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(54) **ROLLER SHADE MOUNTING BRACKET WITH INTEGRATED LANDING BOARD**

(76) Inventors: **Mark A. Walker**, Whitehall, PA (US); **Jason Scott Gottschall**, Harleysville, PA (US); **Joseph M. Nichols JR.**, Boyertown, PA (US); **Frank Guntz**, Telford, PA (US)

Correspondence Address:
GREGORY J. LAVORGNA
DRINKER BIDDLE & REATH LLP
One Logan Square
18th & Cherry Streets
Philadelphia, PA 19103-6996 (US)

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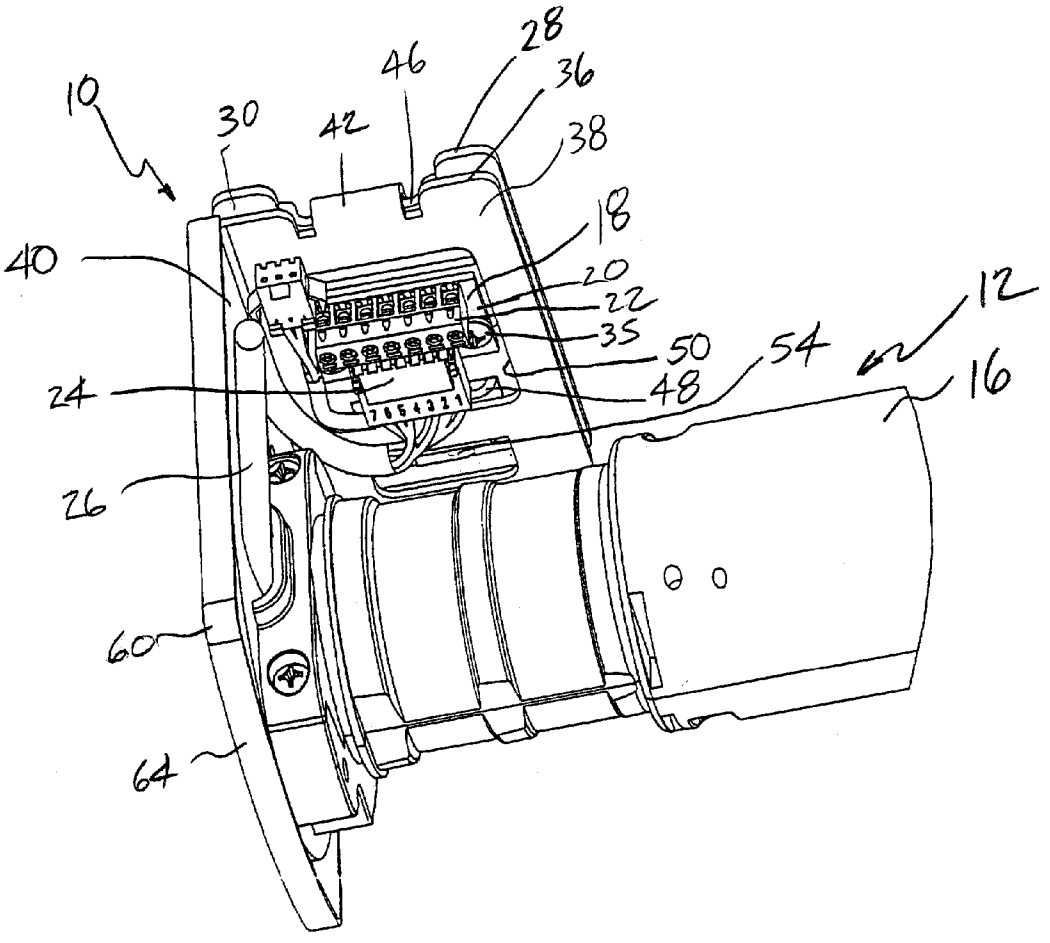
(57) **ABSTRACT**

A roller shade mounting bracket assembly includes a first bracket securable to a fixed support member. A landing board having a printed circuit board is secured to the first bracket. The landing board preferably includes a connector mounted to the circuit board for attachment of a wiring harness of a roller shade motor unit. Projecting standoffs may be included to space the landing board from a base plate of the first bracket. A second bracket includes a first portion adapted for attachment to the first bracket, the first portion preferably including an access opening accommodating the landing board. The second bracket further includes a second portion having openings for attachment of a shade roller. The second bracket may include hooked members engaging support members secured to the first bracket.



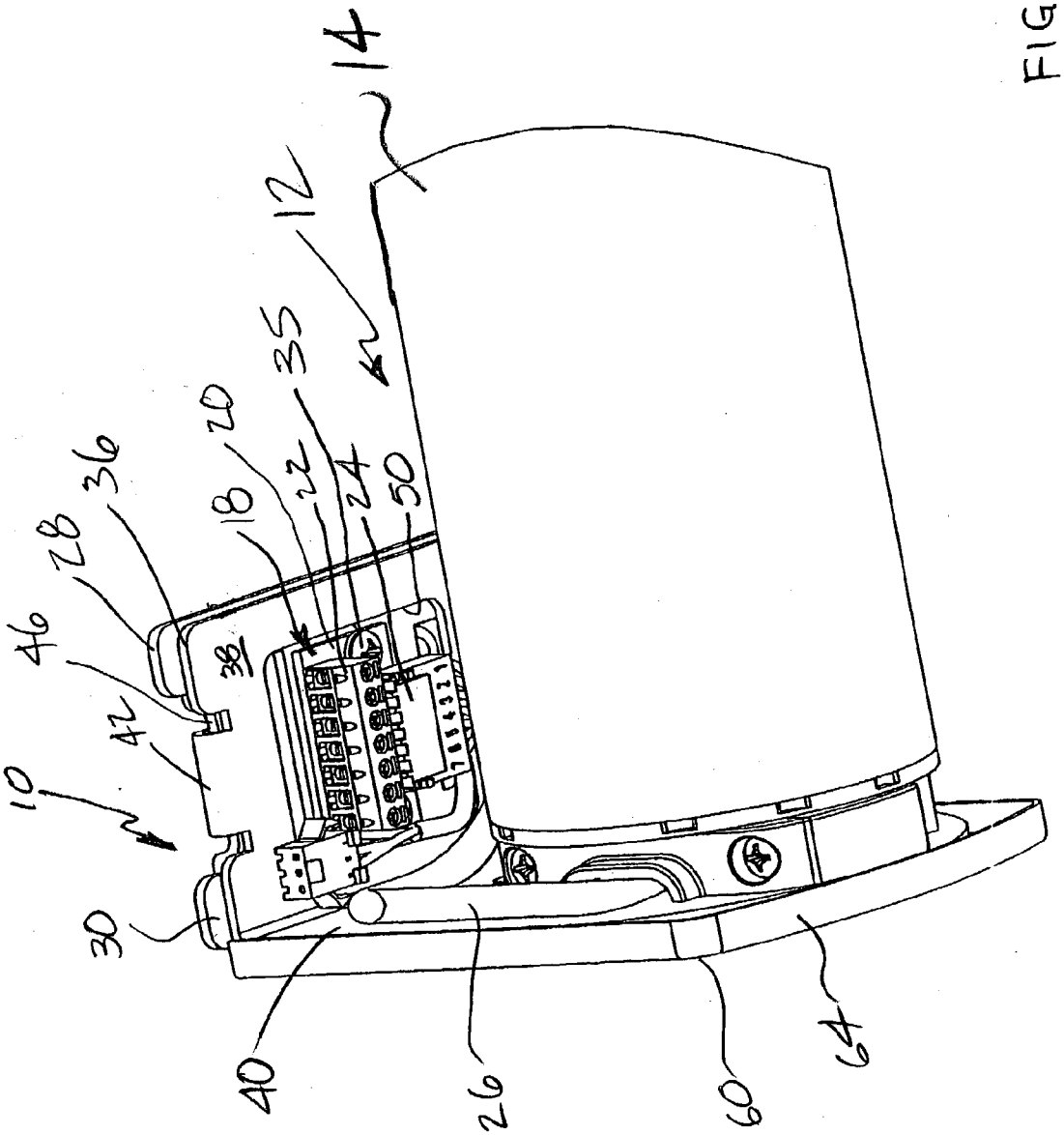


FIG. 1

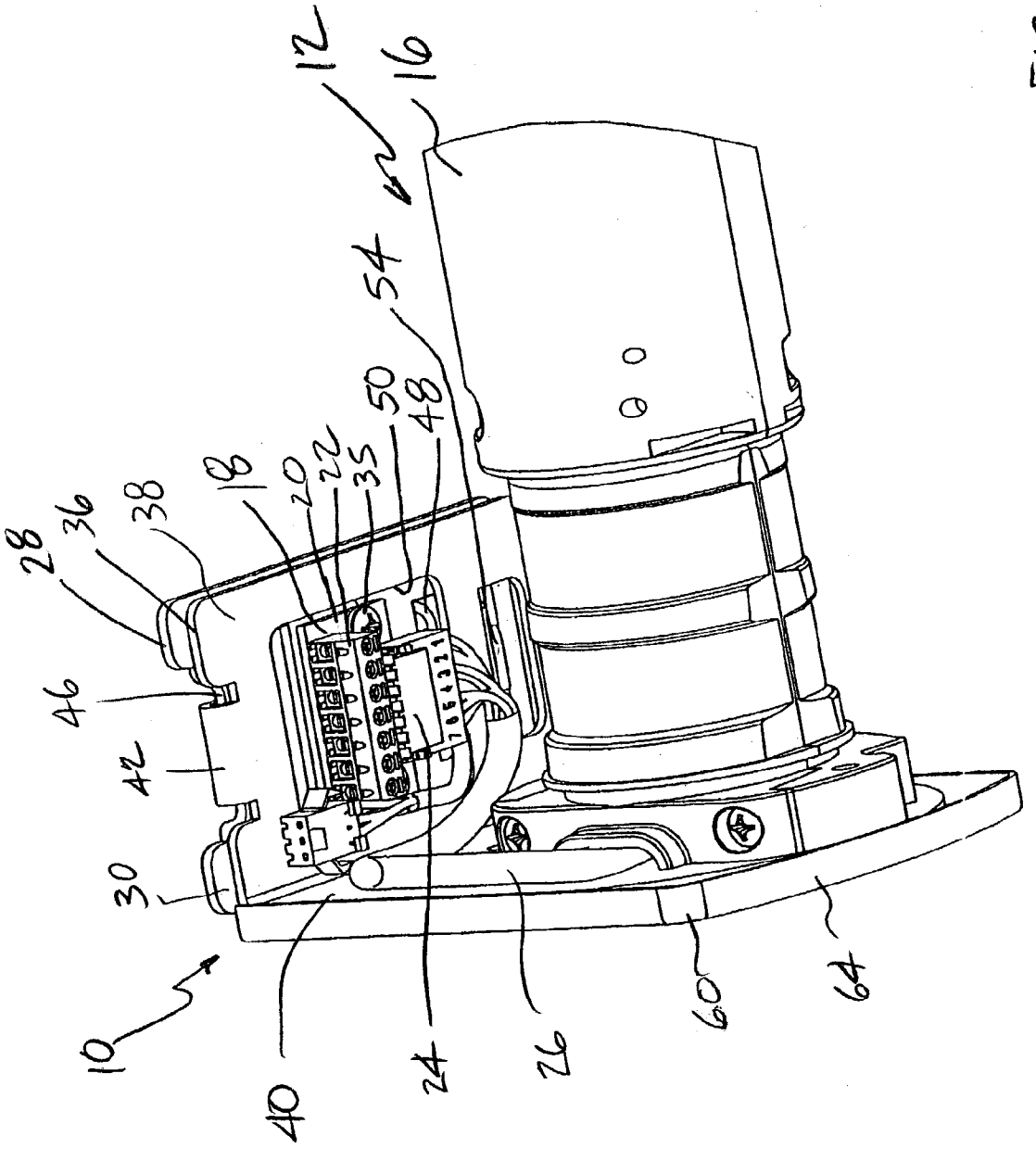


FIG. 2

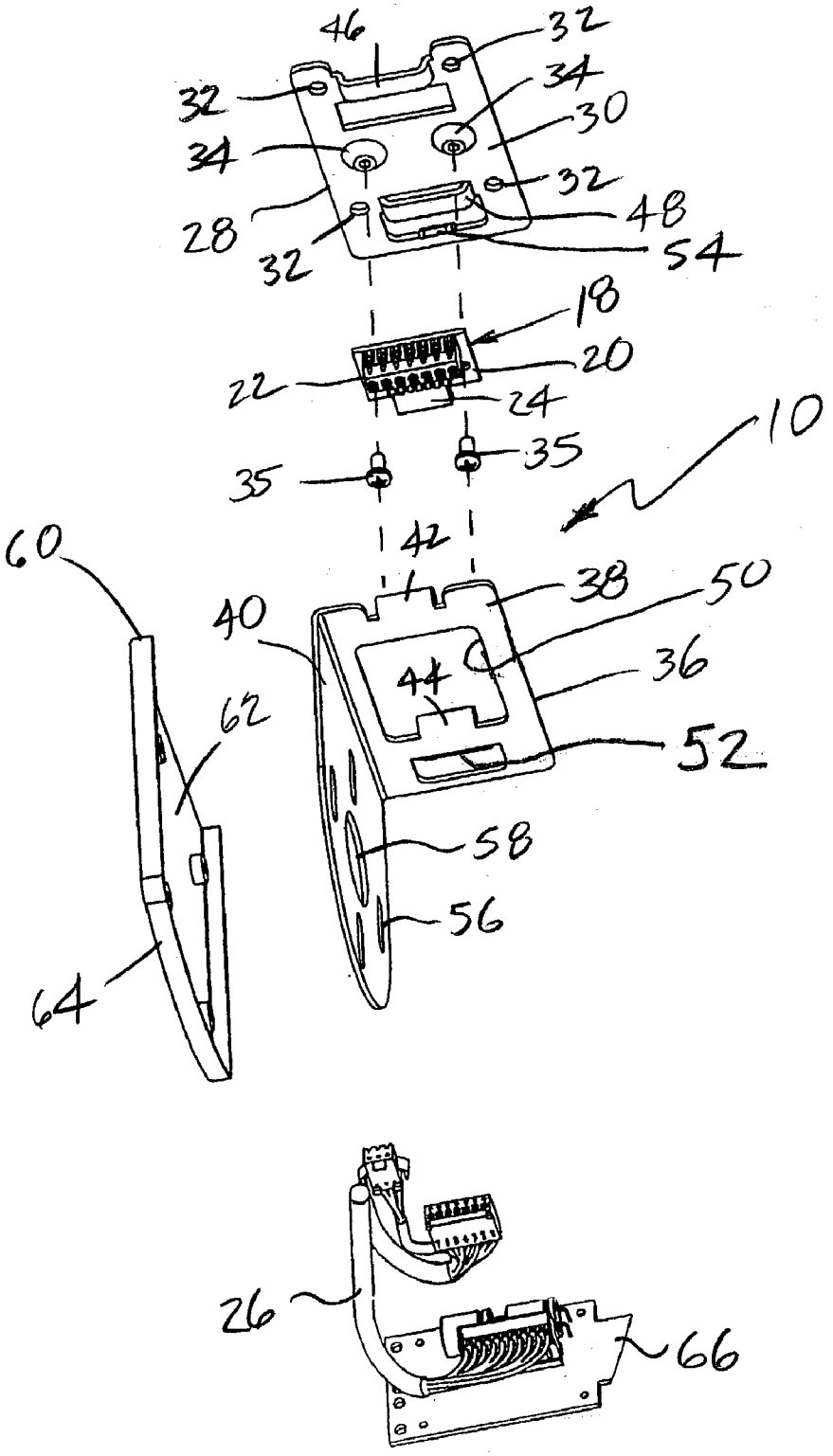

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FIG. 3

FIG. 4

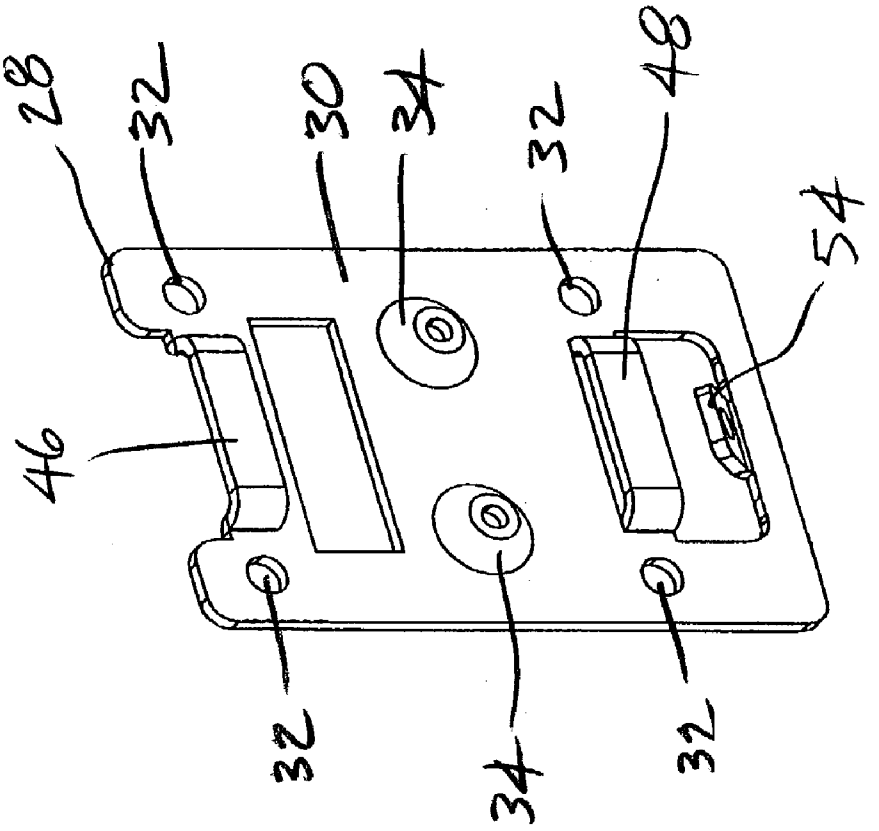


FIG. 5

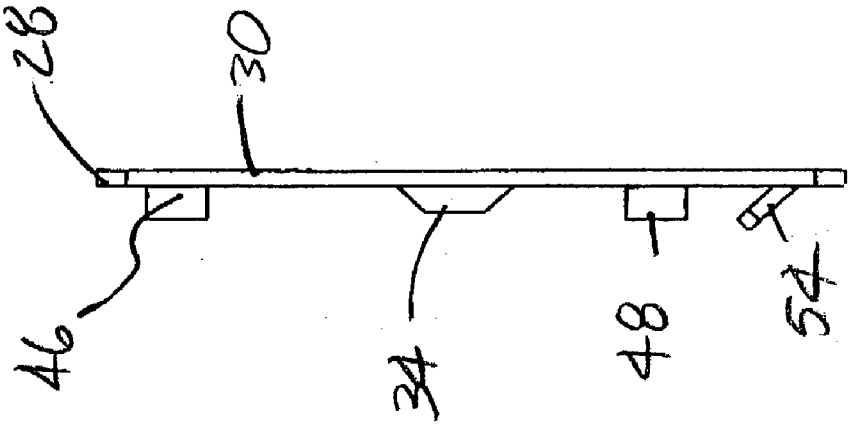


FIG. 6

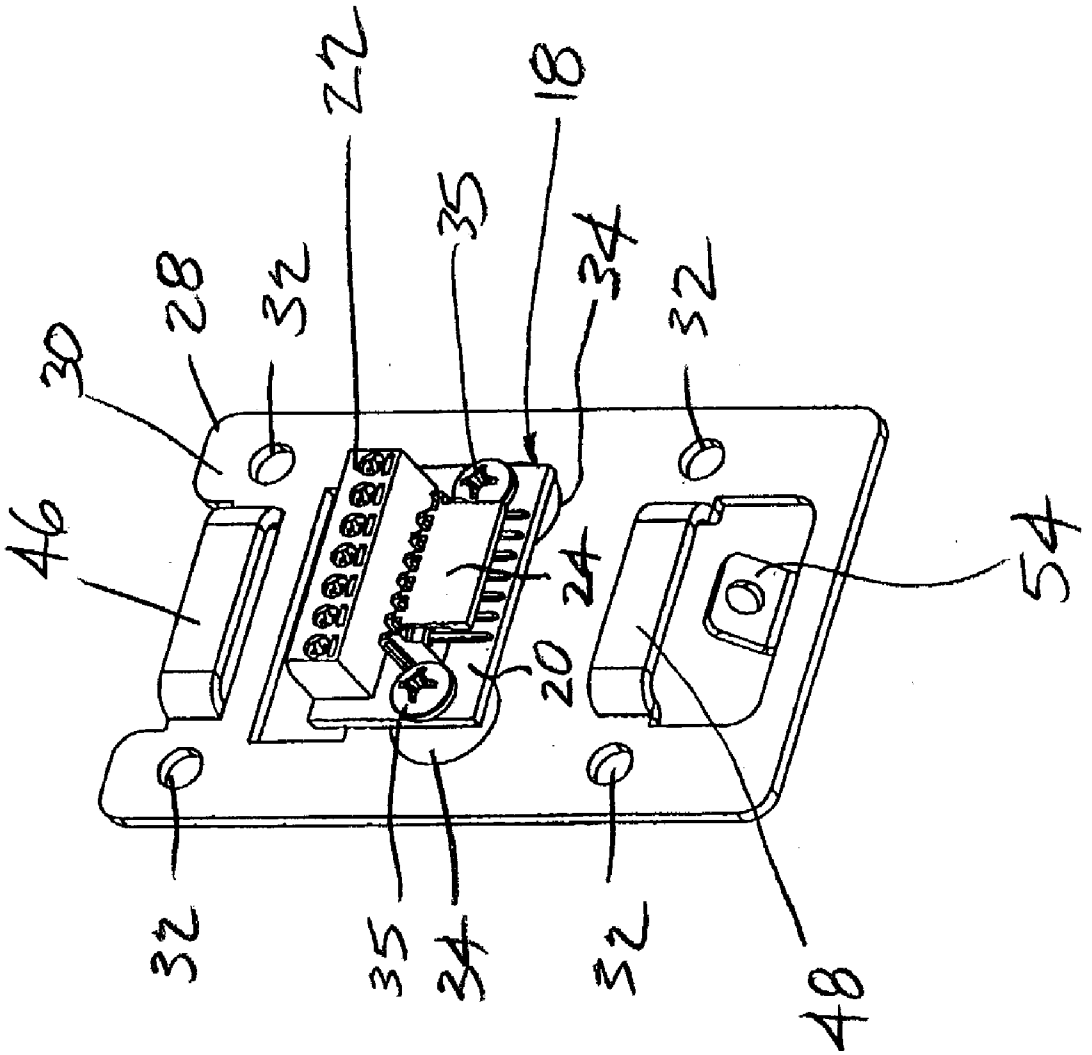
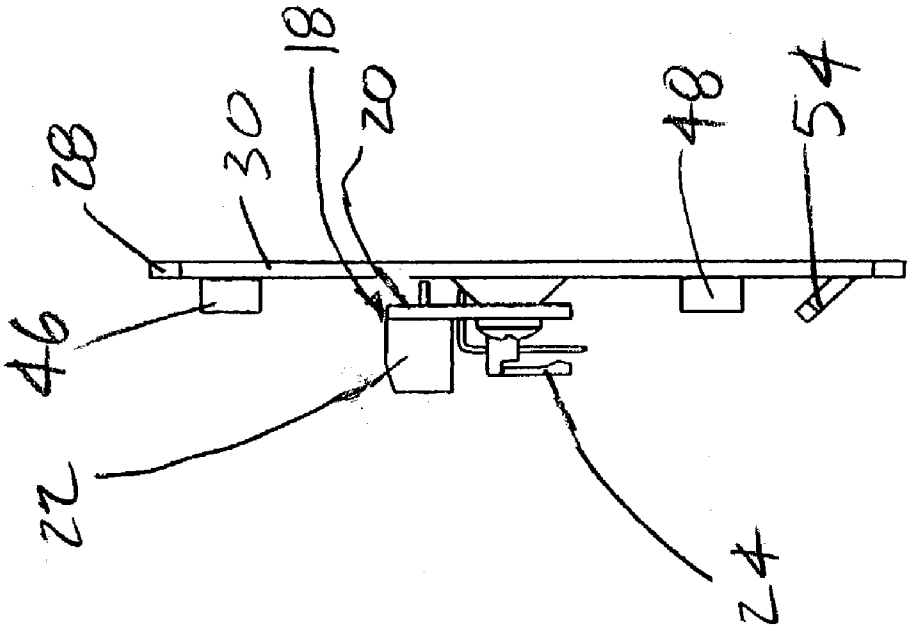


FIG. 7



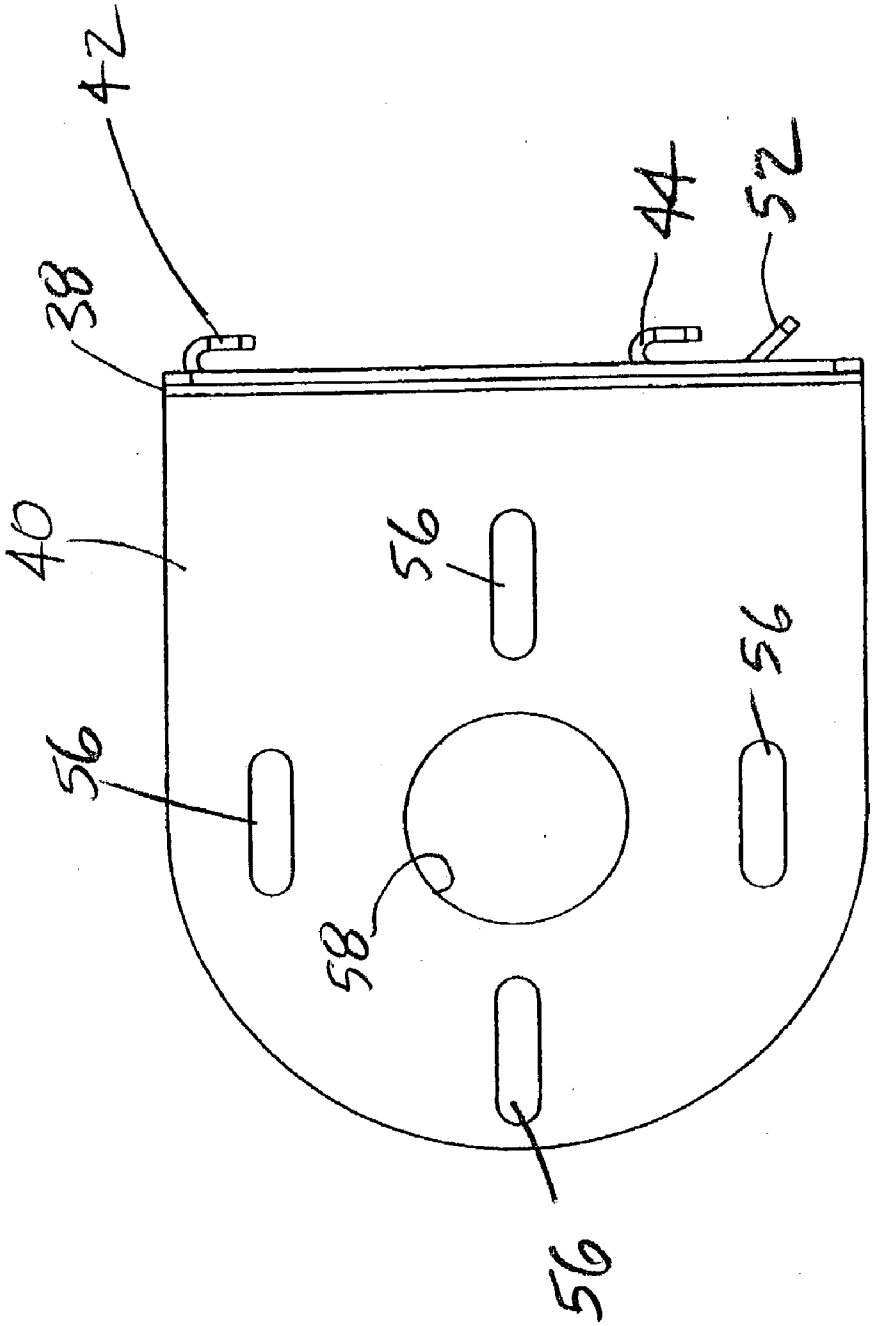


FIG. 8

ROLLER SHADE MOUNTING BRACKET WITH INTEGRATED LANDING BOARD

FIELD OF THE INVENTION

[0001] The present invention relates generally to roller shades, and more particularly to a bracket assembly having an integrated landing board for mounting a motorized roller shade.

BACKGROUND OF THE INVENTION

[0002] Motorized roller shades having motor drive units received within the interior of a roller tube through the end of the tube are well known. The roller shades are secured to a fixed support member, such as the wall of a structure, for example, by mounting brackets. The mounting brackets support the roller shade for driven rotation of the roller tube by the internal motor drive unit.

[0003] The positioning of the motor drive unit within the interior of the roller tube requires that the support system for the roller shade provide for passage of wiring necessary for electrically connecting the motor drive unit with a power source.

SUMMARY OF THE INVENTION

[0004] According to one aspect of the invention, there is provided a bracket assembly for mounting a motorized roller shade. The bracket assembly includes a first bracket adapted for attachment to a fixed support member. The bracket assembly further includes a landing board adapted for electrical connection with a motor drive unit of a roller shade. The landing board is secured to the first bracket.

[0005] The bracket assembly further includes a second bracket having first and second portions. The first portion of the second bracket is adapted for attachment to the first bracket and includes an access opening for accommodating the landing board. The second portion of the bracket assembly is adapted for attachment to the motorized roller shade.

[0006] According to another aspect of the invention, there is provided a roller shade mounting bracket assembly including a first bracket having a base plate including at least one opening for securing the first bracket to a fixed support member. The roller shade mounting assembly further includes a printed circuit board secured to the first bracket, the printed circuit board being adapted for electrical connection to a motor drive unit of a roller shade.

[0007] The roller shade mounting bracket assembly also includes a second bracket having first and second plate portions. One of the first plate portion of the second bracket and the first bracket includes at least one hooked member adapted for engagement with a support member secured to the other of the first plate portion of the second bracket and the first bracket. The second plate portion of the second bracket includes at least one opening for attachment of the roller shade to the bracket assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] **FIG. 1** is a perspective view of a roller shade mounting bracket assembly according to the present invention connected to the drive end of a motorized roller shade;

[0009] **FIG. 2** is a perspective view of the bracket assembly and roller shade of **FIG. 1** with the roller tube of the roller shade removed to show the motor drive unit;

[0010] **FIG. 3** is an exploded perspective view of the bracket assembly of **FIGS. 1 and 2**;

[0011] **FIG. 4** is a perspective view of the first bracket of the bracket assembly of **FIGS. 1 and 2**;

[0012] **FIG. 5** is a side elevational view of the first bracket of **FIG. 4**;

[0013] **FIG. 6** is a perspective view of the integrated landing board and electrical connectors of the bracket assembly of **FIGS. 1 and 2** secured to the first bracket;

[0014] **FIG. 7** is a side elevational view of the landing board and first bracket of **FIG. 6**; and

[0015] **FIG. 8** is a side elevational view of the second bracket of the bracket assembly of **FIGS. 1 and 2**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] Referring to the drawings, where like numerals identify like elements, there is shown a roller shade bracket assembly **10** according to the present invention. The bracket assembly **10** is shown in **FIGS. 1 and 2** secured to the end of a motorized roller shade **12** to provide for mounting of the shade roller to the wall of a structure, for example. In **FIG. 2**, the roller tube **14** of the roller shade **12** has been removed to show the motor drive unit **16**. The bracket assembly **10** of the present invention includes an integrated landing board **18** to provide electrical connection for the motorized roller shade **12**. The landing board **18** includes a printed circuit board **20** on which a terminal block **22** and a connector header **24** are mounted in a known manner for electrical connection with the printed circuit board **20**, and with each other. The terminal block **22** provides for connection of system wiring to the landing board **18**. The connector header **24** provides for connection of a wiring harness **26** for the motor drive unit **16** of the roller shade **12**.

[0017] Referring to the exploded perspective view illustrated in **FIG. 3**, the construction of the bracket assembly **10** of **FIGS. 1 and 2** is shown in greater detail. The assembly **10** includes a first bracket **28**, also shown in **FIGS. 4 and 5**, having openings **32** in a base plate **30** for receiving mounting screws (not shown) to secure the first bracket **28** to the wall or ceiling of a structure (not shown). The first bracket **28** further includes a pair of standoffs **34** projecting from the base plate **30**. As best seen in **FIG. 7**, the standoffs **34** provide for mounting of the landing board **18** to the first bracket **28** by screws **35** without contact between the landing board **18** and the base plate **30**.

[0018] Referring again to **FIG. 3**, the bracket assembly **10** further includes a second bracket **36**. The second bracket **36** includes first and second plate portions **38, 40**. As shown, the first and second portions **38, 40** are preferably perpendicular to each other. This arrangement minimizes spacing between the roller shade and the fixed support member, such as a window jamb for example. The present invention, however, is not limited to the perpendicular arrangement shown. It is conceivable that the second bracket could include first and second portions oriented parallel to each other in a stacked arrangement.

[0019] The second bracket **36** includes upper and lower hooks **42**, **44** projecting from the first plate portion **38**. The upper and lower hooks **42**, **44** are adapted for respective engagement with upper and lower support members **46**, **48** projecting from the base plate **30** of the first bracket **28** for support of the second bracket **36**, as shown in **FIG. 2**. An access opening **50** is provided in the first plate portion **38** of the second bracket **36** between the upper and lower hooks **42**, **44**. The access opening **50** accommodates the landing board **18** secured to the first bracket **28** when the second bracket **36** is connected to the first bracket **28** as shown in **FIGS. 1 and 2**.

[0020] Referring to the side view of the second bracket **36** in **FIG. 8**, the first plate portion **38** of the second bracket includes a downwardly extending tab **52** located below the lower hook **44**. The downwardly extending tab **52** of the second bracket **36** is adapted to contact a tab **54** extending upwardly from the base plate **30** of the first bracket **28**. Each of the tabs **52**, **54** includes a hole. When properly assembled, the two holes are aligned for receipt of a threaded screw to lock the tabs together.

[0021] The roller shade **12** is connected to the second plate portion **40** of the second bracket **36** for support of the roller shade. As best seen in **FIG. 8**, the second plate portion **40** of the second bracket **36** includes slotted openings **56** and a central opening **58** for attachment of the roller shade **12** to the bracket assembly **10**. Referring again to **FIG. 3**, the bracket assembly **10** includes a bracket cover **60** having a plate portion **62** and a peripheral lip portion **64** adapted for attachment to the second plate portion **40** of the second bracket **36**.

[0022] The construction of the bracket assembly **10** according to the present invention facilitates electrical connection of the motorized roller shade **12** that is connected to the bracket assembly **10** for support thereby. The terminal block **22** of landing board **18** is adapted for connection of field wiring from a building main and/or control lines, for example, to connect the roller shade to a power source and/or a shade motor controller. Referring again to **FIG. 3**, the wire harness **26** for the motor drive unit **16** is connected to a printed circuit board **66** securable within the motor drive unit **16** in a well-known manner. As shown in **FIG. 2**, the construction of the roller shade **12** provides for passage of the wire harness **26** from the interior of motor drive unit **16** to the bracket assembly **10**. The above-described incorporation of the landing board **18** as a fixed component of the bracket assembly **10** facilitates the connection of the wire harness **26** of drive motor unit **16** to the connector header **24** that is secured to the landing board **18**.

[0023] The foregoing describes the invention in terms of embodiments foreseen by the inventor for which an enabling description was available, notwithstanding that insubstantial modifications of the invention, not presently foreseen, may nonetheless represent equivalents thereto.

What is claimed is:

1. A bracket assembly for mounting a motorized roller shade, the assembly comprising:

a first bracket adapted for attachment to a fixed support member;

a landing board adapted for electrical connection with a motor drive unit of a roller shade, the landing board secured to the first bracket; and

a second bracket having first and second portions, the first portion adapted for attachment to the first bracket and having an access opening accommodating the landing board, the second portion adapted for attachment to the motorized roller shade.

2. The bracket assembly according to claim 1, wherein the first bracket includes a base plate and at least one standoff projection adapted to receive a fastener for securing the landing board to the first bracket in spaced relation to the base plate.

3. The bracket assembly according to claim 1, wherein the landing board includes a printed circuit board and a connector header mounted to the printed circuit board, the connector header adapted for engagement with a wiring harness to electrically connect the landing board to the motor drive unit.

4. The bracket assembly according to claim 3, wherein the landing board further includes a terminal block mounted to the printed circuit board.

5. The bracket assembly according to claim 1, wherein at least one hook is secured to one of the first bracket and the first portion of the second bracket, and wherein the at least one hook is adapted for engagement with a support member secured to the other of the first bracket and the first portion of the second bracket.

6. The bracket assembly according to claim 5, wherein upper and lower hooks are secured to the first portion of the second bracket for engagement with upper and lower support members secured to the first bracket.

7. The bracket assembly according to claim 1, wherein one of the first bracket and the first portion of the second bracket includes a tab adapted for engagement with the other of the first bracket and the first portion of the second bracket.

8. The bracket assembly according to claim 7, wherein the first bracket includes an upwardly projecting tab adapted to contact a downward projecting tab secured to the first portion of the second bracket.

9. The bracket assembly according to claim 1, wherein the second portion of the second bracket includes at least one opening for attachment of the shade roller to the bracket assembly.

10. The bracket assembly according to claim 1 further comprising a bracket cover adapted for engagement with the second portion of the second bracket.

11. The bracket assembly according to claim 10, wherein the bracket cover includes a plate portion and a peripheral lip portion.

12. A roller shade mounting bracket assembly comprising:

a first bracket having a base plate including at least one opening for securing the first bracket to a fixed support member;

a printed circuit board secured to the first bracket and providing electrical connection to a motor drive unit of a roller shade; and

a second bracket having first and second plate portions, one of the first plate portion of the second bracket and the first bracket including at least one hooked member adapted for engagement with a support member secured to the other one of the first plate portion of the

second bracket and the first bracket, the second plate portion of the second bracket including at least one opening for attachment of the roller shade to the bracket assembly.

13. The roller shade mounting bracket assembly according to claim 12, wherein upper and lower hooked members are secured to the first plate portion of the second bracket for engagement with upper and lower support members secured to the first bracket.

14. The roller shade mounting bracket assembly according to claim 12, wherein at least one projecting standoff is provided on one of the first bracket base plate and the printed circuit board to space the printed circuit board from the first bracket base plate when the printed circuit board is secured to the first bracket.

15. The roller shade mounting bracket assembly according to claim 14, wherein a pair of projecting standoffs is secured to the first bracket base plate.

16. The roller shade mounting bracket assembly according to claim 12, wherein the first portion of the second bracket includes an access opening for accommodating the printed circuit board secured to the first bracket.

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