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Public Domains: material feifdoms, entropy, and the built environment

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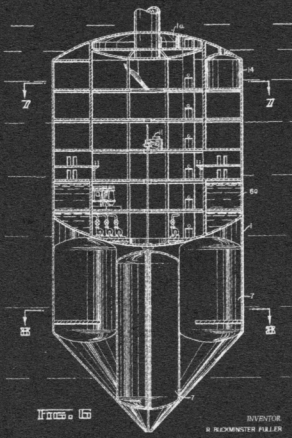
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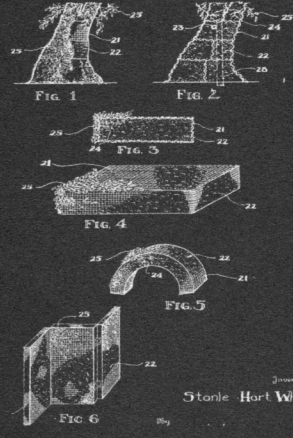


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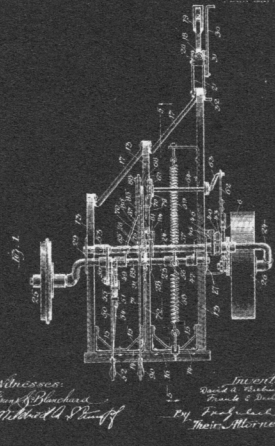
"My undersea island has special applications" AS

(US 3,080,583)



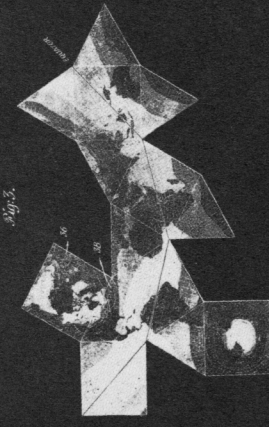
"An architectonic structure of any buildable size... whose visible or exposed surfaces may present a permanently growing covering of vegetation"

(US 2,113,623)



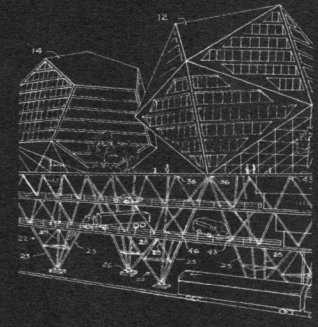
WHEREBY "The roots of seedlings may take root, thereby providing an interlocking connection"

(US 2,215,159)



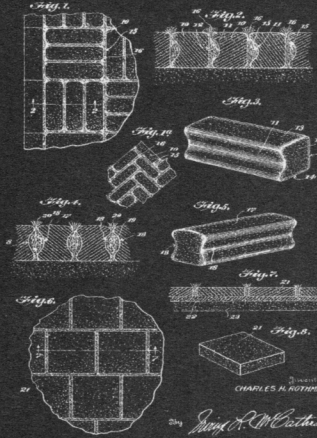
"Unique architectural forms (and) a complete city"

(US 3,080,583)



PROVIDING "Compromises with truth"

(US 2,393,676)



AND "A mechanism for said structure"

(US 2,215,159)

"Patents originally represented gestures of largesse on the part of sovereigns... to members of their court or tenantry. They were designed to encourage thoughtful pioneering, the results of which might obviously be productive for greater wealth of feudal leaders and indirectly to their... subjects... When the democratic idea broke loose in Europe, the popular representatives of that time deemed it a wise and just act to embody the 'letters patent' idea in their democratic constitution... The necessity of invention and growth where highly apparent... for had not invention itself forwarded man to the possibility of emergent DEMOCRACY?"

R. Buckminster Fuller, "Throwing in the Patent Sponge," in *Nine Chains to the Moon* (1938).

More than 9,000,000 design and utility patents have been issued in the United States since 1836. Richard Buckminster Fuller was awarded 28, representing a .0003% stake in the labyrinthine framework of patent fiefdoms that simultaneously bolster, and inhibit, our democracy. His cartographic devices, tensile integrity structures, undersea islands and floating breakwaters, are all preserved in the patent archive. And, as their legal status expired, each transitioned to collective ownership in the public domain. The operating manual for spaceship earth is now partially ours.

In aggregate, patent legalese defines a considerable portion of the world we inhabit, outlining an eerily omnipresent, yet often invisible form of "public space". Patents give form to materials, create places, describe systems,

grant rights and represent a landscape of power beyond the aerial and perspectival. What does this landscape look like? Robert Moses's New York? Foucault's Panopticon? London's CCTV? The answer is yes, and more! It looks like an edifice of a few billion words and drawings that, when organized into chains of words and drawings, establish boundaries between ideas, ownership and modes of production. It is the ubiquitous, safe, generic American landscape of goods and materials, outsourced. It is cut and paste specifications on construction documents, your morning French press, a radioactivity bunker and this ink. The current 20-year lifespan of a utility patent's legal status grants exclusive rights of profit to the inventor, theoretically stimulating innovation and progress in the mechanical arts and culture. Yet, as recent lawsuits have shown, the patent system's most profound contribution may be to the expanded role of jurisprudence and legalese in every aspect of life, where a patent no longer represents innovation, instead representing a defensive stance and posturing designed to protect profits and mitigate risk.

Entropy is at work in this system. Patents expire and enter the public domain, contributing to an ever-expanding sedimentation and deposition of collectively owned ideas, images, words and memes. The accumulation of material in the public domain is simultaneously a waste stream of human ambition and the mountain of new rights granted to the public, evoking a sense of 'publicness' never before seen by Marxism, capitalism, or the

strange communism of China. As of 2012, more than 5.5 million U.S. patents exist in the public domain, freed of their legal status and available as open source technology for any interested party to replicate or borrow and reinterpret. We own the language and images that define prefabricated bathrooms, artificial ski slopes, and millions of other tools and materials that promise to liberate new forms of open source economy and cultural production. It is not happenstance that as the tailings of a traditional patent system have become a new form of public institution, a productive system has evolved that may rework the vast expanse of this latent public realm. Rapid prototyping with 3D scanners and printers, laser cutters and 5-axis milling machines, as well as the array of local manufacturing and fabrication possibilities have radically altered our proximity to modes of production and the ability for producers and consumers to remix new tools, places and systems. In an era where 3D printing a children's toy is a possible copyright infringement, the public domain offers a position of resistance and the grit with which to stake a defensive stance for tinkerers, samplers and DIY designers interested in cultural production free from centralized control.

The promise and lore, of localized manufacturing, architectural-scale rapid prototyping, and crowd-funded public space, must one day confront the entrenched economic and technological systems that define current material culture and production of the built environment. This confrontation is dialectical in nature, as progress

towards an ecological urbanism is in many ways technological determinism at work. Nascent communities such as Thingiverse, WikiHouse, Kickstarter, Shapeways, and the Open Source Ecology project have pioneered new forms of disruptive economics and altered the proximity of community to designer, and designer to object and manufacturing. If any of the basic tenets of technological determinism are true—that technology drives history, technological progress is an agent of change and that these changes have cultural and political implications—then mastery of the cultural production of the technologies that reify our future sustainable cities is tantamount to total design, with broad cultural and ecological affect. As resistance mounts against these systems that debunk corporate control and the omnipotence of jurisprudence, I suggest a defensive stance premised on recombinatory processes that mine the patent archive and bricolage new meaning from shared intellectual property. The alluvium of words and drawings aggregating in the public realm can be mined, strung together and retooled into chains of new drawings and words that enable future production, destabilize centralized control and liberate creative capitol with unforeseen provocations.

Richard L. Hindle is an Assistant Professor of Landscape Architecture at the University of Illinois Urbana-Champaign and founder of the Horticultural Building Systems Lab. His research focuses on technology in the garden and landscape, with an emphasis on material processes, innovation and patents.