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(54) **AUTOMATIC WALL-MOUNTED FOLDING TABLE**

(57) The invention relates to an automatic wall-mounted folding table, designed to optimise the use of space in confined environments. The table comprises a foldable movable section (1) connected via hinges (4) to a fixed frame (2) mounted on the wall (3), with deployment and retraction performed automatically by a piston (5)

actuated by a relay connected to a remote control system (13). The device may include a stop mechanism (9), electrical outlets (10), operational controls (11), and an electrical panel, providing a functional, safe, and efficient solution for domestic or professional use.

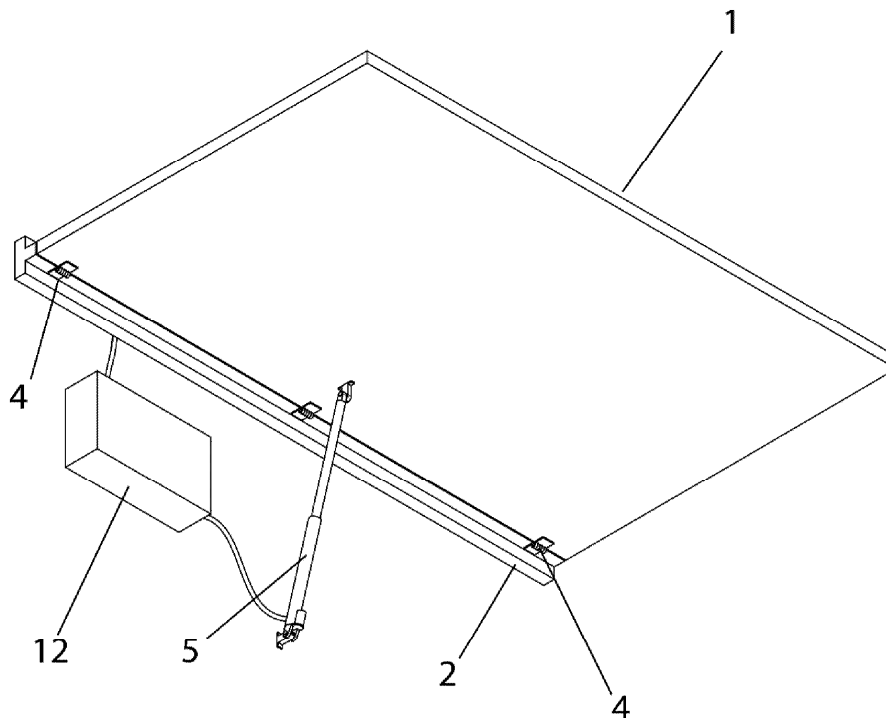


FIG. 2

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Description

PURPOSE OF THE INVENTION

[0001] The purpose of this invention, as indicated in the title, is an automatic wall-mounted folding table. This innovation offers previously unknown advantages over existing technologies.

[0002] This invention is characterised by the specific functional and structural features of its components, all of which contribute to achieving an automatic wall-mounted folding table. This offers a practical and functional solution for optimising limited spaces, both in homes and offices. The table is installed directly on the wall and incorporates an automatic mechanism that allows it to be deployed or folded in a simple and rapid manner, ensuring convenience and efficiency.

TECHNICAL FIELD

[0003] Therefore, this invention falls within the field of furniture.

BACKGROUND OF THE INVENTION

[0004] In recent years, the optimisation of interior spaces has become a priority for both homes and offices. The trend towards more compact homes and more functional workspaces has generated an increasing demand for solutions that maximise the use of available space.

[0005] Traditionally, tables have been an indispensable element in interiors, whether for dining, working, or recreational activities. However, their standard design, with four legs and a fixed structure, occupies a considerable amount of space, even when not in use. This limitation is particularly problematic in small spaces, where every square metre counts.

[0006] Although manual folding tables are available on the market, they have not fully resolved the problem. While they reduce the space occupied when not in use, their manual folding mechanism is often inconvenient and requires continuous physical effort. Over time, many of these tables end up remaining permanently deployed, thereby losing their original functionality.

[0007] Although manual folding tables are a direct precursor to this innovation, the differences between the two are significant. Manual tables require the user to perform the entire opening and closing process, which can be tedious and even inconvenient on a daily basis. Moreover, these tables tend to have more rudimentary designs and are less integrated with their surroundings.

[0008] With reference to the current state of the art, it should be noted that, although various designs of folding tables already exist, there is no known system presenting technical, structural, or constitutive features identical or similar to those claimed in this invention.

EXPLANATION OF THE INVENTION

[0009] The purpose of the invention is an automatic wall-mounted folding table, providing an ingenious and functional solution for optimising the use of space in confined environments. Designed with both functionality and aesthetics in mind, this device represents a significant advancement in multifunctional furniture, offering a versatile and efficient solution for homes, offices, and other spaces where making the most of available area is a priority.

[0010] Within the field of functional furniture design, the automatic wall-mounted table stands out as an innovative solution that combines practicality, technology, and safety.

[0011] As the name suggests, the table is foldable, allowing it to be deployed or retracted according to the user's needs. This innovative design not only maximises the use of available space but also integrates seamlessly with the surrounding environment, striking a balance between functionality and style.

[0012] Specifically, what this invention proposes, as previously indicated, is an automatic wall-mounted folding table comprising two main components: a foldable movable section and a fixed frame that serves as the structural support. The interaction between these components, together with the mechanical elements that connect them, enables the table to operate efficiently and safely.

[0013] The movable section forms the main tabletop surface, designed to accommodate a variety of activities such as writing, working, dining, or even crafting. Its generous size ensures comfort and versatility in use.

[0014] On its underside, the movable surface is connected to a piston via a rotary joint. This connection allows smooth and controlled movement when folding or deploying the table.

[0015] The frame constitutes the fixed structure that is mounted directly onto the wall. This element not only provides stability to the system but also serves as an anchoring point for the other components. Its robust design ensures it can support the weight of the movable section and the activities performed on the table.

[0016] The connection between the movable section and the frame is achieved via hinges. These hinges are designed to withstand repeated loads, ensuring stability during use and extending the device's operational life.

[0017] The piston is a key component of the invention, enabling the automatic operation of the table. Depending on the design, the piston may be mechanical or electric. The piston is connected to the movable surface via a rotary joint at its upper end and to the wall via another rotary joint at its base. These connections provide both flexibility and stability during movement.

[0018] To ensure safe operation, the table incorporates a stop mechanism. This element, located within the fixed frame, regulates the travel of the piston. Through this mechanism, the precise point at which the movable

section must stop is determined, preventing abrupt movements or over-closing that could damage the system.

[0019] The process of deploying and retracting the automatic wall-mounted table is simple and efficient. When the piston is activated via a remote control, the movable section unfolds smoothly until it reaches the desired position.

[0020] When not in use, the table can be folded back against the wall, occupying minimal space and leaving the area free for other purposes. This makes it an ideal solution for small spaces, such as city apartments, compact offices, or multifunctional areas. The stop mechanism functions as a sensor, halting the movement of the piston when it reaches the predetermined limit, ensuring that the table is perfectly aligned in its resting position.

[0021] The automatic wall-mounted table is suitable for a wide range of contexts: in small kitchens, studios, or multifunctional rooms where every square metre counts. In offices as temporary workstations in shared spaces or meeting rooms. In cafés or restaurants with limited areas, where tables can be deployed only when needed. In classrooms or workshops requiring flexible furniture for various activities.

[0022] The automatic wall-mounted table includes at least one electrical outlet connected to the mains supply. This feature eliminates the need to locate external sockets, providing an accessible and convenient power source for the user. The inclusion of outlets is particularly useful for powering electronic devices such as laptops, lamps, or mobile phone chargers. This design not only enhances the functionality of the workspace but also helps maintain a clean and organised environment by reducing visible cables.

[0023] Furthermore, the outlets are designed with safety and efficiency in mind. The ability to connect accessories directly to the table minimises interruptions and facilitates the performance of work, educational, or recreational activities.

[0024] The automatic wall-mounted table incorporates a set of controls that manage both its electrical functionality and the movement of its movable section. This system ensures that the user can operate the table easily and safely at all times. Among the most relevant controls are:

The stop control: this mechanism is designed to halt the movement of the movable section at any position, whether for emergency reasons or other requirements. For example, if an object, person, or even a pet interferes with the path of movement, the stop control acts immediately to prevent accidents or material damage. This level of safety is particularly important in domestic or workplace environments where interaction with other elements is frequent. In addition, the stop control is useful for maintaining the table in a fixed position for extended periods. If the user needs to work with the table open for several hours, or wishes to keep it closed for a prolonged period, this system ensures that no accidental movement

occurs due to interference from others.

[0025] The power control: this allows the user to activate or deactivate the electrical supply to the integrated outlets as required. In this way, energy consumption is optimised by ensuring the outlets are only live when needed. In addition, this mechanism enhances safety by preventing potential electrical hazards such as short circuits or overheating.

[0026] The device's power system is provided by an electrical panel containing a transformer responsible for adapting the voltage to ensure proper operation of the system. This component is essential for guaranteeing that all electrical and mechanical elements operate within appropriate parameters, thereby prolonging the product's service life and ensuring optimal performance.

[0027] The electrical panel not only powers the integrated outlets but also supplies the piston responsible for the automated movement of the table. This centralised design simplifies device maintenance and improves energy efficiency by reducing unnecessary losses.

[0028] The piston is controlled via a relay, a crucial component that enables bidirectional movement of the piston. By varying the polarity of the current supplied to the piston, the relay facilitates both opening and closing of the table according to the specific needs of the user.

[0029] The device is equipped with a remote control system. This component allows the table to be operated without direct physical contact. The remote control may take various forms, depending on the preferences and requirements of the user. Among the most notable options are electronic devices such as smartphones, digital tablets, and smartwatches. These devices, through the installation of a specific application, provide an intuitive interface for managing the table's functions.

[0030] One of the most innovative and significant aspects of this automatic wall-mounted table is its emphasis on safety. The movable section of the device cannot be operated manually. This means that any attempt at physical manipulation is ineffective, thereby eliminating the risk of accidental activation.

[0031] Unless otherwise stated, all technical and scientific terms used in this specification have the meanings commonly understood by a person skilled in the relevant art. In implementing this invention, procedures and materials similar or equivalent to those described herein may be used.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] To complement the description provided and to assist in a better understanding of the features of the invention, this specification is accompanied, as an integral part thereof, by figures in which the following is illustrated by way of example and not limitation:

Figure 1 is a perspective view of the automatic wall-mounted folding table as seen from above.

Figure 2 is a perspective view of the automatic wall-mounted folding table as seen from below.

Figure 3 is a side view of the automatic wall-mounted folding table in the open position.

Figure 4 is a side view of the automatic wall-mounted folding table in the closed position.

Figure 5 is a detailed perspective view of the outlets (10) and the controls (11).

Figure 6 is a view of the remote control (13) in the form of a smartphone.

PREFERRED EMBODIMENT OF THE INVENTION

[0033] With reference to the figures, a preferred, though non-limiting, embodiment of the proposed invention is described, which consists of an automatic wall-mounted folding table.

[0034] The automatic wall-mounted table is designed to be foldable, allowing its integration into confined spaces without compromising functionality or aesthetics. As shown in the figures, the table comprises a foldable movable section (1) which can be deployed or retracted according to the user's requirements via a piston (5). This movable section (1) is connected to a fixed frame (2), which is mounted directly onto a wall (3) and serves as the structural support. The connection between the two parts is achieved via robust hinges (4), which ensure stability and durability during use.

[0035] The movable section (1) comprises a large surface (6), designed for multiple purposes, such as writing, dining, or working. On its underside, this surface (6) is connected to the piston (5) via a rotary joint (7), allowing smooth and controlled movement.

[0036] The piston (5) is a key component that enables the automatic operation of the table. It may be mechanical or electric, depending on the design variant. At its base, the piston (5) is connected to the wall via a rotary joint (8), providing both flexibility and stability to the system. In the case of an electric piston (5), it can be controlled via switches or even integrated with home automation systems for a more advanced user experience.

[0037] To ensure safe and precise operation, the automatic wall-mounted folding table incorporates a stop mechanism (9) located on the frame (2). This device regulates the travel of the piston (5), accurately determining the closure points of the movable section (1). This element prevents the table from closing too far.

[0038] Furthermore, the automatic wall-mounted folding table includes at least one electrical outlet (10) connected to the mains supply. This feature allows the user to access electricity directly at the table, which is particularly useful for powering accessories associated with the table's use, such as lamps, laptops, or other electronic

devices. In addition, the outlets (10) are designed so that the user can connect chargers or other electrical equipment without the need to locate external sockets, thereby facilitating a more organised and efficient workspace.

5 [0039] The automatic wall-mounted folding table also incorporates a set of controls (11) that manage both the movement of the movable section (1) and the electrical functionality of the integrated outlets. Among these controls, two key elements stand out:

10 The stop control (11.1) is configured to halt the movement of the movable section (1) at any position in the event of an emergency or other requirement. For example, if an object, person, or animal interferes with the path of movement, the stop control will prevent potential damage or accidents.

15 [0040] The power control (11.2) allows the user to activate or deactivate the electrical supply to the outlets (10). In this way, the user can manage the power supply according to their requirements, optimising energy consumption and ensuring safety when the outlets are not in use.

20 [0041] The automatic wall-mounted folding table comprises at least one electrical panel (12), which includes a transformer responsible for adapting the voltage for the correct operation of the mechanism. This electrical panel (12) constitutes the power supply for the other components of the device.

25 [0042] It also includes a relay that manages the movement of the electric piston (5) responsible for operating the movable section (1). This relay has the ability to vary the polarity of the current supplied to the piston (5), thereby facilitating both the opening and closing of the table according to the needs of the user.

30 [0043] To ensure ease of use, the relay is connected to a remote control system (13). This remote control (13) may take various forms, depending on the embodiment of the device. Common options include electronic devices such as smartphones, digital tablets, smartwatches, or any other equipment capable of running a dedicated application.

35 [0044] The movable section (1) of the device cannot be physically operated. This means it cannot be manipulated manually, eliminating the risk of accidental activation by inexperienced users, children, or even pets. The mechanism can only be operated via the remote control (13), ensuring that only authorised persons can operate the system.

40 [0045] Having adequately described the nature of the invention and how it may be implemented, no further explanation is considered necessary for a person skilled in the art to understand its scope and advantages. It should be noted that, in its essential form, the invention may be embodied in other implementations that differ in detail from the example provided, and such embodiments shall be covered by the protection sought, provided the fundamental principle of the invention remains unchanged.

Claims

1. An automatic wall-mounted folding table, **characterised in that** it comprises a foldable movable section (1) including a large surface (6), connected to a fixed frame (2), which is mounted directly onto a wall (3), via hinges (4), and which can be deployed or retracted by means of a piston (5), connected to the movable section (1) via a rotary joint (7) to allow movement and to the wall (3) via a rotary joint (8), which is actuated by a relay connected to a remote control system (13). 5 10
2. An automatic wall-mounted folding table, according to the preceding claim **characterised in that** it comprises a stop mechanism (9) that regulates the travel of the piston (5) during closure. 15
3. An automatic wall-mounted folding table, according to any of the preceding claims **characterised in that** it comprises at least one electrical outlet (10) connected to the mains supply. 20
4. An automatic wall-mounted folding table, according to any of the preceding claims **characterised in that** it comprises a set of controls (11) configured to manage its operation. 25
5. An automatic wall-mounted folding table, according to the preceding claim **characterised in that** it comprises a stop control (11.1) configured to halt the movement of the movable section (1) at any position. 30
6. An automatic wall-mounted folding table, according to claims 3 and 4 **characterised in that** it comprises a power control (11.2) for activating or deactivating the electrical supply to the outlets (10). 35
7. An automatic wall-mounted folding table, according to any of the preceding claims **characterised in that** it comprises at least one electrical panel (12), which includes a transformer responsible for adapting the voltage for the correct operation of the mechanism. 40
8. An automatic wall-mounted folding table, according to any of the preceding claims **characterised in that** the remote control system (13) is an electronic device such as a smartphone, a digital tablet, a smart-watch, or any similar equipment on which a dedicated application has been installed. 45 50

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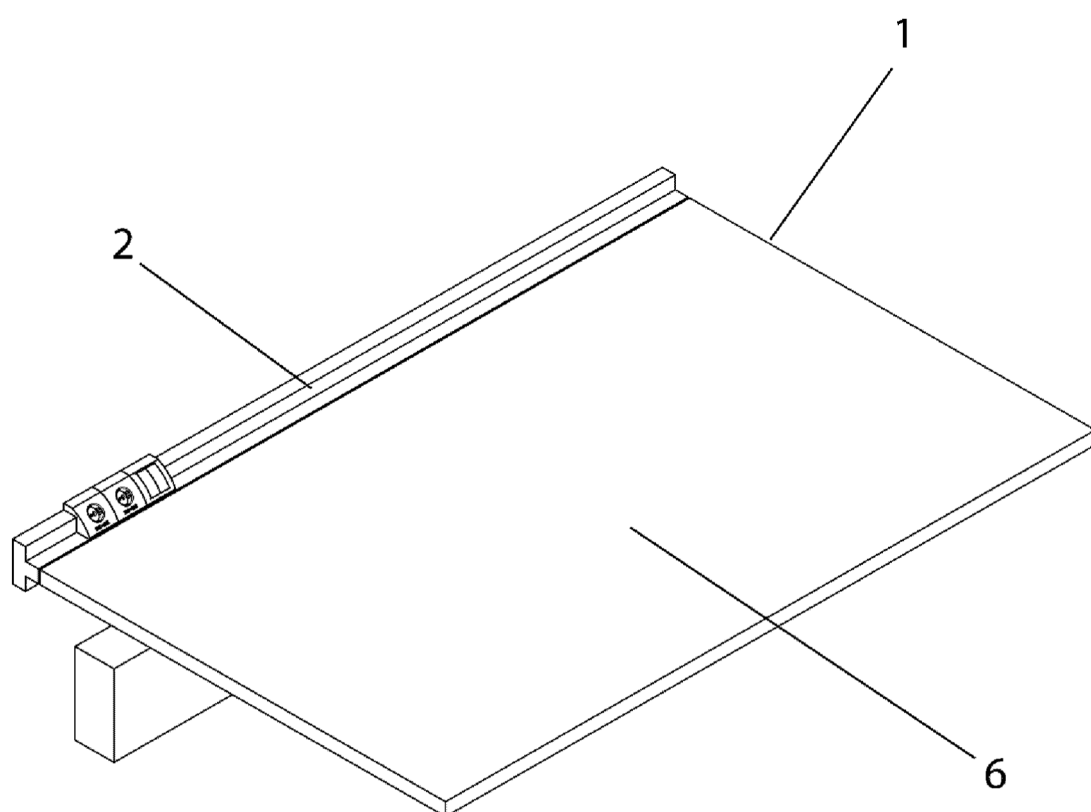


FIG. 1

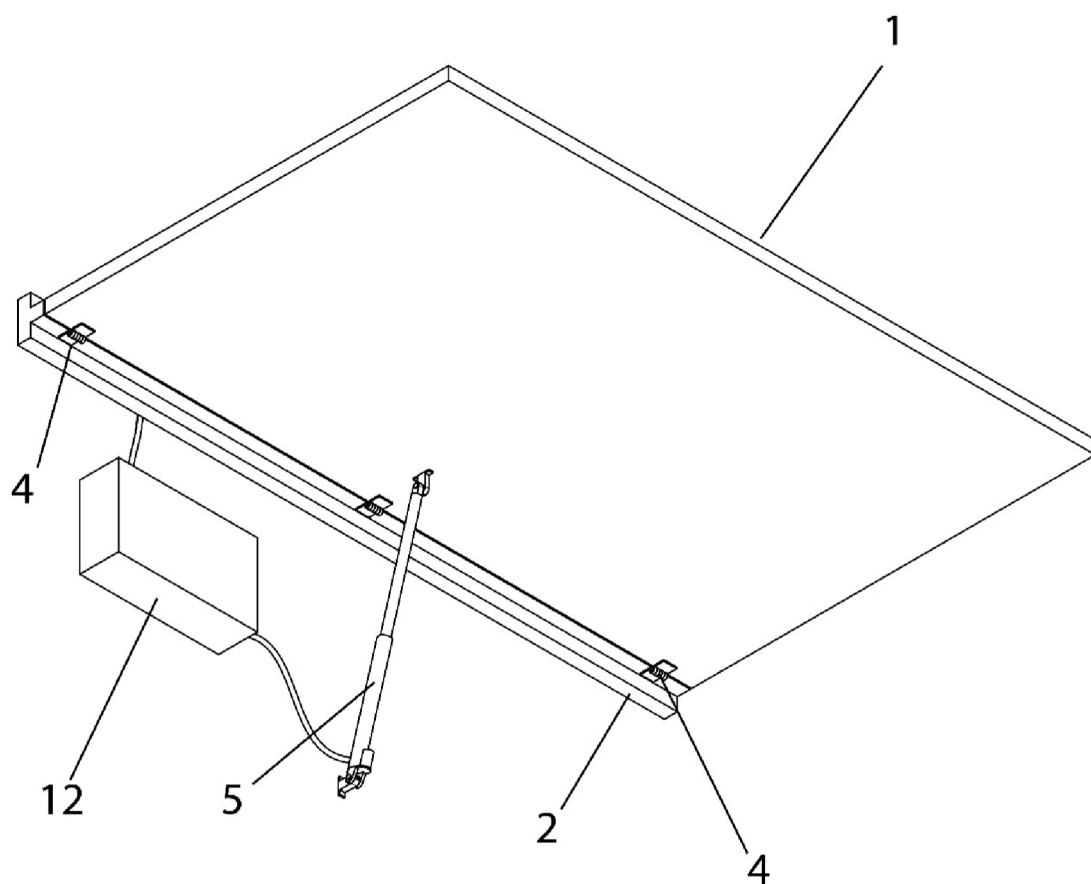


FIG. 2

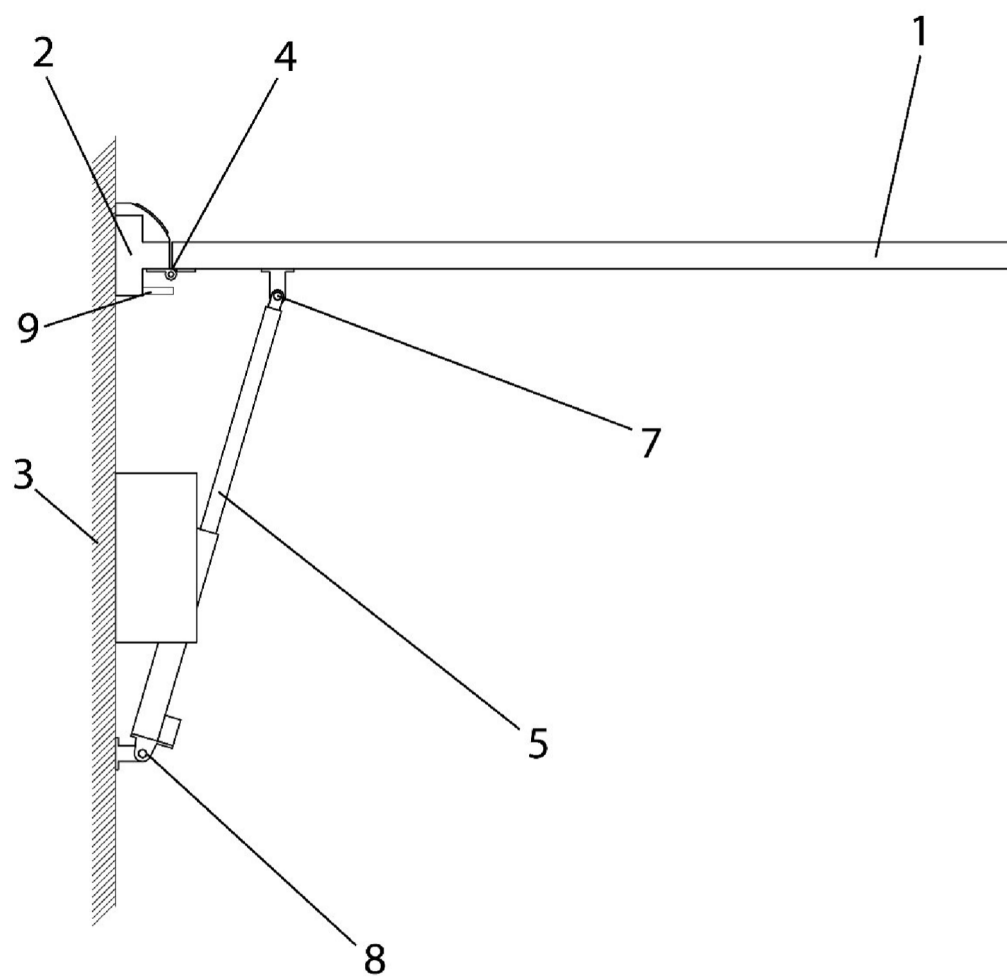


FIG. 3

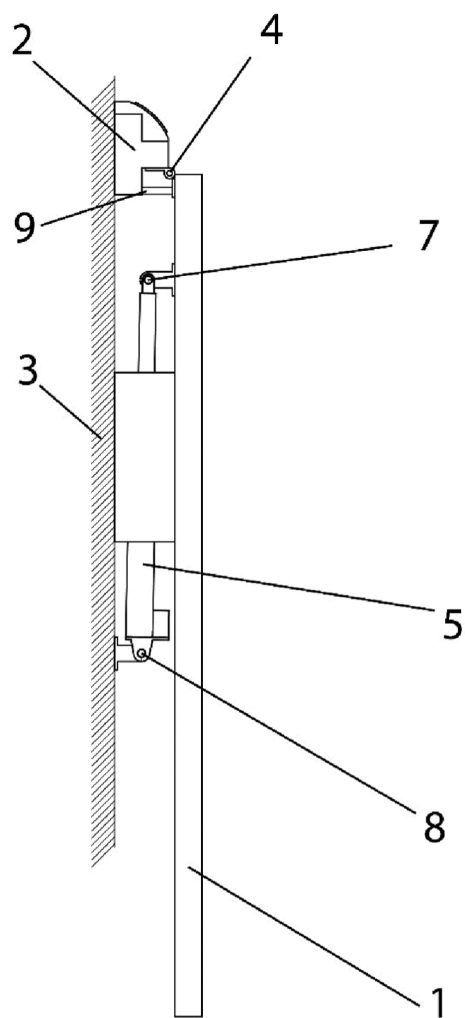


FIG. 4

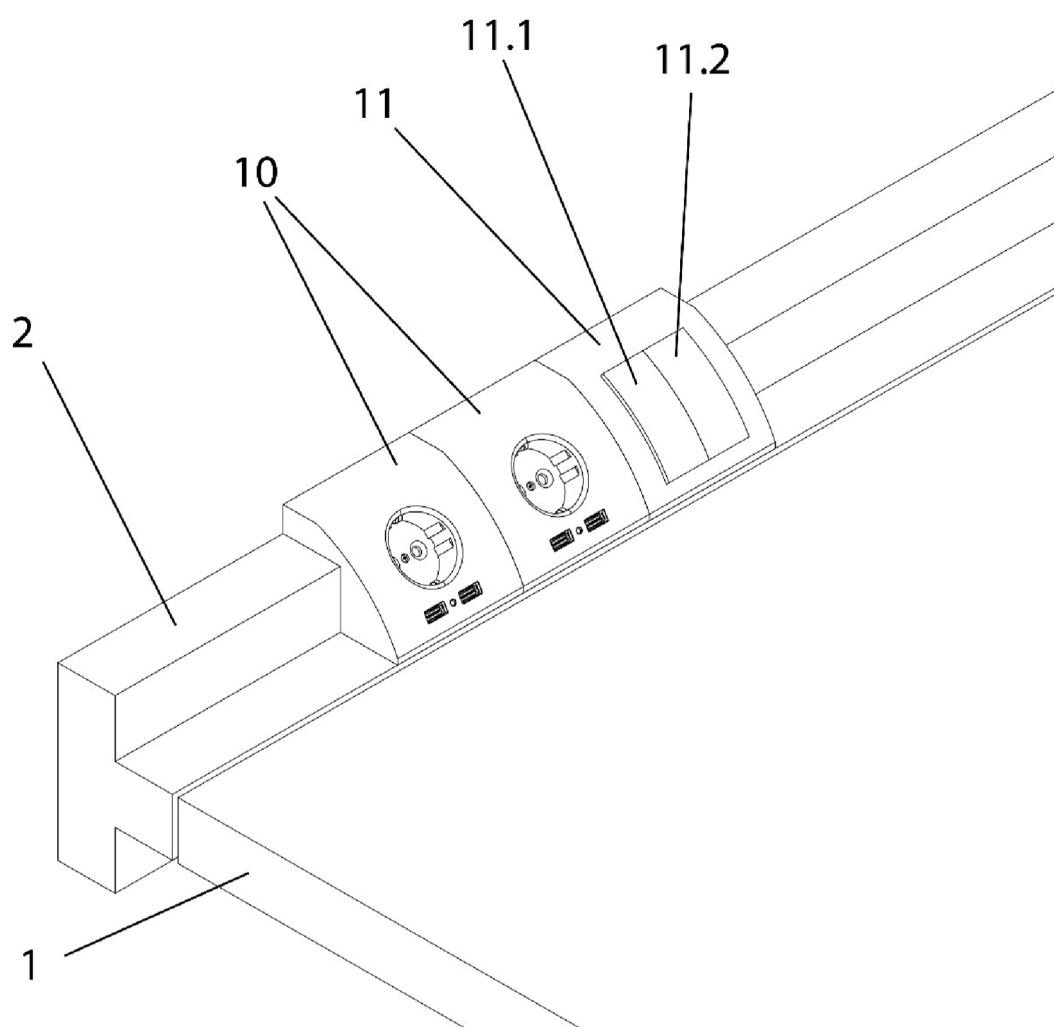


FIG. 5

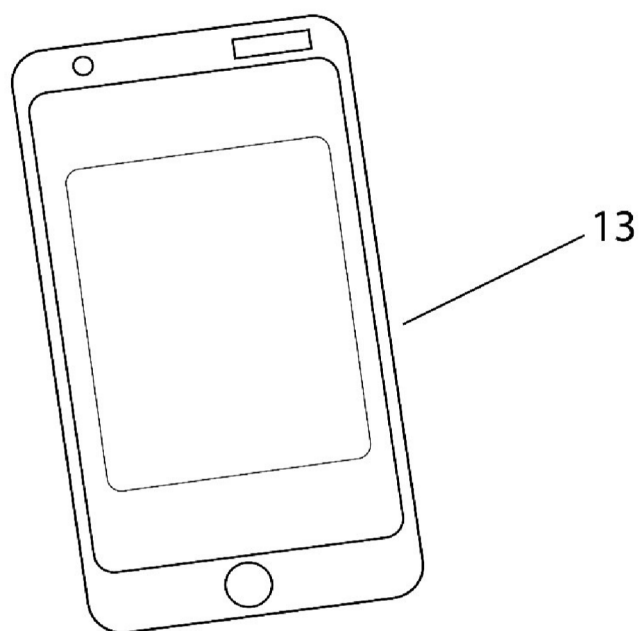


FIG. 6



EUROPEAN SEARCH REPORT

Application Number

EP 26 16 2815

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	CN 220 220 507 U (HENAN SIWODE AUTO PARTS CO LTD) 22 December 2023 (2023-12-22) * figures 1-10 * * paragraph [0044] * -----	1-8	INV. A47B5/04
X	CN 119 423 484 A (GUANGDONG KINGTEC ELECTRICAL CO LTD) 14 February 2025 (2025-02-14) * figures 1-3 * -----	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		22 July 2026	de Cornulier, P
CATEGORY OF CITED DOCUMENTS			
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ANNEX TO THE EUROPEAN SEARCH REPORT
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22-07-2026

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CN 220220507	U	22-12-2023	NONE

CN 119423484	A	14-02-2025	NONE

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