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Andrus et al.

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(54) **AUTOMATIC HOUSE VENT**

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(72) Inventors: **Daniel George Andrus**, Oroville, CA (US); **Anthony David Funes**, Oroville, CA (US)

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F24F 13/14 (2006.01)
F24F 7/00 (2021.01)

(52) **U.S. Cl.**
CPC ***F24F 13/1426*** (2013.01); ***F24F 7/00*** (2013.01); *F24F 2007/001* (2013.01); *F24F 2013/1433* (2013.01)

(58) **Field of Classification Search**
CPC F24F 13/1426; F24F 13/1433
See application file for complete search history.

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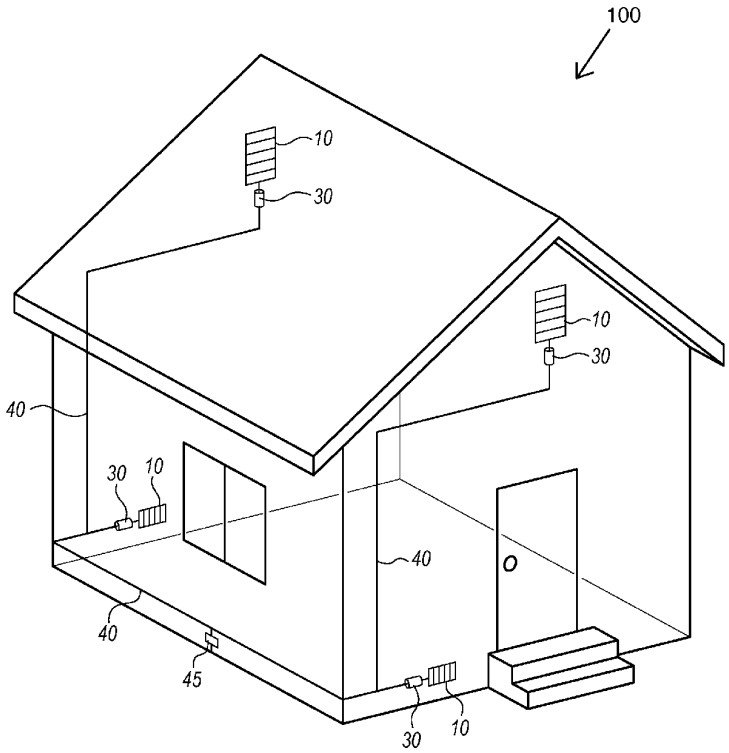
(57) **ABSTRACT**

Automatic house vent is a house vent system that automatically closes all house vents when electrical power is shut off to the house. Automatic house vent is a fire prevention mechanism that closes all house vents in order to prevent burning ambers from entering the house through a house vent and starting a fire from the inside of the house. It is standard procedure during forest fires for the authorities to shut off electrical power to communities in the path of the fire. Each house vent is mechanically opened and closed by an electric solenoid actuator that is connected by electrical wiring to a special circuit breaker located in the house electrical panel or breaker box.

12 Claims, 11 Drawing Sheets



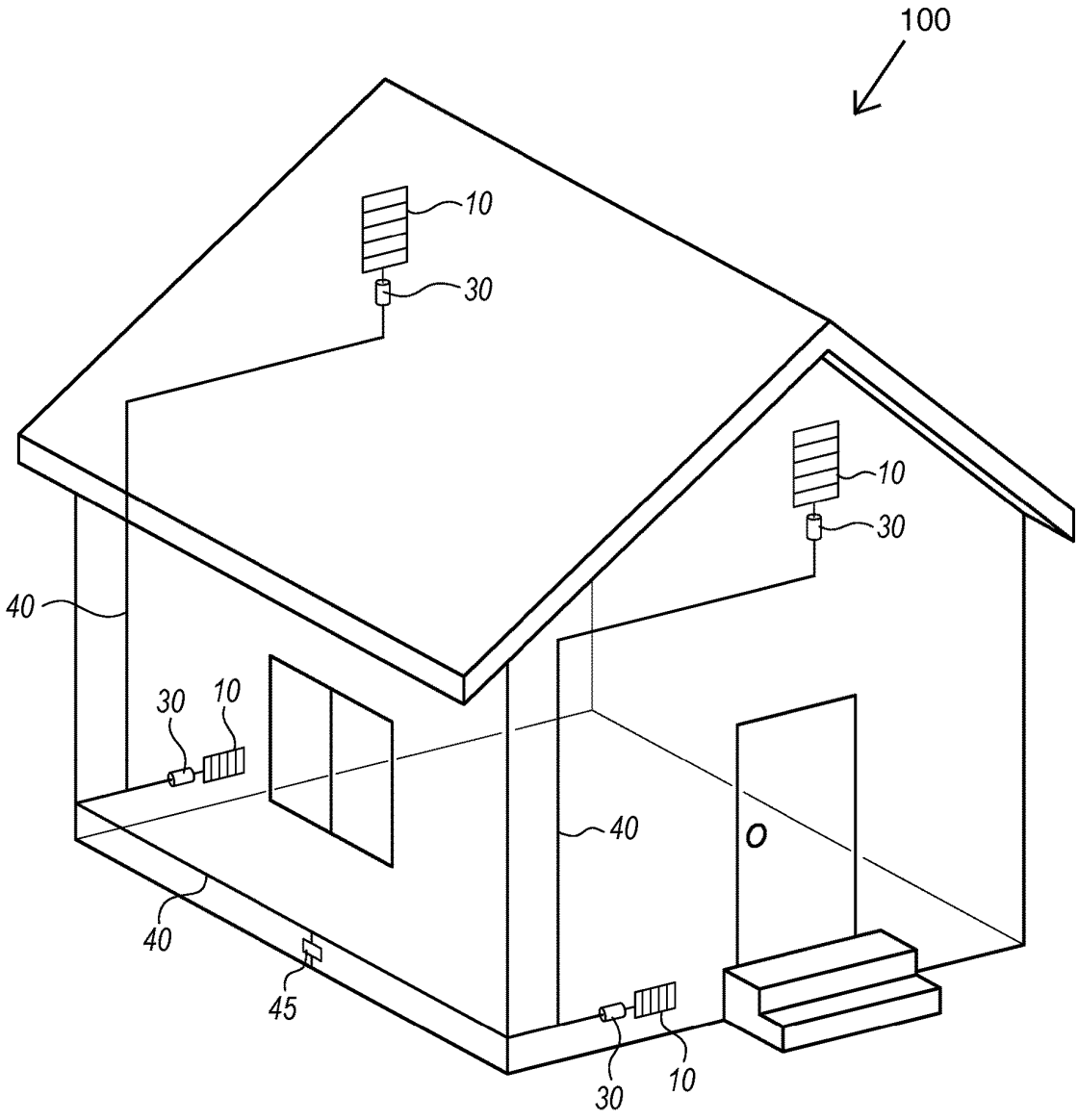


FIG. 1

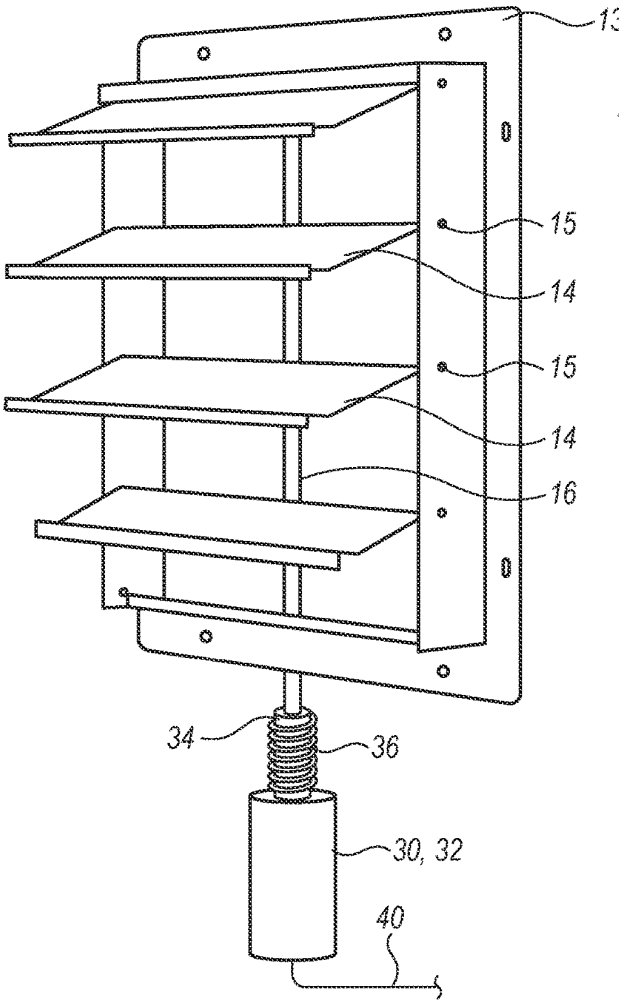

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FIG. 2

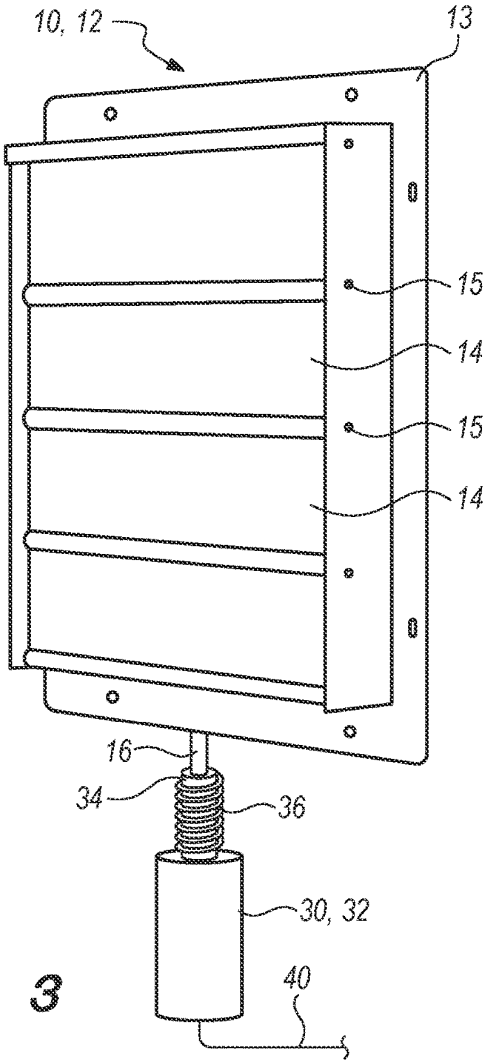
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FIG. 3

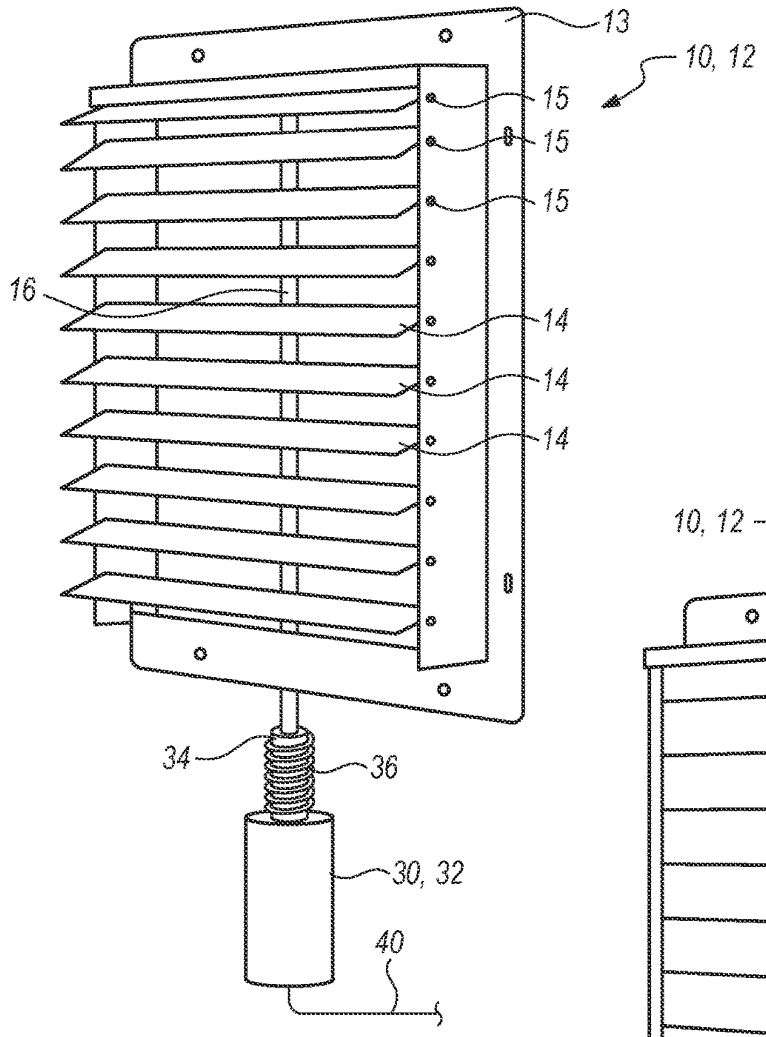
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FIG. 4

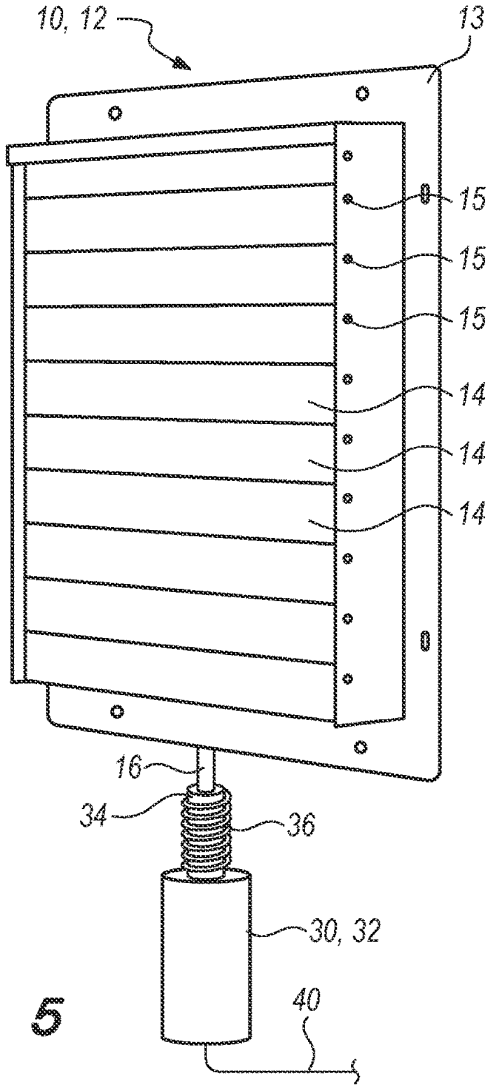
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FIG. 5

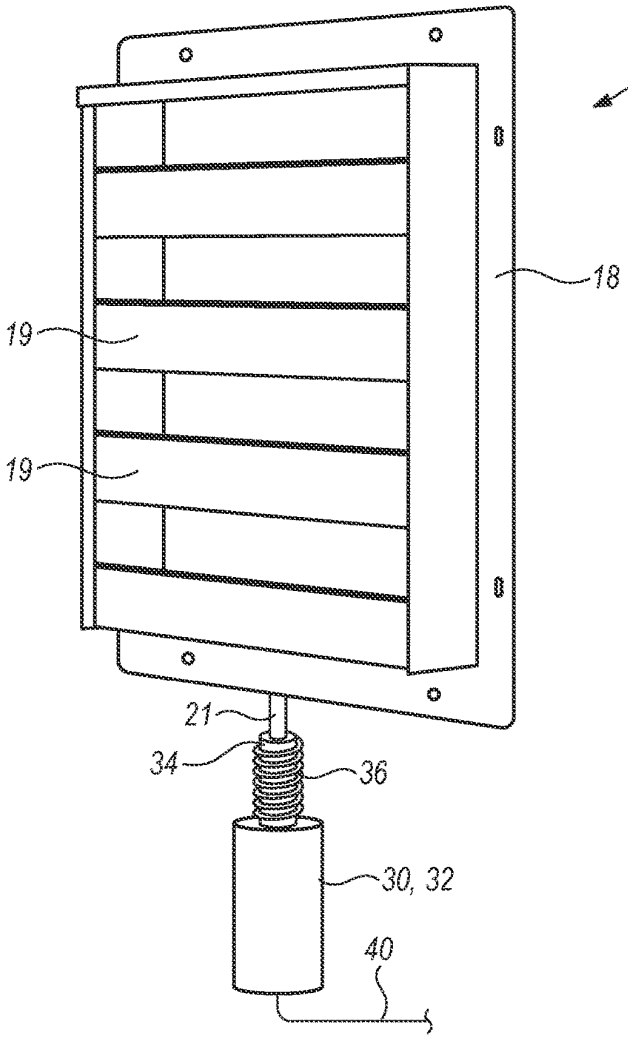


FIG. 6

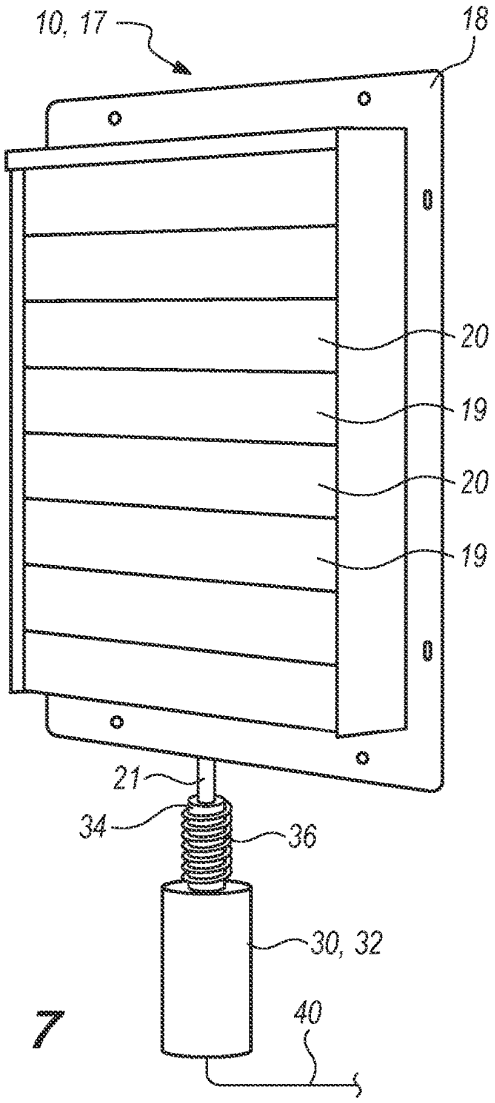
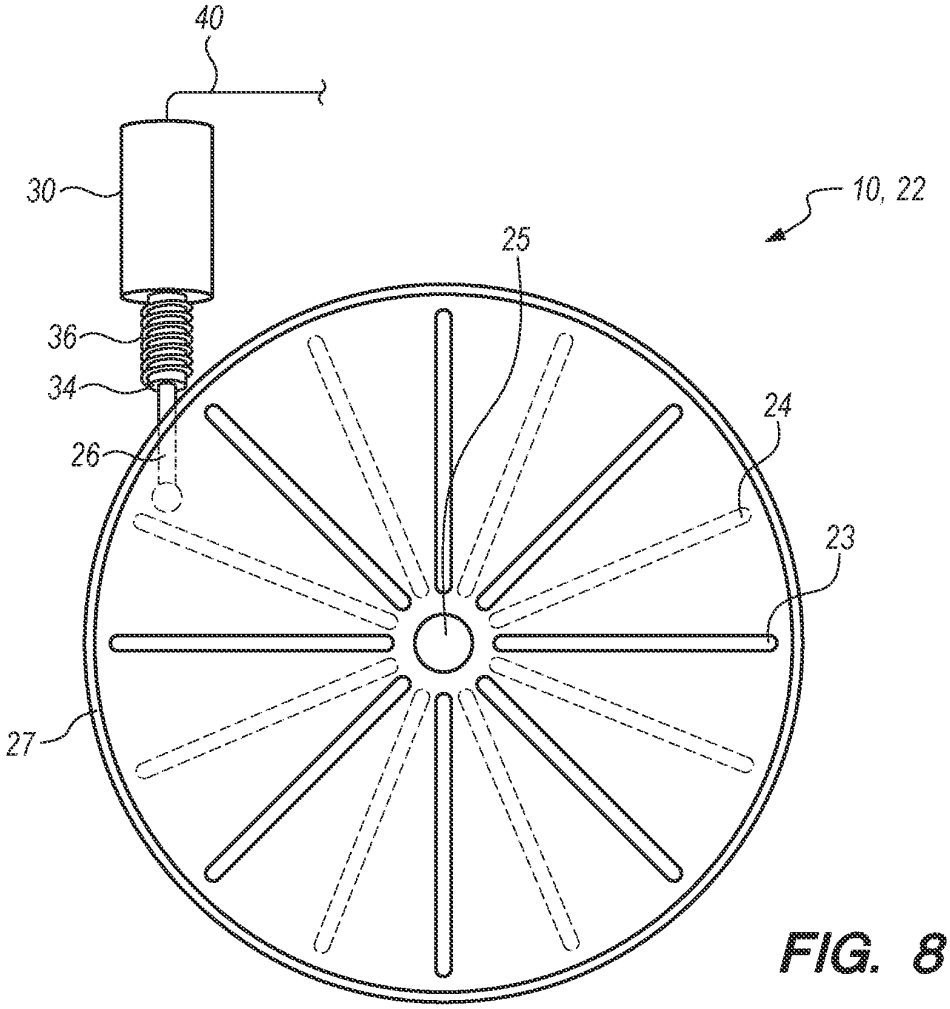


FIG. 7



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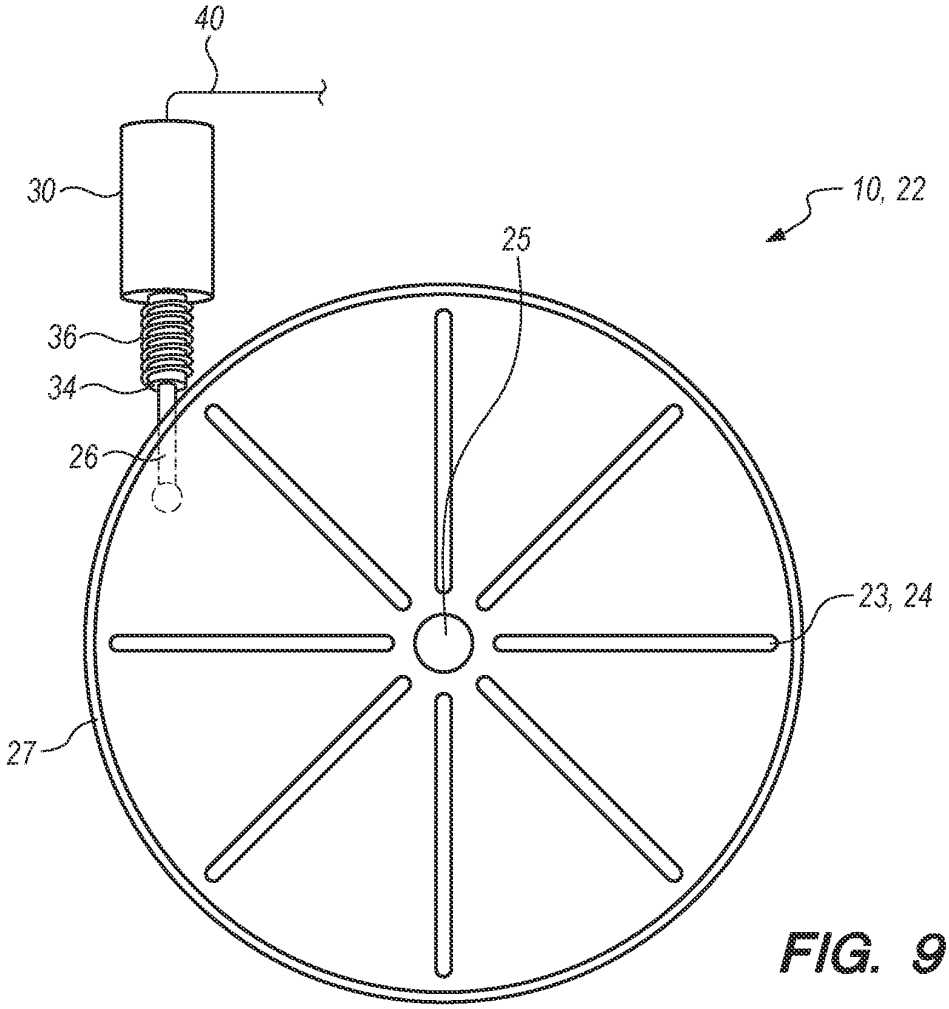


FIG. 9

FIG. 10

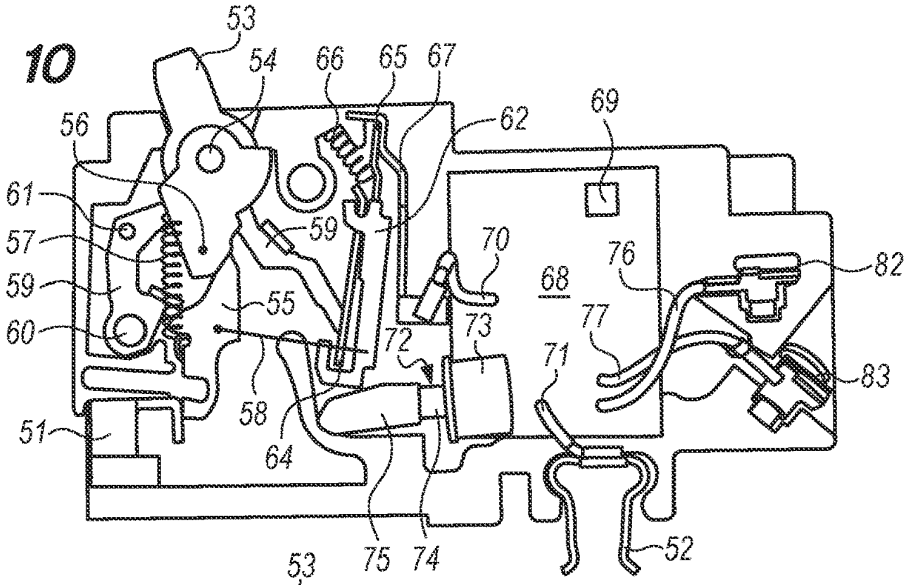
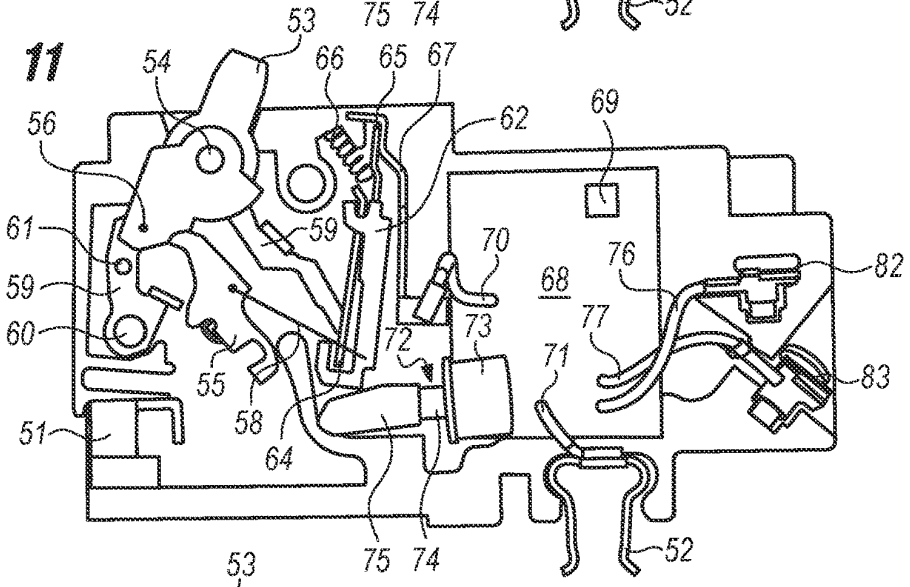


FIG. 11



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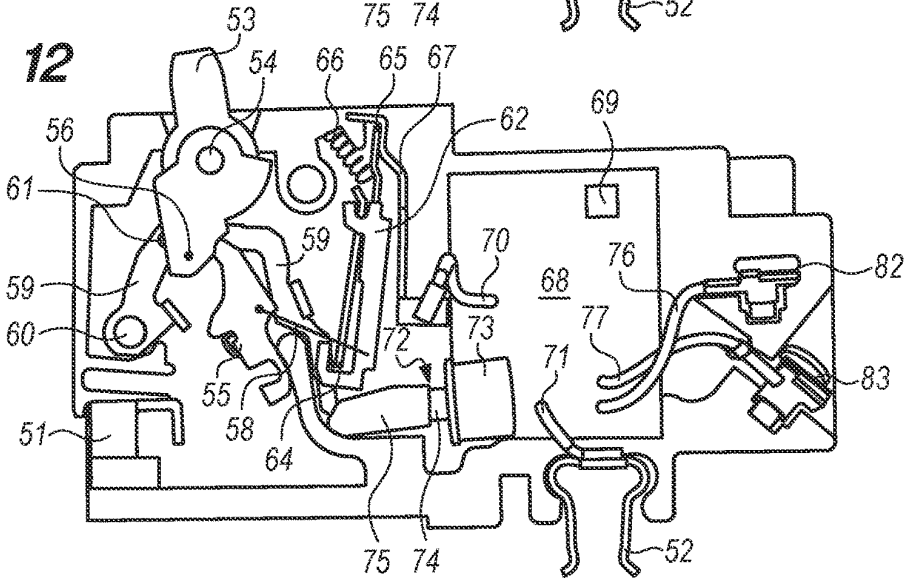

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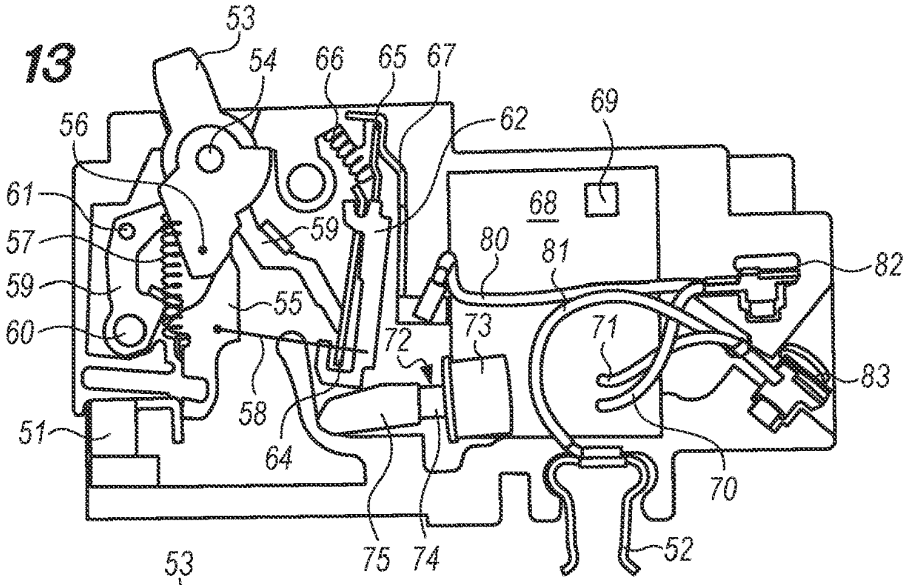

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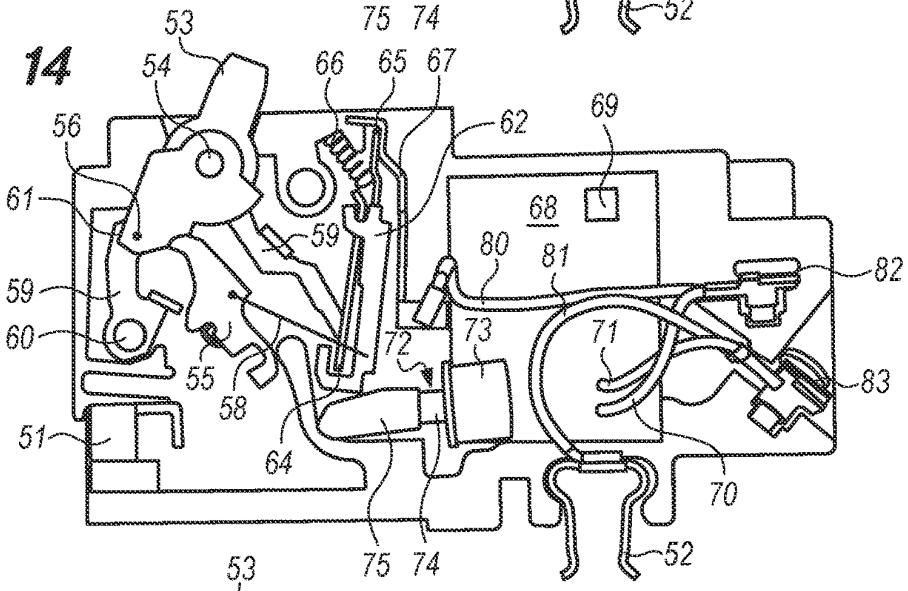
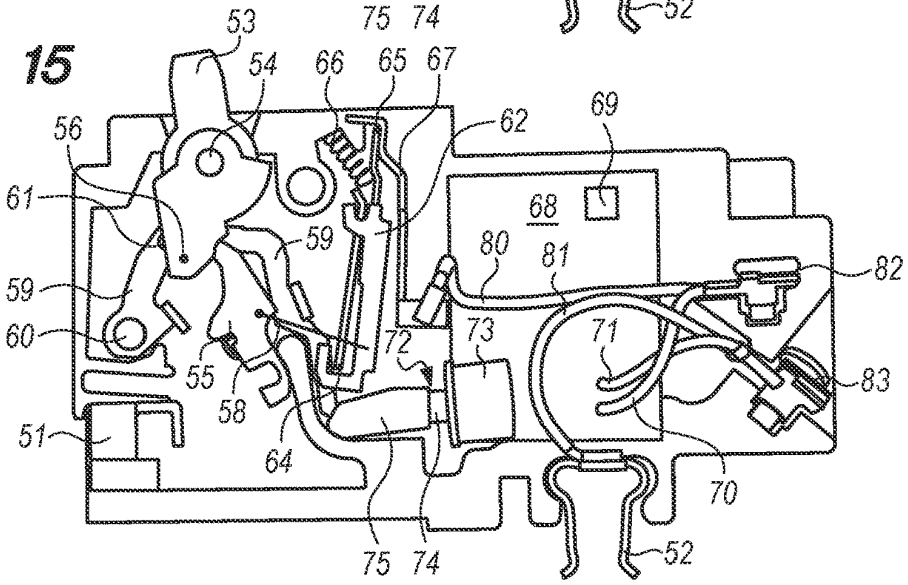


FIG. 15



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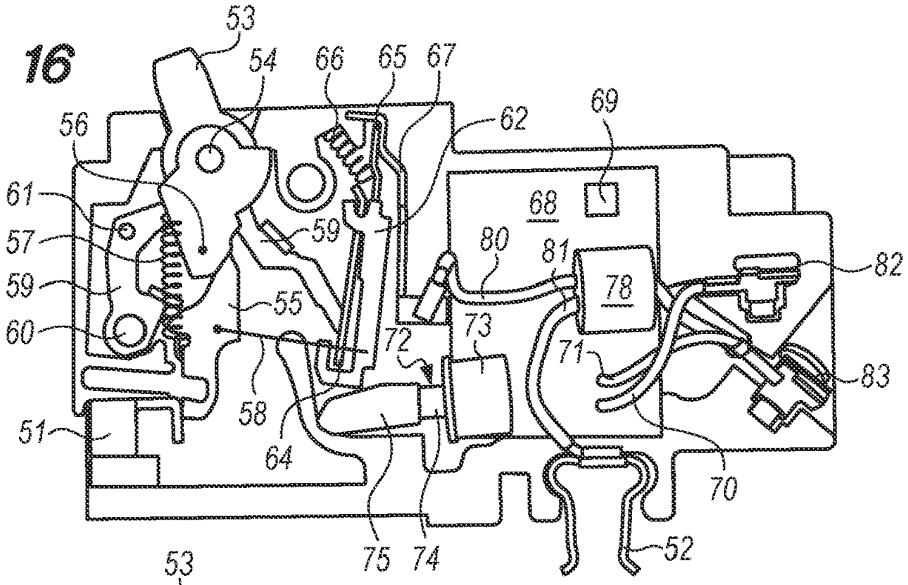


FIG. 17

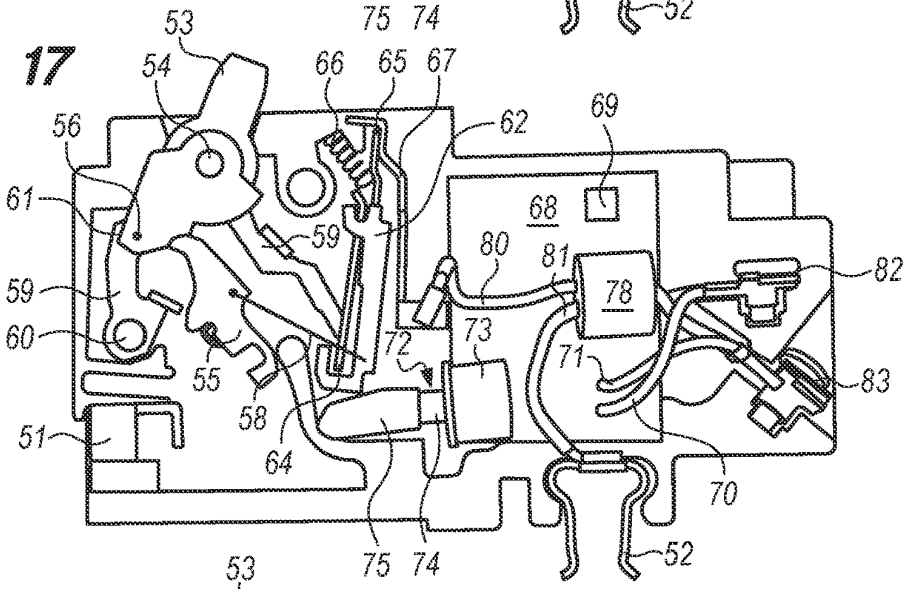


FIG. 18

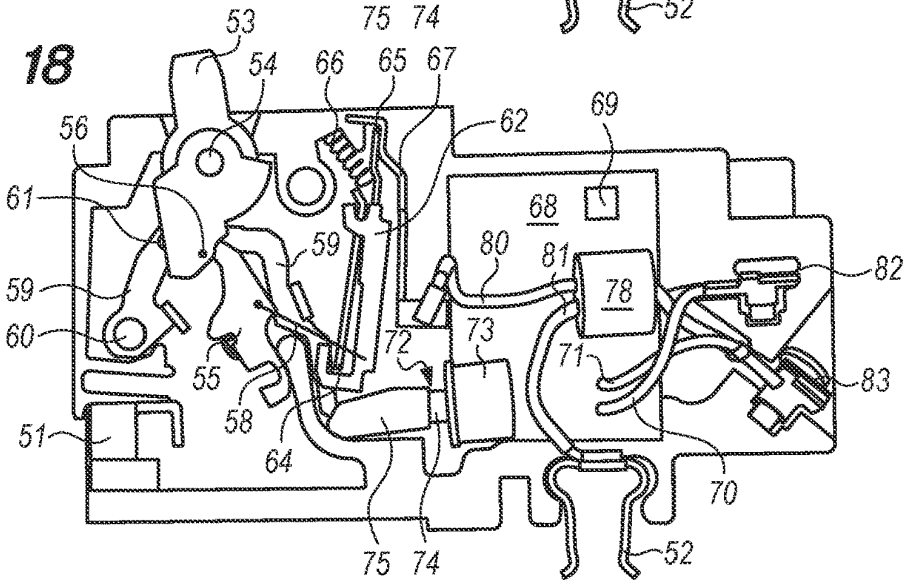


FIG. 19

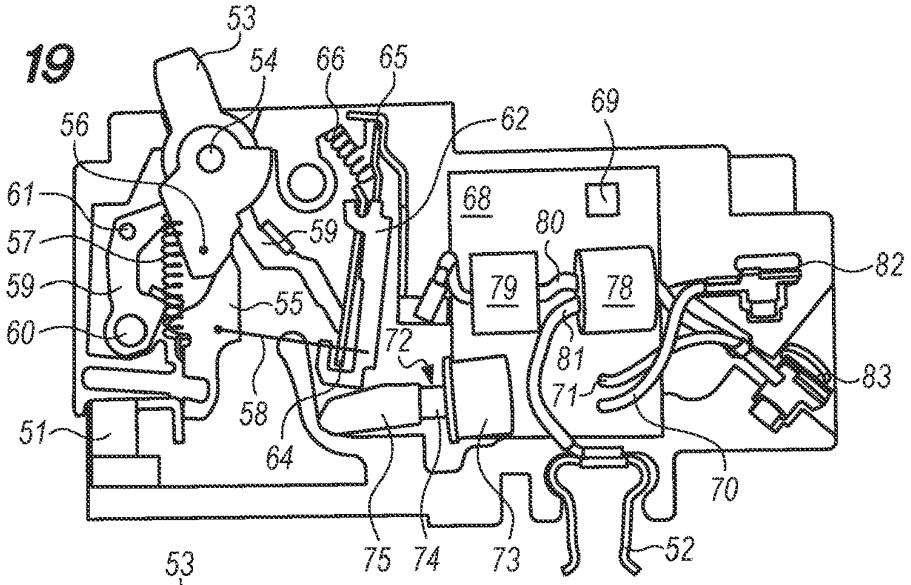
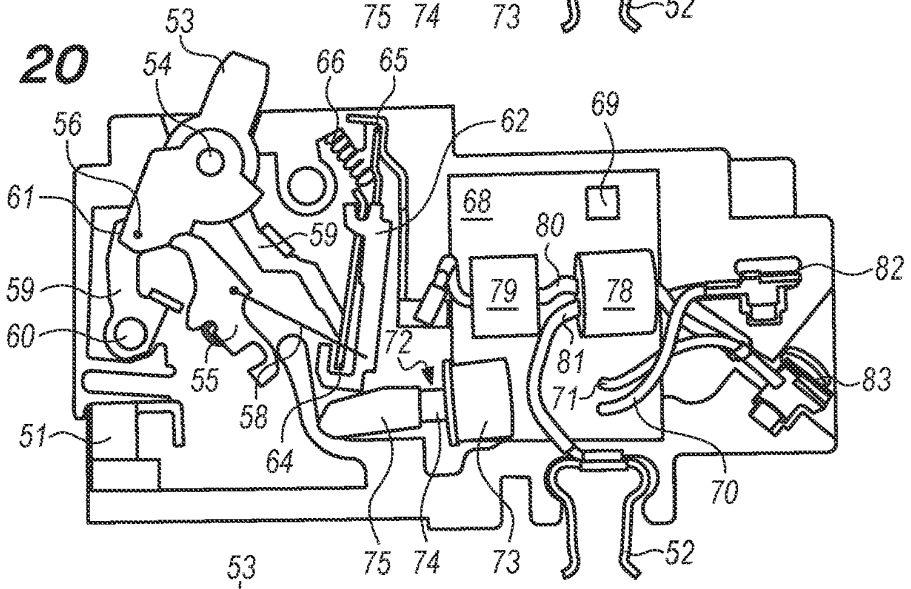


FIG. 20



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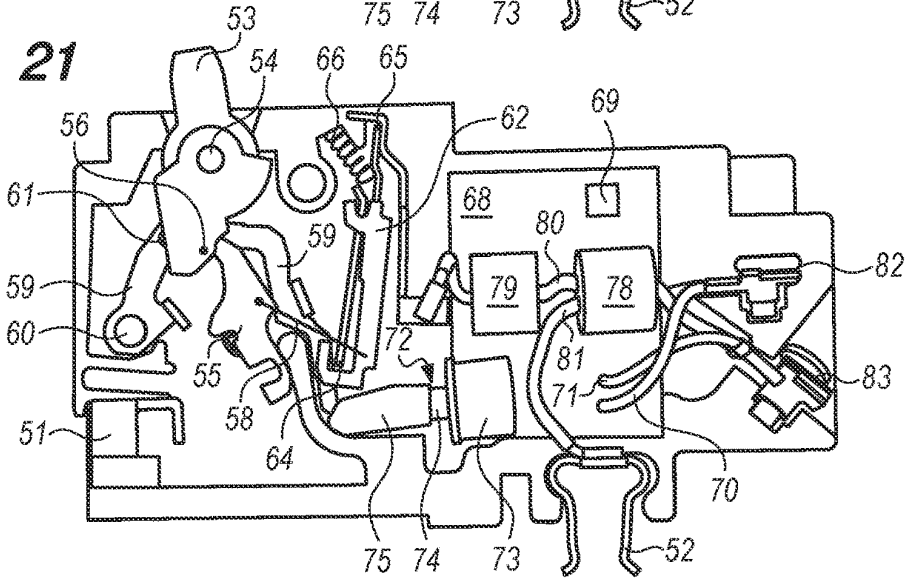


FIG. 22

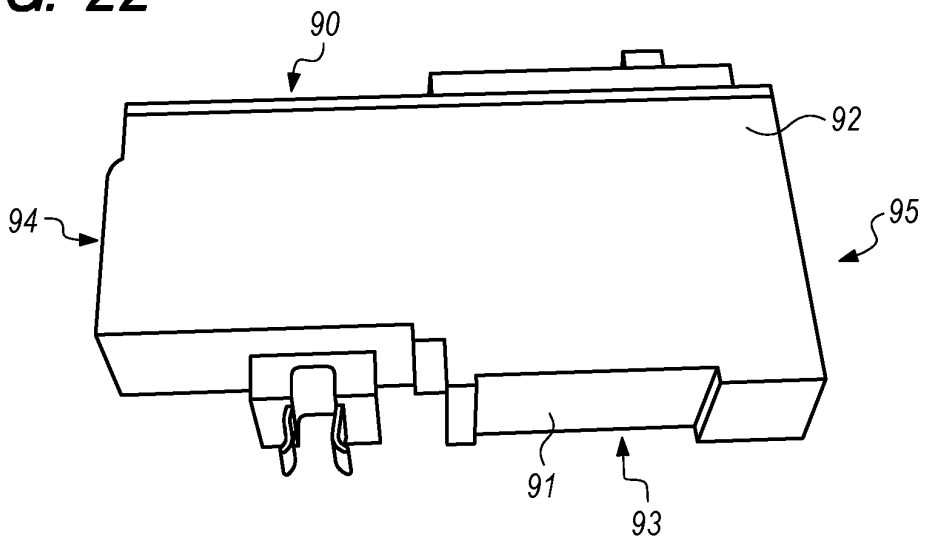
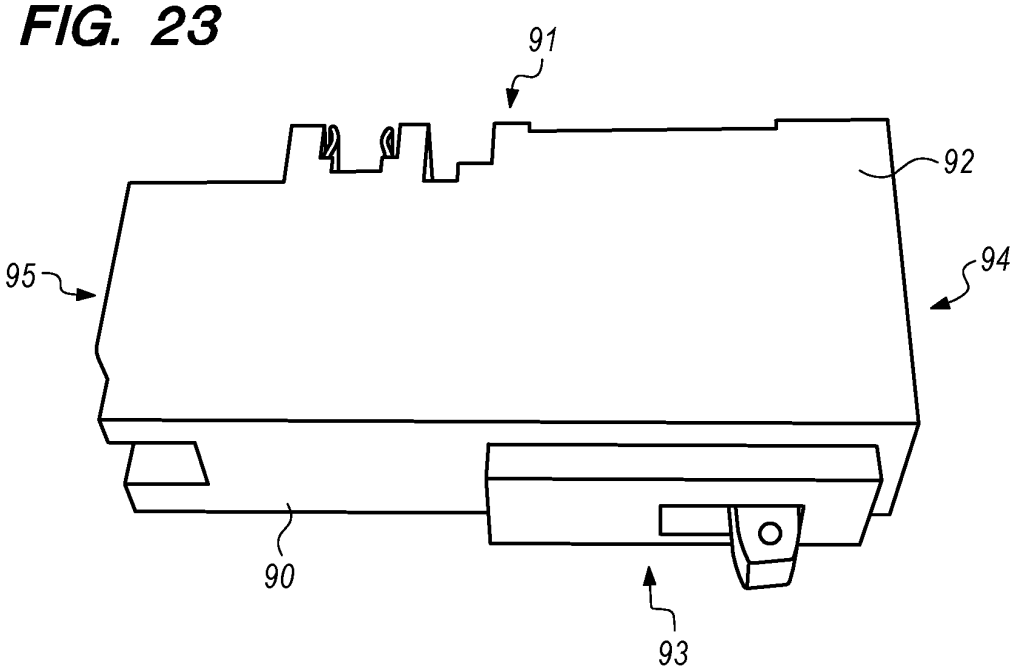


FIG. 23



AUTOMATIC HOUSE VENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to automatic house vents and to circuit breakers. One or more automatic or automated house vents that can automatically open and close is connected to a special circuit breaker that controls the automatic house vents and automatically closes all automatic house vents in the event of a power outage or a power disconnection to the house, home, or building.

2. Description of Related Art

Applicants are victims of the Camp Fire in Paradise, Calif., which was the largest and most destructive forest fire in U.S. history at the time of this writing. Applicants' homes were set fire by burning ambers that blew into their house vents and started fires from the inside of the house. Many new homes in forest fire areas are now being built with fireproof roofs and fireproof siding but still have fire vulnerability through their venting systems. Applicants have invented this automatic house vent system that automatically closes all house vents in the house, home, or building when electrical power is shut off to the home or community. It is standard practice for the authorities to shut off electrical power to all communities in the path of a forest fire. Automatic house vent system will then keep all house vents closed until if and when power is restored to the house, home, or building and a person manually resets the automatic house vent system. If power is restored without a person manually resetting the system, all house vents remain closed.

There are many automated house vents in the prior art. There are many circuit breakers in the prior art. However, no devices have an automated house vent connected to a special circuit breaker as shown and described here that automatically closes all house vents when there is a power outage or when electrical feed power is cut-off to the house, home, or building.

BRIEF SUMMARY OF THE INVENTION

It is an aspect of automatic house vent to include at least one actuated house vent that opens and closes as a result of electrical signaling or lack thereof.

It is an aspect of at least one actuated house vent to include a solenoid actuator that is capable of opening and closing the house vent.

It is an aspect of automatic house vent to include a special automatic house vent circuit breaker with electric continuity with at least one actuated house vent or a plurality of actuated house vents.

It is an aspect of automatic house vent to automatically close all actuated house vents when electrical power is shut off or disconnected to the house, home, or building.

It is an aspect of automatic house vent to automatically keep all actuated house vents closed when electrical power is restored or reconnected to the house, home, or building where the special automatic house vent circuit breaker has not been manually reset.

It is an aspect of automatic house vent to automatically open all actuated house vents when electrical power is restored or reconnected to the house, home, or building and the special automatic house vent circuit breaker is manually reset.

It is an aspect of automatic house vent to include a plurality of actuated house vents, each connected to a special automatic house vent circuit breaker by electrical wiring.

It is an aspect of special automatic house vent circuit breaker to be compatible with and capable of being installed within a standard electrical panel or breaker box.

It is an aspect of special automatic house vent circuit breaker to include a solenoid actuator that actuates to trip the circuit breaker when power is disconnected or shut off to the circuit breaker.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a house, home, or building with electrical panel or breaker box, electrical wiring, and a plurality of house vents, each with a vent solenoid.

FIG. **2** is a perspective view of a shutter vent with a vent solenoid that is in the open position.

FIG. **3** is a perspective view of a shutter vent with a vent solenoid that is in the closed position.

FIG. **4** is a perspective view of another shutter vent with a vent solenoid that is in the open position.

FIG. **5** is a perspective view of another shutter vent with a vent solenoid that is in the closed position.

FIG. **6** is a perspective view of a rectangular or square louvered vent with a vent solenoid that is in the open position.

FIG. **7** is a perspective view of a rectangular or square louvered vent with a vent solenoid that is in the closed position.

FIG. **8** is a perspective view of a round louvered vent with a vent solenoid that is in the open position.

FIG. **9** is a perspective view of a round louvered vent with a vent solenoid that is in the closed position.

FIG. **10** a cutaway view of the inside of a first mode of automatic house vent circuit breaker with circuit breaker switch in the circuit closed position.

FIG. **11** a cutaway view of the inside of a first mode of automatic house vent circuit breaker with circuit breaker switch in the circuit open position.

FIG. **12** a cutaway view of the inside of a first mode of automatic house vent circuit breaker with circuit breaker switch in the circuit tripped position.

FIG. **13** a cutaway view of the inside of a second mode of automatic house vent circuit breaker with circuit breaker switch in the circuit closed position.

FIG. **14** a cutaway view of the inside of a second mode of automatic house vent circuit breaker with circuit breaker switch in the circuit open position.

FIG. **15** a cutaway view of the inside of a second mode of automatic house vent circuit breaker with circuit breaker switch in the circuit tripped position.

FIG. **16** a cutaway view of the inside of a third mode of automatic house vent circuit breaker with circuit breaker switch in the circuit closed position.

FIG. **17** a cutaway view of the inside of a third mode of automatic house vent circuit breaker with circuit breaker switch in the circuit open position.

FIG. **18** a cutaway view of the inside of a third mode of automatic house vent circuit breaker with circuit breaker switch in the circuit tripped position.

FIG. **19** a cutaway view of the inside of a fourth mode of automatic house vent circuit breaker with circuit breaker switch in the circuit closed position.

FIG. **20** a cutaway view of the inside of a fourth mode of automatic house vent circuit breaker with circuit breaker switch in the circuit open position.

FIG. **21** a cutaway view of the inside of a fourth mode of automatic house vent circuit breaker with circuit breaker switch in the circuit tripped position.

FIG. **22** is a front perspective view of automatic house vent circuit breaker.

FIG. **23** is a rear perspective view of automatic house vent circuit breaker.

DEFINITION LIST

Term	Definition
10	House Vent
12	Shutter Vent
13	Shutter Vent Frame
14	Pivoting Shutter Blade
15	Pivoting Shutter Blade Pivot Axis
16	Shutter Rod
17	Rectangular or Square Louvered Vent
18	Rectangular or Square Louvered Vent Frame
19	First Aperture Sheet
20	Second Aperture Sheet
21	Second Aperture Sheet Rod
22	Round Louvered Vent
23	First Round Aperture Sheet
24	Second Round Aperture Sheet
25	Second Round Aperture Sheet Pivot Point
26	Second Round Aperture Sheet Rod
27	Round Louvered Vent Frame
30	Vent Solenoid
32	Vent Solenoid Inductive Coil
34	Vent Solenoid Armature
36	Vent Solenoid Spring
40	Electrical Wiring
45	Electric Panel or Breaker Box
50	Automatic House Vent Circuit Breaker
51	Load Wire Input Terminal
52	Neutral Wire Input Terminal
53	Circuit Breaker Switch
54	Circuit Breaker Switch Pivot Pin
55	Pivoting Electrical Contact
56	Pivoting Electrical Contact Pivot Point
57	Pivoting Electrical Contact Spring
58	Pivoting Electrical Contact Wire
59	Pivoting Catch Arm
60	Pivoting Catch Arm Pivot Pin
61	Pivoting Catch Arm Stop Pin
62	Bimetal Strip
64	Bimetal Strip Extension Bracket
65	Bimetal Strip Pivot Point
66	Bimetal Strip Spring
67	Bimetal Strip Electrical Bridge
68	Circuit Board
69	Integrated Circuit or Chip
70	Load Wire Input to Circuit Board
71	Neutral Wire Input to Circuit Board
72	Circuit Breaker Solenoid
73	Circuit Breaker Solenoid Inductive Coil
74	Circuit Breaker Solenoid Armature
75	Circuit Breaker Solenoid Extension Bracket
76	Load Wire Output from Circuit Board
77	Neutral Wire Output from Circuit Board
78	Ground Fault Sensor
79	Arc Fault Sensor
80	Load Bridge Wire
81	Neutral Bridge Wire
82	Load Wire Exit Terminal
83	Neutral Wire Exit Terminal
90	Front Surface of Automatic House Vent Circuit Breaker
91	Rear Surface of Automatic House Vent Circuit Breaker
92	Upper Surface of Automatic House Vent Circuit Breaker
93	Lower Surface of Automatic House Vent Circuit Breaker
94	Right Surface of Automatic House Vent Circuit Breaker
95	Left Surface of Automatic House Vent Circuit Breaker
100	House, Home, or Building

DETAILED DESCRIPTION OF THE INVENTION

Automatic house vent **5** comprises: at least one house vent **10**, at least one vent solenoid **30**, a plurality of electrical wiring **40**, and an automatic house vent circuit breaker **50**. Each house vent **10** is mechanically linked or connected to a vent solenoid **30** so that the vent solenoid **30** may actuate to open and close the house vent **10**. Thus, there is an equivalent amount of house vents **10** and vent solenoids **30** installed into a house, home, or building **100**. Typically, a house, home, or building **100** has a plurality of house vents **10**. Each vent solenoid **30** is connected to an automatic house vent circuit breaker **50** by electrical wiring **40**.

At least one house vent **10** may be: a shutter vent **12**, a rectangular or square louvered vent **17**, or a round louvered vent **22**. Shutter vent **12** is depicted in FIGS. **2-5**. Rectangular or square louvered vent **17** is depicted in FIGS. **6-7**. Round louvered vent **22** is depicted in FIGS. **8-9**.

Shutter vent **12** comprises: a shutter vent frame **13**, a plurality of pivoting shutter blades **14**, and a shutter rod **16**. Shutter vent frame **13** is a rigid structural member or frame member with a left support, a right support, a top support, a bottom support, and a rectangular or square opening in the center. Each pivoting shutter blade **14** is a rigid rectangular planar member with an inside surface, an outside surface, a left edge, a right edge, a top edge, a bottom edge, and a longitudinal axis. There is a left hinge pin located on the left edge of each pivoting shutter blade **14** in between the top edge and the bottom edge of pivoting shutter blade **14**. Left hinge pin is a rigid cylindrical member with a first end, a second end, and a longitudinal axis. The first end is attached to the left edge of pivoting shutter blade **14**. The second end of left hinge pin protrudes perpendicularly from the left edge of pivoting shutter blade **14**. There is a right hinge pin located on the right edge of each pivoting shutter blade **14** in between the top edge and the bottom edge of pivoting shutter blade **14**. Right hinge pin is a rigid cylindrical member with a first end, a second end, and a longitudinal axis. The first end is attached to the right edge of pivoting shutter blade **14**. The second end of right hinge pin protrudes perpendicularly from the right edge of pivoting shutter blade **14**. The axes of left and right hinge pins are coincident with each other and perpendicular to the right and left edges of pivoting shutter blade **14**. Each pivoting shutter blade **14** is pivotally attached to shutter vent frame **13** so that each its longitudinal axis is horizontal and perpendicular to the left and right supports of shutter vent frame **13** and parallel with the top and bottom supports of shutter vent frame **13**. Left hinge pin is positioned and placed within a hole on the left support of shutter vent frame **13** to form a pivoting attachment therein. Right hinge pin is positioned and placed within a hole on the right support of shutter vent frame **13** to form a pivoting attachment therein. A plurality of pivoting shutter blades **14** is used to cover the entire rectangular or square opening in the center shutter vent frame **13**. Shutter rod **16** is a rigid vertical cylindrical member with an upper end, a middle section, a lower end, and a longitudinal axis. Shutter rod **16** functions to link all of the pivoting shutter blades **14** to vent solenoid armature **34**. The lower end of shutter rod **16** is rigidly attached to the second end of vent solenoid armature **34**. The upper end of shutter rod **16** is attached to the top edge of the upper most pivoting shutter blade **14**. The top edge of all other pivoting shutter blades **14** is attached to the middle section of shutter rod **16**. Alternately, the upper end of shutter rod **16** may be attached to only one pivoting shutter blade **14** where all pivoting shutter blades **14** are

linked together with a linkage rod or linkage. Shutter rod **16** actuates by moving upwards and downwards while the longitudinal axis of shutter rod **16** remains vertical. As shutter rod **16** moves upwards and downwards, it rotates all the top edges of all pivoting shutter blades **14** upwards and downwards, thereby pivoting all pivoting shutter blades **14** to open position and the closed position. In this way, as the shutter rod **16** moves upwards, all pivoting shutter blades **14** pivot closed, as depicted in FIGS. **3** and **5**. As the shutter rod **16** moves downwards, all pivoting shutter blades **14** pivot open, as depicted in FIGS. **2** and **4**.

Vent solenoid **30** is an electromechanical solenoid that moves an armature into an extended position and/or retracts the armature into a retracted position by electrifying an inductive coil. Electrical current passing through an inductive coil creates an inductive force that acts upon the conductive armature located in the center of the inductive coil. The armature is slideably attached inside of the inductive coil where the armature may be extended or retracted by controlling the direction and amount of electrical current passing through the inductive oil. The inductive coil is connected to a power source, battery, or electromotive force in order to create the electrical current. The magnetic field or magnetic force points in one direction when the first end of solenoid inductive coil is connected to the positive connection on a power source, battery, or electromotive force and the second end solenoid inductive coil is connected to the negative connection on a power source, battery, or electromotive force. The magnetic field or magnetic force points in the opposite direction when the first end of solenoid inductive coil is connected to the negative connection on a power source, battery, or electromotive force and the second end solenoid inductive coil is connected to the positive connection on a power source, battery, or electromotive force.

Vent solenoid **30** may be any known type of electromechanical solenoid. Vent solenoid **30** comprises: a vent solenoid inductive coil **32** and a vent solenoid armature **34**. Vent solenoid inductive coil **32** is a cylindrical coil of metallic conductive wire with a first end, a second end, and a longitudinal axis. Vent solenoid inductive coil **32** consists of a large number of coils of metallic conductive wire. Vent solenoid **30** is cylindrical shaped with a hollow center. Vent solenoid **30** functions to induce a magnetic field or a magnetic force in the hollow center of the cylindrical shape. The magnetic field is created by passing electrical current through vent solenoid inductive coil **32**. The magnetic field produced runs parallel to the longitudinal axis of vent solenoid inductive coil **32**. Vent solenoid armature **34** is a rigid cylindrical member with a first end, a second end, and a longitudinal axis. Vent solenoid armature **34** is made of conductive material such as metal. Vent solenoid armature **34** is slideably attached inside of vent solenoid inductive coil **32** with its longitudinal axis coincident with that of vent solenoid inductive coil **32**. The first end of vent solenoid armature **34** is located in the center of vent solenoid inductive coil **32**. The second end of vent solenoid armature **34** protrudes out of one end of vent solenoid inductive coil **32**.

The first end of vent solenoid inductive coil **32** is connected to load wire exit terminal **82** or to neutral wire exit terminal **83** by electrical wiring **40** so that there is electrical continuity between these members. The second end of vent solenoid inductive coil **32** is connected to load wire exit terminal **82** or to neutral wire exit terminal **83** by electrical wiring **40** so that there is electrical continuity between these members. In this way there is electrical continuity between vent solenoid inductive coil **32** and circuit board **68**. Circuit board **68** functions as the power source, battery, or electromotive force to create the electrical current in vent solenoid inductive coil **32** and the resulting magnetic field or magnetic force. In best mode, vent solenoid **30** is a "normally open" electromechanical solenoid, which means the vent solenoid armature **34** is in the extended position when power is not applied to the vent solenoid inductive coil **32** and the vent solenoid armature **34** is in the retracted position when power is supplied to the vent solenoid inductive coil **32**. In another mode, at least one integrated circuit or chip **69** is programmed with instructions or read only memory that is used to control the extension and retraction of vent solenoid armature **34**. In this mode, circuit board **68** and at least one integrated circuit or chip **69** function in tandem to control the electrical current in vent solenoid inductive coil **32**. In this mode, circuit board **68** and integrated circuit or chip **69** can initiate electric current across vent solenoid inductive coil **32** in either direction to create the magnetic field or magnetic force in either direction in order to extend or retract vent solenoid armature **34**.

Vent solenoid **30** may further comprise a vent solenoid spring **36**. Vent solenoid spring **36** is a helical spring or coil spring with a first end, a second end, and a longitudinal axis. Vent solenoid spring **36** may be any known type of spring. Vent solenoid spring **36** functions to continuously force or push shutter rod **16** upwards. Vent solenoid spring **36** is located or installed over the second end vent solenoid armature **34**. The first end of vent solenoid spring **36** is slid over the second end of vent solenoid armature **34** to contact vent solenoid inductive coil **32** or a housing covering vent solenoid inductive coil **32**. Vent solenoid spring **36** is then compressed and a spring stop is installed on vent solenoid armature **34** to keep vent solenoid spring **36** in a compressed state. Spring stop is a baffle, wall, washer, nut, or fastener that is rigidly attached to vent solenoid armature **34** to hold vent solenoid spring **36** in the compressed condition. The outer diameter of spring stop must be larger than that of vent solenoid spring **36** in order to retain vent solenoid spring **36** and prevent it from sliding over the spring stop. Spring stop is attached to vent solenoid armature **34** near the second end of vent solenoid armature **34**. In this mode, vent solenoid armature **34** may still retract and extend even though vent solenoid spring **36** continuously pushes vent solenoid armature **34** upwards. Thus, when in the retracted, the inductive force from vent solenoid inductive coil **32** must be greater than the extension force provided by vent solenoid spring **36**. Vent solenoid spring **36** is a fail safe or safety mechanism that forces the shutter rod **16** upwards in the event of a power loss to the vent solenoid **30**. In this mode, vent solenoid spring **36** forces or pushes the shutter rod **16** upwards to insure that all pivoting shutter blades **14** are closed in the event of a power loss. Also, in this mode, all pivoting shutter blades **14** are forced closed in the event of a vent solenoid **30** failure or malfunction and/or integrated circuit or chip **69** failure or malfunction.

Rectangular or square louvered vent **17** comprises: a rectangular or square louvered vent frame **18**, a first aperture sheet **19**, a second aperture sheet **20**, and a second aperture sheet rod **21**. Rectangular or square louvered vent frame **18** is a rigid structural member or frame member with a left support, a right support, a top support, a bottom support, and a rectangular or square opening in the center. First aperture sheet **19** is a rigid planar square or rectangular member with an inside surface, an outside surface, a left edge, a right edge, a top edge, a bottom edge, and a plurality of rectangular apertures, vents, or holes. Second aperture sheet **20** is a rigid planar square or rectangular member with an inside surface, an outside surface, a left edge, a right edge, a top

edge, a bottom edge, and a plurality of rectangular apertures, vents, or holes. The rectangular apertures, vents, or holes in first aperture sheet **19** are the same size as those in second aperture sheet **20**. Rectangular apertures, vents, or holes in first aperture sheet **19** and second aperture sheet **20** are each evenly spaced with a center to center distance that is equal to or greater than the width of the rectangular apertures, vents, or holes. First and second aperture sheets **19**,**20** each have the same number of rectangular apertures, vents, or holes. The rectangular apertures, vents, or holes in first aperture sheet **19** are in the same locations as those in second aperture sheet **20**. First aperture sheet **19** is rigidly attached to rectangular or square louvered vent frame **18** to cover the rectangular or square opening in the center of rectangular or square louvered vent frame **18**. Second aperture sheet **20** is slideably attached to rectangular or square louvered vent frame **18** to cover the rectangular or square opening in the center of rectangular or square louvered vent frame **18**. Second aperture sheet **20** may slide along a track in rectangular or square louvered vent frame **18** while first aperture sheet **19** remains stationary with rectangular or square louvered vent frame **18**. Second aperture sheet **20** may slide into a position where each of its rectangular apertures, vents, or holes aligns with those of first aperture sheet **19** as depicted in FIG. **6**. This is the open position where rectangular or square louvered vent **17** is open to allow air ventilation. Second aperture sheet **20** may also slide into a position where each of its rectangular apertures, vents, or holes aligns with closed space between the rectangular apertures, vents, or holes on first aperture sheet **19** as depicted in FIG. **7**. This is the closed position where rectangular or square louvered vent **17** is closed to prevent air ventilation. Second aperture sheet rod **21** is a rigid cylindrical member with a first end, a middle section, a second end, and a longitudinal axis. Second aperture sheet rod **21** functions to link the second aperture sheet **20** to vent solenoid armature **34**. The first end of second aperture sheet rod **21** is rigidly attached to the second end of vent solenoid armature **34**. The second end of second aperture sheet rod **21** is attached to the left edge, right edge, top edge, or bottom edge of second aperture sheet **20**. Second aperture sheet rod **21** moves with vent solenoid armature **34** to actuate back and forth along with vent solenoid armature **34**. In this way, vent solenoid **30** functions or actuates to move or slide second aperture sheet **20** back and forth into a vent closed position and into a vent open position. In modes with a vent solenoid spring **36**, vent solenoid spring **36** forces or pushes the second aperture sheet rod **21** into the closed position to insure that rectangular or square louvered vent **17** is closed to prevent air ventilation in the event of a power loss, vent solenoid **30** failure or malfunction, or integrated circuit or chip **69** failure or malfunction.

Round louvered vent **22** comprises: a first round aperture sheet **23**, a second round aperture sheet **24**, a second round aperture sheet pivot point **25**, a second round aperture sheet rod **26**, and a round louvered vent frame **27**. Round louvered vent frame **27** is a rigid circular structural member or frame member with a center and a circular opening in the center. First round aperture sheet **23** is a rigid planar circular member with an inside surface, an outside surface, a center, a circumference edge, and a plurality of apertures, vents, or holes. Second round aperture sheet **24** is a rigid planar circular member with an inside surface, an outside surface, a center, a circumference edge, and a plurality of apertures, vents, or holes. The apertures, vents, or holes in first round aperture sheet **23** are the same size as those in second round aperture sheet **24**. Apertures, vents, or holes in first round aperture sheet **23** and second round aperture sheet **24** are each positioned radially about their respective centers with a center to center distance that is equal to or greater than the width of the apertures, vents, or holes. First and second round aperture sheets **23**,**24** each have the same number of apertures, vents, or holes. The apertures, vents, or holes in first round aperture sheet **23** are in the same locations as those in second round aperture sheet **24**. First round aperture sheet **23** is rigidly attached to round louvered vent frame **27** to cover the circular opening in the center of round louvered vent frame **27**. Second round aperture sheet **24** is pivotally attached to round louvered vent frame **27** to cover the circular opening in the center of round louvered vent frame **27**. The centers of first and second round aperture sheets **23**,**24** are coincident with the center of round louvered vent frame **27**. This center point is the second round aperture sheet pivot point **25**. Second round aperture sheet **24** pivotally attached so that it may pivot around second round aperture sheet pivot point **25** while first round aperture sheet **23** remains stationary with round louvered vent frame **27**. Second round aperture sheet **24** may slide into a position where each of its apertures, vents, or holes aligns with those of first round aperture sheet **23** as depicted in FIG. **9**. This is the open position where round louvered vent **22** is open to allow air ventilation. Second round aperture sheet **24** may also slide into a position where each of its apertures, vents, or holes aligns with space between the apertures, vents, or holes on first round aperture sheet **23** as depicted in FIG. **8**. This is the closed position where round louvered vent **22** is closed to prevent air ventilation. Second round aperture sheet rod **26** is a rigid cylindrical member with a first end, a middle section, a second end, and a longitudinal axis. Second round aperture sheet rod **26** functions to link the second round aperture sheet **24** to vent solenoid armature **34**. The first end of second round aperture sheet rod **26** is rigidly attached to the second end of vent solenoid armature **34**. The second end of second round aperture sheet rod **26** is attached to the circumference edge of second round aperture sheet **24**. Second round aperture sheet rod **26** moves with vent solenoid armature **34** to actuate back and forth along with vent solenoid armature **34**. In this way, vent solenoid **30** functions or actuates to rotate second round aperture sheet **24** back and forth in into a vent closed position and into a vent open position. In modes with a vent solenoid spring **36**, vent solenoid spring **36** forces or pushes the second round aperture sheet rod **26** into the closed position to insure that round louvered vent **22** is closed to prevent air ventilation in the event of a power loss, vent solenoid **30** failure or malfunction, or integrated circuit or chip **69** failure or malfunction.

Automatic house vent circuit breaker **50** is a circuit breaker that is reversibly attachable to an electric panel or breaker box **45**. Electric panel or breaker box **45** is an electric panel or breaker box that is a standard component of any electrical system on a house, home, or building **100**. Electric panel or breaker box **45** is not part of this invention. Any electric panel or breaker box **45** has one or more slots that each accept a circuit breaker. A circuit breaker is an automatic electrical switch that automatically shuts off power to an electrical circuit within a house, home, or building **100** in order to prevent damage or a fire within the house, home, or building **100**. A circuit breaker detects short circuit loads and excess current loads within the circuit and then automatically shuts off electrical power to the circuit. A plurality of circuit breakers is standard equipment of any house, home, or building **100** electrical system. Each circuit breaker monitors a particular circuit of electric current

within the house, home, or building **100**. When a circuit breaker detects excess current or a short circuit in the electric circuit, the circuit breaker trips or opens to prevent any electric current from travelling through the electric circuit in the house, home, or building **100**. When the circuit breaker is tripped or in the open position, electric current cannot flow through the circuit, which in turn prevents a fire from starting within the electrical wires in the house, home or building **100**. When the circuit breaker is tripped or in the open position, electrical wires cannot overheat or arc, thereby preventing fires from starting within the electrical wires in the house, home, or building **100**. After a circuit breaker has tripped, it must be manually reset or closed in order to allow current to pass through the circuit again. This means a person must physically go to the electric panel or breaker box **45** to manually reset or close the circuit breaker switch to allow electric current to pass through the circuit again.

Automatic house vent circuit breaker **50** is a special circuit breaker that is a component of this invention. Automatic house vent circuit breaker **50** is reversibly attachable to a slot within a house electric panel or breaker box **45**. Automatic house vent circuit breaker **50** comprises: a load wire input terminal **51**, a neutral wire input terminal **52**, a circuit breaker switch **53**, a circuit breaker switch pivot pin **54**, a pivoting electrical contact **55**, a pivoting electrical contact pivot point **56**, a pivoting electrical contact spring **57**, a pivoting electrical contact wire **58**, a pivoting catch arm **59**, a pivoting catch arm pivot pin **60**, a pivoting catch arm stop pin **61**, a bimetal strip **62**, a bimetal strip extension bracket **64**, a bimetal strip pivot point **65**, bimetal strip spring **66**, a bimetal strip electrical bridge **67**, a circuit board **68**, a load wire input to circuit board **70**, a neutral wire input to circuit board **71**, a circuit breaker solenoid **72**, a circuit breaker solenoid extension bracket **75**, a load wire output from circuit board **76**, a neutral wire output from circuit board **77**, a load wire exit terminal **82**, and a neutral wire exit terminal **83**. Automatic house vent circuit breaker **50** may further comprise at least one integrated circuit or chip **69**. These modes are depicted in FIGS. **10-21**. At least one integrated circuit or chip **69** is not required but is optional to add additional control capabilities.

Automatic house vent circuit breaker **50** is has a rigid housing or casing that is essentially a rectangular cuboid shaped member or similarly shaped member with a front surface **90**, a rear surface **91**, an upper surface **92**, a lower surface **93**, a right surface **94**, and a left surface **95**. These surfaces make up a rigid housing or a rigid casing with an essentially hollow interior.

Load wire input terminal **51** is an electrical terminal or electrical connector that is made from conductive material such as metal. Load wire input terminal **51** is located on the right rear corner of housing of automatic house vent circuit breaker **50** or at the intersection of the rear surface **91** and the right surface **94** of automatic house vent circuit breaker **50**. Neutral wire input terminal **52** is an electrical terminal or electrical connector. Neutral wire input terminal **52** is located on rear surface **91** of automatic house vent circuit breaker **50**.

Circuit breaker switch **53** is located on the front surface **90** of automatic house vent circuit breaker **50**. Circuit breaker switch **53** is a rigid oblong member with a first end, a middle section, and a second end. The middle section of circuit breaker switch **53** is pivotally attached to circuit breaker switch pivot pin **54**. Circuit breaker switch pivot pin **54** is a rigid vertical cylindrical member with a first end that is attached to the upper surface **92** and a second end that is attached to the lower surface **93** of housing of automatic house vent circuit breaker **50**. Circuit breaker switch **53** pivots about circuit breaker switch pivot pin **54**. The first end of circuit breaker switch **53** protrudes through the front surface **90** of housing of automatic house vent circuit breaker **50**. The first end of circuit breaker switch **53** has a circuit closed position, a circuit open position, and a circuit tripped position.

Pivoting electrical contact **55** is a rigid oblong member with a first end, a middle section, and a second end. Pivoting electrical contact **55** is made from conductive material such as metal. The first end of pivoting electrical contact **55** is pivotally attached to the second end of circuit breaker switch **53** at pivoting electrical contact pivot point **56**. Thus, pivoting electrical contact **55** pivots about pivoting electrical contact pivot point **56**, which in turn pivots about circuit breaker switch pivot pin **54**. When circuit breaker switch **53** is in the circuit closed position, the first end of circuit breaker switch **53** is oriented or leaning towards the right surface **94** of automatic house vent circuit breaker **50** and is the position closest to the right surface **94** of automatic house vent circuit breaker **50**. In this position, pivoting electrical contact spring **57** pulls the second end of pivoting electrical contact **55** towards the right surface of automatic house vent circuit breaker **50**. When circuit breaker switch **53** is in the circuit open position, the first end of circuit breaker switch **53** is oriented or leaning towards the left surface **95** of automatic house vent circuit breaker **50** and is the position closest to the left surface **95** of automatic house vent circuit breaker **50**. In this position, pivoting electrical contact spring **57** pulls the second end of pivoting electrical contact **55** towards the left surface **95** of automatic house vent circuit breaker **50**.

Pivoting catch arm **59** is a rigid U-shaped member wherein the open end of the U-shape faces the rear surface **91** of automatic house vent circuit breaker **50**. Pivoting catch arm **59** has a first end, a middle section, and a second end. Pivoting catch arm pivot pin **60** is a rigid vertical cylindrical member with a first end that is attached to the upper surface **92** and a second end that is attached to the lower surface **93** of housing of automatic house vent circuit breaker **50**. The first end of pivoting catch arm **59** is pivotally attached to pivoting catch arm pivot pin **60**. Pivoting catch arm **59** pivots about pivoting catch arm pivot pin **60** wherein pivoting catch arm **59** has first position and a second position. Pivoting electrical contact spring **57** is a spring with a first end and a second end. The first end of pivoting electrical contact spring **57** is attached to the middle section of pivoting catch arm **59**. The second end of pivoting electrical contact spring **57** is attached to the middle section of pivoting electrical contact **55**. Pivoting electrical contact spring **57** is continuously under tension when circuit breaker switch **53** is in all positions. This tension continuously pulls the second end of pivoting catch arm **59** towards the rear surface **91** of automatic house vent circuit breaker **50** when circuit breaker switch **53** is in all three positions: circuit closed, circuit open, and a circuit tripped.

Conversely, the tension applied by the pivoting electrical contact spring **57** pulls the second end of pivoting electrical contact **55** towards the right surface **94** of housing of automatic house vent circuit breaker **50** when circuit breaker switch **53** is in the circuit closed position and pulls the second end of pivoting electrical contact **55** towards the left surface **95** of housing of automatic house vent circuit breaker **50** when circuit breaker switch **53** is in the circuit open position. This occurs because the pivoting electrical contact pivot point **56** shifts to one side of pivoting electrical

contact spring **57** when circuit breaker switch **53** is in the circuit closed position and to the other side of pivoting electrical contact spring **57** when circuit breaker switch **53** is in the circuit open position. This causes the second end of pivoting electrical contact **55** to pivot into contact with the load wire input terminal **51** when circuit breaker switch **53** is in the circuit closed position and causes the second end of pivoting electrical contact **55** to pivot away from contact with load wire input terminal **51** when circuit breaker switch **53** is in the circuit open position.

The linked pivoting actions of the circuit breaker switch **53**, pivoting electrical contact **55**, and pivoting catch arm **59** are a complex series that is the basis of all circuit breaker devices. The complex linked pivoting actions of the circuit breaker switch **53**, pivoting electrical contact **55**, and pivoting catch arm **59** yield the circuit closed, circuit open, and circuit tripped positions of the automatic house vent circuit breaker **50**.

Pivoting electrical contact wire **58** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of pivoting electrical contact wire **58** is connected to the middle section of pivoting electrical contact **55** so that there is electrical continuity between these members. The second end of pivoting electrical contact wire **58** is connected to the second end of bimetal strip **62** so that there is electrical continuity between these members.

Bimetal strip electrical bridge **67** is a rigid oblong member with a first end and a second end. Bimetal strip electrical bridge **67** is made from electrically conductive material such as metal. The first end of bimetal strip electrical bridge **67** is connected to the first end of bimetal strip **62** so that there is electrical continuity between these members at the bimetal strip pivot point **65**. Bimetal strip pivot point **65** is the junction point between bimetal strip **62** and bimetal strip electrical bridge **67** and is fixed point from which bimetal strip **62** pivots about when bimetal strip **62** heats up and curls.

Bimetal strip **62** is an oblong member with a first end, a middle section, and a second end. Bimetal strip **62** is conductive. Bimetal strip **62** is a bimetallic strip that functions to convert a temperature change into mechanical displacement. Bimetal strip **62** consists of two strips of different metals that expand at different rates as they are heated which causes the bimetal strip **62** to curl or bend when heated and return to the straight position when the heat is removed. The first end of bimetal strip **62** is rigidly attached to the front surface of **90** automatic house vent circuit breaker **50** at bimetal strip pivot point **65**. The second end of bimetal strip **62** pivots about the first end of bimetal strip **62** at bimetal strip pivot point **65**. The first end of bimetal strip **62** remains fixed at bimetal strip pivot point **65** as the second end of bimetal strip **62** curls or pivots. Bimetal strip spring **66** is a spring with a first end and a second end. The first end of bimetal strip spring **66** is attached to the front surface of **90** automatic house vent circuit breaker **50**. The second end of bimetal strip spring **66** is attached to the middle section of bimetal strip **62**. Bimetal strip spring **66** functions to apply continuous bias or tension to pull the second end of bimetal strip **62** towards the right surface **94** and front surface **90** of automatic house vent circuit breaker **50**. The middle section of bimetal strip **62** has a notch or aperture that functions to catch and hold the second end of pivoting catch arm **59** within the notch or aperture. Tension applied by pivoting electrical contact spring **57** holds the second end of pivoting catch arm **59** within the notch or aperture on bimetal strip **62** when circuit breaker switch **53** is in the circuit closed position and in the circuit open position.

When circuit breaker switch **53** is in the circuit closed position and automatic house vent circuit breaker **50** is in use, there is electric current flowing along the length of bimetal strip **62**. During a large increase in current or a current surge, temperature of the bimetal strip **62** will increase, which in turn causes the bimetal strip **62** to curl or pivot towards the left surface **95** of automatic house vent circuit breaker **50**. This curling of the bimetal strip **62** causes the second end of pivoting catch arm **59** to fall out of the notch or aperture on bimetal strip **62** and to be pulled toward the rear surface **91** of automatic house vent circuit breaker **50** by tension from the pivoting electrical contact spring **57**. This is the circuit tripped condition. A particular bimetal strip **62** is engineered or designed for a certain maximum current load, such as 15 amps. A 15 amp bimetal strip **62** would then remain straight when passing electrical current below 15 amps but would curl or pivot when passing current above 15 amps. As soon as the bimetal strip **62** curls, the circuit is tripped, and automatic house vent circuit breaker **50** disconnects all electrical current through the circuit.

When circuit breaker switch **53** is in the circuit tripped position, the second end of pivoting catch arm **59** is pushed out of the notch or aperture on bimetal strip **62** so the second end of pivoting catch arm **59** is pulled toward the rear surface **91** of automatic house vent circuit breaker **50** by tension from the pivoting electrical contact spring **57**. This causes the second end of circuit breaker switch **53** to pivot towards the left surface **95** of automatic house vent circuit breaker **50** because pivoting electrical contact spring **57** is connected to pivoting catch arm **59** and pivoting electrical contact **55**, which is connected to circuit breaker switch **53**. This causes the pivoting electrical contact pivot point **56** to pivot or move towards the left surface **95** of automatic house vent circuit breaker **50**. This shift also causes the first end of pivoting electrical contact spring **57** to also pivot towards the left surface **95** of automatic house vent circuit breaker **50** because it is attached to the middle section of pivoting catch arm **59**. When pivoting electrical contact pivot point **56** is in this shifted position, this causes the second end of pivoting electrical contact **55** to pivot towards the left surface **95** of automatic house vent circuit breaker **50** and removed from contact with load wire input terminal **51**. The second end of pivoting electrical contact **55** pivots towards the left surface **95** of automatic house vent circuit breaker **50** because pivoting electrical contact spring **57** is positioned to the left of pivoting electrical contact pivot point **56** and consequently pulls the second end that way.

Load wire input to circuit board **70** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of load wire input to circuit board **70** is connected to the second end of bimetal strip electrical bridge **67** so that there is electrical continuity between these members. The second end of load wire input to circuit board **70** is connected to circuit board **68** so that there is electrical continuity between these members. Neutral wire input to circuit board **71** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of neutral wire input to circuit board **71** is connected to neutral wire input terminal **52** so that there is electrical continuity between these members. The second end of neutral wire input to circuit board **71** is connected to circuit board **68** so that there is electrical continuity between these members.

Circuit board **68** is a printed circuit board that supports and electrically connects electronic or electrical components attached to the circuit board using conductive tracks, pads, solder, or other features etched or laminated onto the circuit board. At least one integrate circuit or chip **69** is an integrated circuit or monolithic integrated circuit, also referred to as an IC, a chip, or a microchip that is a set of electronic circuits on one small flat piece of semiconductor material. At least one integrated circuit or chip **69** is attached or connected to circuit board **68** so that there is electrical continuity therebetween.

Load wire exit terminal **82** is an electrical terminal or electrical connector that is made from conductive material such as metal. Load wire exit terminal **82** is located on left surface **95** of automatic house vent circuit breaker **50**. Neutral wire exit terminal **83** is an electrical terminal or electrical connector that is made from conductive material such as metal. Neutral wire exit terminal **83** is located on left surface **95** of automatic house vent circuit breaker **50**.

Load wire output from circuit board **76** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of load wire output from circuit board **76** is connected to circuit board **68** so that there is electrical continuity between these members. The second end of load wire output from circuit board **76** is connected to load wire exit terminal **82** so that there is electrical continuity between these members. Neutral wire output from circuit board **77** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of neutral wire output from circuit board **77** is connected to circuit board **68** so that there is electrical continuity between these members. The second end of neutral wire output from circuit board **77** is connected to neutral wire exit terminal **83** so that there is electrical continuity between these members. Circuit board **68** is designed so that electrical continuity exists between load wire input to circuit board **70** and load wire output from circuit board **76**. Circuit board **68** is designed so that electrical continuity exists between neutral wire input to circuit board **71** and neutral wire output from circuit board **77**.

When circuit breaker switch **53** is in the circuit closed position, the second end of pivoting catch arm **59** is held or pinned within the notch or aperture on bimetal strip **62** from tension applied by pivoting electrical contact spring **57**. In the circuit closed position, the second end of pivoting electrical contact **55** is held or pinned against load wire input terminal **51** to create electrical continuity therebetween. When circuit breaker switch **53** is in the circuit closed position, there is electrical continuity between load wire input terminal **51** and load wire exit terminal **82**.

When circuit breaker switch **53** is in the circuit open position, the second end of pivoting catch arm **59** is held or pinned within the notch or aperture on bimetal strip **62** from tension applied by pivoting electrical contact spring **57**. In the circuit open position, the second end of pivoting electrical contact **55** pivoted away from load wire input terminal **51** and does not contact load wire input terminal **51**. When circuit breaker switch **53** is in the circuit open position, there is no electrical continuity between load wire input terminal **51** and pivoting electrical contact **55** and hence there is no electrical continuity between load wire input terminal **51** and load wire exit terminal **82**.

When circuit breaker switch **53** is in the circuit tripped position, the second end of pivoting catch arm **59** is pushed out of the notch or aperture on bimetal strip **62** and is pulled toward the rear surface **91** of automatic house vent circuit breaker **50**. This causes the second end of pivoting electrical contact **55** to pivot towards the left surface **95** of automatic house vent circuit breaker **50** and out of contact with load wire input terminal **51**. When circuit breaker switch **53** is in the circuit tripped position, there is no electrical continuity between load wire input terminal **51** and pivoting electrical contact **55** and hence there is no electrical continuity between load wire input terminal **51** and load wire exit terminal **82**.

After circuit breaker switch **53** has been tripped or is in the circuit tripped position, circuit breaker switch **53** rests or lies in a middle position that is in between the circuit open position and circuit closed position. In this position, the second end of pivoting electrical contact is not in contact with load wire input terminal **51** to disallow current flow within the circuit. In the tripped position, the circuit breaker switch **53** is in a permanent open position where electrical current cannot flow through the circuit. The circuit breaker switch **53** must be reset in order to close the circuit and energize the circuit again.

Pivoting catch arm stop pin **61** is used to help reset circuit breaker switch **53** after circuit breaker switch **53** has been tripped or is in the circuit tripped position. Pivoting catch arm stop pin **61** is a rigid vertical cylindrical member attached to the middle section of pivoting electrical contact **55**. Pivoting catch arm stop pin **61** is perpendicular to the U-shaped member of pivoting electrical contact **55**. Pivoting catch arm stop pin **61** is stationary to or with pivoting electrical contact **55** so pivoting catch arm stop pin **61** pivots or moves with pivoting electrical contact **55** as pivoting electrical contact **55** pivots or moves.

There is a two-step process to reset circuit breaker switch **53**. First, the first end of circuit breaker switch **53** is be pushed or pivoted towards the left surface **95** of automatic house vent circuit breaker **50** to hear a click which places circuit breaker switch **53** in the circuit open position. Second, the first end of circuit breaker switch **53** must be pushed or pivoted towards the right surface **94** of automatic house vent circuit breaker **50** to hear a click which places circuit breaker switch **53** in the circuit closed position. This resets the circuit breaker switch **53** and places it in the closed circuit position.

The first pivot to place circuit breaker switch **53** in the open position causes the second end of circuit breaker switch **53** to pivot towards the right surface **94** of automatic house vent circuit breaker **50**. This causes the second end of circuit breaker switch **53** to pivot into or make contact with pivoting catch arm stop pin **61** which causes the whole pivoting catch arm **59** to pivot or move towards the right surface **94** of automatic house vent circuit breaker **50** along with the second end of circuit breaker switch **53**. This causes the second end of pivoting catch arm **59** to pivot or move towards the front surface **90** of automatic house vent circuit breaker **50** so that the second end of pivoting catch arm **59** contacts and slides along the second end of bimetal strip **62** and then falls into a notch or aperture on the middle section of bimetal strip **62**. When second end of pivoting catch arm **59** reseats into the notch or aperture, a clicking sound is made, which marks the circuit open position.

The second pivot to place circuit breaker switch **53** in the closed position causes the second end of circuit breaker switch **53** to pivot or move towards the left surface **95** of housing of automatic house vent circuit breaker **50**, causing the first end of pivoting electrical contact **55** to also pivot or move towards the left surface **95** of housing of automatic house vent circuit breaker **50**, causing the second end of pivoting electrical contact **55** to pivot or move towards the

right surface **94** of housing of automatic house vent circuit breaker **50** and to come into contact with load wire input terminal **51**.

Circuit breaker solenoid **72** is an electromechanical solenoid that moves an armature into an extended position and/or retracts the armature into a retracted position by electrifying an inductive coil. Electrical current passing through an inductive coil creates an inductive force that acts upon the conductive armature located in the center of the inductive coil. The armature is positioned inside of the inductive coil where the armature may be extended or retracted by controlling the amount of electrical current passing through the inductive oil. Circuit breaker solenoid **72** may be any known type of electromechanical solenoid. Circuit breaker solenoid **72** comprises: a circuit breaker solenoid inductive coil **73**, a circuit breaker solenoid armature **74**, and a circuit breaker solenoid extension bracket **75**. Circuit breaker solenoid inductive coil **73** is a cylindrical coil of metallic conductive wire with a first end and a second end. Circuit breaker solenoid inductive coil **73** has a hollow interior space at the center of the cylindrical member and a longitudinal axis. Circuit breaker solenoid inductive coil **73** consists of a large number of coils of metallic conductive wire. The first and second ends of circuit breaker solenoid inductive coil **73** are each attached to circuit board **68** so that there is electrical continuity between these members. Circuit breaker solenoid armature **74** is a rigid cylindrical member with a first end, a second end, and a longitudinal axis. Circuit breaker solenoid armature **74** is made of conductive material such as metal. Circuit breaker solenoid armature **74** is slideably attached inside of circuit breaker solenoid inductive coil **73** and with longitudinal axis parallel to that of circuit breaker solenoid inductive coil **73**. The first end of circuit breaker solenoid armature **74** is located in the center of circuit breaker solenoid inductive coil **73**. The second end of circuit breaker solenoid armature **74** protrudes out of the second end of circuit breaker solenoid inductive coil **73**. Circuit breaker solenoid **72** is a "normally closed" electromechanical solenoid which means the circuit breaker solenoid armature **74** is in the retracted position when power is not applied to the circuit breaker solenoid inductive coil **73** and the circuit breaker solenoid armature **74** extends when power is supplied to the circuit breaker solenoid inductive coil **73**. Circuit breaker solenoid **72** is attached to circuit board **68**. At least one integrated circuit or chip **69** has electrical continuity with circuit breaker solenoid inductive coil **73**. At least one integrated circuit or chip **69** is programmed with instructions or read only memory that is used to control the extension and retraction of circuit breaker solenoid armature **74**. When there is loss of power or a power outage in the community, electrical power is removed or disconnected from load wire input terminal **51**, which also shuts off power to the circuit board **68**, integrated circuit of chip **69**, and circuit breaker solenoid **72**. When circuit breaker solenoid **72** experiences a loss of power, circuit breaker solenoid armature **74** automatically retracts and stays in the retracted position.

Bimetal strip extension bracket **64** is an oblong rigid bracket member with a first end and a second end. Circuit breaker solenoid extension bracket **75** is an oblong rigid bracket member with a first end and a second end. The first end of bimetal strip extension bracket **64** is rigidly attached to the second end of bimetal strip **62**. The second end of bimetal strip extension bracket **64** is slideably attached to the second end of circuit breaker solenoid extension bracket **75**. The first end of circuit breaker solenoid extension bracket **75** is attached to the second end of circuit breaker solenoid armature **74**.

Bimetal strip extension bracket **64** and circuit breaker solenoid extension bracket **75** together function as linkage to link the circuit breaker solenoid armature **74** to bimetal strip **62**. This linkage allows movement of the circuit breaker solenoid armature **74** to translate into movement of the bimetal strip **62**. As stated, when power is shut off to circuit breaker solenoid **72**, circuit breaker solenoid armature **74** automatically retracts and stays in the retracted position. When circuit breaker solenoid armature **74** retracts, this linkage causes the bimetal strip **62** to pivot or move towards the left surface **95** of housing of automatic house vent circuit breaker **50** which causes the second end of pivoting catch arm **59** to fall out of the notch of aperture on bimetal strip **62** so that the second end of pivoting catch arm **59** pivots or moves towards the rear surface **91** of housing of automatic house vent circuit breaker **50** where circuit breaker switch **53** assumes the circuit tripped position. As stated above, when this happens, the second end of pivoting electrical contact **55** swings away from and out of contact with load wire input terminal **51** to yield the circuit tripped position.

Without any electrical power load supplied to load wire input terminal **51**, circuit breaker solenoid **72** stays in the retracted position, which will prevent the second end of pivoting catch arm **59** from catching or reseating in the notch of aperture on bimetal strip **62**, thereby preventing a circuit breaker switch reset. Without any electrical power load supplied to load wire input terminal **51**, automatic house vent circuit breaker **50** may not be reset, so no electrical power can flow through the circuit. As stated above, when circuit breaker solenoid **72** does not receive power, the house vent **10** closes and remains closed until power is restored and the automatic house vent circuit breaker **50** is reset.

When power is restored to load wire input terminal **51**, circuit breaker solenoid **72** moves to the extended position, which allows the second end of pivoting catch arm **59** to catch or reseat in the notch of aperture on bimetal strip **62** when the reset process is undertaken. With electrical power load supplied to load wire input terminal **51**, automatic house vent circuit breaker **50** may be reset, to allow electrical power is to flow through the circuit.

Importantly, when power is restored to the house, home, or building **100**, all house vents **10** remain closed until only after the automatic house vent circuit breaker **50** is manually reset. This is important because power may be restored by the authorities or power company to the house, home, or building **100** when the fire is still burning and the house, home, or building **100**, which can cause the house, home or building **100** to catch fire.

Automatic house vent circuit breaker **50** may further comprise: a load bridge wire **80** and a neutral bridge wire **81**. In these modes, load bridge wire **80** provides a direct electrical connection between the second end of bimetal strip electrical bridge **67** and load wire exit terminal **82** so that there is electrical continuity between these members. In these modes, neutral bridge wire **81** provides a direct electrical connection between neutral wire input terminal **52** and neutral wire exit terminal **83** so that there is electrical continuity between these members. In these modes, when power is shut off or disconnected to automatic house vent circuit breaker **50**, power is also shut off or disconnected to all vent solenoids **30** and vent solenoid inductive coils **32**, thereby closing all house vents **10**, without the need for any commands from integrated circuit or chip **69**. These modes are depicted in FIGS. **13-21**. This embodiment simply adds

a load bridge wire **80** and a neutral bridge wire to the previous embodiment. This embodiment is an add-on and does not detract or remove anything from the previous embodiment.

Load bridge wire **80** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of load bridge wire **80** is connected to the second end of bimetal strip electrical bridge **67** so that there is electrical continuity between these members. The second end of load bridge wire **80** is connected to load wire exit terminal **82** so that there is electrical continuity between these members. The second direct electrical connection is provided by neutral bridge wire **81**. Neutral bridge wire **81** is an electrical wire with a first end and a second end and electrical continuity therebetween. The first end of neutral bridge wire **81** is connected to neutral wire input terminal **52** so that there is electrical continuity between these members. The second end of neutral bridge wire **81** is connected to neutral wire exit terminal **83** so that there is electrical continuity between these members. In this mode, the first end of load wire input to circuit board **70** is connected to load wire exit terminal **82** so that there is electrical continuity between these members, and the second end of load wire input to circuit board **70** is connected to circuit board **68** so that there is electrical continuity between these members. This mode is depicted in FIGS. **13-15**.

Automatic house vent circuit breaker **50** may further comprise a ground fault sensor **78**. This embodiment works with the preceding embodiment with a load bridge wire **80** and a neutral bridge wire **81**. This embodiment may or may not include an arc fault sensor **79**. Ground fault sensor **78** is a ground fault sensor that functions to simultaneously monitor, measure, or analyze the electrical current flowing along the load bridge wire **80** and the neutral bridge wire **81** and detect when there is disequilibrium between these two currents and then sets off an alarm signal when this occurs. Any known type of ground fault sensor may be used. Ground fault sensor **78** is attached to circuit board **68** with electrical continuity between these members. Load bridge wire **80** physically passes through ground fault sensor **78** so that ground fault sensor **78** can measure the electrical current passing through load bridge wire **80**. Neutral bridge wire **81** also physically passes through ground fault sensor **78** so that ground fault sensor **78** can measure the electrical current passing through neutral bridge wire **81**. When ground fault sensor **78** senses an unequal current between load bridge wire **80** and neutral bridge wire **81**, this means that there is a ground fault condition or electrical short circuit between these wires **80**,**81**. When this occurs, ground fault sensor **78** sends an electrical signal to at least one integrated circuit or chip **69** which is programmed to then instruct or command circuit breaker solenoid **72** to extend the circuit breaker solenoid armature **74**, thereby causing circuit breaker switch **53** to fall into the circuit tripped position. This mode is depicted in FIGS. **16-18**.

Automatic house vent circuit breaker **50** may further comprise an arc fault sensor **79**. This embodiment works with the preceding embodiment with a load bridge wire **80** and a neutral bridge wire **81**. This embodiment may or may not include a ground fault sensor **78**. Arc fault sensor **79** is an arc fault sensor that functions to monitor, measure, or analyze the electrical current flowing along the load bridge wire **80** and detect when there is an electrical signal or oscilloscope reading from the electrical current flowing along the load bridge wire **80** that typically results from an arc fault or electrical short and then sets off an alarm signal when this occurs. Any known type of ground arc sensor may be used. Arc fault sensor **79** is attached to circuit board **68** with electrical continuity between these members. Load bridge wire **80** physically passes through arc fault sensor **79** so that arc fault sensor **79** can monitor the electrical current passing through load bridge wire **80**. When arc fault sensor **79** senses a current reading or signal that is indicative a ground fault or short circuit, then arc fault sensor **79** sends an electrical signal to at least one integrated circuit or chip **69** which is programmed to then instruct or command circuit breaker solenoid **72** to extend the circuit breaker solenoid armature **74**, thereby causing circuit breaker switch **53** to fall into the circuit tripped position. This mode is depicted in FIGS. **19-21**.

What is claimed is:

1. An automatic house vent comprising: at least one shutter vent; at least one vent solenoid; an automatic house vent circuit breaker; and a plurality of electrical wiring, wherein

each said at least one vent solenoid is an electromechanical solenoid comprising: a vent solenoid inductive coil and a vent solenoid armature,

said vent solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said vent solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said vent solenoid armature is made of conductive material,

said vent solenoid armature is slideably attached to said interior of said vent solenoid inductive coil with said longitudinal axis of said vent solenoid armature parallel to said longitudinal axis of said vent solenoid inductive coil,

said first end of said vent solenoid armature is located in said interior of said vent solenoid inductive coil,

said second end of said vent solenoid armature protrudes out of said second end of said vent solenoid inductive coil,

said first end of said vent solenoid inductive coil is connected to a load wire exit terminal or to a neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

said second end of said vent solenoid inductive coil is connected to said load wire exit terminal or to said neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

said at least one shutter vent comprises: a shutter vent frame; a plurality of pivoting shutter blades; and a shutter rod,

said shutter vent frame is a rigid structural member or frame member with a left support, a right support, a top support, a bottom support, and a rectangular or square opening in the center,

each of said plurality of pivoting shutter blades is a rigid rectangular planar member with an inside surface, an outside surface, a left edge, a right edge, a top edge, a bottom edge, and a longitudinal axis,

each of said plurality of pivoting shutter blades is pivotally attached to said shutter vent frame,

said shutter rod is a rigid vertical cylindrical member with an upper end, a middle section, a lower end, and a longitudinal axis,

said lower end of said shutter rod is rigidly attached to said second end of said vent solenoid armature,

said top edge of each of said plurality of pivoting shutter blades is attached to said shutter rod,

said automatic house vent circuit breaker comprises: a load wire input terminal; a neutral wire input terminal; a circuit breaker switch; a circuit breaker switch pivot pin; a pivoting electrical contact; a pivoting electrical contact pivot point; a pivoting electrical contact spring; a pivoting electrical contact wire; a pivoting catch arm; a pivoting catch arm pivot pin; a pivoting catch arm stop pin; a bimetal strip; a bimetal strip extension bracket; a bimetal strip pivot point; bimetal strip spring; a bimetal strip electrical bridge; a circuit board; a load wire input; a neutral wire input; a circuit breaker solenoid; a circuit breaker solenoid extension bracket; a load wire output; a neutral wire output; said load wire exit terminal; and said neutral wire exit terminal, wherein,

said automatic house vent circuit breaker has a rigid hollow casing with a front surface, a rear surface, an upper surface, a lower surface, a right surface, and a left surface,

said load wire input terminal is an electrical terminal or electrical connector that is made from conductive material that is located at the intersection of said rear surface and said right surface of said automatic house vent circuit breaker,

said neutral wire input terminal is an electrical terminal or electrical connector that is located on said rear surface of said automatic house vent circuit breaker,

said circuit breaker switch is a rigid oblong member with a first end, a middle section, and a second end,

said circuit breaker switch is located on said front surface of said automatic house vent circuit breaker,

said middle section of said circuit breaker switch is pivotally attached to said circuit breaker switch pivot pin,

said circuit breaker switch pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,

said circuit breaker switch pivots about said circuit breaker switch pivot pin,

said first end of said circuit breaker switch protrudes through said front surface of said automatic house vent circuit breaker,

said first end of circuit breaker switch has a circuit closed position, a circuit open position, and a circuit tripped position,

said pivoting electrical contact is a rigid oblong member with a first end, a middle section, and a second end,

said pivoting electrical contact is made from conductive material,

said first end of said pivoting electrical contact is pivotally attached to said second end of said circuit breaker switch at said pivoting electrical contact pivot point,

said pivoting electrical contact pivots about said pivoting electrical contact pivot point,

said pivoting catch arm is a rigid U-shaped member wherein the open end of said rigid U-shaped member faces said rear surface of said automatic house vent circuit breaker,

said pivoting catch arm has a first end, a middle section, and a second end,

said pivoting catch arm pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,

said first end of said pivoting catch arm is pivotally attached to said pivoting catch arm pivot pin,

said pivoting catch arm pivots about said pivoting catch arm pivot pin,

said pivoting electrical contact spring is a spring with a first end and a second end,

said first end of said pivoting electrical contact spring is attached to said middle section of said pivoting catch arm,

said second end of said pivoting electrical contact spring is attached to said middle section of said pivoting electrical contact,

said pivoting electrical contact wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said pivoting electrical contact wire is connected to said middle section of said pivoting electrical contact so that there is electrical continuity between these members,

said bimetal strip is an oblong member with a first end, a middle section, and a second end,

said second end of said pivoting electrical contact wire is connected to said second end of said bimetal strip so that there is electrical continuity between these members,

said bimetal strip electrical bridge is a rigid oblong member with a first end and a second end,

said bimetal strip electrical bridge is made from electrically conductive material,

said first end of said bimetal strip electrical bridge is connected to said first end of said bimetal strip so that there is electrical continuity between these members,

said first end of said bimetal strip electrical bridge is connected to said first end of bimetal strip at said bimetal strip pivot point,

said bimetal strip pivots about said bimetal strip pivot point,

said bimetal strip is conductive,

said bimetal strip is a bimetallic strip that consists of two strips of different metals that expand at different rates,

said first end of said bimetal strip is rigidly attached to said front surface of said automatic house vent circuit breaker at said bimetal strip pivot point,

said second end of said bimetal strip pivots about said first end of said bimetal strip at said bimetal strip pivot point,

said bimetal strip spring is a spring with a first end and a second end,

said first end of said bimetal strip spring is attached to said front surface of said automatic house vent circuit breaker,

said second end of said bimetal strip spring is attached to said middle section of said bimetal strip,

said middle section of said bimetal strip has a notch or an aperture that catches and holds said second end of said pivoting catch arm within said notch or aperture,

said load wire input is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load wire input is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,

said second end of said load wire input is connected to said circuit board so that there is electrical continuity between these members,

said neutral wire input is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said neutral wire input is connected to said neutral wire input terminal so that there is electrical continuity between these members,

said second end of said neutral wire input is connected to said circuit board so that there is electrical continuity between these members,

said circuit board is a printed circuit board that supports and electrically connects electronic or electrical components attached to said circuit board,

said load wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,

said load wire exit terminal is located on said left surface of said automatic house vent circuit breaker,

said neutral wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,

said neutral wire exit terminal is located on said left surface of said automatic house vent circuit breaker,

said load wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of said load wire output is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of neutral wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of neutral wire output is connected to said neutral wire exit terminal so that there is electrical continuity between these members,

said circuit breaker solenoid is an electromechanical solenoid comprising: a circuit breaker solenoid inductive coil, a circuit breaker solenoid armature, and a circuit breaker solenoid extension bracket,

said circuit breaker solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said first and second ends of said circuit breaker solenoid inductive coil are each attached to said circuit board so that there is electrical continuity between these members,

said circuit breaker solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said circuit breaker solenoid armature is made of conductive material,

said circuit breaker solenoid armature is slideably attached to said interior of said circuit breaker solenoid inductive coil with said longitudinal axis of said circuit breaker solenoid armature parallel to said longitudinal axis of said circuit breaker solenoid inductive coil,

said first end of said circuit breaker solenoid armature is located in said interior of said circuit breaker solenoid inductive coil,

said second end of said circuit breaker solenoid armature protrudes out of said second end of said circuit breaker solenoid inductive coil,

said bimetal strip extension bracket is an oblong rigid bracket member with a first end and a second end,

said circuit breaker solenoid extension bracket is an oblong rigid bracket member with a first end and a second end,

said first end of said bimetal strip extension bracket is rigidly attached to said second end of bimetal strip,

said second end of said bimetal strip extension bracket is slideably attached to said second end of said circuit breaker solenoid extension bracket,

said first end of said circuit breaker solenoid extension bracket is attached to said second end of said circuit breaker solenoid armature, and

said bimetal strip extension bracket is linked to said circuit breaker solenoid extension bracket which is linked to said circuit breaker solenoid armature.

2. An automatic house vent as recited in claim **1** further comprising: a load bridge wire and a neutral bridge wire, wherein,

said load bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load bridge wire is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,

said second end of said load bridge wire is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said neutral bridge wire is connected to said neutral wire input terminal so that there is electrical continuity between these members, and

said second end of said neutral bridge wire is connected to said neutral wire exit terminal so that there is electrical continuity between these members.

3. An automatic house vent as recited in claim **2** further comprising: a ground fault sensor and at least one integrated circuit or chip, wherein

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said ground fault sensor is a ground fault electrical sensor that functions to simultaneously monitor an electrical current flowing along said load bridge wire and an electrical current flowing along said neutral bridge wire, and detect when there is disequilibrium between said current flowing along said load bridge wire and said electrical current flowing along said neutral bridge wire and then sets off an alarm signal when this occurs,

said ground fault sensor is attached to said circuit board with electrical continuity between these members,

said load bridge wire physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said load bridge wire, and

said neutral bridge wire also physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said neutral bridge wire.

4. An automatic house vent as recited in claim **2** further comprising: an arc fault sensor and at least one integrated circuit or chip, wherein,

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said arc fault sensor is an arc fault electrical sensor that functions to monitor the electrical current flowing along said load bridge wire and detect when there is an electrical signal or an oscilloscope reading from the electrical current flowing along said load bridge wire that results from an arc fault or electrical short and then sets off an alarm signal when an arc fault or electrical short occurs,

said arc fault sensor is attached to said circuit board with electrical continuity between these members, and

said load bridge wire physically passes through said arc fault sensor so that said arc fault sensor is configured to monitor the electrical current passing through said load bridge wire.

5. An automatic house vent comprising: at least one rectangular or square louvered vent; at least one vent solenoid; an automatic house vent circuit breaker; and a plurality of electrical wiring, wherein

each said at least one vent solenoid is an electromechanical solenoid comprising: a vent solenoid inductive coil and a vent solenoid armature,

said vent solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said vent solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said vent solenoid armature is made of conductive material,

said vent solenoid armature is slideably attached to said interior of said vent solenoid inductive coil with said longitudinal axis of said vent solenoid armature parallel to said longitudinal axis of said vent solenoid inductive coil,

said first end of said vent solenoid armature is located in said interior of said vent solenoid inductive coil,

said second end of said vent solenoid armature protrudes out of said second end of said vent solenoid inductive coil,

said first end of said vent solenoid inductive coil is connected to a load wire exit terminal or to a neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

said second end of said vent solenoid inductive coil is connected to said load wire exit terminal or to said neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

each said rectangular or square louvered vent comprises: a rectangular or square louvered vent frame; a first aperture sheet; a second aperture sheet, and a second aperture sheet rod,

said rectangular or square louvered vent frame is a rigid structural member or frame member with a left support, a right support, a top support, a bottom support, and a rectangular or square opening in the center,

said first aperture sheet is a rigid planar square or rectangular member with an inside surface, an outside surface, a left edge, a right edge, a top edge, a bottom edge, and a plurality of rectangular apertures, vents, or holes,

said second aperture sheet is a rigid planar square or rectangular member with an inside surface, an outside surface, a left edge, a right edge, a top edge, a bottom edge, and a plurality of rectangular apertures, vents, or holes,

said first aperture sheet is rigidly attached to said rectangular or square louvered vent frame,

said second aperture sheet is slideably attached to said rectangular or square louvered vent frame,

said second aperture sheet rod is a rigid cylindrical member with a first end, a middle section, a second end, and a longitudinal axis,

said first end of said second aperture sheet rod is rigidly attached to said second end of said vent solenoid armature,

said second end of said second aperture sheet rod is attached to said left edge, right edge, top edge, or bottom edge of said second aperture sheet,

said automatic house vent circuit breaker comprises: a load wire input terminal; a neutral wire input terminal; a circuit breaker switch; a circuit breaker switch pivot pin; a pivoting electrical contact; a pivoting electrical contact pivot point; a pivoting electrical contact spring; a pivoting electrical contact wire; a pivoting catch arm; a pivoting catch arm pivot pin; a pivoting catch arm stop pin; a bimetal strip; a bimetal strip extension bracket; a bimetal strip pivot point; bimetal strip spring; a bimetal strip electrical bridge; a circuit board; a load wire input; a neutral wire input; a circuit breaker solenoid; a circuit breaker solenoid extension bracket; a load wire output; a neutral wire output; said load wire exit terminal; and said neutral wire exit terminal, wherein,

said automatic house vent circuit breaker has a rigid hollow casing with a front surface, a rear surface, an upper surface, a lower surface, a right surface, and a left surface,

said load wire input terminal is an electrical terminal or electrical connector that is made from conductive material that is located at the intersection of said rear surface and said right surface of said automatic house vent circuit breaker,

said neutral wire input terminal is an electrical terminal or electrical connector that is located on said rear surface of said automatic house vent circuit breaker,

said circuit breaker switch is a rigid oblong member with a first end, a middle section, and a second end,

said circuit breaker switch is located on said front surface of said automatic house vent circuit breaker,
said middle section of said circuit breaker switch is pivotally attached to said circuit breaker switch pivot pin,
said circuit breaker switch pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,
said circuit breaker switch pivots about said circuit breaker switch pivot pin,
said first end of said circuit breaker switch protrudes through said front surface of said automatic house vent circuit breaker,
said first end of circuit breaker switch has a circuit closed position, a circuit open position, and a circuit tripped position,
said pivoting electrical contact is a rigid oblong member with a first end, a middle section, and a second end,
said pivoting electrical contact is made from conductive material,
said first end of said pivoting electrical contact is pivotally attached to said second end of said circuit breaker switch at said pivoting electrical contact pivot point,
said pivoting electrical contact pivots about said pivoting electrical contact pivot point,
said pivoting catch arm is a rigid U-shaped member wherein the open end of said rigid U-shaped member faces said rear surface of said automatic house vent circuit breaker,
said pivoting catch arm has a first end, a middle section, and a second end,
said pivoting catch arm pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,
said first end of said pivoting catch arm is pivotally attached to said pivoting catch arm pivot pin,
said pivoting catch arm pivots about said pivoting catch arm pivot pin,
said pivoting electrical contact spring is a spring with a first end and a second end,
said first end of said pivoting electrical contact spring is attached to said middle section of said pivoting catch arm,
said second end of said pivoting electrical contact spring is attached to said middle section of said pivoting electrical contact,
said pivoting electrical contact wire is an electrical wire with a first end and a second end and electrical continuity therebetween,
said first end of said pivoting electrical contact wire is connected to said middle section of said pivoting electrical contact so that there is electrical continuity between these members,
said bimetal strip is an oblong member with a first end, a middle section, and a second end,
said second end of said pivoting electrical contact wire is connected to said second end of said bimetal strip so that there is electrical continuity between these members,
said bimetal strip electrical bridge is a rigid oblong member with a first end and a second end,
said bimetal strip electrical bridge is made from electrically conductive material,
said first end of said bimetal strip electrical bridge is connected to said first end of said bimetal strip so that there is electrical continuity between these members,
said first end of said bimetal strip electrical bridge is connected to said first end of bimetal strip at said bimetal strip pivot point,
said bimetal strip pivots about said bimetal strip pivot point,
said bimetal strip is conductive,
said bimetal strip is a bimetallic strip that consists of two strips of different metals that expand at different rates,
said first end of said bimetal strip is rigidly attached to said front surface of said automatic house vent circuit breaker at said bimetal strip pivot point,
said second end of said bimetal strip pivots about said first end of said bimetal strip at said bimetal strip pivot point,
said bimetal strip spring is a spring with a first end and a second end,
said first end of said bimetal strip spring is attached to said front surface of said automatic house vent circuit breaker,
said second end of said bimetal strip spring is attached to said middle section of said bimetal strip,
said middle section of said bimetal strip has a notch or an aperture that catches and holds said second end of said pivoting catch arm within said notch or aperture,
said load wire input is an electrical wire with a first end and a second end and electrical continuity therebetween,
said first end of said load wire input is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,
said second end of said load wire input is connected to said circuit board so that there is electrical continuity between these members,
said neutral wire input to circuit board is an electrical wire with a first end and a second end and electrical continuity therebetween,
said first end of said neutral wire input is connected to said neutral wire input terminal so that there is electrical continuity between these members,
said second end of said neutral wire input is connected to said circuit board so that there is electrical continuity between these members,
said circuit board is a printed circuit board that supports and electrically connects electronic or electrical components attached to said circuit board,
said load wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,
said load wire exit terminal is located on said left surface of said automatic house vent circuit breaker,
said neutral wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,
said neutral wire exit terminal is located on said left surface of said automatic house vent circuit breaker,
said load wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of said load wire output is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of neutral wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of neutral wire output is connected to said neutral wire exit terminal so that there is electrical continuity between these members,

said circuit breaker solenoid is an electromechanical solenoid comprising: a circuit breaker solenoid inductive coil, a circuit breaker solenoid armature, and a circuit breaker solenoid extension bracket,

said circuit breaker solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said first and second ends of said circuit breaker solenoid inductive coil are each attached to said circuit board so that there is electrical continuity between these members,

said circuit breaker solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said circuit breaker solenoid armature is made of conductive material,

said circuit breaker solenoid armature is slideably attached to said interior of said circuit breaker solenoid inductive coil with said longitudinal axis of said circuit breaker solenoid armature parallel to said longitudinal axis of said circuit breaker solenoid inductive coil,

said first end of said circuit breaker solenoid armature is located in said interior of said circuit breaker solenoid inductive coil,

said second end of said circuit breaker solenoid armature protrudes out of said second end of said circuit breaker solenoid inductive coil,

said bimetal strip extension bracket is an oblong rigid bracket member with a first end and a second end,

said circuit breaker solenoid extension bracket is an oblong rigid bracket member with a first end and a second end,

said first end of said bimetal strip extension bracket is rigidly attached to said second end of bimetal strip,

said second end of said bimetal strip extension bracket is slideably attached to said second end of said circuit breaker solenoid extension bracket,

said first end of said circuit breaker solenoid extension bracket is attached to said second end of said circuit breaker solenoid armature, and

said bimetal strip extension bracket is linked to said circuit breaker solenoid extension bracket which is linked to said circuit breaker solenoid armature.

6. An automatic house vent as recited in claim **5** further comprising: a load bridge wire and a neutral bridge wire, wherein,

said load bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load bridge wire is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,

said second end of said load bridge wire is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said neutral bridge wire is connected to said neutral wire input terminal so that there is electrical continuity between these members, and

said second end of said neutral bridge wire is connected to said neutral wire exit terminal so that there is electrical continuity between these members.

7. An automatic house vent as recited in claim **6** further comprising: a ground fault sensor and at least one integrated circuit or chip, wherein,

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said ground fault sensor is a ground fault electrical sensor that functions to simultaneously monitor an electrical current flowing along said load bridge wire and an electrical current flowing along said neutral bridge wire, and detect when there is disequilibrium between said current flowing along said load bridge wire and said electrical current flowing along said neutral bridge wire and then sets off an alarm signal when this occurs,

said ground fault sensor is attached to said circuit board with electrical continuity between these members,

said load bridge wire physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said load bridge wire, and

said neutral bridge wire also physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said neutral bridge wire.

8. An automatic house vent as recited in claim **6** further comprising: an arc fault sensor and at least one integrated circuit or chip, wherein,

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said arc fault sensor is an arc fault electrical sensor that functions to monitor the electrical current flowing along said load bridge wire and detect when there is an electrical signal or an oscilloscope reading from the electrical current flowing along said load bridge wire that results from an arc fault or electrical short and then sets off an alarm signal when an arc fault or electrical short occurs,

said arc fault sensor is attached to said circuit board with electrical continuity between these members, and

said load bridge wire physically passes through said arc fault sensor so that said arc fault sensor is configured to monitor the electrical current passing through said load bridge wire.

9. An automatic house vent comprising: at least one round louvered vent; at least one vent solenoid; an automatic house vent circuit breaker; and a plurality of electrical wiring, wherein

each said at least one vent solenoid is an electromechanical solenoid comprising: a vent solenoid inductive coil and a vent solenoid armature,

said vent solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said vent solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said vent solenoid armature is made of conductive material,

said vent solenoid armature is slideably attached to said interior of said vent solenoid inductive coil with said longitudinal axis of said vent solenoid armature parallel to said longitudinal axis of said vent solenoid inductive coil,

said first end of said vent solenoid armature is located in said interior of said vent solenoid inductive coil,

said second end of said vent solenoid armature protrudes out of said second end of said vent solenoid inductive coil,

said first end of said vent solenoid inductive coil is connected to a load wire exit terminal or to a neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

said second end of said vent solenoid inductive coil is connected to said load wire exit terminal or to said neutral wire exit terminal by said plurality of electrical wiring so that there is electrical continuity between these members,

each round louvered vent comprises: a first round aperture sheet; a second round aperture sheet; a second round aperture sheet rod; and a round louvered vent frame,

said round louvered vent frame is a rigid circular structural member or frame member with a center and a circular opening in the center,

said first round aperture sheet is a rigid planar circular member with an inside surface, an outside surface, a center, a circumference edge, and a plurality of apertures, vents, or holes,

said second round aperture sheet is a rigid planar circular member with an inside surface, an outside surface, a center, a circumference edge, and a plurality of apertures, vents, or holes,

said first round aperture sheet is rigidly attached to said round louvered vent frame,

said second round aperture sheet is pivotally attached to said round louvered vent frame,

said centers of said first and second round aperture sheets are coincident with said center of said round louvered vent frame,

said second round aperture sheet rod is a rigid cylindrical member with a first end, a middle section, a second end, and a longitudinal axis,

said first end of said second round aperture sheet rod is rigidly attached to said second end of said vent solenoid armature,

said second end of said second aperture sheet rod is attached to said circumference edge of said second round aperture sheet,

said automatic house vent circuit breaker comprises: a load wire input terminal; a neutral wire input terminal; a circuit breaker switch; a circuit breaker switch pivot pin; a pivoting electrical contact; a pivoting electrical contact pivot point; a pivoting electrical contact spring; a pivoting electrical contact wire; a pivoting catch arm; a pivoting catch arm pivot pin; a pivoting catch arm stop pin; a bimetal strip; a bimetal strip extension bracket; a bimetal strip pivot point; bimetal strip spring; a bimetal strip electrical bridge; a circuit board; a load wire input; a neutral wire input; a circuit breaker solenoid; a circuit breaker solenoid extension bracket; a load wire output; a neutral wire output; said load wire exit terminal; and said neutral wire exit terminal, wherein,

said automatic house vent circuit breaker has a rigid hollow casing with a front surface, a rear surface, an upper surface, a lower surface, a right surface, and a left surface,

said load wire input terminal is an electrical terminal or electrical connector that is made from conductive material that is located at the intersection of said rear surface and said right surface of said automatic house vent circuit breaker,

said neutral wire input terminal is an electrical terminal or electrical connector that is located on said rear surface of said automatic house vent circuit breaker,

said circuit breaker switch is a rigid oblong member with a first end, a middle section, and a second end,

said circuit breaker switch is located on said front surface of said automatic house vent circuit breaker,

said middle section of said circuit breaker switch is pivotally attached to said circuit breaker switch pivot pin,

said circuit breaker switch pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,

said circuit breaker switch pivots about said circuit breaker switch pivot pin,

said first end of said circuit breaker switch protrudes through said front surface of said automatic house vent circuit breaker,

said first end of circuit breaker switch has a circuit closed position, a circuit open position, and a circuit tripped position,

said pivoting electrical contact is a rigid oblong member with a first end, a middle section, and a second end,

said pivoting electrical contact is made from conductive material,

said first end of said pivoting electrical contact is pivotally attached to said second end of said circuit breaker switch at said pivoting electrical contact pivot point,

said pivoting electrical contact pivots about said pivoting electrical contact pivot point,

said pivoting catch arm is a rigid U-shaped member wherein the open end of said rigid U-shaped member faces said rear surface of said automatic house vent circuit breaker,

said pivoting catch arm has a first end, a middle section, and a second end,

said pivoting catch arm pivot pin is a rigid vertical cylindrical member with a first end that is attached to said upper surface and a second end that is attached to said lower surface of said automatic house vent circuit breaker,

said first end of said pivoting catch arm is pivotally attached to said pivoting catch arm pivot pin,

said pivoting catch arm pivots about said pivoting catch arm pivot pin,

said pivoting electrical contact spring is a spring with a first end and a second end,

said first end of said pivoting electrical contact spring is attached to said middle section of said pivoting catch arm,

said second end of said pivoting electrical contact spring is attached to said middle section of said pivoting electrical contact,

said pivoting electrical contact wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said pivoting electrical contact wire is connected to said middle section of said pivoting electrical contact so that there is electrical continuity between these members,

said bimetal strip is an oblong member with a first end, a middle section, and a second end,

said second end of said pivoting electrical contact wire is connected to said second end of said bimetal strip so that there is electrical continuity between these members,

said bimetal strip electrical bridge is a rigid oblong member with a first end and a second end,

said bimetal strip electrical bridge is made from electrically conductive material,

said first end of said bimetal strip electrical bridge is connected to said first end of said bimetal strip so that there is electrical continuity between these members,

said first end of said bimetal strip electrical bridge is connected to said first end of bimetal strip at said bimetal strip pivot point,

said bimetal strip is conductive,

said bimetal strip is a bimetallic strip that consists of two strips of different metals that expand at different rates,

said first end of said bimetal strip is rigidly attached to said front surface of said automatic house vent circuit breaker at said bimetal strip pivot point,

said second end of said bimetal strip pivots about said first end of said bimetal strip at said bimetal strip pivot point,

said bimetal strip spring is a spring with a first end and a second end,

said first end of said bimetal strip spring is attached to said front surface of said automatic house vent circuit breaker,

said second end of said bimetal strip spring is attached to said middle section of said bimetal strip,

said middle section of said bimetal strip has a notch or an aperture that catches and holds said second end of said pivoting catch arm within said notch or aperture,

said load wire input is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load wire input to circuit board is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,

said second end of said load wire input is connected to said circuit board so that there is electrical continuity between these members,

said neutral wire input is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said neutral wire input is connected to said neutral wire input terminal so that there is electrical continuity between these members,

said second end of said neutral wire input is connected to said circuit board so that there is electrical continuity between these members,

said circuit board is a printed circuit board that supports and electrically connects electronic or electrical components attached to said circuit board,

said load wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,

said load wire exit terminal is located on said left surface of said automatic house vent circuit breaker,

said neutral wire exit terminal is an electrical terminal or electrical connector that is made from conductive material,

said neutral wire exit terminal is located on said left surface of said automatic house vent circuit breaker,

said load wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of said load wire output is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral wire output is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of neutral wire output is connected to said circuit board so that there is electrical continuity between these members,

said second end of neutral wire output is connected to said neutral wire exit terminal so that there is electrical continuity between these members,

said circuit breaker solenoid is an electromechanical solenoid comprising: a circuit breaker solenoid inductive coil, a circuit breaker solenoid armature, and a circuit breaker solenoid extension bracket,

said circuit breaker solenoid inductive coil is a cylindrical coil of metallic conductive wire with a first end, a second end, an interior, and a longitudinal axis,

said first and second ends of said circuit breaker solenoid inductive coil are each attached to said circuit board so that there is electrical continuity between these members,

said circuit breaker solenoid armature is a rigid cylindrical member with a first end, a second end, and a longitudinal axis,

said circuit breaker solenoid armature is made of conductive material,

said circuit breaker solenoid armature is slideably attached to said interior of said circuit breaker solenoid inductive coil with said longitudinal axis of said

circuit breaker solenoid armature parallel to said longitudinal axis of said circuit breaker solenoid inductive coil,

said first end of said circuit breaker solenoid armature is located in said interior of said circuit breaker solenoid inductive coil,

said second end of said circuit breaker solenoid armature protrudes out of said second end of said circuit breaker solenoid inductive coil,

said bimetal strip extension bracket is an oblong rigid bracket member with a first end and a second end,

said circuit breaker solenoid extension bracket is an oblong rigid bracket member with a first end and a second end,

said first end of said bimetal strip extension bracket is rigidly attached to said second end of bimetal strip,

said second end of said bimetal strip extension bracket is slideably attached to said second end of said circuit breaker solenoid extension bracket,

said first end of said circuit breaker solenoid extension bracket is attached to said second end of said circuit breaker solenoid armature, and

said bimetal strip extension bracket is linked to said circuit breaker solenoid extension bracket which is linked to said circuit breaker solenoid armature.

10. An automatic house vent as recited in claim **9** further comprising: a load bridge wire and a neutral bridge wire, wherein,

said load bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said load bridge wire is connected to said second end of said bimetal strip electrical bridge so that there is electrical continuity between these members,

said second end of said load bridge wire is connected to said load wire exit terminal so that there is electrical continuity between these members,

said neutral bridge wire is an electrical wire with a first end and a second end and electrical continuity therebetween,

said first end of said neutral bridge wire is connected to said neutral wire input terminal so that there is electrical continuity between these members, and

said second end of said neutral bridge wire is connected to said neutral wire exit terminal so that there is electrical continuity between these members.

11. An automatic house vent as recited in claim **10** further comprising: a ground fault sensor and at least one integrated circuit or chip, wherein,

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said ground fault sensor is a ground fault electrical sensor that functions to simultaneously monitor an electrical current flowing along said load bridge wire and an electrical current flowing along said neutral bridge wire, and detect when there is disequilibrium between said current flowing along said load bridge wire and said electrical current flowing along said neutral bridge wire and then sets off an alarm signal when this occurs,

said ground fault sensor is attached to said circuit board with electrical continuity between these members,

said load bridge wire physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said load bridge wire, and

said neutral bridge wire also physically passes through said ground fault sensor so that said ground fault sensor is configured to monitor the electrical current passing through said neutral bridge wire.

12. An automatic house vent as recited in claim **10** further comprising: an arc fault sensor and at least one integrated circuit or chip, wherein,

each said at least one integrated circuit or chip comprises an integrated circuit, a monolithic integrated circuit, an electronic chip, or a microchip,

said at least one integrated circuit or chip is attached or connected to said circuit board so that there is electrical continuity therebetween,

said at least one integrated circuit or chip has electrical continuity with said first and second ends of said circuit breaker solenoid inductive coil,

said arc fault sensor is an arc fault electrical sensor that functions to monitor the electrical current flowing along said load bridge wire and detect when there is an electrical signal or an oscilloscope reading from the electrical current flowing along said load bridge wire that results from an arc fault or electrical short and then sets off an alarm signal when an arc fault or electrical short occurs,

said arc fault sensor is attached to said circuit board with electrical continuity between these members, and

said load bridge wire physically passes through said arc fault sensor so that said arc fault sensor is configured to monitor the electrical current passing through said load bridge wire.

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