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Laptop Enclosure with Integrated Keyboard Feature Plate

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Fuente, Valentin Shaun de la, "Laptop Enclosure with Integrated Keyboard Feature Plate", Technical Disclosure Commons, (April 29, 2020)

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Laptop Enclosure with Integrated Keyboard Feature Plate

ABSTRACT

Laptop keyboard designs typically include a keyboard module that utilizes a stainless steel feature plate to support the keys and to mount the keyboard module to the laptop. This disclosure describes a laptop enclosure with an integrated keyboard feature plate. Other elements of keyboard assembly such as keyboard keys and membrane are top loaded into the laptop enclosure. A keyboard webbing is laminated to the enclosure to complete the assembly. By eliminating the use of a separate feature plate, thinner and lighter laptop designs are enabled.

KEYWORDS

- Laptop keyboard
- Stiffener
- Keypad
- Feature plate
- Keyboard membrane
- Chassis
- Base plate

BACKGROUND

Laptop keyboard designs typically include a keyboard module that utilizes a thick stainless steel stiffener/feature plate to support the keys. The feature plate is additionally used to mount the keyboard module to the laptop.

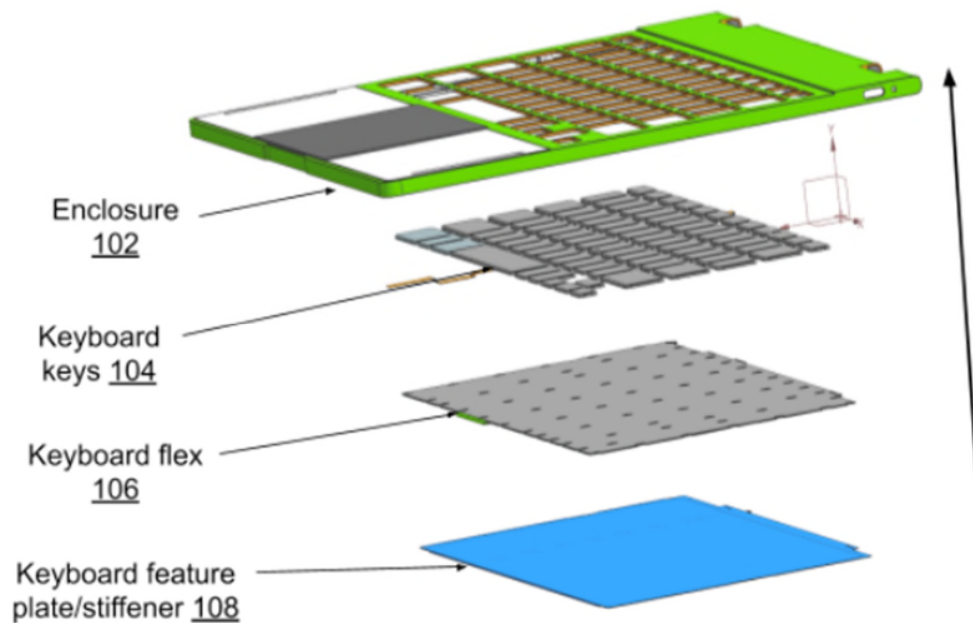


Fig. 1: Side view of typical laptop keyboard module elements

Fig. 1 illustrates side-views of example elements of a keyboard assembly for a laptop that includes an enclosure (102), keyboard keys (104), a keyboard flex (106), and a keyboard feature plate/stiffener (108). The keyboard assembly is placed below the laptop enclosure, and is attached to the inside of the laptop enclosure via screws or tact pins. The keyboard stiffener/feature plate adds thickness and weight to the laptop since it is typically made of metal.

DESCRIPTION

This disclosure describes a laptop enclosure with an integrated keyboard feature plate. Per techniques of this disclosure, the feature plate is integrated into the laptop enclosure, thereby eliminating use of a separate feature plate. The enclosure as described enables a thinner and lighter final product.

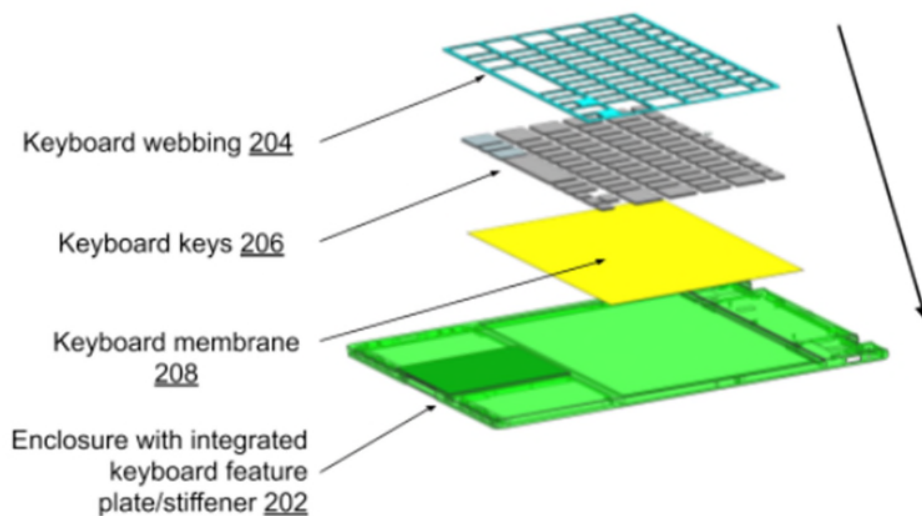


Fig. 2: Side-view of laptop keyboard module elements with integrated feature plate

Fig. 2 illustrates an example integrated keyboard plate, per techniques of this disclosure. As can be observed in Fig. 2, a keyboard feature plate is integrated into the laptop enclosure (202). Other elements of the keyboard assembly such as keyboard keys (206), and a keyboard membrane (208) are top loaded into the laptop enclosure. The keyboard webbing (204) is laminated to the enclosure to complete the assembly.

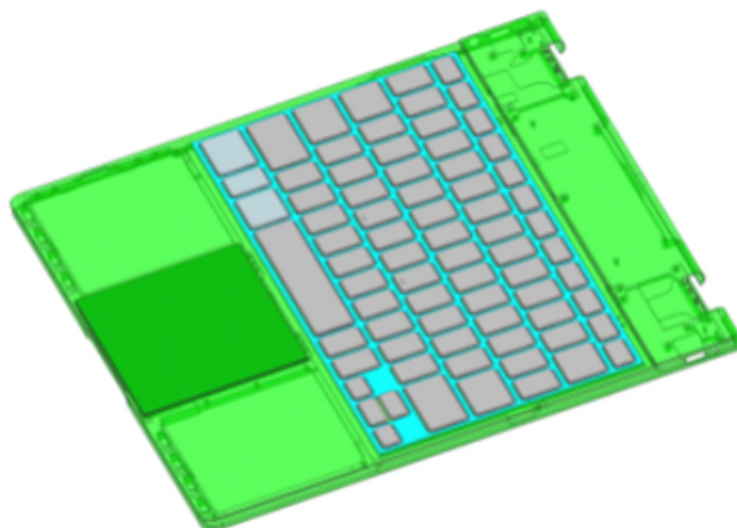


Fig. 3: Assembled laptop keyboard with integrated feature plate

Fig. 3 depicts top view of an assembled laptop keyboard that includes an integrated feature plate. The described techniques enable thinner and lighter laptop devices.

CONCLUSION

This disclosure describes a laptop enclosure with an integrated keyboard feature plate. Other elements of keyboard assembly such as keyboard keys and membrane are top loaded into the laptop enclosure. A keyboard webbing is laminated to the enclosure to complete the assembly. By eliminating the use of a separate feature plate, thinner and lighter laptop designs are enabled.