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CONFIGURABLE POWER SUPPLY SECURITY MECHANISM

HP INC

Configurable Power Supply Security Mechanism

Abstract: A technique is disclosed that provides an internally or externally configurable power supply security mechanism for electronic systems through a locking mechanism on the side cover of a module, such as a power supply, that does not require user access to the inside of the system.

This disclosure relates to the field of electronic systems.

A technique is disclosed that provides an internally or externally configurable power supply security mechanism for electronic systems.

Some electronic systems, such as desktop computers, may include externally-accessible modules, such as, for example, an externally accessible power supply unit (PSU). To prevent unwanted removal of an externally accessible PSU, a security lock is required. One prior solution involves attaching a screw to the power supply after it has been installed in the system in order to prevent someone from externally pulling out the PSU. However, this is disadvantageous in that it is necessary to both install the power supply and provide access to the inside of the system. This can compromise security of the system and its modules or devices.

According to the present disclosure, and with reference to the Figure, a rear access PSU is unlocked by default but can be easily secured by removing the PSU and enabling the locking mechanism on the side cover of the power supply. When the locking latch is enabled outside of the system, the latch has a ramp and is designed to allow the power supply to slide into the chassis.

A hardened stainless-steel latch 10 has a protruding feature 20 for locking the power supply. The latch 10 is attached on one end 15 to the power supply side cover 30. A stainless latch 10 may be used for its spring properties and so that it does not permanently deform when deflected into the side cover 30. The side cover 30 has an embossment 32, which is formed toward the inside, with two taped holes 34, 36 that accommodate a screw 40. The embossment 32 keeps the screw head from protruding, allowing the power supply to slide in and out of the chassis. The hole 34, 36 into which the screw 40 is installed determines if the protruding feature 20 of the latch 10 is protruding out from, or is recessed within the side cover 30. When the screw 40 is installed in the locked position (i.e in hole 34, as in view 2), the screw 40 does not push on the latch 10 and the protruding feature 20 of the latch 10 protrudes out from the side cover 30. When the screw 40 is installed in the unlocked position (i.e. in hole 36, as in view 4) the screw 40 pushes the latch 10 and the feature 20 into the side cover 30.

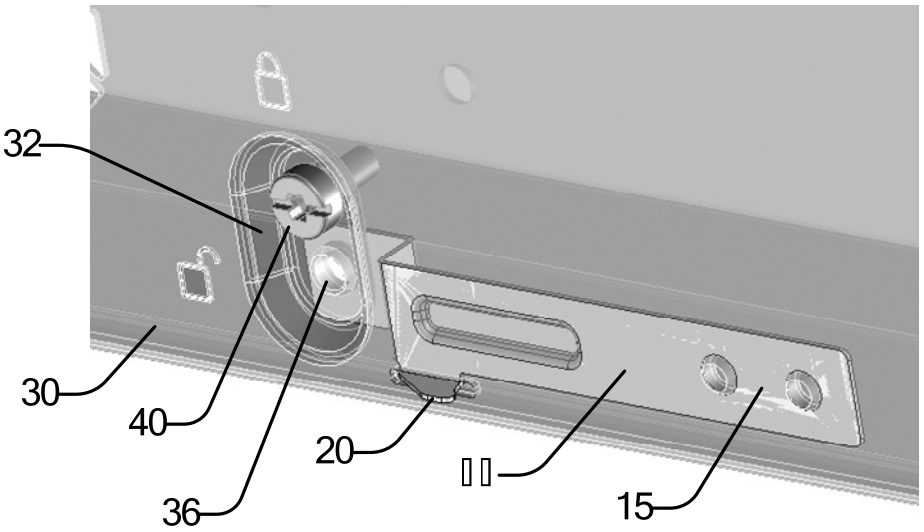
The screw 40 may be used to push or release the latch 10 for cost reason. In another example, a two-position sliding mechanism may be used to push or release the latch 10, which has the benefit of not requiring a tool.

When enabling the lock mechanism outside of the chassis, the feature 20 has an angled surface which pushes the latch 10 into the PSU enclosure when sliding into the chassis. This prevents the feature 20 from catching and allows the PSU to freely slide and install into the chassis. When the power supply is installed and locked, the feature 20 has a hook profile to prevent the latch 10 from pushing into the side cover 30 and releasing when pulled.

Unlocking the PSU security mechanism once installed can be achieved by removing a system chassis cover to change the security mechanism screw to the unlocked position. The system chassis cover has a security feature to lock the cover to the system chassis preventing internal access if additional security is required.

The user can advantageously activate the security mechanism before installing the PSU into the system chassis. As a result, the user does not need to remove the system chassis covers to gain access to the inside of the system, providing another level of security. This locking mechanism is also flexible in that the PSU security lock can also be enabled if the user has access to the inside of the enclosure.

Disclosed by Tom J. Searby and Omar Pena, HP Inc.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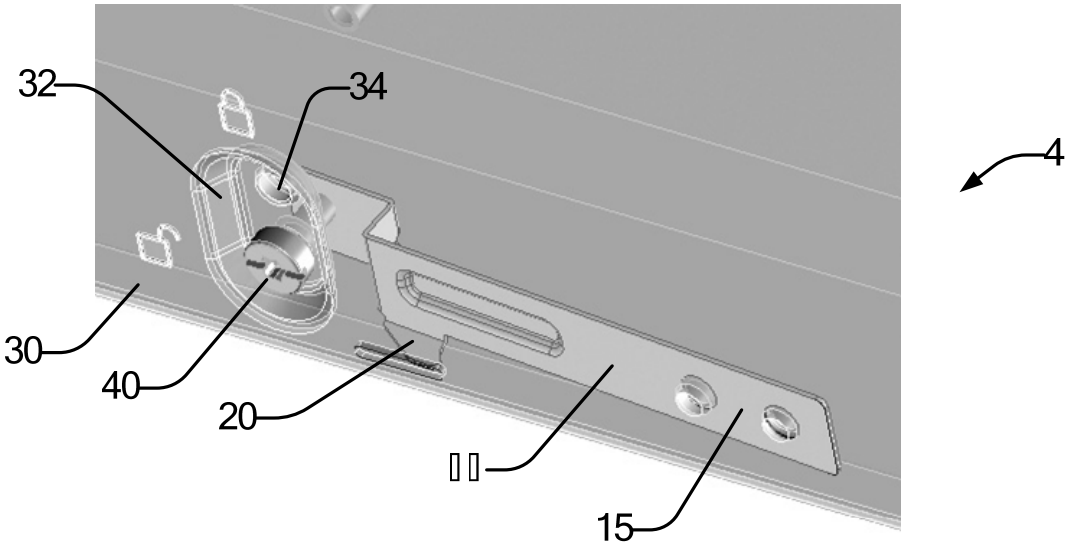
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