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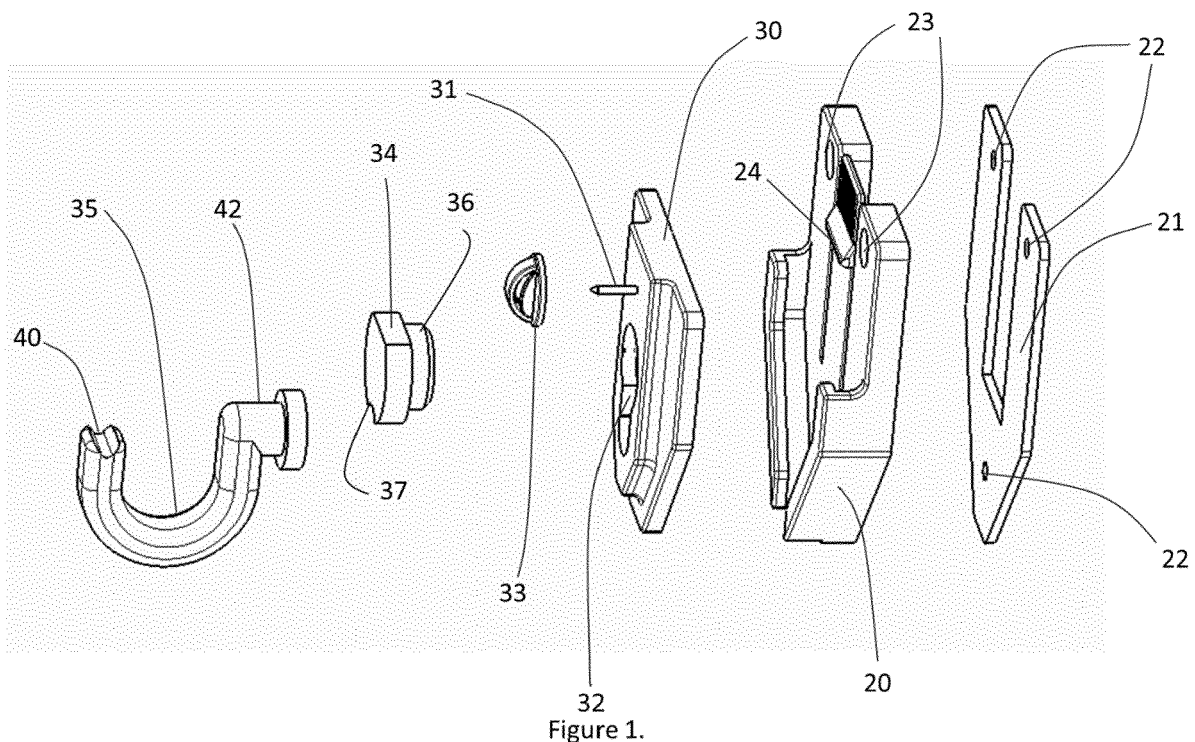
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(54)

A FASTENING SYSTEM

- (57)

A fastening device comprising a front plate mountable on a mounting member by a latch mechanism, the front plate including: a pin member extending out-
- wardly therefrom; and a clasp to be received over a distal end of the pin in use.



Description

Field of the Invention

[0001] This invention relates to a system and apparatus for securely fastening a material to a surface.

Background of the Invention

[0002] Building services often require the removal of curtains during work to reduce the risk of damage and allow workers easy access to the window and surrounding areas from both the inside and outside.

[0003] Whilst the removal of curtains is relatively easy, the exposed windows can pose a potential security risk to the property and result in a lack of privacy for residents. In cases where the window itself is also removed, the room behind is left openly exposed to the elements. Therefore, it is commonplace for building services to fasten a material sheet over the exposed window. This is typically fastened into place with drawing pins or an alternative temporary measure.

[0004] The conventional methods currently used for fastening are often difficult for an individual to achieve alone. They require one hand to hold the large sheet of material in position and a second to fasten the fastening means into the surface. This leaves the individual at risk of injury as they attempt to fasten the material at a height.

[0005] A further disadvantage of this method is that the fastening means used often leave physical damage on the surface which will take further time and effort to repair after the work is done. This is particularly true of heavier materials which will exert more force on the surface and require more fastening means to be used to compensate for the extra weight.

[0006] Since the sheet of material is a temporary fitting, it will often be removed to allow light into the room being worked on and replaced at the end of the day. The repetitive adjustments, replacement and movement of a fastened sheet damages the surface it is fastened to, wastes time of the user and increases the quantity of materials used.

[0007] In domestic settings curtains are often the last feature to be fitted into a renovated room. Often, a resident is responsible for occluding their own window during the period between building/construction cessation and the fitting of decorative and interior finishes. Therefore, due to lack of experience, unskilled residents are at an increased risk of injury, causing damage to surfaces and producing mess when left to cover a window alone. Similarly, other unskilled users are subject to the aforementioned risks when fastening sheets to a surface in *ad hoc* situations, such as but not limited to, fastening black out, privacy and aesthetic sheets to windows, doorways, walls and ceilings.

[0008] The present invention seeks to offer a solution to these issues by providing a fastening system and apparatus for temporarily securing a material sheet over

a window or opening in a wall. The design of the invention is such that the material can be secured in place without causing or leaving any permanent visible damage. The system provides a plurality of fastening means that allow the securement of material in any orientation upon a surface (to then hang or fasten the material across the area to be covered).

[0009] The adhesive surface on the rear of the invention can be further reinforced to allow heavier materials to be safely and securely to the wall.

[0010] The invention also provides an easy method for removing and replacing material covers over an area. The mounted element remains stationary on the surface, while the material is pinned to a plate allowing it to be easily removed and replaced by the user wherein; the plate remains stationary with respect to the material.

[0011] Alternative embodiments of the invention also overcome the issue of constant removal and replacement of the covering material. A hook and securing stopper can be inserted at the front of the invention. A configuration is offered wherein multiple copies of the invention are used to allow the material to be drawn along the horizontal axis of a line or rope to create a makeshift curtain.

[0012] The invention may rotate to modify tension of a line or wire when suspended thereupon, the stopper prevents the hook from accidental release when under tension or torsion at an unnatural angle. Furthermore, the invention comprises a latch which holds the plate, with material pinned to it, secure within the mounting element at any orientation.

[0013] The invention also offers greater safety to the user as compared to current solutions. Heavy fabric can be attached to the pin at ground level, which then can be slotted into the mounting element of the device at height. This reduces the time spent working at height as well as allowing a user to keep a hand free for stability when working at height.

[0014] The combination of aforementioned technical features provides a more efficient fastening system. Furthermore, the fastening system reduces the risk of injury to users, damage to surfaces, financial expenditure on materials and time spent on labour.

Statements of the Invention

[0015] According to a first aspect of the invention there is provided, a fastening device for fastening material to a surface, the fastening device comprising a front plate mountable on a mounting member by a latch mechanism, the mounting member fastenable to a substantially flat surface in use, the front plate including:

a pin member extending outwardly therefrom; and a clasp to be received over a distal end of the pin in use.

[0016] Preferably, the front plate further includes

means to receive a hook member to be secured to the mounting member.

[0017] Preferably, the fastening device further includes a back plate having on one side an adhesive layer to secure the mounting member thereto.

[0018] According to a second aspect of the invention there is provided, a system for temporarily securing a material sheet over an area, the system including:

first and second fasteners spaced apart from one another with a cord each end being secured to a hook of the respective fasteners so to extend substantially horizontally therebetween;

a third fastener connected in use to a material sheet through the pin and supported on the cord through its hook.

[0019] Preferably, the system further comprises at least one further fastener for supporting the cord and/or supporting the material sheet.

Brief Description of Drawings

[0020] The invention will now be described by way of example only with reference to the accompanying diagrammatic drawings in which: -

Figure 1 shows an exploded view of all components comprising the invention.

Figure 2 shows a second embodiment not in accordance with the invention.

Figure 3 shows a configuration in which the second embodiment may be used.

Figure 4 shows a close up of the first embodiment of the invention wherein the material is fasted to the plate and secured into the mounting member using the latch.

Detailed Description of the Invention

[0021] Referring first to Figure 1, the invention is primarily comprised of two components: a mounting member 20 and front plate 30. These connect to provide a system by which a material 40 can be securely fastened to a surface, as shown in Figure 4.

[0022] The invention is formed of durable, lightweight materials, such as but not limited to, carbon fibre, aluminium, fibreglass and various plastics including polypropylene.

[0023] The front surface of the front plate 30 has a keyhole recess 32 above which extends a pin 31 outwardly and generally perpendicularly from the front plate 30.

[0024] The keyhole recess 32 receives, if required, a

plug 34. The plug 34 has a generally cylindrical stem 36 and a groove 37. A hook member 35 comprising a second stem 42 and distal groove 40 is of concordant fit to keyhole recess 32, wherein the hook member 35 is secured by the plug 34 via a friction fit. The groove 37 of the plug 34 is of concordant fit to the stem 42 of the hook member 35 whereby, the hook member 35 may rotate about the axis of its stem 42 without risk of detachment from the keyhole recess 32.

[0025] In an alternative arrangement the keyhole recess 32 may have an internal thread to engage with an external thread on the plug stem 36.

[0026] Both arrangements allow easy securement and dis-engagement of the hook member 35 to the front plate 30 as and when required.

[0027] A clasp 33 is provided to be mounted on the distal end of the pin 31.

[0028] The clasp 33 may be, but is not restricted to, a 'butterfly clasp'. In alternative embodiments, different clasps have been used with the pin 31. The use of this pin 31 and clasp 33 mechanism is to provide the user with an easy method of attaching sheet material 40 to the plate 30.

[0029] Material 40 is fastened to plate 30 by the pin 31 and held into place by the clasp 33, as shown in Figure 4. When the fastening device is used for this function, the hook member 35 is not utilised.

[0030] The front plate 30 then slides onto the mounting member 20 and is secured into place with a latch 24, as shown in Figure 2. The latch 24 ensures the plate remains positioned within the confining walls of the mounting member 20, particularly in alternative arrangements when the invention is orientated inversely.

[0031] As well as function as a clip to hold the material sheet 40, the fastening device could also function as a securement means against a wall, as can be seen in Figure 3. For such function, the hook member 35 is secured to the front plate 30 and the mounting member 20 is secured to a back plate 21 which in turn is secured to a wall. The back plate 21, may be solely be comprised of adhesive material or alternatively a robust material wherein the front surface of the back plate 21 carries an adhesive layer to receive the back surface of the mounting member 20 and, a second adhesive layer located on the back surface of the back plate 21. The back surface of the back plate 21 may comprise a release liner that may be peeled away to expose the adhesive of the back plate 21 whereby; the mounting member 20 can be fastened to a surface via the exposed adhesive layer.

[0032] Alternatively, the mounting member 20 can be fastened to a surface via fasteners, such as screws or nails (not shown), which fasten the mounting member 20 to a surface via the mounting member apertures 23 and back plate apertures 22.

[0033] In this function, clasp 33 is placed over the pin 31 to act as shield to protect the user.

[0034] Figure 3 illustrates how a plurality of fastening devices can be utilised to provide a system for securing a

material sheet 40 over an area, such as a window or open space for example to act as a temporary curtain.

[0035] In the system shown, two fasteners 44, act as securement members according to the second function as described. The fasteners 44 are secured to a wall across the area to be covered and are secured in a substantially horizontal orientation, whereby the hook members 35 extend towards each other in the generally horizontal plane to allow a cord, line, string, rope or the like 38 to be secured to each hook member 35 and extend between them.

[0036] The cord 38 provides a support line across the top of the area from which the material sheet 40 can be hung. The line is further supported by a third fastener 46 generally located near the middle of the cord 38. The third fastener 46 is orientated vertically such the hook member 35 supports the cord 38. Additional fasteners may be used to support the cord 38 depending on the length required.

[0037] The hook 35 comprise a groove 40 located at the distal end of the hook 35. The groove 40 provides support and grip to a cord 38 whereby; the cord 38 may be arranged and secured in a manner to conform to the shape the area to be covered, such as a bay window.

[0038] The system further comprises additional fasteners 48 and act to hold the material sheet 40 according to the first function as described. These fasteners 48 (four of which are shown in Figure 3) hook over the cord 38 and extend downwardly therefrom, supporting the material sheet 40 downwardly across the area to be covered. The hook arrangement allows for the fasteners 48 to slide along the cord 38 mimicking the drawing of a curtain, wherein the hook members 35 of the securement members 44,46 do not impede this action. By reducing the spacing of the hooks, the material sheet 40 can be gathered along the cord 38 to expose the space behind it. Gathered material 40 can be secured in place by use of the pin 31 and clasp 33 arrangement upon a surface mounted fastener 44 as previously described.

[0039] It will be appreciated that the forgoing is merely exemplary of a fastening apparatus in accordance with the invention and that modification can readily be made thereto without departing from the true scope of the invention as set out in the appended claims.

2. A fastening device according to claim 1, wherein the front plate further includes means to receive a hook member to be secured to the mounting member.

3. A fastening device according to claim 1 or 2, wherein the fastening device further includes a back plate having on one side an adhesive layer to secure the mounting member thereto.

Claims

1. A fastening device for fastening material to a surface, the fastening device comprising a front plate mountable on a mounting member by a latch mechanism, the mounting member fastenable to a substantially flat surface in use, the front plate including:

- a. a pin member extending outwardly therefrom; and
- b. a clasp to be received over a distal end of the pin in use.

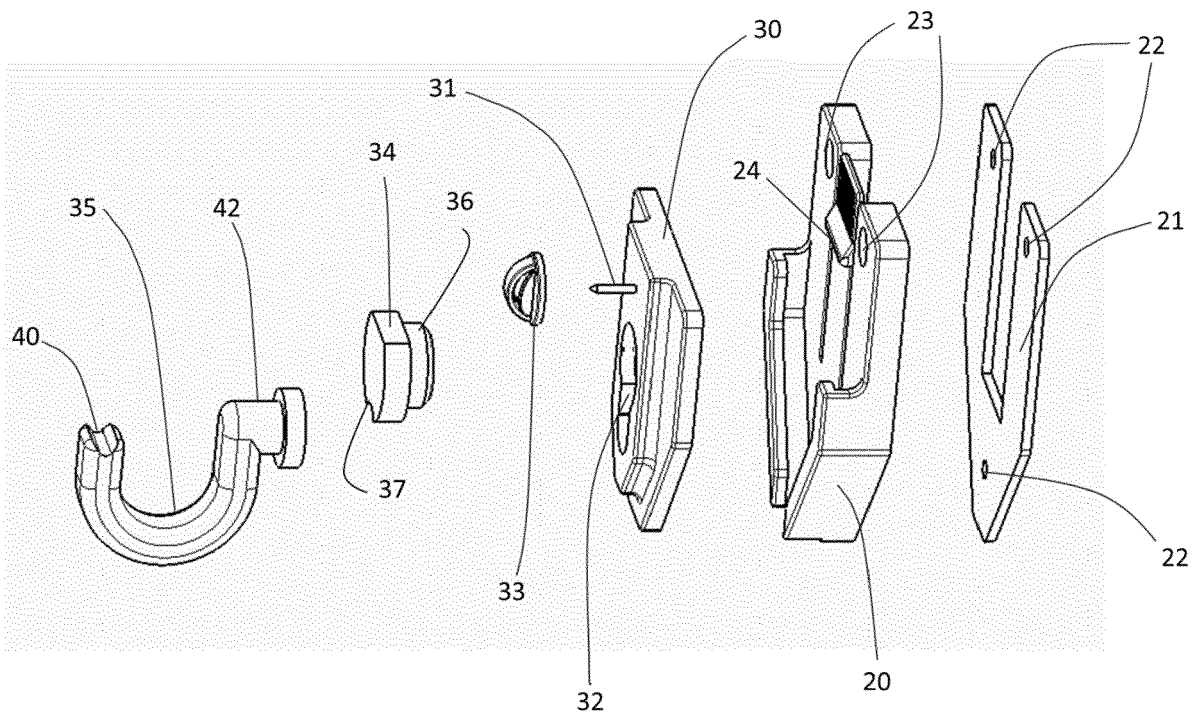


Figure 1.

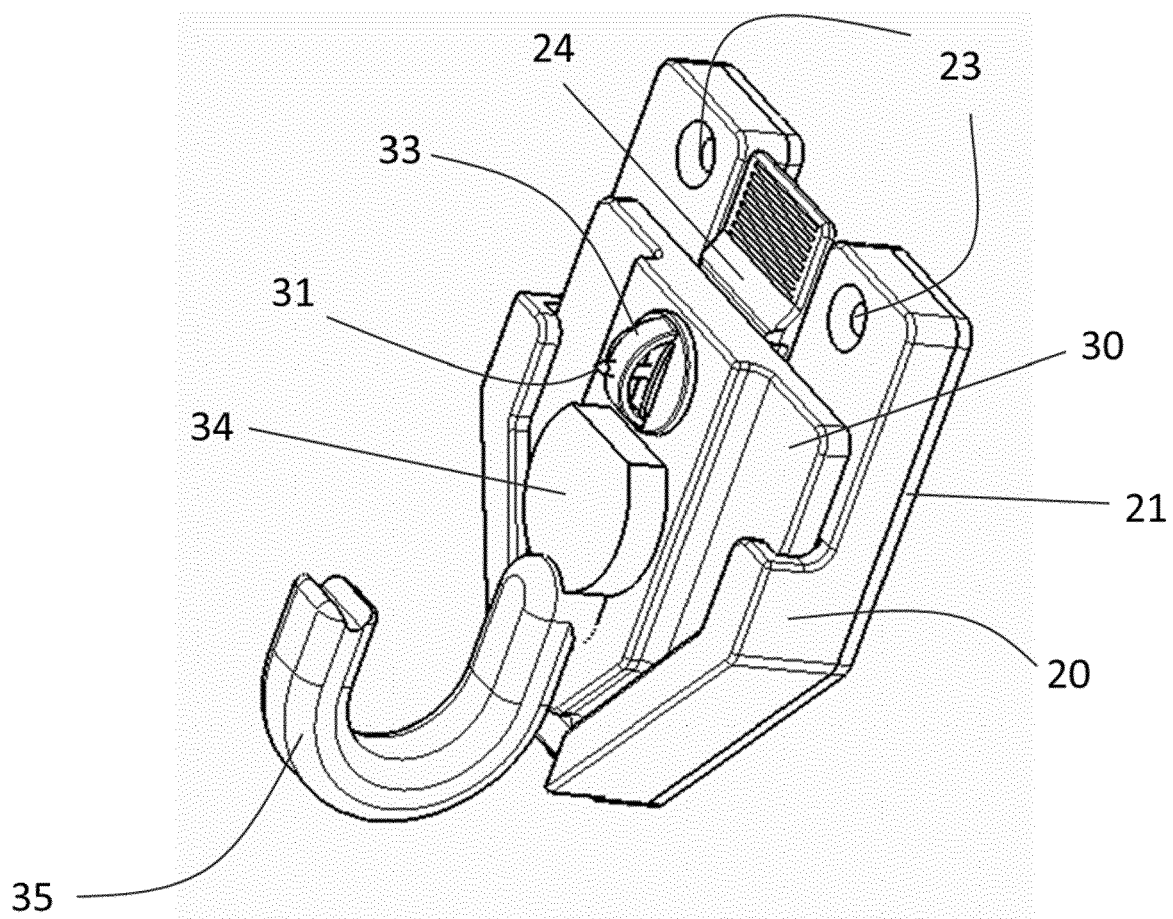


Figure 2.

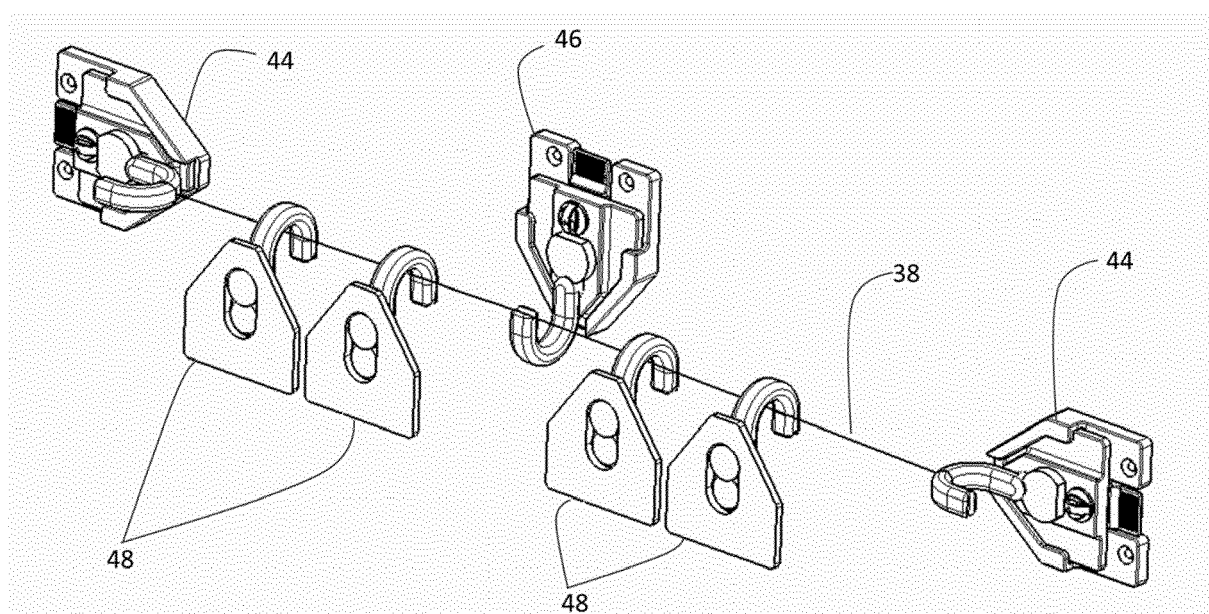


Figure 3.

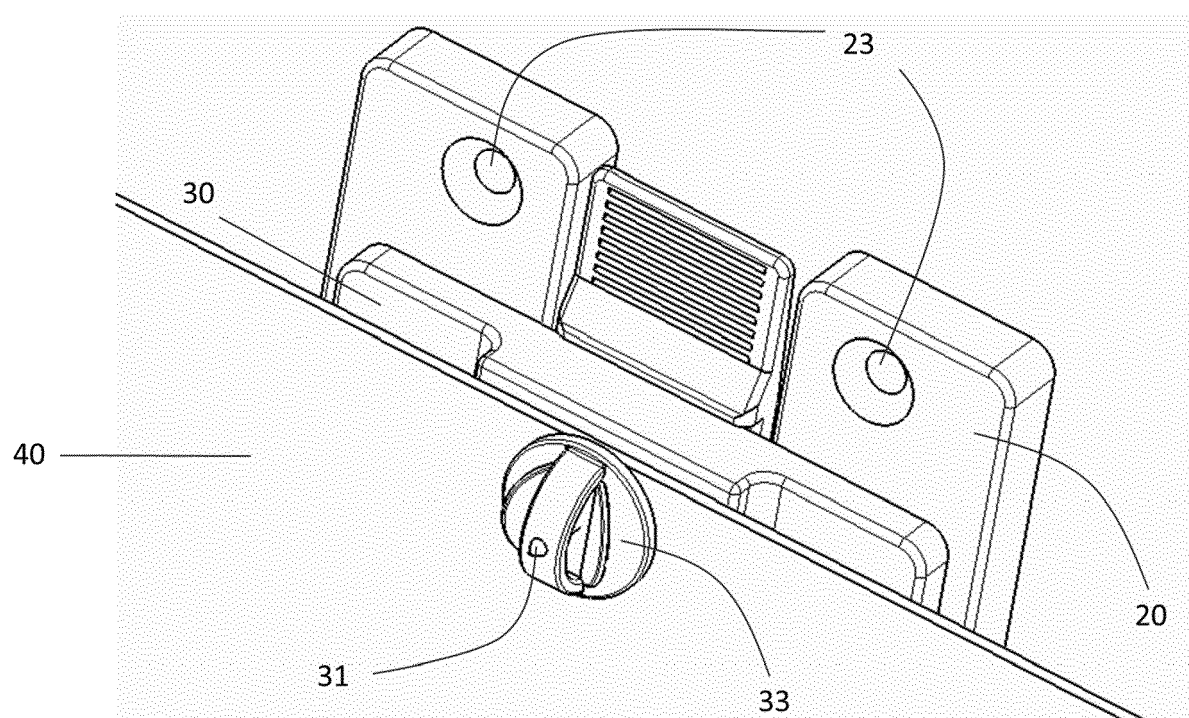


Figure 4.



EUROPEAN SEARCH REPORT

Application Number

EP 24 18 7854

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Place of search Munich		Date of completion of the search 28 November 2024	Examiner Cornu, Olivier
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

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