



Breakage of Cross Head Causes Piston To Smash Engine Head

**Out of Service Two Weeks;
Repairs Cost \$1,000**

(See Photo)
Last Wednesday, at 3:55 p.m. every one on the campus was stirred into action as a result of an accident in the engine room. The large steam engine located in the engine room, is coupled to a large 20 kilowatt generator which furnishes light and power for the school. The cross-head, made of cast iron, broke allowing the cylinder to go right through the head of the engine. Having a flywheel that weighs close to five tons and travelling at 200 revolutions per minute, the steam had sufficient force to send it out through the head.

Interview Engineer

An interview with Anthony Mollers, night engineer, gave the following story:

"I had just left the engine room and gone into the boiler room when I heard a bang! I happened to be talking with Professor Libby at the time and with the clanking noise every fraction of a second, I knew the cylinder on the large generator had burst. Well, the steam was blowing in our direction so that we couldn't get back into the engine room. About the time I had started to go outside and around from the other door, Claude Blankenship managed to come in from the north entrance of the engine room and close the throttle valve which gradually stopped the engine. Naturally all the lights went out and the room was clouded due to the escaping steam. I immediately told the fireman to keep the water pumps at full speed so that the boilers would not be damaged at the sudden decrease in load on the steam lines.

Steam at 120 Pounds Pressure

"We then looked at the damage making sure the small machine was not harmed due to the accident and then got it started so we could have some lights. The steam was at a pressure of about 120 pounds pressure and when that comes out of a ten inch main, it has plenty of force. Just for example, take John's cabinet; it was blown against a post; and the cabinet is fully thirty feet from the engine. That's why we couldn't get back into the room."

When the machine was being disassembled the following day, this reporter obtained additional facts from John Allen, the chief engineer. The cylinder head weighed about 300 pounds, was 1 1/2 inches thick and was bolted in place by 16-one inch bolts. The steam chest was damaged but can be welded. The cast iron cross head will be replaced by cast steel which will increase the strength of the moving parts. Damages are estimated at about \$1,000 causing the machine to be out of service for about two weeks. "We're all glad," said John Allen, "that no one was injured in the incident. A machine can always be replaced, but not a human body."

W.S.E. Smoker for Nov. 10 at Pi Kaps

The W. S. E. Smoker committee has announced that the fall smoker will be held next Thursday night, Nov. 10, at the Pi Kappa Phi fraternity house. Festivities are to start at 8:30 p.m. Members will take part in a Monte Carlo party and view some very excellent motion pictures.

There is one pre-requisite, however, before attendance will be allowed. Membership dues must be paid. Seniors, juniors, and particularly sophomores who have not paid their fee had better do so lest they miss an enjoyable evening. As a particularly pleasing innovation the committee has promised a very tasty repast for those who are able to attend.

The W. S. E. Smoker is an annual affair at Armour. It is invariably held in the fall of the year and is traditionally conducted by a committee selected from the junior class.

Seniors To Hold Dance In Union Bldg. Dec. 10

Meeting at noon last Friday, the senior social committee set December 10 as the tentative date for the senior dance. If the Union Building is completed and furnished by that date, the dance will be the first held in the remodeled student building.

As is the custom at Armour, the senior class will hold the first class dance. Bids will be on sale shortly after the Thanksgiving holidays as the committee is, at present, designing the style of bid. "If we can hold our dance in the Union Building," said Anderson, "we can guarantee everyone a good time. We'll have a real celebration, since it would be the first dance held in the new building," continued Anderson, "so we're hoping to have a good turn-out from the entire school."

New Steel Lockers Now On Way; Will Be Placed in Engine Room Temporarily

One hundred and five new lockers are soon to be added to those in the basement of the Main Building, according to an announcement made by Mr. George Allison, treasurer of the Institute. It is expected that the order will be delivered in about two weeks. The lockers of steel construction, will be of a type similar to those already installed.

Temporarily the lockers will be placed in the engine room. Present plans are to clear a space for them along the west wall in back of the machinery rather than to have them along the aisle where they would be in the way. The new lockers will be for the use of those juniors and seniors who do not at present have a locker.

Honor World War Heroes At Armistice Day Mass Meeting

J. Speyer Takes Sketching Prize

Chapter Edfou of Scarab fraternity held its annual sketch competition last week. James Speyer was the non-member to win the one year subscription to *Forum*, architectural magazine.

His winning sketch was a water color of a scene of the Chicago River. The jury was composed of Professors van der Rohe, Kreihbel, Rodgers, and Mell. A total of sixteen sketches were chosen, from the competition of 55, to represent Armour in the national competition sponsored by the chapters of Scarab. The competition will be held and judged in Cincinnati, Ohio, on November 21, 1938.

George E. Danforth, a third year man, was selected, according to A. M. Richardson, president of Scarab, as delegate to the Annual National Convention of Scarab fraternity to be held in Cincinnati, Nov. 21. Accompanying Danforth will be Ambrose Richardson, John Rea, and Fred H. Prather.

"Polaroid" Is A.S.M.E. Topic This Afternoon

Culminating 250 years of scientific research by the world's leading physicists to provide a directional control of light waves, Edwin H. Land, young Boston scientist, recently invented "Polaroid," a sheet of transparent material with an amazing power over light and promising "an industrial and scientific revolution with its more than 800 possible applications." This evening, at 7:30 p.m. George W. Wheelwright, III, partner in the Land-Wheelwright Laboratories, will demonstrate and lecture on Polaroid to a Chicago audience under the auspices of the American Society of Mechanical Engineers in the second floor auditorium of the Engineers Building, 205 West Wacker Drive. The same lecture and demonstration will be shown before the student A.S.M.E. in Science Hall this afternoon at 3 o'clock.

Three-dimensional Color Movies

Demonstrations of a few of Polaroid's many uses will include illumination, completely free from glaring reflections, three-dimensional motion pictures in full color, the creation of color in colorless materials, and the inspection of glass for annealing flaws and imperfections. Mr. Wheelwright, who will be introduced by John M. Magos of Crane & Company, and member of the Research Committee of the Chicago Chapter of the American Society of Mechanical Engineers, will explain how Polaroid "combs" the helter-skelter vibrations of ordinary light into a single plane and thus provides a harness for light that allows mankind to make much more extensive use of this vital form of energy.

Roesch in Charge

Daniel Roesch, Professor of Automotive Engineering, and member of the A.S.M.E., in charge of local arrangements for the lecture, advises that Polaroid has been considered by scientists and optical authorities as one of the great contributions to artificial illumination since Edison's incandescent lamp. Besides being helpful in conserving vision for the normal person, thousands of ocularily deficient people who have been handicapped in reading under glare conditions of illumination will have access to comfortable reading of newspapers and magazines with the advent of Polaroid.

Lecturer Wheelwright was a professor of physics at Harvard University. (Continued on page three)

Brass Band Leads Way To Ogden Field

Following the custom which has been established at Armour for twenty years, a student assembly will be held next Friday morning on Ogden field to commemorate Armistice Day. This year the plans for the ceremony have been changed from previous years, in that the assembly is to be an all Armour affair. No outside speakers are to be in attendance, since the address is to be given by President H. T. Heald.

Expect All To Attend

Plans for the assembly include a detailed explanation of how the various classes are to arrange themselves prior to entering field. The whole affair, while not intended as a stiff, formal occasion is to be a solemn dignified ceremony. All members of the student body, graduate students, co-ops, institute employees, faculty members, and members of the research foundation are required to attend.

Separate divisions of the entire group are to assemble at designated places, under the supervision of student marshals. At 10:35, after the second hour class, the band will start playing and the various groups will march onto the field through the south gate. From there the ranks, double file, will proceed along the west side of the field, turn east and arrange themselves in rows in the east and west direction. All will then turn and face to the north. When 11 o'clock comes the entire body will face to the east and remain at attention, in silence, for a period of one minute. This cessation of activity is the annual memorial which all Americans observe in honor of those men who bore arms overseas and those who gave their lives in the World War.

Heald To Give Address

At the north end of the field there will be a raised platform upon which the speakers will stand. A public address system is to be installed for the convenience of speakers and audience. President Heald will start his address at 10:55 and will continue until shortly after 11 o'clock. The intermission will occur during his address.

Last week the *News* carried the announcement that the assembly is to be held under any condition of weather which may prevail. If the (Continued on page four)

Foundation Officials Add New Equipment To Acoustics Dept.

Recently the Research Foundation added two new pieces of equipment to its ever increasing collection of unusual apparatus. The particular items are a sound level meter and a wave analyzer, both of which will be used by the acoustics and vibrations division of the Research Foundation, under the supervision of Dr. H. A. Leedy.

The sound level meter is a device to measure the magnitude of sounds. It is a very sensitive piece of apparatus covering a range of energies of 1 to 1000 billion. One of the most valuable features of the instrument is that it will cover sounds ranging from those on a quiet country road at night to those produced by a pneumatic hammer with about the same response as the human ear, making the sound level meter an ideal tool for problems in noise elimination. At present instruments similar to this are finding use as applause meters in the various radio stations and theaters.

The wave analyzer is a device that breaks up a sound into its component frequencies and the amount of each frequency present in the sound. One of its main uses is in the evaluation of tone qualities, such as the tone of a fine voice, radio, and violin.

Results of Boiler Room Incident

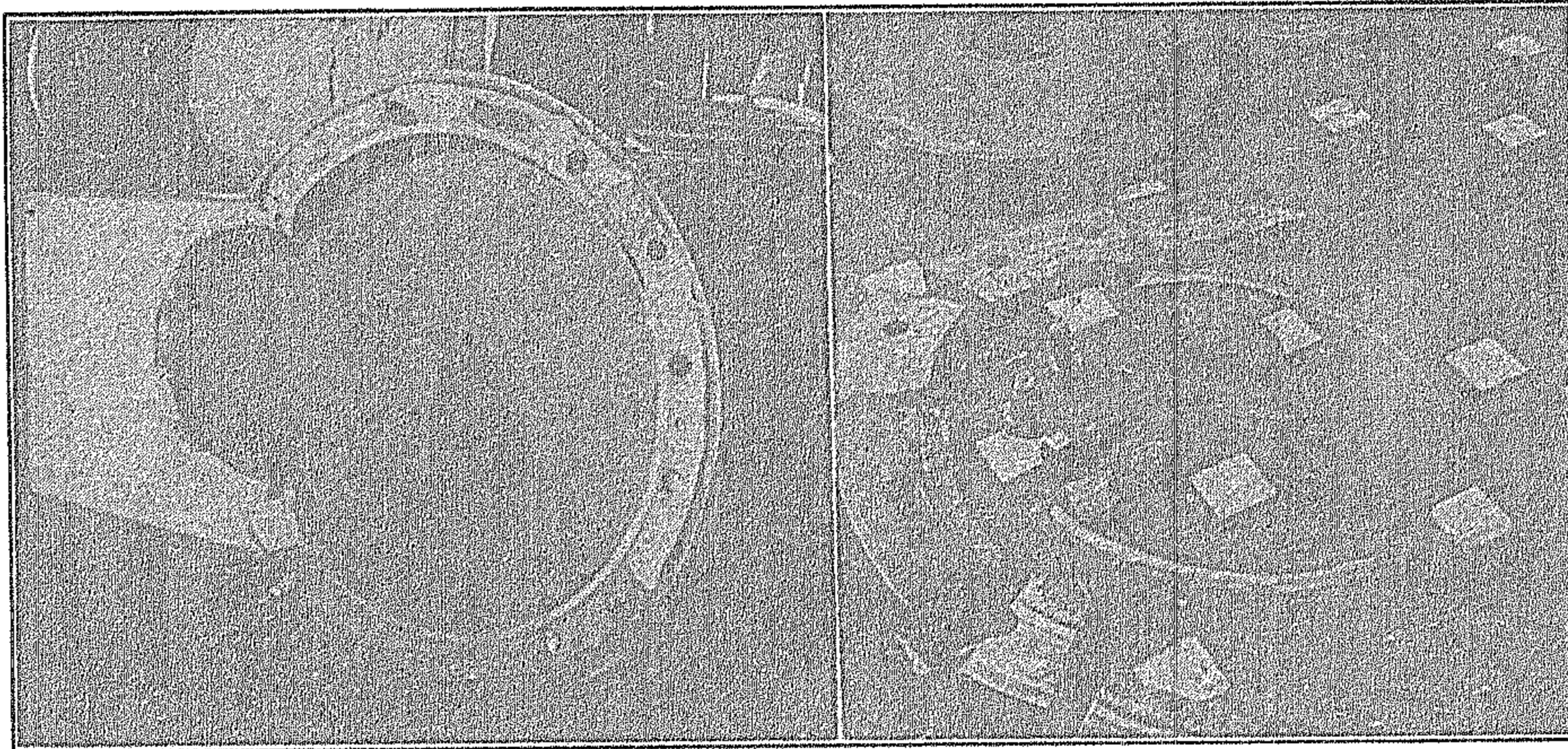


Photo by Barker

Appoint P. Harrington, Armour Alumnus, Commissioner of Chicago Subway Project

Philip Harrington, a graduate of Armour Tech, class of 1906, was appointed commissioner of subways and traction by Mayor Kelly last Thursday. Harrington has been traction engineer for the city of Chicago for the last three years.

"Since I was a boy I have visioned a subway for Chicago," Harrington said after his appointment as subway "Czar" had been unanimously approved by the Chicago council. "It is a great honor to be in charge, I will do everything possible to bring honor to the mayor and the council in this undertaking."

Work To Begin in December

Harrington's big and important task for the next two years will be the building of two rapid transit subways on which work is scheduled to begin December 15. The subways, which are expected to bring Chicago's antiquated transportation system up to date, will cost 40 million dollars and will be financed partly with an 18 million dollar grant from the Federal government.

Distinctively a Chicago citizen, Mr. Harrington received his primary education in Chicago public schools, spent four years on the Armour campus where he received the degree of Electrical Engineer, and completed a legal course at Kent College of Law. He was admitted to the Illinois Bar in 1916, is 52 years old. For 29 years he was employed in the engineering department of the Sanitary district, spending the last two years (1933 to 1935) as chief engineer. He was responsible for the preparation of design, drawing of contracts, construction and operation of more than 100 million dollars worth of plants and works.

Plan For Extension

Although Mr. Harrington will carry greatly increased responsibility in his new position, he will receive the same salary—\$20,000—which he drew as traction engineer. His new subway department will not only build the initial system of subways, but it will prepare plans for the extension of tubes. It will also maintain the subways after they are built and supervise the use of them by the

company operating them. An ordinance passed last week amends the powers of public works to place all of the authority for subway work in the hands of the new department.

The ordinance which creates the new position of commissioner of subways makes no statement as to the length of term in office, but authoritative sources have stated that a state statute governs in such cases, and limits the term to two years.

An article on the Chicago subway system, authored by Mr. Harrington, appears as a "nation wide scoop" in the issue of the *Armour Engineer and Alumnus* issued this week. The article was secured by the editors previous to last week's events and promises to be of foremost importance to the technical readers as well as laymen.

Election Committee Names Five Officers For Freshman Class

A release last week from the temporary freshman committee indicated that five offices will be filled by the coming elections. In addition to electing the customary president, vice president, and combined secretary-treasurer, a social chairman will be selected as well as a representative to the board of the Armour Tech Student Association.

Nomination procedure requires that the candidate (who can petition for only one office) must submit a petition to the election committee before noon, Friday, November 18, bearing the signatures of 35 members of the class of 1942.

A primary and a final election are planned, each to be conducted according to the rules of the Australian ballot. The three candidates receiving the most votes for each office in the primary election will compete in the final vote. A plurality will decide in the final election.

Petition forms and further information will be supplied by the temporary committee, composed of Earl Huxhold, Bob Tatge, Ted Krupnik, Warren Underlight, and Fred Klein.

Civils Submit Plan To Create Unified Engineering Group

Five Men Pledged to Chi Epsilon

Chi Epsilon, honorary civil engineering fraternity, pledged one chapter honorary member and four chapter actives to their membership at the regular meeting of the Western Society of Engineers last Friday. Dr. Linton E. Grinter, head of the department of civil engineering and dean of the graduate division was the chapter honorary member to be pledged. To the active chapter were pledged D. J. Saigh '39, D. M. Way '39, G. P. Hanna '40, and F. A. Opila '40. These men were pledged because of the high standard they set in scholarship, character, sociability and practicability.

In an attempt to solve their current problem, the officers of the W.S.E. selected Mr. A. Hammond to address them. The problem which is confronting the Armour chapter of the W.S.E. is that of the installation of an Armour chapter of the American Society of Civil Engineers. For some time there has been considerable discussion of the relative merits of both the A.S.C.E. and the W.S.E. To do away with the W.S.E. entirely is felt by the faculty and the officers to be foolhardy. In accordance with this, the plan has been submitted that the W.S.E., which is not a purely civil engineering society, became the parent society. In this organization all the students would be entitled to membership with the governing body composed of all the officers of the various departmental societies. Through this medium, the W.S.E. could obtain speakers and events which could not be had to address merely the small groups which are found in the departmental societies.

Mr. Hammond, being a past president of both societies, was deemed the logical man to advise the students. He advised the members to enter into (Continued on page two)

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Fraternity Notes

By EDWARD CHEVALEY

All fraternity notes must be received by the fraternity editor before 5 P.M. Thursday in order to appear in the next issue.

TRIANGLE

Donald C. Rogge, president of the house, now has a new hobby—and it has the brothers worried. It seems that Don must have taken a ride in a boat while down in Evansville, Ind., last summer, for now he is constructing his own Queen Mary in the basement of the house.

Whether he will be able to launch it through the walls is a problem that Don doesn't seem to be worrying about. The 14 foot craft will start some swell fires this winter, any way.

Triangle extends its congratulations to Brother Howard Coyle who was pledged to Tau Beta Pi a week ago last Friday.

PHI PI PHI

The Halloween Dance, sponsored by the pledge class, was a pronounced success and Pledge Captain Ted Growak can be proud of his pledge brothers for their fine cooperation on that project.

The chapter was proud to have as guests of the evening, Prof. and Mrs. Freeman and we trust that they enjoyed being with us as much as we enjoyed having them.

Our new R. C. A. Victor radio-phonograph has been working overtime and several heated discussions have been waged over the rendition of a certain selection entitled, *Old Man Mose*.

The athletic boys of the house have been working out with the new set of barbells, and it is reported from a reputable source that Clay De Menti can lift anything in the house but the furnace, and he can balance the budget with his right hand.

DELTA TAU DELTA

Comes Tuesday and our long awaited contest with Rho Delta Rho. The team is in top-notch shape and expects to add the Rho Deltas to its purge list. An 18-0 victory is predicted for the purple avalanche. Ransel having resigned it behooved the Deltas to elect a new treasurer. When the nominations were over and the votes counted William Scherer was installed as the future Dollar Grabber.

Our Pledge Formal is to be held at the House Nov. 19. Put on your top hat, white tie, dust off those tails and let's swing it. But don't forget your best table manners, for the Mothers' Club is to supply the food in the way of a buffet supper.

Armistice Day

At the eleventh hour of the eleventh day of the eleventh month of the year 1918, all hostile action ceased in the greatest of all wars—the World War. It was the first Armistice Day. Men who had been trying to kill each other now came boldly out of their trenches. Enemies for four long years became friends and peace instead of war, reigned over the battle-scarred fields of France.

In this country wild rejoicing broke out in every city, town, and village. The whole country was swept with a tide of happiness. The strain of the war was over. Bells rang and rang; everyone was happy. No more war. No more hatred. People everywhere resolved and declared that never again should war darken the souls of men and cast its shadow over the world.

At the dedication of the tomb to the "Unknown Soldier" in the National Cemetery at Arlington, Virginia, President Warren G. Harding said, "This must never happen again."

Each year, all Armour attends the Armistice assembly. It is the only tribute we can pay to those men who lost their lives in a fight for democracy. The assembly this year will be held in Ogden field in the form of a mass-meeting. All brass instruments of the orchestra have been formed into a band to furnish stirring marches for the event. The ceremony, which includes the entire student body and staff, should be very impressive. Plans have been arranged far in advance to insure an orderly entrance to the field. Assist the school officials by using the directions published with this issue.

THETA XI

We are happy to have Brother Graf back with us after having been absent for nearly two weeks due to an injury he received in a touchball game two weeks ago.

Brother Giovan is getting an early start with the ping pong players this year. A number of the boys are very good players and will make an excellent team. Brother Hrudu insists that he wins his games by the use of a little psychology. His opponents feel that his freak shots seem to be quite regular, or maybe its because of his long arms.

PHI KAPPA SIGMA

Congratulations to the Rho Deltas for their handling of the pigskin and subsequent win, with sportsmanship as the keynote. May the best team win the finals.

Last Saturday night the Mothers' Club with their usual aplomb gave a grand card and bunco party. Thank you, Mothers' Club and those Dads that were prominently active. The prizes were well chosen and were received with a great deal of pleasure. The party wasn't restricted to grown-ups as was noted by the conspicuous attendance of brothers and pledges with their better half.

Our well rounded off pledge class has quickly adopted themselves to fraternity house functions and are striving vigorously to attain the pledge award. This award will be presented to the pledge having the best all around record of pledgeship including scholarships, attitude, co-operation, etc. The award is a fraternity crest ring.

PI KAPPA PHI

The Mothers' Club card party held last Saturday was a huge success due to an attendance of 48. Our pledge dance is scheduled for Friday, Nov. 18 and the pledges have threatened to outdo our regular social committee, but we claim it can't be done.

Our first intra house touchball game ended in a scoreless tie, both teams are planning how to win in the near future.

MAY CHANGE W.S.E. PLAN—

(Continued from page one)

the A.S.C.E. and make the W.S.E. the parent society as outlined in the previous plan. "If a charter is desired, the following procedure must be followed," said Mr. Hammond of the A.S.C.E. He then went on to describe the mechanics of obtaining a charter.

In answer to a question from Dr. Grinter, Mr. Hammond said that there was nothing in the by-laws of either society which would prohibit a plan as he understood it.

Many Armourites Attended Chicago Teachers College Social Friday Afternoon

Last Friday afternoon, 119 Armourites accepted the invitation of the Chicago Teachers College. Arriving at 3:30 in the afternoon the two hour period of dancing passed quickly with the Techawks doing their share in the robber's dances.

Every other Friday, the college has a social. Because of the basketball and choir practice at the same time, partners were scarce. Tickets were sent to the Registrar and students interested were asked to call there for them.

Pres. Heald Visits Cooper Union on Recent Trip East

During the last week President H. T. Heald has been doing a considerable amount of traveling in the eastern portion of the country. For the first part of the week, he was in Boston, Mass. on business concerning the Institute, and then during the latter part he represented Armour at Cooper Union College for an installation of its new officials. Cooper Union is perhaps the oldest technical school in the entire country.

Since Mr. Heald is to make the address at the Friday Armistice Day ceremonies, he will be returning to his desk early this week.

Equipment and Furnishings Being Delivered Daily for Remodeled Student Union

Work on the new Union Building has been progressing rapidly during the last week. Students have all seen the number of trucks which have pulled up and discharged pieces of new equipment, but work on the inside has also been gaining headway.

Scaffolding has been removed from the new assembly hall, the decorating and lighting is practically complete and the new wooden floor is ready for finishing. The new movable seats have yet to be delivered, but they will be ready in a few days.

It is expected that the lunch room equipment will be removed from the gym during the Thanksgiving holidays and the Union will then be ready for one of its most important functions—food. All of the new equipment for the fountain, new gas ranges, and new dishwashing equipment have been installed. The new pedestal type tables have been delivered and new lighting fixtures are being put in place.

Book cases for the book store have been set up and are ready to be fastened in place. All of the new hall doors have been hooked to their frames and numerous panes of new glass have been puttied in windows.

The Slipstick

Cleave to the slipstick; let the slapstick fly where it may.

Step in closer folks and also you Armour engineers I'd like to show this all new patented self servicing and automatic mechanism which we are giving away absolutely free with every Slipstick Column. This little handy device when attached to your slide-rule will locate the decimal point in your answer. Simply add up the mantissas and divide by the characteristics and subtract the antilog from the quotient to the colog. The answer is guaranteed to be right. If the answer isn't right you can sue me. So what?

Beside the crowded dance floor
An ugly coed stood
And stood, and stood, and stood,
And stood, and stood, and stood.

Armour Soph: Pa, may I have a quarter to go to the circus with?

Dad: What? A quarter to see the circus, and only last week I let you go out and see the eclipse of the moon! Young man, do you want your life to be one perpetual round of gaiety?

Indicating that this column has the engineer's best interest at heart we are giving you the following technical report received from the research laboratory on whiskey.

Connect 20,000 volts across a pint:

- 1) If the current jumps it, the product is poor.
- 2) If the current causes a precipitation of lye, tin, arsenic, iron, slag, and alumni, the whiskey is fair.
- 3) If the whiskey chases the current back to the generator, you've got good whiskey.

"Johnnie, did you want to leave the room?"

"Say, teacher, you don't think I'm standing here hitch-hikin' do you?"

Georgie Porgie, Pumpkin Pie
Chased the girls and made them Cry, of course.

Our Household hint for this week will be a recipe on how to prepare watermelon squash. Gently pick up the watermelon and hold over head. Now let go. Squash!

I was boasting to B.R.S. that on a clear night a few weeks ago I could see the lights of Gary from the Chicago shoreline. "That's nuthin'," he retorted, "on a clear night last week



The Town's Best

By BERNARD STERNFELD

IN THE PICTURE DEPT: Might as well give the play to movie houses outside the Loop this week. There are just too many K. O. pics circulating to pass up. F'instance, a nifty parley is currently running at the Marbro and Uptown. The screwball Marx Brothers aggregation in "ROOM SERVICE" and "MARIE ANTOINETTE" starring Norma Shearer and Tyrone Power is well worth your time and coin of the realm. Other hits including "ALEXANDER'S RAGTIME BAND," "BOY MEETS GIRL," and "CAREFREE" are still showing at the smaller show spots. They're all \$250,000 Movie Quiz Contest numbers. Remember to send me my 10%.

IF YOU ARE READING: Ferdinand Lundberg's *America's Sixty Families* is a choice number. A flock of our American society uppercrusters take quite a bit of punishment in this, what with commoner Lundberg revealing the status of their income, the method in which said income was obtained, and the curious but interesting ways in which those gorgeous coarse notes are spent. It's a big book, jammed with names and statistics, but an easily read book. A good bet, that's *America's Sixty Families*.

AMUSEMENTS ODDS AND ENDS: Victor hits the deck this week with two naturals. For six bits, on No. 26060, you get a couple of swing classics as dished up by Benny Goodman & Co. "Margie" and "Russian Lullaby" are the tunes.

I could see all the way to the moon from the Chicago shoreline."

Prof: What is a skeleton?
Stude: A stack of bones with all the people scraped off.

DEAR DAD:

I hope you are well.
I hope mother is well.
I hope sister is well.
I hope John is well.
I wish you were here.
I wish mother was here.
I wish sister was here.
I wish John was here.
I wish you would send me some money.

Jim.

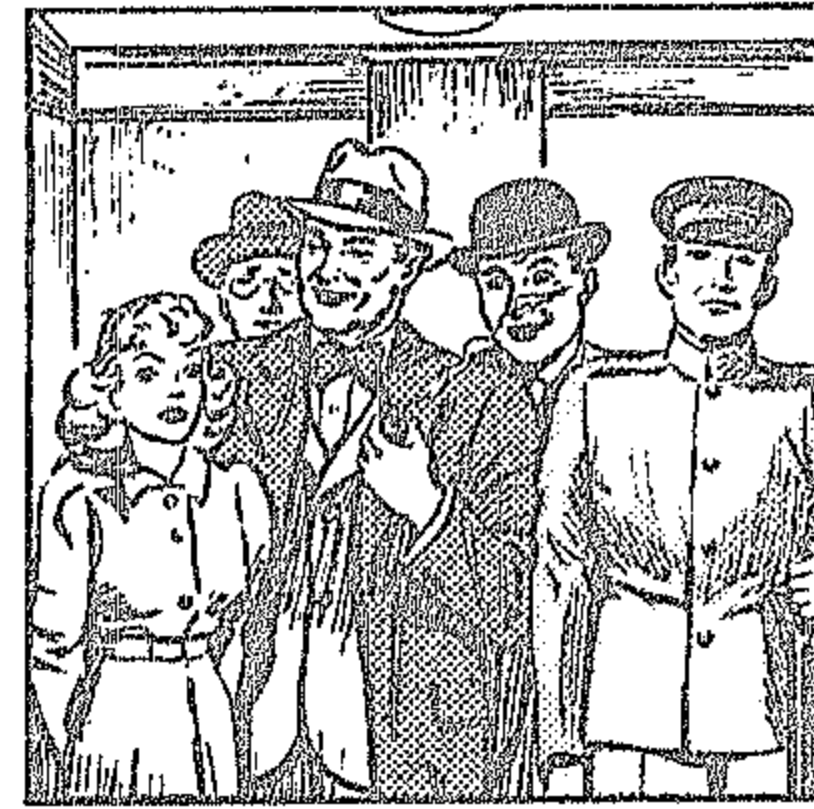
We are told that the last word in airplanes is "Jump."

"Did you feel something cold run up and down your back when you proposed to Eleanor?"
"Naw, her old man held the gun steady."

Drip: Do you play on the piano?
Drop: No. I used to, but my mother made me stop.
Drip: How's that?
Drop: She was afraid I might fall off.

That's all folks.

HI YO SILVER.



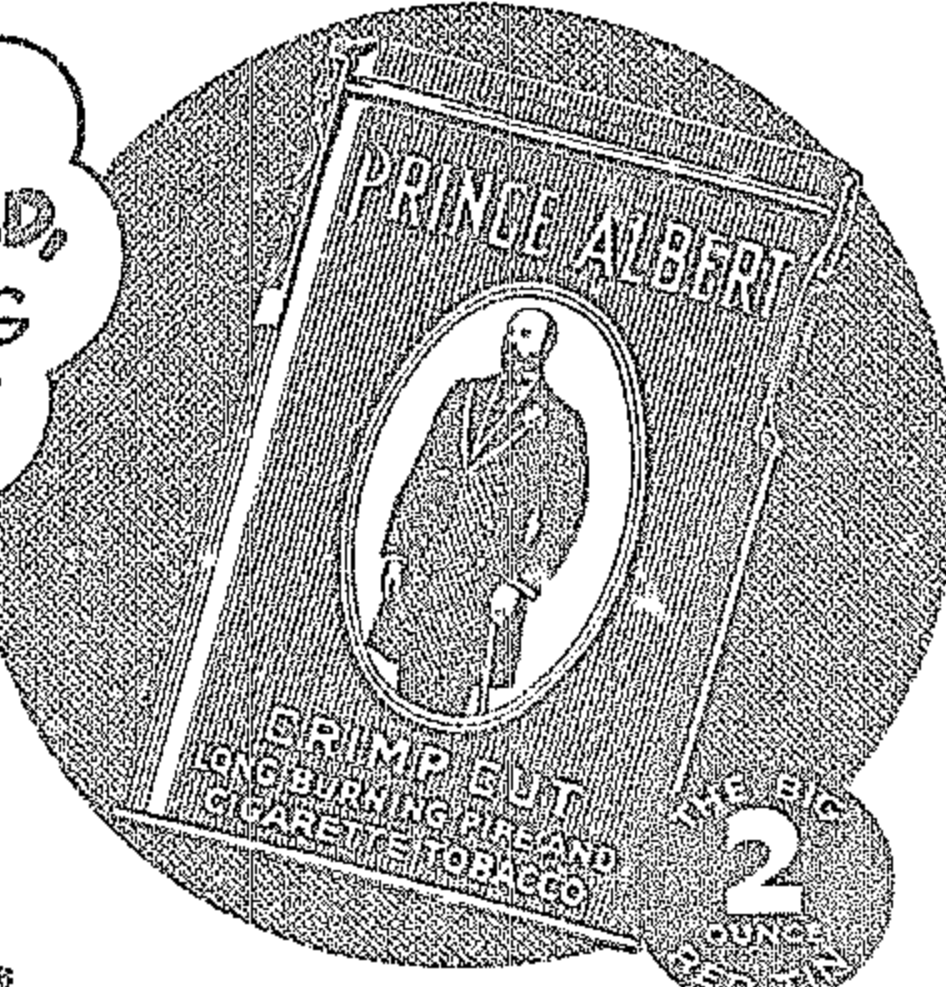
I'M THROUGH EXPERIMENTING. JUST GIVE ME PRINCE ALBERT FOR EXTRA-MILD, YET TASTY SMOKING, AND FOR CAKING UP A PIPE SMOOTH AND SWEET!



SMOKE 20 FRAGRANT PIPEFULS of Prince Albert. If you don't find it the mellowest, tastiest pipe tobacco you ever smoked, return the pocket tin with the rest of the tobacco in it to us at any time within a month from this date, and we will refund full purchase price, plus postage. (Signed) R. J. Reynolds Tobacco Co., Winston-Salem, North Carolina

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PRINCE ALBERT THE NATIONAL JOY SMOKE



50 pipefuls of fragrant tobacco in every 2-oz. tin of Prince Albert



By EUGENE WORCESTER

"HISTORY REPEATS itself." So goes the saying, and there is considerable evidence to support it. A glance into the Orient presents a situation remarkably like that in Eastern Europe over a century ago. Napoleon Bonaparte, Europe's Alexander, still unsatisfied with possession of the continental capitals, obviously looked on Russia's broad plains and seemingly endless forests. But his avidness for indisputable supremacy surpassed his means and ability to achieve it. His huge army steamrolled across the White Russian borders in farmer fashion. But progress was slow for lack of roads. His army, miles from a base, had to live on the fat of the land. Summer passed and autumn with it, and still his objective of Moscow was unattained. With the arrival of winter Napoleon was left with burned towns, barren fields and the Siberian blasts. Even before the advancing French, the retreating Russians destroyed all that might offer food or supply to the invaders. History records that the little Corsican found a conflagrated Moscow, and returned to Paris disconsolate and defeated.

THE CHINESE are using tactics against their Japanese invaders identical with those practiced by their Russian neighbors years ago. Hankow, the latest Nipponese seizure, was a prosperous city a few short weeks ago. The Chinese in Hankow, realizing that the city would fall prey to the Emperor's sons, cooperated with the army and destroyed or removed everything of value in the metropolis. Factories and industrial plants were dynamited. Power stations and oil stores were ruined and burned. The Chinese have determined that their invaders shall not be rewarded. Japanese capital stands small opportunity to yield return from a mass of smoldering ruins and a boycotting populace.

JUST WHAT Japan will gain from her exploits is questionable. She has, to date, buried upwards of 30,000 of her sons. She is finding war and the maintenance of an army very expensive. Chinese guerrilla warfare tactics are not helpful to healthy military morale in Japanese ranks. She is decidedly unpopular with the people of the world, although her stock is quoted considerably higher with her Fascist colleagues. History has consistently shown that no one has ever conquered China, but that her would-be conquerors have all been absorbed. Chinese culture, centuries old, and based on principles sound and extremely simple, has in the past resisted and defended itself against the pressure of an unhappy, aggressive, and profit-maddened world. In spite of "the schemes of mice" and a few men in Tokyo, Rome, and Berlin, she will continue in her culture when these mice are dead and forgotten.

A London experimentalist has developed, quite recently, a method for photographing the fragrance of a lily or the intense odor of camphor. It was well he stayed from Jersey City, or his negatives would spoil with the present stench of her municipal government. Frank Hague, whose present term expires in 1941, has been her honorable mayor since 1917. He has, in the 21 years of his office, made Jersey City the country's outstanding example of undemocratic government. Opposition has been quelled (but not eliminated as yet) by refusal for free expression of speech or press. Court procedures are mere formalities. Public meetings for others than Hague's party are forbidden on the ground that they disturb the peace. Hague's privately financed mobs of ruffians have broken up previous opposition party meetings, and brought on the alleged peace disturbance. Hague proclaims a doctrine of Jersey City for industry (and, it might be added, for Hague). When a city official receives a nominal salary of ten thousand a year, and then buys an estate, supports a coterie of satellite henchmen (or better, a private little army), and permits and causes continued rank denials of the fundamentals of the Bill of Rights, it would be well that outside pressure were brought to bear on his little fascist empire of Jersey City by

Planetarium Math Show of Interest

Sophomores who have trouble solving problems in calculus, and students who appreciate clever handicraft will profit by a visit to the Fall Mathematics Exhibit at the Adler Planetarium. Morton Junior college and the Gary Public schools are sponsoring this exhibit.

One model made by Morton Junior college, is in the form of a diorama illustrating the speed of separation of a man walking over a bridge and a boat passing beneath.

A second set of models illustrates the meaning of each step in evaluating a triple integral, used to find volumes of solids. This set shows unusually clever workmanship. Another set of models consists of solids suspended in midair, while back of them are two dimensional drawings of the solids with a complete algebraic solution for finding their volume.

There are models which illustrate the problem of determining the number of stories a skyscraper should contain to yield maximum income.

Other models illustrate hyperboloid gears, select the path of a ditch dug for minimum expense through ground of varying degrees of hardness, find the maximum length of a thin rod passing through two corridors at right angles to each other.

Announce Complete Cast for Players in Latest Production

Casting has been completed for the first of the present season's plays, "Journey's End," to be produced by the Armour Players. The rehearsals are being held in the English rooms on the third floor of the Physics Building. At the present time, the cast is finishing the first act.

The cast has been tentatively set as:

Osborne	.....	C. McAleer
Stanhope	.....	B. R. Sternfeld
Raleigh	.....	R. U. Rayninhus
Hibbert	.....	J. Duncan
Mason	.....	T. Hunter
Hardy	.....	R. I. Jaffee
Trotter	.....	L. Epstein
Colonel	.....	A. Hansen
Sergeant Major	.....	S. S. Silverman
Prisoner	.....	R. Hanneman

Journey's End, a 3 act play, is well known to the students of Armour as it is required reading in the present freshman English. It will be presented on or about Jan. 5.

Through the effort and leadership of Mr. Christophersen, the Armour players were organized early in the semester. This year the membership has been opened to all men including the night school students. By this means, a large membership has been obtained as well as many experienced men. The members are divided into groups, by choice, for the handling of properties, costumes, publicity and stage management.

Many plays of interest to the student body are being considered for production during the winter months.

those interested in keeping America a democracy.

THE AMERICAN Legion recently made the discovery that Madame Perkins, Secretary of Labor, is a red. The Tribune has further scooped the Dies Committee reports that Roosevelt, the New Dealers and all labor chiefs are radicals and communists. In reply it might be said that were this true, our United States would be a communistic government. It is not, by a long shot. The harshest critics of the administration, the industrialists, are ungratefully biting the hand that feeds them. When the banks and industrialists were sick in 1933, Roosevelt came to their aid. Largely due to his policy they have regained health and now they turn from him. With due reserve, it can be said the country was very close to revolution in 1932. Twelve million unemployed people is a dangerous element in a country rich in resources, but handicapped with selfish vested interests. Roosevelt is trying hard to solder up the leaky pail of American capitalism, but it is a difficult task when his support looks for ephemeral fame instead of using foresight for a planned future. Little wonder the pail is leaking all around him.

Discussion of the Uses of X-Rays is Topic for A.I.E.E.

Armour's branch of the A.I.E.E. presented Mr. H. T. Trenary of General Electric on "Industrial Uses of X-Ray Equipment" in the electrical lecture room last Friday morning.

Roentgen in 1892 discovered these hitherto unknown x-rays that could penetrate wood and paper. In 1930 x-ray testing of boiler was officially required by the navy. Later it was required in the inspection by the American Petroleum Industry of its boilers. At the present time the X-Ray equipment has been developed to penetrate steel plate five inches in thickness. For thickness greater than five inches, radium is used as the penetrating medium.

The ability of x-rays to penetrate is proportional to the density of the material. Since platinum is most dense, it should be used as protection from x-rays, however, the cost is so tremendous as to make it prohibitive. Schematic diagrams showing the use of x-ray equipment was shown. Recent developments include immersion of the x-ray tube to protect the operator and eliminate the necessity of correction for humidity and altitude changes. Any small difference in density is immediately recorded on a permanent record. This property is valuable in determining correct procedure in metal casting, since if there are no imperfections the pictures will be shown without flaws.

The x-ray is the only method of determining quality of production without destroying the piece. In this way the fruit growers were able to save \$5,000,000 by inspecting the orange crop which was partially spoiled by a sudden cold snap. The equipment was able to inspect 17,000-20,000 oranges per hour rejecting all unfit fruit.

Last Wednesday evening 72 A.I.E.E. members enjoyed their annual smoker held in Science Hall and the second floor electrical laboratory. L. Strocchia took honors in the games, while Dr. Reed gave an interesting talk concerning his own personal experiences in the field of electrical engineering.

New Department of Educational Testing Determining Best Combine of Frosh Tests

Armour Institute created this year a new department of Educational Tests and Measurements, so as to centralize all the purely educational work in one department. New offices for the testing office and workrooms are located on the third floor of the Physics Building.

There was a change in two of the freshman orientation tests this year. The psychological examination was changed to adapt it better to machine scoring, and at the same time a sixth part was added on number series. The test can now be divided into two parts. One part contains arithmetic, analogies and number series. This part called Q is heavily loaded in quantitative thinking. The second part, containing word completion, artificial language and opposites, is heavily loaded in verbal traits such as verbal fluency and verbal deduction. This part is called I. As soon as the February grades are in, investigations will be started to see if the new arrangement has better predictive value than the old.

The fifth test, general science, which was taken by the last two classes was always regarded as an experimental test. It has been replaced this year by a series of short tests on visualization. Research work by Professor Thurston of the University of Chicago seems to indicate that the ability to see in three dimensional space can be measured by a test in space of two dimensions. It is known that ability to visualize three dimensional objects is one of the essential characteristics of a design engineer, and probably of other kinds of engineering also.

In the original battery of tests it was hoped to get at least one test which correlated very low with the other tests when taken by engineering students. The science test did not correlate as low as was expected, but it did fulfill other objectives. Next year another test may be tried.

Chemicals Witness Motion Picture on 'Eagle White Lead'

Last Friday morning, the members of the A.I.Ch.E. witnessed a motion picture, "The Story of White Lead," describing the manner in which white lead is produced commercially. The movies were shown by Mr. R. Flood of the Eagle-Pitcher Lead Co.

Methods of mining the lead in the form of galena, a mixture of lead and lead sulphide, were first shown. The ore is then crushed and passed over a series of jigs whose purpose is to remove all stones which are present in the mined ore. The ore is passed to the furnaces, where the lead is purified and cast in bars for storage and transportation.

Before it is used in the manufacture of white lead, the lead is first cast in the form of thin metal disks, called buckles. The actual change from lead to white lead takes place in long corroding houses. Tanbark, the bark of oak trees, is spread over the floor, and pots, filled to one third of their capacity with a 3% solution of acetic acid, are placed on top of the tanbark. The lead buckles are then inserted into the pots so as to be directly above the vapor of the solution. A flooring, with openings for ventilation, is placed over the entire layer, and another layer is built up. This is continued until the entire corroding house is filled. The tanbark, which generates heat and carbon dioxide, acts with the acid to corrode the lead and form white lead.

This, the Old Dutch process is complete in about ninety days when 70% of the lead has been corroded.

The pots are removed and the white lead, formed in the operation, is crushed and screened to remove any unchanged lead. The finely ground white lead is then suspended in water and drained off into settling tanks. Water is drained off, and the settled lead is mixed with pure linseed oil and a small amount of turpentine. This mixture is further ground and then put up into containers. The movie was concluded with a short description of the uses and values of the finished product.

Eventually a battery of tests will be selected which will operate most efficiently with a minimum number of tests.

Vocational Interest tests are still being taken by students and by persons outside of the Institute. So many requests came from women that the women's vocational interest test is now being given.

Many people have the wrong impression that these vocational interest tests measure the interest that one has in a particular occupation. This is not true. For instance, engineers possess certain likes and dislikes, not connected with engineering, to quite a different degree than the public in general do. What that means is that from the standpoints of these likes and dislikes all engineers look very much alike and not like folks in the world in general.

It is hard to give a perfect comparison with more familiar objects, but this illustration might do. If one sees a man dressed in soldiers' clothes walking down the street, he says "There goes a soldier." In general he is right. Furthermore the chances are that such a man likes to be a soldier and is happy in his work. Occasionally this statement is not true. If a person sees an actor dressed as a soldier on the stage, it does not follow that the actor likes to be a soldier. That is to say it requires more than the possession of characteristic interests to be an engineer. Some of the things that are necessary are aptitude and personality. Strong however has found that people who do not have character-interests that characterized a profession rarely make a success of that profession. Which means in terms of the soldier analogy that if one sees a man on the street not dressed in soldier's clothes, the probabilities are that he is not a soldier and would not care to be one.

Some of the other work the educational testing office is doing is an

(Continued on page six)

Fire Protects Hear Lecture by Abel Gent

At the regular bi-weekly meeting of the F.P.E.S., held in room A, Main last Friday, the fire protects heard Mr. Abel Gent speak on "Town Classification." The speaker outlined the points which are of prime importance in giving towns their fire-protection grading and showed how these points are checked over and evaluated. Mr. Gent is a graduate of the fire protection engineering department, and is now with the Illinois Inspection Bureau.

Town grading is one of the most important functions of an inspection bureau, since the state bureaus rate all towns in their state which have less than 20,000 population. The number of such towns is quite large, and since they are all regraded at least every six years there is a large amount of work involved. Town grading is of great importance because one of the first steps in rating any piece of property, for fire insurance purposes, is to determine the class of the town in which the property is located.

Water Supply Important

The most important consideration in grading a town is the public water supply. Next in importance are the fire department, and the public fire alarm system. In addition to these three, the public ordinances for building construction, storage of materials, and maintenance of electrical equipment are carefully considered.

Actual inspection of fire equipment is usually carried out to insure that the pumps and engines are capable of throwing an adequate fire stream when needed. The water supply is carefully inspected as to size and condition of the pipes, pressure at hydrants, spacing of hydrants, and condition of the pumping station equipment. Water throwing tests for both fire equipment and water supply are run, using pitot tubes and other calibration devices to measure nozzle stream pressures, engine revolutions, etc.

State Bureau Approves Rates

When a town has been inspected by the bureau representatives, their findings are compiled in a detailed report and a rating is given. A letter of recommendation is sent to the town officials and suggestions are made for improving the classification of the town, and thereby reducing fire insurance rates. When a town makes any such improvements the proposed changes are submitted to the state inspection bureau for approval.

Another of the functions which an inspection bureau has is the testing of new fire fighting apparatus prior to its acceptance by a city or town. Tests are run for a three hour period at pressures up to 250 pounds per square inch.

In recent years many states have been following the practice of conducting a state fire college for firemen each year.

A.S.M.E. MEETING—

(Continued from page one)
versity while inventor Land was a student at that institution. Attracted and interested by Land's early experiments, Wheelwright suggested the Land-Wheelwright Laboratories. That partnership with a student who was to be regarded by his contemporaries as a genius within the next three years was the basis of a research organization that perfected Polaroid and now employs twenty top-flight scientists.

Mr. Wheelwright is currently engaged in a national lecture tour explaining Polaroid and its uses to institutions of learning, lighting and optical interests, and the many business men who visualize its use in their industries. Other lectures may be given in Chicago, Professor Roesch reports, if the auditorium cannot accommodate those wishing to attend.

At the last meeting of the society, A. J. Smith of the Calumet Refining Company, presented a sound movie showing the processing of petroleum from the well to the consumer.

The film demonstrated the method of refining used by the Calumet Oil Company. This method, patented under the name of Schulze High Vacuum Process, is unique in that it prevents the oil from reaching the cracking temperature and decomposing. Thus, all the lubricating properties of the oil are retained.

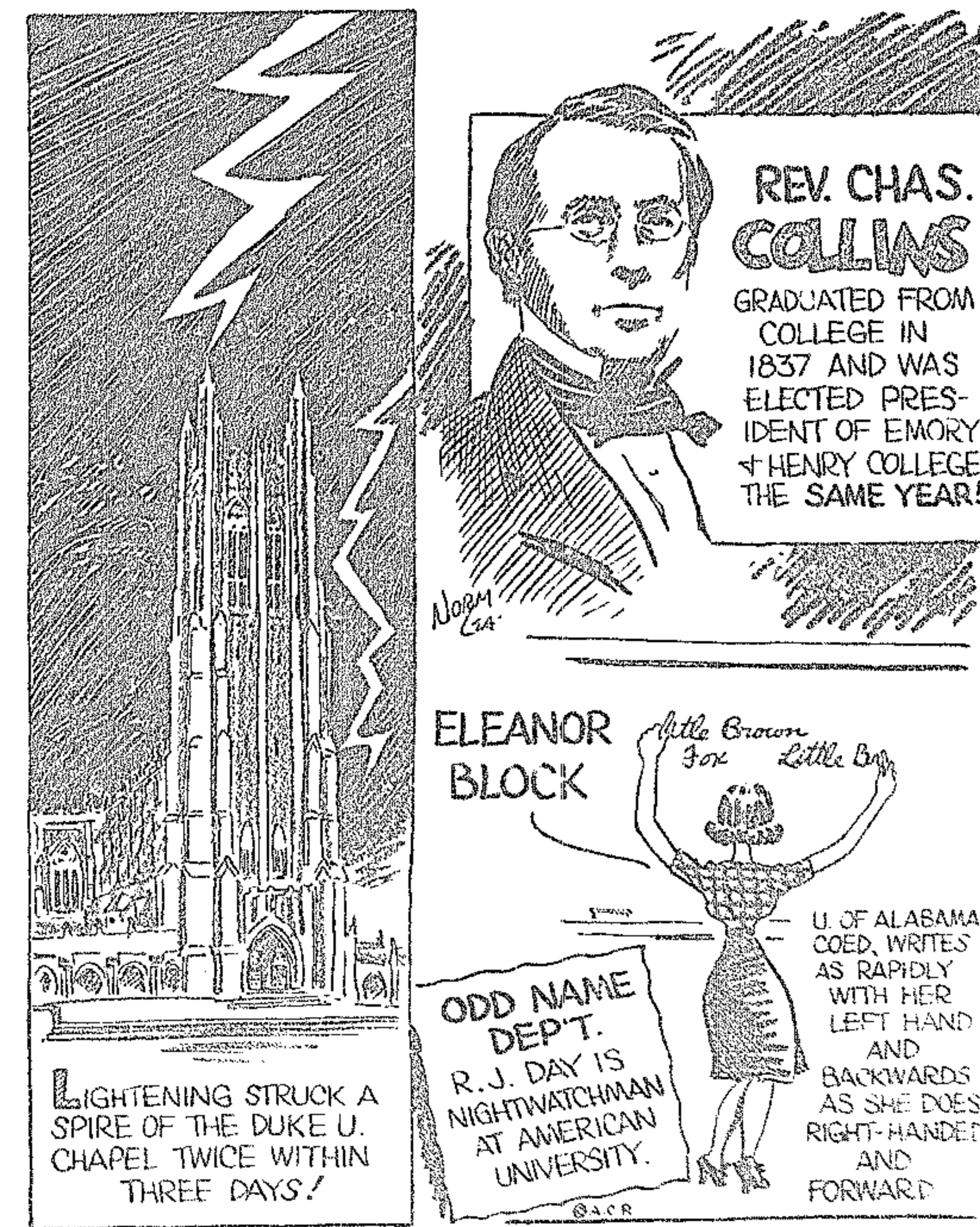
Another interesting portion of the film showed the sludge formed when oil is permitted to oxidize and react with the acids formed in the engine. The vacuum process seems to aid in freeing the oil from this sludge without using any solvents in the process. Actual tests showed loss of weight in bearing metals when a corrosive oil was used. The meeting adjourned to the physics lecture room where Mr. Smith demonstrated viscosity tests using the Stevens Viscosimeter with various types of motor oil.

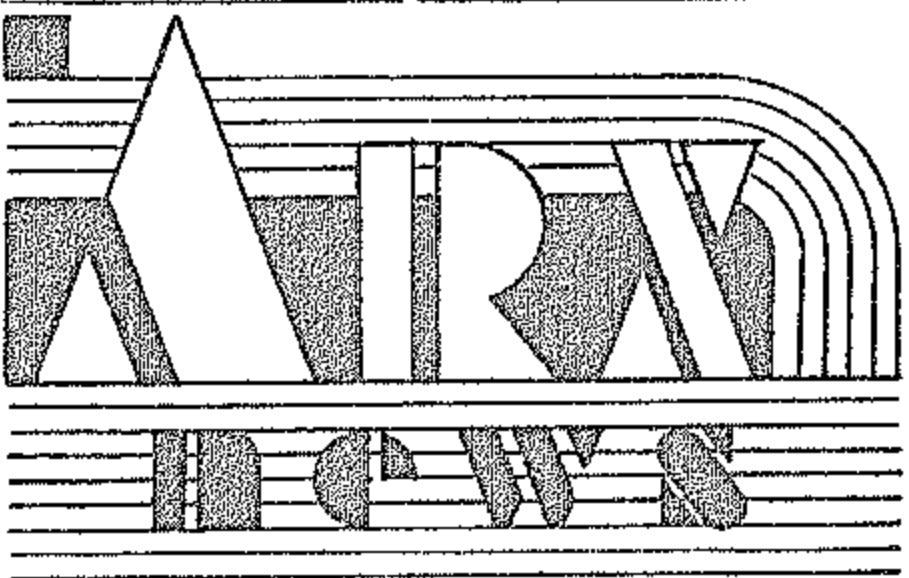
Methods of Dealing with Unruly Frosh Invented

CORVALLIS, ORE. — (ACP)—When Oregon State College freshmen fraternity pledges decided to walk out on their newly-found "brothers," they failed to reckon with the punishment for their sins.

After the neophytes decided they'd put their older members in their places by staging a mass exit, they finally returned to find the following "duties" awaiting them:
The Alpha Tau Omega's stayed up all night waxing floors, polishing furniture and trophies. Of course, whacks and cold showers were in the offing. At the Kappa Sigma house a nice lively lamb was left for the boys to take care of along with sawdust inches thick on the floor to be cleaned by 6:30 o'clock in the morning.

Now to get to the girls' punishment. The Kappa Kappa Gamma girls ate onions and brains and left their make-up kits at home the next day. They also cleaned house until early in the morning and slept on hard floors all night. The Alpha Gam's managed to get cold water baths from their members and all the fraternities around joined in and gave them good duckings.





Well, sir, things have definitely picked-up in the junior-senior drafting room what with a little basketball practice, using a beachball, Urban tried to hit the bull's eye . . . Mirotsnic did!; with the coming touch-football games the same juniors and seniors are doing a bit of practicing with that; my, what activity, especially so athletic; the seniors are doing what the juniors did last year, making models, to quite a large scale.

The juniors are thinking of the coming banquet, on the evening of the frosh initiation into the Armour Architectural Society, of which they will be in charge. It is rumored that there will be a number of speakers. This gala occasion will be within the next two weeks, as winter will soon be here.

We've been thinking of naming Viren: "In again, out again, Mulligan," catch?

W. Hutton has decided to go to the Beaux Arts Ball as a fireman with a bottle.

Dope: Gee, but a lot of nice things are going to happen today.

Brite-Lite: How?

Dope: At 12, it'll be lunch time and at 2:30, "eek" time!

Friday, Goldsmith and his gal friend (singular) held ye junior's mouths open . . . Goldsmith is now the most popular fella with the juniors, and he didn't have to use Listerine or Lifebuoy to become the boy that all want to know better.

It is rumored that the proceeds of the Arx dance are to go to the purchase of enlarged photos of those that the juniors and seniors were looking at last week, mmm, maybe they've got something there.

Pointek, soph massier, is thinking up some "doozers" for the frosh initiation . . . Mr. Jos. Q. U. Wagner says that it's kinda peaceful up there, maybe it's the calm before the storm; uh, maybe.

In the SCARAB sketch competition, Jim Spryer was the non-member to receive the grand prize, of a subscription to Forum.

'Til next—

BOZ-ARTS.

ASSEMBLY—

(Continued from page one)

skies are cloudy, the students should prepare for the worst and bring their oilskins. The outlook taken, and properly so, is that half a million persons go to see football games each Saturday and if it rains, they go anyway. Certainly no one can feel put out because of a few raindrops.

Instructions for assembling of the various groups before the ceremony are as follows. They should be clipped from this page and kept until Friday morning in order that difficulties will be reduced to a minimum.

All lines will form in double file at 10:20 after dismissal of second hour classes.

Seniors and graduate students form lines on 33rd street in front of Machinery Hall. The head of the line being at the south-east corner of the building.

Juniors and third year co-ops form on the west side of Federal street along the east wall of Machinery Hall, with the head of the line at the southeast corner of the building.

Sophomores and second year co-ops will form on the east side of Federal street beside the new Union, with the head of the line at the northwest corner of the building.

Freshmen and first year co-ops will form on the east side of Federal street, in front of Chapin Hall, with the head of the line near the physics laboratory.

Faculty members, research staff and employees will form on Federal street in front of Main, and the head of the line will be at the north-east corner of the building.

Each line is to be headed by two student marshals under the supervision of Professor Nash. The lines will move at 10:35 and in the following order: seniors, juniors, sophomores, freshmen, faculty, research staff, and employees.

Beck, Professional Photographer Lectured For Camera Club at First Formal Meeting

N. F. Beck, prominent professional photographer, gave the Camera Club a lecture and demonstration of portrait lighting, last Friday night, in the Camera Club's rooms. The lecture and demonstration showed advantages and disadvantages of the various types of lighting for portrait work. Among the types discussed by Mr. Beck were, basic lighting, dynamic lighting, and dramatic lighting.

Preceding the lecture on lighting, Mr. Beck judged twenty-four prints taken and developed by members of the Camera Club. These pictures were divided into two sets: portrait prints, and unposed prints. The print which won the first division was "Contentment" by Don Grego. It was a picture of a small girl and a dog lying before a fire place. The composition and excellent lighting

were the major factors of the print's superiority.

"Upsy-Daisy," by George Raymond won the first prize in unposed shots. It portrayed a stage setting of two acrobatic dancers and its excellence was accredited to the fact that it stopped the motion of both dancers and was a very brilliant print.

During his lecture, Mr. Beck explained the differences between men and women studies and gave the Camera Club several methods of overcoming glare and reflection caused by glasses. Following the lectures, cider and doughnuts were served to all members and guests present at the meeting. This was the first formal meeting of the Camera Club and was considered a success by all who attended.

Prof. Freud to Slay Future Chems With Stiffer Course! Harder Book Promised

Over the heads of a new generation there hangs an impending doom. On the word of Professor Benjamin B. Freud, semi-arbiter of the destinies of the committed chemicals, the new crop of freshmen will be exposed to a curriculum twice as hard as ever before. This is somewhat discouraging to the upperclassmen who have already, under the present regime, taxed the groaning gray matter to the last feebly protesting cell. The seniors are going to be terribly let down when a little man trundles up, peers out wistfully from under the brim of a fetching green hat, and lisps, "Tell me sir, for my assignment in the Theory of the Functions of the Complex Variable in Reference to Nuclear Thermochem. . . . Hey! Where yuh going?"

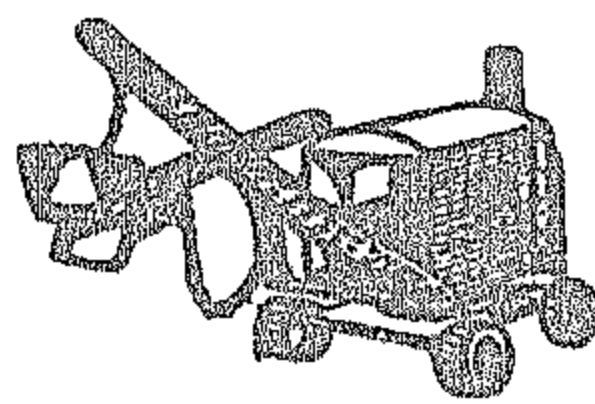
The report, unfortunately, is not exaggerated and is founded in fact. It is, to coin a phrase, the real McCoy. Prof. Freud did not have the air of a man who speaks jestingly, ha, ha. No. Rather, he faced the class with the air of a man killing time while wondering where his next derivation was coming from, and announced:

"Do you think we will use this book next year?" with a sneering glance at the quavering volume, "No! We'll use another, that *nobody* understands!" This, of course, involves a little special training for the new students.

It's going to be tough alright, but the Professor is bringing it on himself. Even his position will be strained. Will he be able, with the three men that survive the lower classes to say that a gas is twenty-four mosquitoes in a closed room, and a liquid a can of angle worms? Unless he radically revises his lecture technique the whole class will walk out muttering to himself about molecular energy levels versus worms. There was an alternative about did you have to pay for the girl friend at a movie by weight and well wasn't a molecule the same thing from liquid to gas? That one escapes most people, however; you so seldom see a molecule going to the movies. The infant brain trust will get it, no doubt.

Some flimsy excuse was offered as reason for the stiffening of the course. Something about, "Increasing Industrial Complexity." What Industry?

Steam Shovel



B. G. Anderson was in a daze when he left the social last Friday. He walked around in the rain for about ten minutes claiming he couldn't find the elevated.

Ed. Swanson had a little trouble finding the girls tall and fast enough.

Take Don Grego—he found one girl and planning for a date he tried to find the address. "Well I live 6600 north and 1400 east." In other words, Grego—you'd better get a boat, she must live out in the lake.

Armourites know Lorraine Chase now. Each managed to have a few steps before another pal would cut in.

Moculeski was stepping around quite lively and happened to say (when we were around) "Are you clinging to me my little turtle dove?" And he just met the girl!

That "Brother Winston" drives a hard bargain permeates the minds of the members of one of his thermo classes. Trading a \$200 1931 Pontiac with a clutch that was "just about . . ." in on a new De Soto two years ago for \$400 allowance was nothing. He also demanded a radio and the spare tire to be put in a fender well, the latter costing \$35.00 alone. "You gotta be tough, don't give an inch," would just about make a good description of his methods.

The arrangement of DAN STONE conducting the dance class and DON CHARLETON leading the dance orchestra to play for the class ought to be swell. ESPECIALLY IF . . . a few hundred girls from the Normal College move down once or twice a month to these dear portals and as-

"WHIZZER" WHITE

COLORADO'S PHI BETA KAPPA ALL-AMERICAN QUARTERBACK OF LAST SEASON, NEVER DROPPED BELOW AN "A" IN ANY OF HIS STUDIES

THE "WHIZ" WAS KNOWN TO STUDY HIS CALCULUS STRETCHED OUT ON A RUBBING TABLE BETWEEN HALVES, MAYBE THAT'S WHY HE IS A RHODES SCHOLAR.

33% OF ALL FRESHMAN DROP OUT OF SCHOOL!

SEND YOUR ODDITIES TO ASSOCIATED COLLEGIATE PRESS-MPLS. MINN.

PRES. D.W. MOREHOUSE OF DRAKE U. HAS A COMET NAMED FOR HIM WHILE A SPECIE OF THE FAMILY OF CECOIDEA BUGS IS NAMED AFTER DR. W.D. FUNKHOUSER, DEAN OF THE U. OF KY. GRADUATE SCHOOL!

PRES. MOREHOUSE FUNKHOUSER

sist the boys. After all, one can't dance with his shadow, or can ONE?

Worst joke of the week award goes to "Doc" Olson for his joke about the marijuana addict who, coming to a curbstone from the street, looked up, surveyed it and said, "Wosh, what a steep climb." On reaching the top he looked down and shuddered, "Whoocy, it's a miracle I didn't fall down the face of it."

It looks like the "Armour Star Hams" have just about reached "Journey's End." Casting for the roles is about completed.

The stag dances afterward are better entertainment than the University of Chicago football games. Ask WESSELS and DUNCAN. VANDEKIEFT doesn't know what he's missing by sending COLLIER instead.

Professional Chemicals to Close Contest Next Week

At a special pledging held last Tuesday, Eugene Kalnin was pledged to Alpha Chi Sigma, the professional chemical fraternity. The special pledging was held because of Kalnin's long absence from school, which made it impossible for him to be present at the regular pledging ceremony. Now that he has recovered and is back at work again, the members deemed it proper to hold the special meeting.

Students who are entered in the Alpha Chi Sigma theme contest are urged to get their entries finished up and handed in in the next few days. The deadline has been set for November 18, and will not be extended. Following the precedent set down in previous years the subject is to be "Why Choose Chemical Engineering?" and the length is to be 500 words.

YOUR BUSY LIFE

LETS DOWN THE BARS TO NERVE STRAIN

BOSTON TERRIER—A cross between the English bulldog and white English terrier, but this gentle, lovable house pet is strictly an American product. First bred in Boston some 60 years ago. Once called the "Roundhead," today he is known as the "American Gentleman" of dogdom.



HE'S GIVING HIS NERVES A REST...

AND SO IS HE

ARE these busy, trying days for you? Do you find yourself, at day's end, irritable, nerve-weary? Take a moment—study the dog above. He's resting his nerves. Even in the midst of strenuous action he will stop, relax. The dog does that instinctively, though his nerves are complex, high-keyed like our own.

We, trained for the intense contest of modern life, are likely to ignore the dis-

stress signals of our nerves—the instinctive urge to rest. So often, we let our will-power drive us on at a task, hour after hour, heedless of nerve tension.

You don't want your nervous system to be a drag. See what a difference it makes when you rest your nerves regularly—when you LET UP—LIGHT UP A CAMEL. Enjoy the matchless mildness of Camel's rich, ripe tobaccos.

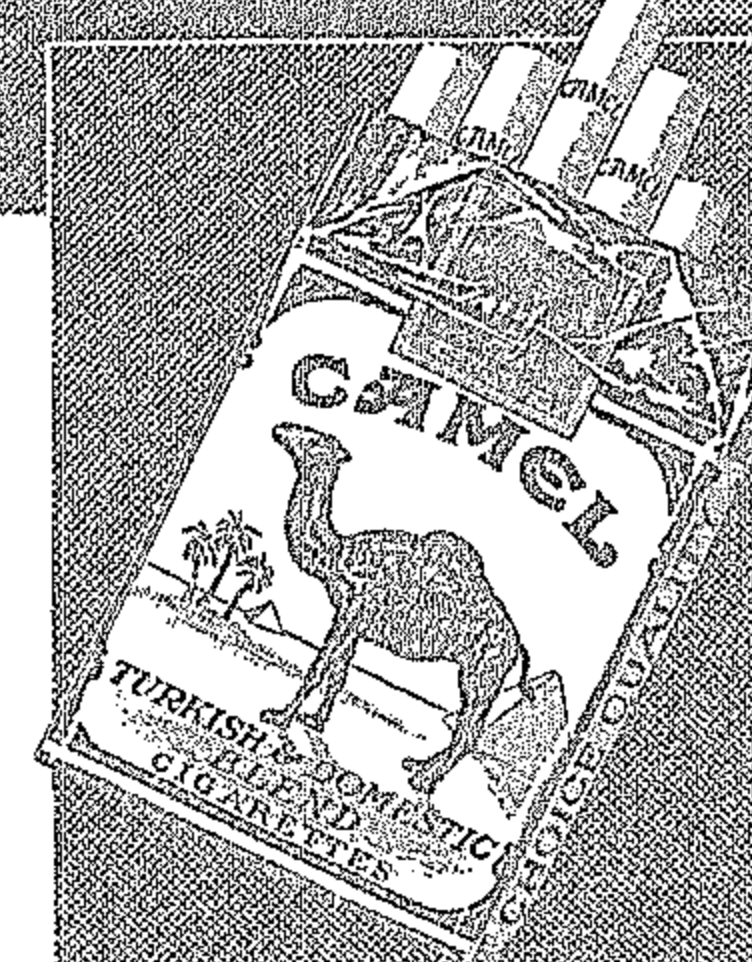
Break Nerve Tension as Millions do —
"LET UP—LIGHT UP A CAMEL"

EDDIE CANTOR —
America's great comic personality in a riot of fun, music, and song. Each Monday evening on the Columbia Network. 7:30 pm E.S.T., 9:30 pm C.S.T., 8:30 pm M.S.T., 7:30 pm P.S.T.

BENNY GOODMAN —
Hear the King of Swing, and the world's greatest swing band—each Tuesday evening over the Columbia Network. 9:30 pm E.S.T., 8:30 pm C.S.T., 7:30 pm M.S.T., 6:30 pm P.S.T.



A QUARTER-MILLION miles of flying are behind Miss Lolly Sisson (left), air hostess on TWA's "Sky Chief." She says: "Caring for passengers is a real strain on the nerves, but I keep away nerve tension by pausing when I can. I let up and light up a Camel."



Smoke 6 packs of Camels and find out why they are the LARGEST-SELLING CIGARETTE IN AMERICA

LET UP—LIGHT UP A CAMEL!

Smokers find Camel's Costlier Tobaccos are SOOTHING TO THE NERVES

Copyright, 1938
R. J. Reynolds
Tobacco Company
Winston-Salem, N. C.

Senior Chems Beat Juniors 13-6; Head for Title

Rothenberg Stars As Champs Avenge Last Season's Tie

Senior Mechs' Long Pass Ties Junior Juicers

Vengeance is sweet and today the Senior Chems glory in theirs for they have at last taken the Junior Chems into camp. For over a year, the Seniors have waited for this chance and when they got it they took full advantage—in fact, to the tune of 13 to 6. The payoff was staged on Ogden Field last Thursday noon.

This amends for the scoreless tie the two teams played last year and which was the only game the Seniors didn't win in their championship program.

Passers Win for Seniors

In one of the hardest played games of the year, the Seniors showed that, without a doubt, they were the better team. Their defense was better, the blocking more efficient, but most important, they had better passers. Kruse, Rothenberg, and Adesko were able to complete Senior passes consistently while Carpenter and Sher couldn't find the Junior receivers. Several times the Juniors shook men into the clear only to see the passes fall short or be intercepted.

The Seniors threatened to score on the third play of the game when Kruse took a long pass from Rothenberg but they just couldn't put it over. Near the end of the half, the Seniors started when Adesko intercepted a pass by Norkus. Three plays later and the ball was on the two yard line. Then Kruse started on a wide run around his left end, sucked in the secondary, and passed to Lyckberg for the score. The play was so perfectly executed they pulled it again for the extra point and the score was 7 to 0 and it stood this way at the half.

Fahey to Natinchek Scores

After four minutes of the second half had elapsed, the juniors scored their lone touchdown. Sher passed into the flat to Fahey who eluded Kruse, and raced to the two yard line where Rothenberg caught him. On the next play, Fahey passed to Natinchek deep in the end zone for the score. A similar play failed for the point.

The Seniors came back a few plays later for the final tally. Adesko passed to Lyckberg who was caught in midfield by Norkus, Kruse then dropped back and threw a long pass to Rothenberg who dived into the cin-

Wrestlers Promise Successful Season

Promising a good record for the year is the returning mat squad headed by Captain Tullgren. As yet not a large number of meets have been arranged definitely, but many contacts have been made.

Wheaton, which always presents a strong team, will furnish the opposition in one meet, but there will be no return engagement. Morton Junior College will be met twice again this year.

A meet with the Case School of Applied Sciences in Cleveland, Ohio, is being strongly considered. If the meet can be put within the budget, the boys will travel to Cleveland. In the spring the team will enter the second annual Wheaton Invitational tourney.

The definite date for the opening of the season hasn't been set, but it will probably be in the first week of December.

The team will be strong this year due to the fact that there were few men lost by graduation. Till, a co-op, will return in the 125 pound class. Ropek, this year's manager, will be in there throwing them as well. Hanna is back at 145 pounds.

Kazmierowicz and Tullgren, captain, will work at 165 and 175, respectively. Balsewick will return to the heavies. In addition to the returning regulars, there are some promising recruits who will press the more experienced men for their positions.

Here's One That Failed



But they didn't all fail, for the Senior Chems went on to turn back their junior foes 13-6. This is the fifth play of the game, which found the seniors on the Junior Chem two yard line. The pass from Kruse sailed over Lyckberg's head.

ders to make a beautiful catch for the game clinching touchdown.

After this the juniors made only one serious threat, that being on a long pass from Sher to Fahey which Rothenberg just barely managed to knock down.

SENIOR MECHS TIE 6-6

Meeting stiff resistance from a fighting and shifty Junior Electrical team, the Senior Mechs were just able to tie the score at 6 all last Friday. As a result of this tie, both teams remain in the tourney.

Because of the speed shown by the flashy juicers, the Mechs were held at bay. Except for a few instances, the fight settled about the middle stripe, with both teams fighting at a draw. At one time during the first half the Elects had worked the ball up to the ten yard line of the Mechs. Here the ball changed hands, and the Seniors were at ease once more.

Drawing first blood in the second half were the Elects, who worked the ball up to the 15 yard line of the seniors. Then a quick toss to Shaver rang up the juicers' sole six points. Within a very few minutes, the Mechs had gained control of the ball and proceeded to attack the Elects' goal. Millar then spiralled a long pass to Clark in the end zone for the tying count. The try for the extra point was smeared by Shaver and Oldenburg. For the remainder of the game both teams tried for breaks and Oldenburg nearly intercepted a dangerous flat pass that might have meant the winning points. However the game was over, and the Junior juicers had to be satisfied with a 6-6 tie.

JR. MECHS QUELL SOPHS

Presenting a strengthened team with the return of Jack Clark, the Junior Mechs whitewashed the Sophomore Mechs 19-0 last Thursday. It was the first defeat for the Sophs.

At the end of the first half the Juniors had built up a 13-0 lead. A long pass from Clark to Wolniak counted for the first touchdown, while a run by Wolniak from midfield to the Soph's 2 yard line placed the ball in scoring position for the second touchdown. A short pass from Wolniak to Lasker made the score 13-0.

During the second half the Sophs awakened and put up an offensive fight that carried them to the four yard line. Here the Juniors held and regained possession of the ball. Halfway through the half the Juniors again relied on Clark to heave a touchdown pass, which he promptly did. This completed the scoring in the 19-0 rout of the Sophomore Mechs.

SOPH FIREMEN WIN 19-14

Playing in the Ogden "dust bowl" last Friday, the Soph Fire Protects overwhelmed a speedy Soph Electrical team, 19-6. Because of the great sportsmanship shown by Capt. Matthews of the juicers, both teams played with equal but reduced numbers.

Being a crucial game, both teams having already lost one game, the game was played very hard by all participants. The firemen set up an early lead of 13 points and kept out in front for the rest of the game.

Using the short pass as their best weapon, the actuarials quickly advanced to the Elect's goal line. A short pass from Sweeney to DeMoney

scored the first six points for the Fire Protects. Again Sweeney passed to Zoellner for the extra point.

Soon after the firemen were on the loose again; this time, last down found them nearly midfield. Then a long pass from Sweeney to DeMoney in the end zone brought the Fire Protects total to 13. However the juicers came right back, although having to be content with the running of Matthews. Matthews raced around right end from midfield to the two yard line, from where he ran the ball over. On almost the same sort of play Matthews scored the extra point.

Again the firemen started to pass, and this time a short pass from Sweeney found Zoellner in the clear waiting with open arms. He then hurried across the goal unscathed. The final touchdown for the Electricals came as a result of a nice run by Matthews to midfield. From there he threw a long pass to Carrier, who made a spectacular catch and ran over for the six points. Soon after Matthews passed to Bucko for the extra point, the game ended.

FLOOGIES BEAT SOPH CEMS

Trucking down the field, thrice the Flat-Foot Floogies came through to defeat the Sophomore Chemicals, 18-0.

The magnitude of the score, however, is a poor indicator of the true events of the game since two of the scores came on interceptions of the Chems' passes.

Early in the game saw a quick pass, McDonough to Bell, who reversed his field and romped over the last stripe for first blood. The try for the extra point was broken up by an alert chem secondary. Another tally was chalked up early in the second half when Tatze intercepted a Schmier pass with an open field in front of him. The third score also was made on an interception but again the extra point was broken up when the receiver dropped the pass.

Getchell Decision Recalls Schommer-Southern Cal.

Notre Dame defeated Carnegie Tech 7-0 two weeks ago last Saturday after a John Getchell incident which made more history for football than perhaps all the other games of that day put together. When the game hinges on the ref's mistake and decision as well as on the breaks of the game, it is long remembered.

It takes mistakes to make a referee and even our own John Schommer, an established referee, admits he has not been exempt from them. . . . Take the Southern California-Notre Dame game played in Soldiers' Field some ten years back.

With a Southern Cal pass sailing into the end zone, the Notre Dame halfback ran with the ball ten feet before dropping it and thus preventing, according to our John, backed up by official Walter Eckersall, the interception and safety which would have given Cal the victory by one point. A quotation by one of Arch Ward's contris in the *Tribune* shows how such an incident is recalled.

"Good old Notre Dame! Still the best twelve man team in football! Remember John Schommer vs. Southern California?—Thomas Bieting."

It's Still Senior Chems to Meet U. of C. Winners

Unless a most unexpected upset occurs, it will be the Senior Chems against the University of Chicago champs . . . there is good reason for this belief since of the three teams that entered the week with perfect records, the Senior Schmiers were the only ones to emerge the same . . . the Junior Chems lost, and the Senior Mechs were tied.

Providing the chems win this year, it will make four years in succession that the touchball championship will have been the property of the chemical department and it should remain there next year too . . . and since the tournament has only been part of the intramural program for four years, this is indeed a remarkable record.

The game last week provided many interesting points that might have escaped the spectator . . . both of the Senior passes were thrown by their star receiver, Willie Kruse, and the Junior pass was thrown by their principal receiver, Jim Fahey . . . the touchdown by Lyckberg was the first scored on the Juniors this year while the same applies to the score made by Natinchek . . . it was the first crossing of the Senior's goal.

The touchdown by Natinchek made him high scorer on the Juniors while Kruse remain high scorer for the seniors despite his lack of points in this game . . . the play leading up to the Junior score was not as viewed by the officials . . . the pass receiver, Fahey, did not get by Kruse, who tagged him on the heel . . . despite the terrific blocking and the hard playing, both sides appreciated the fight and spirit of their opponents . . . and incidentally, both teams greatly desire a game with the Senior Mechs for more reasons than one . . . it is the opinion of the two teams that there will be another meeting between them and both are looking forward to it.

Rho Delts Beat Phi Kaps in Semi-Finals

Led by Harvey Rothenberg, the Rho Delta Rhos defeated the Phi Kappa Sigs 6-0 in a closely matched contest. Phi Kappa Sigma opened the game by passing on the first play only to have it intercepted by the Rho Delts who quickly completed a pass, Rothenberg to Epstein for the first and lone tally of the game.

Despite the fact that they were on the short end of the score, the Phi Kaps, paced by the stellar pass combination of Tom Clark to Jack Clark, and the punting of Jack Schandley, came back late in the final period to work the ball to the one foot line on a long pass, Clark to Clark. However, the needed scoring punch was lacking and two tries at the goal failed.

Relying on punting and runs the Rho Delts held till the final whistle.

TOUCHBALL SCHEDULE

Monday
Frosh Rats vs. Junior Elects.
Today—12:20
Senior Chems vs. Senior Mechs.
Tomorrow—12:20
Soph Mechs vs. Junior Chems.
Thursday—12:20
Senior Mechs vs. Junior Elects.
Friday—12:20
Junior Mechs vs. Phi Pi Phi.
Friday—1:10
Soph Firemen vs. Flat Foot Floogies.



By TOM CLARK

Hats off to the senior and junior chems for a swell game played and a fine showing of sportsmanship. Long heralded as the battle of the century, it was just that but played cleanly and fairly. The seniors won, 13-6, but the two teams may meet again.

News notes from three days of basket-ball practice: Eggers pulls an a la Henriksen and gets his nose broken in the first week of practice. Manager Grabacki reports no towels missing as yet, but somebody didn't sign for their sweat sox. Whitehead, captain of last year's freshmen, looks as smooth on the floor as ever. O'Connor, a legacy from St. Viator's and a classy ball handler, should bolster up the squad quite a bit.

They say history repeats itself, an old adage that must be more than just a rumor. Look at inter-fraternity touchball; the Delts and Rho Delts go to the finals again. If the Delts win, and the odds are with them, then it's 100% rating for the adage. Time alone will tell the tale (to music).

The senior mechs have been accused of playing a super-selected schedule in the current tournament, and consequently enabled to classify themselves in company they're not entitled to mingle with. To prove their "sterling character and love fair" (unquote) they have thrown caution to the winds, and will proceed to eliminate themselves from the tournament by playing the senior chems today at the lunch hour.

Co-ops are peculiar people. They're like jack-in-the-boxes, now you see them and now you don't. They present quite a problem to the coaches at Armour, who, after diligently training some coop athlete for a number of weeks, find said athlete back at work in Peoria, or some such place, just when he is needed most.

Following a precedent that was set last year, we would like to announce that any juniors who are interested in the job of assistant intra-mural manager may apply now. At the risk of being misunderstood, we'll still say that being intra-mural manager amounts to nothing more nor less than being water and bat boy for the school.

By H. R. COYLE

Arch Ward's column caught up with Professor Schommer the other day, and so with apologies to him whose fame on the middle-western gridirons was depicted in an article on this page a few weeks ago, we recall the incident referred to in the Notre Dame - Southern California game of about ten years back, in a story elsewhere on this page.

Delta Tau Delta faces Rho Delta Rho in the finals today as the former powerhouse defends its title for the last time this year. Leading the Delts will be Puhl, Scherer, and Tullgren.

Clay DeMent, Phi Pi man and interfraternity director of sports, stated last week with regard to Ralph Tullgren, "Buzz plays the hardest game of perhaps anyone in the school, but he also plays a square one." To this Tom Collier adds, "By virtue of his fervid interest in the game and his power, his plays appear more extra-legal than some of the lighter players whose tactics are actually more contrary to good sportsmanship."

Another week of inactivity has passed on the intramural tennis front, with the school champ as yet

Basketball Squad Has Big Turnout

Due for Long Scrimmage; Eggers Injured

Although already handicapped by one injury, and the three day practice session, Coach Stenger is rapidly drawing his charges into physical shape. So fast has been the conditioning that the veterans have already had a short scrimmage with a longer one due in the immediate future.

Despite the fact that hard scrimmaging has yet to appear, one member has been removed from practice temporarily. Johnny Eggers suffered a broken nose as a result of contact with O'Connor's elbow. The accident occurred during a mass meeting under the basket. O'Connor jumped for the ball and as he was coming down he met Johnny coming up.

The turnout, which was only nineteen in number the opening night, has increased to about thirty and the increase has slowed up the progress made the first two nights. However with the coming of scrimmage will come the cutting of the squad and then the team will get along much faster.

Work is still being done on the schedule which includes two open dates. Coach Stenger is endeavoring to get another game or two in the Coliseum, especially against Ripon or Beloit if possible. Negotiations, however, are proceeding slowly and no announcement will be definitely made for the next two weeks.

Three Undefeated Teams Remain as Title Game Nears

With the downfall of the Junior Chems last week, only three teams remain undefeated in the race for the championship. One of these has maintained a perfect record, having won four straight. This, of course, is the Senior Chems.

The other two teams are the Senior Mechs and the Junior Elects. The former has a record of two wins and one tie while the Juicers have the same number of wins with two deadlocked games. Both of these teams as well as the Junior Chems are still very much in the battle for first place, but the Mechs are jeopardizing their chances this week by meeting the champion seniors.

Mechs use Novel Defense

The Mechanicals present an innovation in the touchball tournament this year in that they always have three men rushing, and sometimes four. The strategy of this seems to be in rushing the passer so that he can't get off a good pass to potential receivers. To back up these rushing tactics, the Mechs play their two best pass defenders in the backfield, they being Clark and Vandekieft.

The Electricals, on the other hand, depend on offense more than defense. The passing of Rehwaldt and Oldenburg and the receiving of Danny Shaver are their main weapons, and so far these have been sufficient to carry them through undefeated. This week the Juicers will again play the Senior Mechs whom they tied last week.

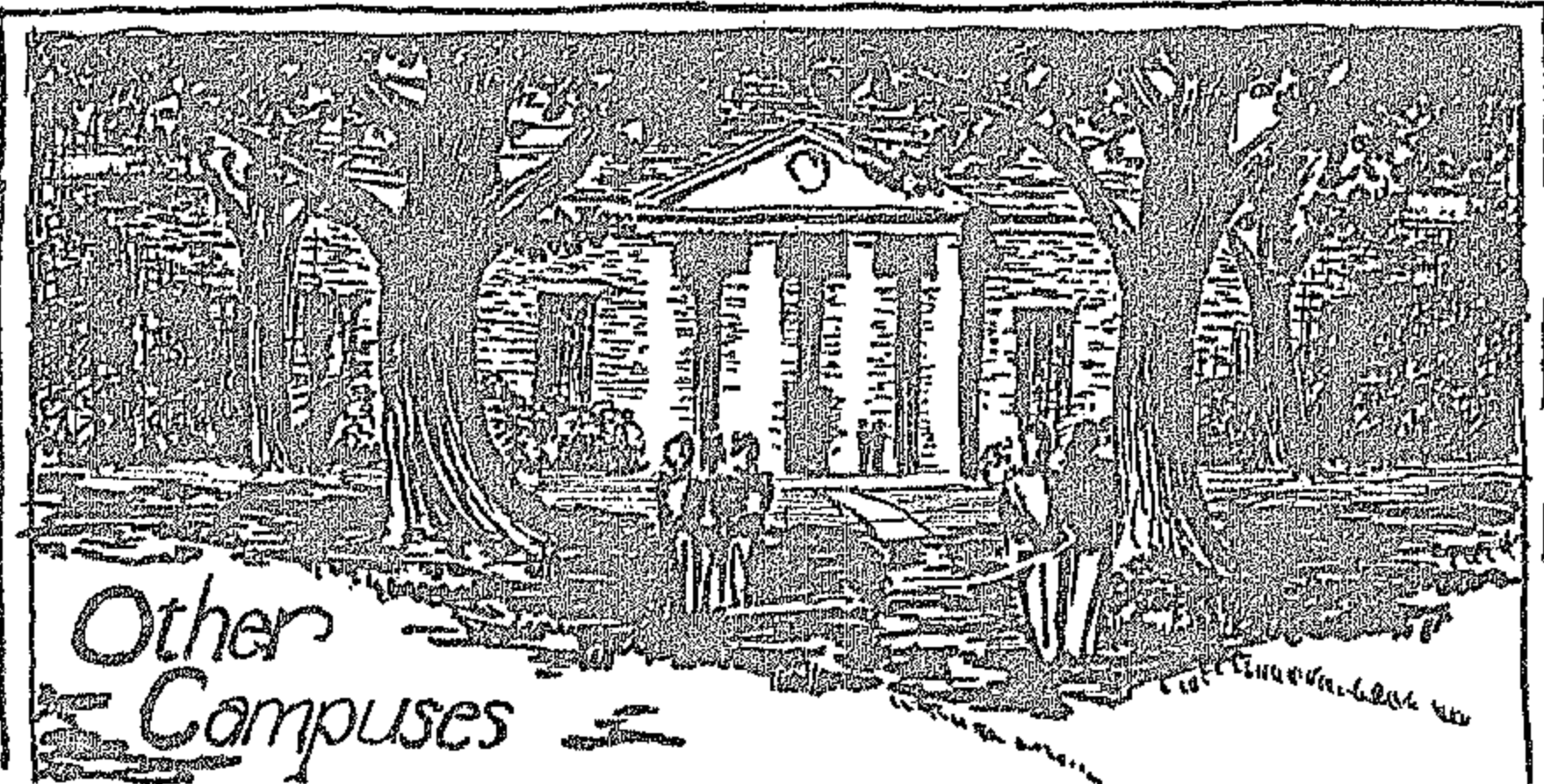
Tough Week for Seniors

An interesting point arises from this week's schedule. The Senior Mechs are very much in danger of being eliminated within two days. It is practically a certainty that the Senior Chems will beat them and if the Electricals tighten their defense on long passes, they too might beat the Mechs.

The other team still having a chance is the Junior Chems. They meet the Soph Mechs and unless they suffer a letdown from last week's encounter, should have little trouble winning.

undecided. The upperclassmen have completed their tourney with Cade, soph civil, victorious over Baum, soph mech, in straight sets 6-3, 6-3.

The freshmen division has yet to be completed. Benton and Meinhold are to clash in the finals of the freshmen tourney for the right to meet the winner of the upperclassmen's division.



By JAMES HEBSON

A University of Texas mathematics class was recently dismissed in the middle of the class hour because a swarm of bats invaded the lecture hall.

As soon as they get the athletes off the gridiron they begin putting coaches on the pan.—Indiana University Daily Student.

University of California scientists have just completed a schedule of babies' crying habits during the early months of their lives.

More than 20,000 balloons were released at the opening kick-off of the Minnesota-Michigan football fracas.

Pennsylvania State college students consume 100,000 spoonful of ice cream in one meal, according to a recent survey conducted on that campus.

Of 315 women who recently passed tests for policewomen in New York City, 261 held college degrees and four are the owners of Phi Beta Kappa keys.

The Rockefeller foundation has made a grant of 18 million dollars to American universities for the purpose of bringing government employees of Latin-American republics to the United States so that they may study our form of government.

A 3,000 acre forest is the classroom for the Utah State Agricultural college's summer course in forestry education.

A freshman coed at Kansas State last year was granted the Ph.D. degree after attending that university only one year, the shortest period on the record. The reason, the *Daily Kansan* recently explained, was that "she married her professor."

Dr. Malcom H. Heeb, Duke university physicist, has invented a polaroid headlight which will entirely eliminate glare and reduce traffic accidents at night.

Sixteen members of the Northwestern university football team are accomplished swing musicians. Heading the list are halfbacks Bernie Jefferson and Jack Ryan, a pair of mean trumpeters.

Alabama State college students have been looking high and low for missing candidates in a recent campus election. It is believed that the unfortunate student politicians were kidnapped by opponents who were afraid of probable defeat.

Gifts to the University of Chicago during the last nine years have totaled \$52,000,000.

The new women's piled-up hair-dresses took a beating last week when the editor of the *Wampus*, Southern California's humor magazine, said, "scrub-women have been doing it for years."

One art student at least doesn't agree with the idea that an artist should live in a garret, knee deep in poverty. So he capitalizes on his talent by working in a local beauty parlor.

Members of the New York university senior class voted unanimously to support Mayor LaGuardia for president if he is a candidate for that office in 1940.

"An apple a day keeps the doctor away" is not good enough for Great Britain these days, according to the campus newspaper at the University of Kansas. The student editor has changed the motto to "A country a day keeps Herr Hitler away."

Paul Whiteman recently returned from Canada with the news that the French word for "jitterbug" is "insecte de jazz."

A new curriculum in Ohio State university's college of engineering leading to a degree in welding engineering was inaugurated this fall.

A \$93,000 cyclotron, the atom smashing apparatus used in research work in nuclear physics, is being installed at McGill university. It con-

sists of a kind of merry-go-round, with hydrogen and helium particles swirling speedily so that they penetrate into the nucleus of an atom and shake it up.

Traces of a continent, lost for 100,000,000 years, have been discovered in Mexico by two professors from the University of Michigan. The area disappeared when it was buried by an ancient sea that divided North and South America.

The last "men only" tradition was broken on the Iowa State College campus when Margaret W. Sloss received the degree of Doctor of Veterinary Medicine.

Stoopbrain Enters Movie Contest and Ushering Racket; Gets in Feminine Mess

By ART HANSEN

Deer Sally,

Happy Applewit, who lost the original browne and yellow bassket and beet arownd the mulberry bush till hea fowned it, sed the other day, quote—the newest danze rage is a combination of the Big Apple and the Strip Tease. It is cawled "The Big Apple Peeling," unquote.

Dew yew now wat a movie quiz kon-test iz, deer mountin flour? Wel, their iz won being konducted now fore a first prize of \$50,000.000 and I am a sinch tew win it. The questions iz so darn eazy, like in the picture—

Love Bites Andy Softy," oh, a grate picture starring Iekie Loonie and Lewis Bone. The question iz—What does Andy Softy want best beside ate bucks and a ear, (1) ate bucks, (2) a brunette, (3) ate bucks, (4) a blond, (5) ate bucks, (6) a redhed. The anzer of course iz a blonettehed and ate bucks. Then, in the picture "Alex-hamburger's Bagtime Rand" starring Falice Raye and Juan Ametchoo, the question iz—"Wat iz the title song of this picture: (1) 'Benny's Jazz-time Band', (2) 'It's A Long, Long Way tew the Alter, But A Shorter Way To Reno', (3) 'Tanks for the Axelgreese', (4) 'Silver Treads Among the Gold—Hiyo, Silver!', and (5) 'Alex's Bagtime Rand!' I clearly pick "Silver Treads Among the Gold" because it clearly haz a connection between the first prize and mea.

Wel, the boy's our mixing it up (and down) again. However, that uncouth sin of removal of britches or depantsing iz know longer present (or iz it?) The boys ovr now moar lenient on each other. Abowtawl they

hav dun so far iz throw paving bricks at each other, or grovel won another tew greese spots in the dust. I saw won feller swing anuther arownd in the aire and bat hiz hed against the brik wawl. It must hav ben a frosh's hed (density 299.009), bekause the feller pulled hiz hed owt of the wawl, dusted the brik frum hiz hare, and continued (P.S.—the wawl collapsed a few howrs later). However, it iz a annuawl afare, and except four a few lawns, wawls, britches, sewer covers and botles of arnica, no damage iz dun.

Each Sattiday I usher at the Chi footbawl games, and altho there team izn't so hot, the coeds are. (Who—Who—Who! After saying a few hundred times, "Yes, sir, rowe 108, only a few hundred more yards up tew your seat . . . Yes, lady, second ramp, first door, east end . . . no, sir, your ticket iz fore the other stand across the feald . . .", etc., I pick sum bewtiful coed and sit beside her wen the game starts. Quickly geting down tew business, I ask tew sea her ticket and say shea iz in the rong seat, but that I wil fix it up withe the hed gun. Then I introduces myself az Halfway Battlebrain, Yarvard, '38. Then I tel her abowt the 155 yard run I maid aginst narmy in '37, and how I threw a 150 yard boomerang pass in the Princemouth game to deceive the enemy, 50 yards toward my goal, whence it would cut sharply back toward their goal and go 100 yards down the length of the feald, and by that tyme I wuld bea at their goal line and catch it tew. Yures, Stoopbrain Bliss.

EDUCATIONAL TESTS—

(Continued from page five)

attempt to find out, if any of the tests or combinations of them will predict how long a student will stay at the Institute. Another investigation is to see how closely grades can be predicted from the educational tests. Both of these problems are long time problems and only a little has been learned in the last few years. What has been learned however has been of great value.

Recently the department has been intensively engaged in the very interesting problem of investigating the scholarship examinations to assist the professors who make up the examinations. It has been found that there are some questions that practically every applicant can answer, others that very few can. What is, however, of more importance is that there are questions which almost invariably pick out students of promise from those who are not so likely to make a success of their academic work. That is to say, there are questions of moderate difficulty that differentiate decisively between the students who are gifted, and those who are not, whereas other questions of the same degree of difficulty do not seem to be able to distinguish between the two groups. Just why this is so, is still somewhat of a mystery.

The question frequently has been asked "Is this year's class better than last year's class?" The answer to that question should be of particular interest to engineering students, because it brings up the question of the yard stick by which better or worse is measured. First one must

determine what is being measured and then what the unit of measure is. A person cannot say that one object is three inches hotter than another, although there might be instances where length could be interpreted as heat. This is done by the length of a thread of mercury in a thermometer. When such a comparison is made, the unit of measurement must be known, and the three inches must be interpreted in terms of units understandable where heat is considered. So the answer to the question so frequently asked is, "What do you mean by being better?" "How are you going to measure it?" "How are you going to interpret your measurement?" Even after these questions have been decided there still remains the question of probable error of measurement. If the difference in length between two objects is less than the probable error of measurement, then even though one seems to be longer than the other, no one can definitely say that such is the case.

These are the questions which arise when one freshman class is compared with another. A statement that could be made is that there is a difference between the medians of class A and of class B on the reading test and that this difference either is sufficient to be statistically significant or is not. The interpretation of what that means is quite another story and it is in the interpretation that many satisticians get into trouble. Up to date no difference has been found in the examinations between last year's and this year's class which can be said, from the standpoint of mathematics, to be statistically significant, although it is possible that such a difference actually exists.

These action shots of "Whizzer" White... famous All-American football star... show what it takes to be a triple threat man.

It's the Right Combination

... that's the reason Chesterfield stands out from the others

The reason Chesterfield is different is because it combines the smoking qualities of the world's best cigarette tobaccos in one cigarette.

It's the right combination of these tobaccos... mild ripe home-grown and aromatic Turkish, rolled in pure cigarette paper... that makes Chesterfield a better cigarette for you to smoke... milder and better-tasting.

They Satisfy

Chesterfield

...the blend that can't be copied
...the RIGHT COMBINATION of the
world's best cigarette tobaccos