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BANK LIGHT ASSEMBLY

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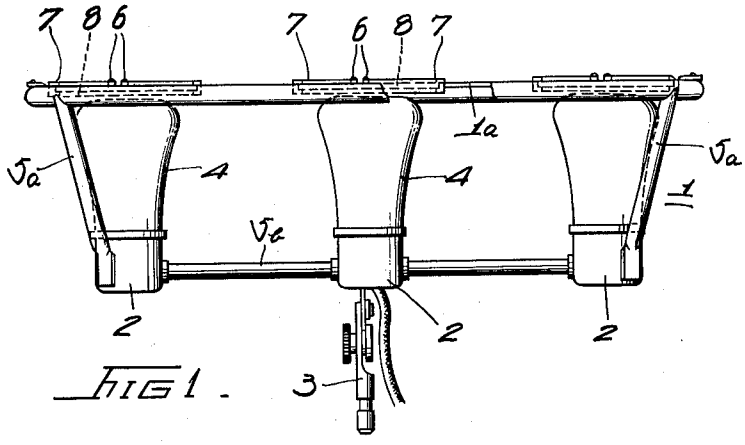


FIG 1.

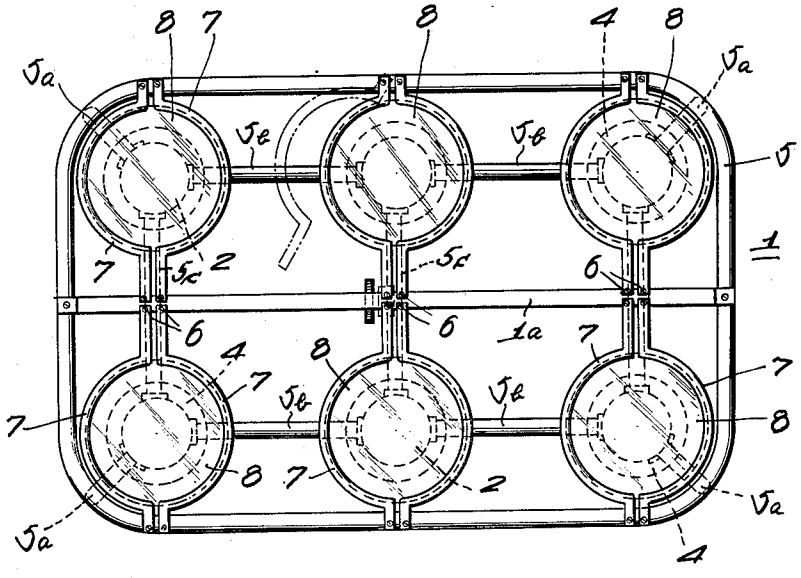


FIG. 2.

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The invention relates generally to a bank light assembly comprising a frame work carrying thereon a plurality of light units.

With the modern development of colour television, colour cinema and the like, bank lights have been used with ever increasing high power, in comparison with white-and-black television, cinema and the like uses. As a guide, it is to be noted that in the former case as high as six times the intensity of illumination is required in comparison with the latter case. The bank light assembly, as a representative example, may comprise six reflector lamps, each 300 w., combined in a bank. This kind of bank light is characterized by its superior directional light beams, thus more and more extending its use in movie and television studios.

As commonly known, however, these lights emanate a large quantity of heat energy, so that players may not expose themselves to such light for long periods of time notwithstanding the fact that the atmosphere within the studios is normally air conditioned or ventilated.

A main object of the present invention is therefore the provision of a bank light assembly equipped with an efficient heat ray absorbing and sufficiently cooled glass filter arranged in front of each of the light units of the assembly.

Another object of the invention is the provision of a bank light structure of the type referred to which is both simple in construction and possesses a minimum of weight so as to be able to be moved and mounted readily and expeditiously as required in connection with present-day movie, television and the like studio operations.

Various further and more specific objects, features and advantages of the invention will appear from the description given below, taken in connection with the accompanying drawing illustrating by way of example a preferred embodiment of this invention.

In the drawing,

FIG. 1 is a top plan view of a bank light assembly constructed in accordance with the principles of the invention; and

FIG. 2 is a front view thereof.

With the foregoing objects in view, the invention involves generally the provision of a bank light structure including a plurality of light sources and heat absorbing filters, one for each of said sources, said structure comprising a plurality of light sockets adapted to receive electric light bulbs and arranged in longitudinal and transverse rows, to provide an extended light source. Adjacent sockets of both said rows are joined by a plurality of first connecting elements, to provide a first integral lattice frame by said sockets and elements, said frame having in turn connected thereto a support member of said structure. Further joined, through a plurality of further connecting elements, to and in spaced parallel relation from said first frame is a second frame supporting a plurality of filter mounts, one for each of said light bulbs, said filter mounts being arranged relative to each other such as to be aligned with the associated light bulbs, in such a manner as to result in a bank light structure of relatively light weight and capable of effective heat radiation by the filters supported by said mounts.

In the drawing, 1 denotes a frame structure of the bank light assembly, in which a plurality of sockets 2 are fixedly mounted in longitudinal and transverse rows, preferably in a geometrical arrangement as shown. Each of said sockets receives an electric bulb or light source 4 as is conventional. The frame structure comprises a first or front frame 5 shaped substantially in a rectangular form, said frame being provided in turn at each corner thereof with a connecting rod 5*a* bridging said corner and the rear end of the nearest lamp socket. Vertical and horizontal connecting tubes 5*b* and 5*c* are provided for connection of all the lamp sockets to form an integral lattice or rear frame spaced from and parallel to the frame 5. A connecting strip 1*a* extends horizontally between the opposite vertical side members of the front frame 5 being attached rigidly thereto for increasing its rigidity. Numeral 3 denotes a supporting member (bracket, clamp, etc.) connected to the rear frame, to serve as a mounting means of the bank light structure. For each light source a transparent filter disc 8, which is made from suitable heat ray absorbing glass, is mounted at a distance from the front end of the electric lamp by a pair of metallic gripper elements 7—7. These elements are pivoted to the rectangular frame 5 and embrace firmly the filter disc 8 from both sides, said elements being held in operative position by tightening screws 6 threaded into the strengthening strip 1*a*, as most clearly seen from FIG. 2. For easy replacement of the lamp and/or the filter disc, the screws 6 may be unscrewed and the cooperating gripper elements 7 can be pivotally opened outwardly as shown by the chain-dotted lines in FIG. 2. By the provision of the filter discs 8, heat radiation from the lamps 4 is effectively checked or absorbed. In addition, heat can be effectively conducted from the filter disc through the metallic gripper to the frame 5, which will then act as an effective radiator. In order to increase the heat radiation capacity, metallic members may be further added to the frame, if necessary. The heat ray absorbing glass has a high value of absorbing power, preferably in the order of 90% or higher. The expansion coefficient should be as low as possible, preferably in the order of 5.3×10^{-6}. The filter may be, if necessary, mechanically strengthened, such as by embedding therein fine wire elements, wire nets and the like. On the other hand, the filter disc may be coated with a suitable metal, oxide or the like layer for improving the heat resistance without sacrificing the illuminating efficiency of the related lamp.

While a preferred form of bank light assembly embodying the present invention has been shown and described, it will be understood that the assembly is capable of further modification and variation while still embodying the principles of the invention. It is to be understood, therefore, that the scope of the invention should be limited only by the scope and proper interpretation of the claims appended hereto.

The invention having thus been described, that which is believed to be new and for which protection by Letters Patent is desired is:

1. A bank light structure of the type including a plurality of light sources and heat absorbing filters one for each of said sources, said structure comprising a plurality of sockets adapted to receive electric light bulbs and arranged relatively close to each other and in longitudinal and transverse rows, to provide a large-surface composite light source, a plurality of first connecting elements joining the adjacent sockets of both said rows, to provide a first integral lattice frame by said sockets and elements, a supporting member for said structure connected to said frame, a second frame and a plurality of filter mounts supported thereby, and a plurality of further connecting

elements joining said first and second frames in spaced parallel relation to one another and with each of said filter mounts being in alignment with a coordinated light bulb mounted in said sockets.

2. In a bank light structure as claimed in claim 1, said filter mounts consisting of a pair of semi-circular holders pivoted at one end to said second frame for operation between an open and closed position, said holders adapted to retain a filter disk therebetween in the closed position.

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