

Building AI Agents for Support Patent Search

From Natural Language to Patentscope Queries

A Practical Workshop for Patent Professionals & Researchers

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What We'll Cover Today

01

The Patent Search Challenge

Why searching patents is hard for everyone

5 min

02

AI Agents Explained

What they are and why they work for this

8 min

03

The Building Blocks

Patentscope syntax + IPC classification

10 min

04

Natural Language → Query

Live demonstrations

12 min

05

Build Your Own Agent

Step-by-step on Claude, Gemini & Copilot

20 min

06

Best Practices & Q/A

Tips, pitfalls, and your questions

5 min

Why Patent Searching Is Hard

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Complex Syntax

Patentscope uses field codes, Boolean operators, proximity search, wildcards, and specific date formats. A single misplaced parenthesis can change your results entirely. (EN_AB:("lithium battery"~5 AND automotive) NOT EN_AB:(lead))

IPC

Classification

8 sections, 129 classes, 639 subclasses, 70,000+ groups. Finding the right IPC code requires expertise most researchers don't have. (ej. If I'm searching for AI patents, should I use G06N 3? G06N 20? G06F? All three?)

?=

Vocabulary Gap

Inventors describe "drones" — patents say "unmanned aerial vehicles." The same technology has dozens of names across languages and legal traditions.

∞

Scale

Patentscope indexes 120M+ documents from 75+ offices. Without precise queries, you either miss critical patents or drown in noise.

Two Sides of the Same Coin

P

Patent Professionals

- Know Patentscope syntax deeply ej. (EN_ALLTXT)
- Understand IPC classifications
- Spend hours refining queries manually

Ask: "Can AI save me time?"

R

Researchers & Academics

- Know their technology inside out
- Struggle with search syntax
- Miss relevant patents without knowing

Ask: "Can AI make this accessible?"

What Is an AI Agent?

1

General-Purpose LLM

A large language model (like Claude, Gemini, or GPT) that can understand and generate text in any domain.



2

Specialized Knowledge

Reference documents that give the AI expert-level knowledge about a specific domain — in our case, Patentscope syntax and IPC codes.



3

Task Instructions

System instructions that tell the AI HOW to behave: always combine text fields with classifications, use proximity operators, explain its reasoning.

LLM + Knowledge + Instructions = AI Agent

Patentscope at a Glance

120M+

Patent Documents

180+

National Offices

30+

Languages

FREE

Access

```
https://patentscope.wipo.int/search/en/advancedSearch.jsf
```

Key Search Fields

EN_TI

English Title

EN_AB

English Abstract

EN_ALLTXT

Full Text (all English)

PA / IN

Applicant / Inventor

IC / CPC

IPC / CPC Classification

DP / PD

Publication / Priority Date

IPC Classification Decoded

Anatomy of an IPC Code

H	01	L	21/00
Section	Class	Sub	Group

8 Sections Cover All Technology

A

Human Necessities

(pharma, agriculture, food)

B

Operations; Transport

(vehicles, drones, robotics, 3D printing)

C

Chemistry; Metallurgy

(biotech, polymers, organic chemistry)

D

Textiles; Paper

(fibers, nonwovens, cellulose)

E

Fixed Constructions

(buildings, tunnels, mining)

F

Mechanical Engineering

(turbines, HVAC, renewables)

G

Physics

(AI, computing, sensors, LIDAR)

H

Electricity

(batteries, semiconductors, 5G, solar)

Two Files That Power Everything

`patentscope-sintaxis.md`

Search Syntax Reference

- 80+ field codes with descriptions
- Boolean, proximity & fuzzy operators
- Date formats and dynamic dates
- Wildcard rules and limits
- Number format patterns
- 9 ready-to-use query examples
- URL construction for direct links

`ipc-seccion-[A-H].md`

IPC Classification Files (×8)

- All 8 IPC sections (A through H)
- 129 classes with descriptions
- 639 subclasses detailed
- Key main groups for top areas
- Technology → IPC mapping tables
- Cross-section combinations
- Load only the sections you need

These files are the “materials” of your agent — they work on Claude, Gemini, Copilot, and ChatGPT

LIVE DEMONSTRATION

From Plain English to Patent Queries

Example 1: "Find electric vehicle patents"

What you say:

"Find me patents about electric vehicles published in the last 3 years"

What the agent produces:

```
EN_TI: ("electric vehicle" OR "electric car" OR EV OR BEV)  
AND IC: (B60L) AND DP: [TODAY-3YEARS TO TODAY]
```

What the agent did:

- 1 Added synonyms: "electric vehicle", "electric car", EV, BEV
- 2 Identified IPC code B60L (electric propulsion of vehicles)
- 3 Converted "last 3 years" → DP:[TODAY-3YEARS TO TODAY]
- 4 Combined text + classification + date for precise results

Example 2: Complex Prior Art Search

What you say:

"I need prior art for a drone that uses LIDAR to scan agricultural fields for precision farming. Focus on PCT, US and EP filings since 2018."

Agent output:

```
EN_ALLTXT:("unmanned aerial vehicle"~5 OR drone*)
AND EN_ALLTXT:(lidar OR "light detection"~3)
AND EN_ALLTXT:(agricultur* OR crop* OR "precision farm*")
AND OF:(WO or US or EP)
AND PD:[01.01.2018 TO TODAY]
```

Key decisions the agent made:

- Used PD (priority date) instead of DP — because this is prior art
- Used EN_ALLTXT for exhaustive search across full text
- Added "unmanned aerial vehicle"~5 as synonym with proximity

HANDS-ON

Build Your Own Patent Search Agent

Three platforms, same knowledge files, 10 minutes each

Creating on Claude

1

Create a Project

Go to claude.ai → Projects → New Project → Name it "Patent Search Assistant"

2

Add Knowledge Files

Upload `patentscope-sintaxis.md` and the IPC section files you need (e.g., G + H for electronics)

3

Set Project Instructions

Paste the system instructions into the "Project instructions" field — these tell Claude how to behave

4

Start Searching

Open a new conversation inside the project and describe what you're looking for in plain language

Bonus: Claude also supports `.skill` files — install once, works across all conversations

- + New
 - 📁 Projects
 - 📦 Artifacts
 - </> Code
 - 🛠️ Customize
- Upgrade

- Projects +
- 📁 Patent Search Assistant
- Desalination technologies
 - Electric cars

- Pinned
- Herramientas de productividad

Chats and tasks > 🔍

🎨 Design

Patent Search Assistant

🌟 Share ⋮

How can I help you today?

+ Chat Cework

Sonnet 4.6 Medium 🗣️ ▾

- Recents
- 🗨️ Desalination technologies 20 minutes ago
- 🗨️ Electric cars 2 hours ago

Instructions ✎
Eres un asistente experto en búsqueda de patentes en WIPO Patentscope. Tu función principal es ayud...

Context 🔍 +

ipc-seccion-H.md 177 lines MD	ipc-seccion-G.md 204 lines MD
ipc-seccion-F.md 181 lines MD	ipc-seccion-D.md 112 lines MD
ipc-seccion-E.md 104 lines MD	ipc-seccion-C.md 172 lines MD
ipc-seccion-B.md ...	ipc-seccion-A.md ...

Creating on Gemini

1

Open Gem Manager

Go to gemini.google.com → Click on Gem manager → Create a new Gem

2

Name & Instructions

Name it "Patentscope Expert" → Paste the system instructions in the Instructions field

3

Upload Knowledge Files

Attach patentscope-sintaxis.md and the relevant IPC section files as knowledge sources

4

Save & Use

Save the Gem — it appears in your sidebar. Click it anytime to start a patent search session

Tip: Keep instructions under 30K characters — split IPC files by section to stay within limits

 The Gems from Labs you create will appear here



Gestor de Gems

Prediseñados por Google

Mostrar más

 Experimento

Storybook

Crea un libro ilustrado personalizado, para niños o adultos, a partir de un tema...



Exploración de ideas

Encuentra inspiración fácilmente. Ideas originales para fiestas, regalos, tu...



Orientación profesional

Desarrolla todo tu potencial en tu carrera. Obtén un plan detallado para mejorar tus...



Asistente de programación

Mejora tus habilidades de programación. Obtén la ayuda que necesites para...

Mis Gems





 Patentscope Expert

Eres un asistente experto en búsqueda de patentes en WIPO Patentscope. Tu función principal es ayudar al us...



Creating on Copilot & ChatGPT

Microsoft Copilot

1. Open copilotstudio.microsoft.com
2. Create a new agent
3. Upload .md files as Knowledge Sources
4. Paste instructions in System Message

Best for: Enterprise / Microsoft 365 teams

OpenAI ChatGPT

1. Open chatgpt.com → Explore GPTs
2. Click Create → Configure
3. Paste instructions in Instructions field
4. Upload .md files under Knowledge

Best for: Public sharing / GPT Store

¿Cómo desea actualizar el agente?

+ Mensaje para Agent Builder



El contenido generado por IA puede ser incorrecto | Las capacidades de Copilot Studio en M365 son procesadas por el servicio Copilot Studio. Al usar esta experiencia, acepta estos [términos](#) | [Privacidad y cookies](#)

Agent Builder

Configurar



Crear



Conocimiento ⓘ

99 Preguntar a la IA



Enfoque del agente mediante la adición de fuentes de conocimiento específicas

+ Agregar conocimiento



Búsqueda en la Web



Indicaciones sugeridas ⓘ

Título

Mensaje

Escribir un título

Escribir un mensaje



Escribir un título

Escribir un mensaje



Escribir un título

Escribir un mensaje



Agregar una solicitud sugerida

Platform Comparison

Feature	Claude	Gemini	Copilot	ChatGPT
Setup ease	★★★★★	★★★★☆	★★★★☆	★★★★☆
Context window	Very large	Large	Varies	Large
Knowledge files	Upload + Skills	Upload to Gem	Knowledge Sources	GPT Knowledge
Sharing	Project/Skill	Gem (personal)	Teams/SharePoint	Link / GPT Store
Best for	Power users	Google users	Enterprise	Wide sharing
Cost	Free / Pro	Free / Advanced	M365 / Studio	Free / Plus

Tips, Pitfalls & What's Next

DO

- ✓ Always verify the query before running — AI can hallucinate field codes
- ✓ Ask the agent to explain WHY it chose specific IPC codes
- ✓ Update your IPC files when WIPO releases new classification versions
- ✓ Use the agent to learn — ask it to teach you the syntax as it builds queries

DON'T

- X Trust AI output blindly — always review the query logic before executing
- X Use the agent as a replacement for professional patent analysis
- X Assume one query is enough — iterate and refine based on results
- X Forget to check for synonyms the agent might have missed in your domain

Key Takeaways

AI Doesn't Replace Expertise — It Amplifies It

- 1 Same knowledge files work on Claude, Gemini, Copilot, and ChatGPT
- 2 Syntax + Classification + Instructions = your custom patent search agent
- 3 Start simple — one technology area, one platform — then expand
- 4 Verify AI output, iterate on queries, and use the agent to learn

Questions?

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