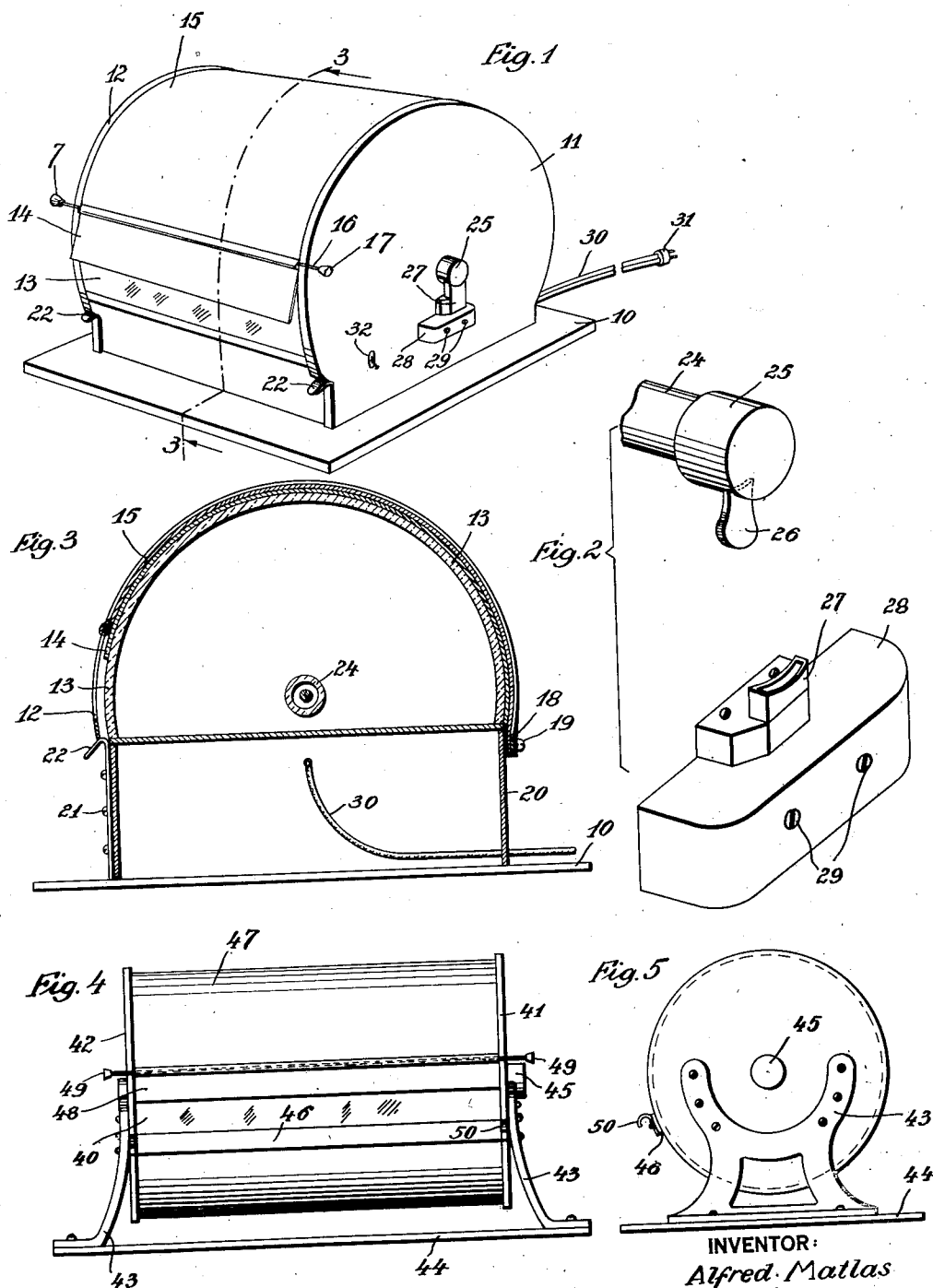


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CONTACT COPYING APPARATUS
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CONTACT COPYING APPARATUS

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1 Claim. (Cl. 95—77.5)

This invention relates to improvements in photographic contact copying apparatus.

It is an object of the invention to provide a contact copying apparatus having a tube-shaped light source surrounded by a transparent or translucent support of cylindrical shape. The transparent or translucent support may be a cylinder or a cylinder section depending upon the constructional details of the device.

It is another object of the invention to provide a contact copying apparatus which is provided with a flexible, resilient member which in turn is held by a suitable tensioning device.

It is a further object of the invention to provide a contact copying apparatus which is efficient in operation and easy to handle and which has a simple construction.

These and further objects of the present invention will become more evident in the following description taken in connection with the drawing, in which:

Fig. 1 is a perspective view of my improved contact copying device.

Fig. 2 is an expanded perspective view on enlarged scale showing a portion of the light source and its socket fastened on a handle.

Fig. 3 is a longitudinal section taken on the lines 3—3 of Fig. 1.

Fig. 4 is a front view of another embodiment of the invention.

Fig. 5 is an end view of the contact copying device of Fig. 4.

Referring to the drawing and more particularly to Figs. 1 to 3, the contact copying device is provided with a base plate 10. Two upright side walls 11 and 12 are fastened on base plate 10. A transparent or translucent cylinder section 13 is mounted between side walls 11 and 12. Transparent or translucent cylinder section 13 is suitably matted or frosted, preferably on the inner surface thereof. Cylinder section 13 may consist of glass or of any suitable synthetic transparent or translucent material such as acetate cellulose, or of any of the well known transparent or translucent synthetic resins.

A flexible and resilient layer 14 is arranged above cylinder section 13. Layer 14 may e. g. consist of a sheet of rubber, leather, cork, cardboard or the like. It is an important feature of this invention that the flexible sheet 14 serves to press the documents or drawings to be copied against the hard and smooth surface of cylinder section 13. Thus, any wrinkles or creases of the papers to be copied are smoothed out. In order to press resilient layer 14 uniformly against the

surface of cylinder section 13 a tensioning device is provided. As shown in Figs. 1 and 3, this tensioning device may consist of an elastic layer 15 which may be stretched out. Rod 16 provided with handles 17 is fastened on one end of elastic layer 15. The rear ends of resilient layer 14 and of elastic layer 15 are fastened by ledge 18 provided with screws 19 onto rear wall 20 provided on base plate 10. Front wall 21 fastened on base 10 is provided with two hooks 22. By gripping handles 17 of rod 16 and pressing them downwards rod 16 may be engaged with hooks 22 to press resilient layer 14 against cylinder section 13. Instead of the elastic layer 15 a fabric layer or the like may be used which is tensioned by springs. The springs may e. g. be interposed between ledge 18 and the rear edge of the cloth layer.

A tube-shaped light source 24 is arranged in the centre of the cylinder section 13. Light source 24 is provided with two sockets 25 having a contact tab 26. Sockets 25 are supported by side walls 11 and 12. Contact tab 26 fits into plug socket 27 fastened on handle 28. Handle 28 is screwed onto side wall 11 by screws 29. By removing screws 29 handle 28 and plug socket 27 may be moved downwards, thus disengaging contact tab 26 from socket 27. It is to be understood that side wall 12 is also provided with a handle 28 and socket 27 corresponding to the one shown in Figs. 1 and 2. By unscrewing the two handles 28 tube-shaped light source 24 may be exchanged. Cord 30 provided with a wall plug 31 serves to connect the apparatus with the main supply. Cord 30 is connected by means of switch 32 with the two contact tabs 26.

The tube-shaped light source 24 arranged in the centre of matted translucent cylinder section 13 produces a uniform intensity of the light over the entire surface of cylinder section 13. Thus it is assured that copies obtained with my improved contact copying apparatus are uniformly sharp on account of the constant intensity of the light. The documents to be copied and the copying paper are interposed between cylinder section 13 and the resilient sheet 14 as is well known to those skilled in the art.

Another modification of the contact copying apparatus is shown in Figs. 4 and 5. The contact copying device of Figs. 4 and 5 comprises a full transparent or translucent cylinder 40 mounted in two circular end plates 41 and 42. Cylinder 40 is preferably matted, frosted or dyed white and may consist of any of the materials mentioned in connection with cylinder section 13.

Plates 41 and 42 are fastened on frame work 43 having a base plate 44. A tube-shaped light source 45 is provided in the centre of cylinder 40 and is shown in dotted lines. The flexible and resilient layer and the tensioning layer are mounted on the ledge 46 fastened on end plates 41, 42. It is to be understood that the contact copying device of Figs. 4 and 5 is provided with a flexible layer similar to layer 14 of Figs. 1 and 3. Resilient elastic layer 47 is fastened on ledge 46 and provided with a rod 48 having handles 49. Handles 49 are adapted to be engaged with hooks 50 fastened on end plates 41 and 42.

The embodiment of the invention shown in Figs. 4 and 5 operates in a manner similar to the device shown in Figs. 1 to 3. The tube-shaped light source 45 again ensures the uniform intensity of the light over the entire surface of cylinder 40.

The tube-shaped light sources 24 or 45 may be adapted to emit light particularly of long wave length. Preferably, the light sources 24 or 45 should emit light, the wave length of which is substantially longer than 5000 A. It is well known that incandescent lamps have a stronger

emission of light in the longer range of the visible and infrared spectrum. On the other hand, copying papers are known which are particularly sensitive to light having a wave length substantially above 5000 A. Therefore, if a light source is used which has its strongest intensity above the wave range of 5000 A. such a light source will be particularly suited for the above described copying papers.

It is obvious that various changes and modifications may be made to the details of construction of the invention as described, without departing from the broader spirit and scope of the invention, set forth in the following claim.

I claim:

In a contact copying device having side walls, a tube shaped light source extending through said side walls, said light source having a plug on each end, two plug sockets adapted to engage said two plugs, handles removably secured to said side walls, said plug sockets being fastened on said handles, whereby said light source may be removed by removing said handles together with their plug sockets.

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