



PRIMORIS

PATENT SEARCH REPORT

Wearable wind-tilting umbrella harness

BASIC 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 (Basic)
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

**MEDIUM RISK**

Earlier patents we found, when read together, appear to address most of the main features of your harness. The remaining difference looks narrow, but it rests on first claims and abstracts only.

Verdict

We searched US patents, published US applications (titles only), research articles and a small sample of web pages. One patent shows a shoulder frame with a telescoping pole holding a canopy, and another shows a wind sensor driving a motor that tilts a canopy. An examiner could possibly cite them together against your main claim, which is why we rate this Medium and suggest a closer look. Full texts were not reviewed.

Top Matches

Reference	Title	Owner	Status / date	Why it matters	Closeness
P1 US0000001	Wearable shade support with shoulder frame	Brolly Works LLC	Granted patent, 2014-05-06	Shoulder frame, pivoting telescoping pole and canopy holder. No sensor or motor shown in the excerpt.	High
P2 US0000002	Motorized canopy tilt controller	Windtrack Inc	Granted patent, 2018-11-13	Wind sensor drives a motor that tilts the canopy. Stand-mounted, not worn.	High
A1 99000001	Body-worn umbrella with tilt control	Not shown (title only)	Published application, date not shown	Title suggests a worn umbrella with tilt control. Full text not reviewed.	Medium
P5 US0000005	Gust-responsive parasol	Orchard Patio Corp	Granted patent, 2021-03-02	Gust sensor with an actuator that lowers the canopy rather than tilting it.	Low
P4 US0000004	Backpack umbrella holder	TrailPack Co	Granted patent, 2016-07-26	Backpack with a clamp holding an umbrella over the wearer. No motor or sensor shown in the excerpt.	Low

Points to Discuss With an Attorney

These are automated suggestions to discuss with a qualified attorney, not legal advice:

- Ask whether putting the wind sensor on the worn arm gives a technical benefit worth stressing in the description.
- Consider whether backup wording on how the motor picks the tilt angle, for example using the pressure-differential sensor from your claim 2, is worth adding.
- Get the full text and dates of application 99000001. We saw only its title.

- Ask whether a wider search is worth it. This would cover older US patents (before 1976), full patent texts and products sold online, such as the harness page found.
- Write down problems you solved in combining a worn frame with motorized tilt, such as weight, balance or battery.

Part B: Technical Detail

1. Your Submission As We Understood It

Subject matter: a wearable, hands-free umbrella support. A shoulder yoke carries a telescoping arm. A wind-tilt sensor in the arm head controls a small motor, which re-angles the canopy when gust direction changes.

Independent claim 1 (wearable umbrella support) has five elements:

- **E1** A shoulder yoke configured to rest on both shoulders of a wearer.
- **E2** A telescoping arm pivotably mounted to the yoke.
- **E3** A canopy mount at an upper end of the arm.
- **E4** A wind sensor on the arm.
- **E5** A motor coupled to the canopy mount, configured to tilt the canopy in response to a signal from the wind sensor.

Dependent claims:

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

Legal parameters: this report addresses patentability only, meaning novelty and non-obviousness over the prior art we found. No filing or priority date was given. We therefore cannot confirm which references predate the invention. The reviewed patents are dated 2009 to 2021, and the earliest web capture is 2021-04-01.

2. Closest Matches in Detail

Granted patents

P1: US0000001, Wearable shade support with shoulder frame (Brolly Works LLC, 2014-05-06)

- The 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.
- This maps closely to E2 and E3 and partly to E1. The reviewed text says 'shoulder frame' but does not state that it rests on both shoulders.
- No wind sensor or motor is shown in the reviewed text.
- This is the closest structural reference to the wearable part of the claim.

P2: US0000002, Motorized canopy tilt controller (Windtrack Inc, 2018-11-13)

- The first claim recites a tilting canopy system with a stand, a canopy, a wind sensor, and a motor that tilts the canopy in response to the sensor.
- This maps to E5 and to the sensor part of E4.
- The device is stand-mounted. The reviewed text shows no wearable yoke, no telescoping arm, and no sensor on an arm.
- This is the closest reference for the control function.

P5: US0000005, Gust-responsive parasol (Orchard Patio Corp, 2021-03-02)

- A patio parasol with a sensor and an actuator that lowers the canopy; the abstract says it collapses partly when a gust sensor trips.
- It is relevant as further evidence of sensor-driven canopy actuation in the same field.
- The movement shown is lowering, not tilting, and the device is not shown as wearable.

P4: US0000004, Backpack umbrella holder (TrailPack Co, 2016-07-26)

- A backpack with a frame and an adjustable clamp holding a standard umbrella shaft over the wearer.
- It is relevant to the body-worn, hands-free concept (partly E1 and E3).
- No telescoping pivoting arm, sensor or motor is shown in the reviewed text.

P3: US0000003, Head-mounted rain shield (Sunny Day Gear Ltd, 2009-02-17)

- A band with a rigid canopy worn on the head.
- It is related only as hands-free rain protection. No yoke, arm, sensor or motor is shown in the reviewed text.

Claim-element comparison (title, abstract and first claim only)

Element	P1 US0000001	P2 US0000002	P5 US0000005	P4 US0000004
E1 Shoulder yoke on both shoulders	Partly: 'shoulder frame'; both shoulders not stated	Not found (stand)	Not found (patio parasol)	Partly: backpack frame; shoulder contact not stated
E2 Telescoping arm pivotably mounted to yoke	Disclosed: telescoping pole pivotably attached to frame	Not found	Not found	Partly: adjustable shaft clamp; telescoping and pivot not shown
E3 Canopy mount at upper end of arm	Disclosed: canopy holder at upper end of pole	Partly: canopy on stand; mount location not stated	Partly: canopy present; mount not described	Partly: clamp holds umbrella shaft
E4 Wind sensor on the arm	Not found	Partly: wind sensor present; location on an arm not shown	Partly: gust sensor; location not shown	Not found
E5 Motor tilts canopy in response to wind sensor	Not found	Disclosed: motor tilts canopy responsive to sensor	Partly: actuator lowers canopy, not tilt	Not found

Remaining gap:

- No single reference in the reviewed text shows all five elements.
- P1 covers E2 and E3 and part of E1. P2 covers E5 and the sensor of E4.
- Read together, the gap appears to narrow to two points:
 - placing the wind sensor on a body-worn arm;
 - integrating motorized tilt into a shoulder-yoke support.
- An examiner could cite P1 and P2 together. Both are in the same umbrella field. The question for non-obviousness is whether the wearable integration involves anything beyond putting known parts together. One example would be handling wearer movement versus true wind, or load and balance on the shoulders.
- Claim 2 (pressure-differential sensor) and claim 3 (quick-release buckle) are not shown in the reviewed text of any reference. However, only first claims and abstracts were reviewed, so descriptions and later claims were not checked.

Published applications

- **A1: 99000001, Body-worn umbrella with tilt control.** We saw the title only. Its title suggests a worn umbrella with tilt control, which could bear on E1 to E5. Its content, owner and date were not reviewed and need checking.
- **A2: 99000002, Shoulder canopy.** We saw the title only. Its title suggests possible relevance to E1 and E3.

Foreign patents

No foreign references are listed in the evidence provided.

Literature

- **L1: Wind-responsive shading devices: a review** (2019, Journal of Invented Engineering, A. Author, <https://doi.org/10.0000/fictional.1>).
- The abstract reviews sensor-driven outdoor shading devices.
- It is background for E4 and E5. A wearable yoke or arm is not shown in the abstract.

3. Other Sources

Published US applications

- A query on "wearable umbrella" was run. Only titles and identifiers were reviewed.
- A1 and A2 were returned (discussed above). Their full texts and claims were not reviewed.

Scholarly literature

- Literature queries were run; the result provided is from OpenAlex, on title and abstract.
- Only L1 was returned.

Foreign and PCT publications

- No foreign references are listed in the evidence provided.

Not covered

- US patents granted before 1976.
- US patent claims beyond the first claim, and patent descriptions.
- A systematic product, sales or public-use search.

Web and public-use findings (unverified)

Each result below is an unverified candidate only.

- **W1: Shoulder umbrella harness (retailer page),** <https://example.com/umbrella-harness>.
 - Date basis: Internet Archive first capture 2021-04-01. The actual on-sale or first-use date is not confirmed.
 - The snippet describes a shoulder-mounted umbrella holder. No motor is mentioned.
 - It is potentially relevant to E1 to E3 only.
- **W2: Forum post about motorized umbrellas,** <https://example.org/forum/gust-umbrella>.
 - Date basis: date unknown (no archive capture or page age).
 - The snippet mentions DIY motorized umbrella tilt. Confidence is low.

- It is potentially relevant to E5. Whether a wind sensor or wearable mount is involved is not shown.

The absence of other web results proves nothing about on-sale activity or public use. Only a search of the actual sources can show that.

4. Assessment

What drives the rating:

- The rating comes mainly from the P1 and P2 pairing.
- P1 shows the wearable structure: shoulder frame, pivoting telescoping pole and top canopy holder.
- P2 shows the control function: a wind sensor and a motor that tilts a canopy in response.
- P5 and L1 add evidence of sensor-driven canopy actuation or shading.
- A1, judged by title alone, may be relevant. Its full text could change the picture in either direction.

What could lower the rating:

- Claim features not shown in the reviewed text, for example:
 - a sensor arrangement in the arm head that separates wearer movement from true wind;
 - the pressure-differential sensing of claim 2, tied to a specific tilt rule;
 - multi-axis tilt relative to the yoke;
 - load-balancing features on the yoke.
- Evidence that integrating motorized tilt into a body-worn support needed non-trivial solutions, such as weight, battery placement or wearer stability.
- A full-text review of A1 and A2 showing that they lack the sensor and motor combination.

5. Points to Discuss With an Attorney

These are automated suggestions to discuss with a qualified attorney:

- **Point to discuss with a qualified attorney:** obtain and review the full text, claims and dates of A1 (99000001) and A2 (99000002). We saw only their titles.
- **Point to discuss with a qualified attorney:** whether to bring more specific features from the description into claim 1, such as how the arm-head sensor separates walking motion from gusts, tilt axes relative to the yoke, or a control rule linking pressure difference to tilt angle.
- **Point to discuss with a qualified attorney:** whether claim 2 (pressure-differential sensor) can be developed into a fallback position. It was not shown in the reviewed excerpts of P2, P5 or L1, but their descriptions were not reviewed.
- **Point to discuss with a qualified attorney:** collecting evidence of technical problems unique to the wearable combination, such as weight on the shoulders, battery placement and wearer stability in gusts.
- **Point to discuss with a qualified attorney:** read the full descriptions and later claims of P1, P2 and P5, which were not searched here.
- **Point to discuss with a qualified attorney:** extend the search to US patents before 1976 and to foreign patents.
- **Point to discuss with a qualified attorney:** verify the dates and content of web candidates W1 and W2 against original sources.

- **Point to discuss with a qualified attorney:** confirm the invention's filing or priority date, so that it is clear which references and web pages predate it.

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.

Search Scope and Limitations

What this report searched: US granted utility patents, 1976 to present, matched on title, abstract and FIRST CLAIM ONLY (later claims and the description are not searched), using full-text keyword queries narrowed by CPC subclass (A45B), then re-ranked by meaning-based (embedding, Voyage AI) similarity to the invention. 5 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 12 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, full claims beyond the first claim and patent descriptions, 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).

Data currency: US granted patents are current through September 29, 2026; published applications, scientific literature and web sources were searched live on the day of this report.

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