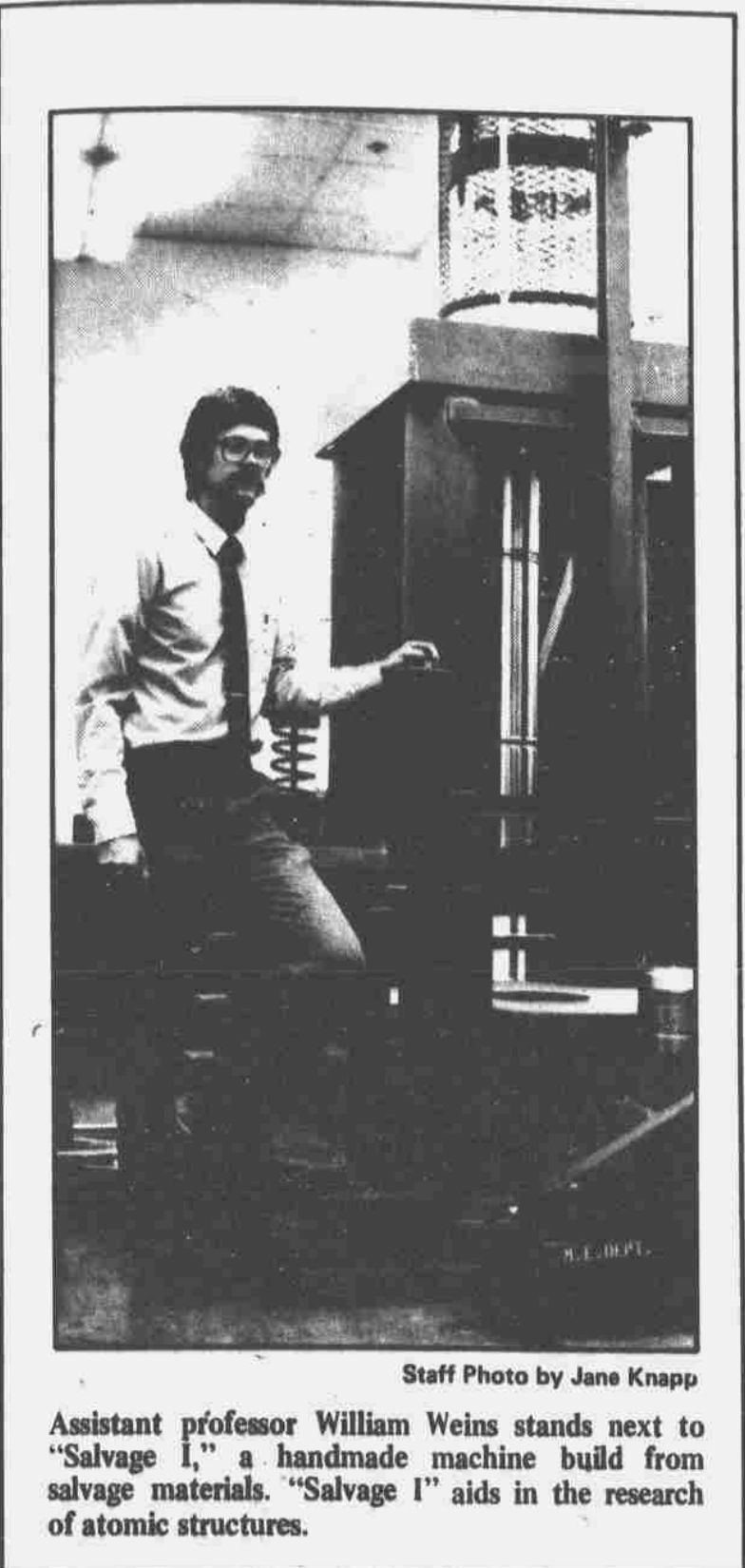


UNL professor creates 'Salvage I'

By Jim Anderson



Staff Photo by Jane Knapp

Assistant professor William Weins stands next to "Salvage I," a handmade machine built from salvaged materials. "Salvage I" aids in the research of atomic structures.

A machine built almost entirely from salvaged materials and nicknamed "Salvage I" is the newest addition to the UNL College of Engineering and Technology.

But although the machine is built of salvaged material, it is state-of-the-art equipment, according to William Weins, assistant professor of mechanical engineering. Weins, who completed the machine last week, said it is one of only half a dozen in the country.

The machine measures the energy required to make atoms move in metal structure, he said. It can indicate the locations of atoms in a structure as well as how strongly they are bound in their positions.

Weins said the machine was built primarily to verify the existence of diplons — newly discovered atomic structures. He said he discovered diplons experimentally while teaching at Iowa State University a few years ago. The machine will be used in other experiments as well, the most promising of which seems to be the process by which metals dampen the energy put into them, he said.

"To buy a machine like this," Weins said, "would cost about forty or fifty thousand dollars." However, because his machine was built mostly from salvaged materials, the final cost was about \$5,000 Weins said. For this reason, he said, it is jokingly called "Salvage I" by those involved in its construction.

"We built this (machine) around the materials we had at the time," Weins said. "A lot depends on the ingenuity of your shop people." The machine probably will last a long time, he said.

Weins said he worked with a similar machine at Iowa State University in Ames, but that it wasn't of as high a quality as the one he built.

"A key problem is vibration," he said. Because of the delicate nature of the measurements taken by the machine, common vibrations — caused by trains or cars outside or by people walking inside — can create inaccuracies, Weins said. He added that thanks to the ingenuity of people in the mechanical engineering department, he managed to take care of that problem.

The major portion of the machine rests on springs

obtained from an auto parts store. The machine's base, on which the springs rest, weighs 5,000 pounds.

The machine works by putting small amounts of stress on metal suspended by a pendulum in a container of liquid nitrogen. It can be used to study defects in metals and their composition, as well as how metals fail. Weins said the most promising area of study, however, is in metal damping.

Because of the basic nature of the experiments in which the machine can be used, Weins said it isn't of much interest to private industry right now.

"It's too far away from a practical application of the information it provides, but it does enhance fundamental knowledge," he said.

Weins said he hopes the new machine will help attract more research funding to the college.



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Colleges list senior check guidelines

Junior-Senior checks are offered by the UNL Office of Registration and Records. This service is provided at the request of second-semester juniors and all seniors.

"There are some colleges which have set up guidelines for this check," said Shirley Thomsen, assistant director of Registration and Records. "Those who don't have special guidelines may come to the Administration Building, Room 208, at the information window."

Students in the Arts and Sciences, Home Economics and Teachers College and in the Journalism School must complete 80 credit hours before applying. Students in the College of Business Administration must complete 85 hours before applying.

Students in the College of Agriculture must accumulate between 75 and 92 hours. After that, students must obtain an analysis of graduation requirements form which is available at Agricultural Hall 101. The form is to be completed by the student and filed with the assistant dean.

Students in the College of Architecture must complete

both 75 hours and Architecture 340 before contacting their adviser for a graduation check.

In the College of Engineering and Technology, students must complete 100 credit hours before contacting their adviser and completing an analysis of graduation requirements form.

Those students majoring in criminal justice and social work must go through the CPACS (College of Public Affairs and Community Service) in Neihardt Residence Center.

"We hardly ever have a lull in doing these things," Thomsen said. "Many records are handled three times before the students graduates."

"This service is very helpful because lots of times a student has presented a class on their form which isn't even in our records," she said.

For additional information, students may refer to a academic services handbook or a second semester student handbook.

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