

June 17, 1947.

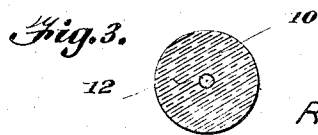
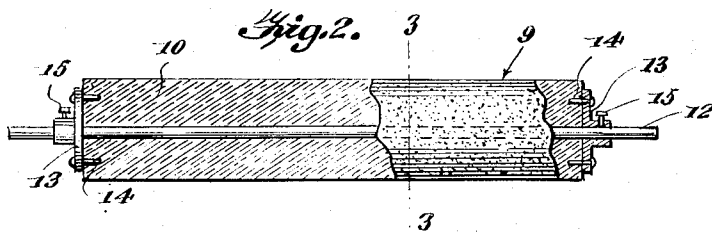
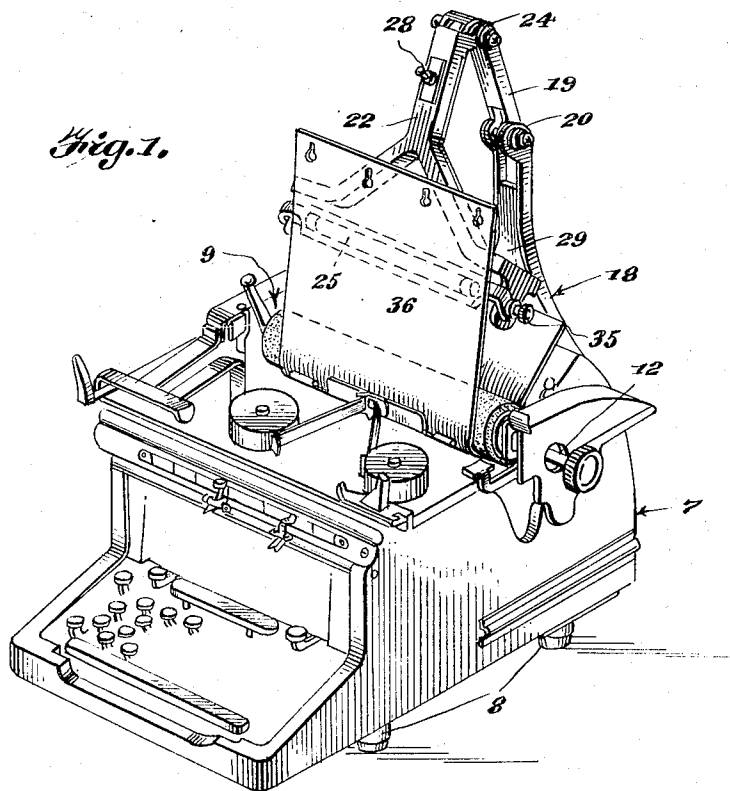
R. A. GORDON

2,422,406

ILLUMINATION FOR TYPEWRITERS

Filed April 8, 1943

3 Sheets-Sheet 1



Inventor
RONALD A. GORDON,

Ralph L. Stevens

Attorney

June 17, 1947.

R. A. GORDON

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3 Sheets-Sheet 2

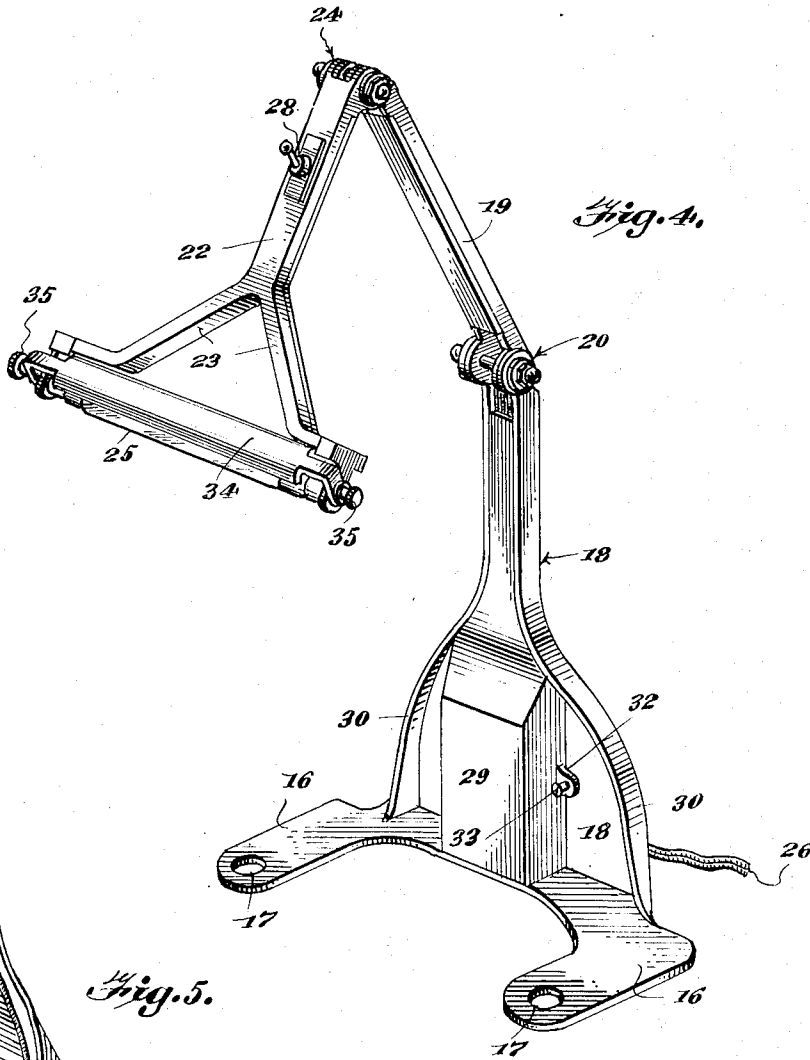


Fig. 4.

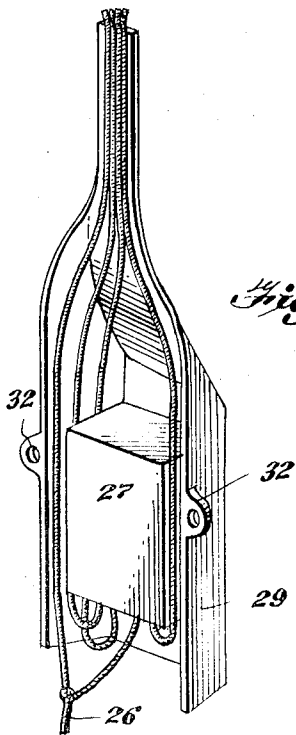


Fig. 5.

Inventor
RONALD A. GORDON,

By *Ralph L. Stevens*

Attorney

June 17, 1947.

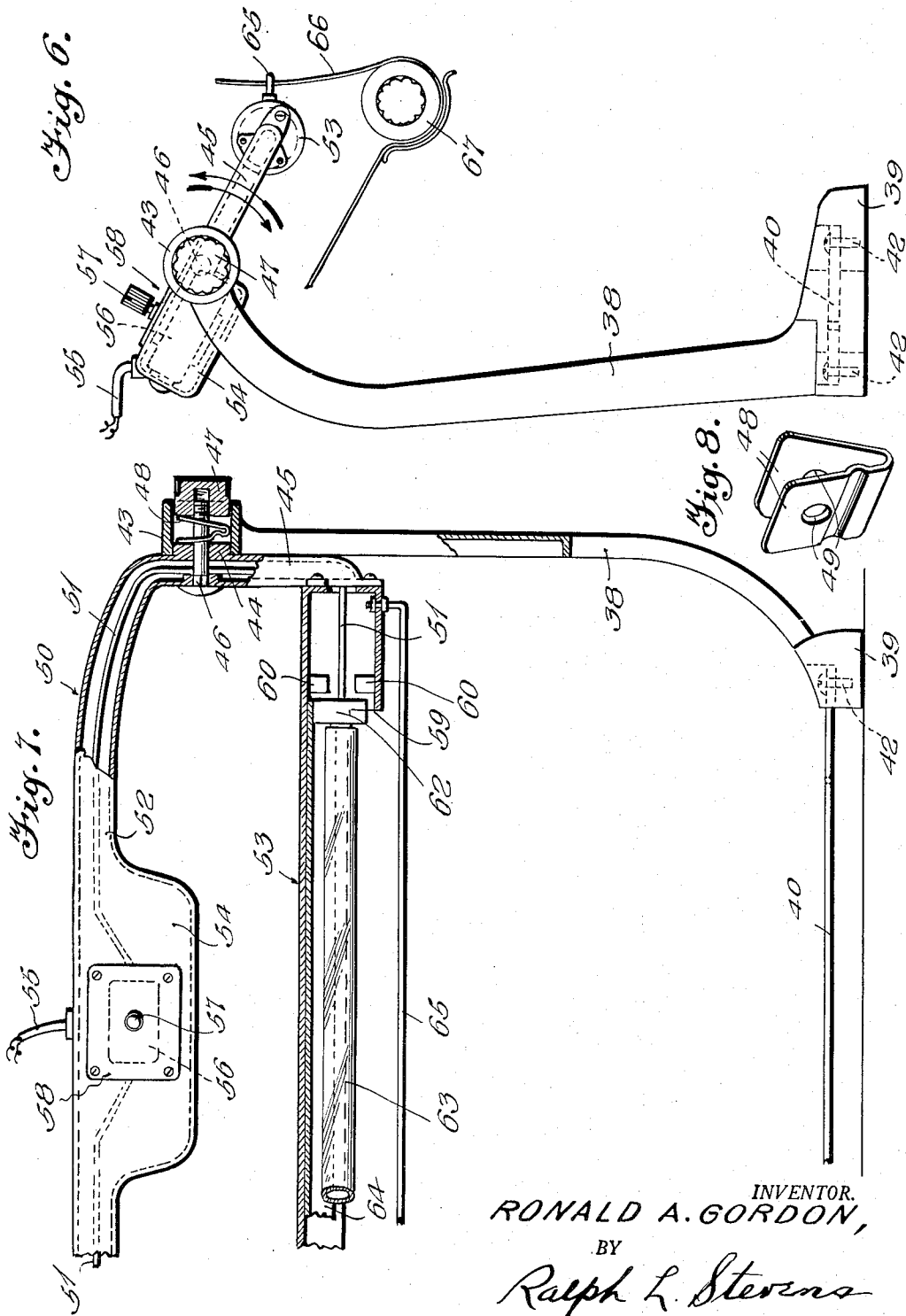
R. A. GORDON

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ILLUMINATION FOR TYPEWRITERS

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3 Sheets-Sheet 3



INVENTOR.
RONALD A. GORDON,
BY
Ralph L. Stevens
ATTORNEY

UNITED STATES PATENT OFFICE

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ILLUMINATION FOR TYPEWRITERS

Ronald A. Gordon, New York, N. Y.

Application April 8, 1943, Serial No. 482,291

5 Claims. (Cl. 240-2)

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The present invention relates to means for the illumination of typewriters and, particularly, to an improved means for transmitting artificial light either to or through the paper coming off the typewriter platen and/or to any work being copied by the typist.

This application is in part a continuation of my copending application, Serial No. 369,792 filed December 12, 1940.

My invention is primarily concerned with the provision of a lamp that is stationary in one of several positions of adjustment with respect to the typewriter carriage while affording fully satisfactory illumination for the particular purpose required for any of such positions of adjustment. In other words, the present invention affords a lamp and lamp mounting that may be utilized to illuminate a translucent or transparent platen for stencil work, or the visible surface of any sheet of material rolling off the platen with simultaneous illumination of work being copied, if desired, all without shifting the lamp to and fro with the typewriter carriage as it travels to right and left during normal operation.

Heretofore, it has been proposed to place electric lamps within the interior of a hollow transparent platen. It further has been proposed to mount a lamp upon the traveling carriage of a typewriter in association with a platen of transparent or translucent character. In the first instance, the lamps have but short life due to the filament vibration encountered, they cause the platen to become too warm, and also, brushes must be provided to convey electricity to a rotatable platen. In the second instance, electrical connection problems are involved due to the fact that the lamp must travel on the carriage with respect to a stationary source of electricity. In both instances, no provision is made for illumination of work being copied from the same common lamp or source of electricity.

It is not new to equip a desk or a typewriter with a stationary bracket carrying an adjustable lamp, but in all such cases of which I am aware the lamp has been mounted to supply either the manuscript or the offcoming work—not both, and never a translucent platen in addition—with light.

It is a major object of the present invention to devise a stationary elongated lamp that can be disposed just above a transparent or translucent platen in such manner that any error in the cutting of stencils can be discerned immediately.

Another important object of my invention re-

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sides in the provision of a stationary elongated lamp that can be so disposed as to illuminate shorthand notes or other manuscripts while simultaneously affording illumination for either the front or rear face of a sheet of material coming off the typewriter platen.

It is a further object to devise a lamp mounting, carrying an elongated electric lamp and its accessories, wherein the lamp is substantially parallel to the platen and may be oscillated about an axis parallel to the platen axis, the parts being substantially balanced with respect to the axis of oscillation so that the lamp tends to remain in any position of normal adjustment.

It is also an object to provide a new and improved plastic platen that is especially useful in association with the lamp arrangements of my invention.

The foregoing objects of invention, some of them indirectly stated, and other important objects can be more clearly understood by a careful study of the following description when taken in conjunction with the accompanying drawings and the appended claims.

In the drawings:

Figure 1 is a perspective view showing my invention in association with any conventional typewriter, the lamp being disposed behind a stencil and the typewriter embodying a translucent platen;

Figure 2 is a partially sectioned elevational view of a suitable form of translucent platen, preferred for embodiment in the typewriter of Figure 1;

Figure 3 is a cross-sectional view taken upon the plane of line 3-3 of Figure 2;

Figure 4 is a perspective view of one form of lamp-supporting bracket of this invention, designed for attachment to the feet of a typewriter and for adjustment to several positions for effective illumination;

Figure 5 is another view in perspective, looking into the open side of the detached transformer housing of Figure 4;

Figure 6 is a view in side elevation of a modified form of lamp mounting, shown in association with a platen over which a sheet of paper is passing;

Figure 7 is a front elevational view of the right half of the mounting of Figure 6, with the lamp swung fully down for clarity of illustration and with parts in section, it being understood that the left half is a duplicate of the right half; and

Figure 8 is a detail view of the spring member seen in Figure 7.

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With continued reference to the drawings, where like numerals are employed to designate like parts, and with particular reference first to Figs. 1 to 3, any form of conventional typewriter is represented generally by the numeral 7. Like most of such machines it has supporting feet 8, which may be utilized to advantage in adding the lamp of the present invention, as later explained. The carriage of the machine may embody any suitable platen assembly 9 but preferably the platen assembly has incorporated therein a roll 10 formed of "Lucite" or some other material having similar properties. It is desirable that the roll be translucent or somewhat transparent, and that it also have substantial resilience while presenting a relatively hard surface.

It further is desirable that the cylindrical surface of the roll 10 be somewhat rough to afford a frictional grip upon the paper; to enhance its appearance; and to aid in diffusing the entering light rays.

Another factor of importance, when a translucent plastic is utilized is that the platen roll be substantially solid, primarily to avoid annoying and displeasing sounds when the keys are struck but also to ensure permanent perfect cylindrical contour while further avoiding breakage such as might be encountered with a hollow glass platen or any hollow plastic roll of small wall thickness. Therefore, the platen per se, 10, preferably is formed with just sufficient bore clearance to receive the usual axle 12 of the platen assembly 9, the latter further embodying conventional plates 13 secured to the roll by screws 14 and fixed to the axle by set screws 15.

The above described plastic roll is molded substantially to the cross-sectional shape desired in the form of an elongated solid cylinder, which thereafter is cut into suitable lengths. Each cylindrical section is then bored and placed in a lathe, the cutting tool of which is set to bring the diameter to exact dimension. This machining operation is very, very important as it imparts a slight roughness or "frostiness" to the cylindrical surface to just the extent necessary to make the roll "grip" and prevent slipping of the papers that pass through the typewriter. If examined closely or under magnification, these machining marks appear as a series of very closely spaced circumferential lines somewhat fragmented, but to the naked eye at a distance, they have the appearance of a continuous frosted surface.

With reference now to Figs. 4 and 5 as well as Fig. 1, the lamp bracket previously referred to preferably is so designed that its parts occupy a minimum of space just behind the typewriter and just above the platen thereof. It comprises a pair of horizontal flat flanges 16 designed to fit beneath the typewriter 7 and to be attached to the feet 8 thereof by conventional screws cooperating with the apertures 17 of the flanges; an upright stanchion 18 integral with the flanges 16 disposed in close proximity to the rear of the typewriter and having a height but slightly greater than the level of the typewriter platen; an arm 19 pivotally connected to the upper end of the stanchion 18 by a frictional hinge generally designated at 20; and what might be termed a "hand" 22 having two forked fingers 23, the hand being frictionally pivoted upon the arm 19 at 24 and carrying between its fingers 23 an elongated fluorescent lamp 25 designed to supply strong and substantially uniform illumination to the platen re-

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gardless of the position of the carriage upon which the latter is mounted.

Electricity is supplied to the lamp 25 from any suitable line source by a pair of wires 26 which extend through the back of the stanchion 18 into connection with a transformer 27 (Fig. 5) which in turn is connected through a switch 28 to the ends of the lamp—all wires being concealed within the stanchion, its supported arm 19, the hand 22 and its fingers 23. The transformer 27 is disposed within a substantially trough-shaped housing 29 having its open side fitted against the stanchion 18 for closure, the latter being flanged at 30 as shown to afford a receptacle for the combined transformer and housing. The housing 29 has lugs 32 designed to receive screws 33 for attaching it to the stanchion.

The fingers 23 are equipped at their tips with suitable conventional electrical connections (not shown in full detail) for reception of the ends of the fluorescent lamp 25. An opaque shield 34 of cylindrical curvature but designed to cover a sector of only about sixty degrees, is pivotally attached on a horizontal axis to the finger terminals by manually operable tightening screws 35, so that light can be transmitted to the platen and/or to the work being copied without shining into the eyes of the machine operator.

Since the stanchion 18 arises at the center line of the typewriter and as the fingers 23 are of equal length the elongated fluorescent lamp 25 has its center always within the central plane of the machine, from which it follows that sufficient light is transmitted to the platen and/or the paper coming off the platen regardless of the position of the typewriter carriage. At the same time, sufficient light is thrown rearwardly to illuminate any sheet of work being copied.

The arm 19, and the hand 22 with its fingers 23 are of such length that relative adjustments may be made (through the frictional joints 20 and 24) to place the lamp either in front of the sheet rolling off the platen, or directly behind such sheet and just above the platen. Fig. 1 illustrates a very advantageous use of the last named setting, particularly where the off-coming sheet comprises a stencil 36 and the platen roll is formed of translucent or transparent material.

For example, with the illustrated adjustment of the lamp bracket (Fig. 1), and assuming that the roll is formed of translucent "Lucite," the light rays from the lamp 25 strike the roll and are then diffused so thoroughly that they cause the roll to "glow," regardless of carriage position. Then, as each aperture is formed in the stencil 36 upon striking a typewriter key, light streams outwardly toward the operator to reveal perfection or imperfection of the work. If an incorrectible imperfection is observed, the stencil may be replaced immediately instead of waiting until the job is completed. It should further be observed at this time that the lamp is throwing sufficient light rearwardly to illuminate the copy-work.

If it be desired to perform the usual or ordinary typing, the hand 22 is elevated slightly from the position of Fig. 1 and the arm 19 is thrust somewhat forwardly to place the lamp 25 in proper position just in front of the sheet coming off the platen. Illumination in a general rearwardly direction is still good, although a slight readjustment of the shield 34 may be necessary.

In Figures 6 to 8 there is shown a modified form of lamp mounting in which the lamp holding means is pivotally balanced and hence easier

to adjust and to be maintained in its positions of adjustment. This structure comprises a pair of legs 38 formed of cast metal such as iron or aluminum and having integral feet 39 adjacent the back corners of the typewriter, these feet being interconnected by a flat metal strap 40 for spacing purposes, screws 42 or equivalent means being utilized to secure the strap to the feet. The strap also serves to secure the entire structure to the typewriter, and to this end, holes may be provided in the strap at the points where it is to be fastened to the feet of the particular typewriter.

The upper ends of the legs 38 terminate in integral, horizontally disposed bushings 43 which pivotally receive trunnions 44 formed upon the end members 45 of a cradle indicated generally and in its entirety at 50. A screw or stove-bolt 46 is mounted in each member 45 coaxially with respect to the trunnion 44, the threaded end of the screw extending outwardly through the sleeve 43 to receive a knurled nut 47. A U-shaped steel spring 48, apertured at 49 to surround the bolt 46, is disposed within the sleeve to yieldingly resist tightening of the nut 47.

The cradle 50, preferably formed of white metal comprises a rearwardly disposed tube 52, of irregular cross-section, and a forwardly disposed cylinder 53, of uniform cross-section, both united rigidly to the side members 45. The tube preferably is integral with the members 45, and the latter is united to the cylinder by fastening elements, as shown, and all of these parts form a continuous passage for electrical wiring 51. The central portion of the tube 52 is enlarged to form a housing 54 into which projects an electric cord 55 for connection with a transformer and switch unit 56, controlled by a conventional switch pin 57. The pin 57 is carried by a detachable cover plate 58 that affords access to the unit 56 and its associated electrical connections.

The cylinder 53 has a segmental notch 59 cut or formed in its forward wall, this notch being about 180 degrees in circumference and slightly greater in length than the lamp to be used. Adjacent the ends of the notch, the cylinder has internal lugs 60 for positioning the sockets 62 to which the electrical wires are to be connected. A fluorescent lamp 63 is disposed behind the notch 59 and between the sockets 62, and held in place by the latter.

A cylindrically curved reflector 64, about 90 degrees in circumference, is mounted behind the lamp and held in place by the sockets 62. It is not so tightly held, however, that it cannot be readily oscillated manually to cause correct reflection of the light rays.

A wire paper guide 65 (see paper 66 in Fig. 6) causes the paper or stencil to travel upwardly past the front side of the cylinder 53, thus preventing doubling or jamming of the paper and also presenting a clear view of the completed work to the machine operator. This is illustrated in Fig. 6, where only a platen 67 is shown, this showing being sufficient to enable the reader to visualize the relative disposition of the other parts of a conventional typewriter.

Where the paper is unusually wide so as to strike edgewise against the bent ends of the wire 65 toward the end of carriage travel, the wire ends may be extended longitudinally and then looped back for attachment to the cylinder ends or to the front ends of the members 45.

The relative weights of the tube 52 (and carried accessories) are such, and the pivotal axis for the

trunnions 44 is so disposed, that the cradle 50 tends to remain balanced in a horizontal position. Thus, but slight friction is necessary in the pivotal joints to positively hold the cradle in its various other useful positions at substantial angles to the horizontal. This permits use of light, simple springs 48 and nuts 47 that can be manipulated easily by the thumb and fingers of the machine operator.

In all positions of adjustment the cylinder 53 of course is substantially parallel to the platen 67.

Thus it will be observed that the lamps of my invention afford adequate direct and indirect illumination under all conditions of use of a typewriter, including stencil work, with simplicity of structure and without complications in wiring or in transmission of electricity.

Obviously, there are changes which may be made within the scope of the present invention without departing from the real spirit thereof, and therefore, I desire to be limited, as is customary, only by proper interpretation of the appended claims.

What is claimed is:

1. A combination of parts for typewriter illumination comprising, in association with any conventional typewriter, a stationary stanchion behind the typewriter, an element adjustably connected to said stanchion by a horizontal pivot and including a fluorescent lamp at its free end in substantial parallelism with the platen, said element having such length that it may be swung about said pivot to dispose the lamp directly above the typewriter platen in close proximity thereto, and ballast means for the lamp housed within said stanchion.

2. In the combination defined in claim 1, a translucent platen, upon the typewriter, and said pivot being so disposed that the lamp may be positioned above said platen at the rear side thereof.

3. A lamp assembly for typewriter illumination, comprising a hollow bracket having at its upper end a pair of divergent hollow fingers, the tips of said fingers being spaced apart a distance approximately equal to the length of a standard typewriter platen and equipped with electrical sockets, a fluorescent lamp having its ends attached to said sockets, electrical wires extending through the bracket and said hollow fingers into connection with said sockets, and a light shield extending across the tips of said fingers in position to cover a portion of the lamp from end to end thereof.

4. In the combination set forth in claim 3, said shield being adjustable to permit transmission of light rearwardly and downwardly but not forwardly.

5. A lamp assembly for typewriter illumination, comprising a vertical bracket designed for attachment to the back of a typewriter in close proximity thereto, said bracket having a substantially flat rear face and a thin housing provided at its other face for substantial concealment between the bracket and the typewriter, a transformer disposed within said housing, an arm pivotally connected to the top of the bracket and carrying an elongated electric lamp for disposition adjacent the typewriter platen, and electrical connections from said transformer to said lamp.

RONALD A. GORDON.

(References on following page)

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,795,857	Hanenstein -----	Mar. 10, 1931
2,295,210	Gutensohn -----	Sept. 8, 1942
1,499,582	Laguionie -----	July 1, 1924
2,008,438	Dickey -----	July 16, 1935
2,275,562	Shantz -----	Mar. 10, 1942

Number
2,289,471
2,195,250
2,205,310
5 2,301,788

Name	Date
Welter et al. -----	July 14, 1942
Kernes -----	Mar. 26, 1940
Robinson et al. -----	June 18, 1940
Patton et al. -----	Mar. 13, 1940

FOREIGN PATENTS

Number	Country	Date
642,508	France -----	1928
470,489	Germany -----	1929
478,326	Germany -----	1929
771,545	France -----	1934