



Patenting Cannabis



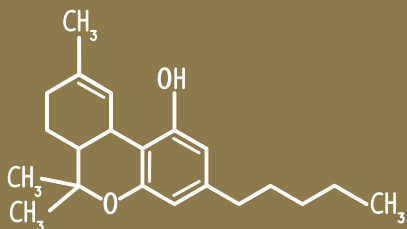
Williams Intellectual Property

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Ben Williams, Reg. No. 70,416





Patenting Cannabis at the USPTO

Patenting Cannabis presents challenges, however the law appears to be changing. Has the time to consider patenting novel strains arrived?

As corporations position to enter a federally legal market, protecting your strains has never been more important. Large corporate interests will attempt to dominate the market, acquire small grows, and displace competition. Whether you're looking to be acquired, or just maintain independence in a legal world where corporations are unleashed, protecting your intellectual property has never been more important.

▶ You already collect the data required to patent a plant

- ▶ Composition of various cannabinoids
- ▶ Phenotypic and genotypic characteristics
- ▶ Psychosomatic and physiological effects
- ▶ Cultivation history, breeding, and development



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About Us

Williams Intellectual Property is a Colorado based, boutique patent firm representing inventors from around the world. Williams Intellectual Property assists corporate clients and individual inventors in meeting their patenting needs, in the U.S. and abroad.

The law is changing. All across the United States, *Cannabis* is being legalized state by state.

Federal law already provides for patent protection for certain types of plants – any non-tuberos, asexually reproducible plant discovered in a cultivated area (35 U.S.C. § 161). And while federal law still pronounces *Cannabis* illegal, plant patent filings for *Cannabis* cultivars at the USPTO are on the rise.

As giant coproations position to enter the *Cannabis* space, protecting your selectively-bred strains is one

way to shield your company from the anti-competitive behavior these corporations are likely to employ.

As attitudes toward *Cannabis* continue to relax, it is foreseeable that federal law will change during the pendency of plant patent applications filed today.

Consider that in December, 2018, the Farm Bill legalized the production of hemp.

Thus the time has never been better to file for patent protection of your strains, to protect your business, and increase the valuation of your portfolio.

► What we do

- Represent individual and corporate inventors before the USPTO
- Flat fee prosecution: No hidden fees or mysterious surcharges
- Work with you every step of the way through the shifting labyrinth of the USPTO
- Combine strong customer service and technical writing skills

► Our Services

- Drafting and prosecution of patent instruments
- Patenting unique cultivars
- Utility patenting for compositions of matter
- Utility patenting for processes and apparatuses



Our Team



▶ **Ben Williams**

Position : Principal

Reg. No. : 70,416

Educated in England previous to residing in the United States, Ben received his Bachelor of Science from the University of Maryland, College Park, and has worked as a biological technician for the USDA and the NRCS. Ben's skill set comes through his extensive work in pedology: the morphology, genesis, and classification of soils, an applied science combining chemistry, biology, and physics, across complex systems and heterogeneous media.



▶ **Tim Snyder**

Position : Patent Agent

Reg. no. : 73,484

Tim is a registered Patent Agent with over four years' experience helping inventors and companies protect their intellectual property. A graduate of the University of Colorado, he has a bachelor's degree in chemical and biological engineering and a master's degree in bioengineering. In addition to prosecuting patent applications, he has extensive experience helping companies manage their IP portfolios, formulate IP strategy, investigate the IP landscape, and develop an IP program for their inventors and employees.

Ben Williams has already won patents for inventors in the *Cannabis* space, including:

✿ **US 9,526,752** for a *Composition of Cannabinoids, Odorous Volatile Compounds, and Emu Oil.*

✿ **US 9,987,248** for a *Method for Cannabinoid Transdermal Delivery.*

✿ **US 9,394,504** for a *Stovetop Extraction and Apparatus and Method for Rendering Infused Lipids for Ingestion.*



Case Study

United States Plant Patent Kubby

(12) United States Plant Patent
(10) Patent No.: US PP27,475 P2
(45) Date of Patent: Dec. 20, 2016

(54) CANNABIS PLANT NAMED 'ECUADORIAN SATIVA'
(57) Latin Name: *Cannabis sativa*; *ssp. sativa* and *Cannabis sativa* *ssp. indica* (Lam.)
(75) Inventor: Steven Wynn Kubby, South Lake Tahoe, CA (US)
(73) Assignee: KUBBY PATENT AND LICENSES, LIMITED LIABILITY COMPANY, Danvers, TX (US)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 779 days.
(21) Appl. No.: 12/661,271
(22) Filed: Mar. 13, 2010
(51) Int. Cl. (2006.01) A01H 5/00
(52) U.S. Cl. (2006.01) PL/263.1
(58) Field of Classification Search: PL/263.1
(56) References Cited
PUBLICATIONS
Frasconi et al. Comparison of Hemp Varieties Using Random Amplified Polymorphic DNA Markers *Crop Science* 41: 1082-1089 (2001) *

The Cannabis plant named 'Ecuadorian Sativa' having a laboratory name of 'CIS-A' a variety of a cross between 'Cannabis sativa' *ssp. sativa* and 'Cannabis sativa' *ssp. indica* (Lam.).

BACKGROUND OF THE INVENTION

This invention relates to a novel hybrid of a cross between individuals thought to be of the two subspecies of 'Cannabis sativa' L., 'Cannabis sativa' *ssp. sativa* and 'Cannabis sativa' *ssp. indica*.

HISTORICAL NOTE

Human cultivation history of Cannabis dates back 8000 years. Schultes, R.E. 1970. *Race and origin of Cannabis*. The history of Cannabis. Pages 13-30 in: C.H. Brown and S.H. Curry eds. THE HISTORY OF CHEMISTRY OF CANNABIS. J. & A. Churchill, London, England. Hemp cloth recovered in Pompeii dates back 6000 years. (Small, E. 1975). Backlund, H. and Dun, A. 2003. ECONOMIC BOTANY 2(3): 219-232 (1975). The written record of the glaucous-leafy properties of Cannabis goes back more than 4000 years. L. H. 2797 BC. NEI 2860 SU WEI HUANGU 11 (Yellow Emperor's Classic on Internal Medicine referred to without citation in Small et al. 1975 Suppl.).

The taxonomy and nomenclature of the highly variable genus Cannabis (Flukobius, W. A. 2003) ECONOMIC BOTANY 304-310 (1976). (Small, E. and Cronquist, A. 254) TAXON 406-435 (1976). Small E. and Cronquist, A. 261) TAXON 110 (1977). (Hillig, K. W. and Maltberg, P.G. 210) American Journal of Botany 96: 973 (2004), remains in question. This is in spite of the fact that the formal scientific name, 'Cannabis sativa' L., assigned by Carl Linnaeus (Linnaeus, C. 2 SPECIES PLANTARUM 1027 (1753). *Sativa*, Stockholm. Tenthred edition, 1973-1993. Ray Society, London, U.K.), is one of the oldest established names in botanical history and is still accepted to this day. Another species in the genus, 'Cannabis indica' Lam. was formally named somewhat later (Linnaeus, P. B. 192) ENCYCLOPEDE METHODOIQUE DE BOTANIQUE, 694:5 (1763), but is still very old in botanical history.

Three other species names were proposed in the 1860s to distinguish plants with presumably different characteristics (C. macrocarpa Stokes, C. chinensis Delile, C. gigantea Vilmorin), none of which are accepted today, although the epithet 'indica' lives on as a subspecies of C. sativa (C. sativa *ssp. indica* Lam.). Small and Cronquist 1976 Suppl.). In the 20th century, two new names were added to the litany of proposed Cannabis species (C. ruderalis) Janz, chowdhury and a hybrid, s'C. indica' (Small, E. Jan, P. 6784 (1976). Small and Cronquist 1976, Suppl. Further, numerous names have been proposed for horticultural variants of Cannabis but as of 1976, "very few of these have been widely published in formal taxonomic literature" (Small and Cronquist 1976 Suppl. Moreover, other recent work continues to focus on higher-order evolutionary relationships of the genus Cannabis has been variously described as belonging to the mulberry family (Moraceae) (Engler, H. G. A. Ulmaceae,

US Plant Patent No. 27,475 for Ecuadorian Sativa Issued on December 20, 2016

The issuance of US PP27,475 on December 20, 2016, suggests that the USPTO is relaxing its standards restricting patenting of *Cannabis* cultivars. Since the issuance of this patent, scores of patent applications have been filed at the USPTO. The clear majority remain pending, however, considering it took six years for the '475 patent to issue, issuance of these applications in the next couple of years should be expected.

► US PP27,475 P2

► Filed on March 13, 2010. Issued December 20, 2016

Cannabis sativa

► Inventor: Steven Wynn Kubby, of South Lake Tahoe, CA

Kubby Patent and Licenses, LLC

► Possesses intoxicating properties

Ecuadorian Sativa

► Characterized by high levels of *limonene*

45.35 mg/g



Pending Applications

Examples of two pending plant patents and an issued utility patent for a method optimizing the effects of CBD and THC are illustrated in the table below. Despite the illegality of *Cannabis* under federal law, the USPTO appears to be considering plant patent applications for unique *Cannabis* cultivars and has already issued utility patents for inventions in the *Cannabis* space.

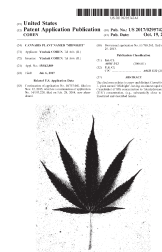
US Patent Publication No. 2017/0295742 A1 | “Midnight”

Published October 19, 2017

Filed July 6, 2017

Inventor: Ytzchak Cohen, Tel Aviv, Israel

A new and distinct *Cannabis sativa* L. plant named “Midnight”, having an almost equal ratio of Cannabidiol (CBD) concentration to Tetrahydrocannabinol (THC) concentration (e.g. substantially close to 1).



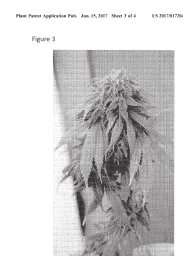
US Patent Publication No. 2017/0172040 P1

Published Jun 15, 2017

Filed December 10, 2015

Inventors: Cory Carter and Kyle Kingsley, Minneapolis, MN

A new and distinct cultivar of *Cannabis sativa* plant named “Katelyn Faith” characterized by a high amount of Cannabidiol (CBD)(13.5%) and a low amount of Tetrahydrocannabinol (THC)(0.4%)



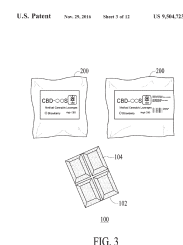
US Patent No. 9,504,723 B2

Issued November 29, 2016

Filed December 8, 2014

Inventor: Jeffry A. Kolsky, San Francisco, CA

A method for optimizing the therapeutic effects provided by CBD on the one hand, and the psychoactive effects provided by THC on the other hand, in a sublingual medicament.





Patenting Process

You are already producing much of the information needed to patent a plant, to comply with State regulations. An analysis of cannabinoids by weight, descriptions of the plant sufficient to enable consistent identification of the plant, where, when, and how it was developed are all useful considerations for patenting.

▶ Example data useful in preparing a plant patent	
▶ Terpinoid or cannabinoid by weight	mg/g
▶ Description of leaves, stem, growth	Botanical
▶ Description of fluorescence	Botanical
▶ Germination data	Botanical
▶ Description of medicinal and intoxicating effects	Botanical and psychoactive
▶ Scientific taxa and common name	Taxonomy

▶▶▶▶▶ Step 1 | Disclosure of the Invention

Once you have developed a novel strain that is asexually reproduceable you will need to disclose its novelty to us. All the data that you generate in complying with state laws will be useful, including when the cultivar emerged, its unique characteristics, unique composition of cannabinoids and other compounds, its physiological effects, and other descriptive data will help us protect the plant. We will need high resolution photos that show the features and characteristics where possible. All information you disclose is privileged and entirely confidential.

▶▶▶▶▶ Step 2 | Authoring the Patent

Once we understand the scope of the claimed features of the cultivar we will author the patent application. We typically require a 50% down payment of our fees as a retainer. The plant patent application must include a title of the invention, cross-reference to any related applications, statement regarding any Federally-sponsored research (if any), Latin name of the genus and species of the plant claimed, variety denomination, background of the invention (field of the invention and description of relevant prior art), a summary of the invention, brief description of the drawing(s), detailed botanical description of the plant, claim, and an abstract of the disclosure.



Project Description Continued

▶▶▶▶▶ Step 3 | Filing the Patent Application

Once we've completed the authoring of the patent application we will send it to you to review along with a bunch of forms to sign that are required by the United States Patent and Trademark Office ("USPTO"). After any edits are made, and you approve the application as written, the remaining balance of our fee comes due along with the filing fee at the USPTO. You will grant us a limited power of attorney to represent you before the United States Patent and Trademark Office and we will file the application through the Electronic Filing System. At that moment you will have patent pending.

▶▶▶▶▶ Step 4 | Prosecution of the Patent Application

Responding to Office Actions issued by the USPTO and arguing the claims upon the merits is termed "prosecution" (as opposed to "litigation" of patent disputes in a court of law). Patent prosecution is an *ex parte* process – that is, it is a one-sided action with an applicant seeking registration at the USPTO. However, it is still adversarial - Examiners at the USPTO may reject the patent application and we may be required to respond in writing in attempts to traverse the rejections.

▶▶▶▶▶ Step 5 | Responding to Office Actions

There are a number of ways that an examiner is able to reject a patent application. Each is controlled by law. Initially an examiner may, generally speaking, issue a notice of allowance (allowing the patent) or a first office action. Any first office action must be a non-final action, meaning we will have a chance to respond, to amend the application, and/or make viable arguments intended to traverse the rejection. After receipt of our response, the process is repeated. However, after a response to a non-final action is received, the examiner may make the subsequent action final – that is, we will have one last chance to respond to traverse the action and our ability to make amendments may be limited. We may also re-open prosecution by filing for continued examination or, if necessary, an appeal.

▶▶▶▶▶ Step 6 | Issuance

If we are successful in attaining patent protection for your novel cultivar, then you will have a 20 year monopoly as of the filing date, excluding others from importing or selling any and all parts (including pulp and seeds) of the novel cultivar in the United States. Licensing and assignments enable others to transact the cultivar for a fee.



Our Services



\$5,500

▶ Plant Patent

Project : Plant Patent

Offer : \$5,500 | flat fee

A plant patent may be issued for any non-tuberos, asexually reproducible plant, discovered in a cultivated area. All parts of the plant (seeds, roots, stems, as well as flowers) are protectable.

Unique features of the cultivar must be stable and reproducible across successive generations.



\$5,500

▶ Utility Patent

Project : Utility Patent

Offer : \$5,500 | includes three sheets of drawings*

A utility patent may be issued for any new or useful improvement in any process, machine, manufacture, or composition of matter. This includes medicines, unique compositions of chemical formulae, and apparatuses in general, as well as methods and processes of creating or delivering a product.

**Additional sheets of drawings are \$75/sheet*



Fee Overview

▶ Phase 1 Disclosure	
▶ Meet with you to gain understanding of the invention and its inventive step	Free
▶ Perform a prior art search for relevant references	\$ 750
▶ One hour consultation to review references	Free
▶ Devise suitable patenting strategy	Free
▶ Phase 2 Drafting	
▶ Author patent application	\$ 5,500
▶ Finalize drawings and/or photographs	Free
▶ Sign necessary paperwork to effect filing	Free
▶ File the application	<i>Filing fee to USPTO varies by entity status</i>
▶ Phase 3 Prosecution	
▶ Assignment to Corporation	\$ 250
▶ Respond to Non-final Office Action	\$ 750
▶ Respond to Final Office Action	\$ 750
▶ Notice of Allowance/Issue Fee due the USPTO	<i>Issue fee to USPTO varies by entity status</i>
▶ Request for Continued Examination/Appeal	Varies



Plant Patent Rights



▶ Plant Patent Rights

Grant of a plant patent excludes others from asexually reproducing, selling, offering for sale, or using the patented plant or any of its parts in the United States, or importing them into the United States. International protection may be available through the Patent Cooperation Treaty (in Canada, for example).

▶ Scope of Protection

The patent applies to all parts of the plant that is protected, including pulp and seeds, for the duration of the term.

▶ Term of Plant Patent

A plant patent is in force for 20 years, calculated from the filing date of the patent application. A plant patent is enforceable retroactively back to the publishing date of the patent application at the USPTO. The value of a 20 year monopoly on a favored strain is potentially large.

▶ Patent Pending

Patent pending is acquired immediately at time of filing. Patent pending operates as a quasi-protection because reasonable competitors are likely to await disposition of patentability before racking up sales figures for which they could become liable. Intentional infringement in the U.S. nets triple damages.



► Botanical Description

- Genus and species
- Habit of growth
- Cultivar name (can be a trade name)
- Precocity (if available)
- Botanical characteristics (i.e. buds, bark, foliage, flowers, fruit, etc.)
- Fecundity
- Other, s.a. resistance(s) to disease, drought, cold, dampness, etc., fragrance, coloration, regularity and time of bearing, quantity or quality of extracts, rooting ability, timing or duration of flowering season, etc.



Risks

Even though the USPTO has issued patents for *Cannabis* cultivars, patenting *Cannabis* remains on the cutting edge of patent law.

Because *Cannabis* is still federally illegal, there is a risk that the USPTO will not issue a patent for a novel *Cannabis* cultivar. The fact that the USPTO has already issued a patent for a strain of *Cannabis sativa*, as well as other patents for compositions of intoxicating substances derived from the *Cannabis* plant, should not be taken for granted. It's really only persuasive authority suggestive that they will follow this precedent in a new case – it's not necessarily *mandatory*.

Further, even if the USPTO issues the patent, it is difficult to know whether or not a court of law in the Federal Circuit will enforce such a patent. An infringer might attempt to undermine the patent's validity by citing illegality. That might make a challenged patent susceptible to invalidity off the bat.

Additionally, patentability is not guaranteed on other grounds such as the existence of preemptory prior art (other patent filings that read over the cultivar in question).

However, as the law continues to change nationwide, the prospect for attaining patentability for a novel *Cannabis* cultivar, and enforcing the patent against competitors, has never been greater. And the fact is, people are already filing applications at the USPTO for their novel strains.





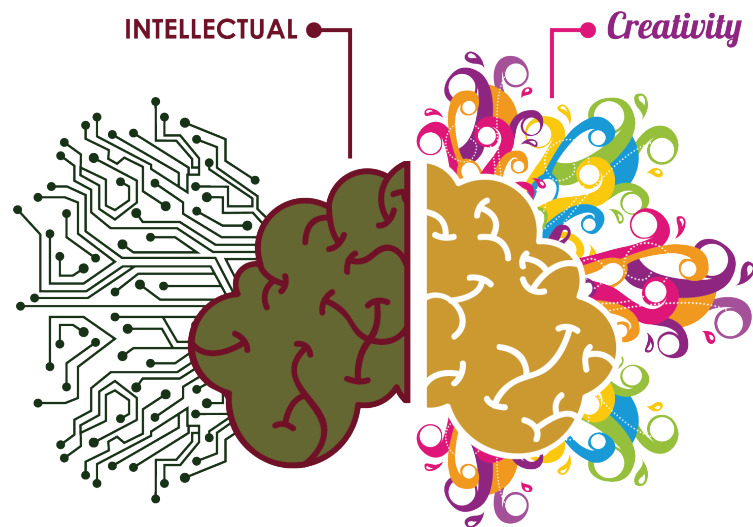
Williams Intellectual Property

► **Patenting Anything is Daunting and Complex. Don't hire a *lummox*. Hire the **best**.**

Patenting anything is difficult. It takes a rare blend of creativity and legal acumen; of verbal talents and technical expertise. It's an esoteric corner of jurisprudence, informed by over three centuries of common law.

Article I, Section 8, of the Constitution states that Congress shall have power to: "promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

Thus, since 1787, patent law has evolved, as new technologies affect patentable scope, and new judicial decisions define new boundaries by which patent claims are adjudged. In the twenty-first century,



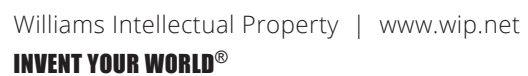
as millennials take the helm, *Cannabis* and its derivatives may finally become patentable, incentivizing and facilitating the dissemination of its health-giving effects while protecting entrepreneurs from the overreach of corporate hegemony positioning to carve out their share in the new market.

If you have a selective-breeding program underway, if you are developing novel strains with disproportionate levels of CBD or other cannabinoids, or if you are at work developing *Cannabis* cultivars for any purpose, talk to us. And if you have other inventions (apparatuses, methods of production, novel compositions of matter, etc.) we might be able to help you protect those, too.

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