"Technology archaeologists"

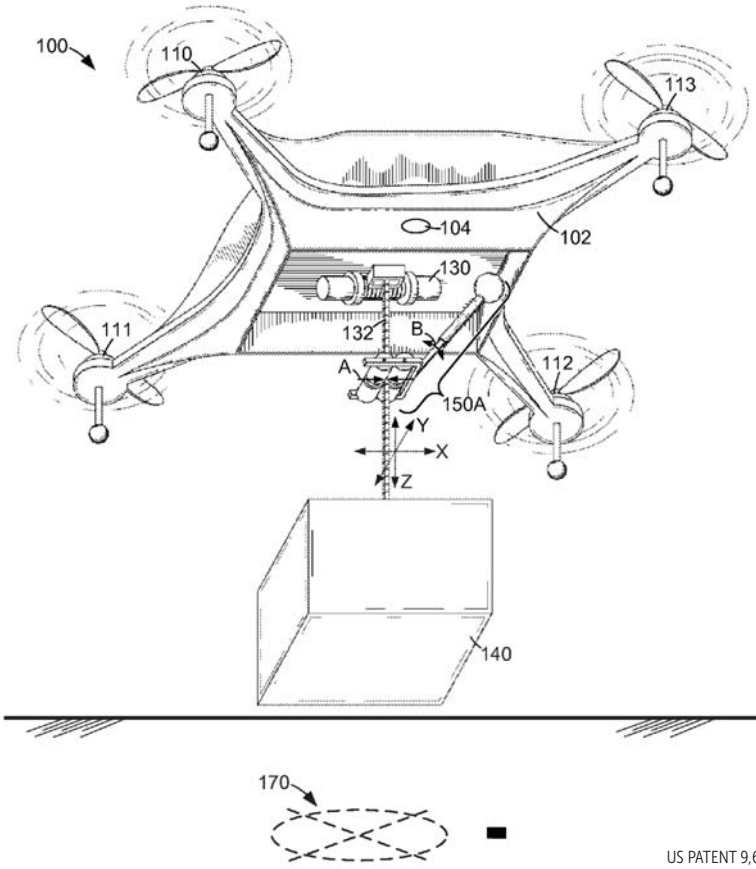
The vast majority of patent infringement claims are settled without going to trial. Chris Ryan, a physicist turned patent lawyer in Austin, Texas, says about 80% of his practice involves disputes about technology and the rest is advising companies on the legal implications of using various technologies. "I like looking at the strengths and weaknesses of the case. I enjoy the chess moves," he says. Patent litigation is expensive. If a case goes all the way to a jury trial, "it's hard to do for under $2 million," he says, "and complex cases can cost upward of $10 million."

Eric Stephenson, who also practices in Austin, stopped doing patent litigation because of the legal warfare. In one case he represented a party accused of infringement involving a smart battery pack. A microcontroller was used to monitor a battery and say how often it had been recharged. "I thought I would kill the challenge in no time. I couldn't believe a patent had been granted," he says. But it was patentable, and "once the client was done screaming at us, he settled the lawsuit and paid."

Stephenson likes doing patent prosecution because it's "more of a nine-to-five job and you are dealing with happy inventors who are happy about their inventions—the future is bright." In both prosecution and litigation, he says, an in-depth understanding of the technical aspects of the inventions is crucial.

Ryan says he typically works 60 hours a week, although it can be 80 hours or more when he has more than one case going to trial. "I enjoy the thrill of the fight," he says. "When you work on these cases, you learn a lot. You delve in deep and figure out the origins story. We are technology archaeologists."

Toni Feder



US PATENT 9,676,481 B1

A PATENT RELATED TO USING DRONES FOR DELIVERING PACKAGES was issued to Amazon Technologies on 13 June 2017. This figure from the patent, "Tether Compensated Airborne Delivery," illustrates characteristics of the idea, which include sensors that monitor a retractable tether to compensate for flight instability.

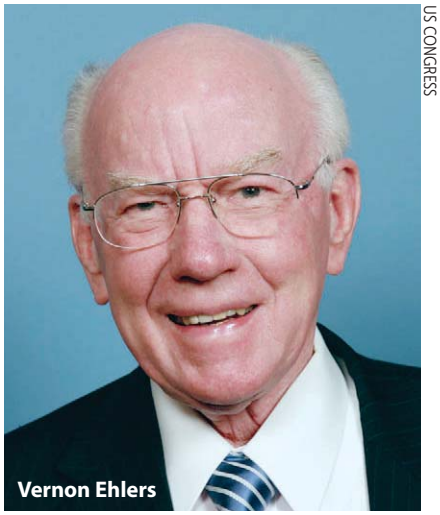
First physicist in Congress dies

Vernon Ehlers, former House member from Michigan, was a strong advocate for improved science education.

Vernon Ehlers, who was the first PhD physicist to be elected to Congress, died on 15 August 2017 in Grand Rapids, Michigan. He was 83.

Elected to the House of Representatives in a 1993 special election, Ehlers served his western Michigan district until 2010, when he did not seek reelection. He quickly became an advocate for STEM (science, technology, engineering, and mathematics) education. During hearings of the Committee on Science and Technology, of which he was a member, he often expressed disappointment and concern with the lack of science and mathematics literacy among the general public. In recognition of his scientific training, he was named as the committee's vice chairman, a title that was largely symbolic.

A Republican, Ehlers was asked in 1997 by then House Speaker Newt Gingrich (R-GA) to produce a national science policy statement. *Unlocking Our Future: Toward a New National Science Policy*, the 100-page product of the year-long effort, stressed the importance of investing in basic research, urged a cautious approach to the US entering large international scientific projects, and called for improved communication among House and Senate committees that share jurisdiction over large, complex federal technical programs, among other recommendations. Although the report itself had little practical impact, its preparation was an important educational process for the congressional aides who worked on it, notes Michael Lubell, former direc-



US CONGRESS

Vernon Ehlers

tor of public affairs at the American Physical Society (APS).

Gingrich also put Ehlers in charge of creating the congressional email system and making congressional proceedings available online to the public. Ehlers oversaw the establishment of THOMAS.gov, the online legislative information source which was later renamed Congress.gov.

Lubell recalls how Ehlers in 1998 helped defuse an effort by conservative House members to cut the NSF budget by 10% on the grounds that the agency funded frivolous grants. During the debate, Rep. Mark Sanford (R-SC) cited what he believed were NSF-funded studies of automated teller machines and gambling as examples of wasteful spending. Ehlers went to the floor to inform colleagues that the questionable grant titles actually referred to asynchronous transfer mode, a switching technique once widely used by telecommunications networks, and to Monte Carlo methods, a class of computer algorithms.

Lubell credits Ehlers for getting Republican Science Committee members behind the America COMPETES Act (see PHYSICS TODAY, September 2007, page 34), which authorized science and technology programs throughout the government and created the Advanced Research Projects Agency–Energy. Although the original 2007 legislation could have passed without GOP support, its 2010 reauthorization by the committee, when the House was in Republican control, "was largely Ehlers's doing," Lubell says.

Ehlers, who was homeschooled, received his bachelor's and doctorate degrees in nuclear physics in 1956 and 1960 from the University of California, Berkeley. He then conducted research at Lawrence Berkeley Laboratory before moving in 1966 to teach at Michigan's Calvin College, which he had attended as an undergraduate for three years. Ehlers was active in APS before entering politics. He served on the first selection committee for the society's congressional fellowship program in 1973, and he was a member of APS's Panel on Public Affairs in the late 1970s.

He was elected to the Michigan House of Representatives in 1983 and two years later to the state Senate. Ehlers served there until 1993, when he was first elected to the US House to fill a vacant seat, and went on to win eight more elections.

In a statement, former representative Rush Holt (D-NJ), himself a physicist who worked at Princeton Plasma Physics Laboratory before his election to Congress in 1999, recalled, "Vern welcomed me as the second member of the bipartisan physics caucus, saying we could meet anywhere—even in a phone booth—as long as it had a blackboard where we could discuss such things as the quadrupole moment of the nucleus, or impedance matching of simple machines, or congressional debates." Holt, now CEO of the American Association for the Advancement of Science, continued, "We amused each other by calculating the growth rate of physicists in Congress, with Vern arriving after about two centuries and me coming six years later; at this rate, we estimated that by the mid 21st century, most of Congress would be made up of physicists."

Former representative Bart Gordon, the Tennessee Democrat who chaired the Science Committee from 2007 through 2011, recalls Ehlers's role in the committee's passage of 151 bills and resolutions during Gordon's tenure, all of which had bipartisan support. "Vern was a big part of that, because if you made the case to him and he thought you were right, he would not be held back by any partisan views," he says. "When you convinced Vern something was the right thing to do, that was sort of a signal to other Republicans on the committee."

David Kramer PT