Sept. 28, 1943. G. B. FINAZZO 2,330,484

LIGHT FIXTURE

Filed Aug. 27, 1941

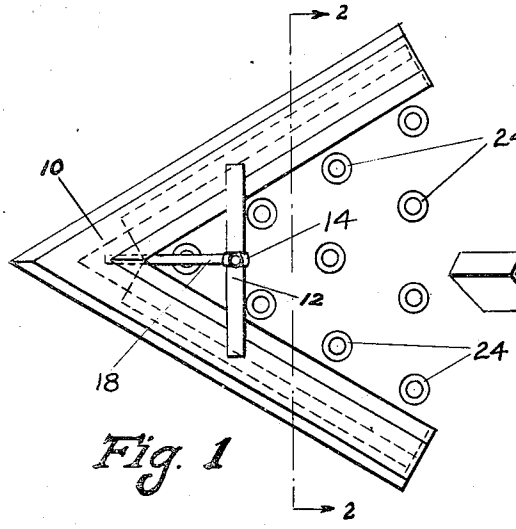


Fig. 1

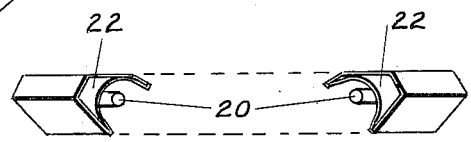


Fig. 2

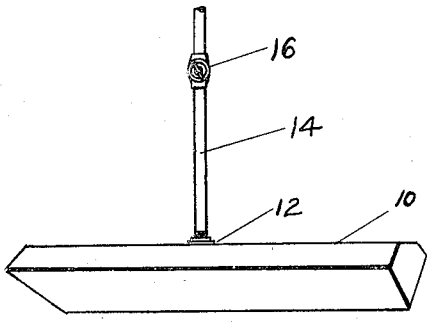


Fig. 3

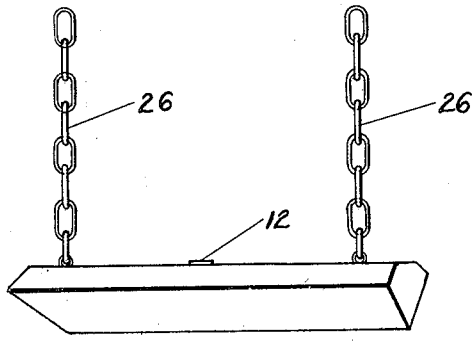


Fig. 4

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Patented Sept. 28, 1943

2,330,484

UNITED STATES PATENT OFFICE

2,330,484

LIGHT FIXTURE

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Application August 27, 1941, Serial No. 408,408

3 Claims. (Cl. 240—3)

This invention relates to improvements in light fixtures. More particularly, the invention relates to improvements in light fixtures used in bowling alleys.

It is an object of the present invention to provide an improved light fixture for bowling alleys.

It is necessary to provide proper lighting for the pins used in bowling alleys. This lighting should light the entire front surface of each of the pins evenly, and should avoid the formation of shadows on the surfaces of the pins. Uneven lighting on the surfaces of the pins, or shadows on the surfaces of the pins can be quite disconcerting to the bowler and can appreciably affect his score. The light fixtures now in use, are intended to give even lighting and to avoid shadows, but they do not do so completely. The lighting fixtures now in general use consist of a spot light that is located a distance in front of the head pin. This light illuminates the pins nearest the front of the alley but does not illuminate the back pins very well. The light on the pins in the back is often rather uneven, and shadows are frequently cast on the surfaces of these pins. For these reasons, the lighting fixtures in use today are objectionable. The invention obviates this objection by providing a novel light fixture that lights the front surfaces of all of the bowling pins and prevents shadows on the surfaces of the pins. It is, therefore, an object of the present invention to provide an improved lighting fixture that provides even, shadowless illumination for the surfaces of bowling pins.

To keep a bowling alley in good condition, it is necessary to clean it frequently. Frequent cleaning requires that the light fixture be in such a position that it does not interfere with the cleaning operation. As a result, the present light fixtures now in general use are located a distance above and in front of the pins. Positioning the source of illumination a distance from the object to be illuminated, decreases the illumination afforded. This is objectionable since it necessitates the use of additional power. Because of this, the present light fixtures are not as efficient as they might be. The invention secures efficient light by providing a light fixture that is suspended near the bowling pins but may be moved readily to facilitate the cleaning of the alley. It is, therefore, an object of the present invention to provide a light fixture that is suspended near the pins in such a manner that it may be moved readily to facilitate the cleaning of the alley.

The provision of a high intensity spot light for the illumination of bowling pins is unsatisfactory, since the light is concentrated on only a few of the pins. As a result, a portion of the pins are brightly illuminated, while the rest of the pins are not brightly illuminated. This is objectionable. The invention obviates this objection by providing a substantially V-shaped light fixture that carries a plurality of light sources. This fixture is located near the pins and distributes light over the front faces of all the pins. It is, therefore, an object of the invention to provide a substantially V-shaped light fixture that may be located near the pins.

Other objects and advantages of the invention will appear from the drawing and accompanying description.

In the drawing and accompanying description, a preferred embodiment of the invention has been shown and described, but it is to be understood that the drawing and accompanying description do not limit the invention, and the invention will be defined by the appended claims.

In the drawing, Fig. 1 is a plan view of a lighting fixture made in accordance with the principles of the invention.

Fig. 2 is a partial cross-sectional view of the fixtures shown in Fig. 1 and is taken along the plane 2—2.

Fig. 3 is a side elevational view of the fixture shown in Fig. 1, and

Fig. 4 is a side view of the fixture and shows an optional method of supporting the fixture.

Referring to the drawing in detail, a substantially V-shaped light fixture is denoted by the numeral 10. Extending across the V and connecting the two arms of the V is a transverse member 12. This member 12 serves a dual purpose. The member 12 serves to make the fixture rigid and serves as a base for the support 14 of the fixture. The support 14 is preferably hollow and can be used to carry the conductors that supply current to the fixture. In Fig. 3 the support 14 is shown with a knuckle arrangement 16. This knuckle 16 permits rotation of the light fixture 10. The light fixture is ordinarily depended over the bowling alley in proximity to the bowling pins. When it is necessary to clean the alley, the attendant merely rotates the support 14 and fixture 10 and clamps the knuckle 16. This holds the fixture 10 out of the way during the cleaning operation. Afterwards the knuckle 16 may be released and the fixture 10 moved back into the normal position. The end of support 14 may be connected to or

in proximity to a conduit 18 carried by the fixture. The conduit 18 carries the wires from the support 14 to the lamps 20 carried by the fixture. In the drawing the lamps are shown to be fluorescent tubes but any type of suitable electric lamp can be used. Behind the lamps 20 are reflectors 22 that distribute the light emitted by the lamps. These reflectors 22 are so arranged that they reflect the light from lamps 20 into the open part of the V and onto the surfaces of the bowling pins 24. The invention is quite utilitarian because it maintains the source of illumination in close proximity to the pins that are to be lighted. This gives even, shadowless illumination with a minimum operating cost. Since the sources of light are close to the objects to be illuminated, low wattage lamps may be used.

Fig. 4 shows the fixture as it may be supported by chains 26. These chains 26 permit the attendant to move the fixture during the cleaning operation. Afterward the fixture may be permitted to return to its normal position in proximity to the bowling pins.

Whereas a preferred embodiment of the invention has been shown and described in the drawing and accompanying description, it is obvious to those skilled in the art that various changes may be made in the form of the invention without affecting the scope of the invention.

What I claim is:

1. A light fixture for bowling alleys that is arranged to provide even, substantially shadowless illumination for bowling pins when it is positioned above and slightly ahead of the said pins, said fixture comprising a pair of substantially horizontal arms that are angularly disposed with relation to each other to form a V, said angular disposition being similar to the angle formed by said bowling pins, each of said arms having at least one tubular electric lamp to provide light for the said pins, each of said arms having a trough-shaped reflecting surface, said reflecting surfaces being positioned adjacent to said lamps and being arranged to reflect light from said lamps inwardly of said V and downwardly onto the front and side faces of said pins, and supporting means normally maintaining said fixture above and slightly ahead of said pins, said tubular lights and said reflecting surfaces being arranged to provide a substantially continuous source of light along the arms of the fixture and to direct that light substantially at right angles to the legs of the V formed by the bowling pins and thereby illuminate the front and a portion of the side faces of each pin.

2. A light fixture for bowling alleys that is arranged to provide even, substantially shadowless illumination for bowling pins when it is positioned above and slightly ahead of the said pins, said fixture comprising a pair of substantially horizontal arms that are angularly disposed with relation to each other to form a V, said angular disposition being similar to the angle formed by said bowling pins, each of said arms having a substantially continuous source of light running the length of the arm to provide light for the said pins, each of said arms having a trough-shaped reflecting surface positioned adjacent to said source of light and being tilted and arranged to reflect light from said source inwardly of said V and downwardly to illuminate the front and side faces of said pins, and suspension means normally maintaining said fixture above and slightly ahead of said pins.

3. A light fixture for bowling alleys that is arranged to provide even, substantially shadowless illumination for bowling pins when it is positioned above and silghtly ahead of the said pins, said fixture comprising a pair of substantially horizontal arms that are angularly disposed with relation to each other to form a V, said angular disposition being similar to the angle formed by said bowling pins, each of said arms having at least one tubular electric lamp to provide light for the said pins, each of said arms having a trough-shaped reflecting surface, said reflecting surfaces being positioned adjacent to said lamps and being aarranged to reflect light from said lamps inwardly of said V and downwardly onto the front and side faces of said pins, and supporting means normally maintaining said fixture above and slightly ahead of said pins, whereby the apex of the fixture is ahead of the apex of the bowling pins and the open ends of the fixture are behind the said apex of said pins, said tubular lights and said reflecting surfaces being arranged to provide a substantially continuous source of light along the two arms of the fixture and to direct that light substantially at right angles to the legs of the V formed by the bowling pins and thereby illuminate the front and a portion of the side faces of each pin.

GEORGE B. FINAZZO.