April 28, 1970 S. P. MICHAILOV 3,509,334

ADJUSTABLE LAMP STAND

Filed July 31, 1967

FIG. 1.

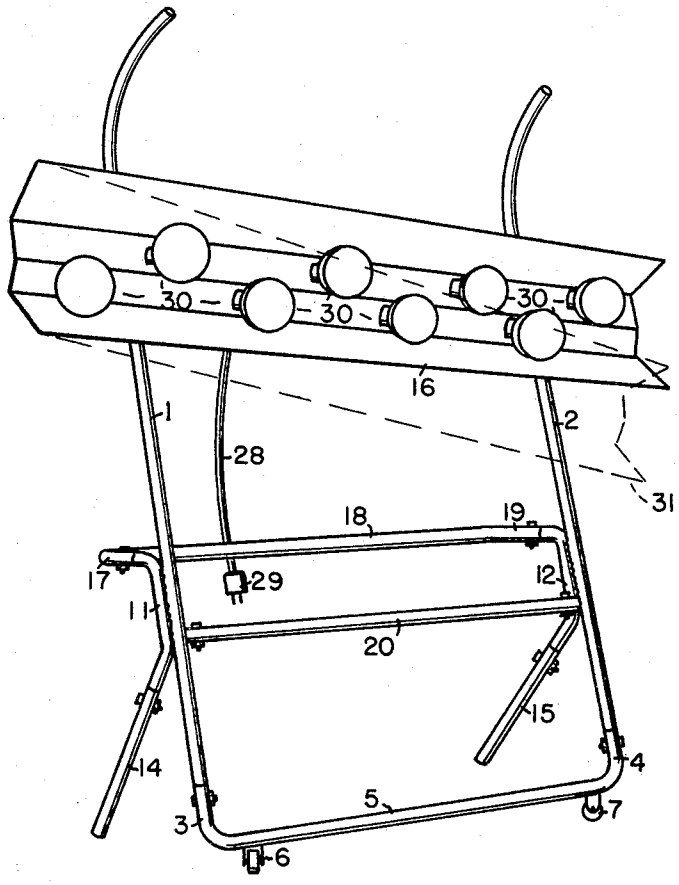


FIG. 2.

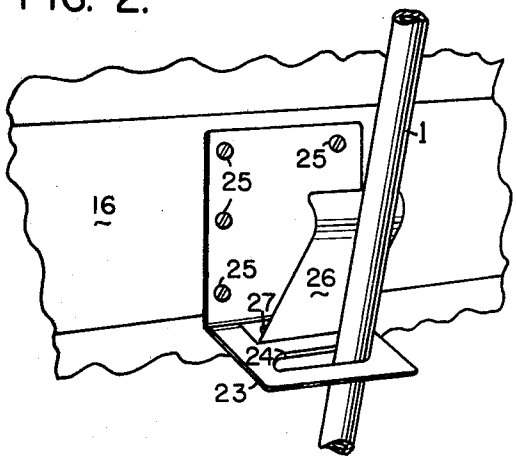
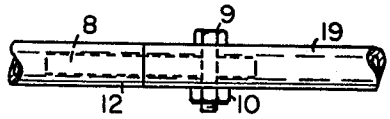


FIG. 3.



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ADJUSTABLE LAMP STAND

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ABSTRACT OF THE DISCLOSURE

An industrial lamp stand having a pair of spaced uprights for frictionally holding a horizontal member carrying plural lamps at a selected height. The uprights are curved forward at the tops for directing illumination downwardly rather than horizontally, if desired. Slots in brackets attached to the horizontal member engage the uprights with static friction because the weight of the horizontal member exerts a turning moment on the brackets. Plural horizontal elements space the uprights apart and are disconnectable for disassembly. A leg angles backward from each upright and casters on a lower horizontal element bear upon the floor for support. By slightly raising the legs the stand can be rolled from one place to another.

BACKGROUND OF THE INVENTION

This invention pertains to electric light stands, particularly for industrial use.

Drying paint by radiant heat from electric heat lamps is an accepted process in industry, of which automobile repainting is one example.

In the prior art such lamps have been disposed in rather stationary banks or mounted individually or in closely arranged groups on lamp stands having a single upright. It has not been easy to quickly adjust the height of the lamps for drying a selected area, as upon the side of an auto body, nor, by means of the same stand, to direct drying rays downwardly for drying relatively horizontal surfaces, such as a hood, trunk or top of an auto. Nor have portable stands been stable.

SUMMARY OF THE INVENTION

By evolving a new structure for adjustably holding a plurality of lamps which employs a pair of uprights spaced by horizontal elements and supported by legs and casters the disadvantages of the prior art have been overcome. A horizontal member carries the lamps and is adjustably attached by brackets to the uprights such that the weight of the member and lamps hold these at any selected elevation on the uprights. By manually raising the horizontal member the frictional lock is removed and the operator can raise or lower the lamp group as desired.

By curving the top portions of the uprights forward, the member and the lamps are pointed downwardly at maximum elevations, thus for drying relatively horizontal surfaces. Elongated slots in the brackets allow the member to be positioned at an angle to the horizontal for drying an area having an inclination.

With casters at the front and legs at the back of the stand has stable equilibrium when stationary to resist the force of wind or an accidental jar, but can easily be rolled from place to place upon the operator tilting the structure slightly forward.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a perspcetive front view of the adjustable lamp stand.

FIG. 2 shows a fragmentary rear view of the same, showing a bracket.

FIG. 3 shows a typical joint by means of which the stand can be disassembled.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. 1, numeral **1** identifies the left upright and numeral **2** the right upright. These are typically formed of hollow cylindrical steel tubing of ¾ inch diameter, with a curved portion at the top of each for one-fifth the length having a radius of curvature of about 18″. The stand can be made of any size, but an overall height of 44″ is effective for automobile repainting. As a choice in construction the bottom of each upright is cut short and is met by one of the upwardly turned ends **3** or **4** of first horizontal element **5**. Casters **6** and **7**, or equivalent rotatable means, are mounted near the extremities of horizontal element **5**.

At ends **3** and **4** and the bottoms of the uprights, and at subsequent equivalent junctures, rods **8** are secured within one of the tubular elements and a bolt **9** passed through a hole in rod **8**, being secured with a nut **10**. See FIG. 3. Such connections are strong, yet allow disassembly when required, as for shipment in a relatively small container from a factory, or for later shipment or storage.

Corresponding stub legs and stubs of a second horizontal element are formed from one piece of tubing **11** for upright **1** and **12** for upright **2**. These stub pieces are welded to the upright involved at about one-third the height thereof.

Legs **14** and **15** are fitted into stubs **11** and **12**, respectively, with the rod, bolt and nut fitments previously described. The length of the legs is such as to position the uprights leaning slightly to the back of the assembly. This establishes stable equilibrium although horizontal member **16** is forward of the uprights and is relatively heavy. The net length of the legs may be 17″, with the stub adding about 5″.

In a similar manner of connection, the rearwardly extending left portion **17** of second horizontal element **18** fastens into left stub **11** and right portion **19** of element **18** fastens into right stub **12**; both at the top of the stubs. Portions **17** and **19** may each have a length of the order of 10″ and horizontal element **18** a lentgh of 49″.

A third horizontal element **20** is provided between uprights **1** and **2** for rigidity. It extends directly between the uprights at the same elevation as the stubs and may have a length of 48″.

In FIG. 2 bracket **23** is shown in coative relation to upright **1**. Slot **24** is located near the rear edge of the horizontally disposed part of the bracket and may have an opening of ¾″ x 2″. The bracket has a width of 4″, a horizontal depth of 3″ and a vertical extent of 5″. The latter is fastened directly to the rear of horizontal member **16**, near the bottom of the vertical portion thereof. A plurality of bolts **25**, with corresponding nuts or threads tapped in member **16**, fasten the bracket to the member. A leaf spring **26** is preferably but not necessarily provided to bear against upright **1** and thereby to increase the frictional hold of the bracket to the upright. This prevents change of elevation of member **16** when the stand is moved. The spring has the same width as slot **24**. Bolts **27** fasten the horizontal portion of the spring to the horizontal part of the bracket.

Typically, member **16** has a trough shape, with spaced sockets for a plurality of lamps **30**, say a plurality of eight, disposed forwardly, to allow radiant energy from the lamps to fall upon the work. Known electrical connections connect the lamp sockets to a suitable electric cord **28**, having a plug **29** for engaging a wall socket, or other source of electric power. The electrical connections

may include switches for energizing only some of the lamps, as may be desired.

To adjust the height of the horizontal member carrying the lamps it is merely necessary to grasp the member and perhaps raise it slightly. It will then be found to slide up or down easily. Once positioned and one's hands removed, the weight of the member causes it to tilt slightly word, which frictionally locks it in place. When member **16** is elevated to the top of the uprights the lamps shine essentially downward. For positions somewhat below the top positon intermediate inclinations of the lamps can be obtained.

Because slots rather than holes are formed in brackets **23**, it is possible to manually cant member **16** as much as perhaps 25° from the horizontal, so that one end is lower than the other. This allows drying an inclined portion of an essentially vertical surface. The canted position is indicated by dotted lines **31** outlining member **16** in FIG. 1.

An alternate embodiment may be of all-welded construction. Uprights **1** and **2** and horizontal element **5** are then all formed of one piece of tubing. Leg and horizontal elements **11, 12, 14, 15, 17, 18** and **19** may also be formed of one piece of tubing, with welds at **11** and **12** to the uprights as before. Horizontal element **20** is welded to the uprights rather than being detachably fastened thereto as before.

While these embodiments have been related to the paint drying art, it will be seen that other drying and illuminating functions can also be performed without modification of the structure. For obtaining illumination it is only necessary to employ illuminating electric lamps rather than thermal (heat) lamps. Since a wide variety of lamps can be obtained with internal reflectors, the inside of trough horizontal member **16** may be reflective or not.

Two additional fields where the lamp stand is useful include industrial illumination and television or motion picture scene illumination. The stand has simplicity, versatility, light weight and maneuverability to recommend it to these fields.

Although this invention has been described in preferred forms with a certain degree of particularity, this has only been by way of example. Various changes in size, proportions and details of construction may be made without departing from the spirit and scope of the invention as claimed below.

I claim:

1. An adjustable portable stand for supporting a plurality of lamps comprising;

(a) a pair of spaced uprights disposed rearwardly at an angle to the vertical,

(b) only one leg rigidly attached rearwardly at an angle to each said upright to maintain said stand in an upright position,

(c) plural horizontal elements attached to said uprights to maintain said uprights in a spaced relation, including a first said horizontal element attached to the bottom of and extending between said pair of uprights,

(d) only two rotatable means attached to said first horizontal element, one adjacent to each of said uprights, to facilitate movement of said stand,

(e) a horizontal member to forwardly support said plurality of lamps, and

(f) a pair of brackets rearwardly external to said horizontal member, with one bracket engaging each said upright,

to adjustably vertically support said horizontal member upon said uprights.

2. An adjustable portable stand for supporting a plurality of lamps comprising;

(a) a pair of spaced uprights,

(b) a leg rigidly attached at an angle to each said upright to maintain said stand in an upright position,

(c) plural horizontal elements attached to said uprights to maintain said uprights in a spaced relation,

(d) a horizontal member to support said plurality of lamps,

(e) a pair of brackets external to said horizontal member with one said bracket engaging each said upright and each said bracket having a slot which frictionally engages a said upright,

whereby said horizontal member is retained at an elevation upon that upright to which it has been manually adjusted.

3. The stand of claim **2** which additionally includes;

(a) a leaf spring fastened to each said bracket,

which bears upon a said upright to increase the friction thereon.

4. The stand of claim **1** in which;

(a) each said upright has a curved portion at the top which curves away from said leg,

whereby illumination from said plurality of lamps is directed downward upon said horizontal member being vertically adjusted to the top of said uprights.

5. The stand of claim **1** in which;

(a) a second said horizontal element is attached to said uprights approximately midway vertically thereon, and

(b) said second horizontal element is formed to extend in the direction of said legs from said uprights,

whereby said stand may be moved by raising said second horizontal element to incrementally lift said legs.

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U.S. Cl. X.R.

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