

The Limited Monopoly™

Patentability and the “Long-Felt Unmet Need”

– The Christmas Tree Stand as a Case Study

by John Hammond, PE and Robert Gunderman, PE

The Law, Statistics, and Anecdotes

One of the key laws for patentability of an invention is that the invention must be unobvious¹. In making a determination with respect to obviousness, certain secondary considerations are important, such as commercial success of the invention, the addressing of long-felt but unmet needs, and the previous failure of others².

So as we approach this holiday season, it occurs to us – if ever there was a long felt unmet need and a legacy of failure by others, it is in the art of the Christmas tree stand. Doesn't anybody make a decent one? Not as far as we know, and we're not alone. According to the World Institute of Marriage Psychologists, 95.4% of post-holiday marriage failures result directly from TTSS^{3,4}.

The patent literature itself is rife with hand-wringing over the unmet need. For example, in U.S. patent 3,227,405, inventor John Layton laments, “Despite these many past efforts to provide an adequate Christmas tree stand, the annual struggle to erect a Christmas tree and support it through the holiday season remains a traumatic experience.” Ah yes. Spoken like a man whose wife dumped him after a Christmas tree stand fight.

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We each have our own respective yuletide horror stories as well. There was the time when one of us, in a fit of Tree Rage, screwed the Christmas tree stand to a perfectly good wood floor with quarter inch lag bolts. And another time, our tree stand, hidden by its red festive skirt, slowly bled out red fabric dye tainted water onto the living room carpet. Neither the wonders of modern chemistry, nor any amount of candlelight chanting of “Out, damnd' spot!”⁵ could remove that stain... so a few thousand dollars of new carpet later, the problem was solved.

Long-Felt Needs Unmet...

So what are these long felt unmet needs? What is the ideal Christmas tree stand supposed to do? Based on our sorry experiences, here are some of the most basic “tree stand design criteria” that come to mind:

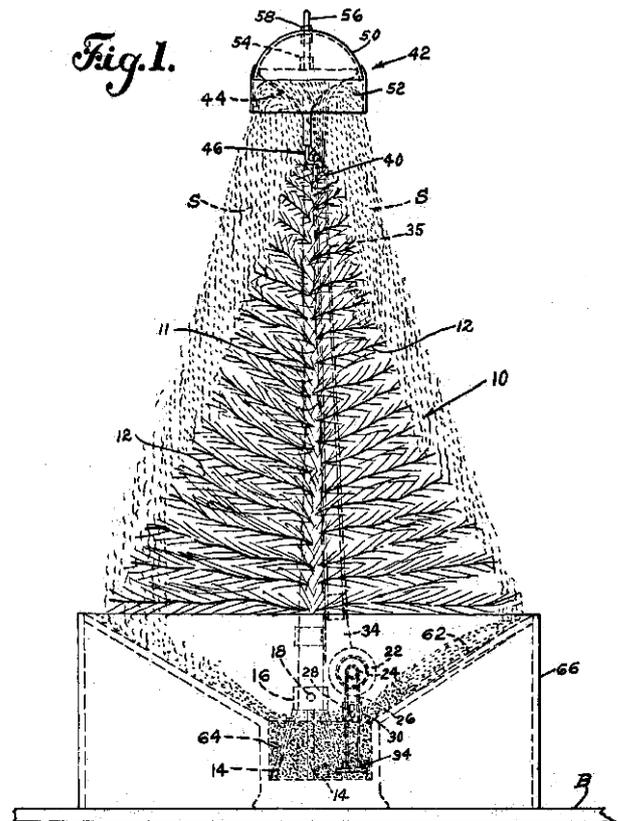
- Accepts any size and shape of tree trunk.
- Easy to secure to the tree.
- Easy to erect the tree.
- Holds the tree up perfectly straight.
- Holds at least a gallon of water without leaking.
- Totally stable – no wobble.

And since we're engineers as well as patent agents, we have to

throw in some extra criteria – some “nice to haves:”

- Adapts to trunk bend – no matter how much of a kink the bottom part of the trunk has, the tree stands perfectly straight on the first try.
- Stable on any floor, level or not, and on any surface – carpet, hardwood, or other.
- Automatically vacuums up dropped needles.
- Includes a cup holder. (Design 101 – everything should come with a cup holder, right?)

As far as we know, these remain unmet needs to this day. We've yet to find a Christmas tree stand that satisfies them. But



just to see if we might have missed anything, we did a simple U.S. patent search using the keyword phrase “Christmas tree stand.” Our search taught us great lessons in history, in the evolution of technology, in good old American ingenuity, and in product marketing.

We found well over 400 patents that contained the words “Christmas tree stand” somewhere in the text or title, from the late 1800s up until today. Nothing much was patented up until around 1910. We guess pre-1910, Dad just nailed a cedar shingle

to the bottom of the tree on Christmas eve and that was it for the few days the tree was up. (Remember, back then, trees were lit with live candles, so they weren't kept around for too long. By choice or otherwise.)

The big technological breakthrough of the early 20th century was addition of a water basin to the stand. As far as we can tell though, the above unmet needs persisted on into the 1920's.

...While the Never-Felt and Unneeded were met in spades.

So, what do you do in the face of such failure? Why, you disguise the product's shortcomings by loading it up with lots of features nobody asked for! (You know, just like how software is marketed today.) That strategy was nicely enabled starting in the 1930's by the widespread use of electricity in the home, resulting in all manner of Christmas tree stand innovation that continues yet to this day. The following are some of our favorites.

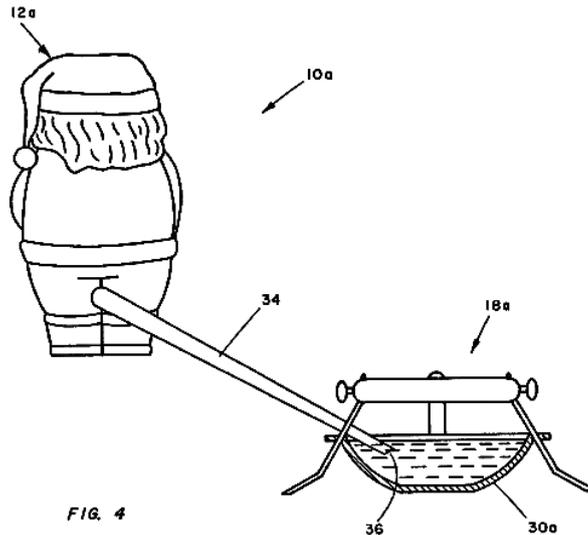
The tree stand of U.S. patent 1,394,386 to Wilske was one of the first of a plethora of illuminated stands, and clearly a breakthrough. Wilske's stand included integral revolving lighting that shone upwardly through the tree branches, casting ever-changing shadows throughout the room. It also came with a modest sized water basin... which appears to have been easy to overfill, and therefore overflow onto numerous live electrical contacts for the lighting. Thereby electrifying the entire tree stand, and anything else in contact with it. A veritable goldmine for product liability lawyers, even back when they didn't have their faces on billboard ads.

In the 1930s came rotating tree stands. Was there really an unmet need back then for Christmas trees to rotate? We don't think so – what's the first thing we all do when the tree is up in the stand? Find the bad side, and turn it toward the corner of the room! Never to be seen again until the tree is kicked to the curb. Our cunning notwithstanding, rotating stands were all the rage in the '30s and '40s. U.S. patent 2,058,677 to Fritz describes a tree stand including integral lighting, and a drive for simultaneously rotating the tree while

playing a roll of sheet music. We wonder if "Gramma Got Run Over By a Reindeer" was out in roll format back then.

In another breakthrough, U.S. patent 3,415,513 to Burnbaum discloses a tree stand comprising a collection hopper, a blower, a riser tube, and a fountain working together to continuously collect, recycle, and shower the Christmas tree with artificial snow. Having been once young ourselves, we well know that little boys could hardly have resisted tossing Christmas tree ornaments, toy soldiers, the family cat, and whatever else was handy into that hopper.

Over recent years, as the Christmas season has expanded to run from Halloween to Super Bowl Sunday, the life of the Christmas tree has grown to a month or more. Hence the need for automatic water-dispensing tree stands.



One ingenious system is described in U.S. patent 4,825,587 to Stancil, in which the water pump and the reservoir are cleverly disguised as a wrapped Christmas present. Looks like a missed market to us though. We see a greater demand for that invention as being used in the office for the holiday season, dispensing a little Christmas cheer into the coffee while the boss remains none the wiser.

U.S. patent 4,993,176 to Spinosa describes a clever gravity-fed automatic watering system. Based on FIG. 4 of this patent (shown above), it looks to us like one embodiment further includes fertilization. Seems that Santa may be running afoul of public health and/or public decency laws there as well.

Most recently, systems integration in the 21st century has found its way into Christmas tree stand art. U.S. patent 6,382,582 to Brown provides a marvelous example of a product that achieves diverse cross-functionality through the leveraging of new force-forward paradigms in vectors of differentiation.⁶ Brown's tree stand includes a drive to rotate the tree, upwardly directed incandescent lamps and LEDs, fiber optic lighting, a watering reservoir, a wind-up music box, a CD player with speakers, a smoke detector, a CO₂ sensor, infrared sensors, audible alarms, and a fire suppressant foam discharge system.

Sounds like it's just a slot machine short of being a casino, and includes all of the infrastructure needed to support a liquid core nuclear reactor. Oddly though, it appears that Brown didn't think to put his tree stand on top of a Roomba®, so it could cruise around and vacuum up fallen tree needles. If this product didn't win a Nerdy™ award in the "Best Christmas Product in a Supporting Role" category, it should have. For our part, it's a Patent Education nominee for the "ENGINEERS GONE WILD" Hall of Fame.

Opportunity Remains

So – we're still waiting for our long felt unmet need for a decent basic Christmas tree stand to be met. A huge opportunity is out there, folks. In the interim, we wish our clients, our readers, and all a very Merry Christmas! □

1. 35 U.S.C. 103.
2. *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966).
3. A fabricated statistic made up for convenience, with no basis in fact.
4. Traumatic Tree Stand Syndrome.
5. *Macbeth*, Act V, Scene i, W. Shakespeare 1606.
6. Made-up corporatespeak gobbledegook? Or an actual quote from a Fortune 500 exec?

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