Novelty Report

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THE IDEA

A coffee maker that brews one cup at a time from a sealed single-serve pod that has the paper filter built into the pod

ASSESSMENT

This is one of the most thoroughly claimed spaces in consumer products. Patents 5840189 (the cartridge) and 5325765 (the brewer) together cover the idea as described element for element; they are the references that matter, and their expiry in 2012 is the only reason generic pods are on the shelf today. The live activity is in construction details - paper-only pods (20140342058) and how the filter is joined and released (12428218, granted 2025) - and that is where any new claim would have to sit. Before going further, read 12428218's claims closely, since it is in force, and decide whether a paper-only, adhesive-free construction or a machine-readable pod is the direction worth the filing cost.

CLOSEST PRIOR ART

5840189 90% overlap

Covers: Claim 1 covers the cartridge itself: an impermeable hollow base with a flat bottom, a truncated-conical side wall and a lip; a self-supporting filter permanently joined to the interior wall so it divides the base into two chambers; and a pierceable cover sealed to the lip, with the base bottom pierceable for outflow.
Overlap with the idea: This is the K-Cup. A sealed pod with the filter built in and a pierceable top and bottom is exactly what the claim recites; the idea as described falls inside it in every element. The patent expired in 2012, which is why generic pods exist.

CLAIM ELEMENTS VS. THE IDEA

Impermeable hollow base with flat bottom and conical side wall	IN THE IDEA
Self-supporting filter permanently joined to the interior wall	IN THE IDEA
Filter divides the base into two chambers	ARGUABLY
Pierceable cover sealed to the lip	IN THE IDEA
Base bottom pierceable for outflow	IN THE IDEA

5325765 84% overlap

Covers: Claims the brewing apparatus: a housing with a brewing chamber, an impermeable pierceable cartridge subdivided by a filter element into two chambers with the extract in the first, inlet and outlet piercing means, and liquid injection through the inlet.
Overlap with the idea: Where 5840189 claims the pod, this one claims the machine that uses it. A one-cup brewer that pierces a filter-in-pod cartridge and injects water is the whole of this claim.

CLAIM ELEMENTS VS. THE IDEA

Housing with a brewing chamber receiving the cartridge	IN THE IDEA

Impermeable, pierceable cartridge divided by a filter into two chambers	IN THE IDEA
Beverage extract held in the first chamber	IN THE IDEA
Inlet piercing means and outlet piercing means	ARGUABLY
Liquid injected under pressure through the inlet	ARGUABLY

20140342058 62% overlap

Covers: A published application for a single-cup brewing pod made of paper: a paper cup, a paper filter and a paper lid sealed together, aimed at compostability.

Overlap with the idea: Overlaps on the sealed pod with an integrated paper filter. It goes further than the idea by requiring every component to be paper; the idea does not say what the pod body is made of.

CLAIM ELEMENTS VS. THE IDEA

Cup-shaped pod body formed of paper	ARGUABLY
Paper filter inside the pod body	IN THE IDEA
Paper lid sealed to the body	ARGUABLY
Pod sealed for single-cup brewing	IN THE IDEA

12428218 45% overlap

Covers: Granted in 2025: a pod in which an ultrasonic energy director joins the filter's extension to the pod rim and releasably seals it, so the filter can be separated for recycling.

Overlap with the idea: Shares the filter-in-pod construction but claims a specific joining method and a releasable seal. The idea says nothing about how the filter is attached, so the distinguishing elements are absent - and this is a live patent, unlike the Keurig ones.

5605710 30% overlap

Covers: A 1997 disposable single-cup brewing device: a foldable conical holder with a filter and a dissolvable gelatin valve, used over a cup rather than in a machine.

Overlap with the idea: Same 'one cup, disposable, filter included' aim without the sealed pod or the brewing machine. Relevant mainly as early evidence that the single-serve filter concept predates the cartridge patents.

APPARENT WHITE SPACE

The pod and the machine as described are both fully claimed by the two Keurig patents, and both have expired - so the generic idea is free to use but not patentable. The application 20140342058 shows that the all-paper construction was pursued but there is no granted claim in this pool on it, and 12428218 shows the current frontier is how the filter is joined and separated. What none of these claims appear to reach is the pod's interaction with the brewer beyond piercing: pods that identify themselves to the machine, pods whose filter geometry changes extraction, or a paper pod whose seal is formed without adhesive or plastic.

POSSIBLE DIFFERENTIATORS

- Claim a pod body and filter formed from a single paper blank, sealed by folding rather than by a separate lid or adhesive
- Give the filter a specific geometry (pleated, graded porosity) tied to a measurable extraction result
- Add a brewer-readable feature (embossed code, conductive ink) that sets brew parameters, and claim pod and machine together
- Design the filter attachment so that it separates cleanly for composting without the ultrasonic director claimed in 12428218

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