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(71) Applicant: **Tecno S.p.A.**
20154 Milano (IT)

(72) Inventors:
• **BORSANI, Federico**
20154 Milano (IT)
• **VIGANO', Stefano**
20154 Milano (IT)
• **CERANA, Simone**
20154 Milano (IT)
• **AVANZINELLI, Francesca**
75011 Paris (FR)

(74) Representative: **Crippa, Paolo Ernesto et al**
Jacobacci & Partners S.p.A.
Via Senato, 8
20121 Milano (IT)

(54) **AN EQUIPPED WORK UNIT**

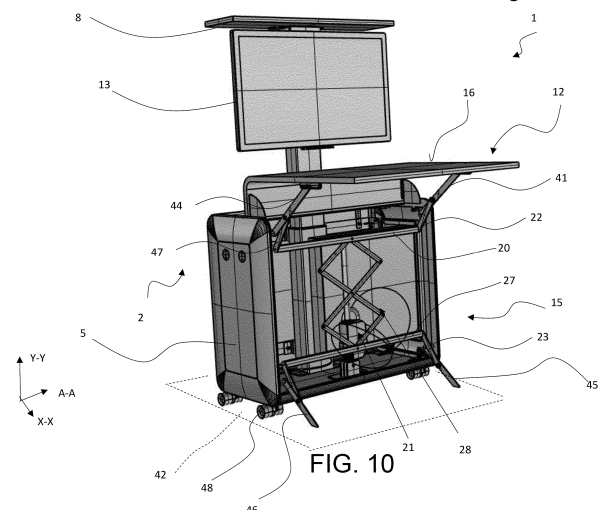
(57) An equipped work unit (1) for domestic use, which is reversibly convertible between at least one open configuration and at least one closed configuration, is the subject of the present invention, comprising:

- a support frame (2) defining a vertical direction (Y-Y), an axial direction (A-A) orthogonal to said vertical direction (Y-Y), and a horizontal direction (X-X) orthogonal to said axial direction (A-A) and to said vertical direction (Y-Y), said support frame (2) being adapted to be rested, directly or indirectly, on a treadable surface (42) orthogonal to said vertical direction (Y-Y),

- an L-shaped wall (12) comprising a first upper wall (7) and a front wall (9) joined in an L, wherein said L-shaped wall (12) is rotatably connected to said support frame (2) so as to rotate about a rotation axis (A) extending along said axial direction (A-A),

- a rotation mechanism (15) configured to rotate said L-shaped wall (12) about said rotation axis (A) between a closed L-shaped wall configuration and an open L-shaped wall configuration and vice versa, said rotation mechanism (15) being connected to said support frame (2) and to said L-shaped wall (12), wherein, in said closed L-shaped wall configuration, said L-shaped wall (12) is arranged at a first height (H1) from said treadable surface (42), wherein said front wall (9) is arranged perpendicularly to said treadable surface (42), and wherein said first upper wall (7) is arranged parallel to said support surface (42) at said first height (H1), wherein, in said open L-shaped wall configuration, said L-shaped wall (12) is rotated by 90 degrees about said

rotation axis (A) with respect to the closed L-shaped wall configuration so as to form, with said front wall (9), a work surface (16) arranged at a second height (H2), which is greater than said first height (H1), forming an open compartment beneath the work surface (16) adapted to accommodate a seat of a chair and/or a user's legs.



Description

. Field of the invention

[0001] . The present invention relates to an equipped work unit, preferably, but not exclusively for applications in domestic use.

[0002] . In particular, the present invention relates to an equipped work unit which is reversibly convertible between an open working configuration and a closed resting configuration, wherein, in said open working configuration a user can open the equipped work unit and work on a work surface, and wherein, in said closed resting configuration, the equipped work unit can serve a containing function and can be positioned in a storage place with said work surface closed so as to occupy as little space as possible.

. Background art

[0003] . In the domestic sector, particularly for living solutions, but not only, the need has developed, over the years, to make work consoles, which are transformable between a closed resting configuration and an open working configuration, so as to rationalize the living spaces as much as possible according to the users' needs

[0004] . Transformable work consoles known in the state-of-the-art usually comprise at least one desk, e.g. secured to the wall, concealed, which can be extracted in the open working configuration and which can be retracted in the closed resting configuration, allowing compacting the console when not in use as a work surface.

[0005] . Some known solutions comprise desks, which can be extracted with a linear translation movement or a roto-translation movement for extracting the desk from the console.

[0006] . In view of the constant increase in the number of workers being allowed to work directly from home, the need is particularly felt to provide new solutions of transformable work consoles, which have increased functionalities with respect to what is known, and which have desk movement mechanisms, which are as reliable and durable as possible.

[0007] . Furthermore, in the field, the need is felt to provide transformable work consoles, which are aesthetically appealing both in the open working configuration and in the closed resting solution.

[0008] . Furthermore, in the field, the need is felt to provide transformable work consoles, having highly reduced dimensions between the open working configuration and the closed resting configuration.

[0009] . Therefore, the problem underlying the present invention is to devise an equipped work unit, which has such structural and functional features as to satisfy the aforementioned requirements and, at the same time, solve the drawbacks mentioned with reference to the prior art and satisfy the aforesaid needs felt.

. Solution

[0010] . The objective of the present invention is to provide an equipped work unit, particularly for domestic use.

[0011] . This and other objects and advantages are achieved with an equipped work unit according to claim 1.

[0012] . Some advantageous embodiments are the subject of the dependent claims.

[0013] . From an analysis of this solution, it has emerged how the suggested solution allows obtaining a particularly simple equipped work unit to be converted between a closed storage configuration and a working configuration.

[0014] . Furthermore, the suggested solution allows obtaining an equipped work unit having a volume in the closed storage configuration, which is highly reduced with respect to the solutions of the known art.

[0015] . Furthermore, the suggested solution allows obtaining an equipped work unit capable, in said working configuration, of forming a work surface at a convenient height to allow a user to work safely while sitting down, and which is capable of forming, in said closed storage configuration, a containing unit having a height, which is lower than that of the work surface.

. Drawings

[0016] . Further features and advantages of the equipped work unit will be apparent from the following description of preferred embodiments thereof, given by way of non-limiting example, with reference to the accompanying drawings, in which:

- figure 1 shows an axonometric view of an equipped work unit according to the present invention in a closed configuration;
- figure 2 shows an axonometric view of the equipped work unit in figure 1 in an open configuration;
- figure 3 shows an axonometric view of the equipped work unit in figure 1 in an intermediate configuration between said at least one open configuration and said at least one closed configuration;
- figure 4 shows a side view of the equipped work unit in figure 3;
- figure 5 shows a partially sectioned axonometric view of the equipped work unit in figure 2, so as to show some components inside the equipped work unit;
- figure 6 shows a partially sectioned axonometric view of the equipped work unit in figure 5, in which some elements have been omitted so as to show other elements better;
- figure 7 shows an axonometric view of the equipped work unit in figure 1 in an intermediate configuration;
- figure 8 shows an axonometric view of the equipped work unit in figure 1 in an open configuration;
- figure 9 shows a partially sectioned axonometric view of the equipped work unit in figure 7, in which

some elements have been omitted so as to show other elements better;

- figure 10 shows a partially sectioned axonometric view of the equipped work unit in figure 8, in which some elements have been omitted so as to show other elements better.

. Description of some preferred embodiments

[0017] . According to a general embodiment, an equipped workunit 1 is provided for domestic use. The equipped work unit 1 is reversibly convertible between an open configuration and at least one closed configuration. The open configuration is a use/working configuration and the closed configuration is a storage configuration.

[0018] . Said equipped work unit 1 comprises a support frame 2 defining a vertical direction Y-Y, an axial direction A-A orthogonal to said vertical direction Y-Y, and a horizontal direction X-X orthogonal to said axial direction A-A and to said vertical direction Y-Y.

[0019] . The support frame 2 is adapted to be rested, directly or indirectly, on a treadable surface 42 orthogonal to said vertical direction Y-Y.

[0020] . Said equipped work unit 1-comprises an L-shaped wall 12 comprising a first upper wall 7 and a front wall 9 joined in an L. The equipped work unit 1 comprises a rotation axis A extending along said axial direction A-A. The L-shaped wall 12 is rotatably connected to the support frame 2 so as to rotate about the rotation axis A.

[0021] . Said equipped work unit 1 comprises a rotation mechanism 15 connected to the support frame 2 and to the L-shaped wall 12, and is configured to rotate the L-shaped wall 12 about the rotation axis A between a closed L-shaped wall configuration and an open L-shaped wall configuration and vice versa. The rotation mechanism 15 is connected to the support frame 2 and to the L-shaped wall 12.

[0022] . In the closed L-shaped wall configuration, the L-shaped wall 12 is arranged at a first height H1 from said treadable surface 42, the front wall 9 is arranged perpendicularly to said treadable surface 42, and the first upper wall 7 is arranged parallel to said support surface 42 at said first height H1.

[0023] . In the open L-shaped wall configuration, the L-shaped wall 12 is rotated by 90 degrees about the rotation axis A with respect to the closed L-shaped wall configuration so as to form, with the front wall 9, a work surface 16 arranged at a second height H2, which is greater than said first height H1, forming an open compartment beneath the work surface 16 adapted to accommodate a seat of a chair and/or a user's legs.

[0024] . By virtue of the provision of the L-shaped wall, which is rotatable between two configurations, it is possible to obtain an equipped work unit, which has a first height H1 in the storage configuration and which, in the working configuration, forms a work surface 16 at a second height H2 to allow a user to work on said work sur-

face. Advantageously, the first height H1 is lower than the second height H2, allowing the work unit to be put back, when it is in the closed configuration, beneath, for example, a desk or table of a standard height.

[0025] . According to an embodiment, the support frame 2 comprises at least one tubular structure, comprising at least four columns, extending along the vertical direction Y-Y and at least four crosspieces, connecting the weight-bearing columns by twos.

[0026] . According to an embodiment, the support frame 2 comprises a first side wall 4 and a second side wall 5, which form the weight-bearing shoulders of the equipped work unit.

[0027] . According to an embodiment, said support frame 2 comprises a lower or bottom wall 3, to which the first and second side walls 4,5 are connected on opposite sides. According to an embodiment, the first side wall 4 and the second side wall 5 are connected to said lower wall 3 by means of metal chains.

[0028] . According to an embodiment, the support frame 2 comprises a rear wall 39, a first side wall 4 and a second side wall 5 connected to said rear wall 39 on opposite sides. The rear wall 39 is opposite to the front wall 9, when said L-shaped wall is in said closed L-shaped wall configuration.

[0029] . According to an embodiment, in said closed L-shaped wall configuration, said support frame 2 and said L-shaped wall 12 form a box-like structure having a maximum box-like structure height equal to said first height H1, defining a hollow housing therein.

[0030] . According to an embodiment, said second height H2 is comprised between 60 cm and 90 cm, preferably between 70 cm and 85 cm. According to an embodiment, said second height H2 is comprised between 74 cm and 75 cm.

[0031] . According to an embodiment, in said closed L-shaped wall configuration, the L-shaped wall 12 has said front wall 9 arranged flush with said first side wall 4 and with said second side wall 5, and said first upper wall 7 arranged flush with said rear wall 39, said first side wall 4 and said second side wall 5. In this description, flush means that an outer surface of one of the walls 3, 4, 5, 6, 7, 8, 9, 39 is flush with an outer surface of at least one of the other walls.

[0032] . By virtue of the provision of the equipped work unit 1, which has five walls, it is possible to obtain a containing box-like structure when the equipped work unit 1 is in the closed configuration, in this way, it is possible to have an equipped work unit, which can contain a plurality of tools useful for carrying out the work activity for the user when the equipped work unit 1 is in the open configuration.

[0033] . According to an embodiment, at least one of said first side wall 4 and said second side wall 5 comprises a side opening 36, through which it is possible to access the containing compartment inside the equipped work unit 1. According to an embodiment, said equipped work unit 1 comprises at least one door, or a closing

panel, connected to said first side wall 4 or to said second side wall 5, covering said side opening 36.

[0034] . According to an embodiment, wherein said unit 1 comprises at least one side drawer 37, which is extractable from said side opening 36.

[0035] . According to an embodiment, said unit 1 comprises a plurality of wheels 38 connected to a lower part of said support frame 2. According to an embodiment, said wheels 38 are fixed to said lower or bottom wall 3 so as to allow said unit 1 to move on the treadable surface 42.

[0036] . By virtue of the provision of said wheels 38, it is possible to move the equipped work unit 1 in a simple and safe manner, so as to position it in the preferred storage and working position.

[0037] . According to an embodiment, said first upper wall 7 comprises a connection end for connecting to said front wall 9 and a free end 11 opposite to said connection end 10, wherein said rotation axis A is arranged at a free end 11. According to an embodiment, said L-shaped wall 12 comprises a curved connection portion, which connects said front wall 9 and said first upper wall 7 at 90 degrees.

[0038] . According to an embodiment, said L-shaped wall L 12 is hinged on opposite sides, directly or indirectly, to said support frame 2, e.g. to two opposite crosspieces of said support frame 2. According to an embodiment, said L-shaped wall 12 is hinged on opposite sides to said first side wall 4 and said second side wall 5.

[0039] . According to an embodiment, said unit 1 comprises a second upper wall 8 connected to said support frame 2 and arranged parallel to said treadable surface 42.

[0040] . According to an embodiment, said unit 1 comprises a monitor 13 connected to said support frame 2. According to an embodiment, said monitor 13 is a television and/or a screen connectable to a computer.

[0041] . According to an embodiment, said unit 1 comprises a lifting mechanism 14 configured to lift, along said vertical direction Y-Y, said second upper wall 8 between a resting position and said working position. According to an embodiment, the lifting mechanism 14 is further configured to lift the monitor 13.

[0042] . According to an embodiment, in said resting position, said second upper wall 8 is arranged at said first height H1 and is flush with the first upper wall 7, when said L-shaped wall 12 is in said closed L-shaped wall configuration.

[0043] . According to an embodiment, in said resting position, said second upper wall 8 is arranged at said first height H1 and is flush with the first side wall 4 and the second side wall 5.

[0044] . According to an embodiment, said second upper wall 8 comprises at least one light source connected to a lower surface thereof facing said treadable surface 42, which allows, for example, lighting up the work surface 16.

[0045] . According to an embodiment, said support

frame 2 defines an inner housing.

[0046] . According to an embodiment, in said resting position, said monitor 8 is completely accommodated in said inner housing.

5 **[0047]** . According to an embodiment, in said working position, said monitor 13 is completely outside said support frame 2 and is arranged at least at a monitor height, which is greater than said first height H1. According to an embodiment, in said working position, said monitor 13 is at a height, which is at least greater than said second height H2, so that the monitor 13, in the working position, is at a height, which is greater than the height of the work surface 16 when said L-shaped wall 12 is in the open configuration.

10 **[0048]** . According to an embodiment, in said working position, said second upper wall 8 is arranged at a third height H3 greater than said second height H2. According to an embodiment, in said working position, said second upper wall 8 is arranged at the top of said monitor 13 along said vertical direction Y-Y.

15 **[0049]** . According to an embodiment, said lifting mechanism 14 comprises at least one vertical lifting linear actuator 31 having a fixed actuator part 32 and a movable actuator part 33, wherein said fixed actuator part 32 is secured to said support frame 2.

20 **[0050]** . According to an embodiment, said monitor 13 being fixed to the movable actuator part 33. According to an embodiment, said second upper wall 8 is secured to said movable actuator part 33.

25 **[0051]** . According to an embodiment, said vertical lifting linear actuator 31 is an electromechanical actuator comprising an actuator motor 34 and an actuator control module 35 configured to control said vertical lifting linear actuator 31. According to an embodiment, said actuator control module 35 can be operated manually or by means of a movable electronic device.

30 **[0052]** . By virtue of the provision of an extractable monitor 13, it is possible to obtain a highly versatile equipped work unit, which can be used both as a work station from an office when said monitor is in the raised position and said L-shaped wall is in said open L-shaped wall configuration, and as a television support unit when said monitor is in the raised position and said L-shaped wall is in said closed L-shaped wall configuration.

35 **[0053]** . According to an embodiment, said rotation mechanism 15 comprises at least one linear actuator 21 directly or indirectly connected with a first end to said support frame 2 and with a second end to said L-shaped wall 12, at said front wall 9, wherein said at least one linear actuator 21 is extendable between a retracted position and at least one extended position.

40 **[0054]** . According to an embodiment, in said open L-shaped wall configuration, said at least one linear actuator 21 is in said at least one extended position, and wherein, in said closed L-shaped wall configuration, said at least one linear actuator 21 is in said retracted position.

45 **[0055]** . According to an embodiment, said equipped work unit 1 comprises a support mechanism configured

to support said L-shaped wall 12 in said open L-shaped wall configuration.

[0056] . According to an embodiment, said linear actuator 21 is rotatably connected at one end to the support frame 2 and at the other end, to the surface of the front wall 9 facing the inside of the support frame 2. According to an embodiment, said support mechanism comprises a locking device for said linear actuator 21, which allows stably securing the linear actuator in the extended position thereof to support the work surface 16 at said second height H2. According to an embodiment, said unit 1 comprises at least two linear actuators 21, each secured to said front wall at an axial distance along said axial direction A-A. According to an embodiment, said support mechanism comprises one leg, e.g. a telescopic leg, rotatably connected to said front wall 9, in an inner surface thereof, and movable between a resting position, in which said leg is arranged parallel to said front wall 9 and a support position, in which said leg is perpendicular to said front wall 9.

[0057] . According to an embodiment, said rotation mechanism 15 comprises a first crosspiece 20 movable along said vertical direction Y-Y.

[0058] . According to an embodiment, said rotation mechanism 15 comprises a first arm 22.

[0059] . According to an embodiment, said rotation mechanism 15 comprises a first lever 41. Said first lever 41 is rotatably connected at one end thereof to the support frame 2 and, at an opposite end thereof, it is rotatably connected to said L-shaped wall 12.

[0060] . According to an embodiment, said first arm (22) is rotatably connected at one end to said first crosspiece 20 and at an opposite end thereof, it is rotatably connected to said first lever 41.

[0061] . According to an embodiment, said at least one linear actuator 21 is secured to said first crosspiece 20, wherein said linear actuator 21 is configured to move said first crosspiece 20 along said vertical direction Y-Y.

[0062] . According to an embodiment, wherein in said closed L-shaped wall configuration, said first lever 41 and said first arm 22 are arranged along said vertical direction Y-Y inside said support frame 2.

[0063] . According to an embodiment, in said open L-shaped wall configuration, said first lever 41 and said first arm 22 are arranged so as to support said front wall 9 at said second height H2.

[0064] . According to an embodiment, said rotation mechanism 15 comprises a second lever 44, functionally and structurally similar to said first lever 41, and rotatably connected to said first crosspiece 20 and to said front wall 9 on the opposite side, in an axial direction A-A to said first lever 41.

[0065] . According to an embodiment, said rotation mechanism 15 comprises a third arm 47 functionally and structurally similar to said first arm 22, and rotatably connected to said first crosspiece 20 and to said second lever 44.

[0066] . According to an embodiment, said linear ac-

tuator 21 is an electromechanical linear actuator comprising a linear actuator motor and a linear actuator control module configured to control said linear actuator 21. According to an embodiment, said linear actuator control module can be operated manually or by means of a movable electronic device, such as, for example, a cell phone. According to an embodiment, said rotation mechanism 15 comprises a frame 17 secured to said support frame 2. According to an embodiment, said frame 17 comprises at least one first vertical guide 18 arranged along said vertical direction Y-Y. According to an embodiment, said first crosspiece 20 is sliding at least along said first vertical guide 18. According to an embodiment, said linear actuator 21 is configured to move said first crosspiece 20 along said at least one first vertical guide 18. According to an embodiment, said first arm 22 comprises a first arm end rotatably connected to said first crosspiece 20 and a second arm end directly rotatably connected to said L-shaped wall 12 at said front wall 9. According to an embodiment, in said open L-shaped wall configuration, said support mechanism is configured to lock said first arm 22 in a locking position with respect to said support frame 2 so as to support said front wall 9 at said second height H2. According to an embodiment, said rotation mechanism 15, i.e. said frame 17, comprises a second vertical guide 19 arranged at an axial distance along said axial direction A-A with respect to said first vertical guide 18, and said first crosspiece 20 is sliding on both the first and the second vertical guide 18. According to an embodiment, said first arm 22 is a panel having a width substantially equal to the axial distance between the two vertical guides 18, 19. According to an embodiment, said first arm 22, translates in the vertical direction Y-Y and rotates about the end hinged to the first crosspiece 20. According to an embodiment, said first arm 22, in said open L-shaped wall configuration, is perpendicular to said treadable surface 42. According to an embodiment, said first arm 22, in said closed L-shaped wall configuration, is perpendicular to said treadable surface 42.

[0067] . According to an embodiment, said linear actuator 21 is a gas spring.

[0068] . According to an embodiment, said rotation mechanism 15 comprises a second crosspiece 27, which is movable along said vertical direction Y-Y.

[0069] . According to an embodiment, said rotation mechanism 15 comprises movement transmission means 28 connected to said first crosspiece 20 and to said second crosspiece 27 so that a second crosspiece movement in a direction opposite to said first direction of said second crosspiece 27 corresponds to a first crosspiece movement in a first direction along said vertical direction Y-Y of said first crosspiece 20.

[0070] . According to an embodiment, said movement transmission means comprise a pantograph connected at one end to the first crosspiece 20 and at the opposite end to the second crosspiece 27, which is movable between an extended configuration and a retracted config-

uration.

[0071] . According to an embodiment, said rotation mechanism 15 comprises a first foot 45 rotatably connected at one end to the support frame 2, preferably in a lower part thereof, and having a first foot free end configured to rest on said treadable surface 42.

[0072] . According to an embodiment, said rotation mechanism 15 comprises a second arm 23 rotatably connected at one end to said second crosspiece 27 and at an opposite end thereof, it is rotatably connected to said first foot 45, preferably in an intermediate position of said first foot 45.

[0073] . According to an embodiment, in said closed L-shaped wall configuration, said first foot 45 and said second arm 23 are arranged along said vertical direction Y-Y inside said support frame 2. According to an embodiment, in said open L-shaped wall configuration, said first foot 45 is resting on said treadable surface 42 so as to support said front wall 9 at said second height H2.

[0074] . According to an embodiment, between said closed L-shaped wall configuration and said open L-shaped wall configuration, the first lever 41 rotates in the opposite direction to said first foot 45.

[0075] . According to an embodiment, said rotation mechanism 15 comprises a second foot 46, which is functionally and structurally similar to said first foot 45, wherein the second foot 46 is rotatably connected at one end to the support frame 2, axially along said axial direction A-A, on the opposite side to said first foot 45, preferably in a lower part thereof, and having a second foot free end configured to rest on said treadable surface 42.

[0076] . According to an embodiment, said rotation mechanism 15 comprises a fourth arm 48, which is structurally and functionally similar to said second arm 23, wherein the fourth arm 48 is rotatably connected at one end to said second crosspiece 27 and at an opposite end thereof, it is rotatably connected to said second foot 46, preferably in an intermediate position of said second foot 46.

[0077] . According to an embodiment, said lifting mechanism 16 and said rotation mechanism 15 are independently operable.

[0078] . According to an embodiment, said unit 1 comprises a footrest 24 rotatably connected to said support frame 2, wherein said footrest 24 is movable at least between a closed position and an open position, in which, in said closed position, said footrest 24 is arranged beneath at least one orthogonal projection of said first upper wall 7 on said treadable surface, when said L-shaped wall 12 is in said closed L-shaped wall configuration, i.e. said footrest 24 is arranged inside said support frame 2 and wherein, in said open configuration, said footrest 24 is arranged, at least partially, in the open compartment beneath the work surface 16 when said L-shaped wall 12 is in said open L-shaped wall configuration to support the user's feet.

[0079] . According to an embodiment, said footrest 24 is configured to rototranslate between said closed posi-

tion and said open position, in which, in said closed position, said footrest 24 is arranged perpendicularly along said vertical direction Y-Y with respect to said treadable surface.

[0080] . According to an embodiment, in said open position, said footrest 24 is rotated about said axial direction A-A and tilted with respect to said treadable surface. According to an embodiment, said footrest 24 comprises a second footrest end configured to rest on said treadable surface 42 in said open position.

[0081] . According to an embodiment, said frame 17 comprises at least one first footrest guide 25 arranged along said vertical direction Y-Y. According to an embodiment, said frame 17 comprising a second footrest guide 26 arranged along said vertical direction Y-Y. According to an embodiment, said first footrest guide 25 is arranged beneath said first vertical guide 18. According to an embodiment, said second footrest guide 26 is arranged beneath said second vertical guide 18.

[0082] . According to an embodiment, said second crosspiece 27 is sliding on said at least one first footrest guide 25. According to an embodiment, said second crosspiece 27 is also sliding on said second footrest guide 26.

[0083] . According to an embodiment, said footrest 24 is hinged along said axial direction A-A with a first footrest end thereof 29 to said second crosspiece 27. According to an embodiment, said linear actuator 21 is configured to move said second crosspiece 27 along said at least one first footrest guide 25 indirectly by means of said movement transmission means 28 so as to move said footrest 24 between said closed configuration and said open configuration. According to an embodiment, said equipped work unit 1 comprises at least one first adjustable white light led connected to said second upper wall 8. According to an embodiment, said unit 1 comprises a second RGBW ambient led. According to an embodiment, said unit 1 comprises at least one contact for opening said L-shaped wall 12 to detect an opening or closing state of said L-shaped wall 12. According to an embodiment, said unit 1 comprises at least one opening contact of said second upper wall 8 to detect an opening or closing state of said second upper wall 8. According to an embodiment, said unit 1 comprises an opening contact of said side drawer 37 to detect an opening or closing state of said side drawer 37. According to an embodiment, said unit 1 comprises at least one of the following ambient sensors connected to said support frame 2: a sensor for volatile organic compounds, a carbon monoxide sensor, a methane sensor, a nitrogen dioxide sensor, a humidity sensor, a temperature sensor, a brightness sensor. According to an embodiment, said unit 1 comprises a data communication module 41 secured to said support frame 2. According to an embodiment, said data communication module 41 comprises a GSM module, and/or a Bluetooth module, and/or a Wifi connection module. According to an embodiment, said monitor 13 comprises a webcam. According to an embodiment, said

unit 1 comprises at least one electric charging socket, preferably USB-C, and a connection module for connecting to an external electric network and/or a rechargeable battery. According to an embodiment, it comprises a keyboard and/or a wireless mouse accommodated in said housing and/or in said side drawer 37.

A-A axial direction
 X-X horizontal direction
 Y-Y vertical direction
 A L-shaped wall rotation axis
 5 H1 first height
 H2 second height
 H3 third height

LIST OF REFERENCES

[0084]

1 equipped work unit
 2 support frame
 3 lower or bottom wall
 4 first side wall
 5 second side wall
 6 upper wall
 7 first upper wall
 8 second upper wall
 9 front wall
 10 connection end
 11 second free end
 12 L-shaped wall
 13 monitor
 14 lifting mechanism
 15 rotation mechanism
 16 work surface
 17 frame
 18 first vertical guide
 19 second vertical guide
 20 first crosspiece
 21 linear actuator
 22 first arm
 23 second arm
 24 footrest
 25 first footrest guide
 26 second footrest guide
 27 second crosspiece
 28 movement transmission means
 29 first footrest end
 30 second footrest end
 31 vertical lifting linear actuator
 32 fixed actuator part
 33 movable actuator part
 34 actuator motor
 35 actuator control module
 36 side opening
 37 side drawer
 38 plurality of wheels
 39 rear wall
 41 first lever
 42 treadable surface
 44 second lever
 45 first foot
 46 second foot
 47 third arm
 48 fourth arm

10 Claims

1. An equipped work unit (1) for domestic use, which is reversibly convertible between at least one open configuration and at least one closed configuration, comprising:

- a support frame (2) defining a vertical direction (Y-Y), an axial direction (A-A) orthogonal to said vertical direction (Y-Y), and a horizontal direction (X-X) orthogonal to said axial direction (A-A) and to said vertical direction (Y-Y), said support frame (2) being adapted to be rested, directly or indirectly, on a treadable surface (42) orthogonal to said vertical direction (Y-Y),

- an L-shaped wall (12) comprising a first upper wall (7) and a front wall (9) joined in an L, wherein said L-shaped wall (12) is rotatably connected to said support frame (2) so as to rotate about a rotation axis (A) extending along said axial direction (A-A),

- a rotation mechanism (15) configured to rotate said L-shaped wall (12) about said rotation axis (A) between a closed L-shaped wall configuration and an open L-shaped wall configuration and vice versa, said rotation mechanism (15) being connected to said support frame (2) and to said L-shaped wall (12),

wherein, in said closed L-shaped wall configuration, said L-shaped wall (12) is arranged at a first height (H1) from said treadable surface (42), wherein said front wall (9) is arranged perpendicularly to said treadable surface (42), and wherein said first upper wall (7) is arranged parallel to said support surface (42) at said first height (H1), wherein, in said open L-shaped wall configuration, said L-shaped wall (12) is rotated by 90 degrees about said rotation axis (A) with respect to the closed L-shaped wall configuration so as to form, with said front wall (9), a work surface (16) arranged at a second height (H2), which is greater than said first height (H1), forming an open compartment beneath the work surface (16) adapted to accommodate a seat of a chair and/or a user's legs.

2. An equipped work unit (1) according to the preceding claim wherein said support frame (2) comprises a first side wall (4) and a second side wall (5) connected to a rear wall (39) and/or to a lower or bottom wall (3),
wherein, in said closed L-shaped wall configuration, said support frame (2) and said L-shaped wall (12) form a box-like structure having a box-like structure height equal to said first height (H1).
3. An equipped work unit (1) according to the preceding claim wherein in said closed L-shaped wall configuration:

said L-shaped wall (12) has said front wall (9) arranged flush with said first side wall (4) and with said second side wall (5) and with said lower or bottom wall (3), and said first upper wall (7) arranged flush with said rear wall (39), said first side wall (4) and said second side wall (5), and/or wherein at least one of said first side wall (4) and said second side wall (5) comprises a side opening (36), wherein said unit (1) comprises at least one door for covering said side opening or a side drawer (37), which is extractable from said side opening (36), and/or wherein said L-shaped wall (12) is hinged on opposite sides, directly or indirectly, to said support frame (2), preferably to said first side wall (4) and said second side wall (5).

4. An equipped work unit (1) according to any one of the preceding claims, comprising

- a second upper wall (8) connected to said support frame (2) and arranged parallel to said treadable surface (42),
- a monitor (13) connected to said support frame (2),
- a lifting mechanism (14) configured to lift, along said vertical direction (Y-Y) said second upper wall (8) and said monitor (13), between a resting position and said working position,

wherein said support frame (2) defines an inner housing,
wherein in said resting position:

said monitor (8) is completely accommodated in said inner housing,
and said second upper wall (8) is arranged at said first height (H1),
and wherein, in said working position, said monitor (13) is completely outside said support frame (2) arranged at least at said first height (H1), and
said second upper wall (8) is arranged at the top of said monitor (13) along said

vertical direction (Y-Y) at a third height (H3).

5. An equipped work unit (1), according to claim 4 wherein said lifting mechanism (14) comprises a vertical lifting linear actuator (31) having a fixed actuator part (32) and a movable actuator part (33), wherein said fixed actuator part (32) is secured to said support frame (2),
said monitor (13) being secured to the movable actuator part (33), said second upper wall portion (8) being directly or indirectly secured to said movable actuator part (33).

6. An equipped work unit (1), according to the preceding claim, wherein said vertical lifting linear actuator (31) is an electromechanical actuator comprising an actuator motor (34) and an actuator control module (35) configured to control said vertical lifting linear actuator (31), wherein said actuator control module (35) can be operated manually or by means of a movable electronic device.

7. An equipped work unit (1), according to claim 1 wherein said rotation mechanism (15) comprises at least one linear actuator (21) connected with a first end to said support frame (2) and with a second end to said L-shaped wall (12), at said front wall (9), wherein said at least one linear actuator (21) is extensible between a retracted position and at least one extended position, in which in said open L-shaped wall configuration, said at least one linear actuator (21) is in said at least one extended position, and in which, in said closed L-shaped wall configuration, said at least one linear actuator (21) is in said retracted position.

8. An equipped work unit (1), according to the preceding claim, comprising

a first crosspiece (20), which is movable along said vertical direction Y-Y,
a first arm (22) and a first lever (41), wherein said first lever (41) is rotatably connected at one end thereof to the support frame (2) and, at an opposite end thereof, it is rotatably connected to said L-shaped wall L (12), wherein said first arm (22) is rotatably connected at one end to said first crosspiece (20) and at an opposite end thereof, it is rotatably connected to said first lever (41),
wherein said at least one linear actuator (21) is secured to said first crosspiece (20), wherein said linear actuator (21) is configured to move said first crosspiece (20) along said vertical direction (Y-Y),
wherein in said closed L-shaped wall configuration, said first lever (41) and said first arm (22)

- are arranged along said vertical direction (Y-Y) inside said support frame (2) wherein, in said open L-shaped wall configuration, said first lever (41) and said first arm (22) are arranged so as to support said front wall (9) at said second height (H2), and/or wherein said linear actuator (21) is a gas spring or a motorized linear actuator. 5
9. An equipped work unit (1) according to the preceding claim, comprising 10
- a second crosspiece (21), which is movable along said vertical direction (Y-Y), movement transmission means (28) connected to said first crosspiece (20) and to said second crosspiece (21) so that a second crosspiece movement in a direction opposite to said first direction of said second crosspiece (20) corresponds to a first crosspiece movement in a first direction along said vertical direction (Y-Y) of said first crosspiece (20), 15
- a first foot (45) rotatably connected at one end to the support frame (2), preferably in a lower part thereof, and having a first foot free end configured to rest on said treadable surface (42), and a second arm (23), rotatably connected at one end to said second crosspiece (21) and at an opposite end thereof, it is rotatably connected to said first foot (45), 20
- wherein in said closed L-shaped wall configuration, said first foot (45) and said second arm (23) are arranged along said vertical direction (Y-Y) inside said support frame (2), and wherein, in said open L-shaped wall configuration, said first foot (45) is resting on said treadable surface (42) so as to support said front wall (9) at said second height (H2), 25
- wherein, between said closed L-shaped wall configuration and said open L-shaped wall configuration, the first lever (41) rotates in the opposite direction to said first foot (45). 30
10. An equipped work unit (1), according to any one of the preceding claims, comprising at least one first adjustable white light led connected to said second upper wall (8), 35
- and/or wherein said unit (1) comprises a second RGBW ambient led, 40
- and/or wherein said unit (1) comprises at least one micro switch for opening said L-shaped wall (12), 45
- and/or wherein said unit (1) comprises at least one sensor for opening said second upper wall (8) 50
- and/or wherein said unit (1) comprises at least one sensor for opening said side drawer (37), 55
- and/or wherein said unit (1) comprises at least one of the following ambient sensors: a sensor for volatile organic compounds, a carbon monoxide sensor, a methane sensor, a nitrogen dioxide sensor, a humidity sensor, a temperature sensor, a brightness sensor, and/or wherein said unit (1) comprises a data communication module (41), and/or wherein said data communication module (41) comprises a GSM module, and/or a Bluetooth module, and/or a Wifi connection module, and/or wherein said monitor (13) comprises a webcam, and/or wherein said unit (1) comprises at least one electric charging socket, preferably USB-C, and a connection module for connecting to an external electric network and/or a rechargeable battery, and/or wherein said unit (1) comprises a keyboard and/or wireless mouse accommodated in said housing and/or in said side drawer (37).
11. An equipped work unit (1), according to any one of the preceding claims, wherein said second height (H2) is from 70 cm to 85 cm.
12. An equipped work unit (1), according to any one of the preceding claims, wherein said equipped work unit (1) comprises a support mechanism connected at least to said L-shaped wall (12) and configured to support said L-shaped wall (12) in said open L-shaped wall configuration.
13. An equipped work unit (1), according to any one of the preceding claims, wherein said equipped work unit (1) comprises a footrest (24) rotatably connected to said support frame (2), wherein said footrest (24) is movable at least between a closed position and an open position, in which, in said closed position, said footrest (24) is arranged inside said support frame (2), and in which, in said open position, said footrest (24) is arranged at least partially in the open compartment beneath the work surface (16) when said L-shaped wall (12) is in said open L-shaped wall configuration to support the user's feet
14. An equipped work unit (1), according to any one of the preceding claims, wherein said unit (1) comprises a plurality of wheels (38) connected to a lower part of said support frame (2), preferably to said lower or bottom wall (3), so as to allow said unit (1) to move on said treadable surface.
15. An equipped work unit (1), according to any one of the preceding claims, wherein said first upper wall (7) comprises a connection end for connecting to said front wall (9) and a free end (11) opposite to said connection end (10), wherein said rotation axis

(A) is arranged at a free end (11).

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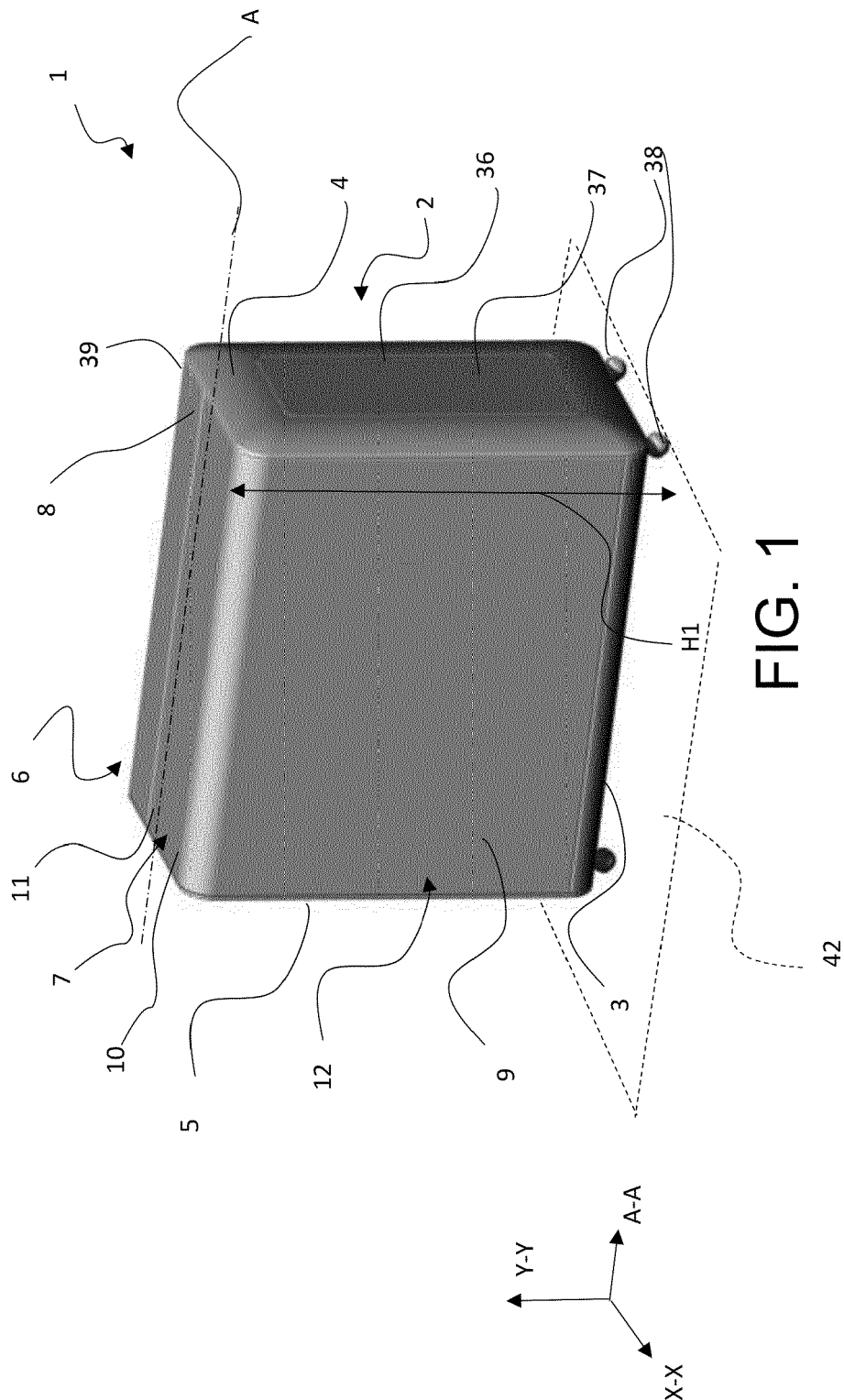
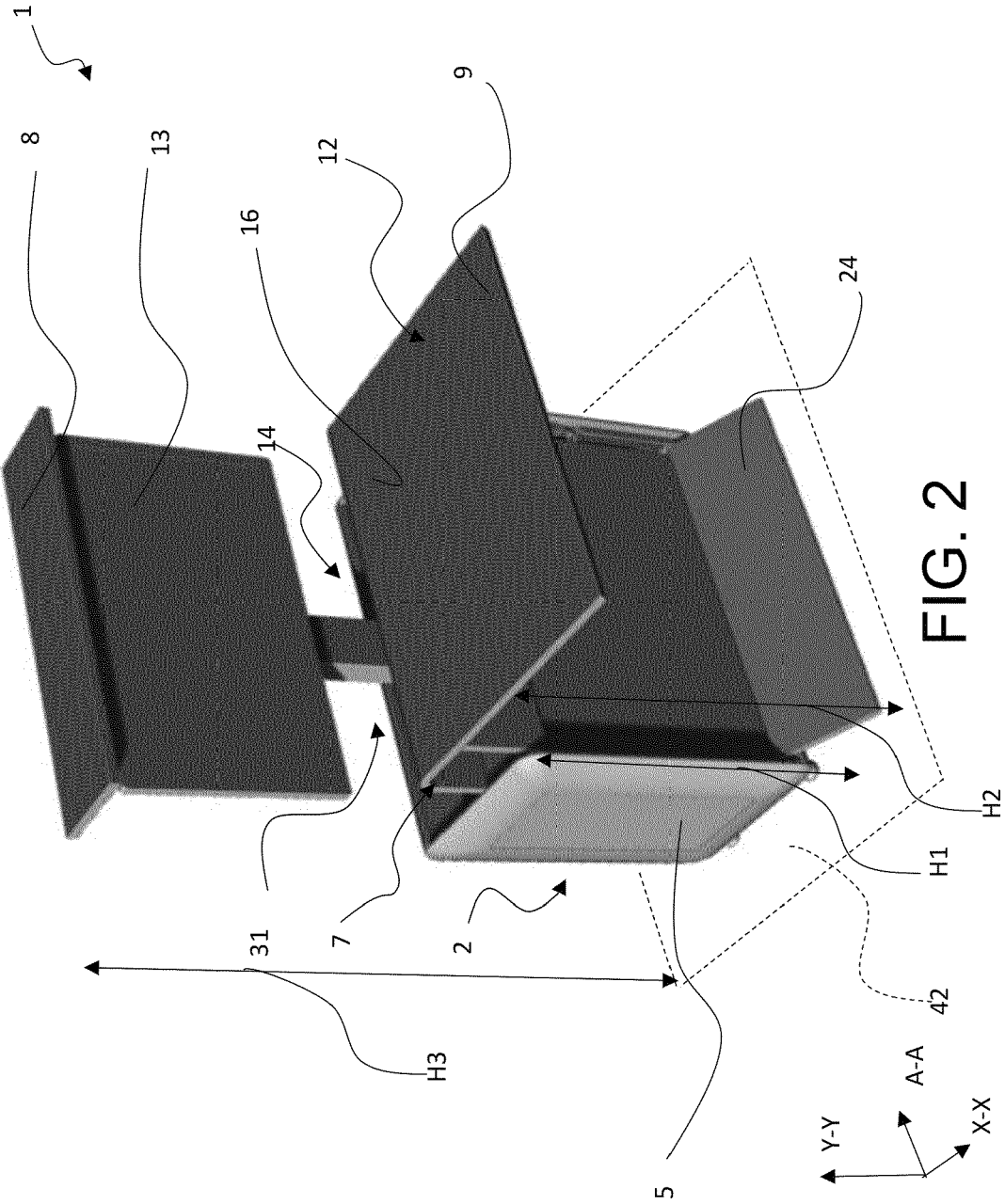
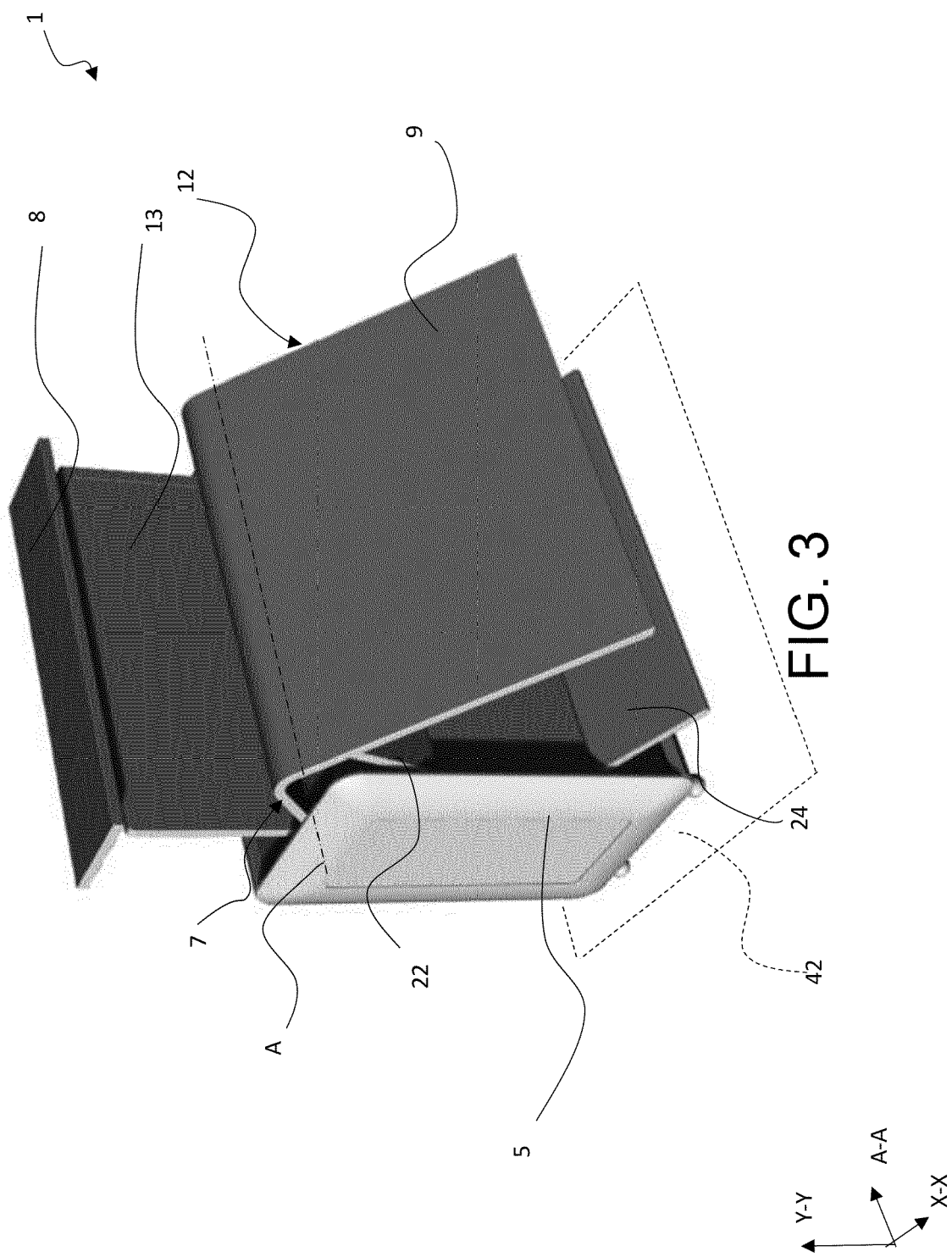
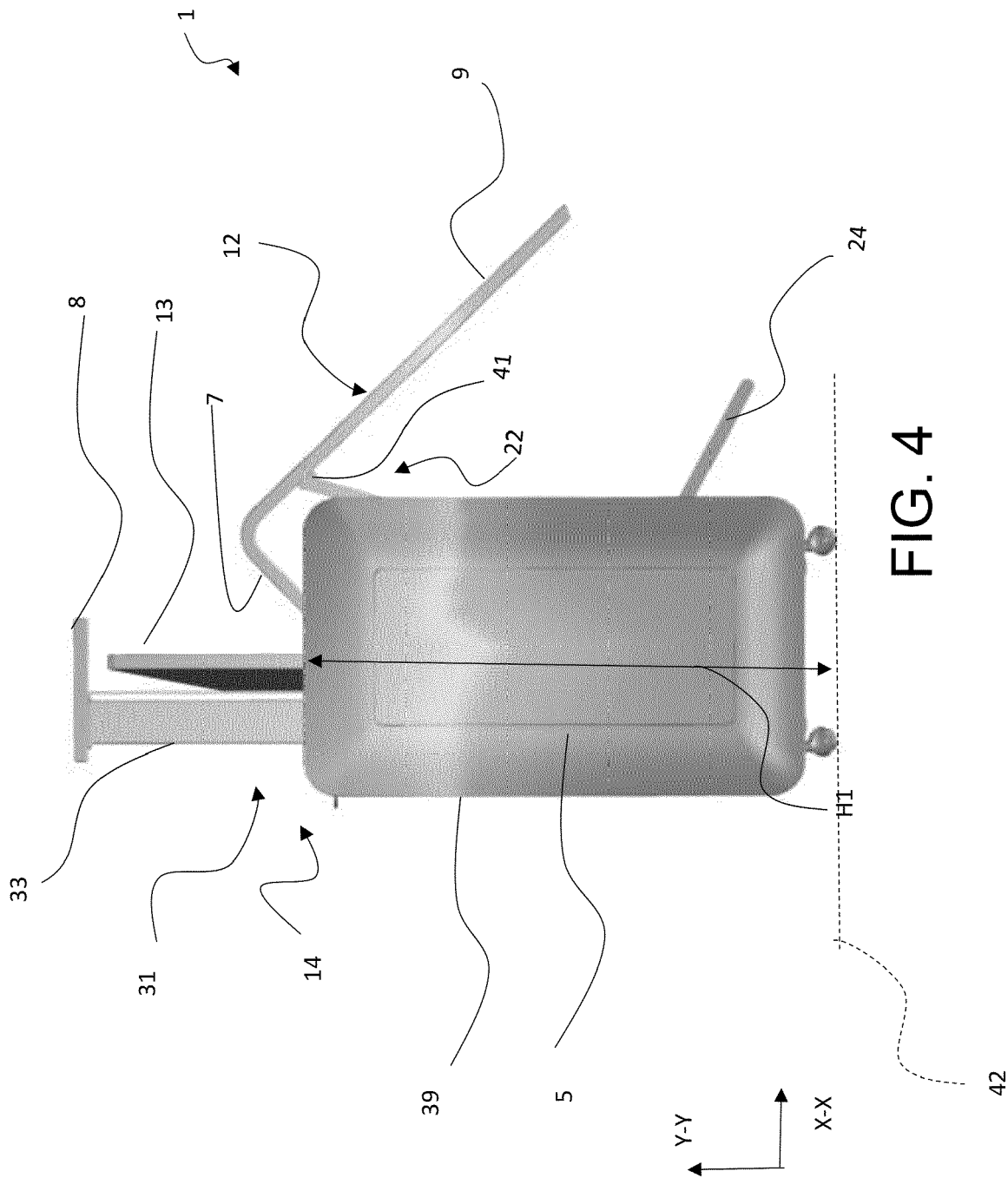


FIG. 1







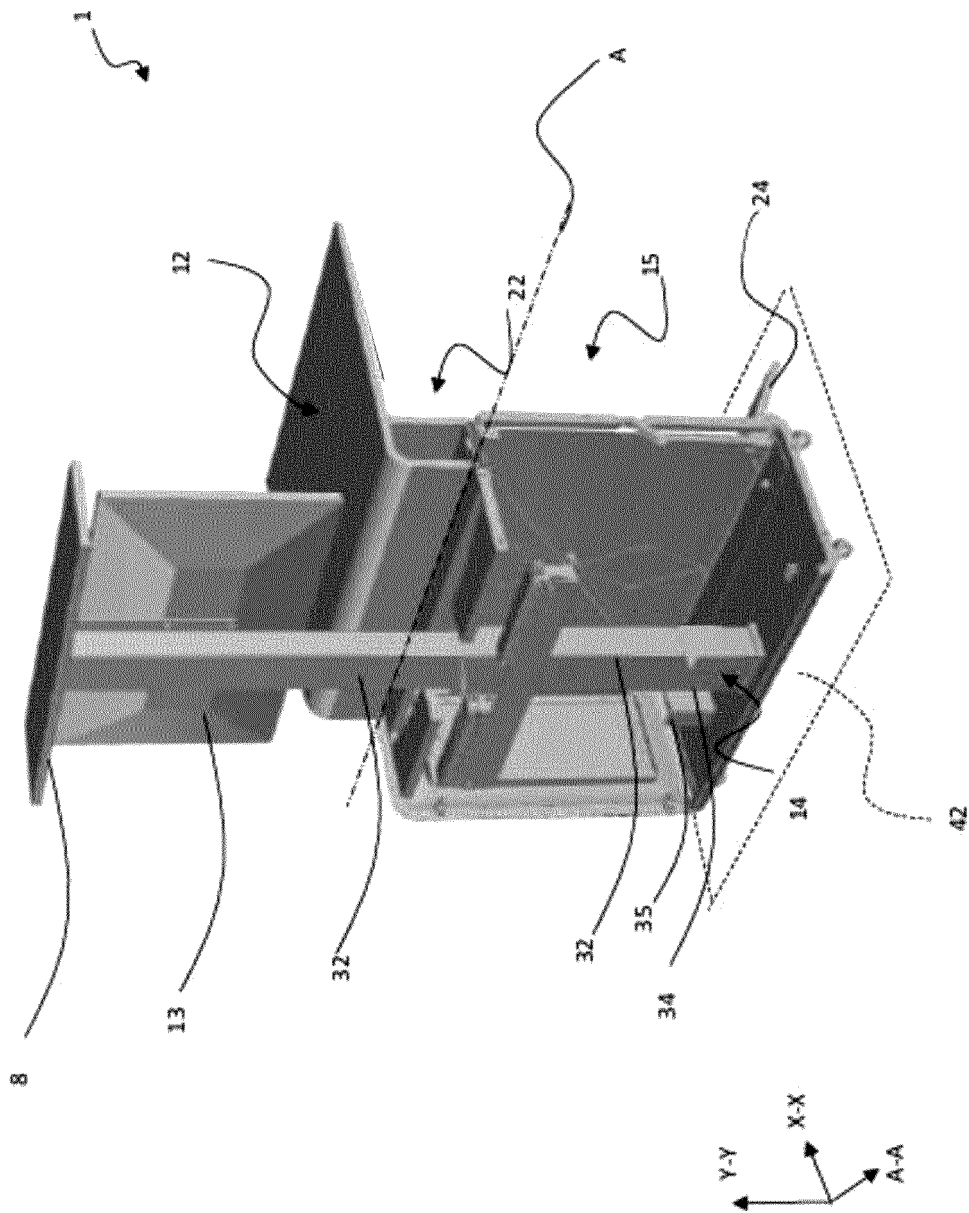


FIG. 5

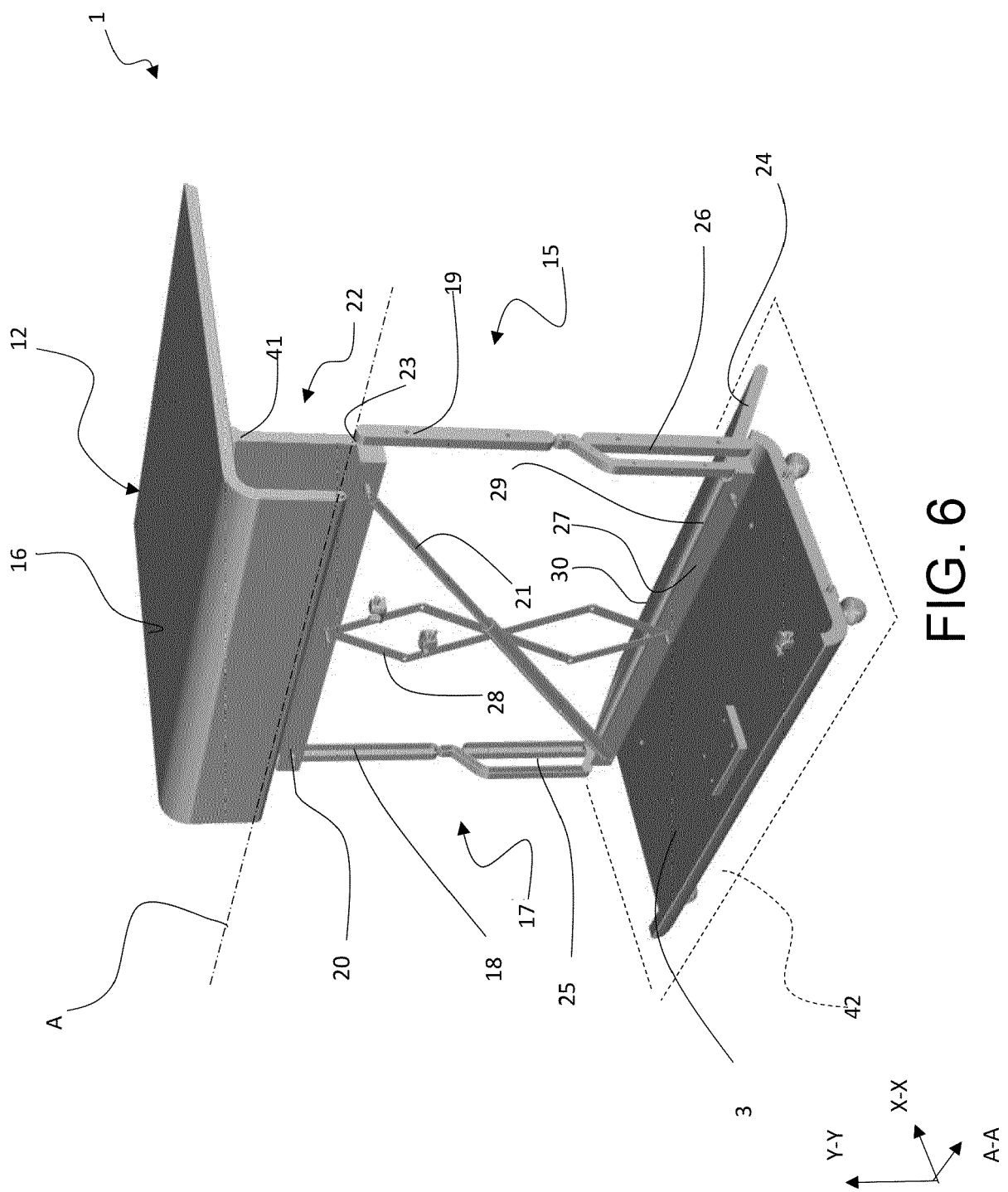
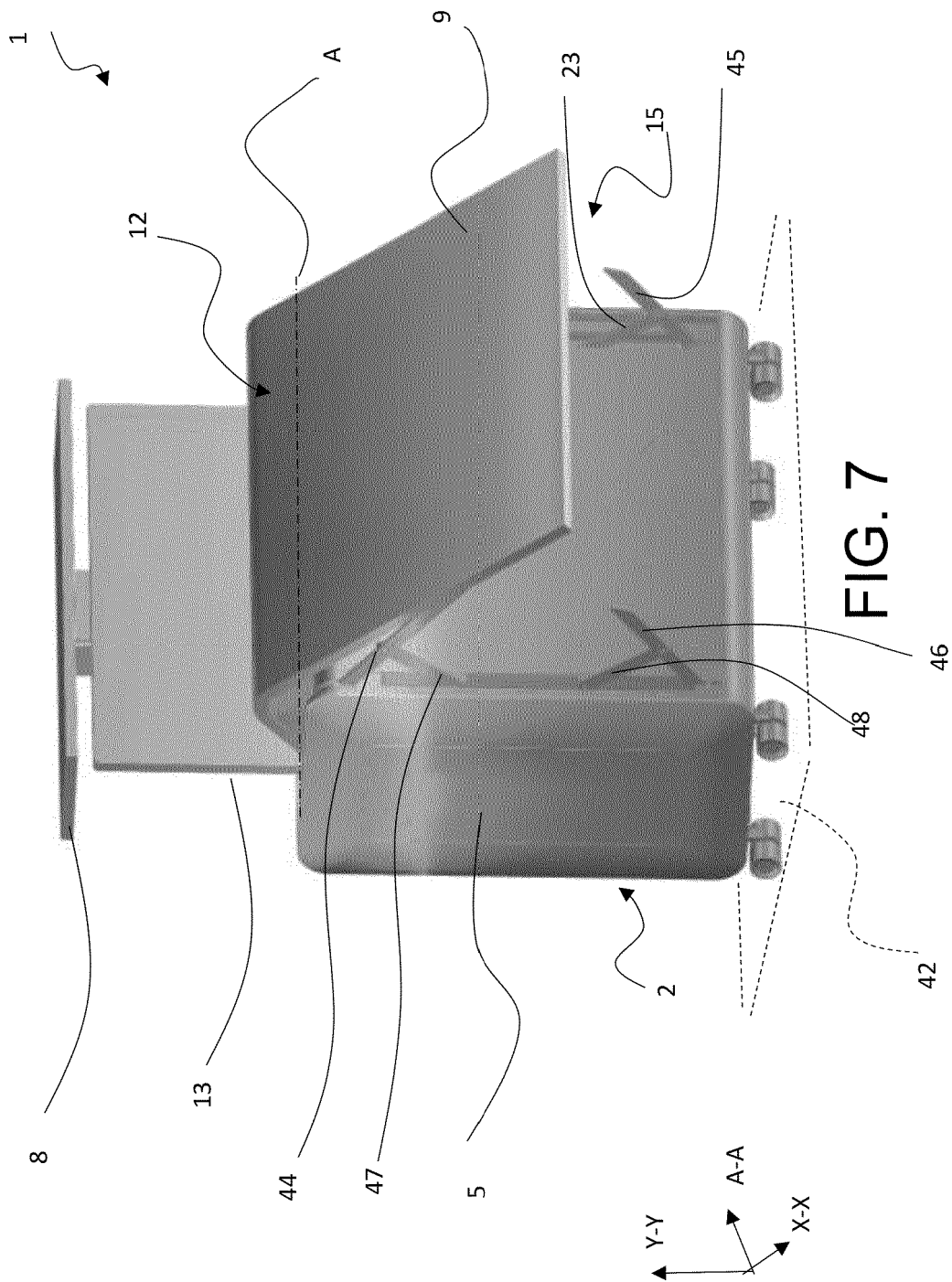
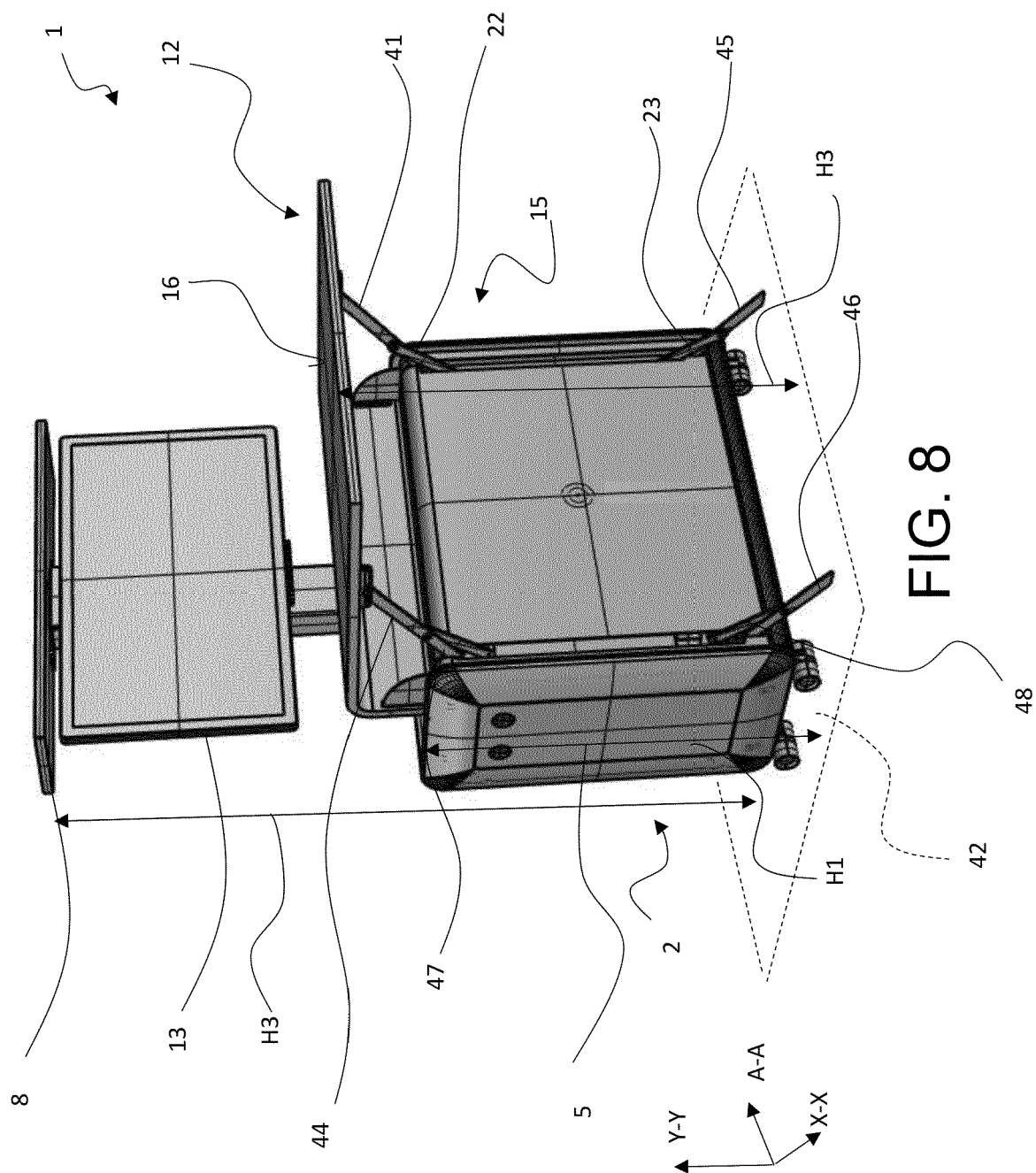
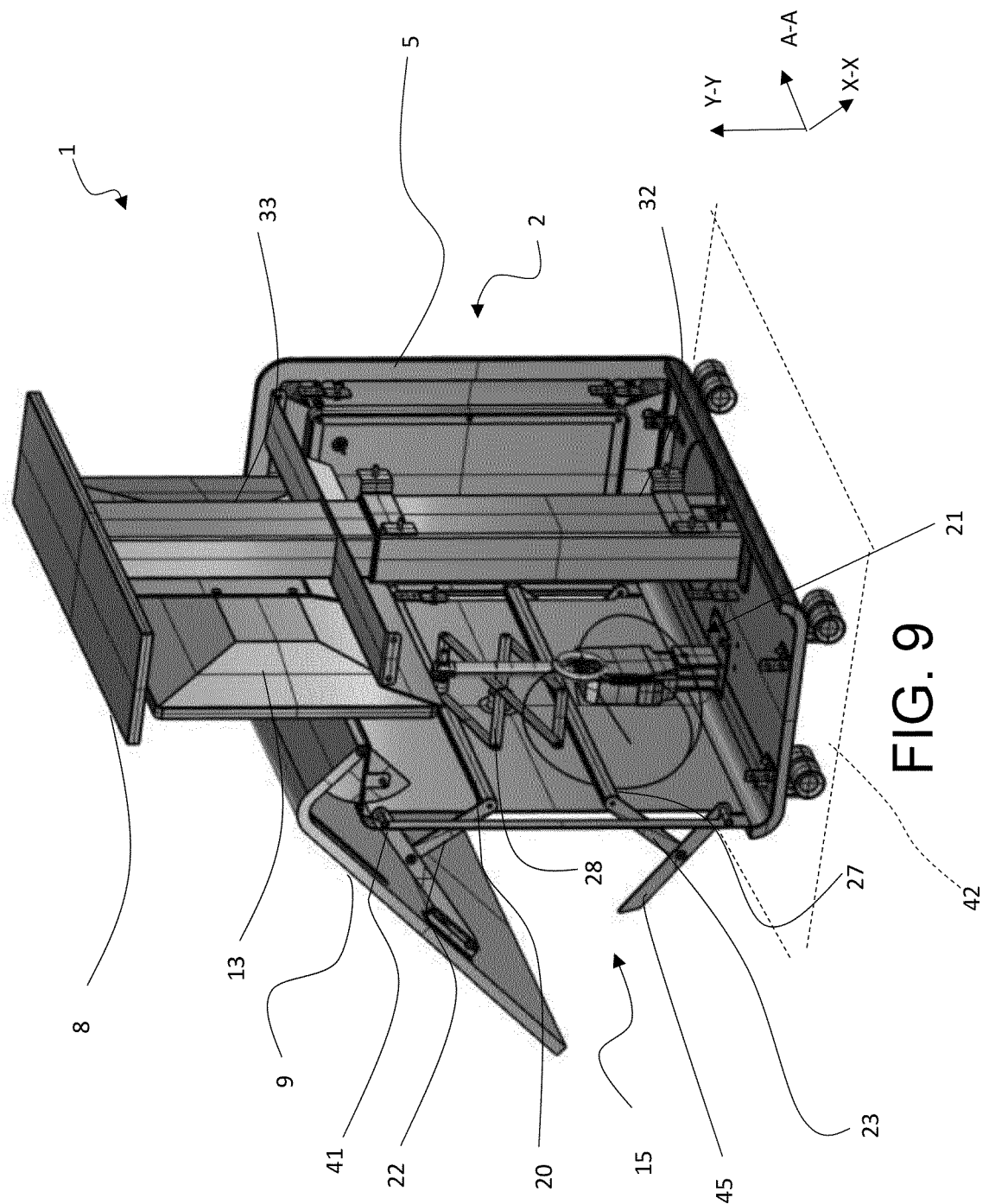
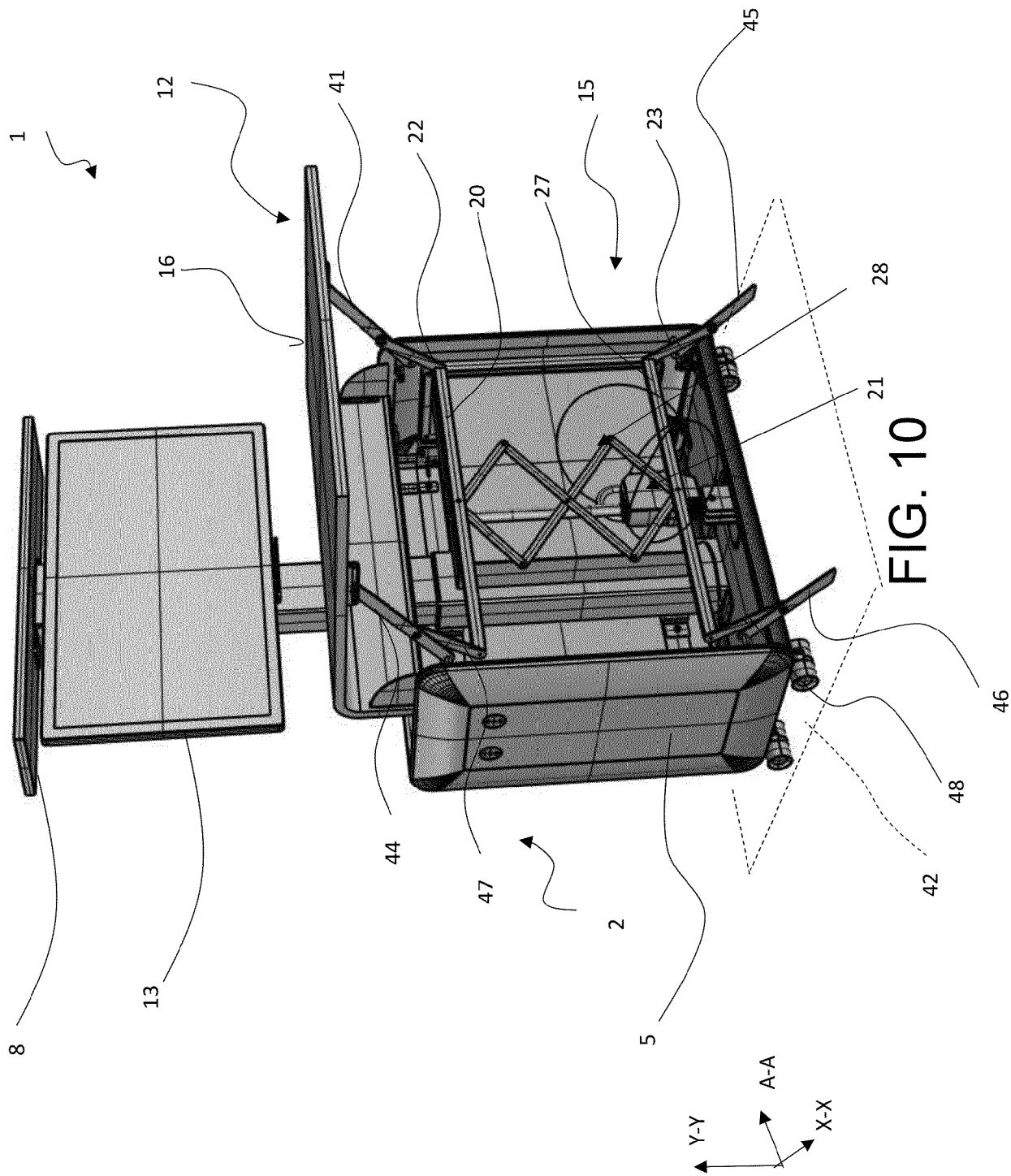


FIG. 6











EUROPEAN SEARCH REPORT

Application Number

EP 21 21 6523

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 208 909 376 U (JIAXING ADWIN HOUSEHOLD ARTICLES CO LTD) 31 May 2019 (2019-05-31)	1-3, 7, 8, 10-15	INV. A47B3/00
A	* figures 1-3 * -----	4, 6, 9	A47B5/04 A47B21/007
X	JP S55 13849 U (N.N.) 29 January 1980 (1980-01-29)	1-3, 7, 8, 10, 12	A47B85/06
A	* figures 1, 2, 4 * -----	4-6, 9	
			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		30 May 2022	de Cornulier, P
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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30-05-2022

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