Oct. 14, 1952 E. L. CANFIELD 2,614,204

DESK LIGHTING UNIT AND WORK SURFACE

Filed Nov. 22, 1948 4 Sheets-Sheet 1

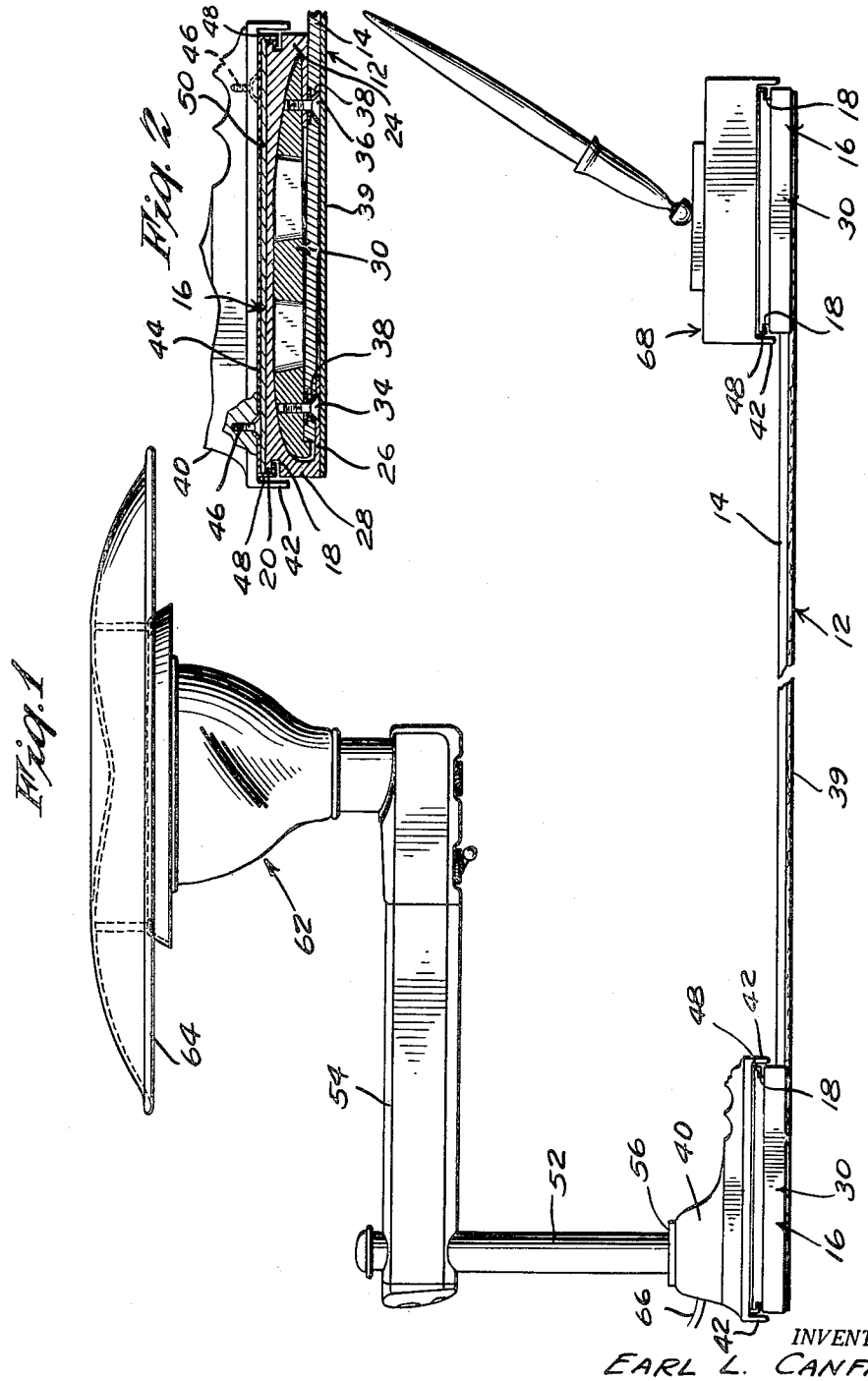


Fig. 1

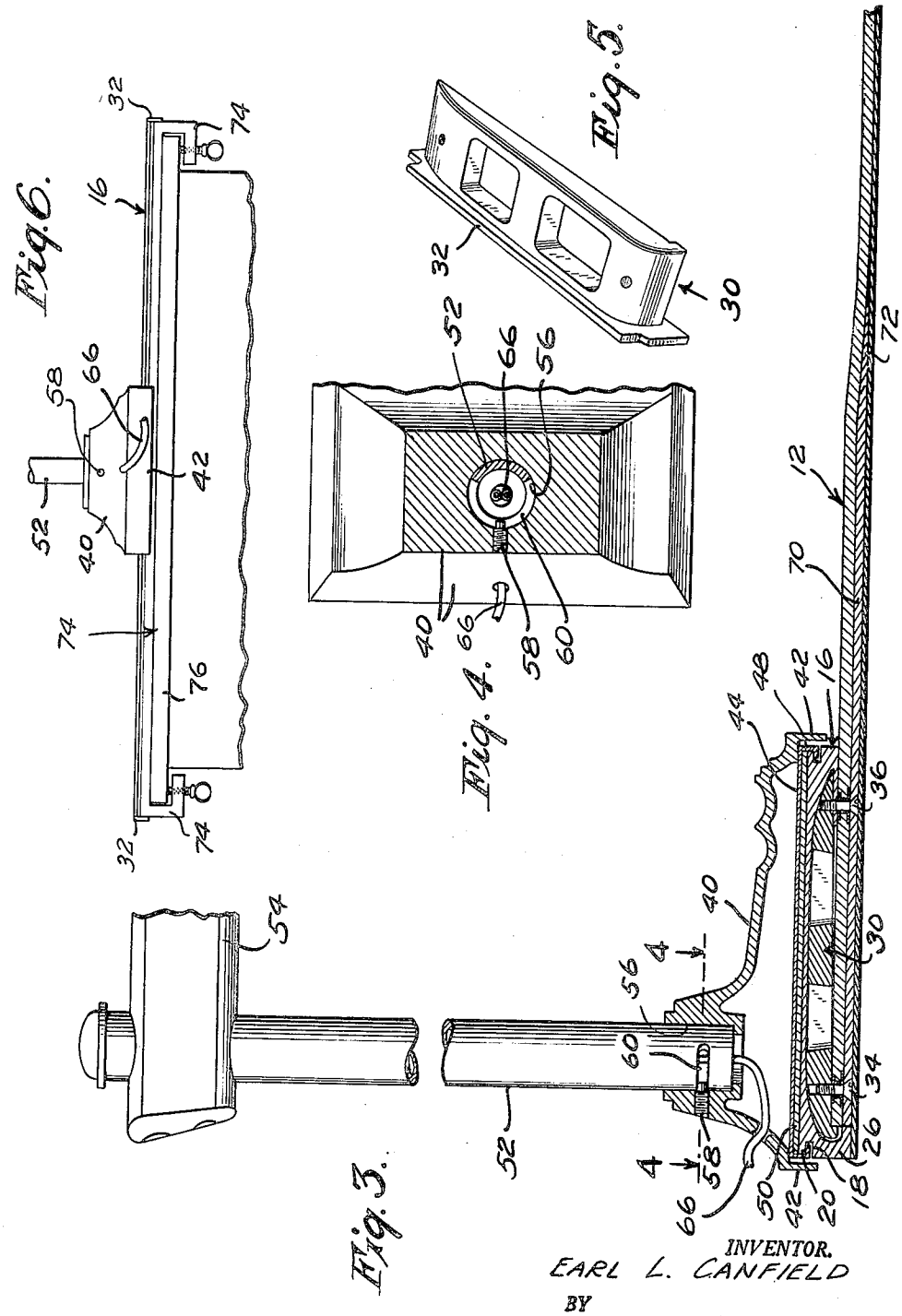
Fig. 2

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Filed Nov. 2?, 1948 4 Sheets-Sheet 2



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DESK LIGHTING UNIT AND WORK SURFACE

Filed Nov. 22, 1948 4 Sheets-Sheet 3

Fig. 9.

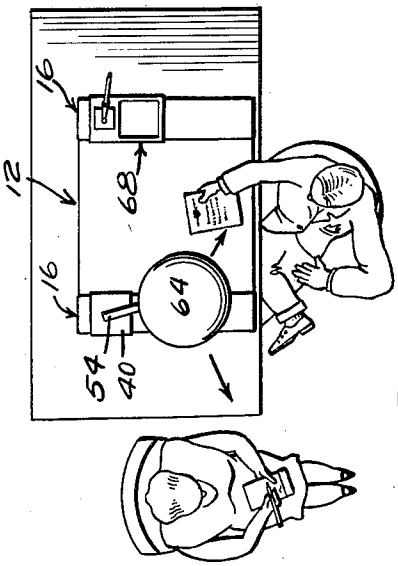


Fig. 10.

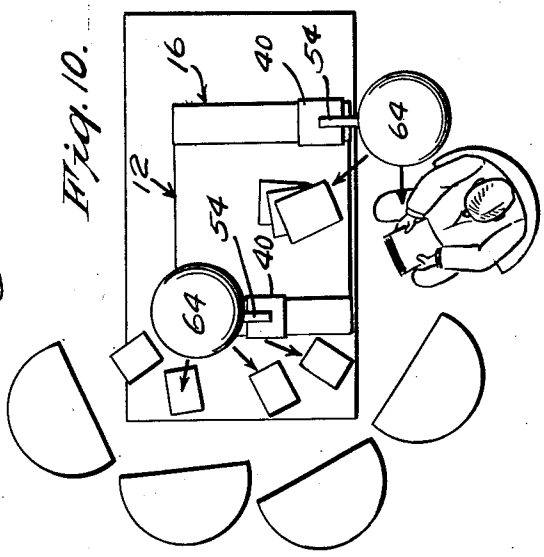


Fig. 7.

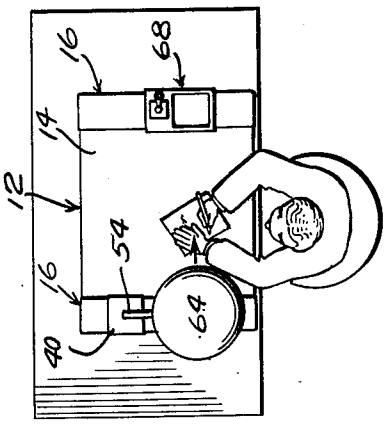
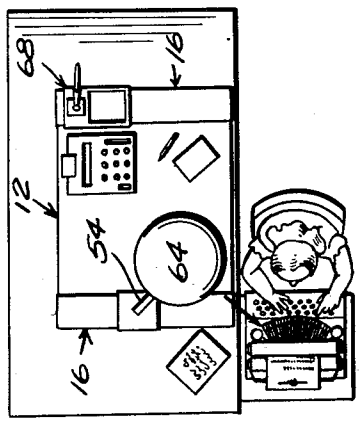


Fig. 8.



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Oct. 14, 1952 E. L. CANFIELD 2,614,204

DESK LIGHTING UNIT AND WORK SURFACE

Filed Nov. 22, 1948 4 Sheets-Sheet 4

Fig. 11.

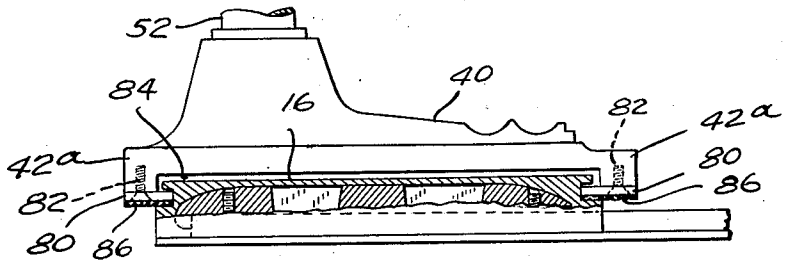


Fig. 12.

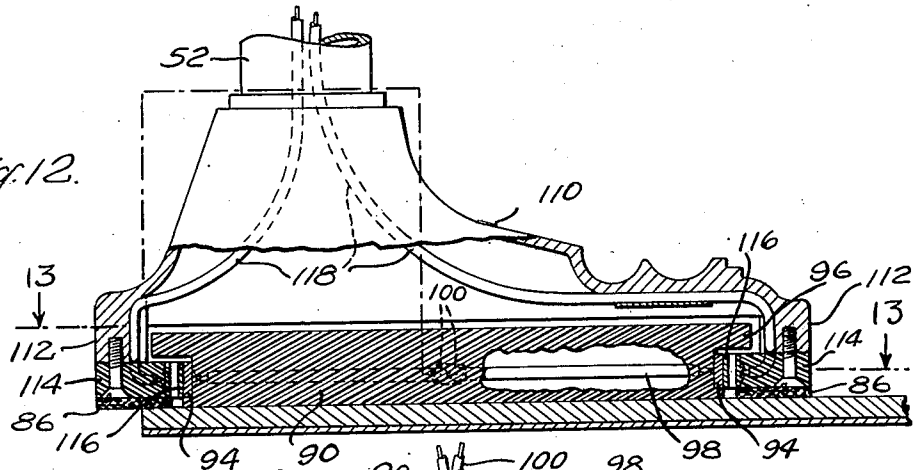
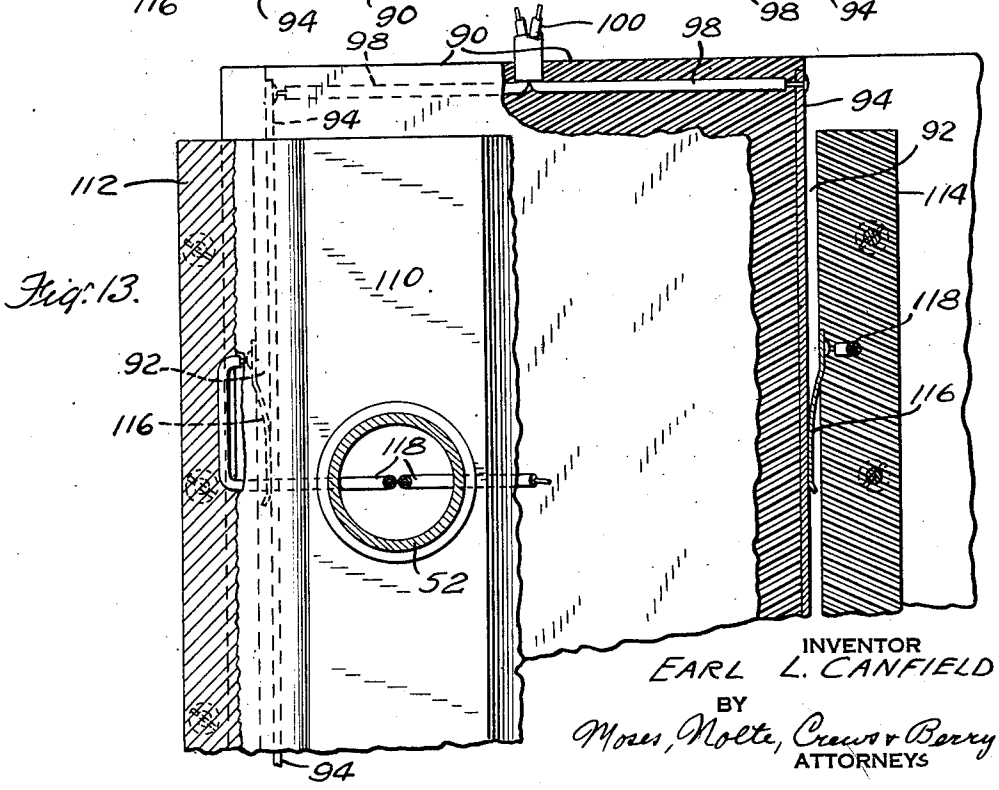


Fig. 13.



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DESK LIGHTING UNIT AND WORK SURFACE

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Application November 22, 1943, Serial No. 61,485

2 Claims. (Cl. 240—2)

1

This invention relates to lighting units primarily intended for mounting upon desks, tables, or similar work surfaces. The purpose of the invention is to provide a lighting unit which is self-sustaining when mounted upon the desk, interferes as little as possible with the usable surface of the desk, and which is adapted to ready adjustment to meet a great variety of conditions of use.

In desk lighting and similar units, it has heretofore been customary to use either a lamp of conventional design which is provided with a substantial base for its support, the base constituting an obstruction to the desk surface; or a light has been provided mounted on some kind of an adjustable bracket which had to be screwed on the wall, and which was unsightly and inconvenient. Furthermore, it was not possible to place the light in the most advantageous location. For example, an ordinary lamp usually is placed directly in front of the person sitting at the desk where satisfactory distribution of light is difficult to obtain and where the light casts a reflection in a direction to cause glare directly in the eyes of the person sitting at the desk. It has been difficult, if not impossible to arrange for the placing of such a lamp in a position meeting the various requirements of every day use. In the case of lamps mounted on brackets, the required adjustability has also been limited. The brackets are unsightly and in the way, and they require special attachment by screwing or clamping to the support which frequently requires the services of a mechanic for installation.

Owing to the limitations of adjustability of desk lighting units as heretofore employed, it has been necessary to locate the visual task, such as papers to be examined in a more or less limited field, so as to fit the limitations of the light source. With the present invention a range of adjustability is obtainable which makes it practicable for the source to be adapted to the convenience of the task and user. The user is no longer at the mercy of the limitations of the lighting equipment.

In accordance with preferred embodiments of the present invention, a support for the light source is provided which also constitutes a desk pad upon which the work to be done may be placed if desired. The desk pad thus performs a double function, serving as the usual desk pad and as a support for the light. Furthermore, the light is so mounted upon the pad that it may be adjusted to a great variety of positions, where it may be used to illuminate not only the

2

work upon the pad, but surrounding areas. It may be adjusted to the convenience of either a left-handed or right-handed writer, or readily arranged to meet almost any condition of use met with in an ordinary office.

The invention also provides a lighting unit which is supported in such a way that practically no useful desk space is taken up. It is also possible to adjust the light to positions where the best possible illuminating effects can be obtained and undesirable glare substantially eliminated. The unit in preferred embodiments is self-supporting, it being merely placed upon the desk, no mechanical fastening devices or attachments being necessary.

In the accompanying drawings which show certain preferred embodiments of the invention:

Figure 1 is a front elevation of a desk pad embodying the novel construction and having a lighting unit mounted thereon;

Figure 2 is a vertical sectional view through a part of one end of the desk pad showing the guideway for carrying the lighting unit, and showing part of the unit base in elevation;

Figure 3 is a view partly in section and partly in elevation showing a modified construction of desk pad with guideway and lighting unit thereon;

Figure 4 is a horizontal section on line 4—4 of Figure 3;

Figure 5 is a perspective view of one of the end filler blocks for the track or guideway;

Figure 6 is a side elevation of a modified form of track or guideway attached to the top of the desk and showing the base of the lighting unit mounted on the guideway;

Figures 7, 8, 9 and 10 are diagrammatic plan views showing various typical adjustments and applications of the lighting unit.

Figure 11 is a view in side elevation of the modified form of light base showing the track on which it is mounted in transverse vertical section;

Figure 12 is a transverse vertical section of a modified form of track and lamp base; and

Figure 13 is a view partly in plan and partly in horizontal section of the lamp base shown in Fig. 12 mounted on a section of track.

Referring to the drawings in detail 12 designates a flat base which can be placed on the desk or table, and which has an extended flat surface so that it constitutes a desk pad or writing surface. This base may conveniently be made of a sheet or plate of heavy linoleum, metal, plywood or other sufficiently rigid material. The

base is conveniently provided with a writing surface 14 which may be the surface of the linoleum itself, or it may be a blotting layer or any other suitable writing surface.

At one, or preferably at both ends of the desk pad a rigid track member 16 is provided which preferably extends the entire width of the pad. In the construction shown, the track members are formed of extruded metal such for instance as magnesium or aluminum, and are in the form of hollow sections having recesses 18 extending longitudinally of the upper corners thereof, so as to provide track rails 20. These track members may be secured to the edges of the pad or base in any suitable manner. For example as shown in Fig. 2, the linoleum or other pad forming member 12 is arranged to extend under the leg 24 at the inner side of the track member, and is carried across the width of the track member, its extreme edge overlying the flange 26 of the leg 28 at the outside of the track member, such leg 28 being made longer than the leg 24 by an amount equal to the thickness of the pad.

Mounted in the ends of the track member are filler blocks 30 (Fig. 5). These are preferably provided with their flanges 32 to form a suitable finish for the ends of the tracks. The tracks are anchored to the pad member by suitable means such as screws 34 and 36 which pass through grommets 38 fastened in the pad member; if the latter is of linoleum or other relatively weak material, through holes in the flanges on the legs of the track member, and screw into the filler blocks 30. A layer 39 of suitable soft and preferably non slipping material, such as felt or rubber, is preferably cemented to the bottom of the pad and covers the exposed flange 26 of the track member, and the heads of the screws 34 and 36.

Mounted to slide on the track member is a lamp base 40 which is preferably made of an ornamentally finished hollow metal casting, or a plastic body, and which has downwardly extending flanges 42 at its edges which overhang the tracks and provide a pleasing finish.

Secured to the under side of the lamp base is a guide plate 44 preferably of sheet metal which may be secured to the base by screws 46 and which has hooked-shaped flanges 48 at its edges engaging beneath the track projections 20 and securing the base firmly against upsetting with respect to the track member. The base, however, is so proportioned as to slide freely on the surface of the track member, so that the lamp base may be adjusted to any position along the side of the desk pad. To facilitate quiet sliding a layer 50 of felt or the like is preferably secured to the underside of the guide plate 44.

A modified form of lamp base slide is shown in Fig. 11. As here illustrated no sheet metal guide plate 44 is employed. Instead the downwardly extending flanges 42a of the base are made sufficiently heavy so that tapped holes may be formed therein, and plates of brass or other tough metal indicated at 80, are secured to the flanges by screws 82. A sufficient space for free clearance is left at 84 between the under side of the base and track. The under surfaces of the strips 80 are preferably covered with flock felt 86 or other soft material which will slide smoothly and noiselessly on the track.

The lamp base 40 supports a luminaire of any suitable character. In the example shown, the base 40 carries a post 52 upon which is mounted a horizontal arm 54 which is adapted to swivel with reference to the base, either making arm 54 rotatable on the post 52, or the post 52 may be rotatably mounted in the base 40. As shown the post is mounted to rotate in a socket 56 (Figs. 3 and 4) in the base 40, and is held therein by a screw 58, the end of which fits in a slot 60 in the post 52. The pin and slot connection also limits the turning of the post to less than a complete revolution, so as to avoid excessive twisting of the wire which passes through the post.

At the end of the arm 54 is carried the lamp unit 62 which carries a suitable shade 64. It is desirable to utilize a lamp unit which will provide for a wide lateral distribution of the light but which is so constructed as to eliminate glare from the eyes of the user. In the particular form of the invention illustrated, a lamp unit and shade of the form shown in the patent to Doane, No. 2,058,139, are illustrated. Obviously any other suitable type of lamp unit, such for example as a properly designed fluorescent unit might be utilized. A suitable flexible conductor cord 66 may be utilized to conduct current to the lamp unit.

Preferably the desk pad or base is provided with a track member at each side thereof. This provides for greater flexibility in the use of the unit, but is not essential. If the base is provided with a track member at each side, the lamp unit may be mounted at either one side or the other, whichever is most convenient; or in certain cases two lamp units may be employed, one on each of the track members. If desired a utility slide 68 may be mounted on one of the track members. Such utility slide may be provided with a penholder, inkwell, tray for paper clips, etc., as may be desired.

Where the desk pad member is made of linoleum or other somewhat flexible material, it is sometimes desirable to provide a stiffening plate to insure the firm supporting of the track and luminaire mounted thereon. Such a construction is shown in Fig. 3 in which a metal plate 70 is mounted under the pad member 12. The plate 70 is held firmly by the screws 34 and 36. The plate may extend only part way under the pad and terminate in a feather edge 72 so as not to make a pronounced ridge in the pad 12.

While the mounting of the track member carrying the luminaire on a desk pad member in the form of a complete self-supporting unit, is a highly desirable feature of my invention in its preferred form, in some instances it may be desired to use the track member with the luminaire slidably mounted thereon without a desk pad or the like. In such instances a track member may be incorporated in the desk top, or the track member may be provided with end clamps 74 by which it may be clamped across the desk top 76 as shown in Fig. 6.

It will be seen that the constructions described provide a desk lighting unit of the greatest convenience and versatility. For example, if the lamp unit is mounted on the left hand slide of a desk pad, as shown in Fig. 7, and moved towards the rear of the desk pad, good lighting is secured for a right-handed person sitting at the desk and writing upon a paper placed upon the desk pad. If the writer were left-handed the lamp might be placed upon the slide at the right hand side of the pad. This adjustment can be accomplished either by taking the lamp base off of the left hand track member and putting

it on the right hand track member, or it can be done simply by reversing the position of the desk pad upon the desk and then sliding the lamp unit to such position on the track member as may be most convenient.

Figure 8 shows how the lighting unit may be utilized by a typist or business machine operator, who has a typewriter supported at one side of the desk. Proper lighting of the typewriter can be accomplished by moving the lamp base somewhat nearer the front of the desk pad. By rotating the arm **54** the light may be brought into the best position either for use of the typewriter or for the use of a person sitting at the desk and writing thereon.

Figure 9 shows how the lamp may be placed so as to be used both by the person sitting at the desk and by the stenographer sitting alongside of the desk. Proper distribution of the light between the two users can be accomplished by swinging the arm **54** about the standard.

Figure 10 shows how the lamp at the left hand side of the desk pad may be utilized to provide suitable illumination for a conference group seated around the desk. This figure also shows how a second lamp may be mounted on the track member at the other side of the pad so as to provide additional light for the occupant of the desk to illuminate papers placed on the desk, or if slid forwardly on the track it provides a good light upon a book or papers which may be held in the hands or on the lap of a person sitting on an adjacent chair.

It will be understood that the diagrams illustrate only a few of the possible lamp adjustments and utilities of the desk lighting unit of this invention. All of these advantageous lighting arrangements are obtainable by instantaneous simple manual adjustment. It will also be seen that in all of these positions of use, the surface of the desk or work table is at all times substantially completely available. The maximum and most efficient illumination can be obtained wherever it is most needed.

Figures 12 and 13 show a construction which eliminates the necessity of carrying a flexible conductor directly to the lamp base. In accordance with this construction a track **90** is provided which has affixed to the bottoms of recesses **92** in its edges, rails **94** of conducting material such as brass or copper which are insulated from the track if that is of metal, or which may be mounted directly upon the track if the latter is made of non-conducting material such as molded or extruded plastic. The track **90** is shown as of non-conducting material provided with overhanging guide flanges **96** above the recesses **92**. The conducting rails are connected by wires **98** at one end of the track to a flexible cord **100** which may be plugged into the line. The lamp base is provided with front and rear flanges **112** to which are screwed strips of insulating material **114** extending under the flanges **96**. These strips carry brushes **116** which are bowed so as to press against the rails **94** and provide good electrical contact without interfering with the sliding of the base upon the track. Wires **118** lead from the brushes to the lamp. The only exposed flexible cord necessary leads from the end of the track where it is out of the way of a person sitting at the desk.

While I have illustrated and described in detail one preferred form of my invention, it is to be understood that changes may be made therein and the invention embodied in other structures. I do not, therefore, desire to limit myself to the specific construction illustrated, but intend to cover my invention broadly in whatever form its principles may be utilized.

I claim:

1. A desk lighting unit having a broad, flat substantially rigid base adapted to rest upon the surface of a desk or the like and to provide a work surface of extended area, said base having a track member thereon, a lamp base slidably mounted on said track member and a lamp unit carried by said lamp base, said lamp unit including a lamp supporting arm extending laterally from the base at a distance above the same, and angularly adjustable with relation thereto, and a lamp carried on the adjustable end of said supporting arm, said lamp base having formations interlocking with the track so as to permit sliding of the base along the track while preventing tilting of the lamp unit with respect to the plane of the work surface.

2. A desk lighting unit as claimed in claim 1 in which the track member is provided with electrical conductor strips extending longitudinally thereof, the lamp base being provided with brushes arranged to slide in contact with said conductor strips when the position of the base is adjusted on said track member, and electrical connections between said brushes and the lamp unit.

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