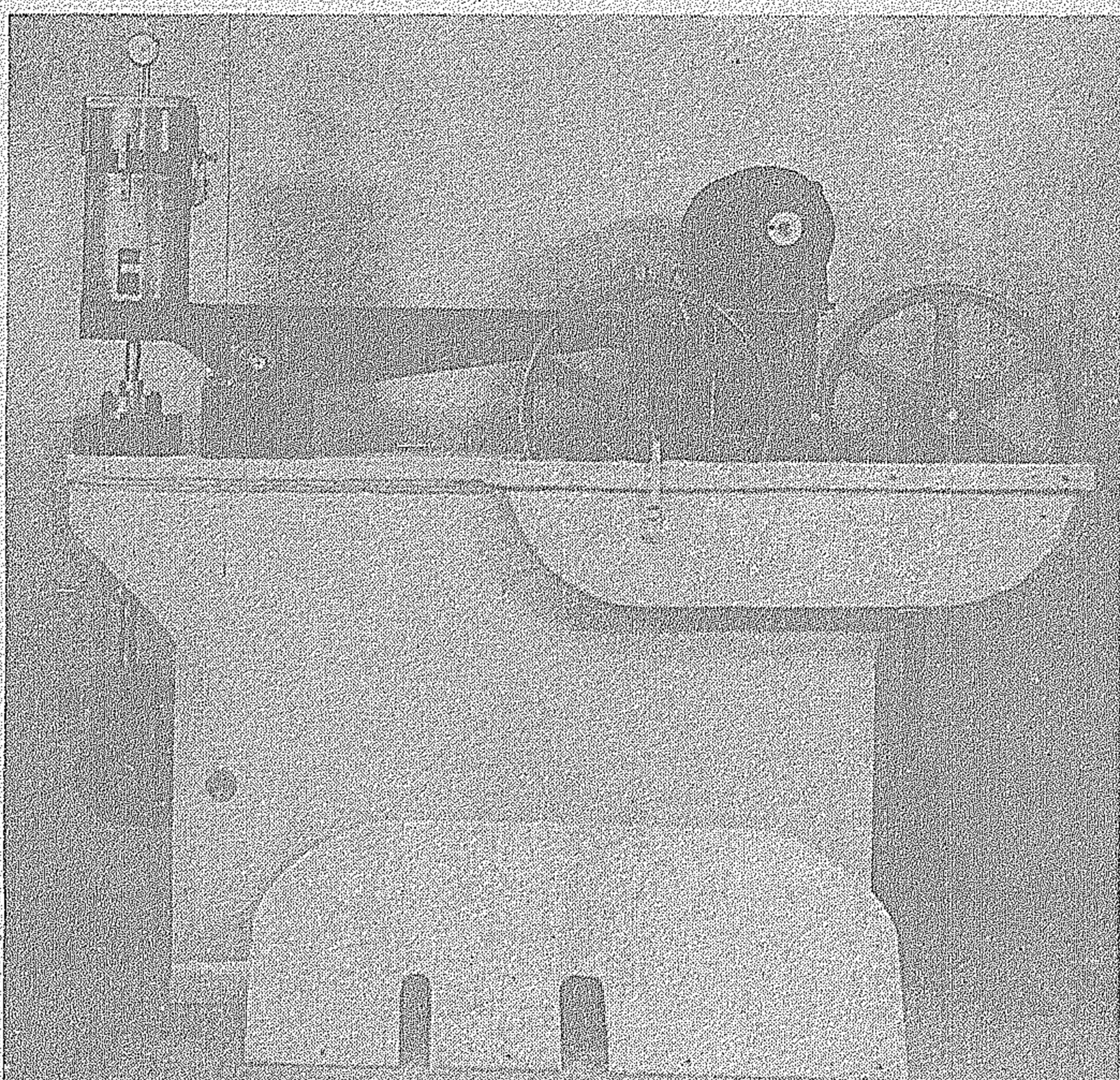


LeVan Griffis tests strength of metals under stresses

Combined stresses have frequently been blamed for the failure of metals used in industry. Research on bi-axial fatigue, an important factor in many such breakdowns, was begun here in July, 1942 by Le Van Griffis, assistant professor of mechanics. The main purpose of his investigation was to obtain data on the fatigue strength of metals subjected to such combined stresses. Conditions of strain are obtained by subjecting thin-walled cylin-

from zero to infinity. Several tentative tests already made with the new ratios indicate that as the ratio increases—longitudinal stresses in the numerator—the above curve shifts upward slightly. Valuable testing and calibration procedures have also been established.

Future work will include specimens with both longitudinal and circumferential welds. Types of material used will include cast iron, stainless steel,



Machine for stress analysis

drical specimens to fluctuating internal pressures in phase with a vibrating axial load.

The machine which is used to reproduce these stresses operates at 300 cycles per minute and was first described by Joseph Marin in a paper entitled "Strength of Steel Subjected to Bi-axial Fatigue Stresses." The cost of the machine, which is located in a laboratory of the Gas Institute, amounts to more than \$1,300.

Some difficulty has been experienced recently in obtaining well-machined test models, which cost about \$12 each for a good specimen. The former models were made of SAE 1020 killed steel fully annealed and shaped in a taper with a minimum thickness of .05 inches.

The graph obtained, when plotting the log of cycles vs. maximum applied stress is curved and does not differ radically from a graph obtained for uni-axial stress. This observation has been duplicated in the curve obtained for bi-axial stress using the new type test model, which has a uniform thickness of .05 inches for a given length with fillets at both ends of the bar.

These new results indicate that the fatigue strength is not influenced by the presence of a bi-axial state of stress; although tests made thus far have only included the case of equal longitudinal and circumferential stresses. It is planned in the future to vary the ratio of the stresses in eight proportions

brass, and duraluminum.

Personnel for conducting the tests has been scarce during the past year, and half time assistants were employed. However, this condition has been remedied, and it will be possible to operate the machine on a full-time schedule. If quick results are desired, two more such machines could be constructed.

Maine High hears talk on engineering

Miss Katherine Judkins, educational councilor of Illinois and Mr. Harold L. Minkler, head of the new visual education department of the Engineering, Science, and Management War Training program, addressed the students of the Maine High School, Thursday, April 1.

Both Miss Judkins and Mr. Minkler stressed the importance of high school students preparing for engineering or science training while still in high school. Also they outlined the courses offered by IIT, and announced the scholarships available at the institute.

The Jr. Chemicals hereby issue a challenge to any department of any class to meet them in a chess match, five men to compete. Any department interested should see S. Chase of the Chemical Engineering department to arrange match.

New ordnance course started

A new ordnance course which is open to civil service employees and officers in the Army was inaugurated Monday, April 5, in the loop as a part of the war training program held there.

The courses are designed to supply trained men for Army Ordnance and the Sixth Service Command. Men who receive the training will be equipped to act as inspectors of high explosives in war plants.

The ordnance classes are being held at 333 N. Michigan Avenue, and those for the Sixth Service Command at the Civic Opera House.

War movies, skit at Home Ec. meeting

Two movies "Partners in Crime" and "Food-Weapon of Conquest" and a short dramatic skit was presented to faculty members and students of the Home Economics Department on Friday, March 26.

"Partners in Crime," an English production, compared synonymously, the actions of a larcenist and the shopper who purchases from the black market.

"Food-Weapon of Conquest" showed poignantly how valuable food is as a method of inflicting submission on either conquered peoples or withstanding foes. It was suggested that control of food is the German secret weapon of conquest and was shown that hunger is the compelling force in the establishment of the ancient institution of slavery.

The skit performed by Corinne Lense, Dolores Schild, and Viola Sievers depicted a contemporary scene of American home makers and was based on the fact that gaining knowledge of nutrition is just as patriotic as a more exhibitionary activity.

MAN OF THE WEEK

This week TECHNOLOGY NEWS pays tribute to one of the outstanding student members of the electrical engineering department. This "man of the week" is Victor Graziano, a junior who lives in Oak Park.

Vic's interest has been captured by the magic of radio for a long time. For a number of years he has been an amateur (ham) radio operator. During his high school days, he was a member of the Oak Park High School Radio Club. Vic became a member of the IIT Radio Club last year and at the same time was elected to Rho Epsilon, the honorary radio fraternity. At the beginning of last semester his efforts had proven him to be the man that should lead this fraternity, and he was subsequently elected as president of the organization.

Early this year Vic was pledged to Eta Kappa Nu, the honorary electrical engineering fraternity, and is now its recording secretary. He will also pilot the editing of the honorary fraternity pages of the 1944 Integral.

Victor's efforts in connection with the frequency modulation radio station which is being constructed at the west side campus have been outstanding. He has shouldered practically all of the responsibility of the task.

JUNIOR MARSHALS

(Continued from page 1) ger, a member of Rho Epsilon, the honorary radio fraternity, and the AIEE is the electrical engineering representative. Nat Ratner, a member of the track team, business manager of the Co-op Book Store, and a secretary of the junior class, is designated as the mechanical's representative. The fire-protects have found true merit in Elwood Koenig, a member of FPES, the Rifle Club, and secretary of Pi Kappa Sigma. Tim O'Leary, a member of the Honor Board, secretary of the AICE, and vice-president of the junior class, is the civil's member.



and it is through his efforts that a F-M station at IIT is actually materializing.

We congratulate this fellow for his untiring efforts for the school. We respect him for what he has been and is doing for IIT.

Lounge for Lewis subject of meeting

Meeting with the newly appointed student advisor, Arthur Wright, twenty Lewis students representing the student body, selected a chairman and discussed the possibility of a student lounge.

Bob Weiss and Eileen Robinson were elected co-chairmen. Immediately plans were laid and committees appointed.

A floor plan of the lounge, which will be on the balcony of the gymnasium, was made by Bob Ryan, and the decoration committee, consisting of Bob Ryan, Cherryl Benes, Helen Gordon, and Jack Burger, began selecting the furniture.

JUNIOR WEEK

(Continued from page 1) and pie eating. Again the evening will be completed with dancing.

It is evident from this program that everyone who attends will have a good time and that the traditional class rushes will not be too sorely missed.

Friday, May 7

9:00-10:30—Softball Tournament

- (1) Frosh vs. Sophs
- (2) Juniors vs. Seniors
- (3) Lewis vs. Co-ops

10:30-12:00—

Winner (1) vs. winner (3)
Faculty vs. winner (2)

12:30-2:00—Championship

2:00-5:00—Skits
2:00-2:20—Archs
2:20-2:40—Chems
2:40-3:00—Civils
3:00-3:20—Co-ops
3:20-3:40—Juicers
3:40-4:00—Faculty
4:00-4:20—Fire-Protects
4:20-4:40—Mechs
4:40-5:00—Secretaries

7:30-10:30—Glee Club—
Fraternity Sing

10:30-12:00—Juke Box Serenade

Saturday, May 8

9:00-12:00—Track meet and
Tug-o-war

12:30-1:30—Greased pole
contest

1:30-2:30—Pie eating
contest

2:30—Supper—Obstacle race
8:30-1:00—Dancing

"Where's your 'belly brass' Bosco?"

