

**I**f there is such a thing as a gear fairy, then it's possible he makes surprise visits to various colleges to deposit gears under the pillows of deserving professors.

Ohio State's Department of Mechanical Engineering has been housing two large collections of gears for over 100 years. Nobody knows exactly how the earlier ones got there. According to Professor Don Houser, the first set was either purchased or donated at the turn of the century, and the second was bought from the Illinois Gear & Machine Co. in 1954.

"The later set, which is more conventional, we're sure we bought from Illinois Gear for about \$9,000 in 1950s dollars. The non-circular gears, which are gold in color, are the ones we're open to hearing any ideas from someone who's more aware where they came from," says Houser.

A popular theory is that these came from Germany by way of a gear pioneer named Peter Koch. There are some tags on several of the gears, but they're hard to decipher. Houser spent about a week tracing the ancestry of the various bevel gears, worm gearboxes, etc. with no luck.

It wasn't until about 10 years ago that another faculty member, Professor Gary Kinzel, took it upon himself to clean and paint the gears. He showcased them in a display area that had been sitting vacant for years. Now, visitors at the Department of Mechanical Engineering can be stimulated by 30 feet of gearing for their viewing pleasure.

Even though the gear collection doesn't have as loyal of a following as the school's football team, it can provide a few minutes of entertainment if you're in the right frame of mind. Red and black are eye-catching visuals for the displays, and the geared mechanisms look very modern under this color scheme. The older of the two collections, called the Illinois Tool Demonstration Gear Collection, has a more antique appearance with golden gears supported by wooden frames.

Curiosity-seekers who don't have business on the second floor of Ohio State's Robinson Library can see the exhibit virtually at [www.gearlab.org](http://www.gearlab.org).

# UNSOLVED GEAR MYSTERIES



A variable pitch gear pair meshes compatibility.



A chic red and black non-circular gear pair.

Cornell University's mechanical and aerospace engineering department is in the midst of a project that involves electronically coordinating their models of machine mechanisms with those at Ohio State and at various museums and universities in Europe.

Currently online at [kmoddl.library.cornell.edu](http://kmoddl.library.cornell.edu) and housed in a hallway in the department's facilities, this collection of about 250 models contains about 25–30 gears, some of which also came from Illinois Gear.

Others date back centuries, including the collection of Franz Reuleaux of Belgium. Cornell purchased the collection in 1882 for \$8,000. Among the notable pieces are models that show the difference between epicycloids and involute gears, the subject of fiery debate in the 19<sup>th</sup> century.

Unlike the situation at Ohio State, the professors at Cornell know the details about the older collection but are clueless on where the Illinois Gear models originated. Professor Francis Moon speculates that they are from the 1950s or '60s, but isn't sure.

"Engineers aren't always the greatest at keeping their history," he admits.

If you own something that resembles any of these gears and it's just taking up space in your office, the Gear Lab would be happy to take them off your hands. In addition to these, Houser also keeps a private stash of more mainstream gears in his office that he's always adding to.

Either of the two schools' engineering staffs would appreciate any information about the background of their mystery gears—unfortunately they're not prepared to offer a cash reward. ⚙

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