

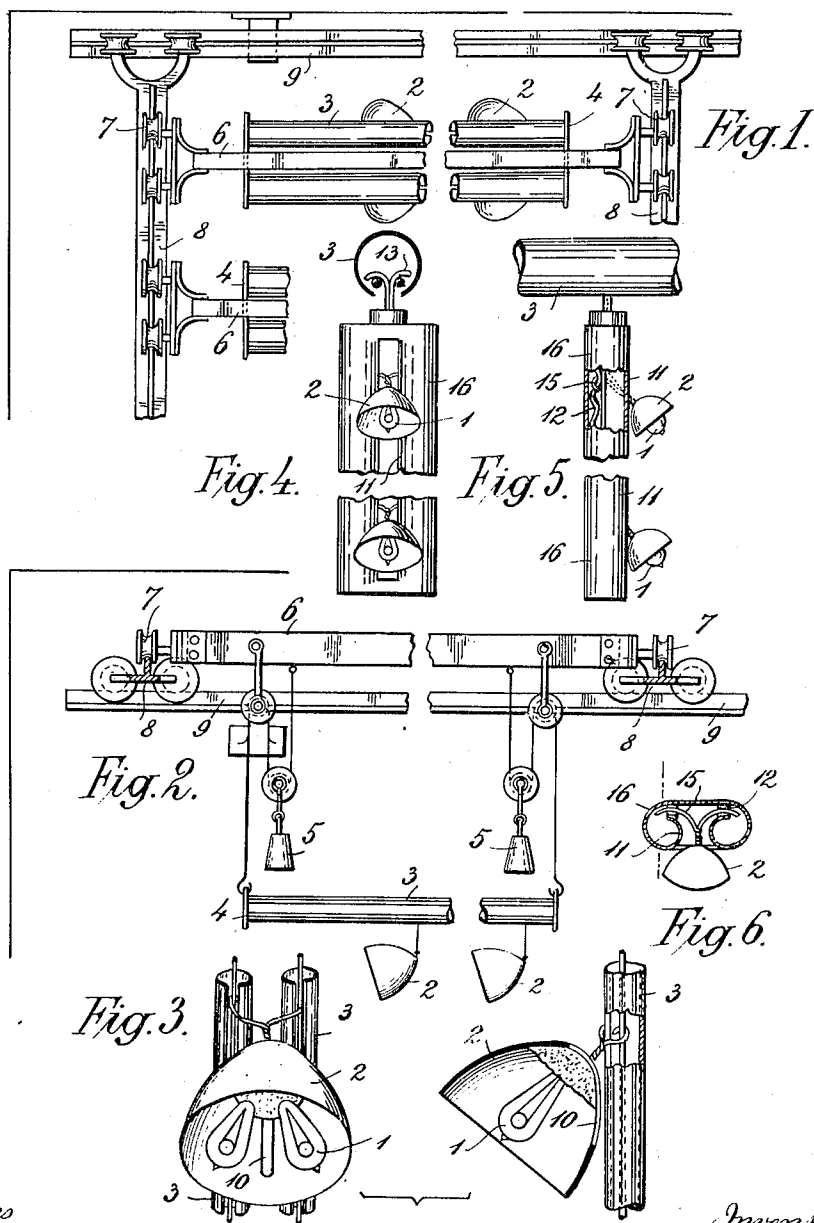
No. 837,084.

PATENTED NOV. 27, 1906.

P. G. VON DER LIPPE.

APPARATUS FOR ILLUMINATING PHOTOGRAPHIC STUDIOS WITH ELECTRIC INCANDESCENT LAMPS.

APPLICATION FILED JAN. 9, 1906.



Witnesses

Chas. H. Smith
W. H. Berrell

Inventor

Philipp Georg von der Lippe
per Harold Berrell

att.

UNITED STATES PATENT OFFICE.

PHILIPP GEORG VON DER LIPPE, OF VIENNA, AUSTRIA-HUNGARY.

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Specification of Letters Patent.

Patented Nov. 27, 1906

Application filed January 9, 1906. Serial No. 295,241.

To all whom it may concern:

Be it known that I, PHILIPP GEORG VON DER LIPPE, a subject of the German Emperor, residing at Vienna, Empire of Austria-Hungary, have invented certain new and useful Improvements in Apparatus for Illuminating Photographic Studios with Electric Incandescent Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for illuminating photographic studios with electric incandescence lamps, whereby the light may be suitably distributed over the object to be photographed by using a more or less considerable number of lamps, which can be varied in position and distribution over the studio in any desired arrangement.

In the accompanying drawings, Figure 1 is a plan of the illuminating apparatus. Fig. 2 is a side elevation of one mode of suspending the top lights. Fig. 3 shows an under side plan and a section of one of the top-light lamps. Figs. 4, 5, and 6 are respectively a front elevation, a side elevation, partly in section, and a horizontal section of a lamp-carrier which may be substituted for one of the separate lamps.

The incandescence lamps 1 are provided with reflectors 2, of which one may contain several lamps. Those lamps which may serve as top lights are arranged in known manner on naked wires, so that they can be shifted. The wires are stretched in insulating-tubes 3, having a longitudinal slot or beside rods carried in frames 4. The latter are suspended by a system of pulleys and counterweights 5, so that they can be raised and lowered and will remain in any position from beams 6, which have rollers 7 to travel on beams 8, also provided with rollers to travel on beams 9. This travel of the beams 6 and 8 may be effected by hand with aid of ropes or in any other suitable manner.

It is obvious that as each separate lamp can be shifted along the tubes 3, while each series of lamps hanging from the tubes can be raised and lowered and moved in a horizontal plane in two directions at right angles to each other, the light can be brought to that position which is best for illuminating the object.

In order that the light-rays may be better concentrated on the object according to the distribution of the lamps, each reflector 2 has

a slot 10 extending from its summit along a meridian and is rotatable on the lamp-carrier both around its geometrical axis and around a transverse axis at right angles to the plane of the slot 10. Through these slots the lamp-wires extend into the tubes 3. By turning the reflector first around its transverse axis until the lamp-wires are at the summit end of the slot and then around its geometrical axis the position of the plane of the slot and the transverse axis of the reflector can be varied as desired, and by subsequently turning the reflector on its transverse axis its geometrical axis may be brought into any desired position—that is to say, the cone of light from the lamp may be directed as required.

Instead of hanging the separate lamps 1 on the conducting-wires they may be suspended in lamp-carriers 16, which can carry several lamps, one above the other, as shown in Figs. 4, 5, and 6.

The carrier 16 advantageously consists of two parallel and side-by-side slotted tubes 11, of insulating material, in each of which a corrugated spring copper strip 12 is inserted in such a manner that the crests of the corrugations bear against the back wall of the tube.

The naked hooked ends 15 of the lamp-wires are inserted into the slots in the tubes 11 so that each end lies between the respective copper strip 12 and the back wall of the tube 11, where it is securely held owing to the elasticity of the corrugated strip in good conducting contact with the latter. The lamp is then easily shifted vertically in the lamp-carrier.

The upper ends of the copper strips 12 terminate in rotatable naked metal hooks 13, by which the lamp-carrier 16 can be suspended from the wires in the tubes 3, as are the lamps shown in Figs. 1-3, and can be shifted in the direction of the axis of these tubes. The lamps in the lamp-carriers 16 receive current through the copper strips 12. This arrangement renders it possible to distribute the light as may be desired, particularly over large vertical surfaces, such as pictures or the like.

Besides lamps 1 arranged as described other lamps may be movably arranged in the studio to supplement the light shed upon the object by the lamps 1.

The lamps used may be electric incandescence lamps, whose light is made more chemically active by increasing the potential at the lamp-terminals considerably above its nor-

mal value. This allows the distribution of the light to be regulated by placing the normally burning lamps without necessitating work with a too glaring light and the increase of the light to be effected by raising the potential merely during the short operation of taking a photograph.

I claim—

1. In an apparatus for illuminating photographic studios the combination of a plurality of frames carrying conducting-wires means for shifting such frames independently of each other vertically and horizontally and means for supporting electric glow-lamps on such conducting-wires for electrically connecting them with such wires and for shifting them along such wires, substantially as and for the purpose described.

2. In an apparatus for illuminating photographic studios the combination of a plurality of frames carrying conducting-wires, means for shifting such frames independently of each other vertically and horizontally, vertical carriers for electric glow-lamps, means for shifting such glow-lamps along the said vertical carriers, and means for supporting such carriers on such conducting-wires,

electrically connecting them with such wires and shifting them along such wires, substantially as and for the purpose described.

3. In an apparatus for illuminating photographic studios the combination of a plurality of frames carrying conducting-wires means for shifting such frames independently of each other vertically and horizontally, means for supporting electric glow-lamps on such conducting-wires for electrically connecting them with such wires and for shifting them along such wires, reflectors adapted to receive one or more of the said electric glow-lamps, a slot in each of such reflectors through which pass current-supply and supporting wires of the glow lamp or lamps in such reflector, the said slot extending from the summit of such reflector along a meridian of the same substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIPP GEORG V. D. LIPPE.

Witnesses:

ARTHUR BAUMANN,
ALVESTO S. HOGUE.