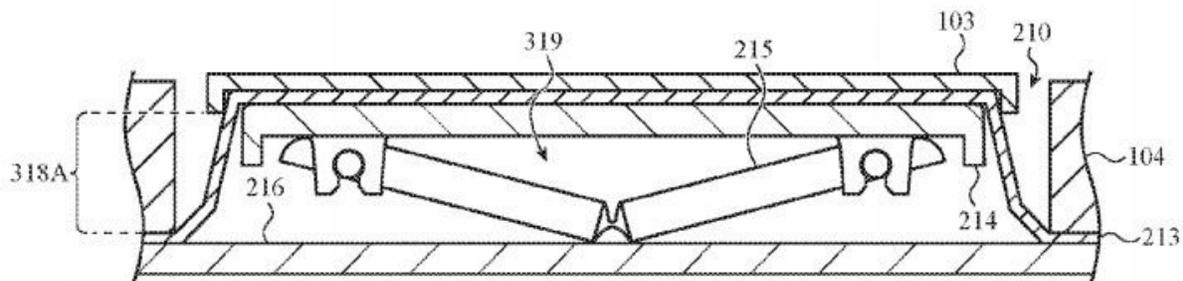


# Apple patent talk: Keyboard users can have their work and muffins too

March 11 2018, by Nancy Owano

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Credit: US Patent Application

Dust and crumbs: Two keyboard imps that could make you a victim of a stuck key just when you need to finish work most.

Apple's fan base might be heartened to know, though, that Apple filed a [patent](#) for a [keyboard](#) that could resist debris including crumbs.

By Friday, numerous sites were reporting on Apple's [patent filing](#), made public on March 8, titled "Ingress prevention for keyboards."

First filed in 2016, the patent looks at the kind of keyboard that might resolve the issue of contamination such as "dirt and dust falling into the

gaps [between](#) shallow keys," said Joe Sommerlad in *The Independent*.

Shannon Liao in *The Verge*: "Apple noted that the moving keys of a keyboard can get damaged by liquid or solid particles. In particular, it noted that 'residues from such liquids, such as sugar, may corrode or block electrical contacts [and] prevent key movement by bonding moving [parts](#).'" "

All in all, Apple proceeds to suggest ways to prevent the keyboard from falling victim to dust and debris. The filing suggests the "application of gaskets, brushes, wipers and flaps to block gaps, the installation of a membrane beneath each key and even a 'bellows' effect in which each key stroke forces air through the board, pushing irksome crumbs out," said Sommerlad.

( A "bellows" effect, said Saqib Shah in *The Sun*, "forces [air](#) through the board each time a key is pressed, pushing icky dirt out in the process.")

What is notable about the patent overall is that the discussion does not just present one solution but different approaches in the quest for a crumb-resistant keyboard.

Alex Crazz in *Gizmodo* summarized the patent discussion's three primary [ideas](#). (1) To apply a membrane between the mechanism that moves the key (switch) and keycap (2) To use a perforated membrane that would emit gas or air with each key press, to clear debris (3) Create an awning around the keycap that funnels debris away from the key switch.

It's not just the ewww factor of having to clean up debris from snack fests. A number of tech watchers reporting on the patent noted dirt and dust might lead to keyboard malfunction. *Engadget* suggested the company could be "trying to fix its super-sensitive keyboards." Alex

Cranz in *Gizmodo* mirrored the dismay of users at the thought of a keyboard brought to its knees by a crumb.

MacBook keys held in place by sensitive butterfly switches have drawn concern from users.

CNET's Dan Ackerman: "The super-shallow butterfly style keyboards on Apple's MacBook and MacBook Pro laptops have caused serious headaches for some users. The keys and keyboard mechanism are so tightly packed together than even the tiniest crumbs or bits of debris can get [lodged](#) under or next to a key, preventing it from properly registering a keystroke."

*The Sun* on MacBooks: with dirt and dust stuck to keys, the contaminants can cause loss of functionality on devices.

Chance Miller in *9to5Mac* reminded readers of the history behind this keyboard issue.

"Apple introduced its Butterfly keyboard design first with the 12-inch MacBook and later brought it to the MacBook Pro line. While there have been improvements over that [time](#), the keyboard is still very sensitive to any sort of crumbs, dust, or other debris becoming lodged underneath a key. On both the 12-inch MacBook and the MacBook Pro, users have complained about keyboard issues such as stuck keys."

What's next? Will these ideas presented in the patent filing come to life any time soon? Apple watchers varied in predictions; nobody is certain if and when. There were the usual comments about how not all patent ideas turn into products.

A few pointed out, though, that when Apple eventually updates its MacBook line, a crumb-resistant keyboard could be involved.

*Engadget* said, "It's definitely possible that this exact design doesn't make it to the market, but it implies a solution is coming to future [machines](#)."

**More information:** Ingress Prevention for Keyboards, [US Patent Application](#).

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