Patents: what they are, how to get them, and careers

Dr Ed Carter (they/them)

Trainee Patent Attorney,
Marks & Clerk LLP

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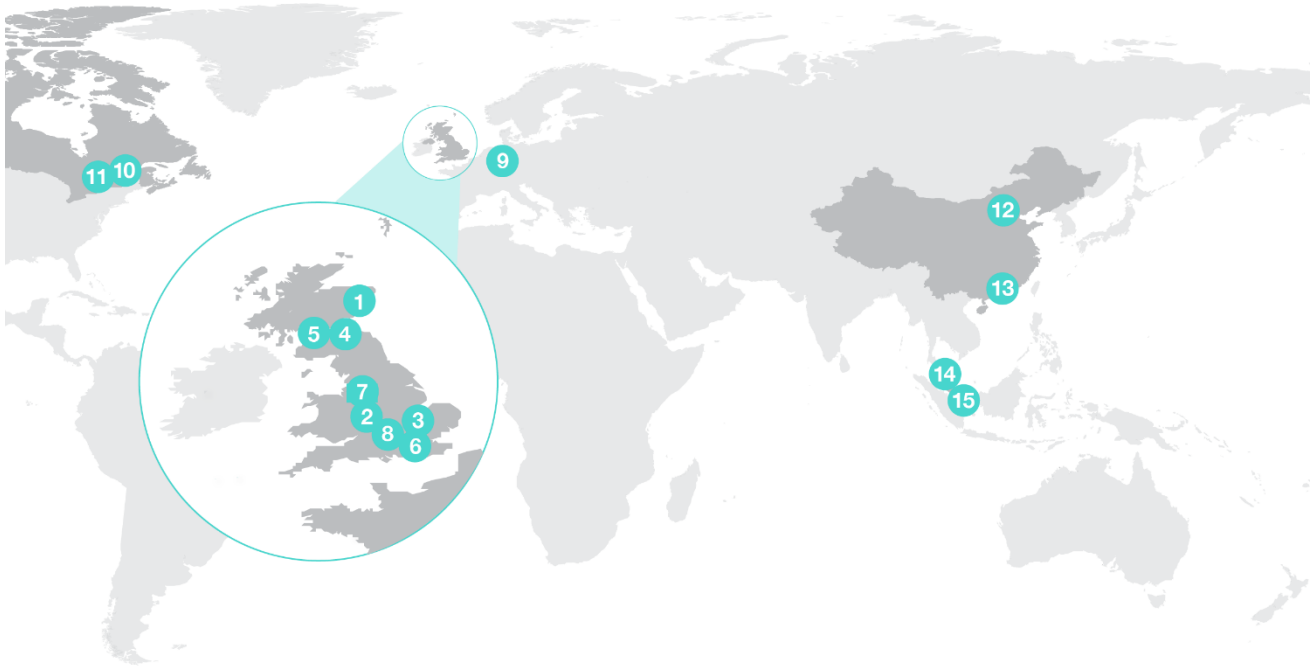
Who am I?

- My name is Ed, and I joined Marks & Clerk LLP as a trainee patent attorney two years ago
- Previously: PhD here in Cambridge in experimental atomic physics
- Absolutely no law background before starting this job
- General area of patent work includes electronics, software, computer networks, optics; but also others!

Who do I work for?

- Marks & Clerk is the UK's biggest PA firm (founded 1887), with over 800 people in 15 offices around the world
- Cover all areas of technology
- Unique relationship with M&C Law (intellectual property lawyers)



1. Aberdeen (UK)
2. Birmingham (UK)
3. Cambridge (UK)
4. Edinburgh (UK)
5. Glasgow (UK)
6. London (UK)
7. Manchester (UK)
8. Oxford (UK)
9. Luxembourg
10. Ottawa (Canada)
11. Toronto (Canada)
12. Beijing (China)
13. Hong Kong (China)
14. Kuala Lumpur (Malaysia)
15. Singapore

Why am I here?

- It’s likely that some of you will invent things! In particular, some of you may join tech companies or be involved in Knowledge Transfer Programmes as academics.
- It’s also likely that some of you will become patent attorneys.
- Either way, hopefully this talk will come in helpful (and hopefully you’ll remember M&C).

What are patents, and what are their benefits?

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What is a patent?

- A patent is a form of intellectual property that protects an invention for 20 years
- You publish an enabling disclosure of your invention, and in return you get the first go at benefiting from it
- Supposed to incentivise people and businesses to invent things, and encourage public sharing of ideas (can’t keep things secret)
- Also has value in itself – patents can be sold, licensed etc.
- For tech start-ups, patents are usually a critical way of growing in value (since you might not have any physical assets yet)

What is an “invention”?

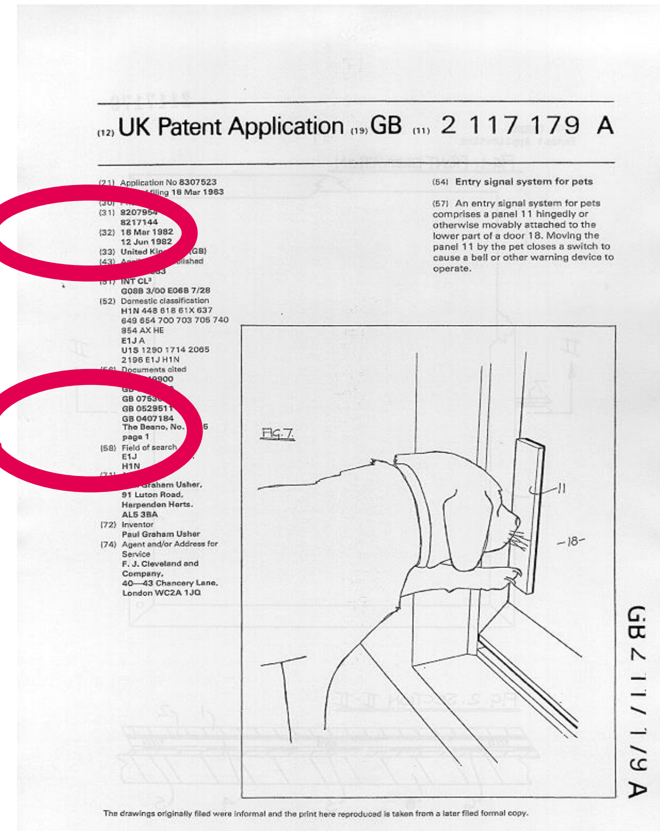
- Product or process that’s new, inventive, and technical
- New – so don’t tell anyone except in confidence
- Inventive – the test for this is different everywhere in the world; most patents are for incremental advances that narrowly clear this bar
- Technical – solves a practical problem; some things are considered intrinsically non-technical
- Notably: software in itself generally isn’t patentable (but this is quite nuanced and lots of software-related things can still be patented)
- Also: methods of treatment or diagnosis carried out on the body generally can’t be patented (but technology for them can)

How clever does your idea need to be?

Novelty:

Priority Date
18th March 1982

The BEANO
No. 2015 page 1
28 February 1981



(12) UK Patent Application (19) GB (11) 2 117 179 A

(21) Application No 8307523
filing 18 Mar 1983
(31) 8207954
8217144
(32) 18 Mar 1982
12 Jun 1982
(33) United Kin (GB)
(43) ublished
(51) INT CL³
G08B 3/00 E06B 7/28
(52) Domestic classification
H1N 448 618 61X 637
649 654 700 703 705 740
854 AX HE
E1J A
U1S 1290 1714 2065
2196 E1J H1N
Documents cited
GB 0407184
The Beano, No.
page 1
(58) Field of search
E1J
H1N
Graham Usher,
91 Luton Road,
Harpenden Herts.
AL5 3BA
(72) Inventor
Paul Graham Usher
(74) Agent and/or Address for Service
F. J. Cleveland and Company,
40—43 Chancery Lane,
London WC2A 1JQ

(54) Entry signal system for pets

(57) An entry signal system for pets comprises a panel 11 hingedly or otherwise movably attached to the lower part of a door 18. Moving the panel 11 by the pet closes a switch to cause a bell or other warning device to operate.

FIG.7.

The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

GB 2 117 179 A

Inventive step: non-obvious to a person skilled in the art.

Inventive step is often arguable; the hurdle is different in different jurisdictions

The rights conveyed by a patent

- Owning a patent gives you the right to stop someone else from using (or manufacturing etc.) your invention
- Referred to as a “negative right” or “monopoly right”
- Does not give you the right to use the invention – you might infringe someone else’s patent
- But patents can be licensed – offering someone else the chance to use your invention in exchange for money (or access to their invention)
- So if someone’s patent blocks your idea, might be able to seek a licence

Aside: other forms of IP

- Designs: protect the appearance of products, not function
- Trade marks: protect the terms, logos etc. used by businesses to identify themselves
- Copyright: automatic right that protects creative works (including computer programs)
- (M&C do designs and TMs as well as patents!)

How do you get a patent?

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Making a patent application

- Patents are awarded by patent offices, which are government bodies
- Generally speaking, you write to the patent office with a complete description of your invention and ask for a patent
- Each country has its own patent office. In the first instance you'll generally write to the patent office of the country you live and work in
- Don't try to do this yourself! Applications made without a patent attorney's help have a very low success rate
- Note: this is an expensive process! Generally need to be sure that invention will have commercial benefit (e.g. lead to a product with a clear market).
- Once the application has been filed, you're free to publically disclose the invention (e.g. launch a product)

What goes into a patent application?

- Similar to a scientific paper (e.g. includes an abstract)
- Must also include a complete (“enabling”) description and figures
- Most important part is the claims: this is where you describe, with legal precision, exactly what you’re claiming an exclusive right to
- Can’t add anything later without losing filing date

Patent jurisdictions

- Generally speaking, patents are handled separately by every country in the world
- E.g. a UK patent from the UK patent office holds no weight at all in the US, China etc.
- Rules are different in every jurisdiction (though similar in spirit)
- We generally handle this by hiring local patent attorneys to correspond with their own patent office

Are there international patents?

- Short answer: no
- But, you can make an international application (called a PCT application) that can lead to patents in several different countries
- Europe also has a single patent office (the EPO), and getting a patent there can cover all of Europe (including the UK)
- There are exceptions, e.g. the PCT doesn’t cover Taiwan (but Taiwan has its own provisions)

How are patents examined?

- The patent office will check that you fulfil all the formal requirements for an application
- Then they'll look for earlier documents ("prior art") allegedly showing that your claims aren't new or aren't inventive – could be anything that's public
- Everything is deadline driven – missing a deadline often means losing your application
- May need to amend your claims and/or argue to persuade the Examiner that your invention is new/inventive despite prior art
- Don't try to navigate this process yourself! This is what patent attorneys are for.

The role of patent attorneys

- Patent attorneys talk to inventors to understand their invention and write the corresponding patent application
- Once the application is filed, patent attorneys receive patent office correspondence, discuss with inventors, and prepare responses
- Note: patent attorneys are not lawyers (in the UK), e.g. rarely appear in court

Should I become a patent attorney?

(Yes!)

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What's the job like?

- Broadly: working 9-5, split between office work and going out to meet clients (inventors)
- Large part of the job is writing letters, many of them to patent offices
- Study on the job (at M&C at least) to pass legal exams and work towards becoming qualified
- Work is quite individual, but have a small team to fall back on
- As you advance, there's more and more of a business aspect
- Many larger tech firms also have in-house patent attorneys (though that naturally entails less support, and less variety of technology)

Typical daily tasks (as a trainee)

- Could be any of:
- Drafting a patent application – typically over at least a couple of weeks between other tasks
- Drafting a response to an Examiner's objections – might take a few hours to a day
- Meeting with clients to discuss a new invention
- Answering client queries and explaining aspects of patent practice
- Studying and revising for professional exams
- Attending networking events and conferences (like I'm doing right now)
- Liaising with overseas patent attorneys to handle cases in other jurisdictions
- To begin with, tasks will likely be assigned by a partner of the firm

Patent attorney backgrounds

- Patent attorneys generally have technical, not legal, backgrounds
- Usually a technical degree (physics, engineering, chemistry, biology, computer science), PhD not required
- But postdocs and people with industry experience welcome too!
- Legal training is carried out on the job (M&C has an in-house training academy) and you sit legal exams

Why become a patent attorney?

- Learn about new technology every day, lots of it cutting edge
- Intellectual engagement – always creatively solving problems
- Balance between detail focus and long-term big-picture strategy
- Work-life balance (9 to 5)
- Lots of exposure to the world of business
- Great if you like writing and arguing
- Qualified patent attorneys are generally pretty desirable – can e.g. leave career and return, or switch firms
- International travel

Reasons not to become a patent attorney

- Deadlines – need to learn time management
- Lots of exams over 4-5 years (but at least you're being paid for it) – need to balance job and study
- Don't do it if you hate writing!

Questions?

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Contacts

Dr Ed Carter (they/them)
ecarter@marks-clerk.com

T +44 1223 345533

Marks & Clerk LLP
62 – 68 Hills Rd.
Cambridge
CB2 1LA
UK