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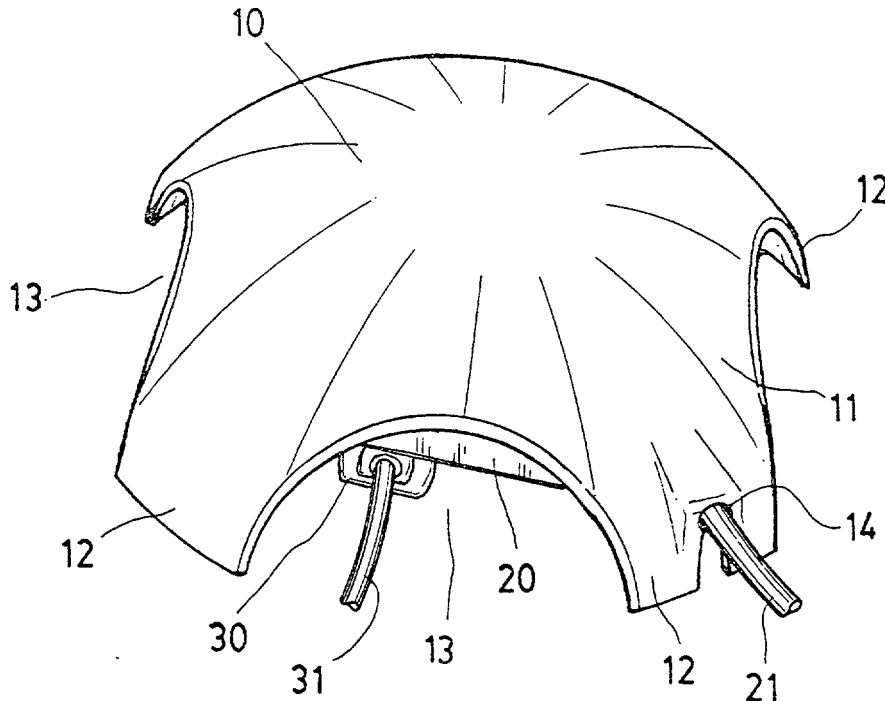
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(54) **Electrical terminal block with case cover**

(57) A terminal block having a case cover. A body of case cover is installed on the back side of the terminal block, with a plurality of legs and openings formed by

the body of case cover. A through-hole for an electric cord is also formed on the body. The case cover protects the power tap and provides an artistic appearance.



**FIG. 1**

**Description**

## FIELD OF THE INVENTION

**[0001]** This invention relates to an electrical terminal block having a case cover, more particularly one in which the cover acts as a protective structure for the terminal block for utilization of an extension cord.

## BACKGROUND OF THE INVENTION

**[0002]** Most of the current mobile terminal blocks have a power tap, with a number of plugs and conductors, which is convenient in practice, having been extensively utilized. However, this known type of terminal block suffers from the impact of external forces in application, which causes the terminal block to be operated in an unsafe state.

## SUMMARY OF THE INVENTION

**[0003]** An object of the invention is to provide a terminal block having a case cover with a power tap mounted beneath a solid case cover, such that the plug holes of the power tap are directed downwards, and the power tap is protected by the case cover.

**[0004]** Another object of the invention is to provide a terminal block having a case cover with a plurality of legs, openings, and a through hole for gripping the conductor, such that the terminal block of the invention can be firmly installed on the ground or other places. A certain distance is formed between the terminal block and the ground, which allows other plugs to be inserted into the power tap via the openings.

**[0005]** A further object of the invention is to provide a terminal block having a case cover with the power tap mounted on the inner side of the case cover, to provide safer operating conditions. The legs of the case cover may be further designed to have attaching pin holes, guaranteeing safe operation of the terminal block.

**[0006]** The terminal block of the invention also has a case cover with an artistic appearance, providing visual delight to the user.

**[0007]** The terminal block of the invention comprises a case cover body and a power tap. The body consists of a case cover, with a plurality of legs formed by extensions of the case cover, openings being formed between the adjacent legs. A through-hole for an electric cord is formed on a leg, and a plurality of reinforcing ribs are formed in the case cover. The power tap is mounted on the inner side of the case cover, with enough space being maintained between the socket face and the ends of the legs for plugs to be inserted into the power tap. The power tap may be removably mounted on the case cover. An attaching pin hole or a screw hole may be formed on a leg of the case cover. Also, an adhesive may be bonded on the bottom portion of a leg of the case cover.

**[0008]** Further objects and advantages of the invention will be brought out in the following portions of the specification, wherein the detailed description is for the purpose of fully disclosing preferred embodiments of the invention without placing limitations thereon.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0009]** The invention will be more fully understood by reference to the following drawings which are for illustrative purposes only:

FIG. 1 is a perspective view of the present invention; FIG. 2 is an inverted perspective view of the invention;

FIG. 3 is an exploded view of another embodiment of the invention;

FIG. 4 is a perspective view of another embodiment of the invention;

FIG. 5 is a perspective view of another embodiment of the invention;

FIG. 6 is a perspective view of still another embodiment of the invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0010]** As shown in FIGS. 1 and 2, terminal block of the invention consists of a body 10 and a power tap 20 disposed on an inner side of the body 10.

**[0011]** The body 10 comprises a case cover 11, a plurality of legs 12, a plurality of openings 13, a power-line through hole 14 and a plurality of reinforced ribs 15. The case cover 11, legs 12, openings 13, electric cord through-hole 14, and reinforced ribs 15 can be integrally formed by solid material.

**[0012]** Case cover 11 is shrouded over and covers the power tap 20, which protects the power tap 20, and may provide an artistic diversified appearance.

**[0013]** Legs 12 are formed from the extension of case cover 11, and the structure of the invention may be firmly disposed on the ground or other support surfaces. Openings 13 are formed by the space between the adjacent legs 12, such that electric conductors may pass through the interval.

**[0014]** Power-line through-hole 14 is formed on at least one leg 12, and provides a stable installation for the power-line 21 of power tap 20.

**[0015]** The power tap 20 comprises a power-line 21 and a plurality of plug holes 22, with a distance between plug holes 22 of power tap 20 and the plane formed by the ends of the legs 12 providing enough space for insertion of plug 30 with an electric conductor 31 via an opening 13.

**[0016]** As shown in FIG. 3, a body 40 of the case cover may have a power tap 50 removably mounted inside the body 40. The body 40 comprises a case cover 41, legs 42, openings 43, electric cord through-hole 44 and re-

inforced ribs 45, as in the previous embodiment, but also a structure for removably gripping the power tap 50 installed inside the case cover 41. The power tap 50 may be mounted or removed by attaching or removing the fasteners 46 from location holes 47.

**[0017]** Another embodiment is shown in FIG. 4, wherein the electric cord 61 extends from the power tap 60 via a fixed portion 62.

**[0018]** A further embodiment is shown in FIG. 5, in which an attaching pin hole 72 is formed on a leg 71 of body 70 of the case cover, so that terminal block of the invention may be hung on a wall.

**[0019]** Still another embodiment is shown in FIG. 6 in which an additional planar mounting member 82 is formed on the side of legs 81, having a screw hole 83, so that terminal block of the invention can be mounted in a desired position. An adhesive can also be installed at the bottom side of planar member 82, whereby the terminal block may be firmly bonded on a surface.

**[0020]** In summary, the invention provides a terminal block having a case cover, which protects the terminal block and has an artistic appearance.

**[0021]** The foregoing description is provided for illustrative purposes only and should not be construed as limiting this invention, the scope of which is defined solely by the appended claims.

## Claims

1. An electrical terminal block assembly comprising;

a) a case cover having: a convexly curved outer surface; a plurality of legs integrally formed on the case cover with openings between adjacent legs; and an inner surface with a generally concave configuration; and,

b) an electrical power tap having at least one plug hole in one side thereof and a power line extending therefrom, the electrical power tap mounted on the inner surface of the case cover such that the at least one plug hole faces toward and is spaced from a plane formed by ends of the plurality of legs of the case cover, thereby enabling a plug to be inserted into and removed from the at least one plug hole.

2. The electrical terminal block of claim 1 wherein the electrical power tap is removably mounted to the inner surface of the case cover.

3. The electrical terminal block of claim 2 further comprising at least one fastener clip engaging the electrical power tap and releasably engaging location holes formed in the inner surface of the case cover.

4. The electrical terminal block of claim 1 wherein the electrical power tap is non-removably mounted to

the inner surface of the case cover.

5. The electrical terminal block of claim 1 further comprising a through hole in at least one of the plurality of legs, wherein the power line of the electrical power tap passes through the through hole.

6. The electrical terminal block of claim 1 further comprising an attaching-pin hole formed in at least one of the plurality of legs of the case cover.

7. The electrical terminal block of claim 1 further comprising a planar mounting member extending outwardly from an end of at least one of the plurality of legs of the case cover.

8. The electrical terminal block of claim 7 wherein the planar mounting member has at least one hole therethrough.

9. The electrical terminal block of claim 7 wherein the planar mounting member has a bottom side for bonding the case cover to a support surface.

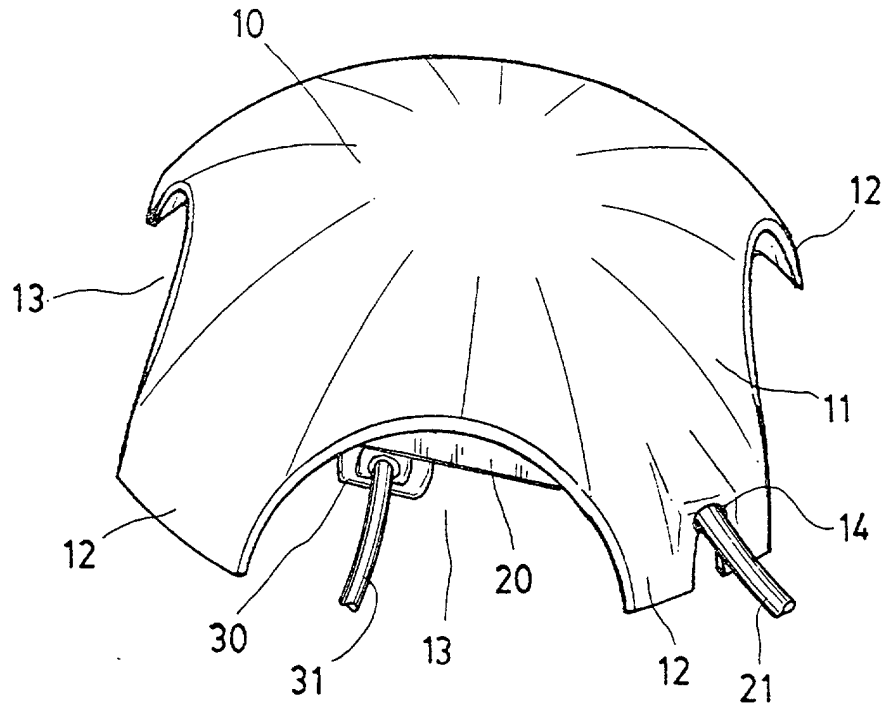


FIG. 1

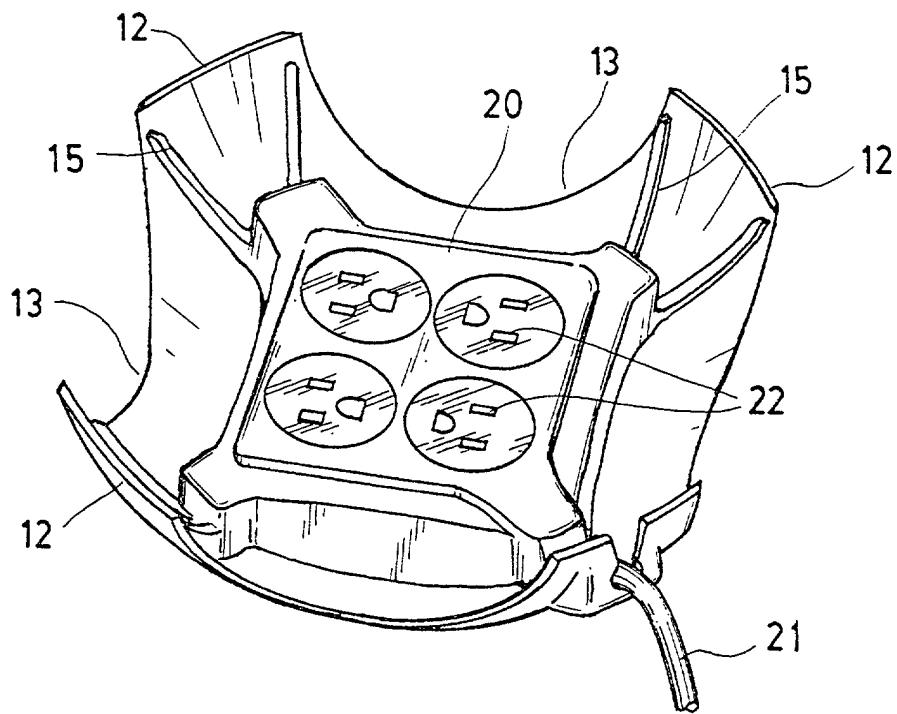


FIG. 2

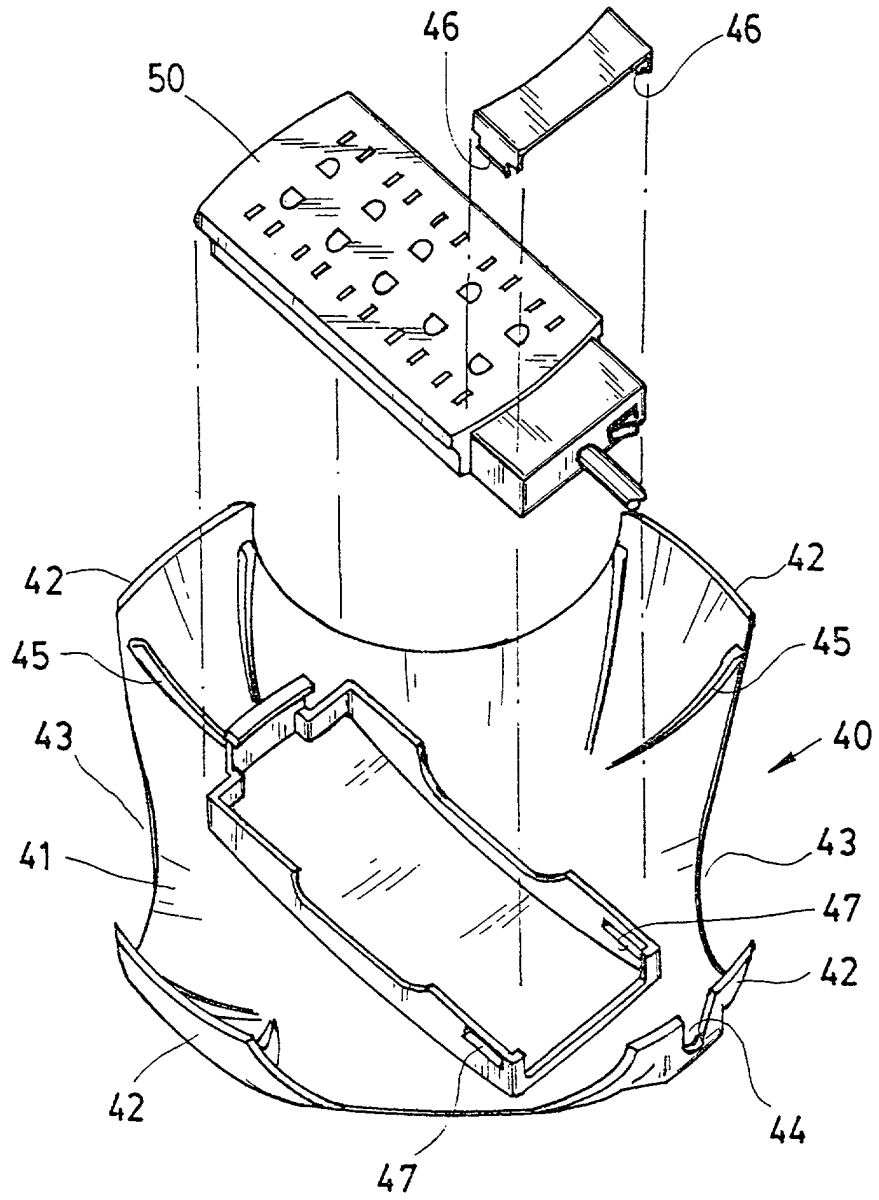


FIG. 3

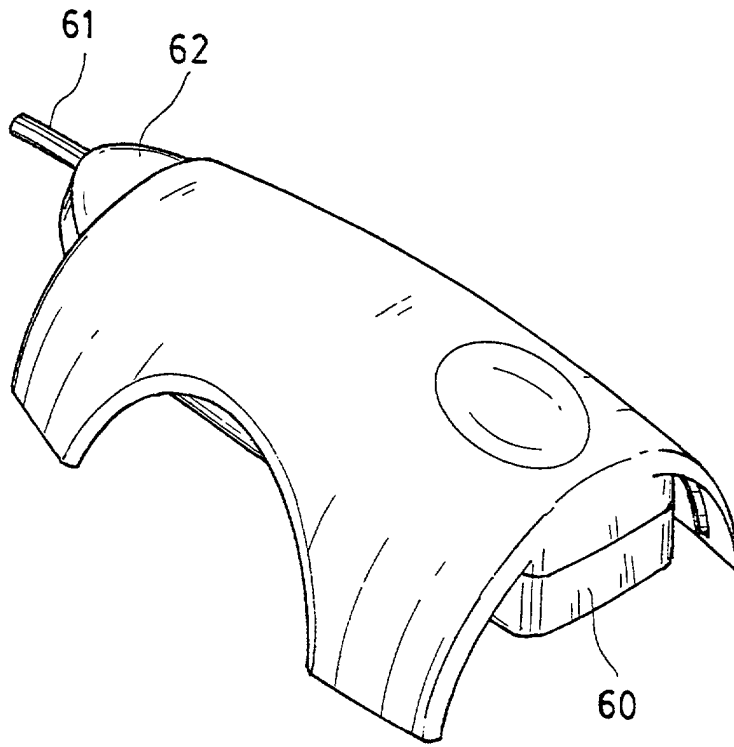


FIG. 4

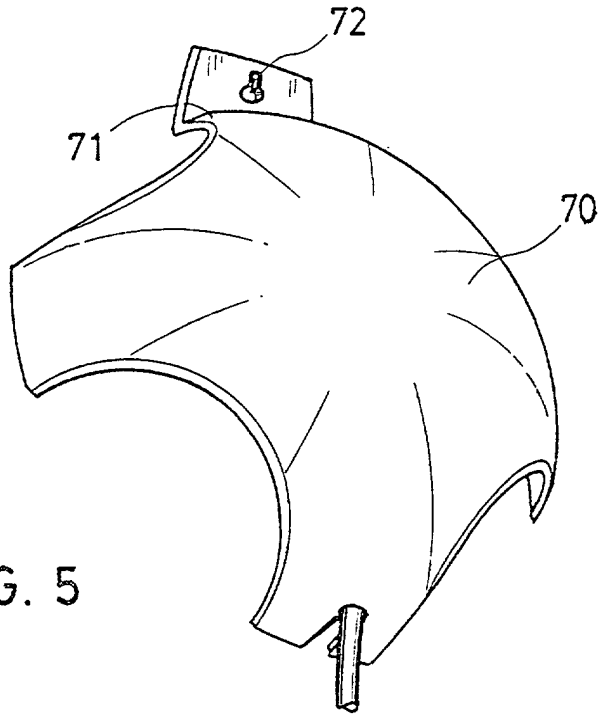


FIG. 5

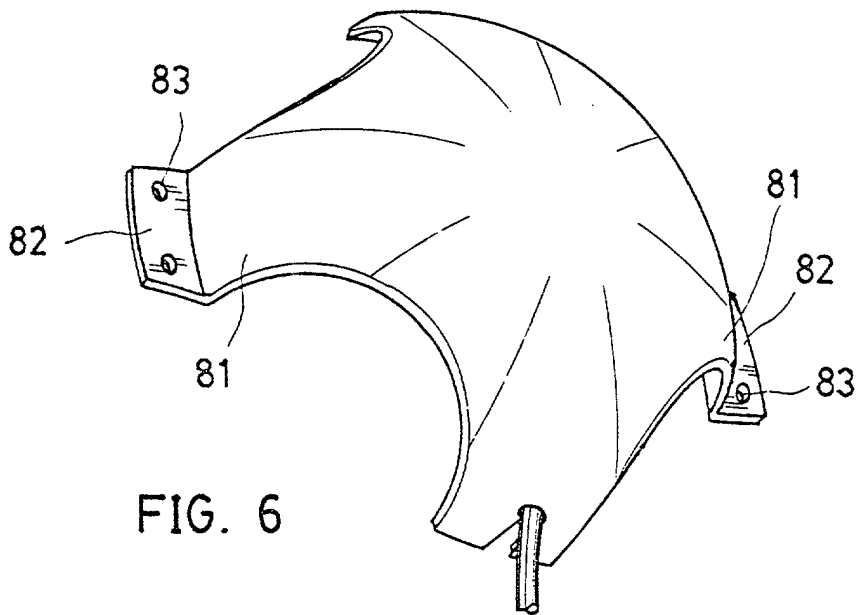


FIG. 6



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 01 11 7170

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DE 26 38 617 A (BBC BROWN BOVERI & CIE) 2 March 1978 (1978-03-02) * page 5 - page 7; figures *	1,2	H01R25/00 H01R13/447
Y	-----	3,7-9	
X	US 5 906 517 A (BAILEY WALTER MILLARD ET AL) 25 May 1999 (1999-05-25) * column 3, line 8 - column 4, line 64; figures 1-6 *	1,5,6	
X	DE 200 20 442 U (REHAU AG & CO) 1 February 2001 (2001-02-01) * page 4, line 25 - page 5; figures 1-3 *	1,4	
Y	US 1 889 695 A (PETERSEN CARL M) 29 November 1932 (1932-11-29) * figures 1-4 *	7-9	
Y	US 3 464 052 A (HUKIN ARTHUR SHEPHERD) 26 August 1969 (1969-08-26) * column 6, line 52 - line 62; figure 12 *	3	
A	US 6 174 199 B1 (RUSHING JOHN A) 16 January 2001 (2001-01-16) * figures 1-4 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H01R
The present search report has been drawn up for all claims			
Place of search <b>MUNICH</b>		Date of completion of the search <b>6 December 2001</b>	Examiner <b>Langbroek, A</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 1503 03 82 (P04C01)



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 11 7170

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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06-12-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 2638617	A	02-03-1978	DE 2638617 A1	02-03-1978
US 5906517	A	25-05-1999	US 5899761 A	04-05-1999
DE 20020442	U	01-02-2001	DE 20020442 U1	01-02-2001
US 1889695	A	29-11-1932	NONE	
US 3464052	A	26-08-1969	BE 687599 A	01-03-1967
			CH 449739 A	15-01-1968
			GB 1156787 A	02-07-1969
			NL 6613373 A	03-04-1967
US 6174199	B1	16-01-2001	NONE	