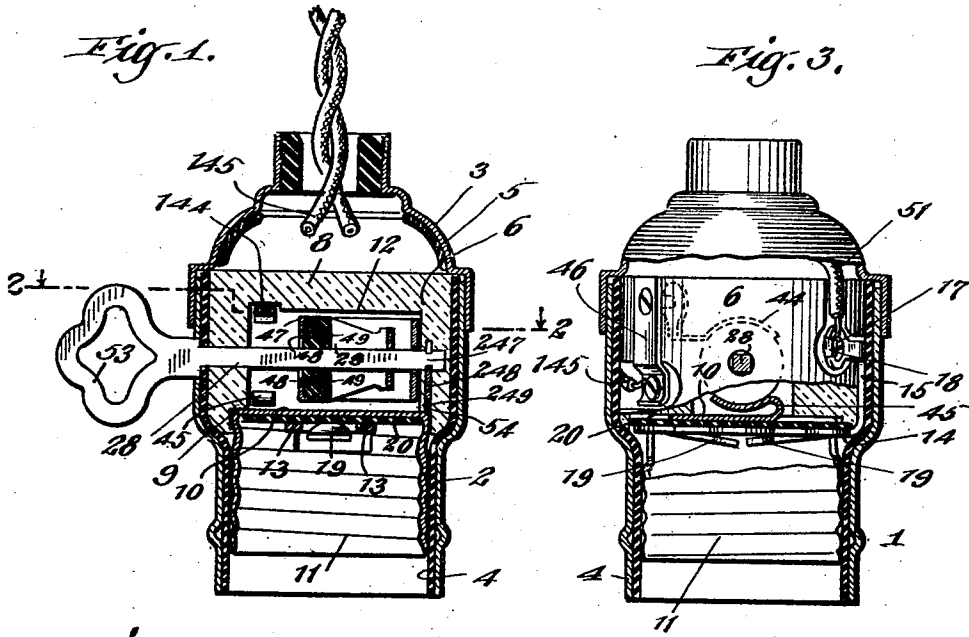


T. A. C. BOTH.
 MECHANICAL MOVEMENT.
 APPLICATION FILED JULY 2, 1910.

999,745.

Patented Aug. 8, 1911.

2 SHEETS-SHEET 1.



WITNESSES
 St Crocker
 R. Menck

INVENTOR
 T. A. C. Both
 BY
 Alan M. Johnson
 ATTORNEY

999,745.

Patented Aug. 8, 1911.

2 SHEETS—SHEET 2.

Fig. 7.

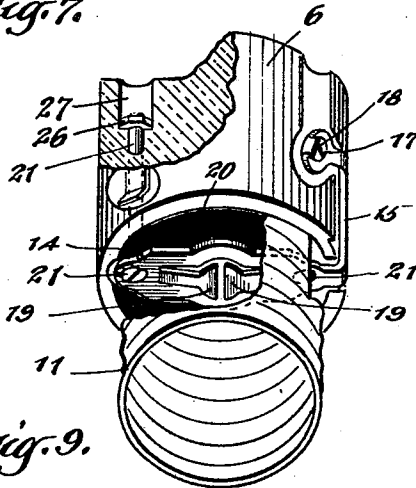


Fig. 8.

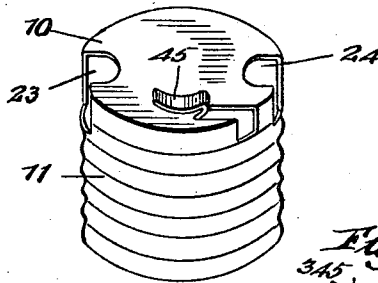


Fig. 9.

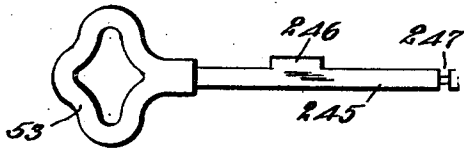


Fig. 10.

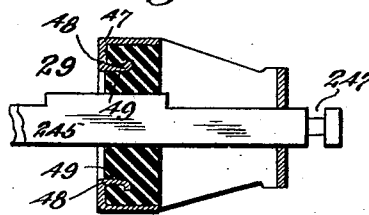


Fig. 16.

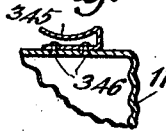


Fig. 14.

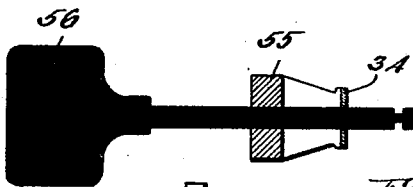


Fig. 11.

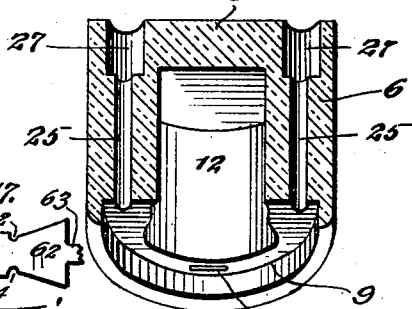


Fig. 15.

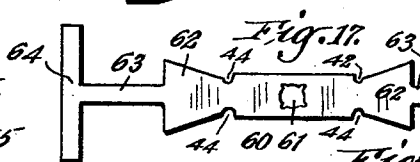


Fig. 12.

Fig. 13.

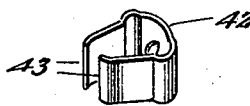
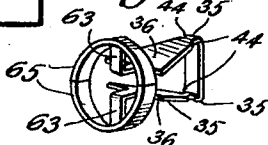


Fig. 18.



WITNESSES
 St. Rocheron
 R. Menck

INVENTOR
 Thomas A. C. Both
 BY
 Alan M. Johnson
 ATTORNEY

UNITED STATES PATENT OFFICE.

TONJES AUGUST CARL BOTH, OF NEW YORK, N. Y., ASSIGNOR TO IDA S. ROSENHEIM,
OF NEW YORK, N. Y.

MECHANICAL MOVEMENT.

999,745.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed July 2, 1910. Serial No. 570,137.

To all whom it may concern:

Be it known that I, TONJES AUGUST CARL BOTH, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented new and useful Improvements in Mechanical Movements, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to mechanical movements adapted for universal application.

More particularly it relates to a mechanical movement which will make a quick make as well as a quick break when used as the operating mechanism of an electric switch, though of course, it is to be understood that my present invention is not to be limited to such use.

In the accompanying drawings showing illustrative embodiments of my invention and in which the same reference numerals refer to similar parts in the several figures,—Figure 1 is a vertical section through an electric light socket equipped with my improved mechanical movement as the operating switch mechanism; Fig. 2 is a horizontal section on line 2—2 looking down in the direction of the arrows; Fig. 3 is a vertical section through the socket, a part of the structure being shown in side elevation for purposes of better illustration; Fig. 4 is a detail plan view of the center contact plate with the arm shown in substantially the same plane as the plate; Fig. 5 is a detail plan view of the blank from which the hills and valleys of the driven member are preferably made; Fig. 6 is a perspective view of the driven member with its different parts unassembled; Fig. 7 is a perspective view, partly in section of the socket; Fig. 8 is a perspective view of one form of the screw shell; Fig. 9 is a side elevation of one form of key; Fig. 10 is a fragmentary detail view, partly in side elevation and partly in vertical section; Fig. 11 is a detail perspective and sectional view of the one piece insulating receptacle; Fig. 12 is a detail perspective view of the preferred form of compression member; Fig. 13 is a plan view of a detail; Fig. 14 is a detail view of a modification; Fig. 15 is a detail view of a metallic disk used in the construction shown in Fig. 14; Fig. 16 is a detail sectional view

showing the preferred form of securing the spring contact to the screw shell; Fig. 17 is a detail plan view of a blank from which the driven member may be made, a portion of the figure being broken away; Fig. 18 is a detail perspective view of the driven member formed from the blank shown in Fig. 17; and Fig. 19 is a detail vertical section showing a modified form of securing the driving member in the closed receptacle.

In the illustrative embodiments of the invention shown, 1 is an electric light socket provided with the usual or any approved form of outer shell 2 and cap 3 with the usual or any form of insulating lining 4 and 5 for the shell and cap respectively. These are the mere outer coverings for my mechanical movement when used to operate the switch in an electric light socket and are no part of my invention. Stripped of this outer covering my invention includes the mechanical movement shown and, when used with an electric light socket the insulating receptacle 6 closed on all sides but the bottom and the screw shell 11 for closing the bottom of the receptacle. The receptacle completely incloses and protects the switch mechanism and prevents any sparks or short circuiting of the current between the switch mechanism and the shell 2 or cap 3. As I have here shown it this receptacle 6 has substantially the form of an inverted cup having a head 8 and a mouth 9, see Figs. 1 and 11. The mouth 9 is closed by the upper portion 10 of the screw shell contact 11, Figs. 1, 3, 7 and 8, thereby forming a completely inclosed opening 12 to receive and completely protect my mechanical movement.

The screw shell 11 is held to the receptacle 6 by means of the center contact. In the preferred construction, but to which my invention is not to be limited this center contact is a plate 13, which is preferably made from stamped sheet metal by forming a blank 14 (Fig. 4) which preferably includes an arm 15 provided with an opening 16 and is preferably screw threaded to receive the binding screw 17, Figs. 3 and 7, and generally, though not necessarily with a lug 18. At the same time that the blank is stamped it is provided with ears 19, 19. After this blank is stamped the arm 15 is brought up into substantially right angles to the plate 13

and the lug 18, if one is used, is bent at substantially right angles to the arm, Fig. 3. The ears 19, 19 are then pressed downward into the position shown in Figs. 3 and 7 to form a spring center contact for the electric light socket 1.

Between the lower surface of the head 10 of the shell contact 11 and the upper surface of the center contact 14 I mount an insulating disk 20 of any approved construction usually a disk of mica. The center contact is then secured to the insulating receptacle 6, which is usually of porcelain, or other insulating material, by any suitable fastening means which will at the same time fasten the screw shell 11 to the receptacle 6. A very efficient means and one which I preferably employ are two screws 21, 21 taking through the apertures 22, 22 on the center contact, the openings 23 and 24 in the screw shell 11 and the openings 25, 25 in the insulating receptacle 6, their ends cooperating with nuts 26, 26, Fig. 7 in the enlarged openings 27, 27 Figs. 7 and 11, in the receptacle 6. These enlarged openings 27 being preferably, though not necessarily, non-circular to cooperate with the nuts 26, 26, and prevent their rotation while the screws are being screwed into them.

My mechanical movement comprises a driving and a driven member, and a resilient member to cooperate with the driven member and cause it to move laterally upon the driving member.

In the present invention the driving member is an axle or arbor 28 and upon this element is mounted the driven member 29 Figs. 1 and 6. This driven member 29 is in the present invention formed of a single member or a plurality of parts. The body 30, Fig. 6, of the driven member is formed substantially as a disk or plate and is provided with a non-circular opening 31 to receive the non-circular portion of the driving member 28; and is further provided with two openings 32, 32 for the reception of the fingers 33, 33 of the metallic member 34 which forms the hills 35 and valleys 36. The member 34 on which these hills and valleys are formed is preferably made from a blank 37, Fig. 5, stamped from sheet metal, though of course it may be formed from other material, and if desired even cast or otherwise formed. Preferably, however, for the sake of cheapness of manufacture it is made from a metallic or other blank 37 having an opening 38 for the passage of the driving member 28 and with wings 39, 39, Fig. 5. This blank when bent upon itself as shown in Fig. 6 forms the hills 35 and valleys 36. One incline surface between the two hills and valleys being upon the surface 40 of the wings 39, 39 and the other incline surface being on the edges 41, 41 of said

wings 39, as is more clearly shown in Figs. 65 2 and 6.

The fingers 33, 33 are passed through the openings 32, 32 of the body member 30 and their ends are pressed away from each other to secure them to the body member. Of course, it is to be understood, however, that this is merely one manner of securing the member forming the hills and valleys to the body member and that any suitable means may be used to accomplish the same purpose.

With the driven member I use a resilient member to cooperate with the hills and valleys. Preferably, though not necessarily, this member is a single integral spring 42, Figs. 2 and 12, having arms 43, 43 to contact with and ride upon the hills and valleys of the driven member, Fig. 2.

From the mechanism so far described it is clear that if the driving member 28 is given a partial rotation of approximately 90 degrees the driven member, due to its non-circular opening cooperating with the non-circular portion of the driving member, will also be given the same rotary movement as there is substantially no relative rotary movement between the driving and driven members. This, however, will cause the arms 43, 43 of the resilient member 42 to be spread apart because a "hill" will then be forced beneath the arms where there was formerly a "valley." The tension of the spring arms upon the present "hill" will cause the entire driven member to move laterally upon the driving member until such time as the arms 43, 43 come to rest in the succeeding valley, when the parts will remain in that position until another partial rotation is given the driving and driven member when the latter member will be caused to move laterally in a direction opposite to that last described. This insures a quick alternate movement of the driven member upon each partial revolution of the driving member, the arms 43, 43 operating alternately upon the surface and edges of the member 34 to accomplish this purpose.

I may, as in the previous patent referred to, cut away or notch the hills and valleys as at 44, 44 to hold the arms 43, 43 until the operating hill has forced the arms apart to their maximum movement, when the maximum energy will be stored in the resilient member. Substantially at this instant the driven member will complete its rotary movement bringing the arms 43, 43 out of the notches, 44, 44, onto the smooth surfaces of the hill when the arms will instantly tend to slide down into the succeeding valley and actuate the driven member with a quick snap as previously described. These notches 44, 44 therefore tend to hold or retard the action of the spring

until it has received its maximum compression or energy.

I have shown my mechanical movement in an electric light socket to make a quick make as well as a quick break of the circuit, both of which are highly desirable to prevent arcing or burning of the interior mechanism of the socket. To doubly insure that the contacts shall be thoroughly protected and under no circumstances whatever can dirt or foreign matter get to the mechanical movement when so used, I mount it within the insulating closed receptacle 6, the mouth 9 of which is closed by the screw shell contact, as already described. This screw shell 11 has in Fig. 8 a tongue cut out of its head 10 and bent up to form a contact 45, which extends up into the opening 12 in the closed insulating receptacle 6. Separated from but adjacent to this contact 45 is another similar contact 144 to which the feed wire 145 is electrically connected in any suitable manner, as by the binding post 46.

In the preferred construction I attach the spring contact 345, Fig. 16, to the screw shell 11 by any suitable means, such as rivets 346. In this construction it is not necessary to cut the shell 11 to form the contact, and the contact 345 may be of different material and strength from that from which the shell is formed.

When my mechanical movement is used as a switch mechanism I secure in any suitable manner a connecting member 47 to the driven member 29. This conducting member may be formed of various shapes and configurations. I have found in practice that a very efficient conducting member is the metallic ring 47 which is secured in any suitable manner to the driven member 29 such for example as by having lugs 48, 48 which are forced or crimped into openings 49, 49 in the insulating body member 30.

It is clear that upon a partial rotation of approximately 90 degrees of the driving member, axle or arbor 28 the driven member is also rotated to the same extent which will cause the arms 43, 43 cooperating with the hills and valleys, as previously described, to move the driven member with its conducting ring 47 into contact with the contacts 45 and 144 to make the electrical connection, and will move the driven member from the same contacts to break the connection. In my invention I, by the same mechanism, insure not only a quick break, but also and in addition thereto, I insure that the make is quick and will prevent arcing or burning of the mechanism. The driving member which in this form of my invention is the key, may be given different shapes and contours. A successful and economical manner of manufacturing it is to stamp it from metal forming a key 245 hav-

ing an integral feather 246 to cooperate with a cooperating opening in the driven member 29, Fig. 10. In the end of the key 245 as well as in the end of key 28, I preferably form a recess 247 to cooperate with a locking plate 248. This plate 248 is preferably dropped into a recess 249, Figs. 1 and 11, in the closed insulating receptacle 6. Its arms 50, 50 take into the groove 247 and prevent the accidental or unauthorized removal of the driving member or key 28, or 245, Fig. 9, as the case may be. This plate is held in its position preferably by permitting it to rest upon the upper portion or head 10 of the screw shell 11, a piece of insulation 54 being interposed, if desired.

Current is supplied for example by the feed wire 145 passing the binding post 46, spring contact 144, ring 47, spring contact 45, screw shell contact 11, thence through the lamp (not shown) and out through the center contact 14, spring ears 19, 19, arms 15 and to the wire 51.

In the form of my invention described, the head or key 53 may be of metal as there is no need of it being insulated. In some cases, however, I attach to the metallic hills and valleys a metallic body member 55, Figs. 14 and 15, in which case there is no need of using a metallic ring such as 47 for the current will pass directly through the body member 55 to complete the circuit. With such a construction an insulating key 56, Fig. 14, is used.

In some instances I may form my driven member out of a single piece of material. Preferably for economy in manufacture the piece of material is some suitable sheet metal from which the blank 60, Fig. 17, is stamped. This blank is provided with an opening 16 for the passage of the axle or arbor or other driving member and with wings 62, 62. Each wing is also provided with a finger 63 which terminates in a cross arm 64. In Fig. 17 one of the fingers 63 is broken away and its cross arm 64 does not appear in that figure.

When the blank is bent upon itself as shown in Fig. 18, the wings 62, 62 form the hills 35 and valleys 36. One end of the fingers is bent substantially at right angles to its other end and the cross arms 64, 64 are curved toward each other to form the body or contact member 65, which makes connection directly with the spring contacts 45 and 144. The blank is also provided with the holding notches 44, 44 to hold the arms 43 of the spring 42 or other resilient member which may be used.

In some instances I may form a recess 66, Fig. 19, in the side of the receptacle 6 to expose the end 67 of a driving member 128. In this form of member there is no groove such as 247. Any suitable locking member such as a nut or washer 68 may be

secured on the end of the driving member 128 through the recess 66, after it has been passed through the receptacle 6. If desired, though it is not necessary, a locking plate 5 248 such as shown in Fig. 13 may be employed.

Having thus described this invention in connection with several illustrative embodiments thereof to the details of which I do not desire to be limited, what is claimed as new and what it is desired to secure by Letters Patent is set forth in the appended claims:

1. In a mechanical movement, a driving member and a driven member one adapted to have a limited longitudinal movement with relation to the other, the driven member provided with oppositely inclined surfaces forming hills and valleys and a single fixed U-shaped spring having two free ends, each end being adapted to directly contact with the hills and valleys.

2. In a mechanical movement, a driving member, a driven member mounted on the driving member and adapted to have a limited longitudinal movement in relation to said driving member, said driven member being provided with oppositely inclined surfaces forming opposed hills and a single fixed U-shaped spring having two free ends, each end being adapted to directly contact with the hills and valleys.

3. A driven member for a mechanical movement comprising a disk and a separate attached plate provided with oppositely inclined surfaces forming hills and valleys, some of the inclined surfaces being on the surface of the plate and others on the edge of the plate.

4. The combination of a driving and a driven member for a mechanical movement, the driven member comprising a body member provided with openings and a separate member stamped from sheet metal and provided with oppositely inclined surfaces and with fingers, the fingers taking through the apertures in the body member and immovably securing the body member and the separate member together and means to reciprocate the driven member on the driving member.

5. In a mechanical movement the combination of a support, a driving member provided with a non-circular portion and near one end with a groove, a driven member having a non-circular opening cooperating with the driving member and provided with oppositely inclined surfaces forming hills and valleys, resilient means to cooperate with the hills and valleys, and means carried by the support for cooperating with the groove in the driving member to prevent its unauthorized removal from the support.

6. In a mechanical movement the combination of a support, a driving member pro-

vided with a non-circular portion and near one end with a groove, a driven member having a non-circular opening cooperating with the driving member and provided with oppositely inclined surfaces forming hills and valleys, resilient means to cooperate with the hills and valleys, a plate carried by the support for cooperating with the groove in the driving member to prevent its unauthorized removal from the support.

7. In a mechanical movement the combination of a driving member and a driven member each provided with means to prevent their relative rotation but permit one to have a longitudinal movement with relation to the other, said driven member being formed of a non-conducting body member and a separate attached metallic sheet member provided with oppositely inclined surfaces on its face and edges forming hills and valleys, and a fixed spring having one or more arms to cooperate with the hills and valleys.

8. In a mechanical movement the combination of a driving member and a driven member each provided with means to prevent their relative rotation but permit one to have a longitudinal movement with relation to the other, said driven member being formed of a body member and a plate having its surfaces and edges oppositely inclined, the said inclined surfaces forming hills and valleys, and a fixed spring having one or more arms to cooperate with the hills and valleys.

9. In an electric light socket the combination of a single open mouth insulating receptacle entirely closed except at its mouth, a screw shell contact closing said mouth of the receptacle, means to secure the screw shell contact to the receptacle, and switch mechanism completely inclosed and protected within the receptacle.

10. In an electric light socket the combination of a single open mouth insulating receptacle entirely closed except at its mouth, a screw shell contact closing said mouth of the receptacle, a center contact and locking means securing the screw shell contact and the center contact to the receptacle, and switch mechanism completely inclosed and protected within the receptacle.

11. In an electric light socket the combination of a single insulating hollow receptacle having an open mouth, a screw shell contact closing the mouth of the receptacle, a center contact located in the screw shell contact and insulated from it, means securing the center contact to the receptacle and at the same time securing the shell contact to the receptacle and thereby closing the interior of the receptacle, and a switch mechanism located in and protected by the receptacle.

12. An article of manufacture comprising

a screw shell for an electric light socket, said screw shell having a portion of its upper surface cut and bent back upon itself to form a spring contact.

5 13. In an electric light socket the combination of a single insulating hollow receptacle having an open mouth, a screw shell contact closing the mouth of the receptacle, a center contact located in the screw shell
10 contact and insulated from it, means securing the center contact to the receptacle and at the same time securing the shell contact to the receptacle and thereby closing the interior of the receptacle, an insulating
15 driving member, a metallic driven member located on the driving member and adapted to have a limited longitudinal movement with relation to the driving member, said
20 driven member being provided with oppositely inclined surfaces forming hills and valleys, and a resilient member cooperating with said hills and valleys.

14. In an electric light socket the combination of a single insulating hollow receptacle having an open mouth, a screw shell
25 contact closing the mouth of the receptacle, a center contact located in the screw shell contact and insulated from it, means securing the center contact to the receptacle and
30 at the same time securing the shell contact to the receptacle and thereby closing the interior of the receptacle, an insulating driving member, a metallic driven member located on the driving member and adapted
35 to have a limited longitudinal movement with relation to the driving member, said driven member being provided with oppositely inclined surfaces forming hills and valleys, and a single fixed resilient member
40 having one or more arms to cooperate with the hills and valleys.

15. A switch mechanism for an electric light socket comprising an axle or arbor, a
45 driven member mounted upon the axle or arbor, means between the axle and arbor to insure their simultaneous rotary movement but to permit them to have a limited longitudinal movement with relation to each
50 other, said driven member being provided with a metallic member having oppositely inclined surfaces forming opposed hills and valleys, some of said oppositely inclined surfaces being on the edges of said metallic
55 driven member and a fixed resilient member having one or more arms to contact with the hills and valleys and cause the longitudinal movement of the driven member to insure a quick make or a quick break as the case may be.

60 16. The combination of a driven switch member for an electric light socket comprising an insulating body member, a separate metallic member provided with oppositely inclined surfaces forming hills and
65 valleys, a contact member carried by the

body member and adapted to make connection between the contacts and a spring to directly contact with the hills and valleys.

17. In a key socket the combination of a key rotatable in either direction, a switch
70 mechanism operated by the rotation of the key in either direction to make both a quick make or a quick break to prevent sparking or arcing at both the making and breaking of the current upon the rotation of the key
75 in either direction.

18. In a key socket the combination of a key rotatable in either direction, a laterally movable driven member operated by the
80 key in either direction of rotation of the key, contacts carried by the socket, said laterally movable driven member being operated on rotation of the key in either direction to make a quick make or a quick
85 break with said contacts to prevent sparking or arcing at both the making and breaking of the current.

19. In a key socket the combination of center and side contacts, a key rotatable in
90 either direction, a member mounted on the key and operated on rotation of the key in either direction, means between the key and member to cause them to rotate together but permitting a relative longitudinal movement with relation to each other to make
95 both a quick make or a quick break to prevent sparking or arcing at both the making and breaking of the current.

20. In a key socket the combination of a center and side contact, a key adapted to
100 rotate in either direction, a member mounted on the key, means between the key and member to cause them to rotate together but permitting a relative longitudinal movement of the member on the key on the rotation of the key in either direction to
105 make both a quick make and a quick break to prevent sparking or arcing at both the making and breaking of the current on the rotation in either direction of the key. 110

21. In an electric light socket the combination of the center and side contacts, a
115 driving member and a driven member adapted to rotate together but one having a limited longitudinal movement with relation to the other, a contact member and hills and valleys carried by the driven member, a fixed resilient member adapted to cooperate with the hills and valleys, said driven member being adapted to directly make and break the
120 circuit to insure both a quick make and a quick break and fixed contacts to cooperate with the contact carried by the driven member.

22. In an electric light socket the combination of center and side contacts, spaced
125 contacts one connected to the side contact and one to one of the feed wires, an insulating driving member, a conducting driven member provided with hills and valleys and
130

adapted to contact with the spaced contacts, and a fixed spring having one or more arms to cooperate with the hills and valleys.

23. In an electric light socket the combination of center and side contacts, spaced contacts, one connected to the side contact and one to one of the feed wires, a rotary and laterally movable member adapted to directly contact with said spaced contacts, and rotary means including said rotary and laterally movable member adapted to make both a quick make and a quick break to prevent arcing or sparking on both the make and break of the current.

24. In an electric light socket the combination with center and side contacts, spaced contacts one connected to the side contact and the other to one of the feed wires, a key or arbor, a driven member splined to the key or arbor and adapted to directly contact with the divided contacts, and means including the driven member to make directly both a quick make with the spaced contacts, as well as a quick break from them, to prevent arcing on both the make and break of the current.

25. In an electric light socket the combination with center and side contacts, spaced contacts one connected to the side contact and the other to one of the feed wires, a key or arbor, a driven member splined to the key or arbor and adapted to directly contact with the spaced contacts, said driven member being provided with oppositely disposed hills and valleys and a single fixed spring member having one or more arms to cooperate with the hills and valleys to insure a quick make as well as a quick break of the current.

26. An electric light socket comprising a one piece receptacle having an open mouth, a screw shell contact closing said mouth, a center contact mounted in the screw shell contact and insulated from it, securing means holding both the center contact and the screw shell contact to the receptacle, an axle or key mounted in the receptacle and having a non-circular portion, a driven member mounted on the axle or arbor and having complementary surfaces to engage with the axle or arbor, divided contacts located in the receptacle and adapted to directly cooperate with the driven member, hills and valleys carried by the driven member and a single fixed spring having a plurality of arms adapted to cooperate with the hills and valleys.

27. An electric light socket comprising a one piece receptacle having an open mouth, a screw shell contact closing said mouth, a center contact mounted in the screw shell contact and insulated from it, securing means holding both the center contact and the screw shell contact to the receptacle, an axle or key mounted in the receptacle and

having a non-circular portion, a driven member mounted on the axle or arbor and having complementary surfaces to engage with the axle or arbor and formed of an insulating body member and a metallic plate having oppositely inclined surfaces forming hills and valleys, and a conducting plate located on the insulating body member and adapted to directly contact with divided contacts, divided contacts located in the receptacle, and a single fixed spring having a plurality of arms adapted to cooperate with the hills and valleys and cause the driven member to directly make a quick make and a quick break with the divided contacts to prevent arcing both on the making as well as the breaking of the current.

28. A key for an electric light socket stamped out of metal and provided with an integral spline and at one end with a groove.

29. An article of manufacture comprising a screw shell for an electric light socket, and a spring contact secured directly to the head of the screw shell.

30. A driven member for a mechanical movement comprising an integral body member and plate stamped from sheet metal, the latter being provided with inclined surfaces forming hills and valleys some of the inclined surfaces being on the surface of the plate and others on the edge of the plate.

31. A driven member for a mechanical movement comprising an integral body member and plate stamped from sheet metal, the latter being provided with inclined surfaces forming hills and valleys, and with retarding notches.

32. A blank to form the driven member of a mechanical movement comprising a central member, wings on either side of the central member and fingers on each wing.

33. A blank to form the driven member of a mechanical movement comprising a central member, wings on either side of the central member and fingers on each wing, and cross arms on each finger.

34. In an electric light socket the combination of a single open mouth insulating receptacle entirely closed except at the mouth, a screw shell contact closing said mouth of the insulating receptacle, a center contact, locking means securing the screw shell contact to the insulating receptacle, a rotary driving member, a rotary and laterally movable driven member, spaced contacts one connected to one of the feed wires and one to the screw shell contact, and means to cause the driven member to move laterally on the driving member and directly contact with the spaced contacts.

35. In an electric light socket the combination of a single open mouth insulating receptacle entirely closed except at the mouth, a screw shell contact closing said mouth of

the insulating receptacle, a center contact, locking means securing the screw shell contact to the insulating receptacle, a rotary driving member, a rotary and laterally movable driven member provided with oppositely inclined surfaces forming hills and valleys, spaced contacts one connected to one of the feed wires and one to the screw shell contact, and a fixed spring having one or more arms contacting with the hills and valleys.

36. In a mechanical movement, a driving and driven member, one adapted to have limited movement with relation to the other, oppositely inclined surfaces upon one of the members forming hills and valleys, and a compression member adapted to operate upon said oppositely inclined surfaces to actuate the driven member.

37. In a mechanical movement the combination of a driving member, a plurality of oppositely inclined surfaces forming hills and valleys adapted to be operated by said driving member, a driven member, and a compression member adapted to slide on the oppositely inclined surfaces to move the driven member.

38. In a mechanical movement the combi-

nation of a driving member, a plurality of oppositely inclined surfaces forming hills and valleys mounted on and adapted to be operated by said driving member, a driven member, and a compression member adapted to slide on the oppositely inclined surfaces to move the driven member.

39. In a mechanical movement the combination of a driving member, oppositely inclined surfaces actuated by the driving member, one or more notches formed on the edge of said inclined surfaces to cooperate with a compression member, a driven member; and a compression member carried by the driven member.

40. In an electric light socket, the combination of a driven member, oppositely inclined surfaces actuated by the driving member, said surfaces being provided with one or more notches to cooperate with a flexible member, a driving member, a flexible member carried by the driven member and electrical contacts, actuated by the driven member.

TONJES AUGUST CARL BOTH.

Witnesses:

LEON STRAUSS,
BEN STRAUSS.