Jan. 5, 1932. A. A. HENKEL 1,839,555

LIGHTING FIXTURE

Filed May 17, 1929 2 Sheets-Sheet 1

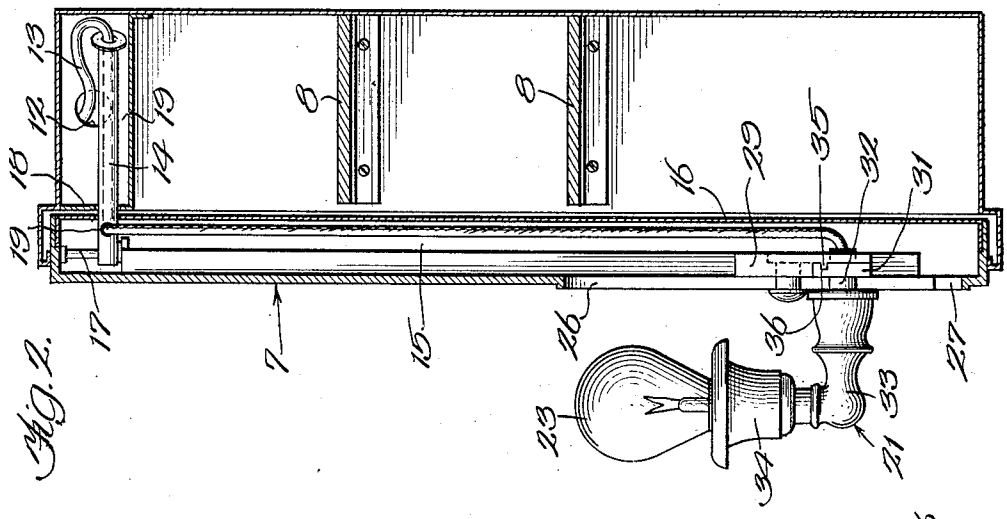


Fig. 2.

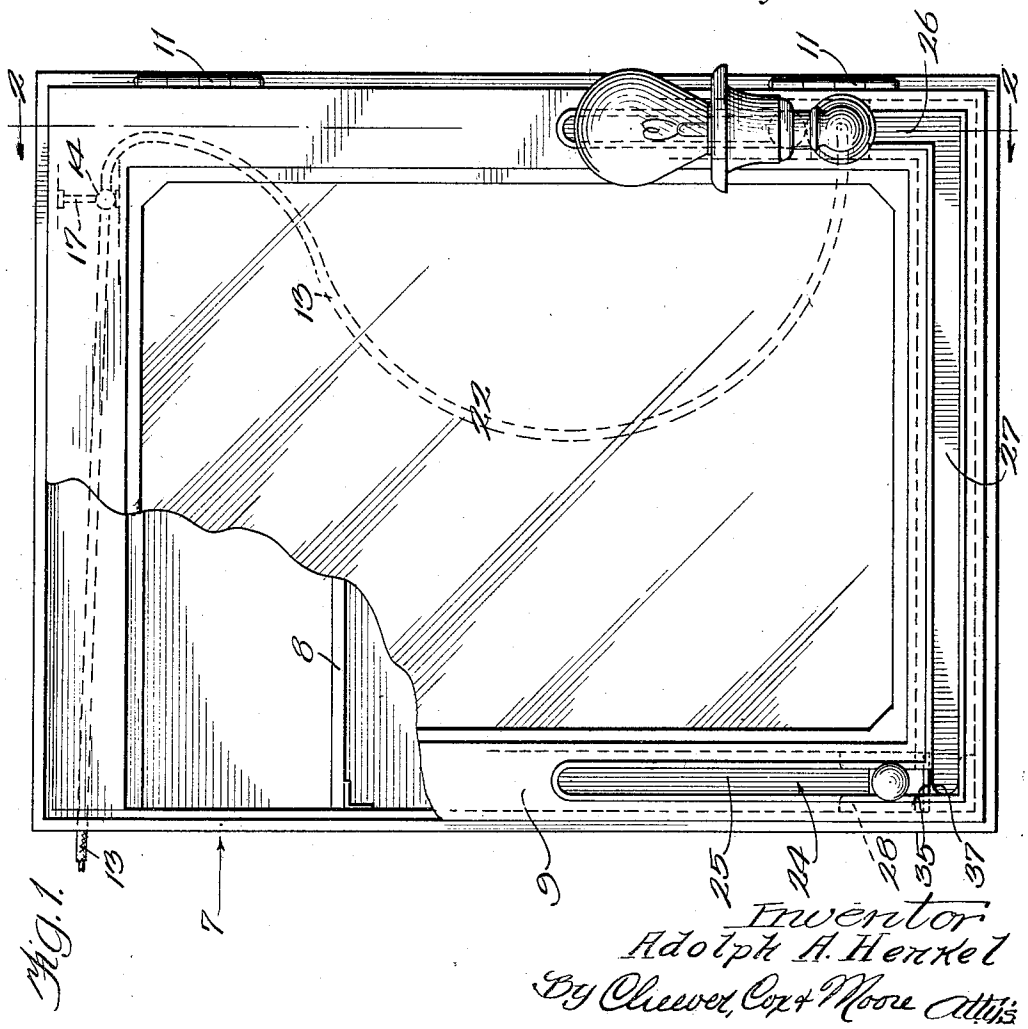


Fig. 1.

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Fig. 3.

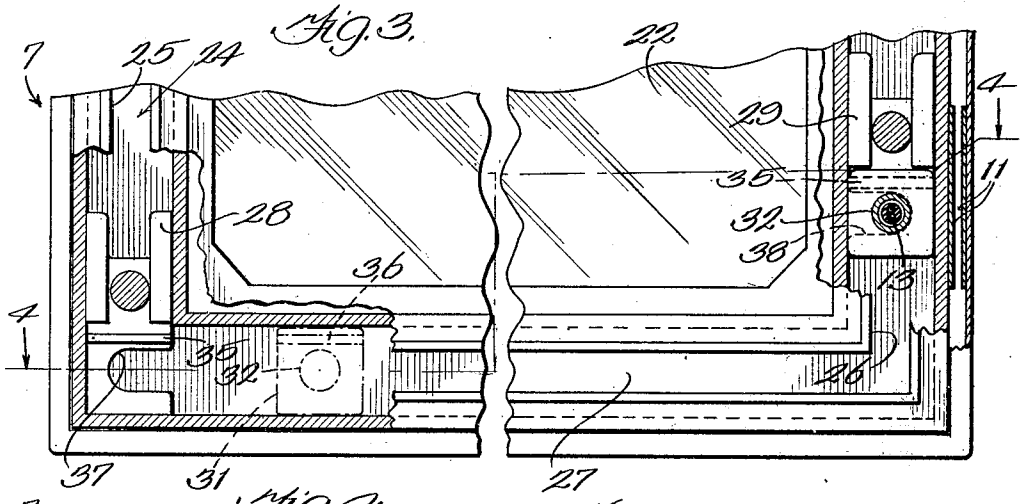


Fig. 4.

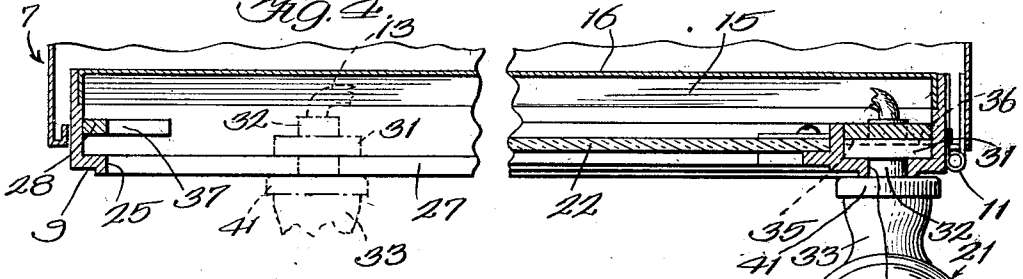


Fig. 5.

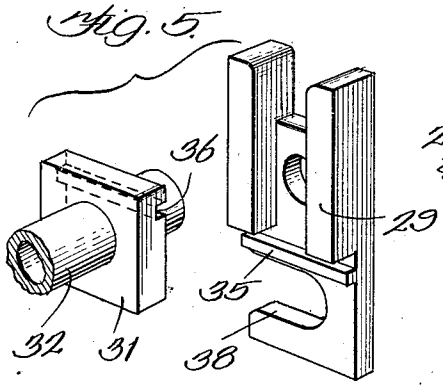


Fig. 6.

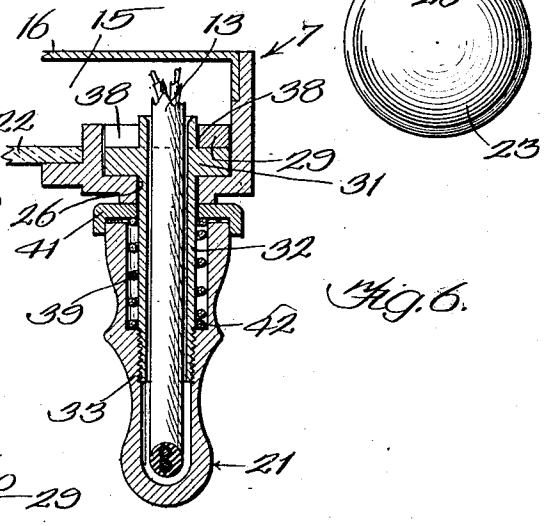
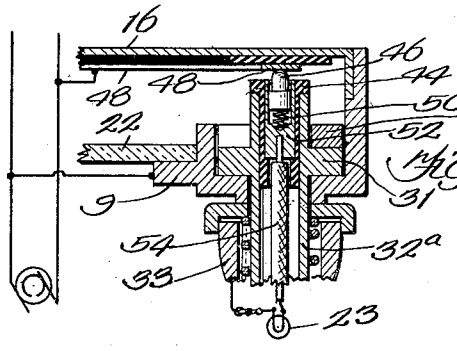


Fig. 7.



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Patented Jan. 5, 1932 1,839,555

UNITED STATES PATENT OFFICE

ADOLPH A. HENKEL, OF HIGHLAND PARK, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HENKEL EDGE-LITE CORPORATION, A CORPORATION OF ILLINOIS

LIGHTING FIXTURE

Application filed May 17, 1929. Serial No. 363,810.

My invention relates generally to shiftable lighting fixtures and more particularly to mountings for shifting an illuminating device along intersecting paths.

In shifting devices such as lighting fixtures along intersecting paths, difficulty is sometimes experienced in maintaining the proper position of the fixture as it is shifted from one particular path to the other. In other words, in devices which have heretofore been employed, there has been a tendency in some instances for the fixture to wobble when it is positioned at the point of intersection of the paths along which the device is shifted and hence inconvenience in shifting the device from one path to another has been presented.

It is one of the important objects of my present invention to avoid the above mentioned and other disadvantages and inconveniences which have heretofore been experienced and to this end I propose to provide a mounting which may be shifted along intersecting paths with a minimum amount of effort and skill on the part of the user and without the slightest tendency for said support to wobble.

More specifically, it is an object of my present invention to prevent any undesirable displacement of a fixture which is adapted to be moved along intersecting paths by providing a shiftable mounting for the fixture, which mounting is adapted to co-operate with a carriage or mounting at the point of intersection between the paths in such a manner as to insure stability of the fixture as it passes from one path to the other.

Still another object of my invention is to provide a fixture mounting as above set forth which is adapted to be shifted along intersecting paths and a second shiftable mounting which is adapted to be shifted along one of said intersecting paths, said second mounting being adapted to receive and support the first mounting so as to lend stability to the fixture and greatly facilitate the shifting of the fixture from one path into another path angularly disposed thereto.

A still further object of my invention is to insure stability in shifting a fixture along intersecting paths by providing improved resilient clamping means which is adapted to maintain frictional engagement between the fixture and the mounting therefore so as to enable said fixture to be positioned at any convenient location along its path.

Another object of my present invention is to provide a shiftable electrical lighting fixture in which the electrical circuit may be maintained during the shifting of a light without necessitating the use of flexible conductors and the like, and to this end I propose to provide a contact element along which the lighting fixture may be moved.

These and other objects will be more apparent from the following detailed description when considered in connection with the accompanying drawings, wherein—

Figure 1 is a front view of my cabinet with certain parts broken away;

Figure 2 is a sectional side view thereof taken substantially along the line 2—2 of Figure 1;

Figure 3 is an enlarged fragmentary front sectional view of the lower portion of the cabinet;

Figure 4 is a fragmentary plan sectional view taken substantially along the line 4—4 of Figure 3;

Figure 5 shows enlarged perspective views of the carriages;

Figure 6 is a horizontal sectional view of the lamp mounting; and

Figure 7 discloses a modified form of a lighting fixture whereby electrical contact may be maintained without the use of a flexible cord of the type shown in Figures 1 and 2.

Referring to the drawings more particularly, I have illustrated and described my invention as adapted to a cabinet 7 of the bathroom type provided with a hinged door carrying a mirror. It will be apparent that the mounting of this invention might be adapted to various other purposes. This cabinet 7 is provided with the usual body having shelves 8 therein and a door 9 mounted on hinges 11 to swing to open and closed position. The rear of the cabinet is provided with an opening 12 through which passes electric wiring

13 connected to a source (not shown) of electrical current. This wiring 13 is led through a tubular guard 14 to a compartment 15 formed between the front of the door 9 and a partition 16 carried thereby in inwardly spaced relation. This guard is pivotally mounted for horizontal swinging movement on a vertical pin 17 attached to the door within the compartment 15 and extends through the front wall 18 of a small compartment 19 in the upper end of the cabinet and the partition 16, suitable openings being provided therefor in said wall and partition. The wiring 13 after passing through the tubular guard 14 passes out of an opening 19 for connection to a movable fixture 21, sufficient slack being provided in said wiring within the compartment 15 so that said fixture may be moved, as will be hereinafter described, without impairing the connection. The guard 14 acts to protect the wiring during the opening and closing movements of the door to thereby prevent the wiring from being caught or pinched during such movements.

The door of the cabinet is provided with a mirror 22 and the fixture 21 includes an electric lamp 23 adapted to illuminate the face of a person before the mirror and enable the mirror to reflect an image of the face thus illuminated. The lamp is mounted so that it can be conveniently shifted along the margin of the mirror into various positions of adjustment to facilitate persons of various heights seeing themselves in the mirror and to facilitate a person seeing any desired portion of his face more clearly. In this embodiment the lamp may be shifted vertically along the margin of the mirror frame on either side thereof or horizontally along the margin at the bottom of the mirror frame, the vertical axis of the lamp being rigidly maintained at all times.

To that end I provide a slotted track 24 extending from a position midway up on the margin of the mirror frame at one side thereof downwardly to a lower corner of said frame horizontally across the lower margin of said frame to the opposite lower corner and upwardly to a corresponding position on the other side of said frame. This track 24 includes vertical guide-ways 25 and 26 which intersect a horizontal guide-way 27 at its respective opposite ends. The guide-ways 25 and 26 are provided with a vertically elongated slidable carriage 28 and 29 respectively. A slidable carriage 31 is capable of sliding directly in the guide-way 27 and of being carried by the carriages 28 or 29 in their respective guide-ways. The carriage 31 rigidly supports the fixture 21 including the lamp 23 and comprises an integral outwardly extending sleeve 32, the outer end of which is screwed in an angularly disposed lamp fitting 33 which together with the lamp 23 and a socket 34 at the upper end of said fitting forms the fixture 21. The wiring 13 passes from the compartment 15 through the sleeve 32 and the fitting 33 to the socket 34.

As the fixture 21 is moved horizontally in the guide-way 27 the upper and lower sides of the carriage 31 co-operating with said guide-way will maintain the axis of the lamp 33 vertically. The lower portion of each of the carriages 28 and 29 is cut away to receive the carriage 31 which is of considerably less thickness than either of said first mentioned carriages. The carriages 28 and 29 are each provided with a horizontal guide 35 adapted to extend into a co-operating groove 36 in the carriage 31 to maintain the latter in horizontal position at the intersections of the horizontal guide-way with either of the vertical guide-ways to thereby maintain the vertical axis of the lamp at this intersection and assure alignment of the carriage 31 with the guide-way in which it is desired to be moved. The carriages 28 and 29 are provided with oppositely disposed slots 37 and 38 respectively to accommodate the inner end of the sleeve 32 and the wiring 13 therein when the carriage 31 is carried by either of said first mentioned carriages. Without the vertically reciprocable carriages 28 or 29 the carriage 31 when at either end of the guide-way 27 preliminarily to being moved upwardly in one of the vertical guide-ways or preliminarily to being moved from one of said vertical guide-ways into the horizontal guide-way would not be rigidly held in horizontal position to thereby rigidly maintain a vertical axis of the lamp and assure alignment of the carriage 31 with the guide-way in which it is desired to move it. For this reason the carriages 28 and 29 greatly facilitate the transfer of the carriage 31 from the horizontal guide-way to either of the vertical guide-ways or vice versa and thereby enable the lamp fixture to be more conveniently adjusted.

Surrounding the sleeve 32 is a coiled spring 39, the inner end of which engages a circular shoe 41 also surrounding said sleeve and disposed between the fitting 33 and the track 24. The outer end of this spring 39 engages the bottom of a recess 42 formed within the fitting 33 for the reception of said spring and the inner end of said spring yieldingly holds the shoe 41 against the track to thereby automatically maintain the lamp fixture 21 in adjusted position.

Referring now to Figure 7 it will be seen that my invention contemplates the provision of electrical connecting means which will eliminate the necessity of using the flexible wiring or cord 13 within the frame structure. Figure 7 discloses a sleeve 32—*a* which at its inner extremity supports an insulating bushing 44. Mounted within this insulating bushing 44 is a yieldable contact finger 46 which is yieldably maintained in contact with

a suitable contact strip or bus bar 48 through the agency of a suitable coiled spring 50. The contact finger 46 is electrically connected with and housed within a metallic sleeve 52 which is connected to the terminal of a conductor 54, which conductor is connected with the lamp proper. For purposes of more clearly illustrating the arrangement of the device, the lamp 23 is shown diagrammatically. The opposite terminal of the lamp 23 is grounded through the lamp frame 33 and the door frame 9 as clearly shown in Figure 7. It will thus be apparent that the lamp fixture may be moved from one position to another within the passageways without disrupting the contact between the finger 46 and the contact strip 48.

It will be apparent that my invention is applicable to mountings other than the specific cabinet mounting herein described. It will also be understood that my improved mounting enables a lighting fixture to be adjusted from one position to another through an angular path of movement with a minimum amount of effort and there will be no tendency for the fixture to wabble. In other words, the fixture in moving from one path to another, cannot oscillate about its axis and the carriage members also assure the proper alignment of the fixture when shifting from one guide-way to the other. In my co-pending application Serial No. 190,538, filed May 11, 1927, relating to wall cabinet, I have disclosed a shiftable lighting fixture of the type which may be readily equipped with carriage devices of the design disclosed in the present application.

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

1. The combination with a support of a fixture desired to be moved in a predetermined angular path on said support, the support being provided with a pair of intersecting guideways forming a portion of said path, a carriage reciprocable in one guideway toward and away from the intersection, and a second carriage reciprocable in the other guide-way toward and away from the intersection, the fixture being mounted on the first carriage and the second carriage being adapted to receive the first at the intersection and carry the same.

2. The combination with a support of a fixture desired to be moved in a predetermined angular path on said support, the support being provided with a pair of intersecting guide-ways forming a portion of said path, a carriage reciprocable in one guideway toward and away from the intersection and a second carriage reciprocable in the other guide-way toward and away from the intersection, the fixture being mounted on the first carriage and the second carriage being adapted to receive the first at the intersection and carry the same, said fixture being provided with means for yieldingly engaging the support to maintain the fixture in adjusted position in either guideway.

3. In a device of the class described, the combination of a support having a first guide-way, a second guide-way intersecting the first guide-way, and an electric fixture, a carriage for said fixture, said carriage having detachably interconnectible parts, certain of said parts being shiftable along but one of said guide-ways.

4. In a device of the class described, the combination of a support, a first guide-way, a second guide-way intersecting the first guide-way, an electric fixture, a carriage for said fixture, said carriage having two detachably interconnectible parts, one of said parts being confined for shifting movement along one guide-way, and the other of said parts being shiftable along either guide-way.

5. In a device of the class described, the combination of a support having intersecting guide-ways, an electric fixture, and a plurality of carriages for said fixture, each of said carriages being adapted to be shifted along a guide-way, said carriages being capable of interconnection for movement together along a restricted portion of the guide-way for shifting the fixture along such portion.

6. In a device of the class described, the combination of a support having interconnecting guide-ways, an electric fixture, a plurality of carriages for shifting said fixture along said guide-ways, said carriages having means whereby they may be detachably interconnected for accomplishing the shifting movement along the guide-way.

7. In a device of the class described, the combination of a support having intersecting ways disposed at right angles and having parallel guiding walls, an electric fixture, two carriages for said fixture, each having parallel guiding walls for contacting the guiding walls of certain of said ways, the guiding walls of one carriage being disposed at right angles to the guiding walls of the other carriage, and means for detachably interconnecting said carriages at the intersection of the ways.

8. In a device of the class described, the combination of a support having two spaced apart parallel ways and having a third way interconnecting the two parallel ways, a carriage confined for shifting movement along one of said parallel ways, a second carriage confined for shifting movement along the other of said parallel ways and a third carriage on which the fixture is directly mounted, said third carriage being shiftable along the intersecting ways and along the parallel ways, said third carriage making detachable interconnection with either of said first and second carriages.

9. In a device of the class described, the combination of a support having two spaced apart parallel ways and having a third way interconnecting the two parallel ways, a carriage confined for shifting movement along one of said parallel ways, a second carriage confined for shifting movement along the other of said parallel ways, and a third carriage on which the fixture is directly mounted, said third carriage being shiftable along the intersecting ways and along the parallel ways, said carriage making a detachable interconnection with said first and second carriages at the intersection of said third way with said parallel ways.

10. In a device of the class described, the combination of a support provided with intersecting ways, an electric fixture, a fixture mounting rigidly slidable along one of said ways, and an auxiliary fixture mounting rigidly slidable along the other of said ways, said mountings carrying means whereby they may be interlocked at the intersection of the ways.

11. In combination with a support, a fixture having its axis extending laterally of said support and adapted to be moved in a predetermined angular path on said support, the support being provided with a pair of intersecting guideways forming a portion of said path, a carriage for said fixture reciprocable in said guideways, and means preventing said carriage from angular movement on its axis while reciprocally in said guideways, and means for maintaining the axis of the carriage from wobbling movement when at the intersection of said guideways, and an electric light carried by said fixture.

In witness whereof, I have hereunto subscribed my name.

ADOLPH A. HENKEL.