(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
02 February 2023 (02.02.2023)

WIPO | PCT

(10) International Publication Number
WO 2023/009013 A2

(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/OM2022/050005

(22) International Filing Date:
28 June 2022 (28.06.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
OM/P/2021/00291 26 July 2021 (26.07.2021) OM

(72) Inventor; and
(71) Applicant: **AL KAABI, Said** [OM/OM]; Liwa Road, North Al Batinah, 266 (OM).

(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*
— *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

WO 2023/009013 A2

(54) **Title:** SAFE ELECTRICITY CONTROLLER DEVICE

(57) **Abstract:** This device works on the technology of controlling all the electrical switches in the room using a reduced to 12 volts so that it is safe for humans when children tamper with or touch the wire conducting the current because the wire connected to the electrical switch is 12 volts and when using the electrical switch it turns on another current conductor and the current conductor is from Connect the AC 220-volt current to the electrical appliance, such as the air conditioner and lighting fixtures

Description

[0001] Title of Invention : SAFE ELECTRICITY CONTROLLER DEVICE

Technical Field

[0002] Electrical safety. the device is protects from electric shock.

Background Art

[0003] Children's bedrooms, or bedrooms for people with special needs, halls, or where they are located in designated schools. Fear is always focused on them because of the indispensable electricity points in each room, and because children or people with special needs are not aware of the danger of electricity, they may tamper with the electricity points, causing electrocution. Electricity leads to death and may cause fires.

Summary of Invention

[0004] The device that controls the opening and closing of electrical circuits with a power of 220 volts using a reducer and electrical connectors that work with electricity with DC 12 volts, as it is safe for humans even if the wire is directly touched.

Technical Problem

[0005] All electricity points used in homes are AC with a minimum amp of 6 amps used for lighting and fans, 16 amps for electrical outputs, and 20 amps for air conditioners, which poses a danger to humans when an electric shock occurs that may cause death, knowing that 0.1 amps are capable of killing a person.

Solution to Problem

[0006] What is new is that we install a device that controls the opening and closing of electrical circuits with a power of 220 volts using a reducer and electrical connectors that work with electricity with DC 12 volts, as it is safe for humans even if the wire is directly touched.

Advantageous Effects of Invention

[0007] The cost of the device is not high compared to the benefit from its use, as it preserves the person in case of touching wires or the presence of a current leakage.

Brief Description of Drawings

[0008] The main device consists of several dependent devices, which are lamps that show (the arrival of the current and the operation of the reducer) and a device that reduces the electricity from 220 AC volts to 12 DC volts or less and devices that connect the current when fed with a current of 12 volts or less (contactor) electrical switches And current devices that are supplied with another current of 12 volts or less (relay) we use for lower currents such as lighting, fans and internal electrical connections

[0009] We explain the names of both devices by number:

[0010] 1. It is a lighting lamp that shows the arrival of the current to the main device from

the main house electricity.

[0011] 2. It is a device that reduces the electricity from 220 AC Volt or 110 AC Volt to 12 DC Volt.

[0012] 3. It is a lamp that shows the operation of device No. 2, as when there is a mal-function, device No. 2 turns off the lamp.

[0013] 4. It is an electrical conductive device that connects the current when fed with a current of 12 volts and is called (contactor).

[0014] 5. It is a manual switch that can be used when there is a malfunction in the device No. 2 or 4.

[0015] 6. It is an electrical conductive device that connects the current when fed with a current of 12 volts and is called (contactor).

[0016] 7. It is a manual switch that can be used when there is a malfunction in the device No. 2 or 6.

[0017] 8. It is an electrical conductive device that conducts current when fed with a current of 12 volts and is called a relay

[0018] 9. It is a manual switch that can be used when there is a malfunction in the No. 2, 8 and 10.

[0019] 10. It is an electrical conductive device that conducts current when fed with a current of 12 volts and is called a relay.

[0020] 11. It is a manual electric switch in the room, which is connected to a current of 12 volts, and it is very safe

Fig.1

[0021] [Fig.1]

Description of Embodiments

[0022] Safe electricity controller device where the main device consists of several dependent devices, which are lamps that show (the arrival of the current and the operation of the reducer) and a device that reduces the electricity from 220 AC volts to 12 DC volts or less and devices that connect the current when fed with a current of 12 volts or less (contactor) electrical switches And current devices that are supplied with another current of 12 volts or less (relay) we use for lower currents such as lighting, fans and internal electrical connections.

We explain the names of both devices by number:

[0023] 1. It is a lighting lamp that shows the arrival of the current to the main device from the main house electricity.

[0024] 2. It is a device that reduces the electricity from 220 AC Volt or 110 AC Volt to 12 DC Volt.

[0025] 3. It is a lamp that shows the operation of device No. 2, as when there is a mal-

function, device No. 2 turns off the lamp.

[0026] 4. It is an electrical conductive device that conducts the current when fed with a current of 12 volts and is called (contactor).

[0027] 5. It is a manual switch that can be used when there is a malfunction in the device No. 2 or 4.

[0028] 6. It is an electrical conductive device that connects the current when fed with a current of 12 volts and is called (contactor).

[0029] 7. It is a manual switch that can be used when there is a malfunction in the device No. 2 or 6.

[0030] 8. It is an electrical conductive device that conducts current when fed with a current of 12 volts and is called a relay

[0031] 9. It is a manual switch that can be used when there is a malfunction in the No. 2, 8 and 10.

[0032] 10. It is an electrical conductive device that conducts current when fed with a current of 12 volts and is called a relay.

[0033] 11. It is a manual electric switch in the room, which is connected to a current of 12 volts, and it is very safe

[0034] how to operate:

[0035] We connect the hot main current or what is called the line at point A with lamp No. 1, then we connect the cold main current or the so-called Neutral to point B with lamp No. 1, we connect the main current to the line or what is called hot at point A with the reducer No. 2, we connect the main current to the Neutral or what The cold b is called point B in the reducer No. 2, we connect the point D in the device No. 2 to the point B in the lamp No. 3, we connect the point C in the device No. 2 to the point A in the lamp No. 3.

[0036] Connect all C points in devices number (2,4,6,8,10) together, connect the D point in device number 2 to (H , B and A) points in device number 11 .

[0037] Air conditioner connection:

[0038] Connect the main hot line power to point A , Neutral to point B and earth line to point H in device no 4 . then connect same points (A,B and H) in device number 4 to same points in device number 5 ,connect the points (E,F and G) in device number 4 to same points in device number 5 and then to the load (AC)

[0039] Connect D point in device number 4 to E point in device number 11 .

[0040] Power outlet connection:

[0041] Connect the main hot line power to point A , Neutral to point B and earth line to point H in device number 6 , then connect same points (A,B and H) in device number 6 to same points in device number 7 , connect the points (E,F and G) in device number 6 to same points in device number 7 and then to the load (out let connection).

[0042] Connect D point in device number 6 to D point in device number 11 .

[0043] Lamp connection:

[0044] Connect the main hot line power to point A in device number 8 and points A and B in device number 9 , connect H point in device number 9 to B point in device number 8 to load (lamps)

[0045] Connect D point in device number 8 to C point in device number 11 .

[0046] fan connection:

[0047] Connect the main hot line power to point A in device number 10 , connect the point B in device number 10 to point E in device number 9 to load (fan)

[0048] Connect D point in device number 10 to I point in device number 11 .

[0049] Security control:

[0050] We connect all the points of the letter n to each other in each of the devices No. (2, 4, 6, 8, 10), we connect the point y from the device No. 2 with the points (A, B, C) to the device No. 11, we connect the point D from the device No. 11 With point Y in device No. 4, we connect point Y from device No. 11 to point Y in device No. 6, we connect point N from device No. 11 to point Y in device No. 8, we connect point and with device No. 11 to point Y in device No. 10.

Examples

[0051]

Industrial Applicability

[0052] Children's bedrooms, or bedrooms for people with special needs, halls, or where they are located in designated schools. Fear is always focused on them because of the indispensable electricity points in each room, and because children or people with special needs are not aware of the danger of electricity, they may tamper with the electricity points, causing electrocution. Electricity leads to death sometimes and may cause fires.

[0053]

Reference Signs List

[0054]

Reference to Deposited Biological Material

[0055]

Sequence Listing Free Text

[0056]

Citation List

[0057]

Patent Literature

[0058] PTL1:

Non Patent Literature

[0059] NPL1:

Claims

[Claim 1] Safe electricity controller device consists of several dependent devices, which are:

[Claim 2] The control device of the safe device according to the first element of protection, which is a lamp that operates when the main current reaches the device, the control device of the safe device according to the first element of protection, which is a working lamp indicating that the reducer is working, the control device of the safe device according to the first element of protection, which is Electricity reducer from 220 dc volts to 12 dc volts or less, The control device for the safe device according to the first protection element, which is two devices (contactors) that connect the main current when fed with another reduced current, the control device for the safe device according to the first protection element, which is two devices (relay) that connect the main current when fed with another reduced current , The safe device control device according to the first protection element, which is manual electrical switches that can be used to connect the main current when there is a fault in the current.

[Claim 3] The main device consists of several dependent devices, which are lamps that show (the arrival of the current and the operation of the reducer) and a device that reduces the electricity from 220 AC volts to 12 DC volts or less and devices that connect the current when fed with a current of 12 volts or less (contactor) electrical switches And current devices that are supplied with another current of 12 volts or less (relay) we use for lower currents such as lighting, fans and internal electrical connections

[Claim 4] Safe electricity controller device according to claim 1, where the connection of the reducer with the lamps is as follows:

[Claim 5] We connect the hot main current or what is called the line at point A with lamp No. 1, then we connect the cold main current or what is called Neutral at point B with lamp No. 1 (the lamp No. 1 works, indicating the arrival of the main current to the device), we connect the main current to the line or the so-called hot point A with reducer No. 2, We connect the main current, the Neutral, or the so-called cold, to point B in the reducer device No. 2 (the reducer works after delivering power to it and says to reduce electricity to 12 DC volts or less), we connect the point D in the device No. 2 to the point B with lamp No. 3, we

connect the point C that of device No. 2 to point A of lamp No. 3 (the lamp is working then 3, indicating that the reducer device is working).

[Claim 6] The safe electrical control device according to claim 1 Where the air conditioner is connected, we connect the main current, or the so-called hot, to point A of device No. 4, we connect the main current to the Neutral or the so-called cold to point B of device No. 4, we connect the main ground current to point H of device No. 4 , We connect the hot current coming out of the device No. 4 from point E to the air conditioner to be operated, We connect the cold current coming out of the device No. 4 from point G to the air conditioner to be operated, we connect the ground current coming out of the device No. 4 from point F to the air conditioning device to be operated, we connect point A from the device No. 4 to point A of the device No. 5, we connect Point B of device No. 4 to point B of device No. 5, we connect point H of device No. 4 to point H of device No. 5, We connect point G from device No. 4 to point G from device No. 5, we connect point F from device No. 4 to point F from device No. 5, we connect point E from device No. 4 to point E from device No. 5.

[Claim 7] (When device No. 4 is connected to the current, it does not conduct current to the air conditioner until after feeding it from another current from device No. 2, and in the event of a malfunction in device No. 2 or 4, device No. 5 can be used as a manual current conductor until device No. 2 and 4 is repaired)

[Claim 8] Safe electricity controller device according to claim 1 , where the power outlets are connected as follows:

[Claim 9] We connect the main current to the line or what is called hot at point A in device No. 6, we connect the main current to the Neutral or what is called cold to point B in device No. 6, we connect the main ground current to point H in device No. 6, we connect point E from device No. 6 to the power outlet in the room , we connect point F from device No. 6 to the power outlet in the room, we connect point G from device No. 6 to the power outlet in the room, we connect the points (A, B, H, E, F, G) from device No. 6, each point with the same symbol In machine number 7.

[Claim 10] (When device No. 6 is connected to the current, it does not conduct current to the power outlets until after feeding it from another current from device No. 2, and in the event of a malfunction in device No. 2 or 6, device No. 7 can be used as a manual current conductor until device

No. 6 and 2)

[Claim 11] Safe electricity controller device according to claim 1, where the lamps connection is as follows:

[Claim 12] We connect the hot line main current to point A in device No. 8, we connect point B of device No. 8 to the room lamps, we connect point A of device No. 8 to points A, B of device No. 9, we connect point B of device No. 8 to point H of the device number 9 .

[Claim 13] (When device No. 8 is connected to the current, it does not conduct current to the lamps until after feeding it from another current from device No. 2, and in the event of a malfunction in device No. 2 or 8, device No. 9 can be used as a manual connector until device No. 2 and 8 are repaired)

[Claim 14] Safe electricity controller device according to claim 1 ,as the following fan connection:

[Claim 15] We connect the hot main current to device No. 10 to point A, we connect point B from device No. 10 to the fan, we connect point B from device No. 10 to point E of device No. 9. (When device No. 10 is connected to the current, it does not conduct current to the lamps until after feeding it from another current from device No. 2, and in the event of a malfunction in device No. 2 or 10, device No. 9 can be used as a manual connector until device No. 2 and 10 are repaired)

[Claim 16] Safe electricity controller device according to claim 1, where the safe control is as follows:

[Claim 17] We connect all the points of the letter C to each other in each of the devices No. (2, 4, 6, 8, 10), we connect the point D from the device No. 2 with the points (A, B, H) to the device No. 11, we connect the point E from the device No. 11 With point D in device No. 4, we connect point D from device No. 11 to point D in device No. 6, we connect point C from device No. 11 to point D in device No. 8, we connect point I with device No. 11 to point D in device No. 10.

[Claim 18] Safe electricity controller device, as when it is connected:

[Claim 19] When we turn on point E from device No. 11, we feed device No. 4 with a current coming from device No. 2 so that device No. 4 connects the main current to the air conditioner, and when we turn on point D, we feed device No. 6 with a current from device No. 2 so that device No. 6 By connecting the main current to the power outlets, and when we turn on the point C, we connect the device No. 8 with a current coming from the device No. 2 so that the device No. 8 connects the

main current to the lamps, and when the point I turned on, we feed the device No. 10 with a current from the device No. 2 , Device No. 10 connects the main current to the fan.

[Fig. 1]