

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

Case No.:

02-60107

LEVITON MANUFACTURING CO., INC.,)

Plaintiff,)

v.)

PRO LINE PRODUCTS, INC.,)

Defendant.)

CIV-FERGUSON

MAGISTRATE JUDGE

SNOW

RECORDED
FILED
JAN 25 2002
U.S. DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA
D.C.

COMPLAINT AND JURY DEMAND

Plaintiff, LEVITON Manufacturing Co., Inc. ("LEVITON"), hereby alleges upon knowledge as to its own acts and upon best available information and belief as to the acts of Defendant, Pro Line Products, Inc. ("PRO LINE"), that:

JURISDICTION AND VENUE

1. This is an action for patent infringement and violations of the Lanham Act arising under the Patent and Trademark Laws of the United States, Titles 35 and 15, United States Code, and the laws of the State of Florida.

2. Jurisdiction over the subject matter is conferred on this Court by Title 28, United States Code, Sections 1331, 1338(a), 1367, as well as Title 15 U.S.C. Section 1121.

3. Venue is properly based on Title 28, United States Code, Sections 1391 (c) and 1400(b).

THE PARTIES

4. LEVITON is a corporation organized and existing under the laws of the State of Delaware having its principal place of business at 59-25 Little Neck Parkway, Little Neck, New York 11362.

5. PRO LINE is a company organized and existing under the laws of the State of Florida having its principal place of business in this Judicial District at 1125 SW 101 Rd., Davie, Florida 33324.

PATENT IN SUIT

6. On June 17, 1986, United States Patent No. 4,595,894 (“the ’894 patent”), entitled “Ground Fault Circuit Interrupting System”, was duly and legally issued by the United States Patent and Trademark Office to plaintiff Leviton as assignee of co-inventors Richard C. Doyle and Lester Rivera. A copy of the ’894 patent (including certificates of correction dated July 12, 1988 and December 11, 2001) is appended hereto as Exhibit A.

7. LEVITON is the sole owner of all right, title and interest in the ’894 patent, including the right to sue and recover for past infringement thereof.

TRADEMARK RIGHTS

8. LEVITON is the sole owner of all right, title and interest in and to trademark rights including trade dress rights in the well known appearance and arrangement of the elements of the face of its ground fault circuit interrupter product line (hereinafter the “product”).

9. The purchasing public and those in the trade have come to recognize the well known appearance and arrangement of the elements of LEVITON's product, and associate said appearance and arrangement with LEVITON as the source of such product.

10. The purchasing public and those in the trade, when seeing said LEVITON's well known product's appearance, believe products having said appearance are the product of LEVITON's manufacture, quality standards, design standards, and have originated from LEVITON.

11. The well known appearance and arrangement of the elements on the face of LEVITON's product have acquired secondary meaning through its trade dress, trademark and appearance design.

12. LEVITON has retained the law firm of Greenberg Traurig, P.A. to represent it in this action. LEVITON is obligated to pay Greenberg Traurig, P.A. a reasonable fee for the professional services which it renders in this action.

**FIRST CAUSE OF ACTION:
DEFENDANT'S PATENT INFRINGEMENT**

13. LEVITON repeats and reaffirms all of the allegations contained in the preceding paragraphs numbered 1 through 12, with the same force and effect as if fully set forth herein.

14. PRO LINE, in violation of 35 U.S.C. § 271, has been, and is infringing one or more claims of the '894 patent by making, using, offering to sell or selling, and/or inducing same in this Judicial District and/or elsewhere, the product which embodies the patented invention, and will continue to do so unless enjoined by this Court.

15. PRO LINE's infringement has been, and continues to be, deliberate, willful and knowing.

16. By reason of its acts and practices, PRO LINE has caused, is causing and, unless such acts and practices are enjoined by the Court, will continue to cause, immediate and irreparable harm to LEVITON for which there is no adequate remedy at law and for which LEVITON is entitled to injunctive relief under 35 U.S.C. § 283.

17. As a direct and proximate consequence of the acts and practices of PRO LINE, LEVITON has also been, is being, and unless such acts and practices are enjoined by the Court, will continue to be injured in its business and property rights, and has suffered, is suffering, and will continue to suffer injury and damages for which LEVITON is entitled to relief under 35 U.S.C. § 284.

18. This is an exceptional case within the meaning of 35 U.S.C. § 285 and LEVITON is therefore entitled to its reasonable attorney's fees.

**SECOND CAUSE OF ACTION:
DEFENDANT'S VIOLATION OF THE LANHAM
ACT BY FALSE DESIGNATION OF ORIGIN**

19. LEVITON repeats and reaffirms all of the allegations contained in the preceding paragraphs numbered 1 through 12, with the same force and effect as if fully set forth herein.

20. This cause of action is for false designation of origin and unfair competition arising under the Lanham Trademark Act of the United States, including 15 U.S.C. Sections 1051 et seq. under which PRO LINE has, without consent or permission from LEVITON, marketed, directly and/or indirectly, induced, and/or contributed to the marketing of products utilizing the trade dress and appearance of LEVITON's product.

21. PRO LINE's ground fault circuit interrupter products have been and continue to be offered for sale in direct competition with LEVITON's product.

22. PRO LINE's use of LEVITON's trade dress, trademark and appearance design in connection with PRO LINE's products constitutes a false designation of origin, a false description, and a false representation that PRO LINE's goods are approved, imported, distributed, guaranteed, authorized by, or connected with LEVITON.

23. Upon information and belief, PRO LINE has used LEVITON's trade dress, trademark and appearance design with full knowledge of the long and extensive prior use of that trade dress, trademark and appearance design by LEVITON, of the extensive efforts by LEVITON to design its product to appeal to U.S. consumers and those in the trade, and of advertising and promotional efforts by LEVITON for the product.

24. Upon information and belief, PRO LINE has used LEVITON's trade dress, trademark and appearance design in such manner as to cause confusion, mistake or deception among the public, as well as in the minds of those in the trade, as to the source, approval, sponsorship, authorization, or affiliation of PRO LINE's products, and so as to suggest a connection between PRO LINE's products on the one hand, and LEVITON's product on the other, all to PRO LINE's profit, and LEVITON's great damage and injury.

25. Upon information and belief, PRO LINE has engaged in the aforesaid activities willfully, deliberately and with an intent to reap the benefit of LEVITON's goodwill previously acquired by LEVITON as a result of its diligent efforts. PRO LINE's willful and deliberate acts are likely to confuse and mislead the public and to thereby cause grave and irreparable harm to LEVITON's business.

26. Upon information and belief, by reason of the foregoing wrongful acts, PRO LINE has engaged in deceptive acts and practices in the conduct of its business.

27. PRO LINE's acts are in willful violation of Section 43(a) of the Lanham Act, 15 U.S.C. § 1125(a).

28. LEVITON has suffered, is suffering and will continue to suffer irreparable harm and damage as a result of PRO LINE's aforesaid activities. PRO LINE will, unless restrained and enjoined, continue to act in the unlawful manner complained of herein, all to LEVITON's irreparable damage.

29. LEVITON's remedy at law is not adequate to compensate it for the injuries suffered and threatened.

30. By reason of PRO LINE's acts complained of herein, LEVITON has suffered monetary damages in an amount not yet determined.

**THIRD CAUSE OF ACTION:
DEFENDANT'S UNFAIR COMPETITION UNDER STATE LAW**

31. LEVITON repeats and reaffirms all of the allegations contained in the preceding paragraphs numbered 1 through 12, with the same force and effect as if fully set forth herein.

32. This cause of action is for violation of the unfair competition laws of the State of Florida and of those other states in which PRO LINE has, without consent or permission from LEVITON, marketed, directly and/or indirectly, induced, and/or contributed to the marketing of products utilizing the appearance of LEVITON's product.

33. PRO LINE's ground fault circuit interrupter products have been and continue to be offered for sale in direct competition with LEVITON's product.

34. Upon information and belief, these willful and deliberate acts of PRO LINE are likely to cause confusion, deception, or mistake among purchasers, as well as in the minds of

those in the trade, as to the origin, affiliation, or connection of PRO LINE's products with LEVITON's product, thereby causing grave and irreparable harm to LEVITON's business.

35. Upon information and belief, PRO LINE has engaged in the aforesaid activities willfully, deliberately and with an intent to reap the benefit of LEVITON's goodwill previously acquired by LEVITON as a result of its diligent efforts.

36. Upon information and belief, by reason of the foregoing wrongful acts, PRO LINE has engaged in deceptive acts and unfair practices in the conduct of its business and the palming off of its goods and/or services as that of LEVITON.

37. PRO LINE's willful conduct constitutes unfair competition, which has caused and will continue to cause, irreparable injury to LEVITON's good will and reputation unless enjoined by this Court.

38. LEVITON has suffered, is suffering and will continue to suffer irreparable harm and damage as a result of PRO LINE's aforesaid activities. PRO LINE will, unless restrained and enjoined, continue to act in the unlawful manner complained of herein, all to LEVITON's irreparable damage.

39. LEVITON's remedy at law is not adequate to compensate it for the injuries suffered and threatened.

40. By reason of PRO LINE's acts complained of herein, LEVITON has suffered monetary damages in an amount not yet determined.

PRAYER FOR RELIEF

WHEREFORE, LEVITON respectfully prays for a Judgment from this Court that:

- a) LEVITON is the owner of the entire right, title and interest in United States Letters Patent No 4,595,894, including the right to sue and recover for past infringement thereof;
- b) United States Letters Patent No. 4,595,894 was duly and legally issued, is valid and enforceable, and is infringed by PRO LINE;
- c) PRO LINE and those acting in concert with it be permanently enjoined from engaging in further acts of infringement of said United States Letter Patent 4,595,894 pursuant to 35 U.S.C. § 283;
- d) LEVITON is the owner of trademark and trade dress rights in and to the appearance and/or design of its ground fault circuit interrupters.
- e) PRO LINE and its business, officers, directors, agents, employees, privies, successors and assigns, and all persons and organizations in active concert, participation and combination therewith, be enjoined and restrained during the pendency of this action, and permanently thereafter from:
 - i. selling products having the trade dress, appearance and/or design of the elements exhibited by LEVITON's ground fault circuit interrupters, or any other trade dress, appearance and/or design confusingly similar thereto, alone or in combination with any other word or design, as a trademark or otherwise in the labeling, advertising, marketing or sale of any ground fault circuit interrupter or related product marketed on its behalf;
 - ii. palming off its goods or services as those of LEVITON;

iii. aiding or abetting others to palm off its goods or services as those of LEVITON;

iv. from competing unfairly with LEVITON in the distribution, marketing, sale, or advertising its ground fault circuit interrupters, so as to prejudice or destroy LEVITON's rights in and to its trademark rights as aforesaid;

v. causing likelihood of confusion, injury to business reputation or dilution of the distinctiveness of LEVITON's trade dress and trademark.

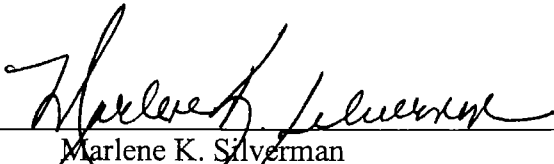
- f) That this Court order PRO LINE, its business, officers, agents, servants and employees, to deliver up to this Court for destruction all products of PRO LINE which are either infringing upon the rights of LEVITON or embody LEVITON's trade dress and/or trademark, or are of the type used to compete unfairly with LEVITON, and that PRO LINE submit in writing, under Oath, a description of all actions taken to comply with this portion of the Order, within one month of the issuance of any order.
- g) That PRO LINE be required to account to LEVITON for any and all profits thus derived by PRO LINE, and be ordered to compensate LEVITON for all damages sustained by LEVITON by reason of the acts patent and trademark infringement set forth herein, and that the damages herein be trebled.
- h) That PRO LINE be ordered to pay over to LEVITON all of its respective gains, profits and advantages derived from sales obtained by infringement, unfair trade practices and unfair competition, together with compensation for all damages

sustained by LEVITON as a result of PRO LINE's wrongful acts of unfair competition, unfair trade practices, infringement and palming off and, in view of the willful and deliberate nature of PRO LINE's acts, that such amount be trebled.

- i) That PRO LINE be ordered to pay the costs of this action and to pay to LEVITON the reasonable attorney's fees expended by LEVITON in this action for false designation of origin and trademark infringement, together with all of the other costs and disbursements therein.
 - j) LEVITON be awarded damages adequate to compensate for PRO LINE's infringement of said United States Letters Patent No. 4,595,894 together with prejudgment interest, said damages to be trebled pursuant to 35 U.S.C. § 284;
 - k) LEVITON be awarded its reasonable attorney fees pursuant to 35 U.S.C. § 285;
- and

- 1) LEVITON have such other and further relief as this Court deems just and equitable.

Dated: December 24, 2001

By: 

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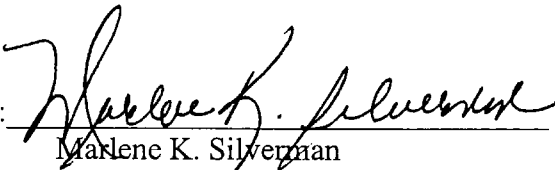
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JURY DEMAND

Pursuant to Rule 38(b), Fed. R. Civ. P., LEVITON demands trial by jury of any issue triable of right by a jury.

Dated: December 24, 2001

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EXHIBIT “A”

The
United
States
of
America



The Commissioner of Patents
and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person or persons having title to this patent the right to exclude others from making, using or selling the invention throughout the United States of America for the term of seventeen years from the date of this patent, subject to the payment of maintenance fees as provided by law.

A handwritten signature in cursive script, reading "Ronald J. Higgins".

Commissioner of Patents and Trademarks

Melvinia Gary
Attest

United States Patent [19]

[11] Patent Number: **4,595,894**

Doyle et al.

[45] Date of Patent: **Jun. 17, 1986**

[54] **GROUND FAULT CIRCUIT INTERRUPTING SYSTEM**

[56]

References Cited

U.S. PATENT DOCUMENTS

4,010,432	1/1977	Klein et al.	335/18
4,163,882	8/1979	Baslow	200/297
4,518,945	5/1985	Doyle	340/310

[75] Inventors: **Richard C. Doyle, Greenlawn; Lester Rivera, Brooklyn, both of N.Y.**

[73] Assignee: **Leviton Manufacturing Co., Inc., Little Neck, N.Y.**

*Primary Examiner—E. A. Goldberg
Assistant Examiner—Lincoln Donovan
Attorney, Agent, or Firm—Paul J. Sutton*

[21] Appl. No.: **716,991**

[57]

ABSTRACT

[22] Filed: **Apr. 1, 1985**

A switching system for interrupting an electrical circuit is described. This switch includes a number of preferred and other embodiments which have this as their goal, but which represents a number of distinctive and novel approaches to solving switching problems in the prior art. By way of example only, these approaches include provision of mounting strap which supports ground terminals while also serving as a magnetic circuitry conduit; a "banger" type arrangement which enables alternate making and breaking of a circuit; and a space-saving method for supporting the arrangement within a conventional receptacle box.

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 558,262, Dec. 5, 1983, and a continuation-in-part of Ser. No. 431,982, Sep. 30, 1982, Pat. No. 4,518,945.

[51] Int. Cl.⁴ **H01H 73/00; H01H 73/12; H01H 75/00; H01H 83/06**

[52] U.S. Cl. **335/18; 361/332; 361/43; 361/42; 335/6**

[58] Field of Search **335/18, 202, 6; 361/42, 361/353, 356, 357; 200/296, 297**

4 Claims, 10 Drawing Figures

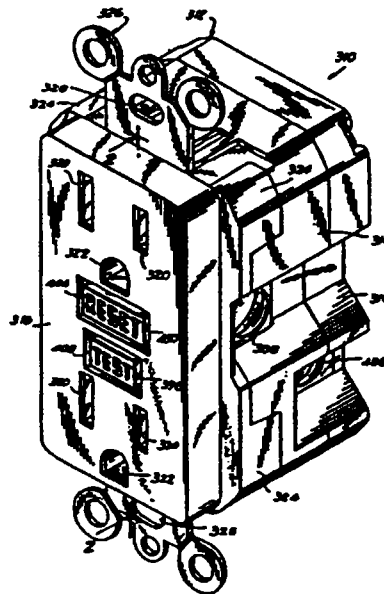
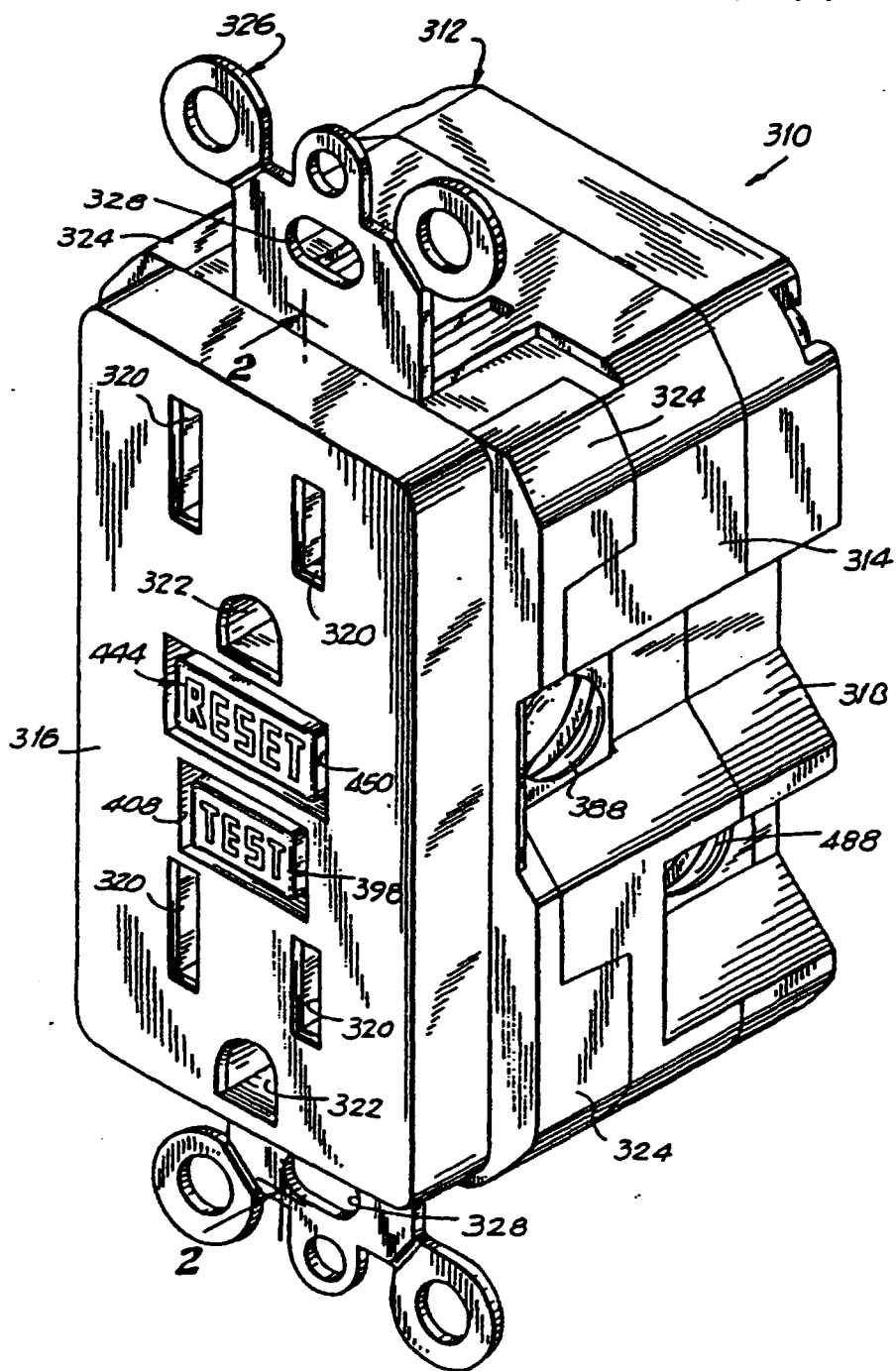


FIG. 1



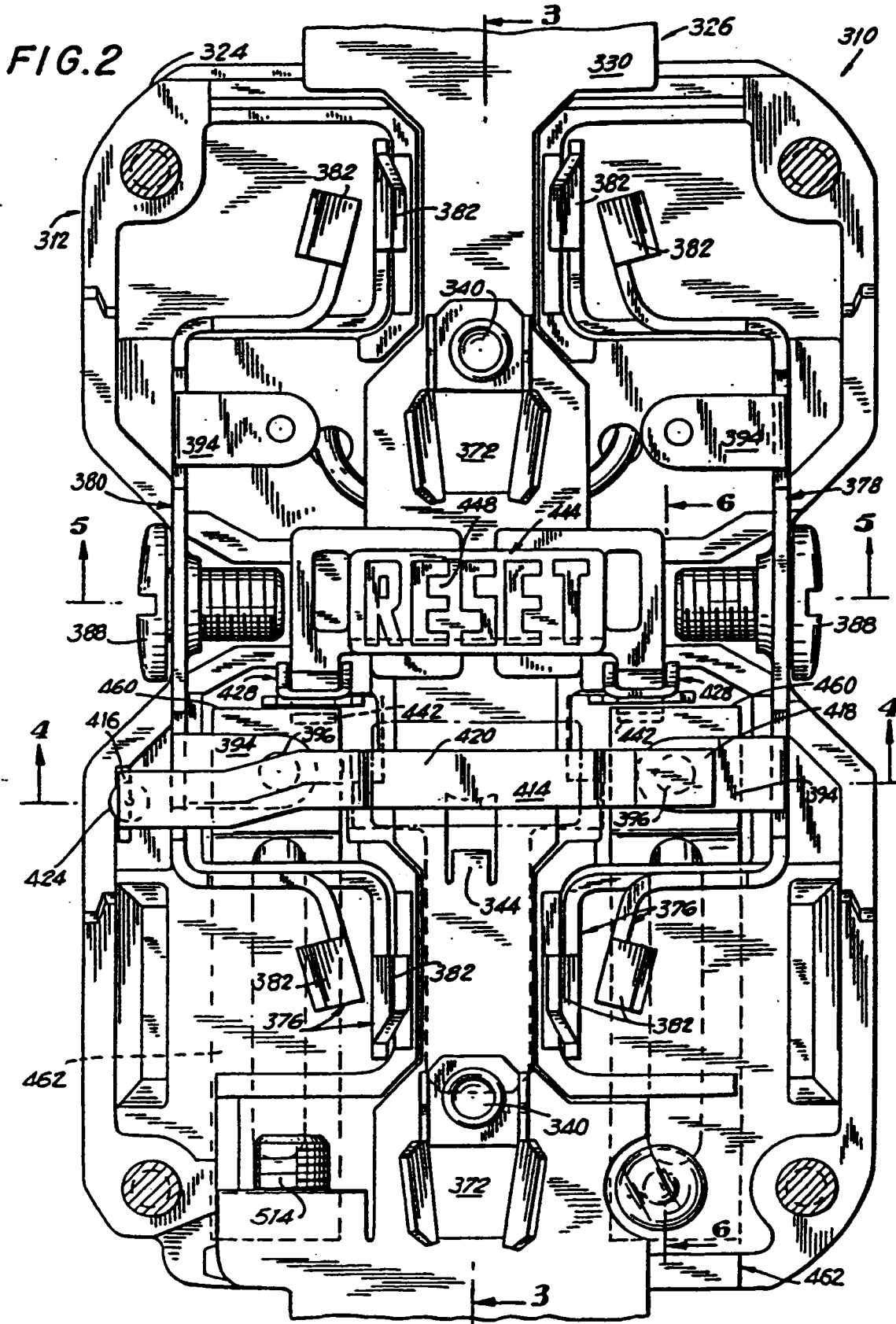
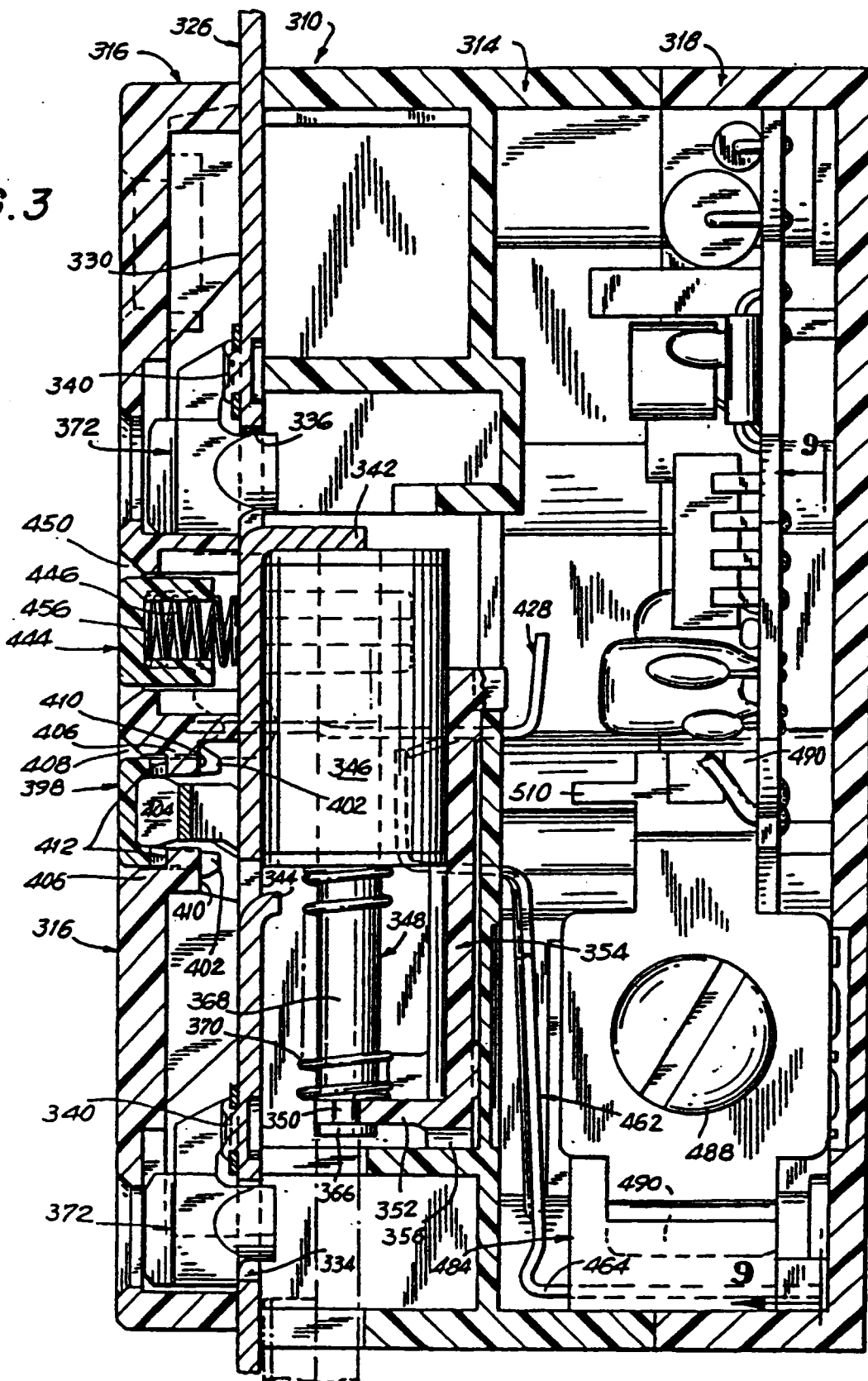


FIG. 3



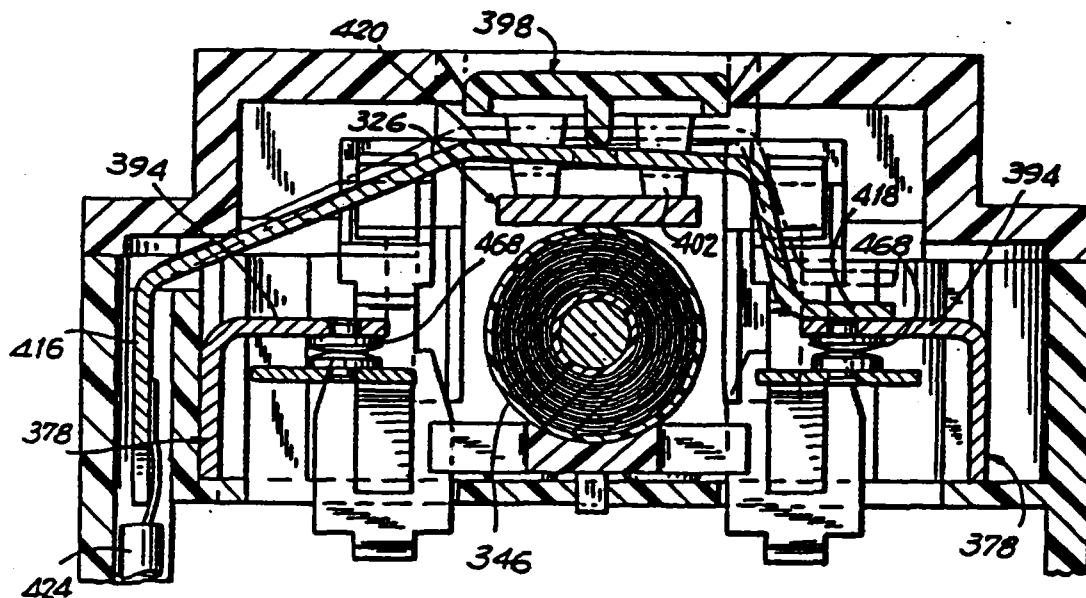


FIG. 4

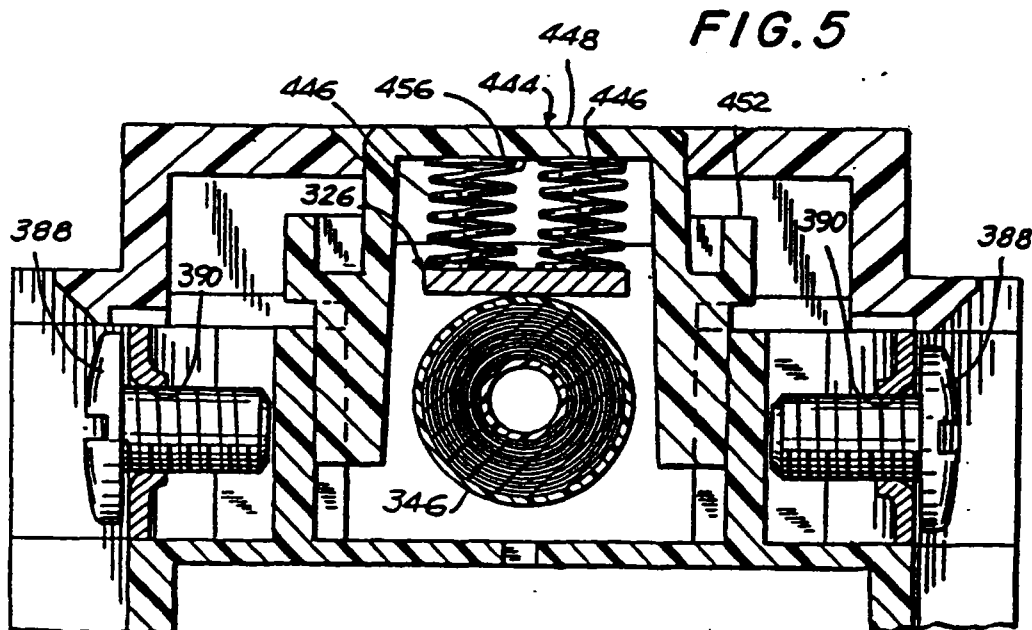


FIG. 5

FIG. 7

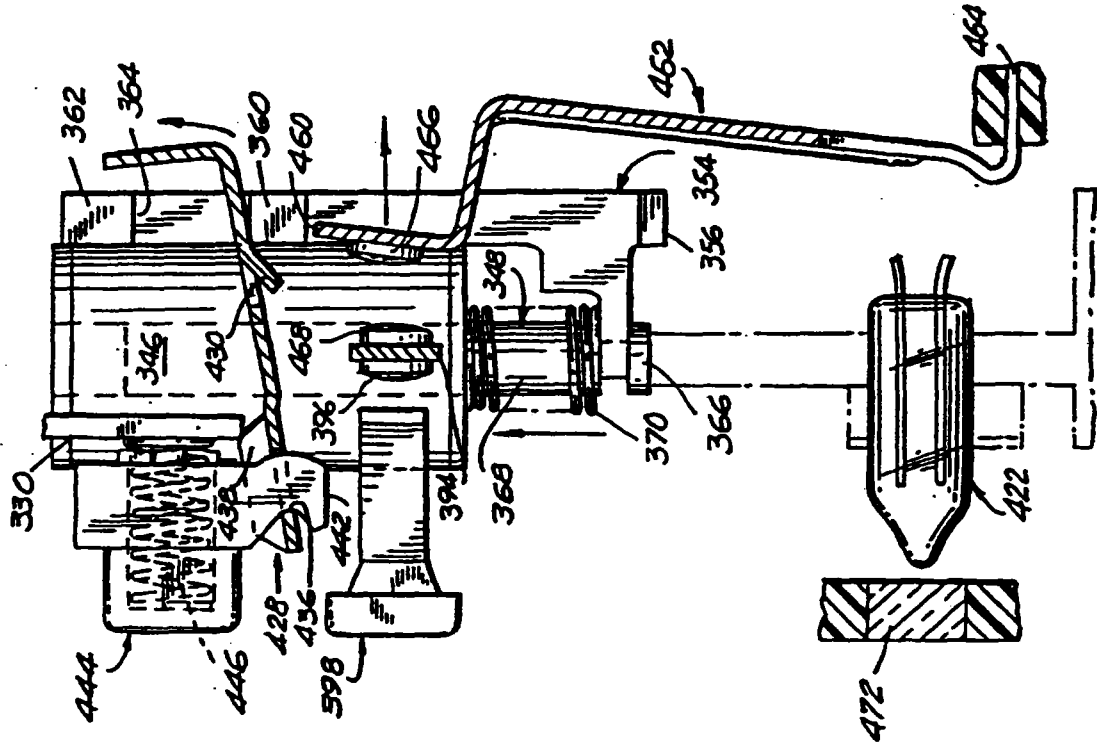


FIG. 6

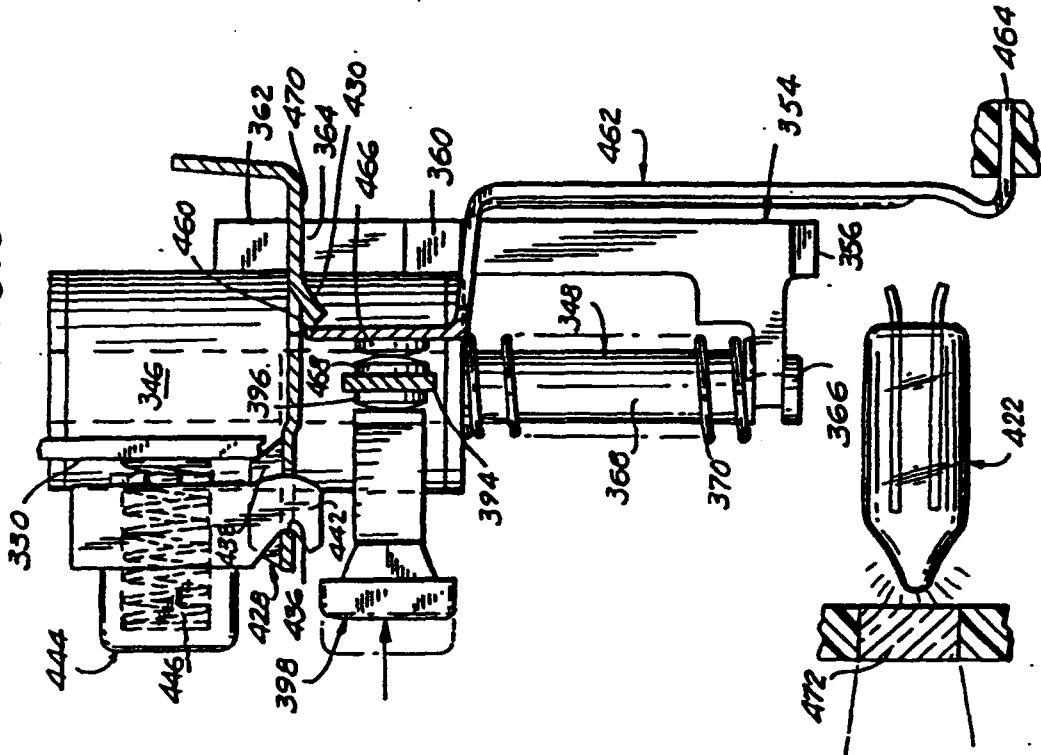


FIG. 9

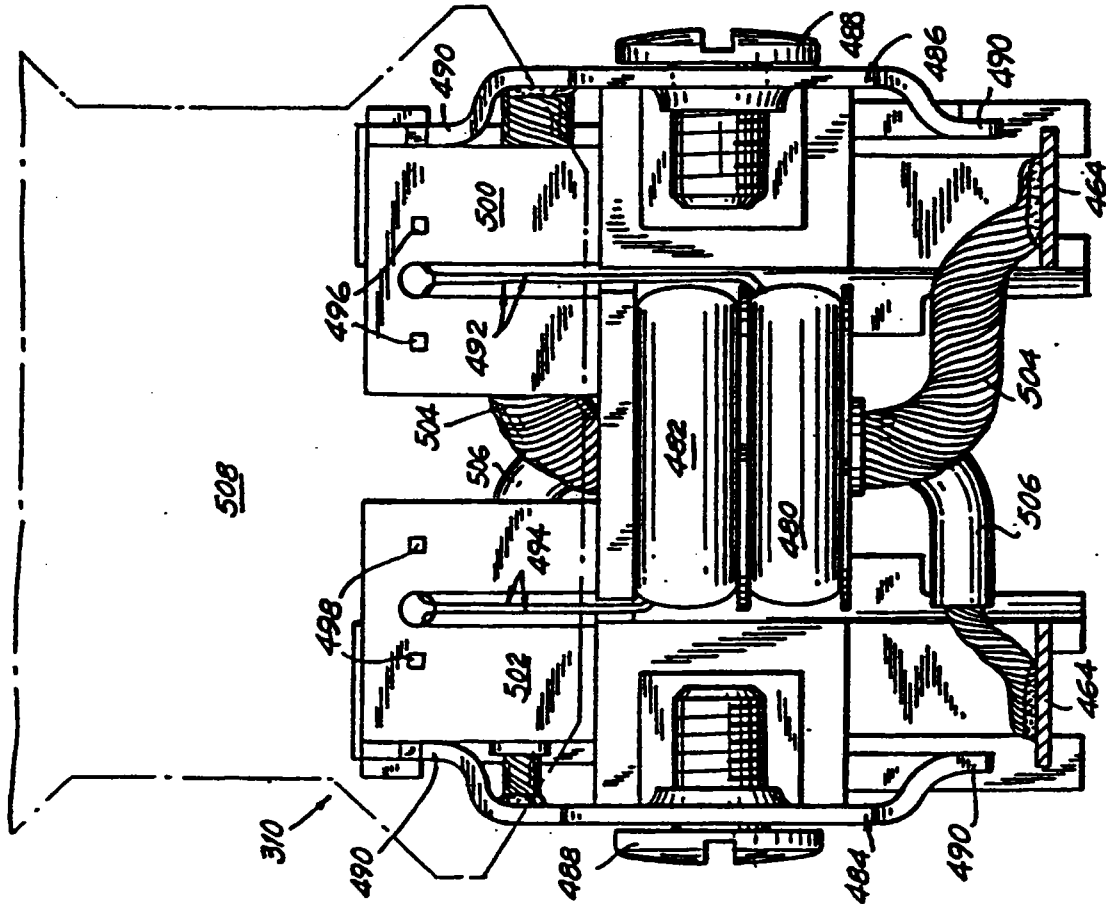
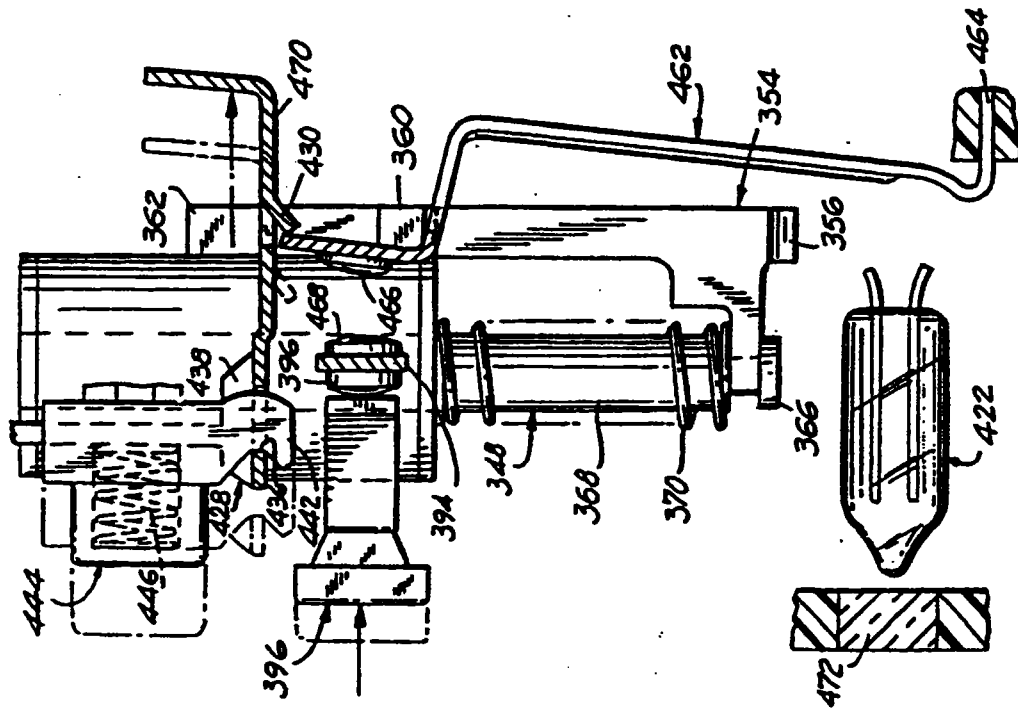
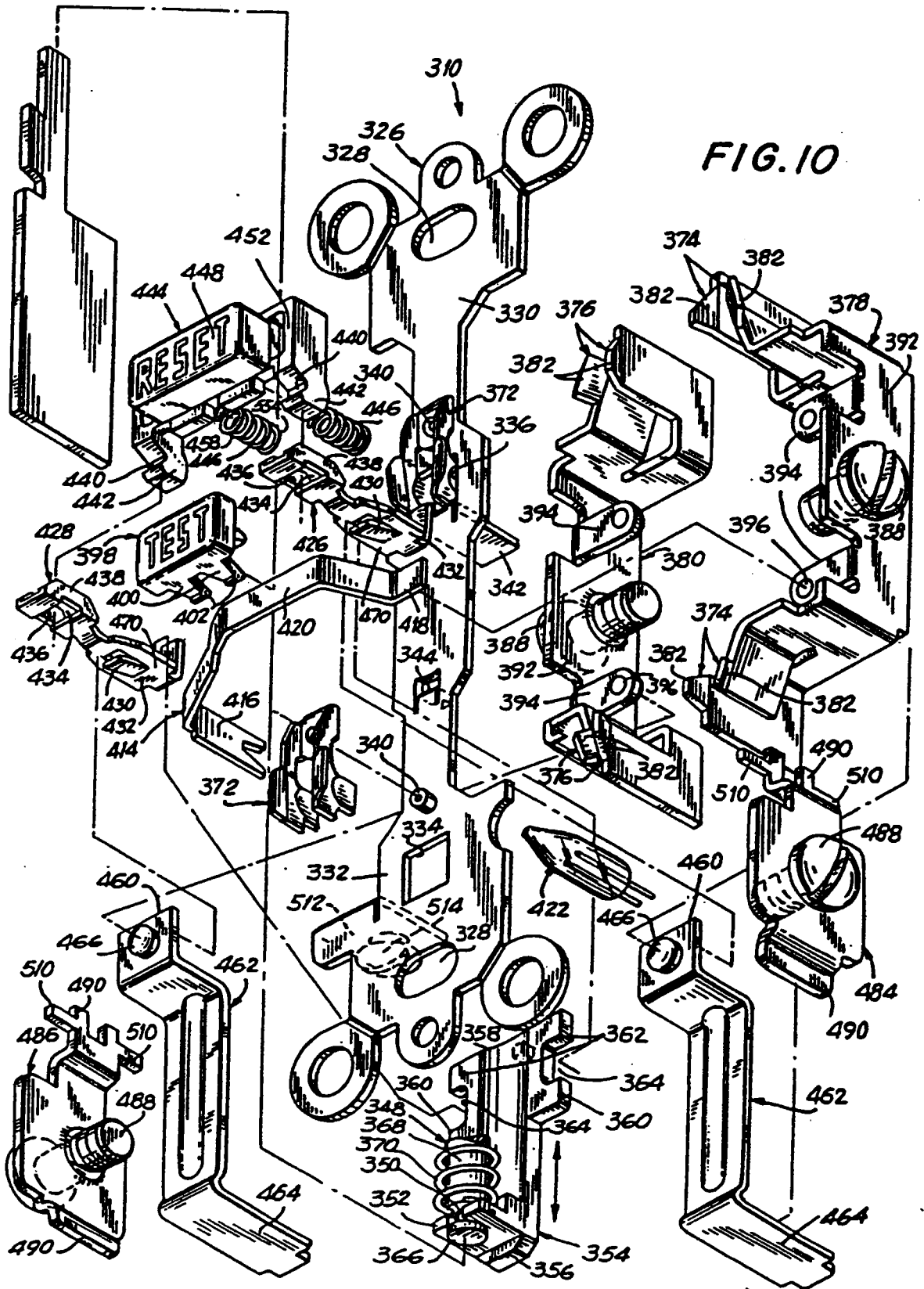


FIG. 8





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GROUND FAULT CIRCUIT INTERRUPTING SYSTEM

CONTINUATION-IN-PART APPLICATION

The present application is a continuation-in-part of applicants' both pending United States patent applications Ser. Nos. 431,982 now U.S. Pat. No. 4,518,945, filed Sept. 30, 1982 and entitled "REMOTE CONTROL SYSTEM" and Ser. No. 558,262 filed Dec. 5, 1983 and entitled "SHOCK HAZARD PROTECTION SYSTEM", and incorporates by reference as if fully set forth herein the entire contents and subject matter thereof and of any and all of their respective "parent" patent applications to which they are co-pending.

BACKGROUND AND SUMMARY OF THE INVENTION

What is referred to herein as a "second" preferred embodiment of the present invention simply is meant to denote another in a continuous series of technical developments relating, directly and indirectly, to the breaking or interruptions of circuits upon the existence of predetermined conditions. Because of this common thread that runs through these developments, the author hereof has chosen to group same within this continuation-in-part application, rather than file same in a separate and distinct patent application. This will also serve to aid the Examiner in considering, collectively, the prior art of record in all applications.

In addition to the advantages of the present invention already set forth in copending applications noted above, the contents of which are incorporated herein by reference, the second embodiment of this invention concentrates upon the ground fault circuit interrupting features of the invention. In other words, in use, should predetermined conditions exist, such as by way of example only, a threat to life or property as a result of what is known in the art as a "fault", the second embodiment of the present invention will cause an interruption of the circuit within which the fault appears, in a sufficiently short response time, so as to attempt to avoid injury or serious shock. No claim is being made within the present application for any possible novel circuitry or electrical means, but rather this application is directed to the novel electromechanical and mechanical means by which, in response to a signal, the circuit is interrupted by a physical separating of electrically conducting contacts.

In addition to other objects already set forth herein, it is, accordingly, an object of the second embodiment of the present invention to provide a dedicated ground fault circuit interrupting system within a device small enough to fit within a standard outlet or receptacle box or those of varying shapes and configurations.

It is a further object of the present invention to provide such a circuit interrupting system, in which same may function as an ordinary household electrical wall receptacle, while also providing protective features.

Another object of this embodiment resides in a novel operation of mechanical components in response to a predetermined signal, thereby opening or interrupting a circuit.

Still another object is to provide a ground fault circuit interrupting system which is shallower in depth than those previously marketed by the assignee in interest of this application, and which is relatively trip-free.

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Another object of the present invention is to provide a circuit interrupting system which is less costly to produce and which has fewer component parts when compared to systems previously marketed by applicants' assignee in interest.

Yet another object is to provide such a system, in which a reset button and function is included.

Other objects will become apparent to the reader after a more detailed description of the present invention is set forth below, when read in conjunction to that set forth above. The following description concentrates upon FIGS. 1 through 10, inclusive, in which a ground fault circuit interrupter in the form of a duplex grounding receptacle is illustrated.

DESCRIPTION OF DRAWINGS

FIG. 1 is an upper right perspective view of a GFCI according to the present invention.

FIG. 2 is a sectional elevational view taken along line 2—2 of FIG. 1.

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2.

FIG. 4 is a sectional view taken along line 4—4 of FIG. 2.

FIG. 5 is a sectional view taken along line 5—5 of FIG. 2.

FIGS. 6 and 7 are enlarged views of a portion of the latching mechanism:

FIG. 8 is a sectional view taken along line 8—8 of FIG. 2.

FIG. 9 is a sectional view taken along line 9—9 of FIG. 3; and

FIG. 10 is an exploded perspective view of the GFCI components.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIGS. 1-10, a circuit interrupting or switching system or apparatus 310 is shown as being made up of and consisting of a number of sub-assemblies and component parts. An effort in FIG. 10 has been made to assist the reader by illustrating many of these components in the form of an exploded view of an embodiment of this invention. A housing 312 holds the system in the form of a duplex receptacle, this housing consisting of a relatively central body or body portion 314 to which a face portion 316 and a rear portion 318 are removably secured.

Face or cover portion 316 is formed therethrough with entry ports 320 for receiving normal or polarized prongs of a male plug of the type normally found at the end of a lamp or appliance cord set (not shown), as well as ground-prong-receiving openings 322 to accommodate a three-wire plug.

Four housing shoulders 324 of face portion 316 nest with and engage body housing portion 313 during assembly of system 310. The shapes of shoulders 324 and their cooperative alignment with corresponding surfaces of central body portion 314 assure proper alignment of the entire assembly and the sub-assemblies and components contained therein.

FIG. 2 may best be described as being a view of circuit interrupting system 310 with face housing portion 316 removed from central body housing portion 314. While this view does not reveal all of the critical components and features of this embodiment of the present invention, it serves to illustrate the position of mounting strap 326 with respect to its neighboring com-

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ponents. Mounting slots 328 are formed through remote ends of the strap to accommodate mounting screws (not shown).

Mounting strap 326 is formed with a pair of end tab portions 330 and 332, the latter, unlike the former, including a generally square opening 334 formed there-through. A second relatively square opening 336 is formed through a relatively central central strap portion 338 of strap 326, each of these openings 334 and 336 being defined by surfaces of the strap which lie adjacent rivet posts 340 integrally formed with strap 326.

As in the case of strap 22, mounting strap 326 is preferably formed from steel sheet metal by means of a progressive die blanking and stamping and forming procedure, and further includes a pair of relatively depending tabs 342 and 344 located on opposite ends of coil assembly 346 (see FIG. 3 as well). Coil assembly 346 includes a plurality of conductor windings which generate and induce an electromagnetic field, the path of which extends through strap 326, as in the case of strap 22. This magnetic field influences the position of an armature or plunger 348, which responds to the energizing of coil assembly 346 by being drawn toward the center of the coil assembly in the manner of plunger 94. However, in the case of plunger 348, a lesser diameter neck 350 thereof cooperatively engages the yoke 352 of what the inventors hereof refer to as a "banger" member 354 which, in turn, extends between said yoke 352 near one end 356 thereof to an opposite end 358 adjacent which a pair of oppositely facing pairs of front and rear banger dogs 360 and 362, respectively, are situated within a relatively common plane. Dogs 360 and 362 are spaced from one another to define gaps 364.

The neck 350 of plunger 348 is defined by relatively greater diameter head and shank portions 366 and 368, respectively, which serve to keep or capture and hold plunger 348 integral with banger 354, such that movement of the plunger will result in like movement of the banger when the coil assembly 346 is energized.

A helical banger return spring 370 extends over plunger shank portion 368 such that its forward end abuts banger yoke 352 and its rearward end abuts coil assembly 346. Return spring 370 is maintained under slight compression with its opposite ends biased away from one another. Upon energization of coil assembly 346 and the resulting movement of plunger 348 and banger 354 toward the center of coil assembly 346, banger return spring 370 is compressed and exerts a biasing force tending to return the banger to the position shown in FIG. 3. The significance of this will be appreciated hereinbelow.

Rivet posts 340, integrally formed with their strap 326, are utilized to secure ground contacts 372 in physical and electrical continuity with the strap and thus the supporting structure to which the strap is secured by means of the mounting screws (not shown), via the male ground blade or terminal of a three-wired plug.

Having mentioned the ground contacts, the line or hot and neutral blades of a three-wire plug engage terminals 374 and 376 formed on terminal assemblies 378 and 380, respectively. Terminals 374 and 376 are formed by upstanding and angularly bent tabs 382 on each, resiliency being created by the combination of a combination of relatively cantilevered larger tabs 384 and 386 on each terminal assembly.

When system 310 is assembled and being installed, the user thereof is able to secure a conductor to the assembly by means of wire binding screws 388 which engage

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threads 390 formed in sides 392 of each assembly. These sides include as an integral part of each contact arms 394 extending perpendicularly and relatively inwardly therefrom. A silver contact 396 is secured to a contact arm 394 of terminal assembly 380. Contact 396 plays a role in a test function of system 310 as will now be explained.

A test button 398, shown in exploded view FIG. 10 is formed with resilient arms 400 with latching fingers 402 at the ends of each, and is further formed with a relatively central ridge 404 along the underside thereof. Latching fingers 402 enable the snap-in assembly of test button 398 from the outer side thereof into face housing portion 316. These fingers, as a result of resilient arms 400, are leaf-spring-type biased away from the center of test button 398 and, upon assembly, engage the walls 406 of test button 398 which define opening 408 until they pass ledges 410, whereupon they spring or snap outwardly to keep test button 398 from exiting the face portion 316. Shoulders 412 formed in face housing portion 316 are engaged by underside surfaces of test button 398, thereby keeping the button from further entering the system 310 when assembled.

A movable test switch blade 414 is formed in a generally arcuate shape with an anchor leg 416 at one end for fixing and holding within a recess formed in central body housing portion 314, wherein it is electrically connected within a test switch circuit, and with its opposite end terminating in a contact tab 418 which is movable between open and contact positions. Contact tab 418 is biased by means of the leaf-spring-type resiliency of blade 414 toward said open position, shown in broken lines in FIG. 4. Upon depression of test button 398 by the user, ridge 404 in contact with bearing surface 420 of test switch blade 414 forces the blade downwardly to the position shown in full lines in FIG. 4, wherein it can be seen that contact tab 418 is in engagement with silver contact 396, thereby closing a test circuit by forming a switch, and enabling the user of system 310 to see light emitting from bulb or diode 422 which is energized as part of the test circuit. A resistor 424, as part of this test circuit, is welded to anchor leg 416. Upon release of the test button, the same resiliency described above for test switch blade 414 biases and urges test button 398 upwardly so as to extend in a non-test position from face 316, ready for the next test depression. In this way, the user is able to see whether the device or system 310 is able to afford the protection intended. Users of ground fault circuit interrupters (GFCI's) purchase same for protection against hazardous electrical shock that may be caused if the body becomes a path through which electricity travels to reach ground, for example, This may occur when one touches an appliance or cord that is "live" through faulty mechanism, damp or worn insulation, or other problems. System 310 "breaks" or interrupts the powered circuit by sensing a fault. How this is accomplished and how the breaker may be reset will now be described.

A pair of latching members 426 and 428 are shown in FIG. 10 in exploded view. Each of latching members 426 and 428 are formed with a latching finger 430 created by an angularly bent upwardly extending tab which extends out of the plane of face surface 432. At upper portions thereof, each of latching members 426 and 428 are formed with retainer openings 434 bounded at their top by edges 436. Rearwardly facing sides 438 are substantially parallel with respect to one another

ably. These contact arms are inwardly biased by a contact spring 396 plays a role which will now be

FIG. 10 is a perspective view of fingers 402 with a resilient member thereof. The resilient member of test button housing 314 is centered about the walls of the housing 406 until the resilient member is engaged or snapped into the face of the housing portion of test button 314. The resilient member enters

in a generally horizontal position at the end of the housing in central portion thereof. The resilient member is electrically connected to the test button which is a contact spring-type resilient member, shown in FIG. 4, in engagement with a test button diode 422. A resistor is connected to the resilient member and extends in a direction next to the test button to determine whether the resilient member is in a hazardous position. The resilient member travels to a position through the housing, or other means, to accomplish the desired function.

are shown in FIG. 4; members 430 are connected to the resilient member 432. At the ends 426 of the resilient member 438 are another

and, as in the case of latching fingers 430, are integrally formed by progressive die forming processes.

Latching members 426 and 428 are supported by upwardly facing surfaces 440 within forwardly facing fingers 442 are formed as part of a reset button 444. Top edges 436 engage surfaces 440 for forward and rearward pivotal movement of the latching members about the edges 436 as fulcrum points. Reset springs 446, helically wound and in compression, bias the reset button 444 upwardly such that its protruding contact portion 448 extends through opening 450 formed in face housing portion 316, so as to be able to be repeatedly engaged by the user thereof. Shoulders 452 formed adjacent contact portion 448 engage the underside surfaces of face 316 so as to prevent the button's escape when assembled. Springs 446 are compressed between and engage strap 326 at their respective lower ends 454, and inner surfaces 456 of reset button 444 at their respective upper ends 458, thereby locating same as well.

Referring now to FIG. 8, it is illustrated therein that depressing reset button 444 will result in downward movement of latching members 426 and 428 such that their respective latching fingers 430 pass over and beneath the remote ends 460 of movable contact arms 462 against the upwardly biasing forces of springs 446. Movable contact arms 462 extend from ends 460 to opposite anchor ends 464 which, in turn, are secured by frictional anchoring, such as within a slot of predetermined shape and configuration. Arms 462 have secured thereto electrical contacts 466 at upper surfaces adjacent ends 460, as shown in FIG. 10. When anchored at ends 464, arms 462 and their ends 460 are biased as a result of their leaf-spring-type configuration downwardly as shown in FIG. 3.

Upon release of the reset button after depression of same, latching members 426 and 428 and their respective fingers 430 engage the undersides of the remote ends 460 of movable contact arms 462, "lifting" same until movable contacts 466 come into physical and electrical engagement with fixed contacts 468 which are integral with and electrically continuous with contact arms 394 and silver contact 396, thereby completing or "making" a circuit. This is illustrated in part within FIG. 6, illustrating the status of system 310 after release of the reset button.

Upon the occurrence of a "fault" condition, which is predetermined, a signal is received by the electronic circuitry associated with system 310 but which is not part of the invention being presently claimed hereby, with the result that coil assembly 346 is energized. The energization of coil 346 results in the generation of a magnetic field therearound with the aid of mounting strap 326, with the further result that plunger 348 is forcibly drawn toward coil 346. FIGS. 6 and 7 illustrate the disposition of latching members 426 and 428 at portions 464 between front and rear banger dogs 360 and 362 within their respective gaps 364 described above.

Upon energization of coil 346 and the forcible movement of plunger 348 toward the coil and against the compressive forces of banger return spring 370, the banger is thus to likewise move, with the result that rear banger dogs 362 "bang" or hit against latching member portions 470, dislodging latching fingers 430 from engagement with the undersides of ends 460 of the movable contacts as a result of rearward pivotal movement of the latching members, with the further result that the movable contact arms 462 swing downwardly under spring pressure such that the movable and fixed

contacts are separated, thereby "breaking" or interrupting the normally closed operating circuit. The circuit remains open until reset by means of the reset button 444 in the manner already described.

It should also be pointed out here that portions 464 of latching members 426 and 428 are maintained in forward contact with ends 460 by means of the compressive forces within banger return spring 370 acting through rear banger dogs 362. It is this constant contact that enables reliable resetting by means of the latching fingers. FIGS. 6 and 7 also illustrate optional diode 422 in its energized and non-energized states, with optional window 472 provided to enable the user to see the lit diode during depression of the test button 398.

FIG. 9 illustrates system 310 in a bottom plan view, relatively speaking, looking at the exposed inner portions of central housing portion 314 with rear housing portion 318 removed. A differential transformer 480 and a neutral transformer 482 are located adjacent one another along a common axis and between terminals 484 and 486 on either side of system 310. Terminals 484 and 486 are equipped with terminal screws 488 and are formed with outwardly extending flanges 490 on either side of each which serve to anchor the terminals within housing slots. Leads 492 and 494 extend, respectively, from transformers 480 and 482 to pairs 496 and 498 of wiring posts within transformer brackets 500 and 502. Conductors 504 and 506 are welded (soldered) to and between anchor legs 464 of the movable contact arms 462 and terminals 484 and 486. Resistor 424 is connected between terminal 486 and anchor leg 416 of test switch blade 414. A circuit board 508 is illustrated in broken or phantom lines within FIG. 9, and is electrically interconnected to terminals 484 and 486 by means of posts 510 formed as part of the terminals.

A depending mounting strap tab 512 is illustrated in FIG. 10 as having threaded thereto a wire binding screw 514 for purposes of attaching a wire ground connection where appropriate.

The embodiments of the present invention herein described and disclosed are presented merely as examples of the invention. Other embodiments, forms and structures coming within the scope of the present invention will readily suggest themselves to those skilled in the art, and shall be deemed to come within the scope of the appended claims.

What is claimed is:

1. Switching apparatus for selectively interrupting an electrical connection between input and output conductors, or the like, comprising, in combination: a housing; magnetizable plunger means disposed within a portion of said housing for movement between first and said housing for moving said plunger means when energized from the first position to the second position; an input contact electrically connected to said input conductor; an output contact electrically connected to said output conductor; strap means for mounting the switching apparatus upon a selected surface, said strap means including portions thereof which define a path of the magnetic field generated by said coil means to influence the position of said plunger means, and movable means responsive to movement of said plunger means for influencing a separation of said input and output contacts, thereby interrupting electrical connection between them, said movable means including first and second movable members, movement of said second member being caused by movement of said first member.

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2. Switching apparatus according to claim 1, wherein said first member is movable with and operatively connected to said plunger means.

3. Switching apparatus according to claim 1, wherein said plunger means comprises a plunger member

formed with a relatively elongated portion which extends into portions of said electromagnetic coil means.

4. Switching apparatus according to claim 1, further including spring means for returning said plunger means to said first position after energization of said coil means.

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PTO/SB/44 (02-01)

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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION
TO
JULY 12, 1988 CERTIFICATE OF CORRECTION**

PATENT NO : 4,595,894
DATED : June 17, 1986
INVENTOR(S) : Richard C. Doyle, et al.

It is certified that error appears in the July 12, 1988 Certificate of Correction in the above-identified patent, and that said Certificate and said Letters Patent is hereby corrected as shown below:

Column 6, line 53, Claim 1, line 5, after "and" should read -second positions; electromagnet coil means disposed within-.

MAILING ADDRESS OF SENDER:
Paul J. Sutton, Reg.No. 24,201
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885 Third Ave, New York, NY 10022

PATENT NO. 4,595,894

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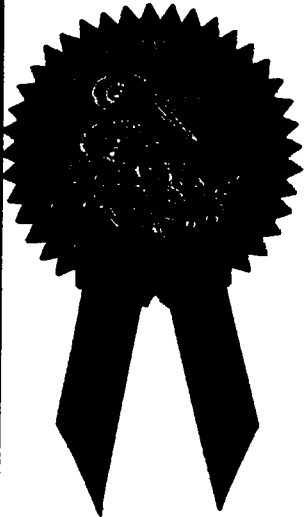
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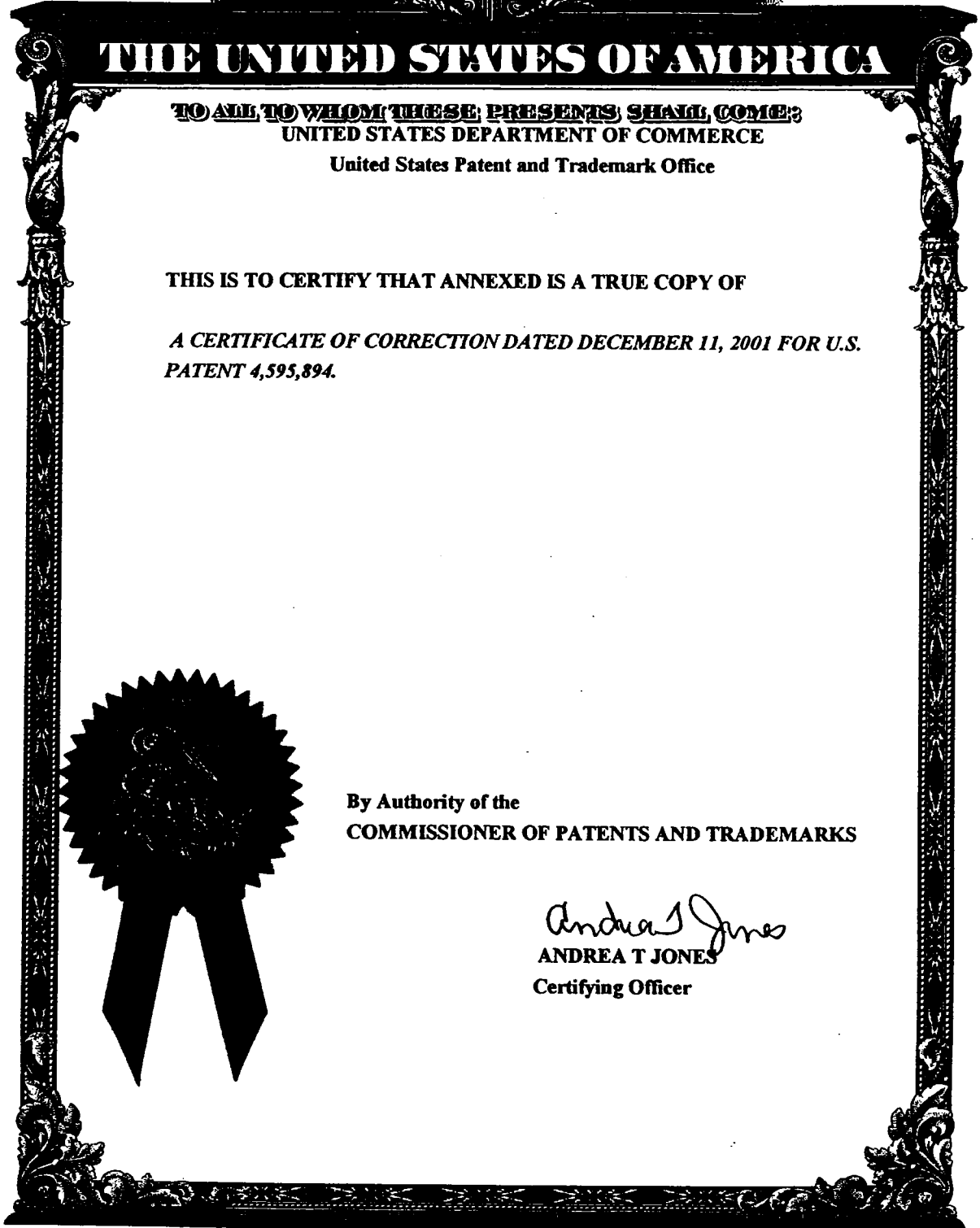
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***A CERTIFICATE OF CORRECTION DATED DECEMBER 11, 2001 FOR U.S.
PATENT 4,595,894.***



**By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS**

Andrea T Jones
ANDREA T JONES
Certifying Officer



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 4,595,894
DATED : June 17, 1986
INVENTOR(S) : Richard C. Doyle, et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6, claim 1,

Line 53, after "and" should read -- second positions; electromagnet coil means disposed within --.

This Certificate supersedes Certificate of Correction issued July 12, 1988.

Signed and Sealed this

Eleventh Day of December, 2001

Attest:

Nicholas P. Godsci

Acting Officer

NICHOLAS P. GODSCI
Acting Director of the United States Patent and Trademark Office.

CIVIL COVER SHEET

The JS-44 Civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleading or other papers as required by law, except as provided by local rules 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 of initialing the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

1(a) **PLAINTIFFS** - LEVITON MANUFACTURING CO., INC. **DEFENDANTS** - PRO LINE PRODUCTS, INC.

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02-60107

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF: Queens County, New York
(EXCEPT IN U.S. PLAINTIFF CASES)

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT: Queens County, New York
(IN U.S. PLAINTIFF CASES ONLY)

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(c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)
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ATTORNEYS (IF KNOWN)

CIV-FERGUSON
MAGISTRATE JUDGE
SNOW

Broward 02w 60107 FERGUSON SNO-J

(d) **CIRCLE COUNTY WHERE ACTION AROSE:** Broward County, Florida

II. BASIS OF JURISDICTION (PLACE AN X ONE BOX ONLY)

1. U.S. Government Plaintiff
 2. U.S. Government Defendant

3. Federal Question (U.S. Government Not a Party)
 4. Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (For Diversity Case Only)

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(PLACE AN X IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT)

Incorporated of Principal Place of Business in This State: 4 4
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Foreign Nation: 6 6

IV. CAUSE OF ACTION Action for Patent Infringement, Violations of Lanham Act and laws of the State of Florida - Titles 35 and 15 of the United States Code
(CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL STATUTES UNLESS DIVERSITY IVa.)

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A REAL PROPERTY <input type="checkbox"/> 210 Land Condemnation <input type="checkbox"/> 220 Foreclosure B <input type="checkbox"/> 230 Rent Lease and Ejectment <input type="checkbox"/> 240 Torts to Land <input type="checkbox"/> 245 Tort Product Liability <input type="checkbox"/> 290 All Other Real Property	B PRISONER PETITIONS <input type="checkbox"/> 510 Motions to Vacate Sentence Habeas Corpus <input type="checkbox"/> 530 General* <input type="checkbox"/> 535 Death Penalty <input type="checkbox"/> 540 Mandamus & Other* <input type="checkbox"/> 550 Civil Rights *A or B	A LABOR <input type="checkbox"/> 710 Fair Labor Standards Act <input type="checkbox"/> 720 Labor Management Relations B <input type="checkbox"/> 730 Labor Management Reporting & Disclosure Act <input type="checkbox"/> 740 Railway Labor Act <input type="checkbox"/> 790 Other Labor Litigation <input type="checkbox"/> 791 Employee Ret. Inc. Security Act B		
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VI. ORIGIN (PLACE AN X IN ONE BOX ONLY)

1. Original Proceeding
 2. Removed From State Court
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 4. Refiled
 5. Transferred from another district (Specify)

6. Multidistrict Litigation
 7. Appeal to District Judge from Magistrate Judgment

VII. REQUESTED IN COMPLAINT CHECK IF THIS IS A CLASS ACTION DEMAND permanent Injunction; monetary damages in excess of 100,000

under F.R.C.P. 23

Check YES only if demanded in complaint. Yes No

JURY DEMAND: Yes No

VIII. RELATED CASE(S) IF ANY (See Instructions): JUDGE _____ DOCKET NUMBER _____

DATE January 24, 2002 SIGNATURE OF ATTORNEY OF RECORD *Christine M. Nanfeldt*

UNITED STATES DISTRICT COURT FOR OFFICE USE ONLY: RECEIPT NO. _____ Date Paid: _____ Amount: _____ M/lfp: _____