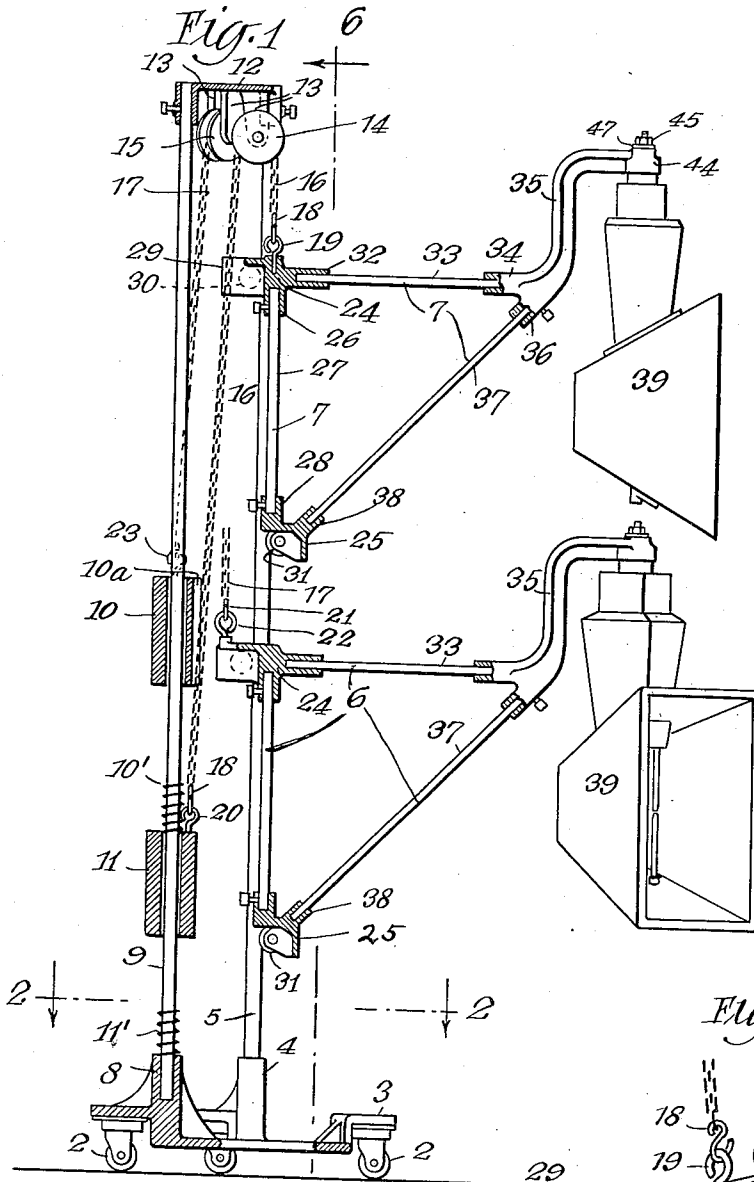
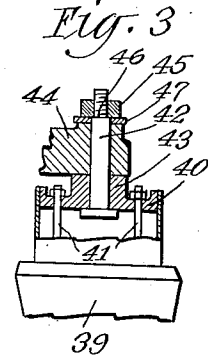
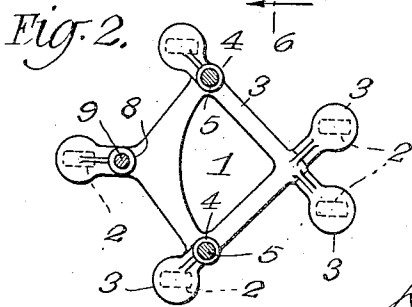
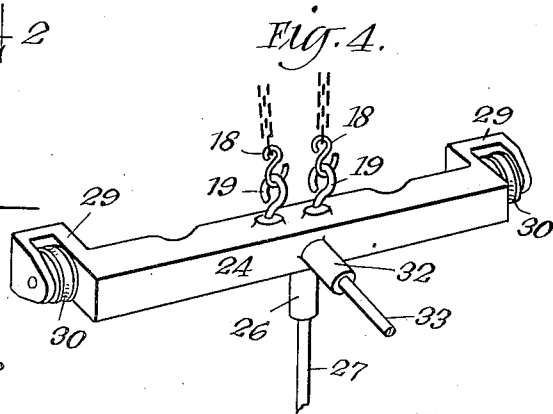


J. GELB.
 MULTIPLE LAMP.
 APPLICATION FILED SEPT. 29, 1917.

1,347,846.

Patented July 27, 1920.

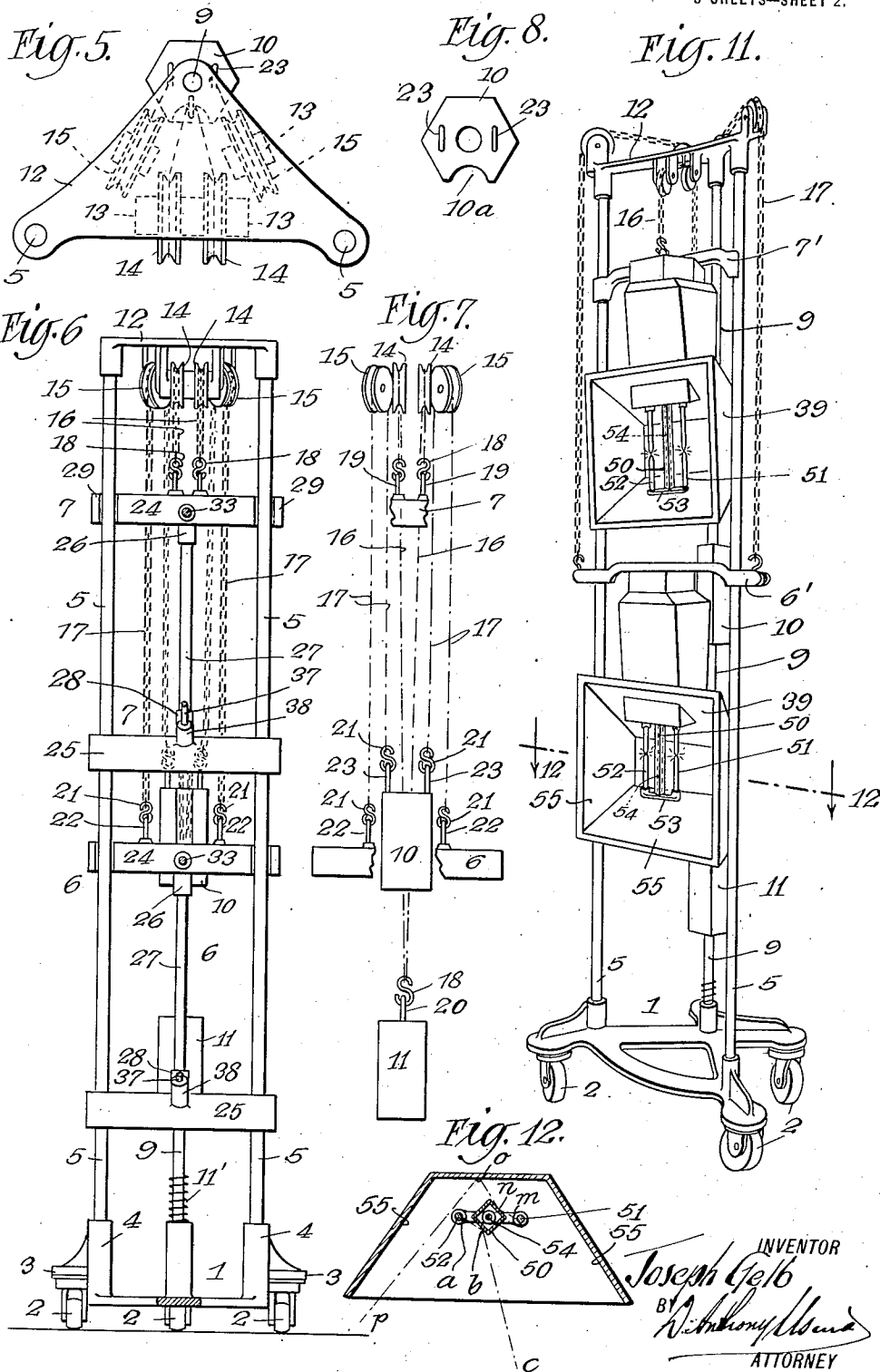
3 SHEETS—SHEET 1.



INVENTOR
 Joseph Gelb.
 BY
 R. Anthony Umana, ATTORNEY

1,347,846.

Patented July 27, 1920.
 3 SHEETS—SHEET 2.



INVENTOR
 Joseph Gelb
 BY *Anthony W. ...*
 ATTORNEY

1,347,846.

J. GELB.
MULTIPLE LAMP.
APPLICATION FILED SEPT. 29, 1917.

Patented July 27, 1920.
3 SHEETS—SHEET 3.

Fig. 9.

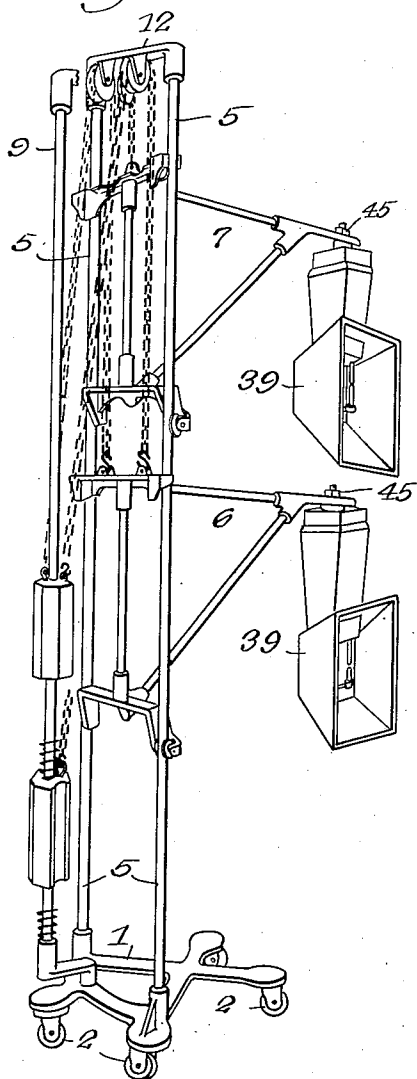
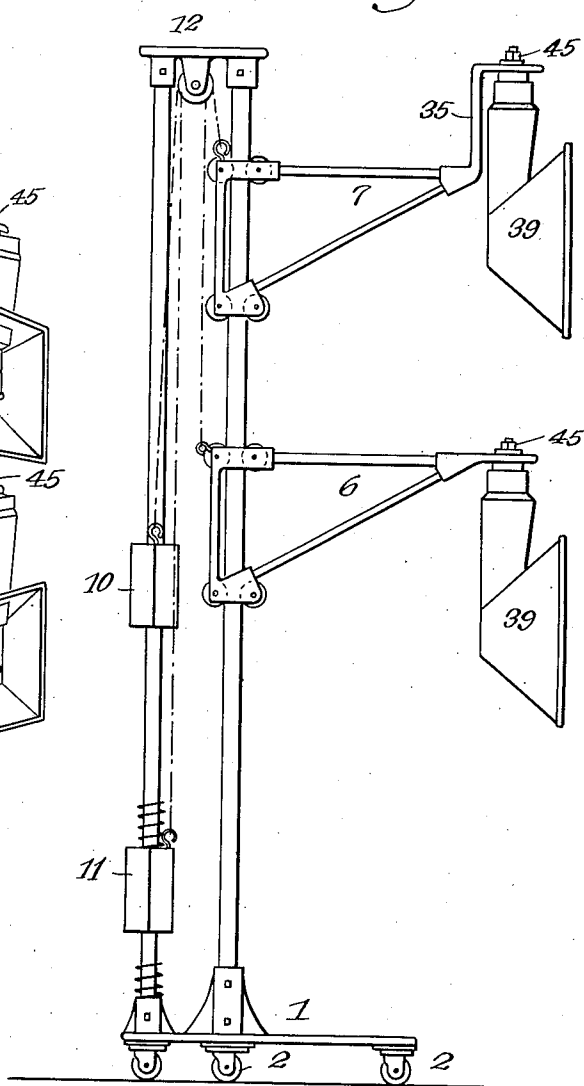


Fig. 10.



Joseph Gelb INVENTOR

BY
R. Anthony Alma, ATTORNEY

UNITED STATES PATENT OFFICE.

JOSEPH GELB, OF NEW YORK, N. Y.

MULTIPLE LAMP.

1,347,846.

Specification of Letters Patent.

Patented July 27, 1920.

Application filed September 29, 1917. Serial No. 193,884.

To all whom it may concern:

Be it known that I, JOSEPH GELB, a subject of the Emperor of Austria, residing in the borough of Bronx, county of Bronx, and State of New York, have invented certain new and useful Improvements in Multiple Lamps, of which the following is a specification.

My present invention relates to multiple lamps designed particularly for use in the motion picture and photo engraving arts but also applicable to various other uses.

One of the objects of my invention is to provide a structure easy of manipulation for supporting light projecting devices, in such manner that the rays of light may be easily and quickly projected in any desired direction. Another object is to provide adjustable devices whereby the intensity of light projected on any portion of a subject may be varied by causing the rays from one or more lamps to be projected thereon at varying angles. A still further object is to provide a device so constructed that it may be moved into close juxtaposition with a camera with the lamps projecting in front of said camera. Other objects will be apparent from the following specification and the subjoined claims.

Referring to the drawings—

Figure 1 is a vertical central longitudinal sectional view;

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1;

Fig. 3 is a detail of the swivel mounting for the lamp;

Fig. 4 is a perspective view of a portion of one of the slidable supporting brackets;

Fig. 5 is a top plan view with parts omitted;

Fig. 6 is a section on the line 6—6 of Fig. 1;

Fig. 7 is a diagrammatic front view showing the arrangement of the pulleys, chains and counter-weights for holding the lamps at different elevations;

Fig. 8 is a detail plan view of one of the counter-weights;

Fig. 9 is a perspective view showing a modified form of the device;

Fig. 10 is a side elevation showing a further modification;

Fig. 11 is a perspective view showing a still further modification.

Fig. 12 is a cross-section of a lamp on the line 12—12 of Fig. 11.

In the preferred embodiment of my invention shown in Figs. 1 to 8 of the drawings the main supporting structure comprises a skeleton mobile base 1 provided with swiveled casters 2 secured to the under side of the spider arms 3 of said base.

Projecting from the top of the base 1 are bosses 4—4 into which are secured upright guide rods 5—5 for the vertically movable brackets 6 and 7. A third boss 8 supports the upright rod 9 on which counter-weights 10 and 11 are guided.

A top plate 12 secured to the upper ends of the rods 5 and 9 is provided with downwardly depending lugs 13 for supporting the sheaves 14—14 and 15—15. Chains 16—16 pass over the pulleys 14—14 and are connected at their ends by S hooks 18 to the eyes 19 and 20 secured respectively to the bracket 7 and counter-weight 11. Similarly the chains 17—17 pass over the pulleys 15—15 and are connected at their ends by S hooks 21 to the eyes 22 and 23 carried by the bracket 6 and the counter-weight 10 respectively. The S hooks 18 and 21 permit of relative initial adjustment of the brackets 6 and 7.

The counter-weights 10 and 11 are so proportioned that they equal the weights respectively of the brackets 6 and 7 and the parts carried thereby, and the upper weight 10 is grooved at 10^a to permit the chains 16 to pass without interference.

Springs 10' and 11' are mounted on the rod 9 to cushion the shock in the event that the counter-weights are inadvertently lowered too quickly.

The slidable brackets 6 and 7 may be constructed in the various ways shown in Figs. 1, 9, 10 and 11, the preferred construction however being shown in Fig. 1. In this form the brackets comprise a top cross member 24 and a similar bottom cross member 25. The top member has a downwardly extending boss 26 into which is fitted a vertical rod 27 the lower end of which is secured in a boss 28 integral with the lower cross member 25. The upper cross member 24 is provided with rearwardly extending journals 29—29 at its outer ends in which are housed grooved rollers 30—30 adapted to travel on the vertical guide rods 5—5. The lower cross member 25 is provided with similar rollers 31 which are also adapted to coact with the same guide rods. The boss 32 extending outwardly from the cross member 24 has se-

cured therein an extension rod 33, the outer end of which is secured to a boss 34 of the goose-neck casting 35. An angularly depending boss 36 of the goose-neck has secured therein a brace rod 37, the lower end of which is secured in a boss 38 of the lower cross member 25.

Referring to Fig. 3, the lamp 39 is provided with a top plate 40 to which are secured the bolts 41 which support the operating mechanism of the lamp. The stud 42 passes through a boss 43 of the top-plate and a similar boss 44 of the goose-neck casting and is secured by means of a nut 45 which impinges against the shoulder 46 formed on the said stud 42. The anti-friction washer 47 is interposed between the nut 45 and the boss 44 to permit the lamp to be easily turned or swiveled on this connection.

It will be noted that the rollers 30 of the cross member 24 are located at the rear of the guide bars 5, while the rollers 31 of the cross member 25 are located in front thereof. With the rollers thus arranged it is obvious that the weight of the lamp 39, goose-neck 35, and parts carried thereby will tend to keep the above mentioned rollers in operative engagement with the guide bars 5.

The construction above described permits of the whole structure being moved in close juxtaposition to a photographic camera for the reason that the width of the brackets 6 and 7 is only slightly more than the diameter of the rods 33 and 37 and therefore these parts may be moved right up against the side of the camera; the lamps 39 projecting in front and to one side thereof, the base 1 projecting slightly underneath the camera and to one side thereof. The goose-neck construction on the slidable brackets 6 and 7 permits the upper lamp 39 to be adjusted to a greater height than would be possible if the bracket were constructed as shown at Fig. 9. In some instances it may be desired to have one of the brackets constructed with the goose-neck and the other without the goose-neck as shown in Fig. 10. This construction permits the lower sliding bracket to travel closer to the upper sliding bracket without causing the lower lamp to interfere with the upper lamp. A modified construction is shown in Figs. 11 and 12 in which the lamps 39 are mounted directly on the vertically moving brackets 6' and 7'.

This construction is useful in some classes of work but has not the great range of light adjustment or flexibility possessed by the above described constructions.

In operation the whole structure may be moved bodily by pushing same on the mobile base and thus approximately directing the light to the point desired for the work at hand. The brackets 6 and 7 may then be raised or lowered and the lamps 39 turned on their swiveled joints to properly focus

the rays of light on the subject to be photographed, it being obvious that the counterweights 10 and 11 constitute one form of counterbalancing means which permit easy, quick and exact adjustment by hand of the heavy lamps and brackets and which will automatically and immediately maintain the brackets at the elevations to which they are adjusted, and similarly the weight of the lamps 39 will hold them in their angularly adjusted positions.

The lamps used are preferably electric arc lamps, provided with reflectors, the current being conveyed to the lamps by suitable flexible conductors which are looped up to the movable brackets in a manner well known in the electrical arts, the wiring being omitted from the drawings in the interest of clearness.

The invention however is not limited to the use of arc lamps as it is clear that incandescent lamps, Cooper Hewitt, or other mercury vapor lamps or even acetylene or other gas lamps might be advantageously used for certain purposes.

The supplemental reflector 50 shown in Figs. 11 and 12 is employed to increase the intensity of the light projected by the lamp.

The carbon electrodes 51 and 52 are carried in brackets 53 which are secured to the lower end of rod 54 depending from the frame of the lamps. The supplemental reflectors are made of highly polished sheet metal or asbestos painted to provide a good reflecting surface and they surround the rod 54. In practice it has been found that by use of the supplemental reflectors the intensity of light from the same lamps was greater when these reflectors were employed than it was before their installation.

The reason for this will be apparent from observation of the trace of the light ray indicated by broken line *a, b, c*. The intense light strikes the reflector at *b* near the carbon and is projected directly out in the direction *b, c*, obviously if the reflector 50 were omitted the ray would be projected in the direction *a, b*, and would not even strike the main reflector 55 and therefore would project in a direction out of the focus of the lamp. The trace of the light ray indicated at *m, n, o, p* illustrates how this supplemental reflector assists in projecting the rearward rays more efficiently. No claim to this supplemental reflector is made in the present application.

Though I have described with great particularity in detail certain specific embodiments of this invention, yet it may be understood therefrom that the invention is not restricted to the particular embodiments disclosed. Various other modifications may be made by those skilled in the art without departing from the invention as defined in the following claims.

What I claim is:—

1. A multiple lamp comprising a portable base and a plurality of uprights connected at their lower ends by said base, a plurality
5 of lamps sliding separately on said uprights and separate counterbalancing means for said lamps for maintaining each of them independently at different elevations.

2. A multiple lamp comprising a portable
10 base, a pair of uprights, a plurality of lamps sliding separately on said uprights, separate counterweights for said lamps for maintaining each of them independently at
15 right by which said counter-weights are

guided, said uprights being connected at their lower ends by said base and connected also at their upper ends.

3. A multiple lamp support comprising a portable base and upright supporting means
20 and separately vertically adjustable brackets on said supporting means provided with swivel supports for the lamps and separate counterbalancing means for said brackets
25 for maintaining each of them independently at different elevations on said supporting means.

In witness whereof I have hereunto signed my name.

JOSEPH GELB.