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The Secret Life of a Patent Artist: A Q&A

“I started doing patent art in 1986 and have thousands of drawings on record at the United States Patent Office.”

- Jack Smith, patent artist

Patent artists do their thing away from the klieg lights of product launches and marketing campaigns, and their names do not appear on drawings in the USPTO archives. To some extent, they're the phantoms of invention. Today, we welcome one of the busiest to the IPfolio interview studio. Jack Smith, native Minnesotan and one of the most experienced patent artists in the US, provides a lot more, though, to his clients than drawing and diagramming services. He also helps them vet ideas, confirm sales and marketing opportunities, review manufacturing and distribution roadmaps and systematically clarify the feasibility of their inventions. We enjoyed learning about his three plus decades in the inventing trenches.

Note: The before-and-after images below show how Jack's patent art ultimately ended up as commercial products.

IPfolio: Let's begin at the beginning. Patent art isn't taught in high school, public universities or private schools that nurture design and creativity like SCAD or RISD. How did you get into the business?

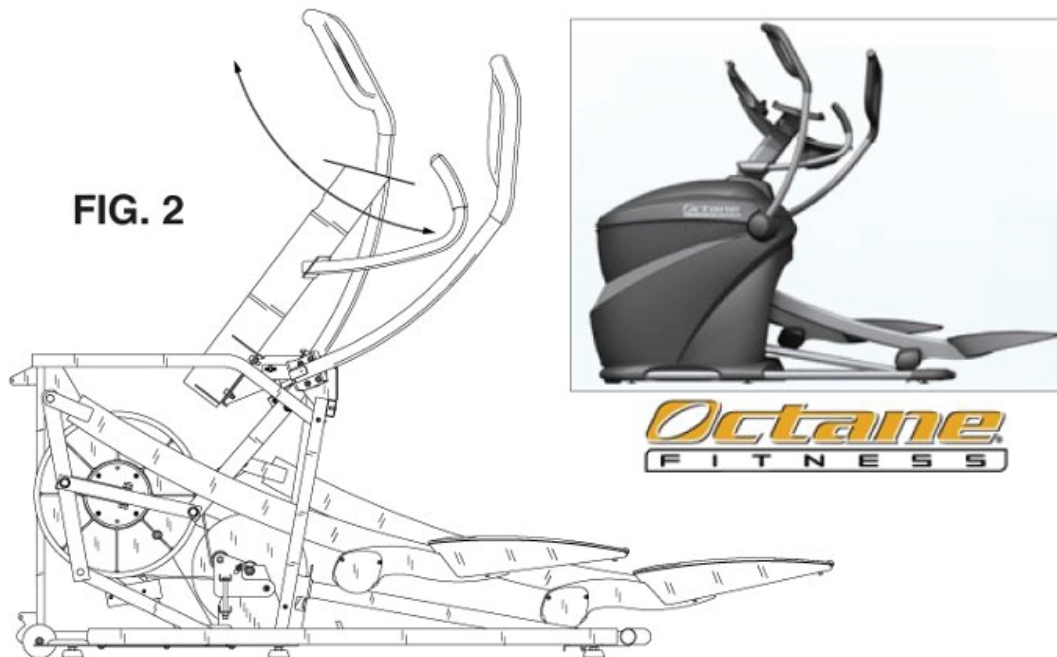
Jack: I don't have any formal art training. I started working in the sign manufacturing business right out of high school. Spent a decade there, then moved into custom fabricating where I worked on everything from specialized machines to construction related products. I didn't realize it at the time but both industries were very similar to creating patent drawings; clients come to you with a particular need, and then you have to figure out how to produce or manufacture the sign or the product to whatever the specifications might be. These 16 years turned out to be excellent preparation for what I did next, which was to enter the patent art world. Coincidentally, I met Loren Kienlen, who had illustrated patents most of his life. It was one of those fortuitous moments in life; he became my mentor and I his apprentice. That's how I got started full time in patent illustrating.

Did you ease into it, or did you start making a full-time living right away?

It was full time from the get-go.

Let's talk about your clients. Who are they?

When I started in the mid-1980s, all my clients were patent attorneys. I was behind the scenes doing their work. In 1995, I decided to diversify and started picking up more corporate clients and independent inventors. I also became heavily into the independent inventing community with groups like the Inventors Network locally in Minnesota and the United Inventors Association nationally. My clients come from those groups; patent attorneys, corporations and individual inventors



Great Ideas Begin (Sometimes) as Napkin Scribbles

What do they come to you for? Do they send you napkin scribbles or sketches?

Some do. It's a complete range because everybody is different. Literally, it can be everything from a napkin sketch to a fully developed product. Sometimes people just give me a verbal description, which is the most challenging.

Is it because they haven't done a 3D prototype? Or is it because they are still at the concept stage and still working out what it's going to be?

It's kind of a human nature thing, and probably goes back to our education in this country. Everybody has got a great idea. This is where it starts. But at what point do they arrive on my doorstep? A larger company with a lot of resources understands that great ideas require some developmental work to be reduced to an actual invention. So they will come to me with a fairly developed product. I take it from there. Novice inventors are typically at the idea stage and don't know what to do next.

Are you doing all the work, or farming it out to subcontractors?

Although I have an associate attorney who works with me, it's primarily just me. I did attend law school in the 2000s so I could hone my research and writing skills. I wanted to round out my right brain skills with some left brain skills. A lot of my independent inventor clients were also looking for more help than just the drawings. Providing more than drawings has really helped me stand out in the business.

I assume the attorney is a registered patent attorney, and that you tag team when you're developing ideas into something tangible.

Yes, that's pretty much how we work. Because of my product development and manufacturing background, I have a really good understanding of engineering. I also have been through this process so often that I have a pretty good marketing sense. At the end of the day, great ideas have to make money, otherwise nobody really has much interest in them. I kind of get them going in a better direction, and pin down the real-world issues. This way, we are able to create better drawings and ultimately produce a better patent application. By the time they get through the patenting process they should be seeing some return or making some money for all their effort. Differences Between Large and Small Clients.

Thinking about the differences between large companies and small startups, do your clients provide supplemental information such as the competitive landscape?

Seeing the bigger picture beyond the initial excitement of creating something new is difficult for many people. How will you turn this idea into a profitable product? What's involved? There are tons of issues and decisions. Larger companies are actually very successful at monetizing their ideas because they think all these things through right from the early stages. It's the reverse for independent inventors. The vast majority haven't thought things through.

With my larger clients, I usually learn about the long-term plans when they explain to me, for example, why they're introducing the product. Take medical devices, for instance, where I am usually working with an established company or well-funded startup. They typically have their own R&D people and corporate legal department. I talk to both because they call me in as an outside specialist. I've worked on medical device patents for nearly 30 years, and have worked for many successful companies in the market.

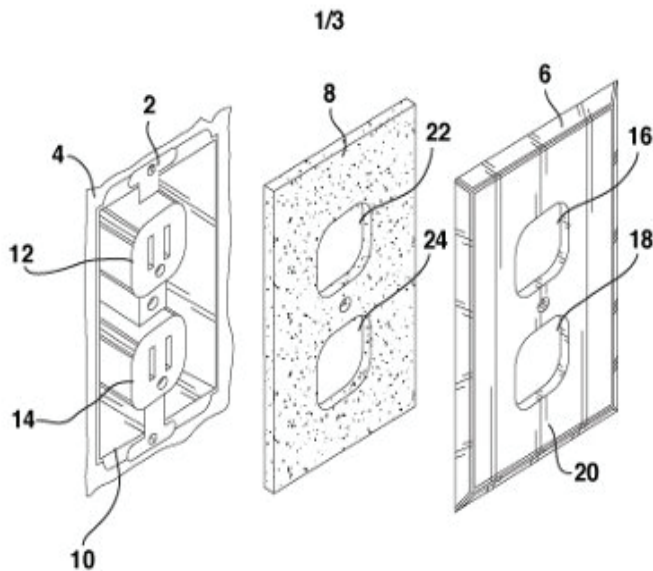


FIG. 1



3M ELECTRICAL OUTLET
INSULATING GASKETS

I assume that you have done work for companies that file in different jurisdictions beyond the USPTO. Are there any differences between doing drawings for different patent offices around the world or types of inventions?

Yes, the laws and rules of every country are a little bit different. There are commonalities and similarities but you have to nationalize applications for particular countries and know what they want. Most clients start by filing in the United States. What I usually do is modify the USPTO drawings to account for the different rules of practices overseas.

Do clients tell you what they are, or do they expect you to know?

That's all on me because localization is so far out of the realm of most of my clients. The Internet has made it far easier to keep abreast of everything because it's all tied in with law, which obviously changes over time. In my thirty plus years, there seems to be really major change in patent law almost every decade. So some of the things that I had to know thirty years ago are now obsolete.

"The 2B pencil is probably still the best thinking tool out there."

– Jack Smith, patent artist

The Technology of Patent Artists

Moving to your toolbox now, what do you actually use? Are pen and pencil gone forever?

No, they still have their place. In fact, the 2B pencil is probably still the best thinking tool out there. When I started working with Loren, personal computers were still quite rare at the time so we drew with pen and ink on Bristol board. I've really kept up with technology and spend a lot of time working in 3D CAD. Everyone has their favorite brand; mine is SolidWorks®. My hardware setup includes both high end MACs and PCs My principal drawing tablet is a Wacom Cintiq 27 QHD. As far as technology, I would like to add that I think personal computing has actually hurt the IP world in terms of securing strong patents. By this, I mean that the stringent rules of practice that the USPTO used to religiously follow loosened up when it began accepting computer drawings. I don't know why but the USPTO standards slipped and the quality of patent art dropped. What people lose sight of when applying for a patent is that they are creating an asset. The drawings are the most important part of that asset.

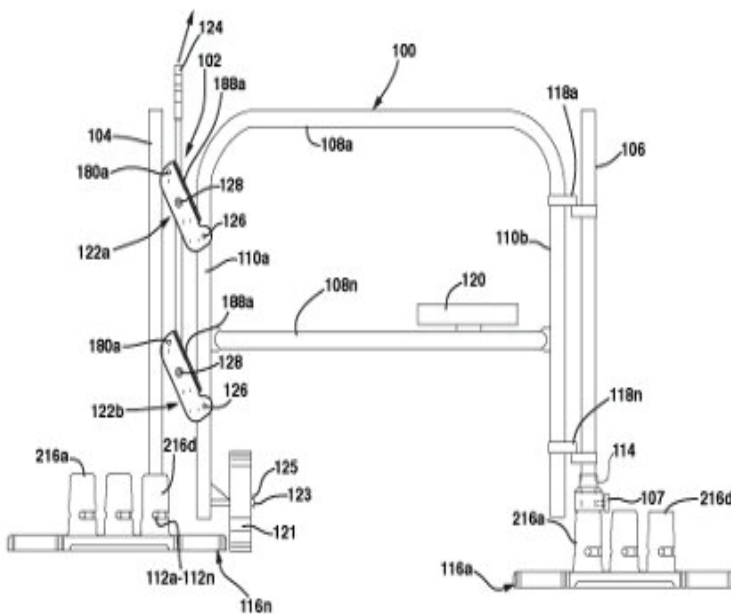


FIG. 20



Roof top guardrail systems



Cost

What does it cost to get patent art produced?

This is a “you get what you pay for” business. I’ve built my reputation and business on quality and service. Every invention is different so I usually look at the project and quote a fixed rate. It would be easier for me if there was a simple rate sheet but each project is custom. I look at every project and get a good idea of what needs to be done. Part of being a good patent artist is assessing what you should include in the drawings, deciding what you shouldn't, and understanding where this invention might go in the future.

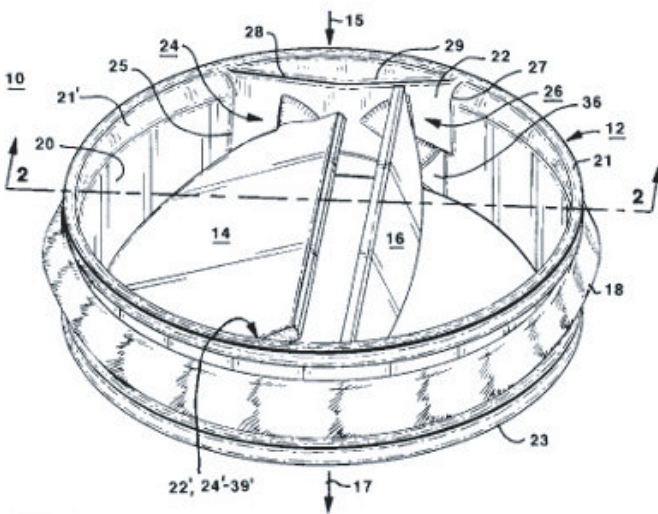


FIG.1



Heart Valve

Medtronic®

In terms of working with you, what can larger companies do to make the most of a resource like you?

They really need to be more open to innovation. More people are talking about “open innovation” a word that’s become more popular in the last 10 to 15 years, but there’s a lot more talk than real action.

Are you defining innovation similar to what you did in custom manufacturing? Meaning you met someone who needed to achieve something and then you created a solution for them?

That’s part of it but it’s actually more of a human resources (HR) issue. Corporations are run by administrators that are very good at what they do - making money and making big things happen. Separate from them is a whole resource of independent inventors that are

out there with great ideas. I say “out there” because there isn't a great link between the two. It would be great if there was a better process of introducing the people with great ideas and those who are best suited to commercializing them.

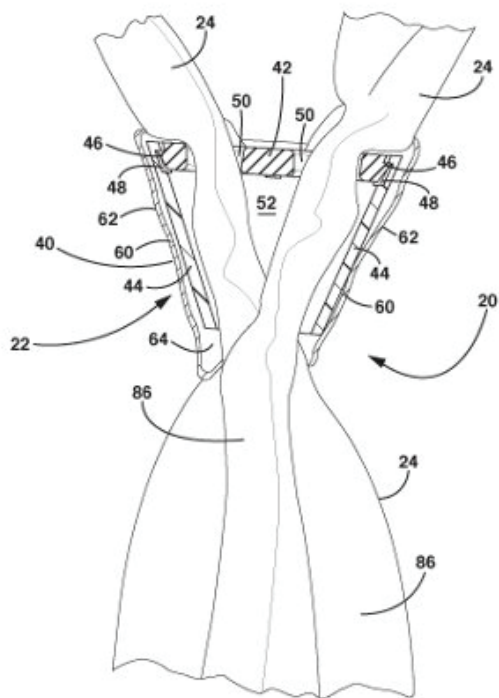


FIG. 17



5 Questions Patent Artists Can Answer Quickly

IPfolio: In terms of patents, are you an artist or an illustrator?

Jack: I am an artist.

How do you draw inventions that aren't tangible like software patents and business processes?

Software patents are pretty much all flowcharts with some representational drawings. You have to create a kind of linear storytelling. Drawings for physical things like medical devices are pretty much focused on the structure of a device itself.

What are the differences between drawing patents and trademarks?

Trademarks are a lot more straightforward, a lot more graphic arts orientated.

What are some of the most common product categories that you've worked in?

Housewares, fashion, telecommunications, agricultural, construction, toys, games and

sporting goods. I've also done a multitude of medical devices, such as stents, heart valves, multiple generations of pacemakers and non-invasive surgical procedures.

For a single patent application what is the greatest number of drawings that you have done?

Approximately 150 drawings for a Keystone concrete block. My client wanted to cover as many possible variations that they could think of.

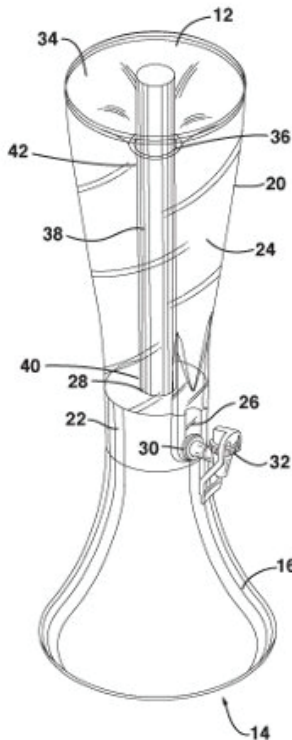


FIG. 1



Conclusion: What Patent Attorneys Overlook

This has been terrific. Thank you Jack for educating our readers about an important part of IP prosecution. Any final comments?

There is no lack of invention in America. Shows like Shark Tank have helped make inventing and entrepreneurship the gold mining of the 21st century. I love my job due to the variety of projects and people I meet. I think the prime reason that inventors need to begin with a person like me is because we can completely conceptualize the invention in the right way. At the end of the day, if it's not in the drawings it's really not in the patent. It still shocks me to this day how many patent attorneys don't really understand that concept.

If you'd like to contact Jack to discuss his services, visit his website.

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