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Frame For Electronic Device Case

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ABSTRACT

Cases for electronic devices tend to get dirty quickly and easily. For example, dirt and oil from a user's hands or dye transfer from clothing can cause the case for a device such as a smartphone to get dirty. However, cleaning a case by repeated washing in a washing machine can result in the case getting damaged, e.g., not retaining its original shape. This disclosure describes a frame that is easily inserted into a device. The frame is made of a rigid material that provides support for the case. The frame enables the case to endure repeated washing in a washing machine.

KEYWORDS

- Washing frame
- Smartphone case
- Washable case
- Fabric case
- Phone cover

BACKGROUND

Cases for electronic devices tend to get dirty quickly and easily. For example, dirt and oil from a user's hands or dye transfer from clothing, e.g., denim, can cause the case for a device such as a smartphone to get dirty. Some users return their cases or throw the cases out soon after purchase because they are unhappy with a dirty case. These relatively quick case returns or disposals are not conducive to a sustainable product ecosystem. Although the case looks dirty, it has years of life left from a functional standpoint.

Washing cases in a washing machine results in dirt removal and after washing, the case can look clean and like new. However, cleaning a case by repeated washing in a washing machine can result in the case getting damaged, e.g., not retaining its original shape. In particular, fabric, flexible, or non-rigid cases may not retain their shape after repeated washes in a washing machine.

DESCRIPTION

This disclosure describes a frame that is easily inserted into a device. The frame is made of a rigid material that provides support for the case. The frame enables the case to endure repeated washing in a washing machine.

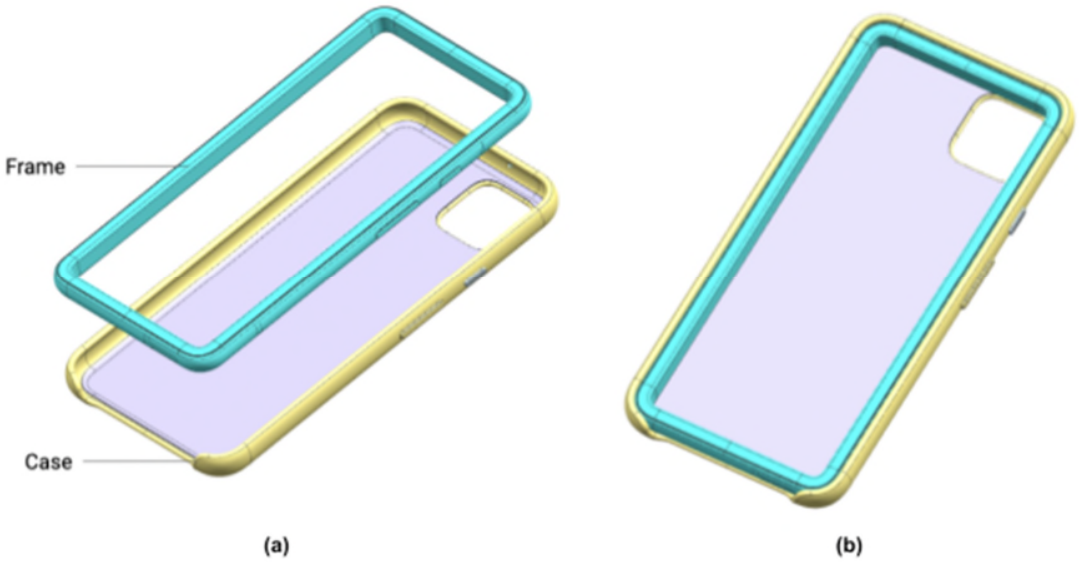

Fig. 1: (a) exploded view of frame; (b) assembled view

Fig. 1(a) illustrates an example exploded view of a frame for a case for an electronic device such as a smartphone. In Fig. 1(b), the frame is shown in an assembled view, as inserted into the case. In the illustrated example, the frame is inserted into the case using a snap or

interference fit. However, any suitable mechanical releasable assemblies can be used to secure the frame to the case, such as grooves and recesses, tabs, etc.

The frame includes features that enable it to support the case. In the example of Fig. 1, the case is rigid or semi-rigid, made with fabric. The frame is made of a material that provides rigidity for the fabric case. Plastic, recycled plastic, or any suitable rigid material can be used. In the illustrated example, the frame is a molded part that is manufactured using a molding process. The frame can be manufactured using any process that results in a suitably rigid structure. The frame can thus be a low cost molded part and can be provided along with the case or the product itself.

To use the frame to support the case during washing, the device is removed from the case and the washing frame is snapped into the case. The case with the frame is then washed in a washing machine, after which the frame is removed and the device reinserted into the case. By providing support for the case, the frame enables the case to endure greater impact and forces from other clothing/fabric that is in the washing machine, and still maintain its shape.

In the example of Fig. 1, a smartphone case is shown and the frame is generally rectangular shaped. The frame can be made in any suitable size and shape to support other types of electronic devices. A frame can also be provided that supports a laptop sleeve during washing.

Some examples of other types of electronic devices for which fabric cases or covers are used include, e.g., speakers, smart displays, wearable devices (e.g., watches, fitness bands, etc.), headphones, earbuds, head-mounted displays (HMDs). For example, an electronic device for which a rigid frame can be provided is a smart speaker with a fabric cover. Such a speaker is

often used in the kitchen, where it is exposed to spills and splatters. The frame as described herein can be used to support the fabric cover during washing in a washing machine.

CONCLUSION

This disclosure describes a frame that is easily inserted into a device. The frame is made of a rigid material that provides support for the case. The frame enables the case to endure repeated washing in a washing machine.

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