42
EX A-B

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

JO-DAN INTERNATIONAL, INC.
a Michigan Corporation, and
Henry Milan, an individual,

Plaintiff,

EVEREADY BATTERY COMPANY, INC.,
a Delaware Corporation,
TECHNUITY LLC a.k.a. TECHNUITY, INC.,
an Indiana Corporation,
and

POWERTECH INDUSTRIAL CO., LTD.,
a Taiwanese Company

Defendants.
_____/

BUTZEL LONG

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_____/

COMPLAINT FOR PATENT INFRINGEMENT
AND DEMAND FOR JURY TRIAL

Plaintiffs Jo-Dan International, Inc., and Henry Milan for their Complaint against Defendants Eveready Battery Company, Inc., Technuity LLC also known as Technuity, Inc., and Powertech Industrial Co., Ltd., state as follows:

I. PARTIES, JURISDICTION AND VENUE

1. Plaintiff Jo-Dan International, Inc. (hereinafter "JDI") is a Michigan corporation with its principal place of business in Auburn Hills, Michigan.

2. Plaintiff Henry Milan (hereinafter "MILAN") is an individual residing in Rochester Hills, Michigan.

3. On information and belief, Defendant Eveready Battery Company, Inc. (hereinafter "EVEREADY") is a Delaware corporation with its principal place of business at 533 Maryville University Dr., St. Louis, MO 63141.

4. On information and belief, Defendant Technuity LLC is also known as Technuity, Inc. and is an exclusive licensee of the EVEREADY ENERGIZER® Surge Protection and Protection lines, among other product lines (hereinafter "TECHNUITY") and is an Indiana corporation with its principal place of business at 6024 W. 79th Street, Indianapolis, IN 46278.

5. On information and belief, Defendant Powertech Industrial Co., Ltd., (hereinafter "POWERTECH") is a Taiwanese Company with its principal place of business at 10F, No. 407, Chung Shan Rd., Sec2, Chung Ho City, Taipei Hsien (TW).

6. On information and belief, personal jurisdiction over EVEREADY is properly founded on EVEREADY doing business and committing acts of infringement, contributory infringement and inducing infringement within the Eastern District of Michigan.

7. On information and belief, personal jurisdiction over TECHNUITY is properly founded on TECHNUITY doing business and committing acts of infringement, contributory infringement and inducing infringement within the Eastern District of Michigan.

8. On information and belief, personal jurisdiction over POWERTECH is properly founded on POWERTECH doing business and committing acts of infringement, contributory infringement and inducing infringement within the Eastern District of Michigan.

9. This action arises under the patent laws of the United States. This Court has jurisdiction under U.S.C. §281 and 28 U.S.C. §1338. Venue is proper under 28 U.S.C. §1400 (b) and 28 U.S.C. §1391(c).

II. COUNT FOR PATENT INFRINGEMENT

The Patents in Suit

10. Plaintiffs reallege Paragraphs 1-9 as fully set forth herein.

11. Plaintiff MILAN is the owner of U.S. Letters Patent No. 6,854,989 ("the '989 patent") filed December 6, 2002 and issued February 15, 2005, and entitled "Pop-Out Outlets for Surge Protection Devices," a copy of which is attached to this Complaint as Exhibit A.

12. Plaintiff MILAN is the owner of U.S. Letters Patent No. 6,872,086 ("the '086 patent") filed October 30, 2003 and issued March 29, 2005, and entitled "Pop-Out Outlets for Housings," a copy of which is attached to this Complaint as Exhibit B. The '086 Patent is a Divisional Patent of the '989 patent cited in Paragraph 10 above.

13. Plaintiff JDI is the exclusive licensee of MILAN's '989 and '086 patents.

Activities of Defendants

14. On information and belief, Defendants EVEREADY and its exclusive licensee TECHNUITY have manufactured for sale the EVEREADY ENERGIZER® Surge Protection and Protection lines under the Energizer ER-S600 and ER-S700 brands that infringe the '989 Patent and the '086 Patent and have offered for sale, sold and delivered the EVEREADY ENERGIZER® Surge Protection and Protection lines and the Energizer ER-S600 and ER-S700 brands in this District and nationally (and internationally) via the internet, among other points of sale, without leave, license or permission of Plaintiff MILAN or JDI and have caused and will continue to cause irreparable harm to MILAN and JDI, and accordingly, Plaintiffs MILAN and JDI are without adequate remedy at law.

15. Defendant POWERTECH manufactures, or causes to be manufactured, offers for sale, or causes to be offered for sale, and sells or causes to be sold, at least one pop-out outlet incorporating the technology of both the '989 and the '086 patents.

16. Defendant POWERTECH was at all times relevant hereto aware of both the'989 and the '086 patents, and of the patents pop-out outlet technology. On information and belief, Defendant POWERTECH previously manufactured a pop-out outlet incorporating the technology of both the '989 and '086 patents for Plaintiffs MILAN and JDI. Defendant POWERTECH has deliberately and willfully incorporated the technology of both the '989 patent and the '086 patent into his own products and upon information and belief, through the EVEREADY ENERGIZER® Surge

Protection and Protection lines and the Energizer ER-S600 and ER-S700 brand product line of EVEREADY and its exclusive licensee TECHNUITY, and continues to do so without leave, license or permission of Plaintiff MILAN or JDI and have caused and will continue to cause irreparable harm to MILAN and JDI, and accordingly, Plaintiffs MILAN and JDI are without adequate remedy at law.

17. Defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH's infringement are of such a willful and deliberate nature as to warrant an award of treble damages pursuant to 35 U.S.C. §284 and to make this an "exceptional case," justifying an award of attorneys' fees to Plaintiffs MILAN and JDI pursuant to 35 U.S.C §285.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs MILAN and JO-DAN INTERNATIONAL, INC., respectfully request the following relief:

A. A judgment that U.S. Letters Patent No. 6,854,989 is being infringed by Defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH;

B. A judgment that U.S. Letters Patent No. 6,872,086 is being infringed by Defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH;

C. That Defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH, and any and all officers, agents, servants, employees and parties in privety, representatives, affiliated companies, and those persons in active concert or participation with them who receive actual notice of the order

by personal service or otherwise and all persons or entities acting for, with, by, through or under them be joined preliminarily during the pendency of this suit and permanently thereafter from directly or indirectly making, causing to be made, in any way using or causing to be used, or selling or causing to be sold, any article of manufacture or product infringing one or more claims of U.S. Letters Patent No. 6,854,989 and U.S. Letters Patent No. 6,872,086, or from inducing or contributing to the infringement of any of said patent claims in any way whatsoever;

D. That the infringement to which the foregoing injunctive relief provided by Paragraphs A and B include, but not limited to manufacturing, making providing, assembling, using, installing, selling, distributing, promoting, contracting and/or advertising for sale in the United States the aforesaid pop-out outlet product or any service to be performed in connection with such product, including knowingly aiding, abetting or assisting in connection with such product in any way;

E. That this Court award Plaintiffs MILAN and JDI damages adequate to compensate for acts of infringement of Defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH together with prejudgment interest thereon, as provided for by 35 U.S.C. §284;

F. That said damages be increased to three times the amount to be assessed, in accordance with 35 U.S.C §284;

G. That Plaintiffs MILAN and JDI be awarded their costs and attorneys' fees, as provided for by 35 U.S.C. §285;

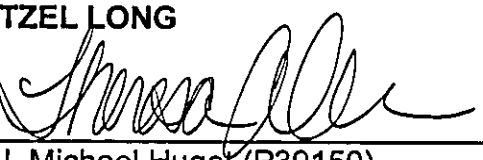
H. That Plaintiffs MILAN and JDI be awarded such other and further relief against defendants EVEREADY and its exclusive licensee TECHNUITY, and POWERTECH as this Court deems just and equitable.

JURY DEMAND

Plaintiffs MILAN and JDI hereby demand a trial by jury for all issues so triable.

Respectfully submitted,

BUTZEL LONG

By: 

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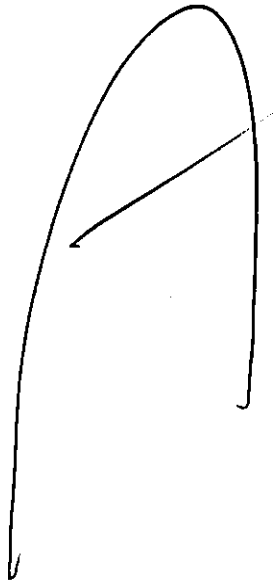
Attorneys for Plaintiffs Milan and
Jo-Dan International, Inc.

Dated: December 5, 2005



US006854989B2

(12) **United States Patent**
Milan

(10) **Patent No.: US 6,854,989 B2**
(45) **Date of Patent: Feb. 15, 2005**

(54) **POP-OUT OUTLETS FOR HOUSINGS**

(76) Inventor: **Henry Milan**, 1709 Apple Ridge Ct., Rochester Hills, MI (US) 48306

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 85 days.

(21) Appl. No.: **10/313,312**

(22) Filed: **Dec. 6, 2002**

(65) **Prior Publication Data**

US 2003/0148644 A1 Aug. 7, 2003

Related U.S. Application Data

(60) Provisional application No. 60/338,299, filed on Dec. 6, 2001.

(51) **Int. Cl.**[7] **H01R 13/44**
(52) **U.S. Cl.** **439/131**
(58) **Field of Search** 439/131, 925, 439/650–654, 32, 33, 140; 174/57

(56) **References Cited**

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6,478,587	B2 *	11/2002	Sharples	439/131
6,568,946	B1 *	5/2003	Chou	439/131

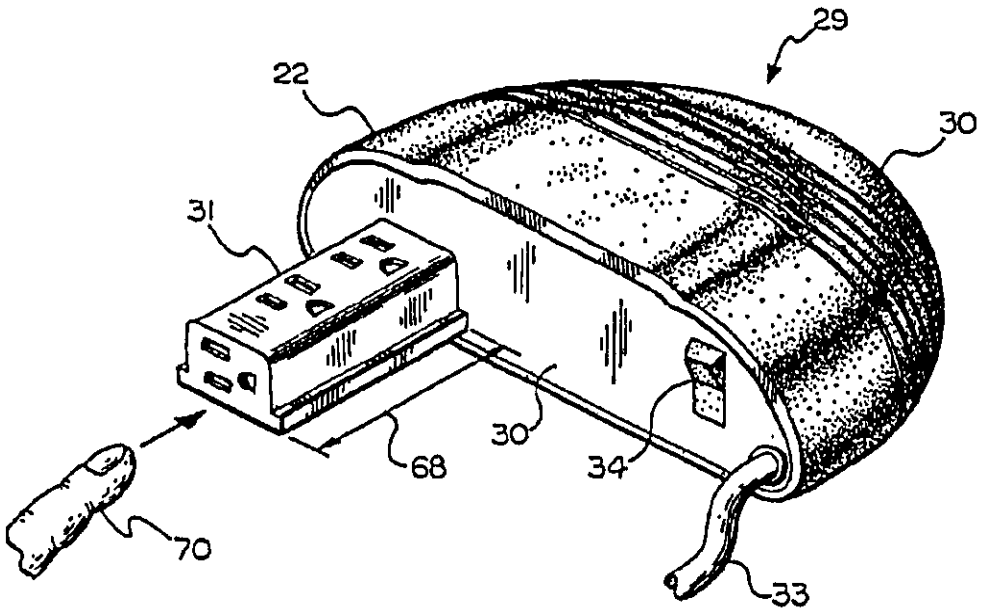
* cited by examiner

Primary Examiner—Ross Gushi
(74) *Attorney, Agent, or Firm*—MacMillan, Sobanski & Todd, LLC

(57) **ABSTRACT**

A method and apparatus for selectively producing and/or providing additional pop-out or extendable outlets or connectors in electronic housing devices is shown.

35 Claims, 12 Drawing Sheets



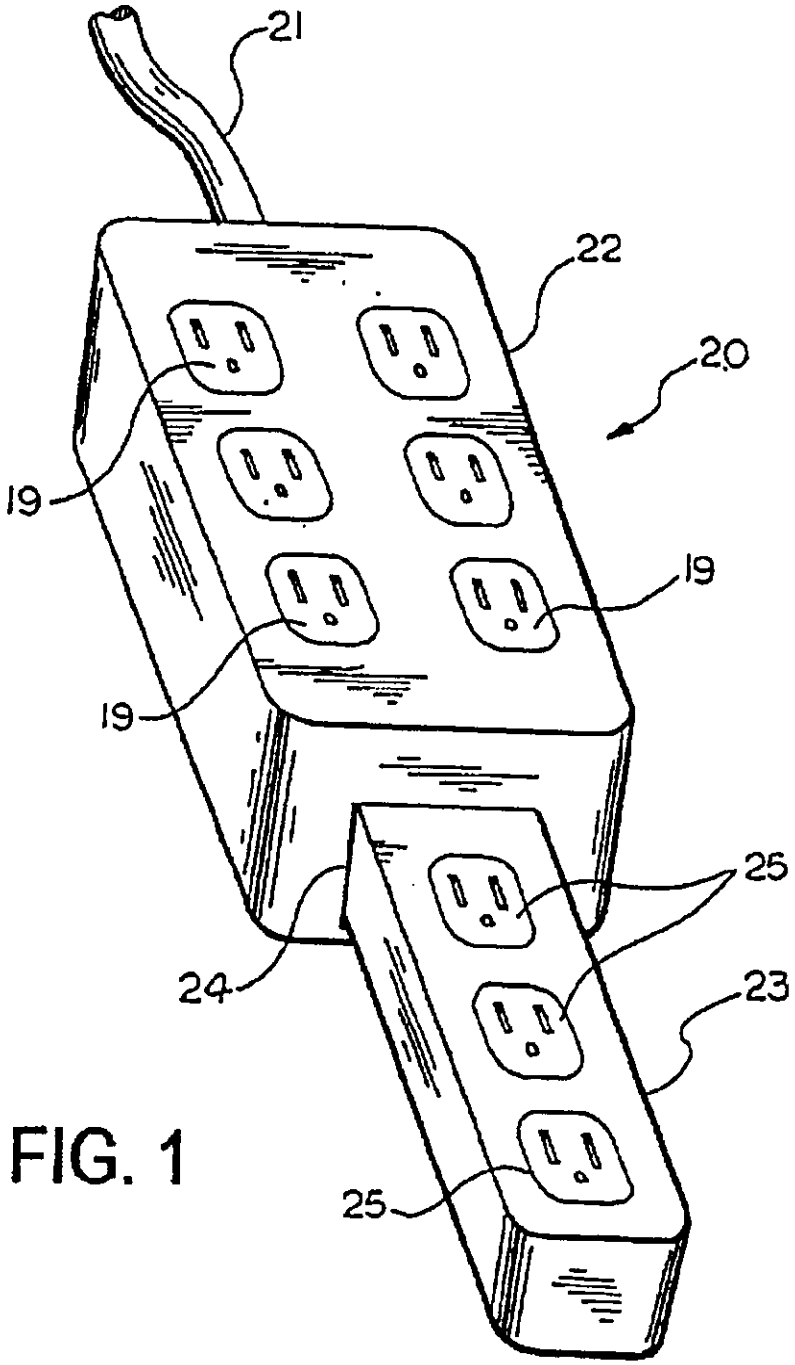


FIG. 1

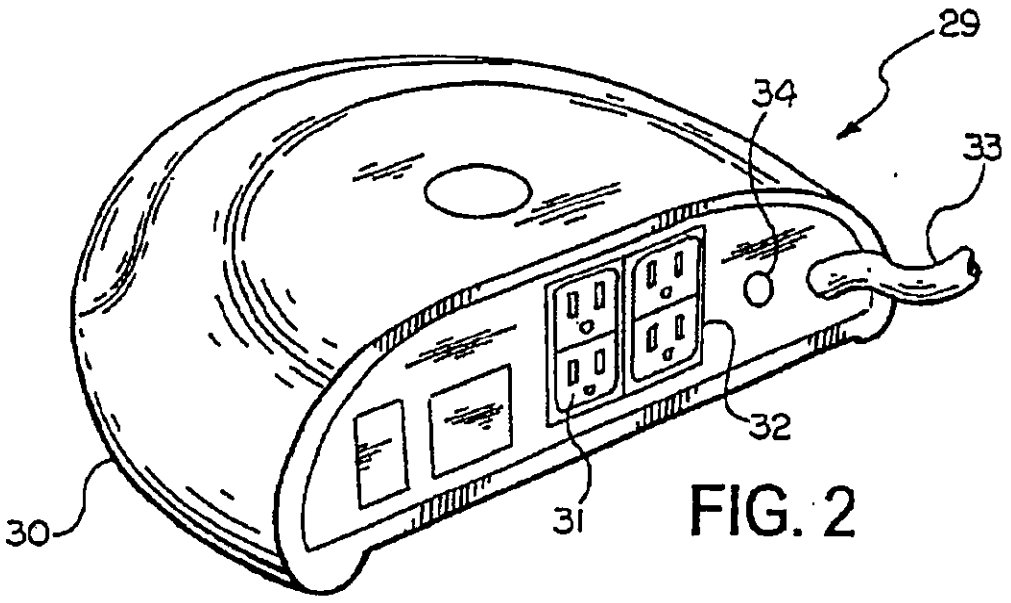


FIG. 2

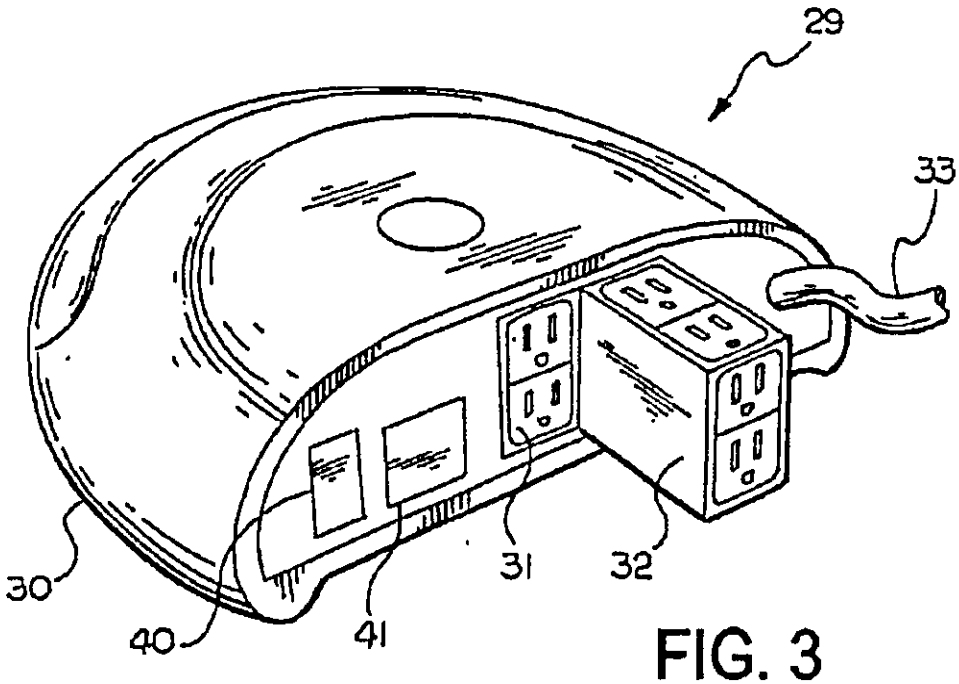


FIG. 3

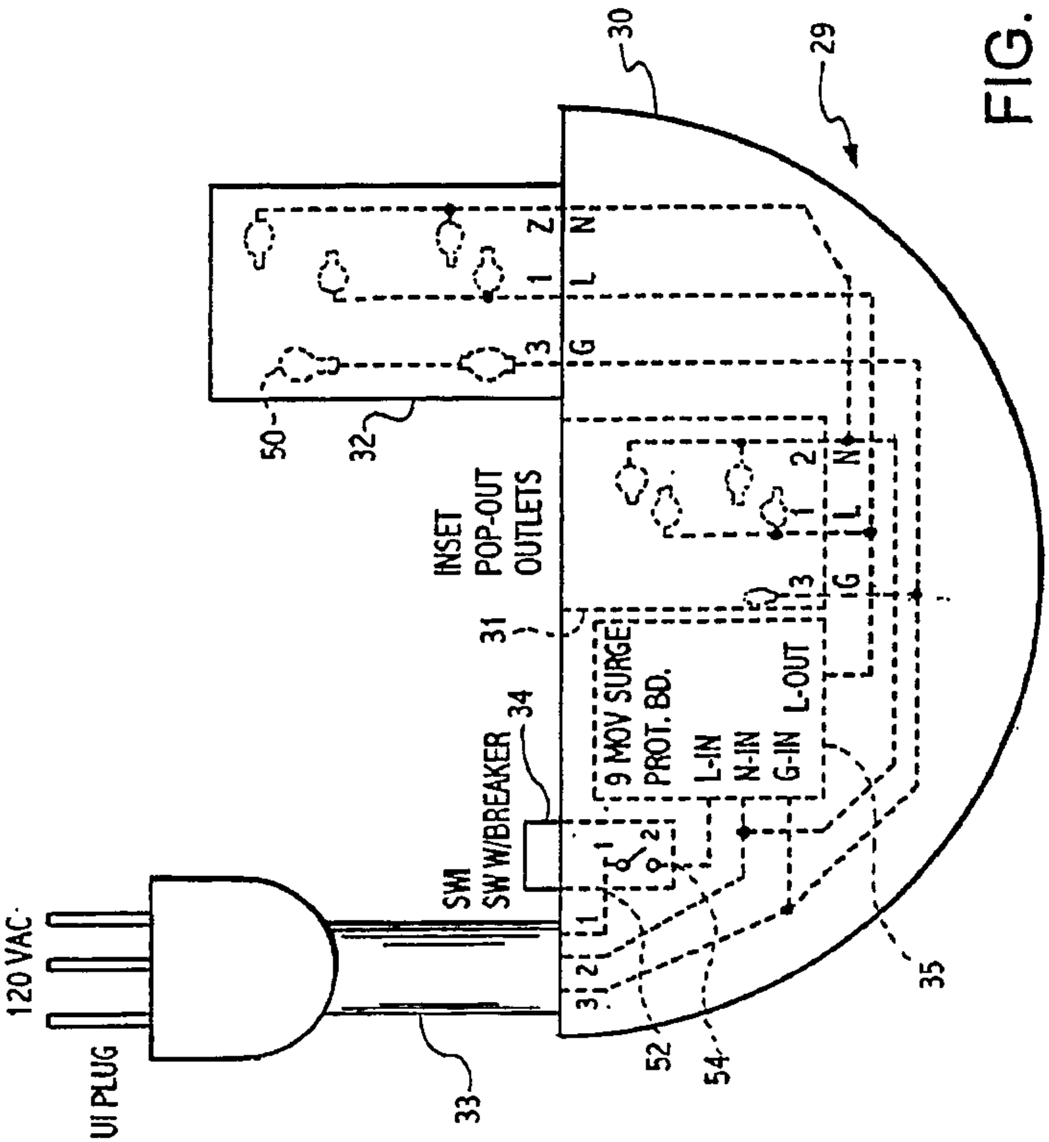


FIG. 4

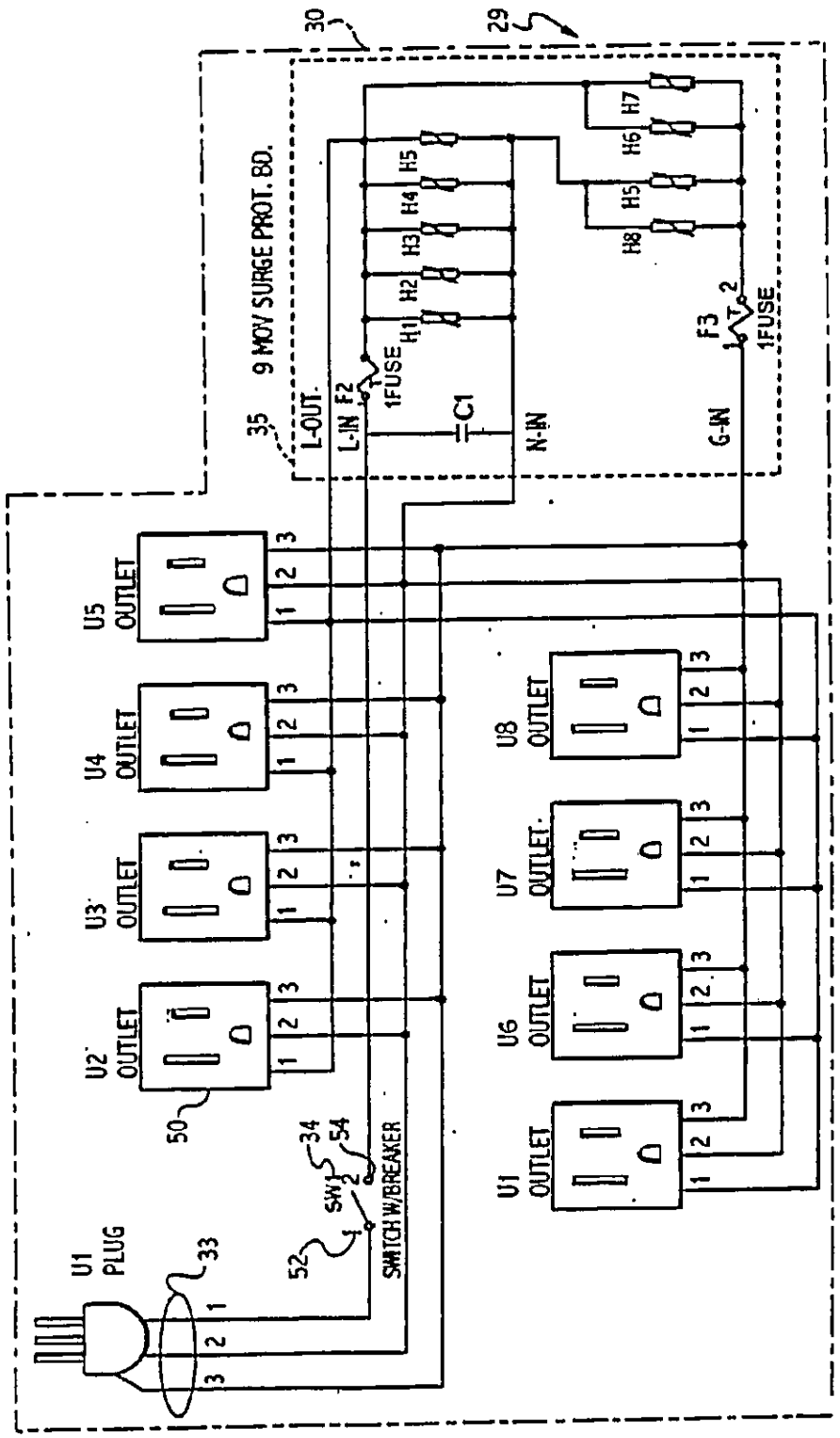

30
29
9 MOV SURGE PROT. BD.
35
L-OUT.
L-IN
F2
1FUSE
C1
N-IN
G-IN
F3
1FUSE
H1
H2
H3
H4
H5
H6
H7
H8
U1 PLUG
U2 OUTLET
U3 OUTLET
U4 OUTLET
U5 OUTLET
U6 OUTLET
U7 OUTLET
U8 OUTLET
SW1
SWITCH W/BREAKER
33
34
50
52
54

FIG. 5

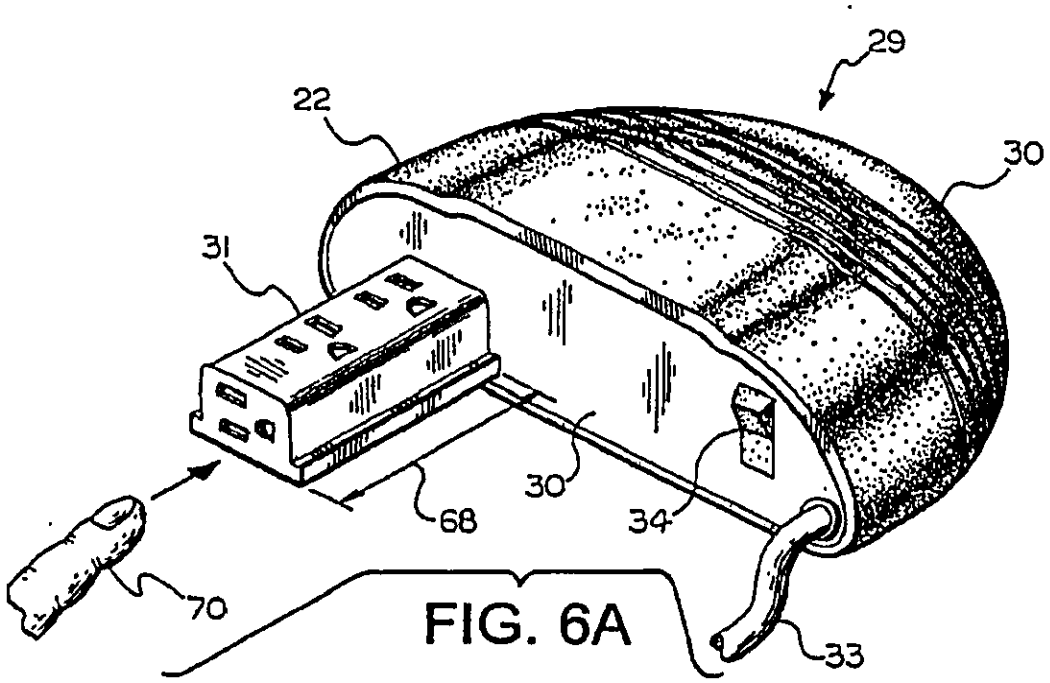


FIG. 6A

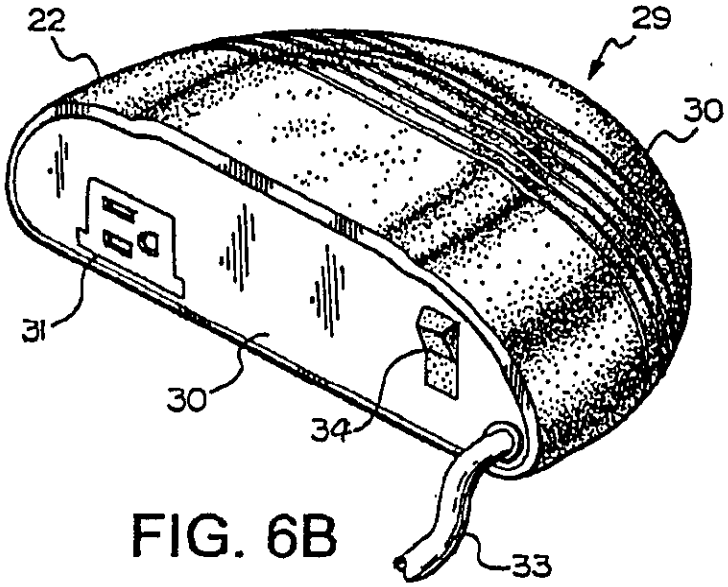


FIG. 6B

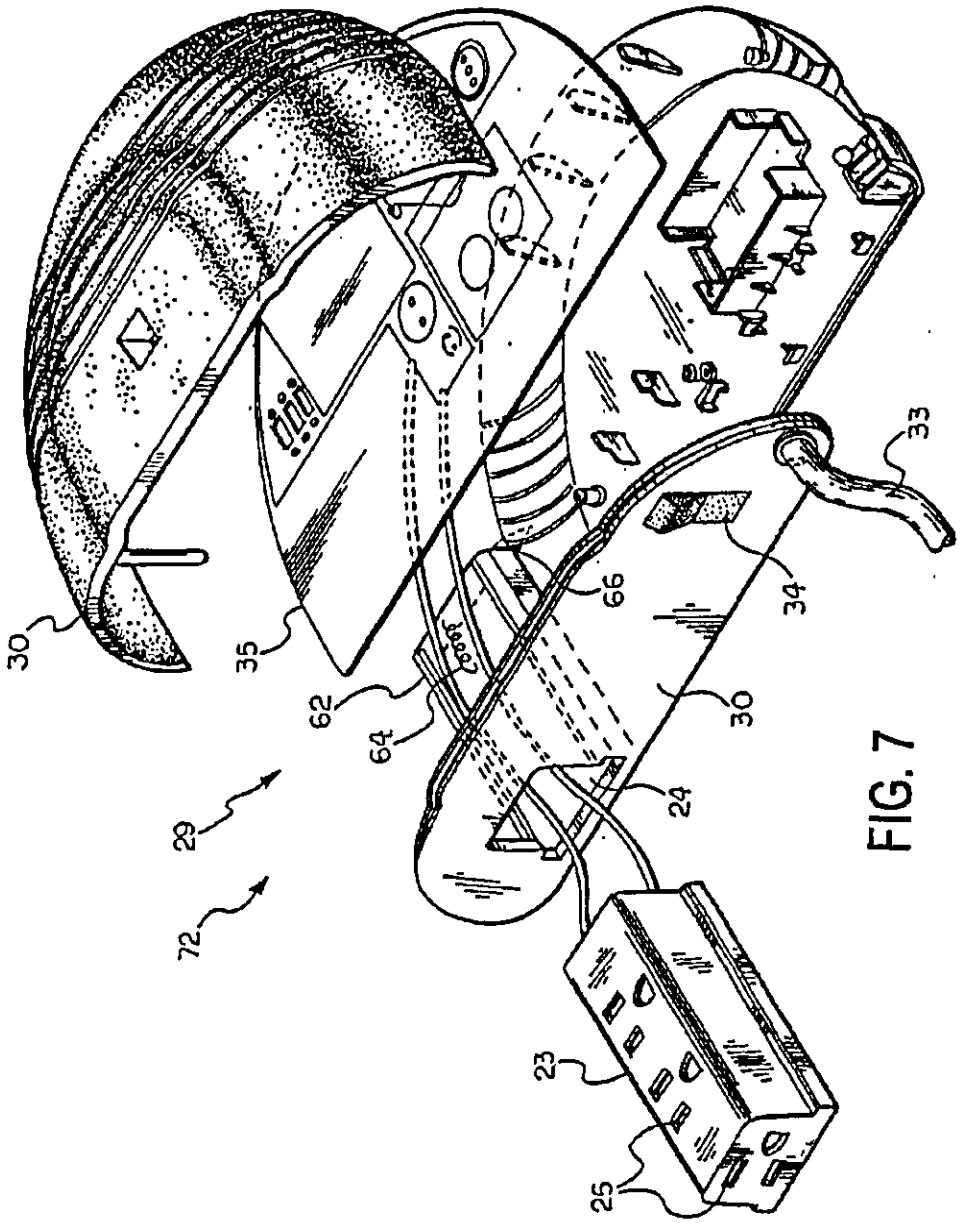


FIG. 7

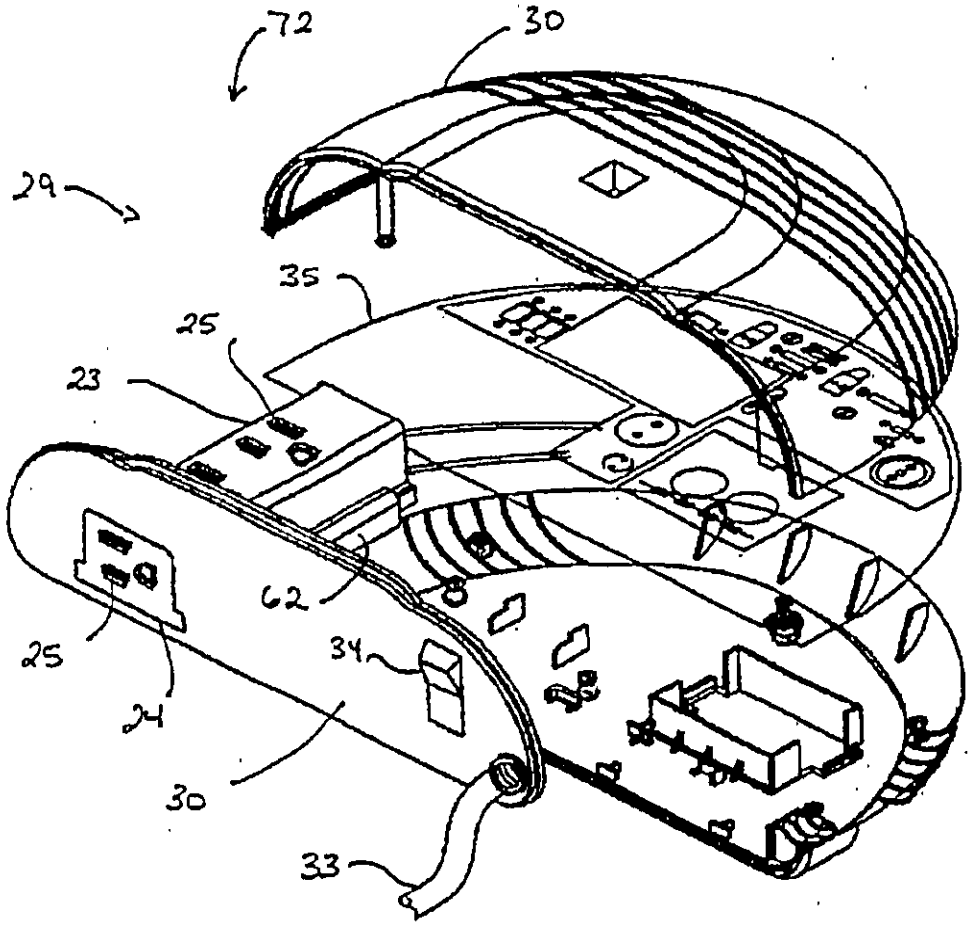


FIGURE 7A

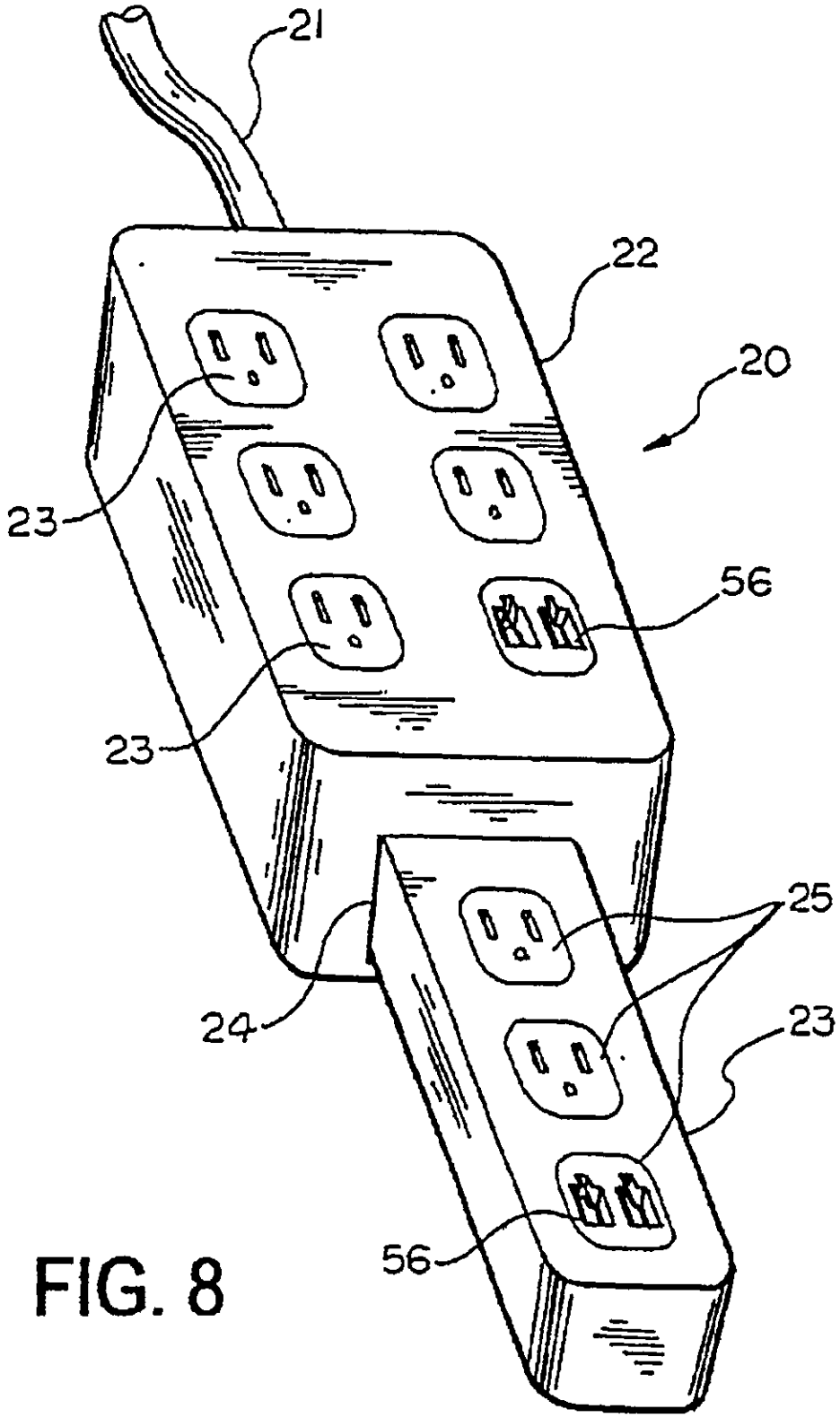


FIG. 8

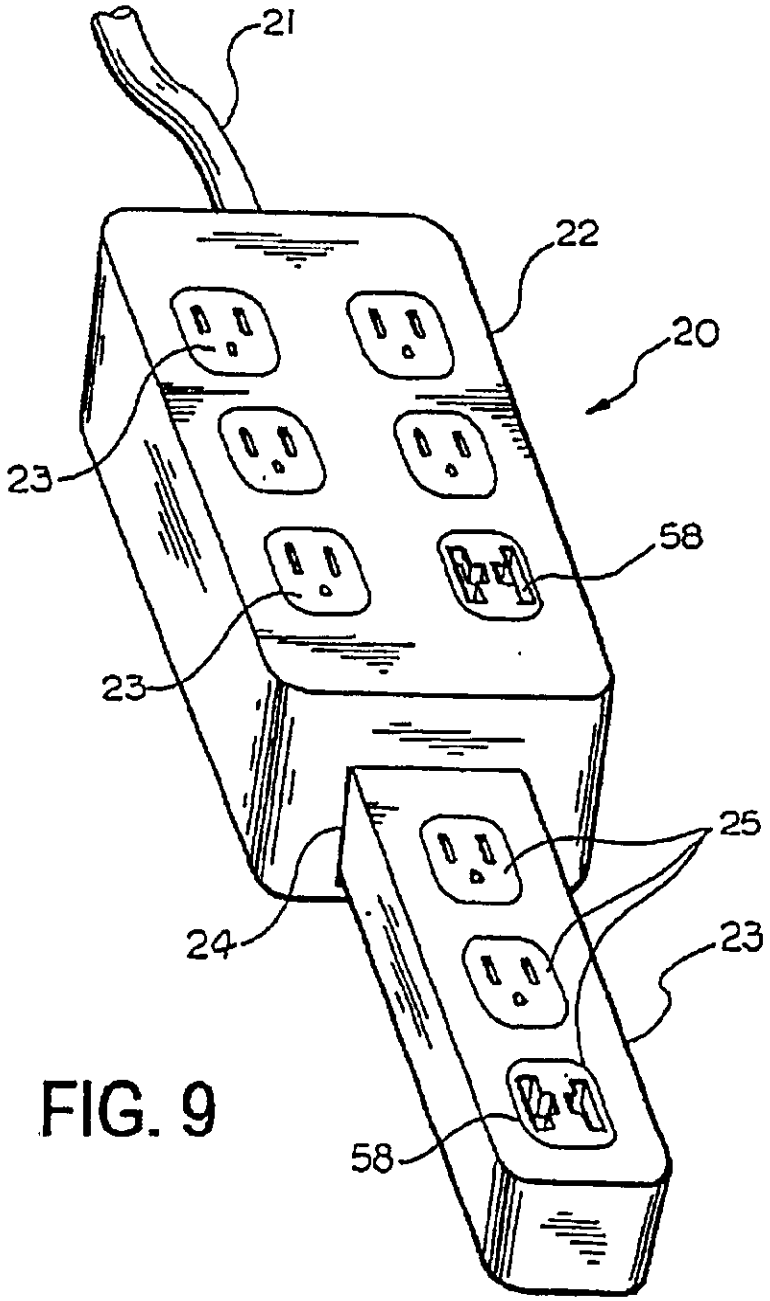


FIG. 9

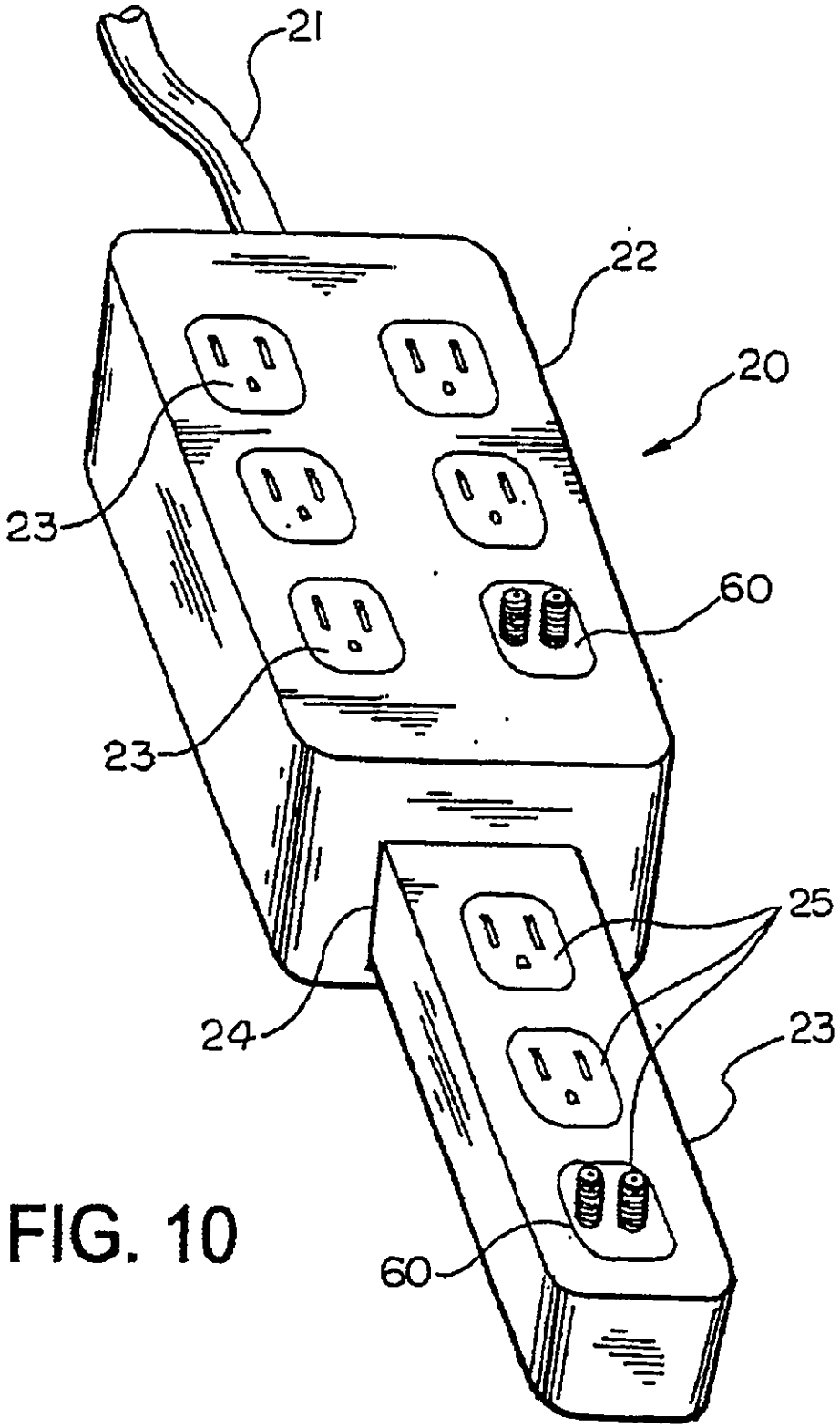


FIG. 10

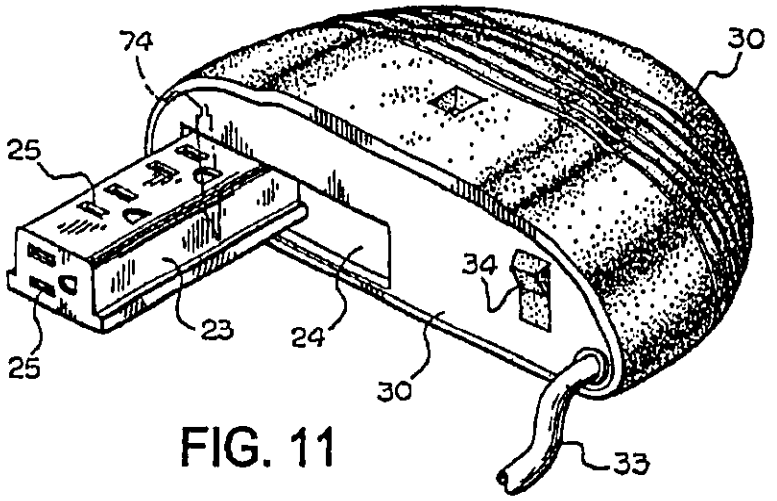


FIG. 11

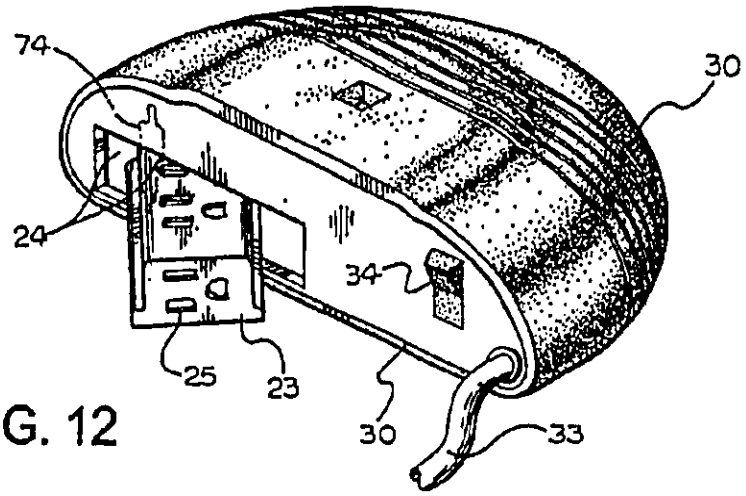


FIG. 12

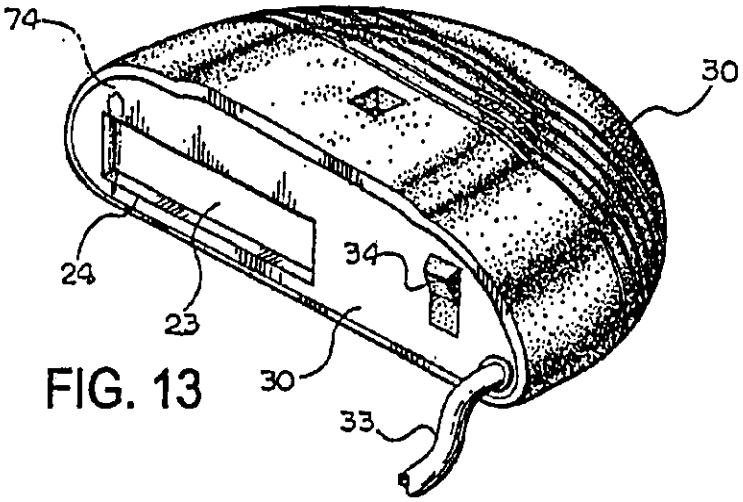


FIG. 13

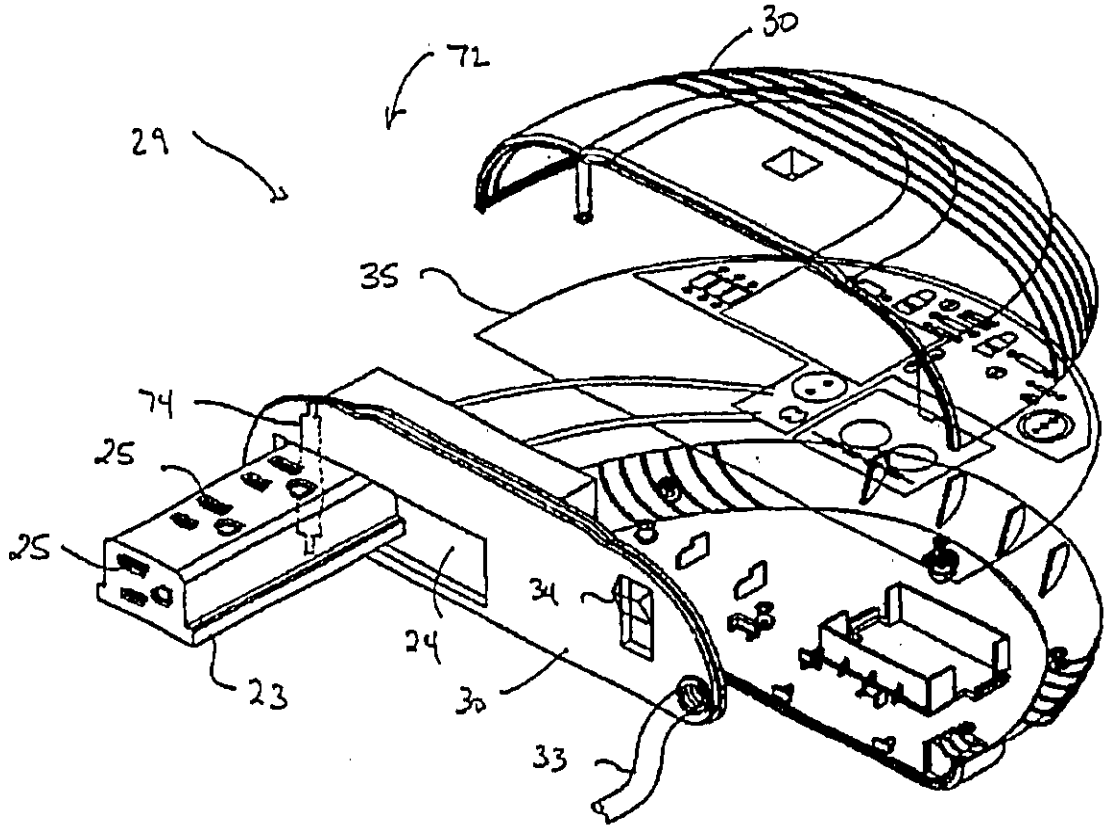


FIGURE 14

POP-OUT OUTLETS FOR HOUSINGS

RELATED APPLICATION

This application is claiming benefit, under 35 U.S.C. § 119(e), of the provisional application filed Dec. 6, 2001, under 35 U.S.C. § 111(b), which was granted Ser. No. 60/338,299, and is hereby incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to housings, and more particularly to pop-out or pop-up outlets for electronics housings, and most particularly to pop-out or pop-up outlets for surge protection devices.

2. Discussion of the Related Art

Electrical outlets on electronics housings are well-known in the art. Surge protection devices are also well known in the electronics art as being desirable and/or necessary for protecting sensitive electronic devices from surges of current, whether over line cords, telephone lines, or other connections. A common problem with electronics housings and surge protection devices of all types is they never seem to have enough outlets to protect the desired number of devices.

The electronics housings and surge protectors known in the art generally have a fixed number of outlets or receptacles, or require modules to be added to provide additional outlets or receptacles. This may increase the size of the housing or the surge protection device, and may increase the overall cost of the housing or surge protection device. Thus, those skilled in the art have continued to search for ways to have additional outlets or receptacles present which do not take up space when not needed, and do not require the addition of modules or other devices to the basic housing or surge protector device.

SUMMARY OF THE INVENTION

The present invention solves the problems present in the art by providing pop-up, pop-out or otherwise extendable outlets for electronics housings and surge protection devices such as, for example, line cord surge protectors, telephone line surge line protectors, network surge protector's, co-ax surge protectors, and other types of surge protectors known in the art. With the pop-out outlets in their retracted position, the overall size of the device is not increased, and when the pop-out outlet is "popped-out" of the housing to expose additional outlets or connectors, only then is the size of the device increased, and without additional cost.

Thus, it would be advantageous to provide additional pop out outlets or connectors in an electronics housing or surge protection device.

Further advantages of the present invention will be apparent from the following description and appended claims, reference being made to the accompanying drawings forming a part of the specification, wherein like reference characters refer to corresponding parts in the several views.

BRIEF DISCRIPTION OF THE DRAWINGS

The above, as well as other advantages of the present invention, will become readily apparent to those skilled in the art from the following detailed description when considered in light of the accompanying drawings in which:

FIG. **1** is a perspective view of a construction embodying the present invention;

FIG. **2** is a perspective view of a modification of the present invention showing two pop out outlets, both in their retracted position;

FIG. **3** is a perspective view of the construction shown in FIG. **3** with one of the pop out outlets or connectors shown in its extended or popped out position;

FIG. **4** is a diagrammatic view of the construction shown in FIG. **2**;

FIG. **5** is an electrical schematic showing the electrical connections for the construction shown in FIG. **4**;

FIG. **6**A is a perspective view of a construction embodying the present invention;

FIG. **6**B is a perspective view of an alternative condition of the construction shown in FIG. **6**A;

FIG. **7** is an exploded perspective view of the construction shown in FIG. **6**A;

FIG. **7**A is an exploded perspective view of an alternative condition of the construction shown in FIG. **7**;

FIG. **8** is a perspective view of a construction embodying the present invention;

FIG. **9** is a perspective view of a construction embodying the present invention;

FIG. **10** is a perspective view of a construction embodying the present invention;

FIG. **11** is a perspective view of a construction embodying the present invention;

FIG. **12** is a perspective view of an alternative condition of the construction shown in FIG. **11**;

FIG. **13** is a perspective view of an alternative condition of the construction shown in FIG. **11**; and

FIG. **14** is an exploded perspective view of the construction shown in FIG. **11**.

DESCRIPTIONS OF THE PREFERRED EMBODIMENTS

It is to be understood that the invention may assume various alternative orientations and step sequences, except where expressly specified to the contrary. It is also to be understood that the specific devices and processes illustrated in the attached drawings, and described in the following specification are simply exemplary embodiments of the inventive concepts defined in the appended claims. Hence, specific dimensions, directions or other physical characteristics relating to the embodiments disclosed are not to be considered as limiting, unless the claims expressly state otherwise.

Referring now to FIG. **1**, there is shown a surge protection or other electronic housing device, generally designated by the numeral **20**, for example, for protecting devices connected to line current from electrical surges. There is shown a line cord **21**, for connection to a source or power and a surge protector housing, **22**, having a plurality of electrical outlets or connectors, **19**, to receive a standard three prong line cord plug.

It should be understood that the present invention may be used for any electronics housing **20**. By way of example only, an electronics housing having surge protection located therein will be described. It should also be understood that the present invention is not limited to providing additional line cord outlets, but is broad in scope and is intended to provide additional pop-out outlets or connectors of any kind, such as RJ11 (FIG. **8**, **56**), RJ45 (FIG. **9**, **58**) and co-ax (FIG. **10**, **60**) connectors, needed to protect any type of electrical devices from surges. Such pop-up outlets or connectors are well within the scope of the present invention.

By way of the present example, surge protector housing **22**, has at least one extendable housing portion **23**, which slides in and out of an opening, **24**, provided on the housing, **22**. A further plurality of electrical outlets or connectors **25** are formed in the top planar surface of the extendable housing portion **23** and may be of any desired type or number. Preferably, at least one electrical connector **25** is exposed when the extendable housing portion **23** is retracted into the housing such as in the embodiment depicted in FIGS. **2** and **3**.

As depicted in FIGS. **6**A, **6**B, **7** and **7**A, the extendable housing portion **23** may slide in and out on rails **62** provided in the housing **22** by means well known in the art, and may have a spring loaded pop-out feature **64**, or may simply be extended and retracted like a common drawer in the housing **22**. The housing **22** has at least one stop **66** in mechanical communication with the housing **22** to prevent the extendable housing portion **23** from extending beyond a predetermined distance from the housing **22** as shown in FIGS. **6**A and **7**. Preferably, manual means **70** are used to locate the extendable housing portion **23** back into the housing **22**. As depicted in FIGS. **6**B and **7**A, at least one outlet or connector **25** is preferably accessible when the extendable housing portion **23** is retracted in the housing **22**, however, embodiments where the outlet or connector **25** is not accessible are also well within the scope of the invention.

Suitable electrical connections as depicted in FIGS. **4** and **5**, also well known in the art, are provided in the housing to connect the outlets or connectors **25** to surge protection circuitry **35** which may be provided in the housing **22**, and, in turn, to the line cord, **21**.

As an example of the wide range of surge protection devices which are within the scope of the present invention, there is shown in FIG. **2** and FIG. **3** a perspective view of a base unit for a stackable USB hub **72**, which may be such as shown in applicants co-pending application Ser. No. 60/169,055, which is incorporated herein by reference.

The base unit **29** has a housing, **30**, a first pop out outlet, **31**, and a second pop out outlet, **32**. A line cord, **33**, provides power to the device and is connected through on off switch, **34**, to the surge protection device, **35** (FIGS. **4** and **5**). Additional snap-in or slide in modules may be provided in openings (**40**, **41**) if desired.

The surge protection device **35** protects ground and/or the hot and neutral connectors.

Referring now to FIG. **4** there is shown a diagrammatic view of the base unit **29**, which comprises a housing **30**, an electrical power cord **33**, a power on/off switch with breaker **34**, a surge protector board **35**, two pop-out outlet modules **31** and **32**, and the associated wiring.

To operate, the base unit **29** receives power from the attached power cord **33**, which is connected to a 120 volt alternating current power source. Internally, the hot signal is connected to the input connection **52** of the power switch **34**, which allows the user to turn power on or off to the base unit **29**. From this point on the incoming neutral and ground signals, along with the hot signal from the power switch **34** output connection **54**, are connected to the surge protector board **35**, and then passed on to the two pop-out outlet modules **31**,**32**.

To protect external electrical equipment from power surges, a user could connect a power cord from the external electrical equipment into a pop-out power outlet, for example, **50**. If a surge is detected in the wiring, the surge protector board **35** will direct that surge to ground before the surge can damage the external equipment.

Next referring to FIG. **5**, there is shown the electrical schematic of the base unit **29**. Power enters the base unit through power cord **33**. The hot signal is wired to the input connection **52** of the power switch **34**. Then the incoming neutral and ground signals, along with the hot signal of the output connection **54** of the power switch **34**, are passed onto the pop-out outlets **31**,**32**, and the surge protector board **35**. To use the present invention a user could connect external electrical equipment into a pop-out power outlet, for example, **50**. If a surge is detected in the wiring, the surge protector board **35** will direct that surge to ground before the surge can damage the external equipment.

FIGS. **11**–**14** depict an alternative embodiment of the present invention wherein the extendable housing portion **23**, as described above, swings or rotates into and out of the housing on at least one hinge **74**. The extendable housing portion **23** may be hinged on either end to allow the housing portion **23** to swing out from either side of the opening **24**. Additionally, although the extendable housing portion **23** is depicted as swinging out in a substantially horizontal fashion, it is well within the scope of the invention to allow the extendable housing portion **23** to be hinged at either its top or bottom. Hinges at the top or bottom of the extendable housing portion **22** allow it to swing into and out of the housing along a substantially vertical plane. The extendable housing portion **23** may have at least one outlet or connector **25** accessible when the extendable housing portion **23** is located within the housing **22**.

Manual or automated means may be used to extend the extendable housing portion into and out of the housing.

Thus by carefully studying the problems existing in present day electrical devices a novel method and apparatus is provided for providing additional electrical connectors or outlets.

I claim:

1. An electronics housing device, comprising:

a portable housing including a line cord for connection to a source of electrical power and enclosing electrical circuitry;

at least one extendible housing portion selectively moveable both into and out of said housing;

at least one electrical connector on said extendable housing portion, said connector being electrically connected to said electrical circuitry;

said housing and said extendable housing portion having complimentary rails to guide said extendable housing portion into and out of said housing.

2. The device of claim **1**, wherein said at least one electrical connector is a three-prong outlet.

3. The device of claim **1**, wherein said at least one electrical connector is connected to hot, live and neutral.

4. The device of claim **1**, wherein said at least one electrical connector is an RJ11 connector.

5. The device of claim **1**, wherein said at least one electrical connector is an RJ45 connector.

6. The device of claim **1**, wherein said at least one electrical connector is a co-ax connector.

7. The device of claim **1**, wherein said housing has an opening for receiving said extendable housing portion.

8. The device of claim **1**, wherein said housing has a stop to prevent said extendable housing portion from extending beyond a predetermined distance from said housing.

9. The device of claim **1**, wherein said extendable housing portion is urged from said housing with at least one spring.

10. The device of claim **1**, wherein said at least one electrical connector is a three-prong outlet connected to hot, live and neutral conductors of said line cord.

11. The device of claim 1, wherein said housing electrical connector is connected to surge protection within said housing.

12. The device of claim 1, wherein said electrical connectors are connected to surge protection within said extendable housing portion.

13. The device of claim 1, wherein said electrical connectors are connected to surge protection within said housing.

14. The device of claim 1, wherein said at least one electrical connector on said extendable housing portion is accessible when said extendable housing portion is retracted into said housing.

15. The device of claim 1, wherein said extendable housing portion is refracted substantially into said housing.

16. The device of claim 1, wherein said housing has at least one housing electrical connector thereon.

17. The device of claim 16, wherein said at least one housing electrical connector is an RJ11 connector.

18. The device of claim 16, wherein said at least one housing electrical connector is an RJ45 connector.

19. The device of claim 16, wherein said at least one housing electrical connector is a co-ax connector.

20. A method for housing an electronics housing device, comprising:

a) providing a portable housing having a line cord for connection to a source of electrical power and enclosing electrical circuitry;

b) providing at least one extendable housing portion on said housing wherein at least one spring urges said extendable housing portion from said housing; and

c) providing at least one electrical connector on said extendable housing portion, the connector being electrically connected to the electrical circuitry.

21. The method of claim 20, wherein said at least one electrical connector is a three-prong connector.

22. The method of claim 21, wherein said at least one electrical connector connected to a source for hot, neutral and ground.

23. The method of claim 20, wherein said electrical connector is a RJ11 connector.

24. The method of claim 20, wherein said electrical connector is an RJ45 connector.

25. The method of claim 20, wherein said electrical connector is a co-ax connector.

26. The method of claim 20, wherein said at least one electrical connector on said extendable housing portion is accessible when said extendable housing portion is retracted into said housing.

27. The method of claim 20, wherein a stop located within said housing prevents said extendable housing portion from extending beyond a predetermined distance.

28. The method of claim 20, wherein said extendable housing portion extends into and out of said housing on a pair of rails.

29. The method of claim 20, wherein said extendable housing portion is urged into maid housing manually.

30. The method of claim 20, wherein said extendable housing portion is retracted substantially within said housing.

31. The method of claim 20, wherein at least one electrical connector is provided on said housing.

32. The method of claim 20, wherein said at least one electrical connector is a three-prong connector.

33. The method of claim 32, wherein said at least one electrical connector is connected to a source for hot, live and neutral.

34. An electronic, housing device, comprising:

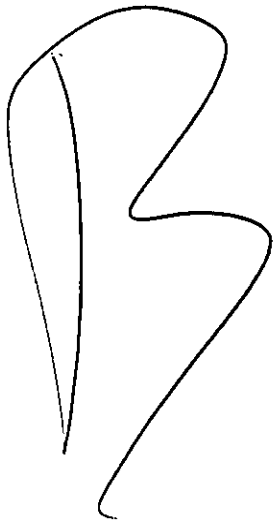
a portable stackable hub housing including a line cord for connection to a source of electrical power and enclosing surge protection circuitry;

at least one extendible housing portion selectively moveable both into and out of said housing on at least one rail attached to one of said housing and said housing portion; and

at least one electrical connector on said extendable housing portion, said connector being electrically connected to said circuitry.

35. The device of claim 34, wherein said at least one electrical connector is positioned inside said housing when said extendable housing portion is moved into said housing, and including at least one additional electrical connector on one of said housing and said extendible housing portion and being accessible when said extendable housing portion is moved into said housing.

* * * * *



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(12) **United States Patent**
Milan

(10) **Patent No.: US 6,872,086 B2**
(45) **Date of Patent: Mar. 29, 2005**

(54) **POP-OUT OUTLETS FOR HOUSINGS**

(76) Inventor: **Henry Milan**, 1709 Apple Ridge Ct., Rochester Hills, MI (US) 48306

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 25 days.

(21) Appl. No.: **10/696,987**

(22) Filed: **Oct. 30, 2003**

(65) **Prior Publication Data**

US 2004/0142587 A1 Jul. 22, 2004

Related U.S. Application Data

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(60) Provisional application No. 60/338,299, filed on Dec. 6, 2001.

(51) **Int. Cl.**[7] **H01R 13/44**
(52) **U.S. Cl.** **439/131**
(58) **Field of Search** 439/131, 650–654, 439/32, 33, 140, 925; 174/57

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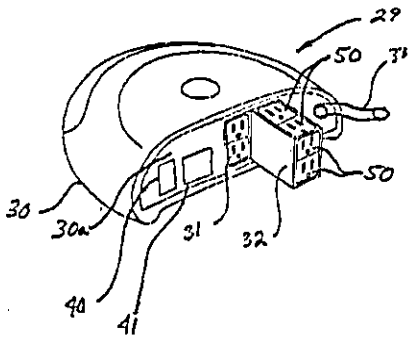
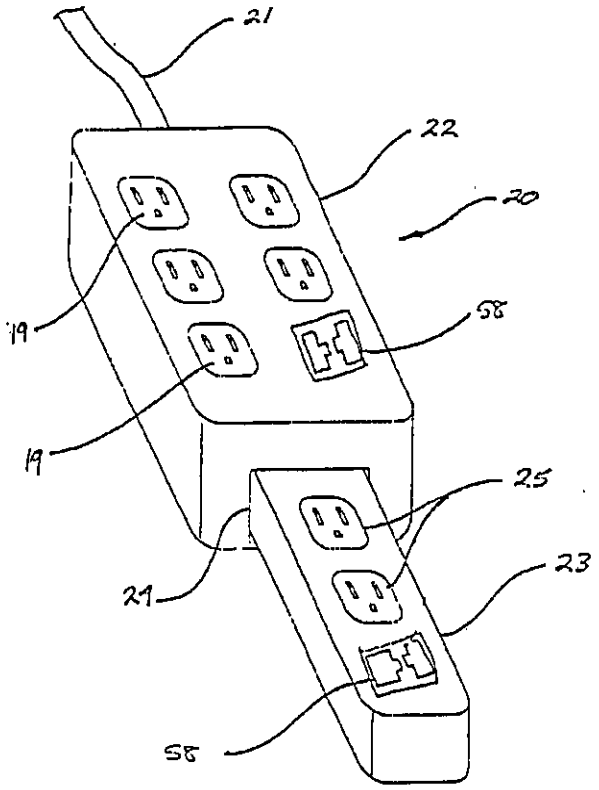
Primary Examiner—Ross Gushi
(74) *Attorney, Agent, or Firm*—MacMillan, Sobanski & Todd, LLC

(57) **ABSTRACT**

An electronic housing device has at least one extendable housing portion provided with electrical connectors and being selectively movable into and out of an opening in a housing of the device. At least one of the connectors can be accessible when the housing portion is retracted and the housing can also be provided with additional accessible electrical connectors.

18 Claims, 11 Drawing Sheets





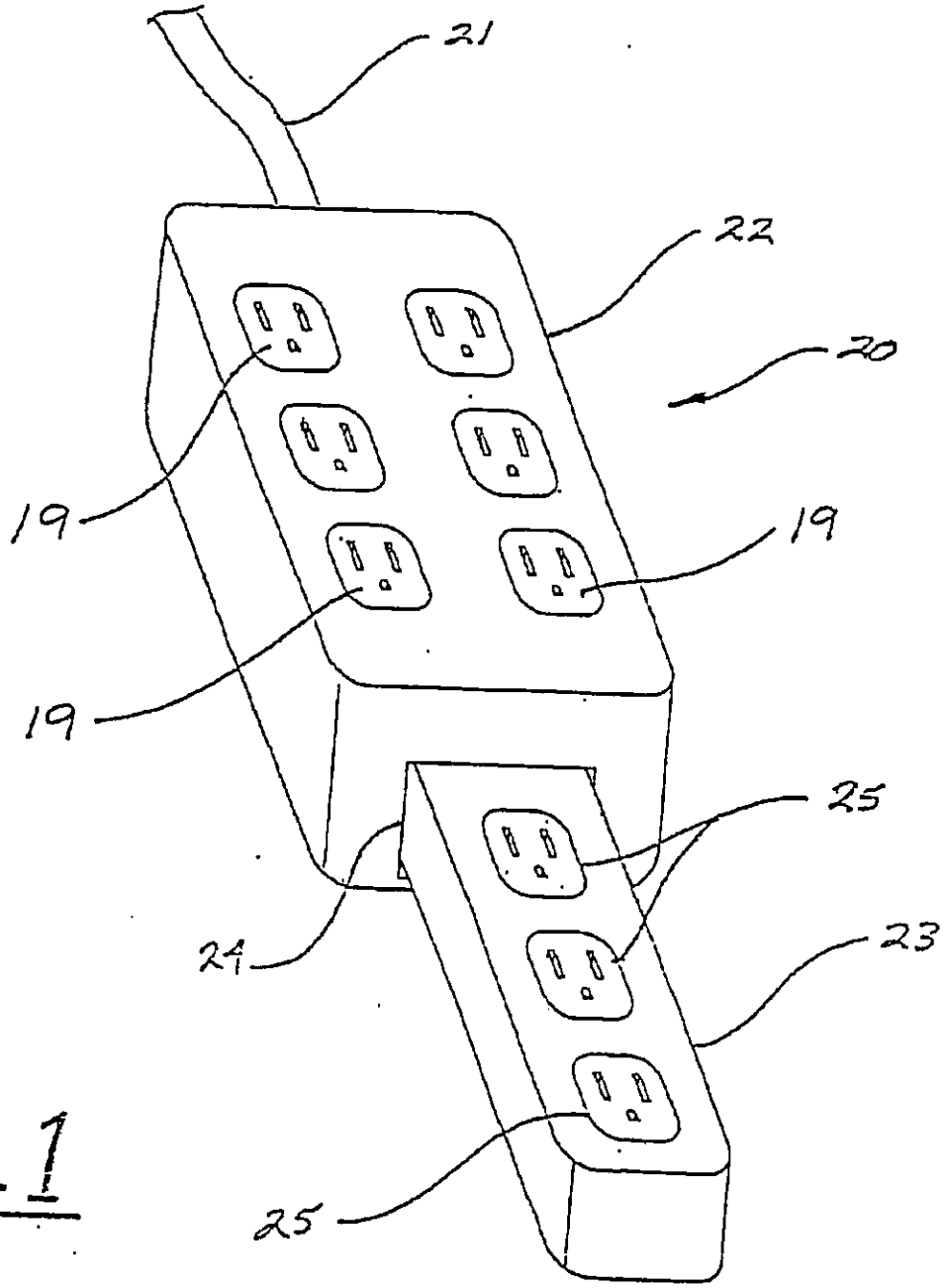


Fig. 1

Fig 2

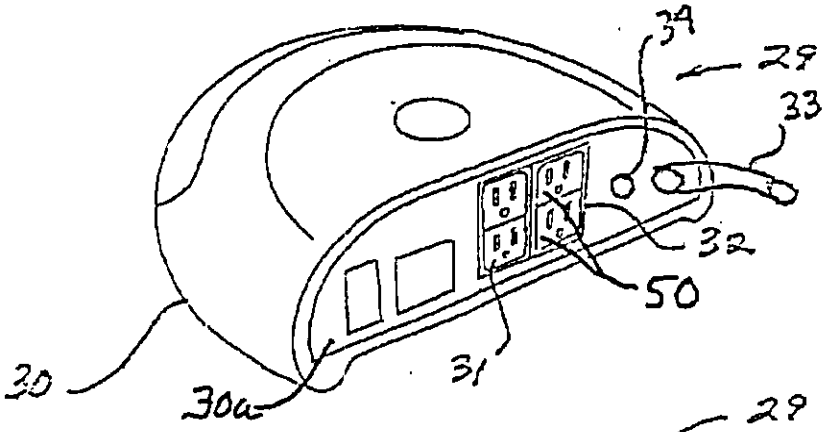
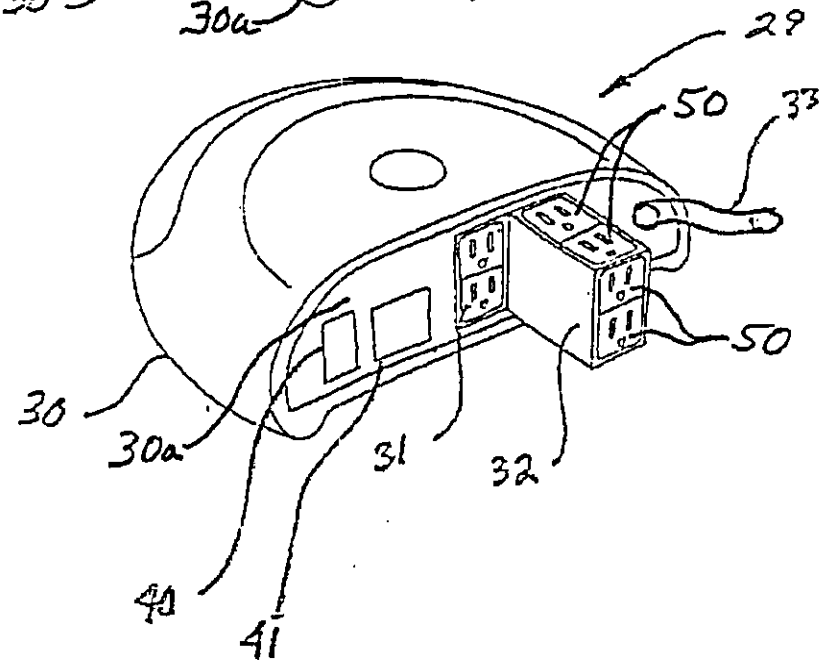
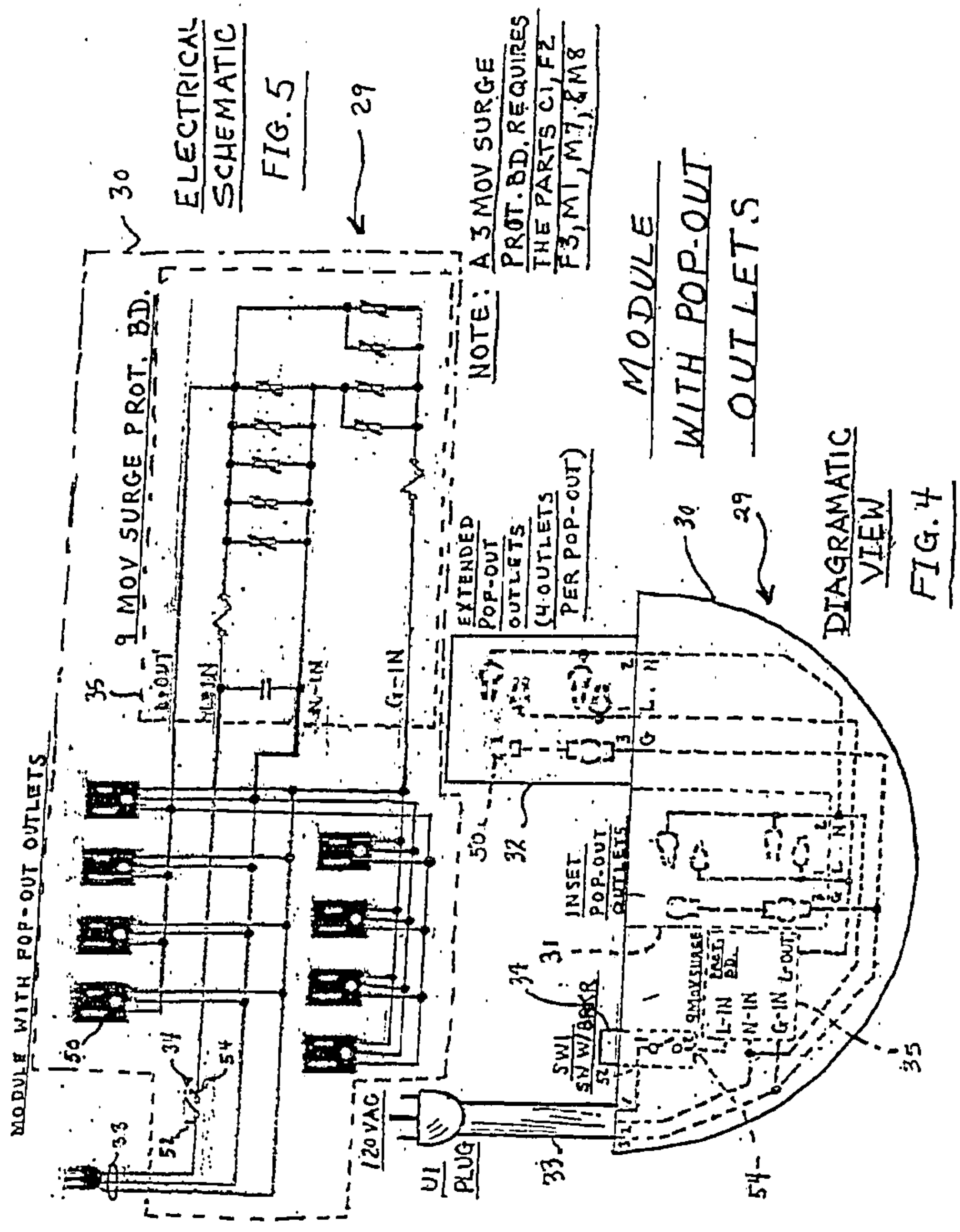


Fig. 3





ELECTRICAL SCHEMATIC

FIG. 5

MODULE WITH POP-OUT OUTLETS

DIAGRAMATIC VIEW

FIG. 4

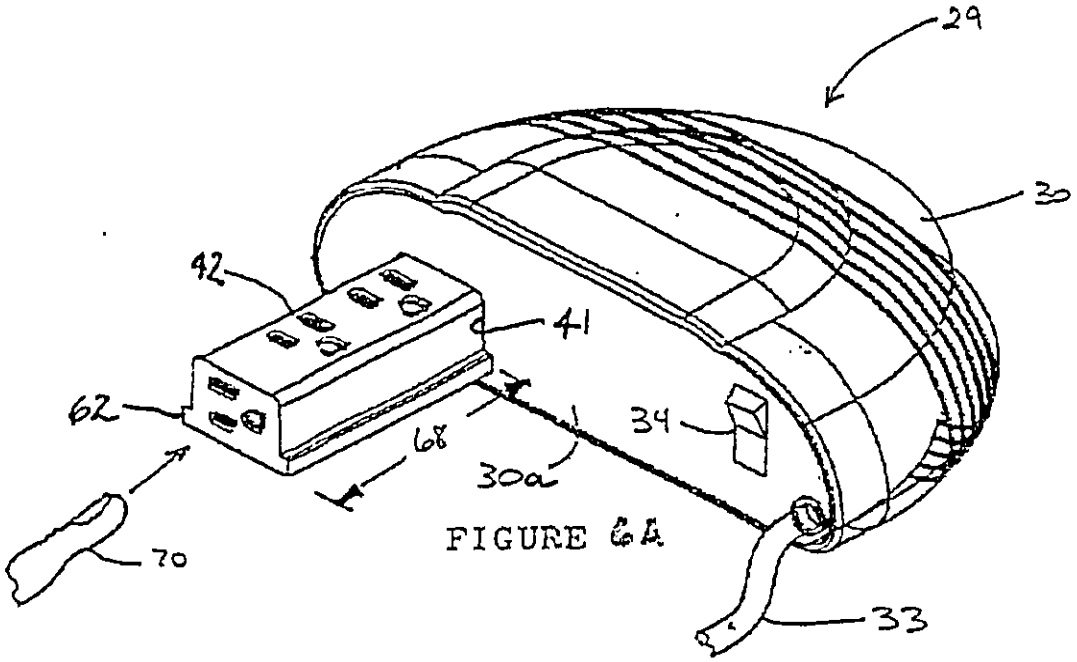


FIGURE 6A

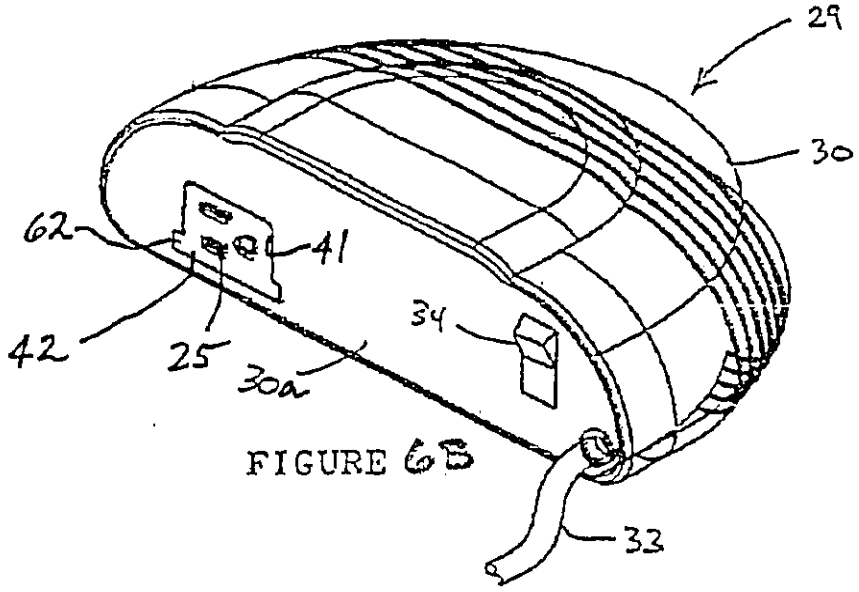


FIGURE 6B

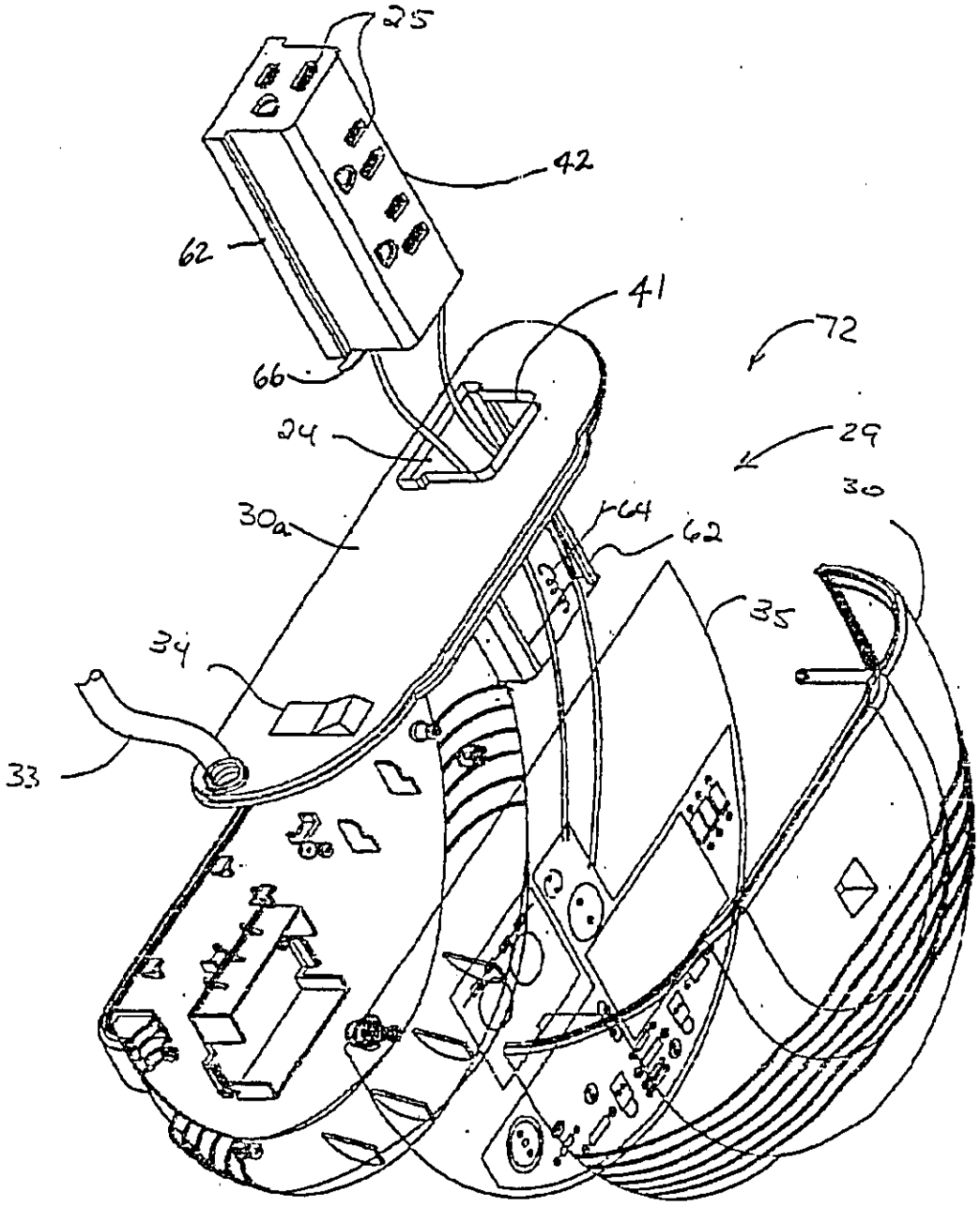


Fig. 7

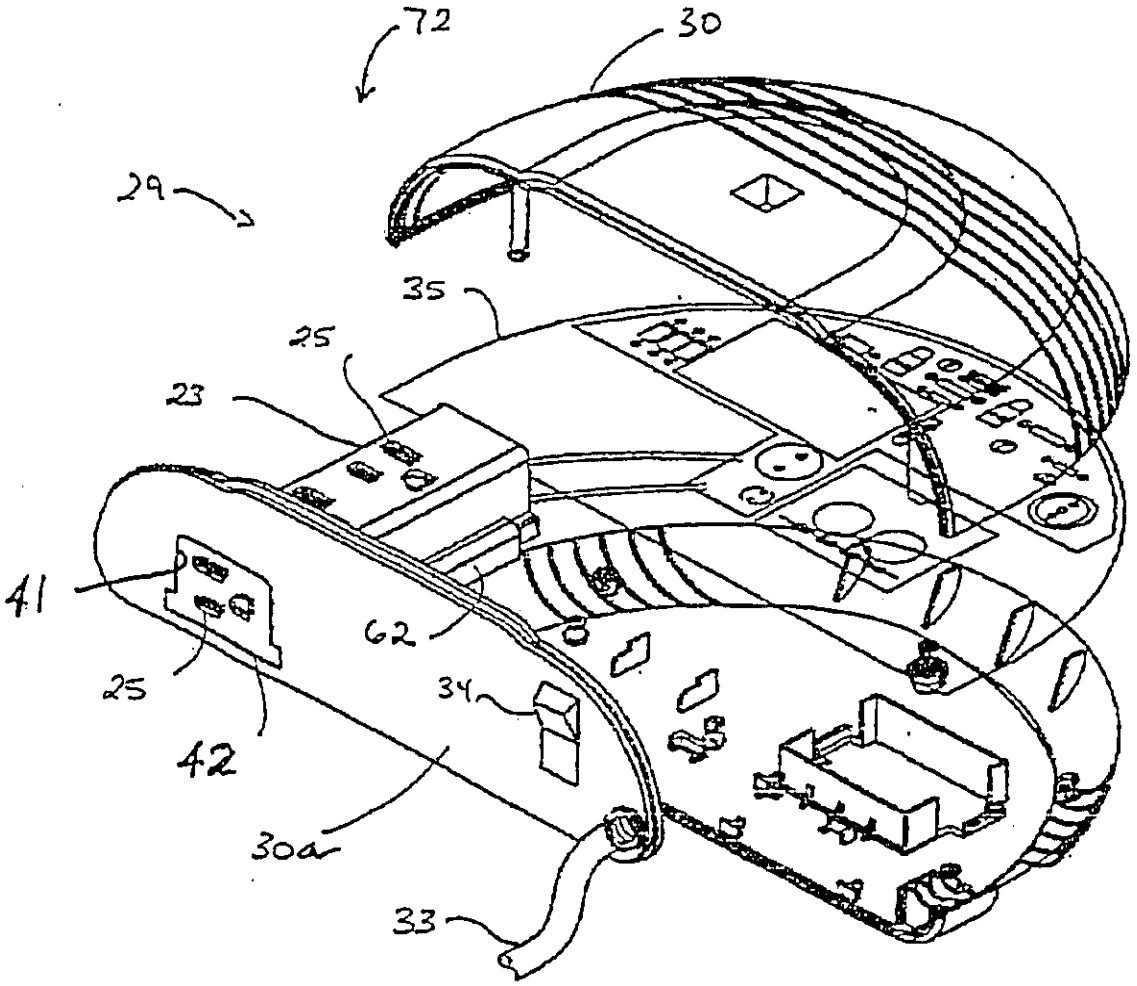


FIGURE 7A

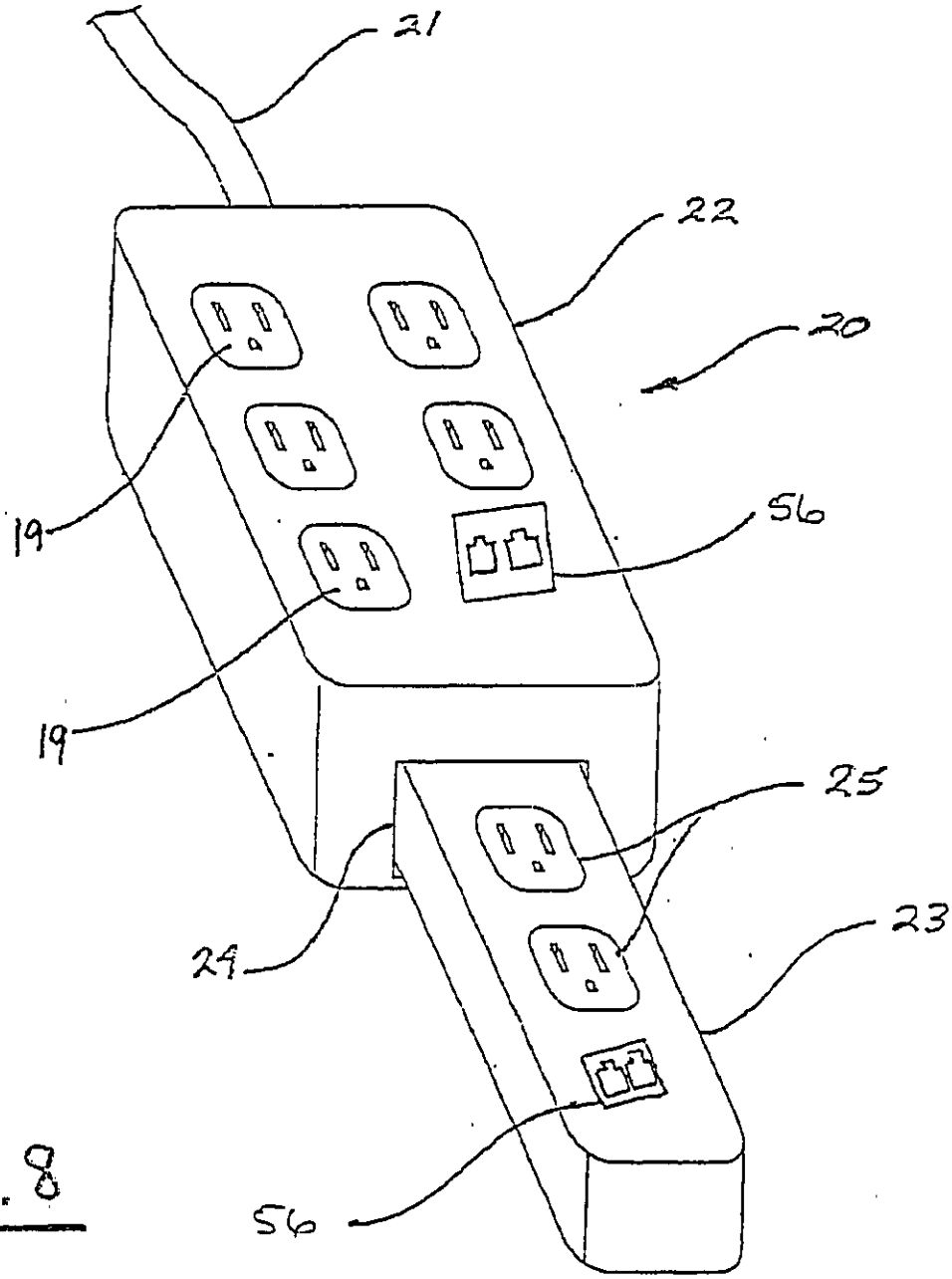


Fig. 8

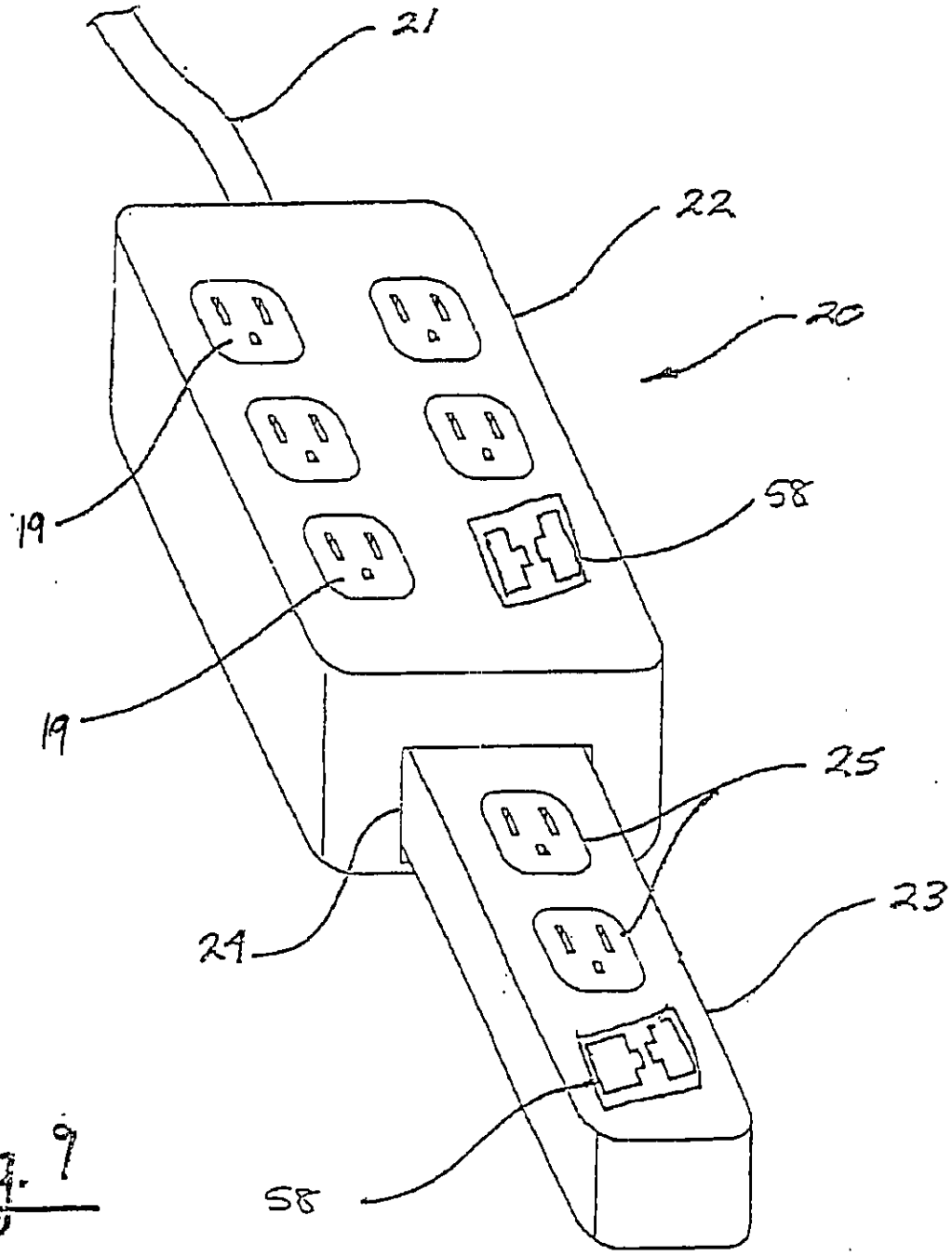


Fig. 9

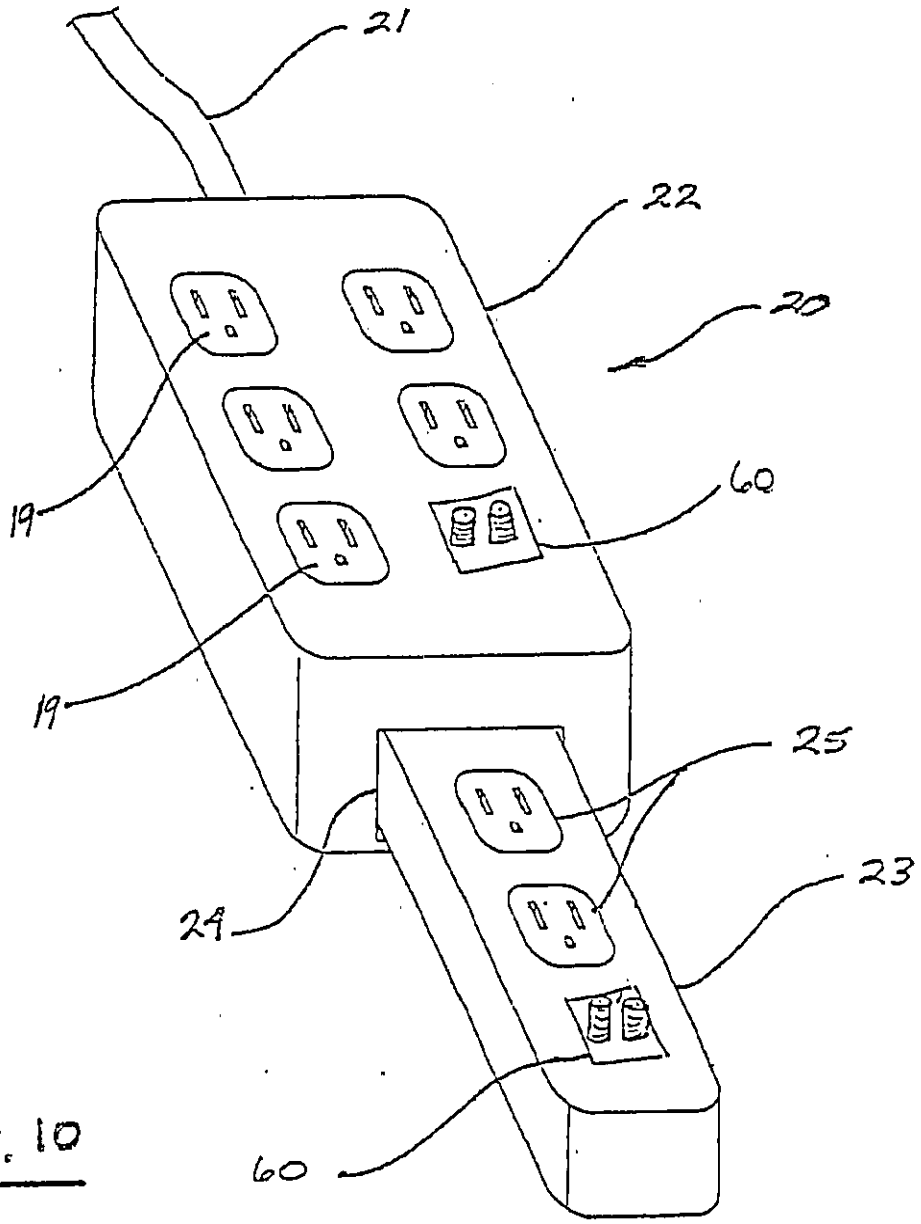


Fig. 10

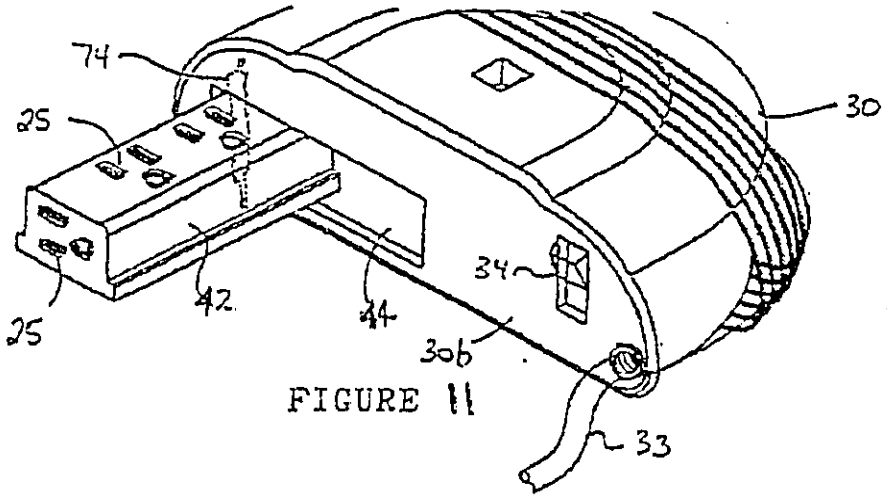


FIGURE 11

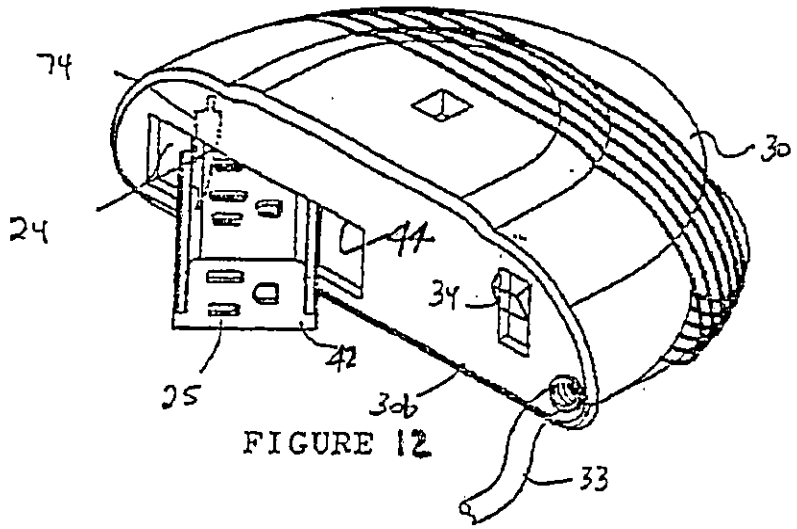


FIGURE 12

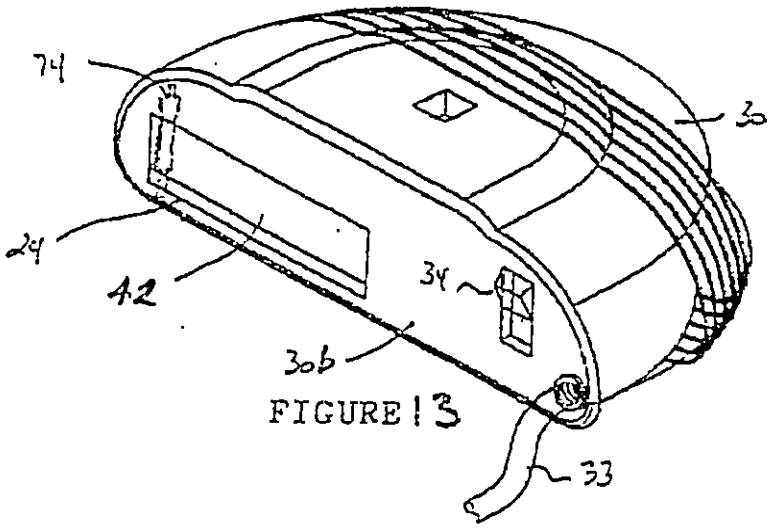


FIGURE 13

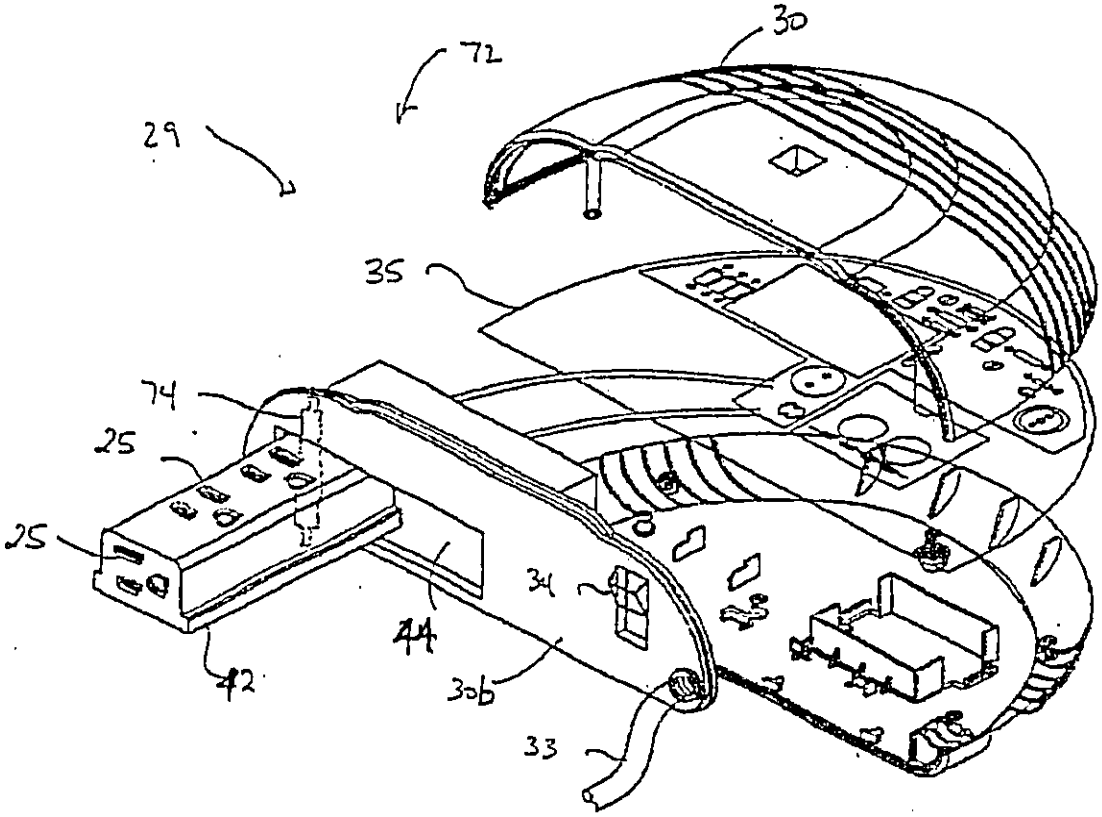


FIGURE 14

POP-OUT OUTLETS FOR HOUSINGS

CROSS-REFERENCE TO RELATED APPLICATION

This application is a division application of the co-pending U.S. patent application Ser. No. 10/313,312, filed Dec. 6, 2002.

This application claims the benefit of U.S. provisional patent application Ser. No. 60/338,229 filed Dec. 6, 2001.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to housings, and more particularly to pop-out or pop-up outlets for electronics housings, and most particularly to pop-out or pop-up outlets for surge protection devices.

2. Discussion of the Related Art

Electrical outlets on electronics housings are well known in the art. Surge protection devices are also well known in the electronics art as being desirable and/or necessary for protecting sensitive electronic devices from surges of current: whether over line cords, telephone lines, or other connections. A common problem with electronics housings and surge protection devices of all types is they never seem to have enough outlets to protect the desired number of devices.

The electronics housings and surge protectors known in the art generally have a fixed number of outlets or receptacles, or require nodules to be added to provide additional outlets or receptacles. This may increase the size of the housing or the surge protection device, and may increase the overall cost of the housing or surge protection device. Thus, those skilled in the art have continued to search for ways to have additional outlets or receptacles present which do not take up space when not needed, and do not require the addition of modules or other devices to the basic housing or surge protector device.

SUMMARY OF THE INVENTION

The present invention solves the problems present in the art by providing pop-up, pop-out or otherwise extendable outlets for electronics housings and surge protection devices such as, for example, line cord surge protectors, telephone line surge line protectors, network surge protectors, co-ax surge protectors, and other types of surge protectors known in the art. With the pop-out outlets in their retracted position, the overall size of the device is not increased, and when the pop-out outlet is "popped-out" of the housing to expose additional outlets or connectors, only then is the size of the device increased, and without additional cost.

Thus, it would be advantageous to provide additional pop-out outlets or connectors in an electronics housing or surge protection device.

Further advantages of the present invention will be apparent from the following description and appended claims, reference being made to the accompanying drawings forming a part of the specification, wherein like reference characters refer to corresponding parts in the several views.

DESCRIPTION OF THE DRAWINGS

The above, as well as other advantages of the present invention, will become readily apparent to those skilled in the art from the following detailed description of a preferred embodiment when considered in the light of the accompanying drawings in which:

FIG. **1** is a perspective view of a construction embodying the present invention;

FIG. **2** is a perspective view of a modification of the present invention showing two pop out outlets, both in their retracted position;

FIG. **3** is a perspective view of the construction shown in FIG. **3** with one of the pop out outlets or connectors shown in its extended or popped-out position;

FIG. **4** is a diagrammatic view of the construction shown in FIG. **2**;

FIG. **5** is an electrical schematic showing the electrical connections for the construction shown in FIG. **4**;

FIG. **6**A is a perspective view of a construction embodying the present invention;

FIG. **6**B is a perspective view of an alternative condition of the construction shown in FIG. **6**A;

FIG. **7** is an exploded perspective view of the construction shown in FIG. **6**A;

FIG. **7**A is an exploded perspective view of an alternative condition of the construction shown in FIG. **7**;

FIG. **8** is a perspective view of a construction embodying the present invention;

FIG. **9** is a perspective view of a construction embodying the present invention;

FIG. **10** is a perspective view of a construction embodying the present invention;

FIG. **11** is a perspective view of a construction embodying the present invention;

FIG. **12** is a perspective view of an alternative condition of the construction shown in FIG. **11**;

FIG. **13** is a perspective view of an alternative condition of the construction shown in FIG. **11**; and

FIG. **14** is an exploded perspective view of the construction shown in FIG. **11**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

It is to be understood that the invention may assume various alternative orientations and step sequences, except where expressly specified to the contrary. It is also to be understood that the specific devices and processes illustrated in the attached drawings, and described in the following specification are simply exemplary embodiments of the inventive concepts defined in the appended claims. Hence, specific dimensions, directions or other physical characteristics relating to the embodiments disclosed are not to be considered as limiting, unless the claims expressly state otherwise.

Referring now to FIG. **1**, there is shown a surge protection or other electronic housing device, generally designated by the numeral **20**, for example, for protecting devices connected to line current from electrical surges. There is shown a line cord **21** for connection to a source or power and a surge protector housing **22** having a plurality of electrical outlets or connectors **19** to receive a standard three-prong line cord plug (not shown).

It should be understood than the present invention may be used for any electronics housing **22**. By way of example only, an electronics housing having surge protection located therein will be described. It should also be understood that the present invention is not limited to providing additional line cord outlets, but is broad in scope and is intended to provide additional pop-out electrical outlets or connectors of any kind, such as RJ11 **56** (FIG. **8**), RJ45 **58** (FIG. **9**) and

co-ax 60 (FIG. 10) connectors, needed to protect any type of electrical devices from surges. Such pop-out outlets or connectors are well within the scope of the present invention.

By way of the present example, surge protector housing 22 has at least one extendable housing portion 23 which slides in and out of an opening 24 provided on the housing 22. A further plurality of electrical outlets or connectors 25 are formed in the top planar surface of the extendable housing portion 23 and may be of any desired type or number. Preferably, at least one electrical connector 25 is exposed when the extendable housing portion 23 is retracted into the housing such as in the embodiment depicted in FIGS. 2 and 3.

As an example of the wide range of surge protection devices which are within the scope of the present invention, there is shown in FIG. 2 and FIG. 3 a perspective view of another electronic housing device in the form of a base unit for a stackable USB hub 29, which may be such as shown in applicant's application Ser. No. 60/169,055, now U.S. Pat. No. 6,607,408, which is incorporated herein by reference.

The base unit 29 has a housing 30, a first pop-out outlet 31, and a second pop-out outlet 32. A line cord 33 provides power to the device and is connected through on/off switch 34 to a surge protection device 35 (FIGS. 4 and 5). Additional snap-in or slide-in housing portion modules may be provided in openings (40, 41) in a rear panel 30*a* if desired.

The surge protection device 35 protects ground and/or the hot and neutral connectors or wires.

Referring now to FIG. 4, there is shown a diagrammatic view of the base unit 29 which comprises the housing 30, the electrical power cord 33, the power on/off switch with breaker 34, the surge protector board 35, the two pop-out outlet modules 31 and 32, and the associated wiring.

To operate, the base unit 29 receives power from the attached power cord 33 which is connected to a 120 volt alternating current power source. Internally, the signal is connected to an input connection 52 of the power switch 34 which allows the user to turn power on or off to the base unit 29. From this point on the incoming neutral and ground signals, along with the hot signal from a power switch 34 output connection 54, are connected to the surge protector board 35, and then passed on to the two pop-out outlet modules 31, 32.

To protect external electrical equipment from power surges, a user could connect a power cord from the external electrical equipment into a pop-out power outlet, for example, 50. If a surge is detected in the wiring, the surge protector board 35 will direct that surge to ground before the surge can damage the external equipment.

Next referring to FIG. 5, there is shown the electrical schematic of the base unit 29. Power enters the base unit through the power cord 33. The hot signal is wired to the input connection 52 of the power switch 34. Then the incoming neutral and ground signals, along with the hot signal of the output connection 54 of the power switch 34, are passed onto the pop-out outlets 31, 32, and the surge protector board 35. To use the present invention a user could connect external electrical equipment into a pop-out power outlet, for example, the outlet 50. If a surge is detected in the wiring, the surge protector board 35 will direct that surge to ground before the surge can damage the external equipment.

As depicted in FIGS. 6A, 6B, 7 and 7A, an extendable housing portion 42 may slide in and out of the opening 41 on complementary rails 62 provided in the housing 30 and on the housing portion 42 by means well known in the art, and may have a spring loaded pop-out feature 64, or may simply be extended and retracted like a common drawer in the housing 30. The pop-outlets 31 and 32 and the opening 40 are not shown in these views. The housing portion 42 has at least one stop 66 in mechanical communication with the housing 30 to prevent the extendable housing portion 42 from extending beyond a predetermined distance 68 from the housing 30 as shown in FIG. 7. Preferably, manual means 70, such as a human finger, are used to locate the extendable housing portion 42 back into the housing 30. As depicted in FIGS. 6B and 7A, at least one outlet or connector 25 is preferably accessible when the extendable housing portion 42 is retracted in the housing 30, however, embodiments where the outlet or connector 25 is not accessible are also well within the scope of the invention.

Suitable electrical connections as depicted in FIGS. 4 and 5, also well known in the art, are provided in the housing to connect the outlets or connectors 25 to the surge protection circuitry 35 which may be provided in the housing 30, and, in turn, to the line cord 33.

FIGS. 11–14 depict an alternative embodiment electronic housing device 72 of the present invention wherein the extendable housing portion 42, as described above, swings or rotates into and out of an opening 44 in a rear panel 30*b* of the housing 30 on at least one hinge 74. The extendable housing portion 42 may be hinged on either end to allow the housing portion to swing out from either side of the opening 44. Additionally, although the extendable housing portion 42 is depicted as swinging out in a substantially horizontal fashion, it is well within the scope of the invention to allow the extendable housing portion 42 to be hinged at either its top or bottom. Hinges at the top or bottom of the extendable housing portion 42 allow it to swing into and out of the housing along a substantially vertical plane. The extendable housing portion 42 may have at least one of the outlet or connector 25 accessible when the extendable housing portion 42 is located within the housing 30.

Manual or automated means may be used to extend the extendable housing portion into and out of the housing.

Thus by carefully studying the problems existing in present day electrical devices, a novel apparatus is provided for providing additional electrical connectors or outlets.

In accordance with the provisions of the patent statutes, the present invention has been described in what is considered to represent its preferred embodiment. However, it should be noted that the invention can be practiced otherwise than as specifically illustrated and described without departing from its spirit or scope.

What is claimed is:

1. An electronic housing device comprising:

a housing for enclosing electronics and having an opening formed therein;

a line cord attached at one end to said housing and having an opposite end adapted to be connected to a source of electrical power;

a first electrical connector supported on said housing and being accessible;

an extendable housing portion mounted in said opening and being selectively moveable into and out of said housing, said housing and said extendable housing portion having complimentary rails to guide said extendable housing portion during movement into and out of said housing; and

a second electrical connector mounted on said extendable housing portion, said second electrical connector being

accessible when said extendible housing portion is extended out of said housing and not being accessible when said extendable housing portion is retracted into said housing.

2. The device according to claim 1 wherein said second electrical connector is one of a three-prong electrical power outlet, a RJ11 connector, a RJ45 connector and a co-ax connector.

3. The device according to claim 1 wherein said housing has a stop preventing said extendable housing portion from extending beyond a predetermined distance from said housing.

4. The device according to claim 1 including a spring loaded pop-out feature for urging said extendable housing portion from said housing.

5. The device of claim 1 wherein said first electrical connector is mounted on an exposed end of said extendable housing portion.

6. The device according to claim 1 wherein said line cord, said first electrical connector and said second electrical connector are connected to a surge protection device.

7. The device according to claim 1 wherein said line cord has hot, neutral and ground wires and said second electrical connector is said three-prong electrical power outlet connected to said hot, neutral and ground wires.

8. The device according to claim 7 wherein said first electrical connector is a three-prong electrical power outlet connected to said hot, neutral and ground wires.

9. An electronics housing device comprising:

an enclosed housing having at least one opening formed therein;

at least two accessible electrical connectors mounted on said housing;

an extendable housing portion mounted in said at least one opening and being selectively extensible in a horizontal direction from and retractable into said housing; and

at least two additional electrical connectors mounted on said extendable housing portion, at least one of said two additional electrical connectors being accessible when said extendable housing portion is extended out of said housing and not being accessible when said extendable housing portion is retracted into said housing, said at least one electrical connector being mounted in a top surface of said extendable housing portion.

10. The device according to claim 9 wherein said at least two accessible electrical connectors are three-prong electrical power outlets.

11. The device according to claim 9 wherein said at least two additional electrical connectors are three-prong electrical power outlets.

12. The device according to claim 9 wherein said housing and said extendable housing portion have complimentary rails to guide said extendable housing portion during. movement into and out of said housing.

13. The device according to claim 9 wherein said housing has a stop preventing said extendable housing portion from extending beyond a predetermined distance from said housing.

14. The device according to claim 9 including a spring loaded pop-out feature for urging said extendable housing portion from said housing.

15. The device according to claim 9 wherein said at least two accessible electrical connectors and said at least two additional electrical connectors are connected to a surge protection device.

16. An electrical power outlet and surge protection device comprising:

a housing having at least one opening formed therein;

a first plurality of electrical power outlets mounted on said housing and being accessible;

an extendable housing portion mounted in said at least one opening and being selectively extensible in a horizontal direction from and retractable into said housing; and

a second plurality of electrical power outlets mounted on said extendable housing portion and being accessible when said extendable housing portion is extended out of said housing and not being accessible when said extendable housing portion is retracted into said housing, said second plurality of electrical power outlets being mounted in a top surface of said extendable housing portion.

17. The device according to claim 16 wherein said first and second pluralities of electrical power outlets are connected to a surge protection device in said housing.

18. The device according to claim 16 wherein said housing and said extendable housing portion have complimentary rails to guide said extendable housing portion during movement into and out of said housing.

* * * * *

CIVIL COVER SHEET

County in which this action arose Oakland

...et and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as ...of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose ...docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

...LAINTIFFS

...n International, Inc. and Henry Milan

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05-74607

County of Residence of First Listed Defendant
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE LAND INVOLVED

NANCY G. EDMUNDS

Attorneys (If Known)

MAGISTRATE JUDGE CAPEL

II. BASIS OF JURISDICTION (Select One Box Only)

- ☐ 1 U.S. Government Plaintiff
- ☑ 3 Federal Question (U.S. Government Not a Party)
- ☐ 2 U.S. Government Defendant
- ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (Select One Box for Plaintiff and One Box for Defendant)

(For Diversity Cases Only)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated *or* Principal Place of Business In This State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated *and* Principal Place of Business In Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. NATURE OF SUIT (Select One Box Only)

CONTRACT
- ☐ 110 Insurance
- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans)
- ☐ 153 Recovery of Overpayment of Veteran's Benefits
- ☐ 160 Stockholders' Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability
- ☐ 196 Franchise

REAL PROPERTY
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

TORTS

PERSONAL INJURY
- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury

PERSONAL INJURY
- ☐ 362 Personal Injury - Med. Malpractice
- ☐ 365 Personal Injury - Product Liability
- ☐ 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

CIVIL RIGHTS
- ☐ 441 Voting
- ☐ 442 Employment
- ☐ 443 Housing/ Accommodations
- ☐ 444 Welfare
- ☐ 445 Amer. w/Disabilities - Employment
- ☐ 446 Amer. w/Disabilities - Other
- ☐ 440 Other Civil Rights

PRISONER PETITIONS
- ☐ 510 Motions to Vacate Sentence

Habeas Corpus:
- ☐ 530 General
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Condition

FORFEITURE/PENALTY
- ☐ 610 Agriculture
- ☐ 620 Other Food & Drug
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 630 Liquor Laws
- ☐ 640 R.R. & Truck
- ☐ 650 Airline Regs.
- ☐ 660 Occupational Safety/Health
- ☐ 690 Other

LABOR
- ☐ 710 Fair Labor Standards Act
- ☐ 720 Labor/Mgmt. Relations
- ☐ 730 Labor/Mgmt.Reporting & Disclosure Act
- ☐ 740 Railway Labor Act
- ☐ 790 Other Labor Litigation
- ☐ 791 Empl. Ret. Inc. Security Act

BANKRUPTCY
- ☐ 422 Appeal 28 USC 158
- ☐ 423 Withdrawal 28 USC 157

PROPERTY RIGHTS
- ☐ 820 Copyrights
- ■ 830 Patent
- ☐ 840 Trademark

SOCIAL SECURITY
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

FEDERAL TAX SUITS
- ☐ 870 Taxes (U.S. Plaintiff or Defendant)
- ☐ 871 IRS—Third Party 26 USC 7609

OTHER STATUTES
- ☐ 400 State Reapportionment
- ☐ 410 Antitrust
- ☐ 430 Banks and Banking
- ☐ 450 Commerce
- ☐ 460 Deportation
- ☐ 470 Racketeer Influenced and Corrupt Organizations
- ☐ 480 Consumer Credit
- ☐ 490 Cable/Sat TV
- ☐ 810 Selective Service
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 875 Customer Challenge 12 USC 3410
- ☐ 890 Other Statutory Actions
- ☐ 891 Agricultural Acts
- ☐ 892 Economic Stabilization Act
- ☐ 893 Environmental Matters
- ☐ 894 Energy Allocation Act
- ☐ 895 Freedom of Information Act
- ☐ 900 Appeal of Fee Determination Under Access to Justice
- ☐ 950 Constitutionality of State Statutes

V. ORIGIN (Select One Box Only)

☑ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district (specify) ☐ 6 Multidistrict Litigation ☐ 7 Appeal to District Judge from Magistrate Judgment

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):
35 U.S.C. § 1 et seq.

Brief description of cause:
patent infringement

VII. REQUESTED IN COMPLAINT:

☐ CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23

DEMAND $ 75,000.00

CHECK YES only if demanded in complaint:
JURY DEMAND: ☑ Yes ☐ No

VIII. RELATED CASE(S) IF ANY

(See instructions): JUDGE Paul V. Gadola DOCKET NUMBER 05-40179

DATE
December 5, 2005

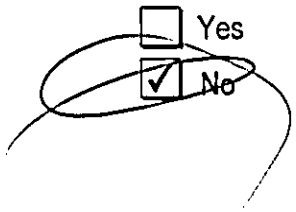
SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

TO LOCAL RULE 83.11

Is this a case that has been previously dismissed?



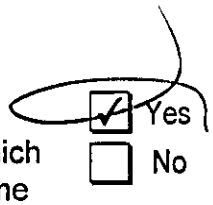
If yes, give the following information:

Court: _____

Case No.: _____

Judge: _____

2. Other than stated above, are there any pending or previously discontinued or dismissed companion cases in this or any other court, including state court? (Companion cases are matters in which it appears substantially similar evidence will be offered or the same or related parties are present and the cases arise out of the same transaction or occurrence.)



If yes, give the following information:

Court: US District Court-Eastern District of Michigan

Case No.: 05-40179

Judge: Paul V. Gadola

Notes :