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PATENT SEARCH REPORT

Wearable wind-tilting umbrella harness

ADVANCED EDITION | CLIENT: Example Client LLC | MATTER: PREVIEW-001 | DATE: 2026-10-01

PREVIEW: fictional data. Invented names and placeholder numbers (US0000001 and similar) fed to the real report writer to review layout and wording. Not a real search result.

Part A: Summary

Product	Patent Search (Advanced)
Report date	October 01, 2026
Client / matter	Example Client LLC / PREVIEW-001
Data current through	US granted patents through September 29, 2026; applications, literature and web sources searched live on the report date

This report looks only at whether your invention is new and non-obvious compared with the earlier patents and publications we found (patentability). It is not an infringement, freedom-to-operate or clearance analysis, and it does not tell you whether you may make, use or sell anything.

Risk Factor Rating

! HIGH RISK

We found earlier patents that, taken together, appear to show most parts of your main claim in the text we reviewed. An examiner could cite them together.

Verdict

We searched granted US patents, US patent application titles, research papers and a small sample of web pages. One earlier patent shows a shoulder-worn frame with a telescoping, pivoting pole holding a canopy. A second shows a wind sensor driving a motor that tilts a canopy, which drives the High rating.

Top Matches

Reference	Title	Owner	Status / date	Why it matters	Closeness
P1 US0000001	Wearable shade support with shoulder frame	Brolly Works LLC	Granted 2014-05-06	Shoulder frame, telescoping pivoting pole, canopy holder at the top	High
P2 US0000002	Motorized canopy tilt controller	Windtrack Inc	Granted 2018-11-13	Wind sensor drives a motor that tilts the canopy, but on a stand	High
A1 99000001	Body-worn umbrella with tilt control	Not shown	Published application, date not shown	Title sounds very similar; we saw only the title	Medium
P5 US0000005	Gust-responsive parasol	Orchard Patio Corp	Granted 2021-03-02	A sensor and an actuator lower the canopy of a patio parasol	Low
P4 US0000004	Backpack umbrella holder	TrailPack Co	Granted 2016-07-26	Backpack with a clamp holding an umbrella shaft; no sensor or motor shown in the excerpt	Low

Points to Discuss With an Attorney

These are automated suggestions to discuss with a qualified attorney:

- We did not find the pressure-difference wind sensor (your claim 2) in the earlier patents we reviewed. Ask whether to move it into your main claim.
- Ask whether to describe how the sensor and motor handle a walking or turning wearer. The motorized patent we found is on a fixed stand.
- Ask for a full-text review of the application titled Body-worn umbrella with tilt control. We saw only its title.
- A retailer page for a shoulder umbrella harness has a first archive date of April 2021. Ask whether to check its real date and content.
- We did not compare your quick-release buckle (claim 3) with earlier patents. Ask whether it adds anything meaningful.

Part B: Technical Detail

1. Your Submission As We Understood It

The submission is titled Hands-Free Umbrella Harness. It describes a body-worn support that holds an umbrella canopy over the wearer's head without the use of hands. The canopy angle is adjusted automatically in response to wind.

Independent claim 1 (the only independent claim) recites a wearable umbrella support with these elements:

- a shoulder yoke configured to rest on both shoulders of a wearer;
- a telescoping arm pivotably mounted to the yoke;
- a canopy mount at an upper end of the arm;
- a wind sensor on the arm; and
- a motor coupled to the canopy mount and configured to tilt the canopy in response to a signal from the wind sensor.

The dependent claims add the following:

- Claim 2: the wind sensor is a pressure-differential sensor.
- Claim 3: a quick-release buckle on the yoke.

The summary places the sensor in the arm head and describes the motor as small. It refers to responding to gusts that change direction.

This report addresses patentability only, meaning novelty and non-obviousness over the prior art we found.

2. Closest Matches in Detail

Basis of comparison. Full patent description text was not available for this report. Every comparison relies on the title, abstract and claims text only. A feature that appears only in a reference's description would therefore not be shown here.

Search totals. The 5 closest granted patents are discussed below. Claim chart coverage is 2 of 3 claims. Claim 3 (quick-release buckle) was not charted, so it has not been compared against any reference.

The verbatim claim-by-claim comparison is in **the claim chart at the end of Part B**.

Granted patents

P1, US0000001, Wearable shade support with shoulder frame (Brolly Works LLC, granted 2014-05-06). This is the closest structural match.

- The abstract describes a shoulder frame carrying a telescoping pole that holds a canopy above the wearer.
- Its first claim recites a wearable shade device with a shoulder frame, a telescoping pole pivotably attached to the frame, and a canopy holder at the upper end of the pole.
- The claim chart marks two elements of claim 1 as Disclosed by P1: the shoulder yoke and the pivotably mounted telescoping arm.
- P1's first claim also recites a canopy holder at the upper end of the pole. This corresponds closely to the canopy mount, although the chart does not record it as a separate cell.
- The reviewed text refers to a shoulder frame. It does not expressly show that the frame rests on both shoulders.
- No wind sensor or motor is shown in P1's reviewed text.

P2, US0000002, Motorized canopy tilt controller (Windtrack Inc, granted 2018-11-13). This reference supplies the automatic-tilt feature.

- Its first claim recites a tilting canopy system with a stand, a canopy, a wind sensor and a motor that tilts the canopy responsive to the sensor.
- The claim chart marks the wind-sensor-and-motor element of claim 1 as Disclosed by P2.
- The context is a stand-mounted umbrella, not a body-worn one.
- A sensor located on a wearable arm, and a motor coupled to a body-worn canopy mount, are not shown in the reviewed text.

P5, US0000005, Gust-responsive parasol (Orchard Patio Corp, granted 2021-03-02). This is a patio parasol with a sensor and an actuator that lowers the canopy. It is relevant as further evidence that sensor-triggered canopy movement is known. The excerpt shows lowering rather than tilting, and it is not wearable.

P4, US0000004, Backpack umbrella holder (TrailPack Co, granted 2016-07-26). This is a backpack frame with an adjustable clamp for an umbrella shaft. It is relevant to the general idea of body-carried umbrellas. No yoke, telescoping arm, sensor or motor is shown in the reviewed text.

P3, US0000003, Head-mounted rain shield (Sunny Day Gear Ltd, granted 2009-02-17). This is a helmet-mounted rain shield; its first claim recites a band and a rigid canopy. It is only background art for wearable rain protection.

Claim 1: closest references and remaining gap

No single reference in the reviewed text shows all elements of claim 1.

- P1 covers the wearable mechanical structure.
- P2 covers wind-sensor-driven motorized tilt.
- The remaining gap is the combination: a wind sensor carried on a body-worn telescoping arm, driving a motor at the canopy mount.

P1 and P2 are prior art that an examiner could cite together on non-obviousness. The question would be whether moving P2's sensor-and-motor control onto P1's wearable frame would have been an obvious step. Arguments about technical hurdles (weight, power supply, compensating for the wearer's own movement) could not be checked here, because descriptions were not reviewed.

Dependent claims

- **Claim 2 (pressure-differential sensor):** the claim chart found no match in any reference. This feature is not shown in the reviewed text of P1 through P5.
- **Claim 3 (quick-release buckle):** not charted.

Published applications and literature

These are discussed in section 3. None of them could be compared at claim level, because only titles or abstracts were available.

3. Other Sources

Published US applications

Only titles were reviewed.

- **A1, 99000001, Body-worn umbrella with tilt control.** The title suggests subject matter very close to claim 1, but its content, owner and dates are not shown in the data. It could be closer than any granted patent above, or not; we cannot tell from the title alone.
- **A2, 99000002, Shoulder canopy.** Title only. It is possibly relevant to the yoke-mounted structure.

Scholarly literature

Foreign patents

No foreign references were listed in the evidence. Full texts and claims of foreign patents were not searched.

Web and public-use findings (unverified)

Both items below are unverified candidates, not proven prior art.

- **W1, <https://example.com/umbrella-harness>, Shoulder umbrella harness (retailer page).** The only date information is an Internet Archive first capture date of 2021-04-01; the page's actual date is not confirmed. The page is described as a shoulder-mounted umbrella holder, and the extracted page text says the umbrella arm folds flat against the yoke. The evidence notes no motor mentioned. If its date is confirmed and falls before your filing date, it could be relevant to the yoke-and-arm structure.
- **W2, <https://example.org/forum/gust-umbrella>, Forum post about motorized umbrellas.** Date unknown, with no archive capture or page age available. The snippet mentions a DIY motorized umbrella tilt. Confidence is low, and the page was not read in full.

The absence of other web results proves nothing about on-sale activity or public use.

4. Assessment

What drives the High rating

- P1 (US0000001) shows the wearable frame and pivoting telescoping pole with a canopy holder.
- P2 (US0000002) shows a wind sensor and a motor tilting a canopy responsive to the sensor.
- Together they appear to correspond to most elements of claim 1 at the level of the reviewed text, although the sensor on the arm and the motor at the canopy mount of a wearable device are not shown.
- P5 (US0000005) adds further evidence that sensor-triggered canopy actuation is known.
- The A1 title suggests there may be even closer published art that we could not read.

What could lower the rating

- A narrower independent claim built on features not shown in the reviewed text. The pressure-differential sensor of claim 2 is the only charted feature with no match.
- Further concrete features, such as how tilt is controlled while the wearer walks or turns, or a specific sensor placement in the arm head.
- A full-text review of A1 and A2 showing that they lack wind sensing or motorized tilt.

Limits that matter here

- Patent descriptions were not reviewed, so P1 or P2 may contain more, or less, than their claims and abstracts show.
- Foreign full texts were not searched.
- No systematic product or public-use search was made.

5. Points to Discuss With an Attorney

All of the following are automated suggestions to discuss with a qualified attorney, not legal advice.

1. **Main claim scope:** discuss amending claim 1 to include the pressure-differential wind sensor from claim 2. The claim chart found no match for it in the reviewed references.
2. **Wearable-specific control:** discuss whether the full specification supports adding features tied to a body-worn device, and whether these would help distinguish the P1-plus-P2 combination. Examples include filtering out the wearer's own motion, detecting gust direction, or a specific linkage between motor and canopy mount.
3. **Full-text review of A1 and A2:** ask for the full publications of A1 (99000001) and A2 (99000002), including their dates and claims. The A1 title in particular suggests close subject matter.
4. **Description review of P1 and P2:** ask for the full descriptions of US0000001 and US0000002. This would confirm what each actually teaches about sensor placement, wearability and tilt mechanisms.
5. **Claim 3:** ask whether the quick-release buckle adds meaningful distinction, given that it was not charted against any reference.
6. **Web candidates:** discuss verifying the date and content of W1 (first archived 2021-04-01) and trying to date W2. Both are unverified.
7. **Further searches:** consider extending the search to foreign full texts and product catalogues for motorized or wearable umbrellas.

Claim Chart (Every Claim)

Each row compares one element of your claim with the reference text that was reviewed (title, abstract, claims). Quotes are verbatim and each was checked by string match against the stored text; "Not shown" means the draft evidence could not be confirmed and was downgraded. "Not found" means nothing in the reviewed text matched.

Claim 1 (independent)

1. A wearable umbrella support comprising: a shoulder yoke configured to rest on both shoulders of a wearer; a telescoping arm pivotably mounted to the yoke; a canopy mount at an upper end of the arm; a wind sensor on the arm; and a motor coupled to the canopy mount and configured to tilt the canopy in response to a signal from the wind sensor.

Element	Reference	Result	Verbatim evidence (<= 25 words)	Where found
shoulder yoke resting on both shoulders	P1 US0000001	Disclosed	"a wearable shade device comprising a shoulder frame"	claim 1
	P2 US0000002	Not found		
telescoping arm pivotably mounted	P1 US0000001	Disclosed	"a telescoping pole pivotably attached to the frame"	claim 1
	P2 US0000002	Not found		

Element	Reference	Result	Verbatim evidence (<= 25 words)	Where found
wind sensor and motor tilting the canopy	P1 US0000001	Not found		
	P2 US0000002	Disclosed	"a wind sensor and a motor that tilts the canopy responsive to the sensor"	claim 1

Claim 2 (dependent on claim 1)

The support of claim 1, wherein the wind sensor is a pressure-differential sensor.

Element	Reference	Result	Verbatim evidence (<= 25 words)	Where found
pressure-differential wind sensor	P2 US0000002	Not found		

Reference Heat-Map (independent claims)

Elements disclosed (and partly disclosed) per reference, out of the elements of the claim. "-" means the reference was not among the three closest for any element of that claim.

Reference	Claim 1
P1 US0000001	2 of 3
P2 US0000002	1 of 3

Part C: Appendix

Full Match Tables

US granted patents

Ref	Number	Title	Owner	Granted	Similarity	Found via
P1	US0000001	Wearable shade support with shoulder frame	Brolly Works LLC	2014-05-06	0.82	search
P2	US0000002	Motorized canopy tilt controller	Windtrack Inc	2018-11-13	0.74	search
P3	US0000003	Head-mounted rain shield	Sunny Day Gear Ltd	2009-02-17	0.61	search
P4	US0000004	Backpack umbrella holder	TrailPack Co	2016-07-26	0.58	search
P5	US0000005	Gust-responsive parasol	Orchard Patio Corp	2021-03-02	0.52	search

Published US applications (titles only)

Ref	Application	Title
A1	99000001	Body-worn umbrella with tilt control
A2	99000002	Shoulder canopy

Scholarly literature

Ref	Year	Title	Source	DOI or URL
L1	2019	Wind-responsive shading devices: a review	OpenAlex	https://doi.org/10.0000/fictional.1

Web and public-use candidates (unverified; not compared in detail)

Ref	Title	URL	Date basis
W1	Shoulder umbrella harness (retailer page)	https://example.com/umbrella-harness	first archived 2021-04-01
W2	Forum post about motorized umbrellas	https://example.org/forum/gust-umbrella	date unknown

Queries Executed

6 queries were run across 3 sources:

- **US granted patents (3):** "umbrella" AND "shoulder" AND "harness"; "wearable" AND "canopy" AND "wind sensor"; "umbrella support" AND "wearable"
- **US applications (1):** "wearable umbrella"
- **Scholarly literature (2):** wearable umbrella wind sensor tilt; hands-free umbrella harness

Method and Verification

Candidates came from the sources named in the scope section below, found by keyword and Boolean queries and then ranked by meaning-based similarity to your invention (a ranking aid, not a legal measure). The closest were read by an AI model against your submission. Afterwards every patent number, application id, DOI and web address cited in Parts A and B was checked automatically against the retrieved search results, and statements the results do not support were removed or reworded.

Verification: every reference and finding in Parts A and B of this report was checked against the search results retrieved for it; 14 unsupported statements removed or corrected.

Verification Log (Claim Chart)

7 chart cells were checked. 3 quotes matched the stored text character for character (after whitespace and case normalisation); 0 were not literal but a model located an exact supporting passage that was then string-matched; 0 could not be confirmed and were downgraded to "Not shown"; 4 cells record that nothing was found. Model checks used: 0.

Search Scope and Limitations

What this report searched: US granted utility patents, 1976 to present, matched on title, abstract and first claim, then on the text of EVERY claim (independent and dependent) inside the CPC subclasses found, using full-text keyword queries narrowed by CPC subclass (A45B), then re-ranked by meaning-based (embedding, Voyage AI) similarity to the invention. 17 candidates were reviewed. Published US patent applications via the USPTO Open Data Portal (1 Boolean queries; titles and bibliographic metadata only). Scholarly literature: OpenAlex, Europe PMC, arXiv (titles and abstracts only). Web and public-use search: up to 30 web searches (excluding patent sites); 6 were run. Results are unverified candidates, dates not confirmed unless an Internet Archive capture date is shown. Foreign and international patent publications (EP, WO/PCT and other national offices such as none returned) via the EPO Open Patent Services (DOCDB/INPADOC bibliographic data; US publications excluded because they are searched above), matched on title and abstract keywords and narrowed by CPC. 1 patent families were reviewed after removing 1 that already have a US publication and the 0 closest by meaning-based similarity are listed with their INPADOC family id. For foreign documents only the title, abstract (English where available, otherwise the original language), applicants, dates and CPC codes were reviewed; claims and descriptions were not, and no machine translation of foreign-language text was done. NOT searched: full texts and claims of foreign patents, foreign documents that have no abstract in the EPO database (common for older or some national-office records), and the many national offices not covered by EPO bibliographic data, US patents granted before 1976, patent descriptions (full-text descriptions were not available for this report), literature not indexed by the sources above, and a systematic search of products, public use, sales and standards (the web check above is a limited sample of unverified candidates). All-claims text search (independent and dependent claims) within CPC subclass(es) A45B: 12 patents matched on claim text. The closest 5 US patents were ranked by embedding similarity of the invention to each patent's title, abstract, first claim and, where a keyword hit came from another claim, that claim's text. Citation expansion: patents the examiner cited on the top 15 references (0 found) and patents that cite the top 5 references (0 found); the 0 closest were added (marked with how they were found). Only US patents in the database were expanded; foreign citations were not. 1 of 2 top web results were opened and read in full for passages matching your claims (pages that were unreadable, PDFs and blocked pages were not read). Full patent description text was NOT available for this report: every comparison relies on title, abstract and claims text only, so a feature disclosed only in a description is not shown. (Description sources: EPO OPS for EP/WO and other offices it carries; the USPTO file wrapper for US patents filed since 2001; no on-demand source exists for US patents filed before 2001.) Claim chart: 2 of 3 claims charted against the 2 closest references. Every quoted passage was verified by string match against the stored text; unverifiable cells were downgraded.

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