United States Patent [19]

Reynolds

[11] **3,883,926**

[45] **May 20, 1975**

[54] **FLEXIBLE HANGER CLAMP FOR ELECTRICAL LAMP SOCKET**

[76] Inventor: **Rodney Kent Reynolds,** 17919 Holmes Ave., Cerritos, Calif. 90701

[22] Filed: **Nov. 23, 1973**

[21] Appl. No.: **418,665**

[52] **U.S. Cl.** ..... **24/73 CP;** 240/10 T

[51] **Int. Cl.** **A44b 21/00;** A47g 33/16

[58] **Field of Search** ..... 24/73 CP, 81 BA, 81 CL, 24/255 AS, 257 R, 262 R, 73 AS, 255 P; 240/10 R, 10 T

[56] **References Cited**

UNITED STATES PATENTS

990,856	5/1911	Freiberg	24/73 CP UX
1,044,772	11/1912	Gilbough	24/81 CL UX
1,625,248	4/1927	Eckstein	240/10 T X
1,735,180	11/1929	Raymond	240/10 T UX
1,987,987	1/1935	Bohmbach	24/262 R UX
2,299,733	10/1942	Benander	240/10 T UX
2,529,285	11/1950	Felton	24/81 BA UX
2,559,706	7/1951	Brooks	240/10 T X
2,657,367	10/1953	Brooks	240/10 T X
3,438,604	4/1969	Spicer	24/73 CP UX
3,599,918	8/1971	Patchett	240/10 T X

FOREIGN PATENTS OR APPLICATIONS

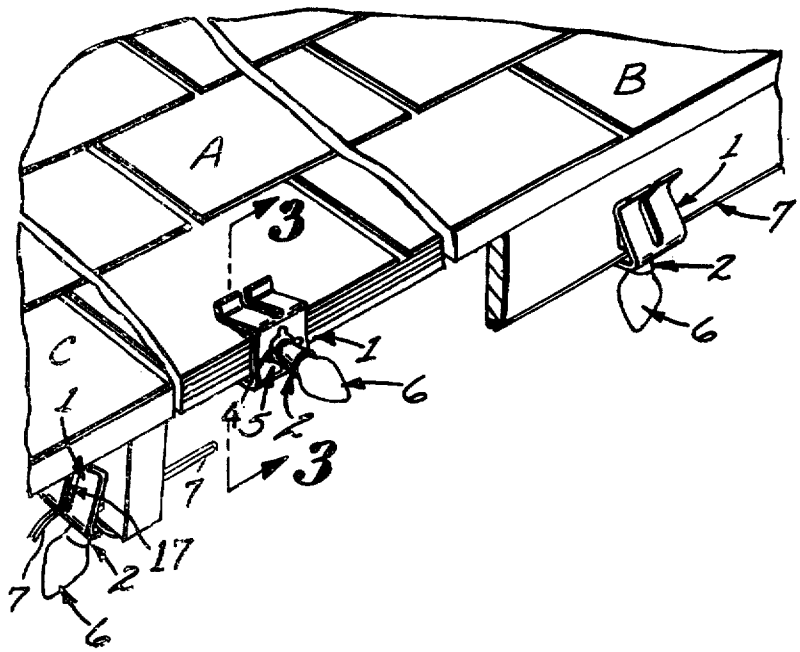
1,527,581	4/1968	France	24/255 P

Primary Examiner—Donald A. Griffin
Attorney, Agent, or Firm—Fulwider, Patton, Rieber, Lee & Utecht

[57] **ABSTRACT**

A hanger clamp for mounting a selected elongated lamp fixture from a rafter having a predetermined thickness and including a flexible strip bent into somewhat of a U-shape to form a base at the bottom of the U which is wider than the thickness of the rafter to receive such hanger. The hanger further includes coextensive legs angling inwardly toward one another from the opposite ends of such base to terminate in feet which are spaced apart a distance less than the thickness of such rafter when the hanger is in its unflexed condition. The base is formed with a through opening for receipt of such lamp fixture and one of the legs is formed with a longitudinal open ended slot opening at the foot thereof for receipt therein of such electrical lead whereby the fixture may be received between such legs with the bulb positioned therein projecting through such opening and the lead fed in through the open end of such slot and the legs then flexed apart for receipt over such rafter to cause the feet to grip such rafter when the legs are released.

3 Claims, 6 Drawing Figures



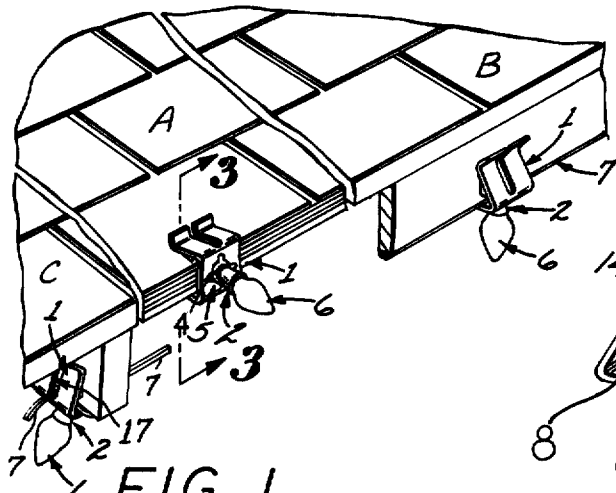


FIG. 1

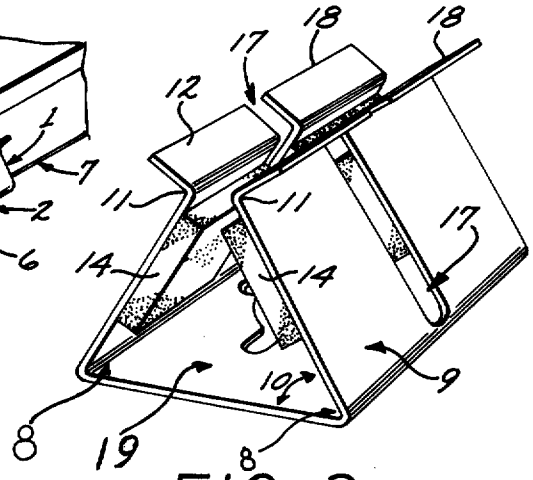


FIG. 2

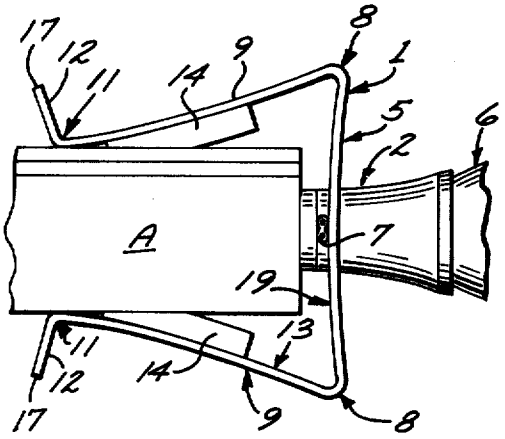


FIG. 3

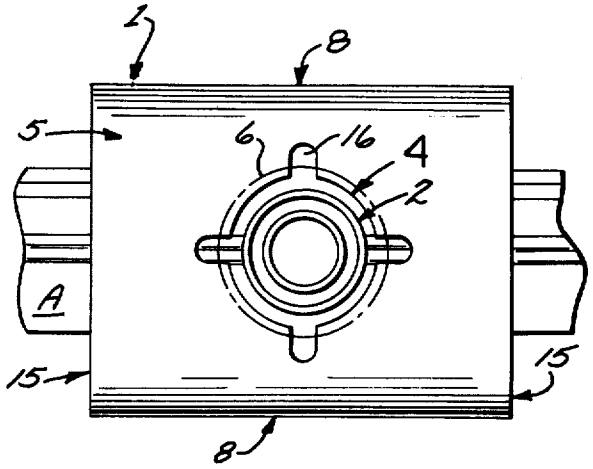


FIG. 4

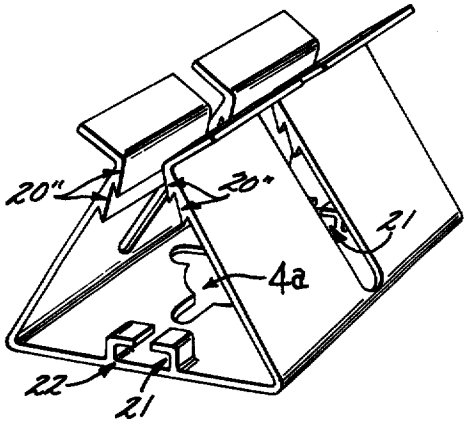


FIG. 5

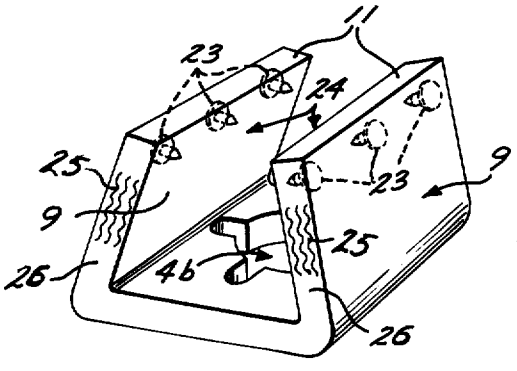


FIG. 6

FLEXIBLE HANGER CLAMP FOR ELECTRICAL LAMP SOCKET

BACKGROUND OF THE INVENTION

This invention relates generally to electric lamp socket hangers and to a device for clamping strings of decorative lights and like objects to eaves, facial boards, roof rafters and beams, studs and other upright members and the like of buildings and other structures. A quick and convenient method for installation of such strands of lights is provided by using a plurality of clamps. Installation is accomplished by inserting the lamp socket through the throughhole in the clamp, expanding the opening between the ends of the clamping members placing the clamp onto the mounting member and releasing the ends of the clamping members. The resiliency of the material thereafter holds the clamp securely in place on the mounting member. The clamp can be easily moved laterally along the mounting member to position the light socket at any desired location thereon. The clamp may be constructed of any flexible, resilient material, preferably of the type that is electrically non-conductive, such as flexible, resilient plastics, or flexible resilient metals coated for electrical insulation.

The use of the clamp permits semi-permanent installation of strands of lights without use of nails, hooks, staples or screws, which comprise the prior art, and eliminates defacing of the mounting member without damaging the electrical wiring thus eliminating the potential hazard of causing electrical shorts in the wiring due to undue stress being applied on the lamp socket wiring.

While particularly suited to strands of decorative lights, the invention has many other uses which involve hanging objects to which the clamp may be adpated for mounting said objects on mounting members.

SUMMARY OF THE INVENTION

The invention relates to a flexible hanger clamp for electrical lamp sockets and other similarly constructed objects. The invention comprises a clamp formed from a thin rectangular sheet of flexible, resilient material said clamp having a central member having attached thereto on opposite sides thereof and integral therewith two clamping members said clamping members each forming an adjacent angle equal to or less than 90° between the inside surface of said central member and the inside surfaces of said clamping members adjacent thereto said clamping members having terminating ends being free to move with respect to each other and principally in a direction parallel to said central member permitting said clamp to be opened and to be placed onto a mounting member to which said clamp is to be clamped, said central member having an opening therethrough located centrally on the surface thereof between said clamping members to permit insertion of a lamp socket therethrough. The hanger clamp herein can be constructed of any flexible, resilient material which may be adaptable to being formed into said clamp, comprising materials such as thin sheets of resilient metals coated or non-coated with electrical insulation and sheets of flexible resilient plastics, epoxies, and the like.

It is an object of this invention to provide a flexible hanger clamp for mounting electrical lamp sockets on buildings such as residential dwellings and commercial buildings, said clamp being particularly well suited when used in sets to mount decorative strands of lights on eaves, facial boards and other suitable mounting members.

The foregoing, and other objects and advantages, will be more apparent when considered in connection with the accompanying drawing.

BRIEF DESCRIPTION OF DRAWING

FIG. 1 is a top plan view showing flexible hanger clamps clamped onto eaves A, a facial board B, and roof rafters C of a dwelling with lamp sockets and bulbs mounted in the clamps in clamped position.

FIG. 2 is a perspective view showing one embodiment of the clamp having slotted clamping members to permit positioning the electric wiring either in said slots or at right angles thereto and having foam rubber blocks mounted on inside surfaces of said clamping members, said clamping members having flanges at the terminal ends thereof to permit easy manipulation of the clamp.

FIG. 3 is a cross-sectional view of the clamp shown in FIG. 1 A.

FIG. 4 is a plan view showing the central member of a clamp in clamped position as shown in FIG. 1 and having a lamp socket inserted in the throughhole on said central member and having a bulb mounted in the lamp socket.

FIG. 5 is a perspective view of one embodiment of the invention having saw tooth gripping means on the clamping members inside surfaces providing for increased resistance to slippage of the clamp when clamped onto a mounting member and having line or wiring positioning channels on the inside surface of the central member located centrally thereon near each edge of said central member.

FIG. 6 is a perspective view of one embodiment of the invention having spikes imbedded near the terminal ends of the clamping members said spikes protruding inwardly and out of the inside surfaces of said clamping members, said clamping members not having flanges at the ends of said terminal ends and having been constructed of relatively thicker flexible, resilient sheet material than those shown in other figures, and having finger and thumb grips on each of the edges of the clamping members near the ends thereof.

DESCRIPTION OF PREFERRED EMBODIMENTS

In the drawings the flexible hanger clamp for electrical lamp socket shown in FIGS. 1 through 4 are the same. The clamp shown in FIG. 5 is modified from that shown in FIGS. 1 through 4 having saw tooth gripping means near the terminal end of the clamping members and having a channel on the inside surface of the central member located centrally thereon near the edge thereof.

Those parts which are of similar construction will have the same numerical reference designator in each of the figures, except that the designator will be modified by lower case letter primes appropriate to the depicted embodiment. The mounting members used for an example are the edge of the eves A, a facial rafter B and a roof rafter C.

The invention is susceptible to various modifications and alternative constructions, illustrative embodiments are shown in the drawings and are hereinbelow described. There is no intention to construe the invention

to include only the specific forms shown, but it is the intention that the invention cover modifications and alternative construction and equivalents falling within the spirit and scope as expressed in the claims set forth in the section entitled Claims.

In FIGS. **1**, **3**, and **4** letter A designates a mounting member in the form of a roof eave of shingle type embodied in a residential house construction and is shown as an example to depict an edge of an eve, A with a hanger clamp **1** in clamped position thereon, having a lamp socket fixture **2** inserted into a through hole **4** in a central base member **5** of the hanger clamp, said lamp socket having a lamp **6** inserted therein and electric wiring **7** extending from both sides of said lamp socket in a direction parallel to said roof eave. A plurality of the flexible hanger clamps may be used to mount strands of light sockets onto mounting members in the manner herein depicted for mounting one socket.

The flexible hanger clamp **1** shown in FIG. **2** may be formed from a thin rectangular sheet of flexible resilient material of the group consisting of plastics, epoxies, resilient metals and the like, said flexible hanger clamp including the central member **5** which is longer than the width of the edge of the eve A and has projecting from the opposite ends **8** thereof and integral therewith a clamping leg member **9** attached to each of said opposite sides, said clamping members each forming an adjacent angle **10** between the said central portion and each of said clamping members, said adjacent angle being equal to or less than 90°. The clamping members having clamp terminating foot ends **11** being free to move with relation to each other and principally in a direction parallel to the central surface of the member to permit opening and closing of the clamp and an outwardly flanged portion **12** extending therefrom to facilitate opening and minipulation of the clamping members. Each of the clamping members have attached thereto on the inside surface **13** thereof a soft non-abraisive material **14** such as rubber, foam rubber and the like said soft non-abraisive material covering substantially all of said inside surface of said clamping members the thickness thereof being as desired. The central member has a throughhole **4** located substantially centrally on the surface thereof between the edges **15** of said central member to permit insertion of a lamp socket therethrough, said throughhole having a plurality of relief slots **16** on the periphery thereof located substantially 90° apart to allow for protruding parts located on some lamp sockets and to relieve stresses on socket wiring.

The clamping members each have an elongated slot **17** extending downwardly from the flanged edge **18** to a location near the inside surface **19** of the central portion to permit insertion of the lamp socket wiring therein as desired said slot being located substantially centrally with respect to the sides of said clamping members.

In operation, the individual socket fixtures **2** may be inserted in the individual hanger clamps by insertion thereof from the back side of the central base member **5** and through the respective holes **4** for receipt of the electrical bulb **6** within the sockets of such fixture. It will be appreciated that Christmas light fixtures conventionally include electrical leads **7** passing from the opposite sides thereof. Referring to FIG. **3**, these leads **7** are slid into the open end of one or the other of the slots **17** formed in the clamping legs **9** to thus assist in concealing the leads from unsightly viewing as they extend between the various fixtures in the decorative scheme. The legs **9** are then flexed apart and mounted over the selected edge of the eve A itself, over the facial rafter B or over the roof rafter C, and upon release of such legs, the feet ends thereof will be flexed firmly inwardly to positively grip the mounting or eve member, thus holding the respective lamps **6** firmly in position.

FIG. **5** represents a clamp embodiment wherein the soft non-abraisive material **14** is omitted, said clamp having saw tooth gripping means **20** near the terminating ends **11** of said clamp, and wiring positioning channels **21** located near the edge **22** of the inside surface of the central member of said clamp, said clamp being in other construction characteristics substantially identical to the clamp shown in FIGS. **1**, **2**, **3**, and **4**.

In FIG. **6** is shown a clamp embodiment having been formed from a relatively thicker flexible resilient sheet of material and having spikes **23** embedded near the terminating ends of the clamping members **9** said spikes protruding inwardly and out of the inside surface **24** of the clamping members to provide gripping means for said clamping members, said clamping members having slots **17** omitted therefrom, having outwardly flanged portions **18** omitted therefrom and having manipulating gripping means **25** in the edges **26** of said clamping members near the terminating ends thereof the central member having throughhole **4b** as described.

I claim as my invention:

1. A flexible hanger for mounting an elongated lamp fixture, of the type including a flat end having electrical leads projecting from the opposite sides thereof, on a mounting member having a flat side and comprising:

a base having a length greater than the width of said mounting member and including a through opening for confronting said flat side for projection therethrough of said elongated fixture; and

a pair of flexible legs projecting coextensively in one direction from the opposite ends of such base and angling inwardly to terminate in gripping feet spaced apart, in their unflexed condition, a distance less than the width of said mounting member, one of said legs being formed with an elongated open ended slot for receipt of said lead whereby said fixture may be inserted from the back side of said base, one of said leads then fitted in through the open end of said slot and said feet flexed apart for receipt over said mounting member and said hanger slid onto said mounting member to abut said flat end against said flat side and to trap said leads behind said base to hold said fixture captive on said member.

2. A flexible hanger clamp as set forth in claim **1** for use with a light fixture having a projection on one side thereof and wherein:

said opening is formed with a plurality of peripheral relief slots for selective receipt of said projection.

3. A flexible hanger clamp as set forth in claim **1** that includes:

gripping means mounted on the inside of said respective feet.

* * * * *