O. M. SHECK.

ADJUSTABLE LAMP CARRIAGE.

APPLICATION FILED APR. 16, 1917.

1,257,128.

Patented Feb. 19, 1918.

2 SHEETS—SHEET 1.

Fig. 1

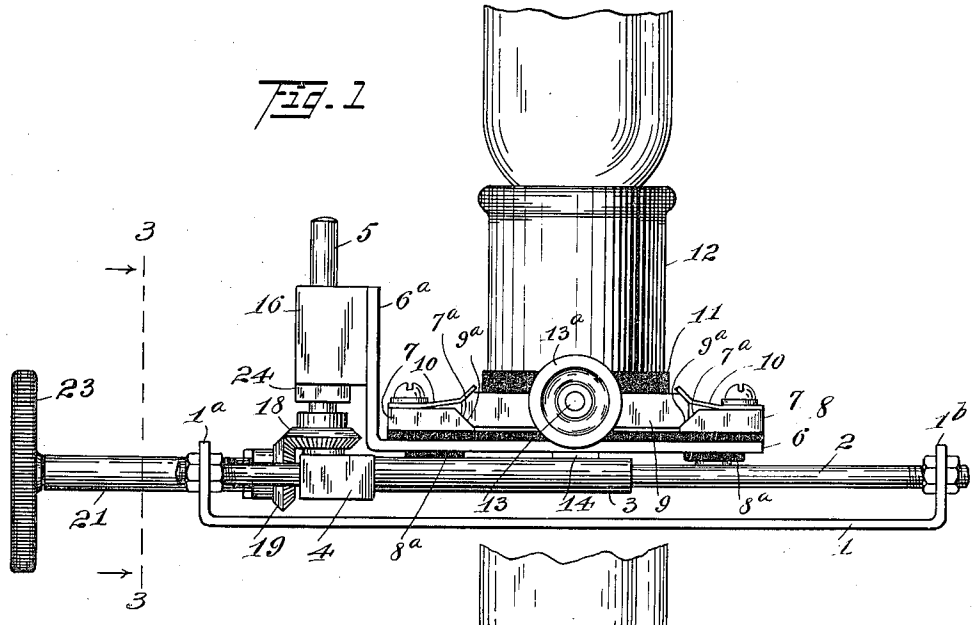


Fig. 2

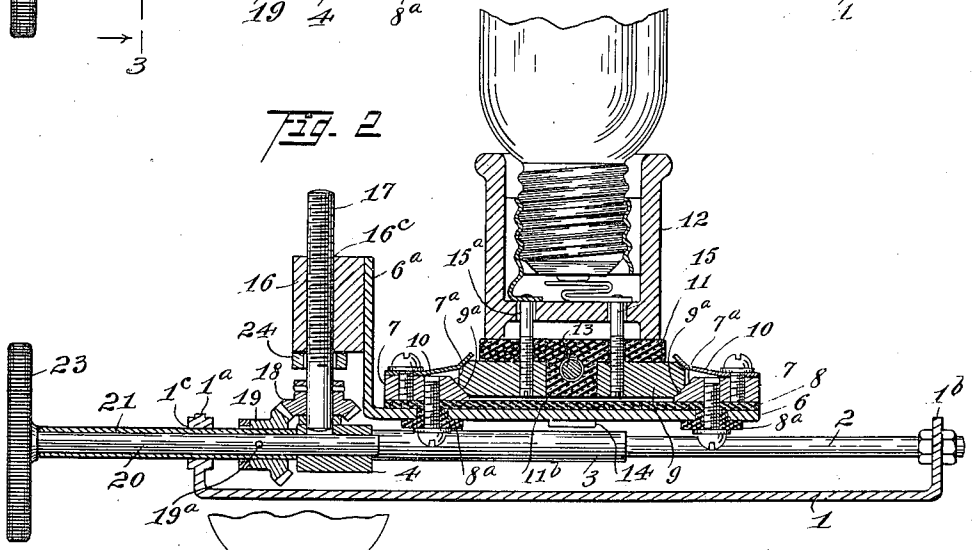
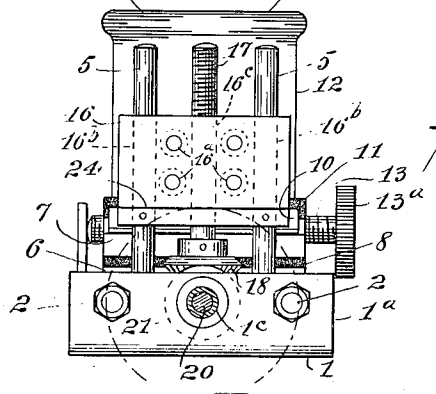


Fig. 3



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2 SHEETS—SHEET 2.

Fig. 4

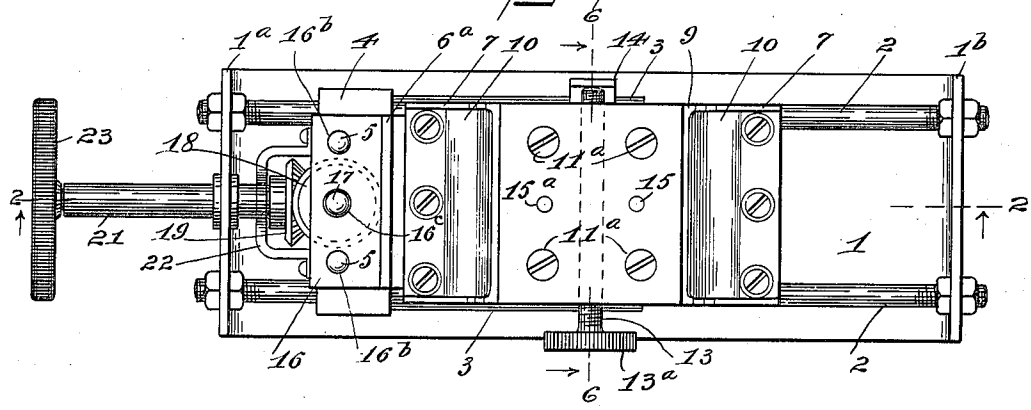


Fig. 5

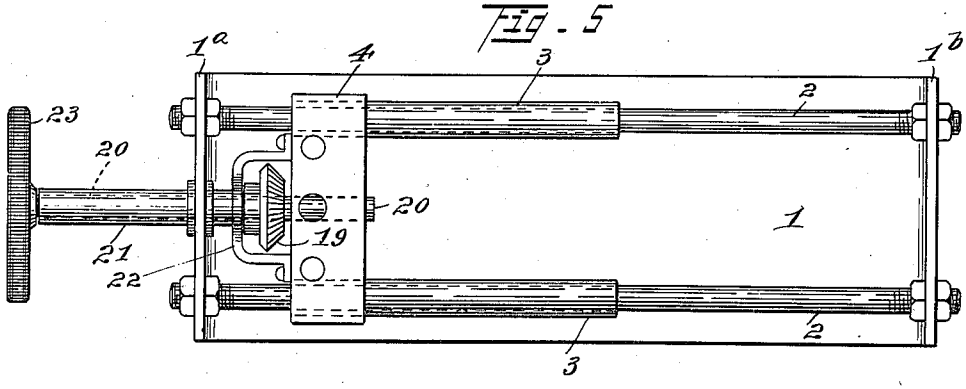
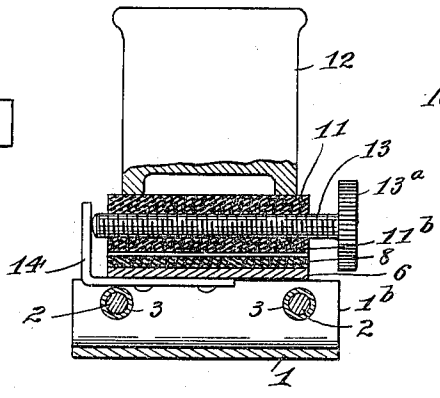


Fig. 6



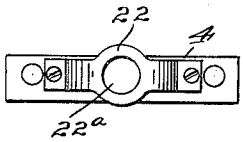


Fig. 7

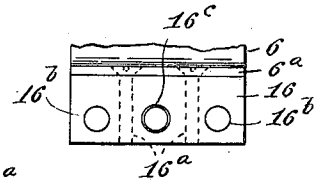


Fig. 8

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE LAMP-CARRIAGE.

1,257,128. Specification of Letters Patent. **Patented Feb. 19, 1918.**

Application filed April 16, 1917. Serial No. 162,464.

To all whom it may concern:

Be it known that I, OSCAR M. SHECK, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Adjustable Lamp-Carriages, of which the following is a specification.

This invention relates to means for supporting or mounting electric lamps, and it has particular reference to the mounting of lamps of this character in houses provided therefor and that are employed in connection with motion picture apparatus, stereopticons, and spot lights or other stage lighting apparatus.

The invention has for its principal object the provision of a lamp carriage that is universally adjustable and self contained, thereby making it adaptable for placement and operation in lamp houses of any of the types in common use and that are already installed. Another object of the invention is to provide a simple, economical, and efficient construction embodying a suitably insulated contact member to which the lamp socket is attached or connected, the said member being adjustably and detachably connected with the carriage that is universally adjustable, and that is mounted on a bracket independent of, but adaptable to application in existing types of lamp houses.

With the above and other apparent objects in view the present invention consists in the construction, arrangement, and combination of the parts as described in the following specification and pointed out definitely in the annexed claims, reference being had to the accompanying drawings which are made a part of the specification and in which similar characters of reference are employed to designate similar parts.

In the drawings Figure 1 illustrates the improved mechanism in elevation.

Fig. 2 is a vertical, longitudinal section substantially on line 2—2, Fig. 4.

Fig. 3 is a section on line 3—3, Fig. 1.

Fig. 4 is a plan view with the lamp and socket removed.

Fig. 5 is a plan view with the carriage removed.

Fig. 6 is a section on line 6—6, Fig. 4, and also showing the socket in position, and Figs. 7 and 8 are detached details which will be identified in the description.

Referring now to the several figures of the drawings, 1 represents the base or main supporting bracket on which the operative parts are mounted. This supporting bracket may be made of sheet metal and is provided with vertical end members 1^a and 1^b connected by longitudinal tie rods 2. Mounted on the rods 2 between the verticals 1^a and 1^b is a slidable frame composed of the tubular members 3 and the connecting member or cross-head 4. Connected with the cross-head 4 are two vertical guide members 5. The lamp carriage is supported by and operates in combination with the said slidable frame and is constructed as follows:—

A bracket is provided with a horizontal base member 6 and a vertical hanger 6^a. Attached to the member 6 and extending transversely thereon are contact ways 7, insulated relative to the bracket by the interposed member 8 and bushings 8^a which are made of fiber or other suitable insulating material. The contact ways 7 are spaced apart a predetermined distance and are provided with inclined opposing faces 7^a as shown in Figs. 1 and 2. A two part contact block 9 is provided with inclined surfaces 9^a adapted to bear on the faces 7^a of members 7. Spring members 10 are attached to the members 7 and through their bearings on the double member 9 retain the surfaces 9^a and 7^a in contact and allow a transverse adjustment of double member 9, as hereinafter explained.

A member 11 composed of insulating material is firmly attached to the blocks 9 and provides a seat for the lamp socket 12. In the embodiment as illustrated the block 9, as before stated is in two parts, the member 11 being attached thereto by countersunk screws 11^a and provided with a rib 11^b interposed transversely between the two parts of the block 9. The rib 11^b is provided with a threaded bore adapted to receive a screw member 13. A buttress member 14 is attached to the bracket member 6, and provides an abutment for the screw 13, as clearly shown in Figs. 3, 4 and 6. It will readily be seen that when the screw 13 is actuated through the medium of the head 13^a the members 9 and 11 will travel transversely on the ways 7, owing to the action of the screw in the member 11 coöperating with the buttress 14. This provides a transverse adjustment for the lamp which is inserted in

the socket 12, said socket being seated on the member 11 which member is firmly attached to the slidable double block 9. Electric operative connections are provided from the lamp socket 11 to the two parts of member 9 by members 15 and 15ª.

Vertical adjustment is brought about by the coöperative combination of elements as follows:—

Firmly attached to the bracket member 6ª, preferably by screws 16ª, is a block 16, said block being provided with vertical apertures 16ᵇ which register with the vertical rods 5. The block 16 is also provided intermediate of the apertures 16ᵇ with a threaded vertical bore 16ᶜ adapted to receive a threaded shaft 17. Rigidly attached to the shaft 17 is a miter gear 18, said gear being in mesh with a companion miter gear 19, which is rigidly attached to a shaft 20, said shaft 20 being preferably provided with a casing 21 adapted to revolve with the shaft, the gear 19 being fixed to both shaft and casing by suitable means as shown by the pin 19ª Fig. 2. The shaft 20 has a bearing in the block, or cross-head 4, and the casing 21 which is in reality a part of the shaft 20, has a bearing in the vertical member 1ª as shown at 1ᶜ. A yoke member 22 is attached to the block 4 and provides an abutment for the hub of the gear 19, an opening 22ª being provided in said yoke to freely accommodate the casing 21. The yoke 22 retains the gears 18 and 19 in operative mesh and also performs an important function in the horizontal adjustment of the carriage as will presently be explained.

The shaft 20 is provided with a hand wheel 23 by which it is actuated, thereby operating the gears 19 and 18 and raising or lowering the lamp carriage through the medium of the threaded connection of the shaft 17 and block 16, said block being attached to the carriage bracket 6 as above described. A cross bar 24 is firmly attached to and connects the guides 5; this forms a suitable stop for the adjusting block 16 and also gives stability to the structure.

The cross-head 4 with its tubular attachments 3 being mounted on the rods 2 and provided with the yoke 22, co-acting with the casing 21 and gear 19 provide the means for longitudinal, horizontal adjustment of the carriage as will be understood from the following:—

While the detailed construction in this respect may be changed in the reduction to practice, the operative principle will be the same. In the embodiment as illustrated the casing 21 extends through the gear 19 and has an end or thrust bearing on the cross-head 4, the yoke 22 providing an opposite thrust bearing on the gear 19. Thus it will be seen that the entire operative carriage structure may be moved horizontally in a longitudinal direction by the exertion of sufficient pressure on the hand wheel 23 or on the shaft and casing 20 and 21.

The construction, arrangement and combination of elements as above described provides vertical, longitudinal, and transverse adjustment of the lamp carriage relative to the main supporting member 1 which can be located and suitably connected in any desired position in a lamp house.

The novel connection of the contact members 9 with the ways 7 provides convenient means for expediting the changing of lamp sockets. Duplicates of the member 9 and the elements permanently attached thereto and assembled as shown, may be supplied and held in reserve. When a socket burns out or becomes otherwise damaged, one of the reserve structures may be quickly and easily substituted without the use of tools, by simply sliding the member 9 transversely on the ways 7 until it is freed from the springs 10, and inserting another like assemblage between the springs 10 and ways 7.

The foregoing specification in connection with the drawings sets forth my invention in a simple form, there may be however considerable modification in details of construction without departure from the spirit of the invention. I am not therefore confined to this specific construction only so far as limited by the scope of the claims.

What I claim and desire to secure by Letters Patent is:—

1. A lamp carriage comprising a lamp supporting bracket, inclined transverse electric contact ways attached to and insulated from said bracket, truncated-wedge shape contact blocks slidable on said ways, springs bearing on the truncated wedges for maintaining the contact between said blocks and ways, an insulated lamp socket seat attached to the slidable blocks and insulating said blocks from each other, and electrical connections from the blocks to the lamp socket.

2. A lamp carriage comprising a lamp supporting bracket, inclined transverse electric contact ways attached to and insulated from said bracket, truncated-wedge shape contact blocks slidable on said ways, springs bearing on the truncated wedges for maintaining the contact between said blocks and ways, means for sliding the blocks on the ways, an insulated lamp socket seat attached to the slidable blocks and insulating said blocks from each other, and means for electrically connecting the slidable blocks with the lamp socket.

3. A lamp carriage comprising a lamp supporting bracket, inclined electric contact ways attached to the supporting bracket transversely thereon and insulated therefrom, truncated-wedge shape contact blocks slidable on said ways, springs attached to the contact ways and bearing on the slidable

blocks thereby maintaining the contact between said blocks and ways, means for sliding the blocks on the ways, an insulated lamp socket seat attached to the slidable blocks and insulating said blocks from each other, and electrical connections from the slidable blocks to the lamp socket.

4. A lamp carriage comprising a lamp supporting bracket, electric contact ways attached to the supporting bracket transversely thereon and insulated therefrom, contact blocks slidable on said ways, means bearing on the blocks for maintaining the contact between said blocks and ways, an insulated lamp socket seat attached to the slidable blocks, a screw threaded transversely in said seat member and abutting a buttress member attached to the lamp supporting bracket whereby the slidable blocks can be adjusted transversely, and electrical connections from the slidable blocks to the lamp socket.

5. A lamp carriage comprising a lamp supporting bracket, electric contact ways attached to the supporting bracket transversely thereon and insulated therefrom, contact blocks slidable on said ways, springs attached to the contact ways and bearing on the slidable blocks thereby maintaining the contact between the said blocks and ways, an insulated lamp socket seat attached to the slidable blocks, a screw threaded transversely in said seat member and abutting a buttress attached to the lamp bracket whereby the slidable blocks can be adjusted transversely, and electric connections from the slidable blocks to the lamp socket.

6. In an adjustable lamp carriage, the combination of a main supporting bracket; a horizontally slidable frame mounted in said bracket on fixed members connected therewith; a horizontal shaft journaled in the supporting bracket; a bevel gear fixed on said shaft; a second bevel gear fixed to a threaded vertical shaft and in mesh with the first named gear; a carriage supporting member provided with a threaded bore which registers with the threaded vertical shaft whereby said carriage supporting member is vertically adjusted by the operation of the horizontal shaft and its coöperation with the bevel gears and threaded vertical shaft; and a lamp carriage attached to the adjustable supporting member.

7. In an adjustable lamp carriage, the combination of a lamp supporting bracket; transverse electric ways attached to and insulated from said bracket; contact blocks slidable on said ways; means bearing on the blocks for maintaining the contact between said blocks and ways; means for sliding the blocks on the ways; an insulated lamp socket seat attached to the slidable blocks; electrical connections from the slidable contact blocks to the lamp socket; a main supporting bracket arranged longitudinally beneath the lamp supporting bracket; a slidable frame mounted in said main bracket on fixed members connected therewith; vertical guide rods attached to said frame; a vertically movable member to which the lamp supporting bracket is attached mounted on the said guide rods; a vertical screw member threaded into said movable member; bevel gears for operating said screw member; and means connected with the main bracket for driving the bevel gears.

8. In a lamp carriage, the combination of a lamp supporting bracket; electric contact ways attached to the said bracket transversely thereon and insulated therefrom; contact blocks slidable on said ways; means bearing on the blocks for maintaining the contact between said blocks and ways; an insulated lamp socket seat attached to the slidable blocks; a screw threaded transversely in said seat member and abutting a buttress attached to the lamp supporting bracket whereby the slidable blocks can be adjusted transversely; electrical connections from the slidable blocks to the lamp socket; a main supporting bracket arranged beneath the lamp supporting bracket; a slidable frame mounted in said main bracket on fixed members connected therewith; vertical guide rods attached to said frame; a vertically movable member to which the lamp supporting bracket is attached, mounted on the said guide rods; a vertical screw member threaded into said movable member; bevel gears for operating said screw member; and means connected with the main bracket for driving the bevel gears.

9. In an adjustable lamp carriage, the combination of a lamp supporting bracket; electric contact ways attached to said bracket transversely thereon and insulated therefrom; contact blocks slidable on said ways; means bearing on the blocks for maintaining contact between said blocks and ways; an insulated lamp socket seat attached to the slidable contact blocks; electrical connections from the contact blocks to the lamp socket; a screw threaded transversely in the socket seat member; a buttress attached to the lamp supporting bracket against which said screw abuts, whereby the slidable blocks can be transversely adjusted; a main supporting bracket arranged beneath the lamp supporting bracket; a slidable frame mounted in said main bracket on fixed members connected therewith; vertical guide rods attached to said frame; a vertically movable member to which the lamp bracket is attached mounted on the said guide rods; a vertical screw threaded into said movable member; coöperating bevel gears for operating said screw member; and means connected with the main bracket for driving the bevel gears.

10. In an adjustable lamp carriage, the combination of a lamp supporting bracket; transverse electric contact ways attached to and insulated from said bracket; contact blocks slidable on said ways; means bearing on the blocks for maintaining contact between said blocks and ways; means for sliding the blocks on the ways; an insulated lamp socket seat attached to the slidable blocks and insulating said blocks from each other; electrical connections from the slidable blocks to the lamp socket; a main supporting bracket arranged beneath the lamp supporting bracket; a horizontally slidable frame mounted in said bracket on fixed members connected therewith; a horizontal shaft journaled in the main bracket; a bevel gear fixed on said shaft; a companion bevel gear fixed to a threaded vertical shaft and in mesh with the first named gear; a carriage supporting member provided with a threaded bore which registers with the threaded vertical shaft whereby said carriage supporting member is vertically adjusted by the operation of the horizontal shaft and its coöperation with the bevel gears and threaded vertical shaft; and the lamp supporting bracket attached to the vertically adjustable member.

In testimony whereof I affix my signature.

OSCAR M. SHECK.