

- 487,571 12/1953 Italy 248/123

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- [57] ABSTRACT

- A lamp with an articulated support comprising a stem and a plurality of arms disposed in succession and connected in an articulated manner to each other at intermediate points. A terminal one of the arms remote from the stem supports at the one end a lamp holder and its relative accessories and at the other end a counter weight is arranged in such a manner as to balance the terminal arm and the components supported by it. Each other arm has one end connected in an articulated manner to the next arm in the direction of the terminal arm, and its other end supports a counterweight arranged in such a manner as to balance the said other arm with all the components supported by it.

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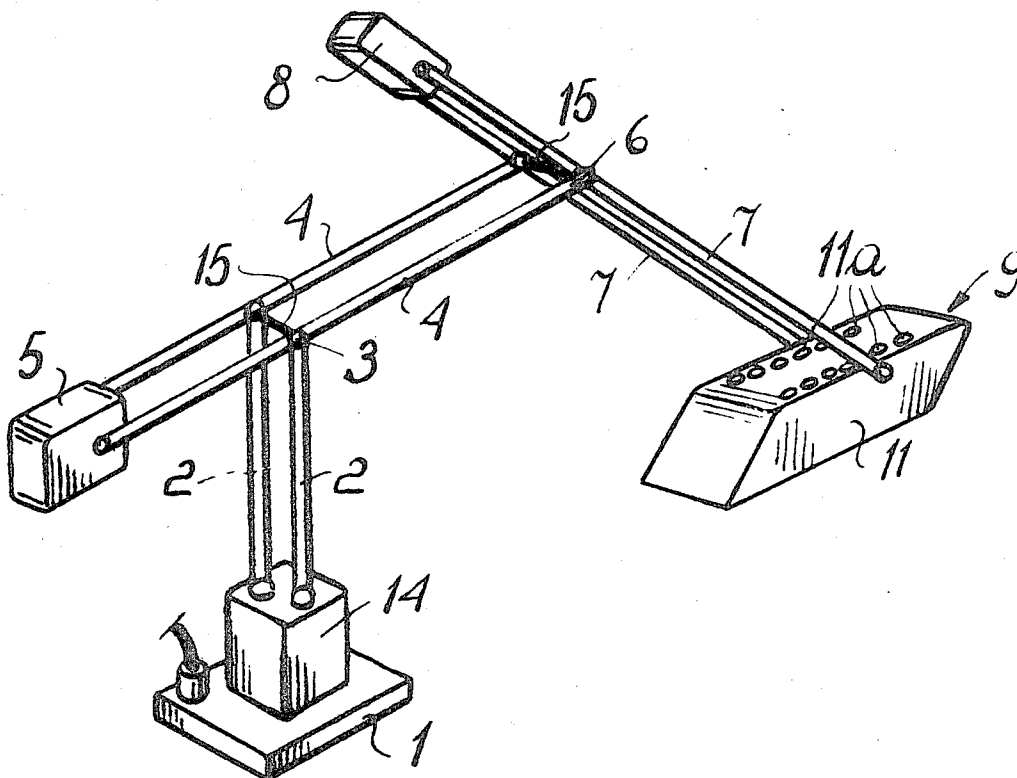
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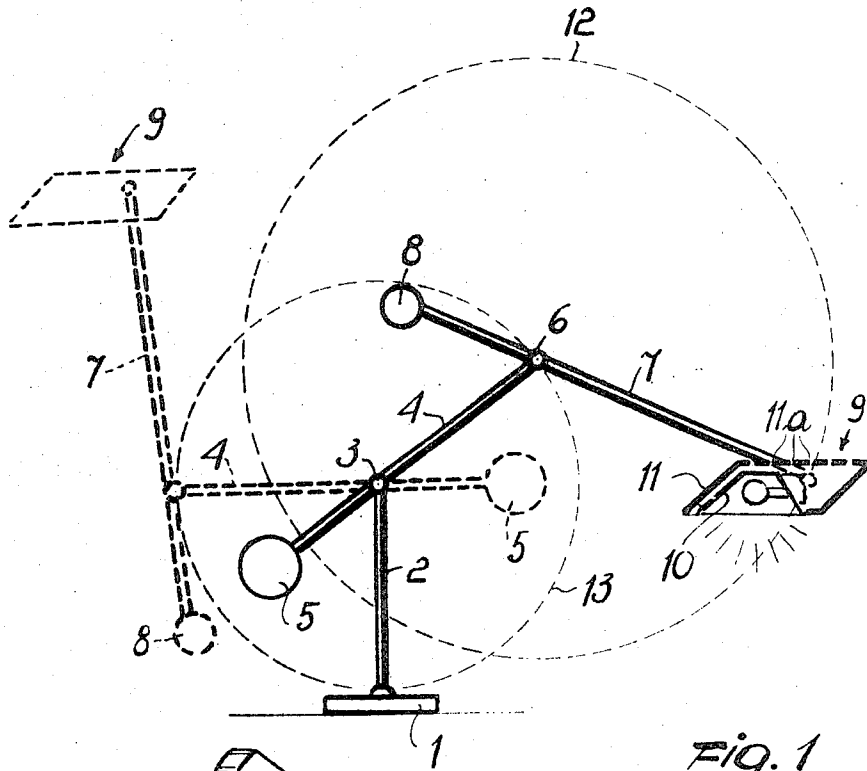


Fig. 1

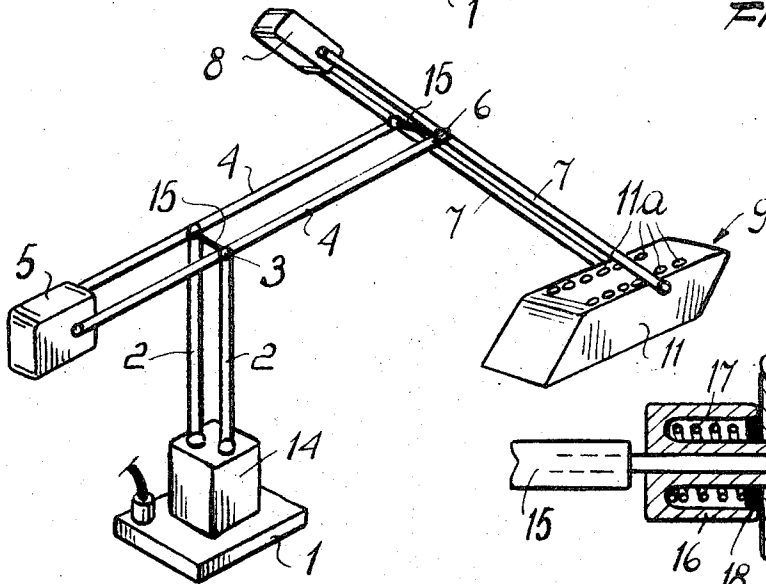


Fig. 2

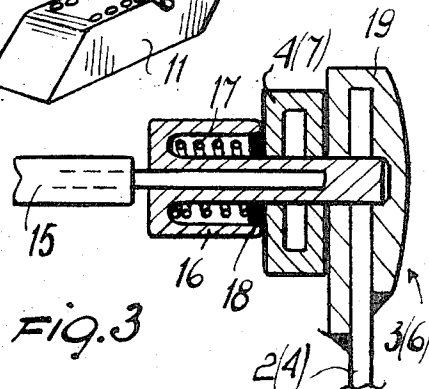


Fig. 3

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LAMP WITH AN ARTICULATED SUPPORT

BACKGROUND OF THE INVENTION

The present invention relates to a lamp with an articulated support for use as a table, floor or hanging lamp.

Conventional lamps with articulated supports, such as those for drawing boards, have the disadvantage of requiring the use of springs each time it is desired to lessen the force required for making the various possible movements, resulting in constructional complications and the development of slackness and faults in the mechanical parts after a certain period of operation.

A further disadvantage of conventional lamps with articulated supports is that they need to be solidly clamped, for example to the drawing board or a normal table, so that they do not overturn.

SUMMARY OF THE INVENTION

An object of the present invention is to largely eliminate the aforementioned disadvantages relative to conventional lamps by providing a lamp with an articulated support which is extremely manageable, of simple construction, long lasting and which does not require clamping when used as a table lamp.

Another important object of the invention is to provide a lamp in which the necessary electrical connections are very easily arranged.

According to the invention there is provided a lamp with an articulated support which comprises a plurality of arms disposed in cascade, i.e. one successively connected to another and connected in an articulated manner to each other at intermediate points, the terminal arm supporting at one end the lamp holder and its relative accessories and at the other end a counterweight arranged in such a manner that the center of gravity of said terminal arm and the components supported by it coincides substantially with the axis of the articulated joint of said arm, each other arm having one end connected in an articulated manner to the successive arm in the direction of the terminal arm, and its other end supporting a counterweight arranged in such a manner that the center of gravity of said other arm with all the components supported by it coincides substantially with the axis of the articulated joint of this latter arm. In other words, the counterweight of the lamp-carrying arm balances the latter around its fulcrum at the intermediate point while each arm more distal from the lamp-carrying arm has a counterweight positioned to balance it and thus compensate the weight of all following arms and the lampholder.

BRIEF DESCRIPTION OF THE DRAWINGS.

The invention will be more evident from the following detailed description of some preferred but not exclusive embodiments of a lamp with an articulated support according to the invention, illustrated by way of example in the accompanying drawing in which:

FIG. 1 is a diagrammatical view of a first embodiment of a lamp with an articulated support according to the invention;

FIG. 2 is a perspective view of a second embodiment of a lamp with an articulated support according to the invention; and

FIG. 3 shows a detail relative to the articulated joints of the lamp according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS.

With reference to FIG. 1, the lamp according to the invention in a first embodiment comprises a base 1 supporting a vertical stem 2 to the end 3 of which is connected in an articulated manner an arm 4 of which one end carries a counterweight 5, and the other end is connected in an articulated manner at 6 to the terminal arm 7.

This latter arm is provided at one end with a counterweight 8, and at its other end an assembly 9 comprising the lamp holder and its relative accessories. More precisely the assembly 9 comprises an internal reflector 10 and an external shield 11 containing a plurality of upper perforations 11a and spaced from said reflector 10, and having a conformation such as to permit a flow of air between the components 10 and 11 for cooling purposes, so as to allow the use also of halogen lamps which are known to produce a large amount of heat.

the counterweight 8 is arranged in such a manner that the center of gravity of the complex comprising the counterweight, the arm 7 and the assembly 9 coincides with the axis of the articulated joint 6. In this manner a universal equilibrium condition is attained by which the assembly 9 may be positioned at any point on the dotted circumference 12, with the position attained being in each case maintained.

In a like manner the counterweight 5 is arranged in such a manner that the complex comprising said counter weight, the arm 4, the counterweight 8, the arm 7 and the assembly 9 has its center of gravity on the axis of the articulated joint 3. In this case a universal equilibrium condition is also attained, by which the articulated joint 6 may be brought into any position on the dotted circumference 13, with the position attained being in each case maintained for any position of the terminal arm 7.

From the aforementioned, the operation of the lamp according to the invention is evident.

As the masses of the various parts of the lamp are in constant equilibrium, the base 1 does not require clamping and may be simply rested on a table.

The assembly 9 may be comfortably positioned at any point compatible with the length of the arms 4 and 7, using minimum force and without requiring the use of auxiliary means such as springs or the like.

The double shield conformation of the assembly 9 means that the external shield 11 may be gripped with the hands without risk of burning, even if halogen lamps are used.

In addition to the table arrangement, a hanging arrangement may be provided in which the stem 2 is fixed by conventional means to the ceiling or a wall.

Advantageously the stem 2 and the arms 4 and 7 each comprise to parallel rods, as shown in the embodiment of FIG. 2, forming an articulated pair of supporting components with this arrangement, a single suitably insulated electric wire may be passed internally through each component of the pair of supporting components 2, 4 and 7. With the modification shown in FIG. 2, it is possible to fix a transformer 14 to the base 1 so that the lamp may be supplied at low voltage. In this case instead of including insulated wires, the current may be made to pass through the pair of supporting components 2, 4 and 7 constructed of metal and suitably insulated one from the other.

In the design shown in FIG. 2, cross pins 15 are provided at the articulated joints 3 and 6, with the joints at the pin ends.

In order to compensate manufacturing tolerances and other slight disturbances in the aforementioned equilibrium system, friction means are provided which automatically take up the play.

For example, as shown in FIG. 3, each joint at the ends of pins 15 comprises a mushroom shaped member 16 with a cavity housing a spring 17 adapted to thrust a friction ring 18 against the corresponding component of the arm 4 or arm 7. Said component is thrust in its turn against the surface of a substantially U-shaped body which is fixed, for example by welding, to the corresponding component of the stem 2 or arm 4, according to whether the articulated joint 3 or the articulated joint 6 is considered. The stem of the mushroom shaped member 16, into which one end of the cross pin 15 is inserted, is also fixed to the body 19. In this manner the component 4 or 7 may be moved on overcoming a certain friction force determined by the action of the spring 17.

Said spring further ensures the automatic take up of play.

In one modification the articulated joints 3 and 6 may be made using one or more magnets as the friction force.

In another modification, the articulated joints may be constructed with friction surfaces which also serve simultaneously for transmission of the electric current.

As may be seen, the lamp according to the invention is of rational and at the same time simple construction, so ensuring very easy operation and long life.

The invention so conceived is susceptible to numerous modifications all of which fall within the scope of the inventive idea. Thus for example the number of arms may be increased at will following a succession arrangement according to the aforementioned crite-

rion, i.e., arranging counter-weights in such a manner as to make the centers of gravity of the various parts coincide with the axes of the articulated joints.

I claim:

1. A lamp comprising:

a support including a base, and a stem mounted on said base;

a transformer on said base;

a plurality of arms articulated in succession and including an initial arm and a terminal arm;

respective articulations between said stem and said initial arm at an intermediate location along the length of the latter and between one end of each arm and an intermediate location of each successive arm for articulating each arm for independent swinging movement;

a lampholder on one end of said terminal arm;

a respective counterweight on the other end of each of said arms divisioned and positioned to balance same at its respective articulation location whereby the counterweight on said terminal arm balances the latter and said lampholder and the counterweight on said initial arm balances all of said arm and said lampholders at the articulation location of said initial arm;

and electrical conductor means extending between said transformer and said lampholder for energizing an electric lamp received in said lampholder, said electrical conductor means including a pair of parallel spaced conductive rods connected to respective terminals of said transformer and forming said stem, further pairs of conductive rods forming each of said arms, and means electrically connecting each rod of each pair at a respective one of said locations with a corresponding rod of another pair whereby the lamp is electrically energized solely through the conductive rods.

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