

# Freshman Builds One Flea Power Miniature Engine

## John Catlin's Model Praised by Faculty Members

By R. W.

From the modest workshop of John Catlin comes this masterpiece in miniature, a midget marvel of mechanics, one of the smallest working model engines in the world designed to run on steam or compressed air.

"It's hardly nothing," claimed "Tiny" when he was interviewed, "at a distance of thirty-one yards it resembles nothing more closely than a spot on wall."

**Required 250 Hours**

"Tiny", or John, as his mother calls him, is a freshman at Armour, and intends to be a mechanical engineer. He has spent two hundred and fifty hours over a period of a year on this model, constructing it entirely out of scrap material, at a total cost of fifteen cents and a few frayed nerves. His only tools were a twelve inch lathe and a jeweler's drill. His model is named "Gloriana", and stands an inch and a quarter high. A feminine name was chosen because she makes as many revolutions in a minute as the average woman changes her mind—four thousand, or sometimes four and a half thousand when under pressure. "Tiny" tells us that the displacement is .012 cu. in. According to that, if we assume a pressure of twenty-five pounds, and a four thousand r. p. m. we should get about 0.0000211 horse-power. The bore is one-quarter inch. The stroke too.

**Engine Is Practical**

When asked if the model was of any practical use, Catlin replied, "You're darn right. This engine can develop enough power to lift a balloon full of hydrogen to an altitude of five thousand feet. I've refused numerous offers of twenty-five and even a few of the fifty cents made by Armour students for Floriana. But I'm holding out for six bits."

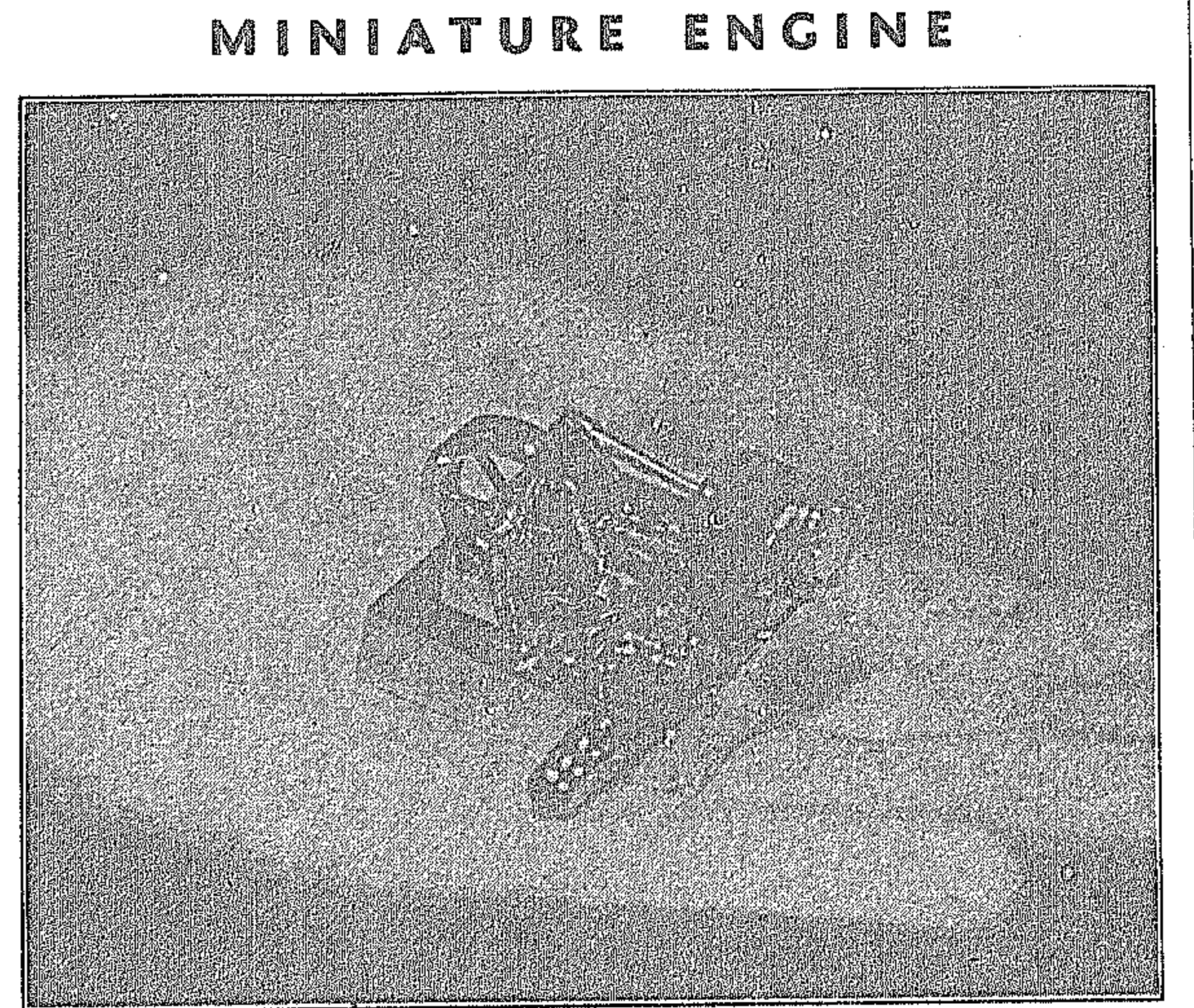
John Catlin the genius of the machine shop was out of school four years before he came to Armour, but has apparently forgotten nothing. He excels in scholarship, and rarely gets less than ninety-nine on his math exams. He is still heart broken however because of the fact that he only got ninety-eight on his first math exam. As an entertainer, he is worth his sale in any man's salt mine. "Tiny" can wrap his right arm around his neck, reach in front of his face and grab his right ear. These abilities John says he acquired while in the process of making his mite-y engine.

**Also a Contortionist**

"You'd be surprised at some of the contortions I had to go through in order to get that darn thing together," bragged the virtuoso of vibratory engines. John is somewhat of a humorist, however, and we are inclined to believe that he is spoofing us. While we're gossiping about John, we might let you in on a secret. There's a charming young girl who passed high school physics entirely through his efforts. And he claims he is a woman hater! John's kid brother, six and a half feet tall, is a sailor, and we suppose that he is very proficient in the art of making ship models in a bottle.

**Frame of Monel Metal**

John drew a set of original plans which he followed. All working parts on the model are machined to an accuracy of plus or minus .0002." The engine frame is made out of one piece of Monel metal and is mounted on a brass base. The fly-wheel, which is also of Monel metal, is one inch in diameter, with six hollow spokes .06 inches in diameter. The tiny piston is made of Carpenter stainless steel and carries a hardened tool-steel wristpin 0.040 inches in diameter and three-sixteenths of an inch long. The main crankshaft bearings and connecting rods are of phosphor bronze. The tiny piston valve has a movement of 0.09 inches and is 0.103 inches in diameter. The crankshaft is machined from a single piece of high-speed tool steel and is .090 inches in diameter. There are a lot of other specifications, but they are so small we didn't think they'd matter anyhow, but if you are curious, "Tiny" will be glad to tell you



John Catlin, freshman student, displays the tiny engine which he completed recently.

finger nails and consequently were lost," mourned Catlin. At this we became cognizant of a slight tugging sensation in our left leg, and departed, leavin Catlin to look for his engine which was blown off the table by the draft caused when we opened the door.

## Alumnus Writes from Flood Area

Ed. Note: This letter was sent from O. P. Freilinger, F.P.E. '35, to C. I. Carlson, M.E. '19, and appeared in the publication of the Aurora, Ill. group of Armour alumni.

Dear C. I.:

Concerning the flood in Louisville, you probably know as much from newspapers of the happenings here as I do. I live in the Highlands, one of the two unflooded sections here, but having worked for the Red Cross during the flood I may be able to convey my impressions of it. The flood certainly reduced man to infancy again because during it he registered probably every emotion human beings are capable of producing, from fear to laughter.

Fear first became really prevalent when the power plant and pumping stations went under water. There is a certain gripping chill that clutches at one when he tries to combat something new to him with a pitch black inkiness about him.

**Everybody Optimistic**

The radio, while the power was still available, came near to driving people to an unbalanced frame of mind. Boats, boats, always the call for boats! Always the demand, but never a sufficient supply! Such calls drove people from their homes to help the less fortunate ones, quite a number keeping at it until they found that during their employment as rescuers the water had raised to such an extent that they had unwittingly been thrust into a new role, from rescuer to refugee.

**Some Profiteering**

However, even during a crisis like this one, man's lust for money cropped out, not to a great extent but noticeable enough. Some people are in "seventh heaven" when chasing and catching the "Almighty Dollar." There were rescuers in boats that went from one flooded place to another getting bids from the inmates as to what they would offer to be removed from their flooded homes. Needless to say, the \$5 bidder received preference over the \$2 one and the one who had nothing to offer, regardless of the relative imminent danger they were in. Rubber boots, knee boots and hip boots were at a premium. Although most merchants sold at the regular prices, some profiteered at the opportunity before them.

**Passes Were Useless**

During the first few days disorganization reigned but through efforts of cooperation, chaos was turned to order. There were times when passes issued for admittance to the flooded areas to the workers were no good from day to day, as one person would supersede another in signing the passes. I found that my best pass was my voice. As a Red Cross worker getting supplies to temporary bases set up at congested points, I traveled from one section to another quite often, from the City Hall to the Highlands. From experience, I find that one can talk himself into places

where scraps of paper passes were worthless.

Until the flood reached an individual's home he was absolutely positive that he was going to be "high and dry." He wasn't convinced until the water was on his porch. That was the average Louisvillian. He was optimistic to the last. He swore he was "on high ground," that the river wouldn't raise enough and convinced himself until he was rowed away with the few belongings he could get together in a hurry.

**Use Bridge of Whisky Barrels**

When the Highlands were cut off from the West End and the business section of town a pontoon bridge about one-fourth of a mile long was built with whiskey barrels to link the sections. Hauling supplies, I had ample opportunity of seeing evicted people. Everybody seemed to be going to the Highlands, at least temporarily. They went across the pontoon bridge in masses, all sizes, young and old carrying anything they could put their hands on; dogs, blankets, some girls carrying cosmetic cases and nothing else. That alone was a necessity to them. One negro crossed the bridge leading 12 young negro children, all tied together and looking like a miniature chain gang. When asked if they all belonged to him, he retorted, "Lawdy me! I should say not. I just found them around the neighborhood and brought them with me."

**Views Extreme Suffering**

Very old people, the bed-ridden, and the dead went to the Highlands by boat. You've never seen anything really heartrending until you've seen what I did. Aged people; one old lady about 80 gathering every ounce of strength in her body to leave the boat and continue by auto. Helped on either side by men, she exerted herself so much she trembled from head to foot, she half-cried with the pain it caused her. I half-cried from the sight of it myself. The bed-ridden were moved by stretchers. Most of them looked as if nothing mattered any more. They lay slumped on the stretchers, motionless, the only indication of their being alive being an occasional turning of the head to see where they were going to be moved next. The dead, they were probably the most fortunate of the lot—they felt nothing, saw nothing of the tragedy all around them.

**Commissary Raided**

It surprises me that more people haven't gone crazy from it all. In the process of evacuation, families became separated, mothers lost their children. I remember one mother who had lost her daughter, a small child. She was wild-eyed, eyes swollen, sobbed continually. I can't think of any pain greater than this. Great pain is mental, not physical. The small children that were lost and moved to refugee camps, too small to know what it was all about, were happy as a lark. Every attention was showered on them, everyone wanted them in their homes until they could locate the parents.

The negroes that were marooned in the downtown section were in their glory. Food was doled out at a central commissary and they waited in line at first with burlap bags to get as much as they could. Finally the

## Fraternity Notes

### PHI KAPPA SIGMA

Last Sunday afternoon a dinner was served at the house for members and their guests. After dinner the party adjourned to a theater, after which they returned to the house, where sandwiches and coffee were served. The evening was spent in dancing.

Last week the house was honored by a visit from Brother Roy Henderson, Class of 1902, and Brother Myron NaNilling, Class of 1920 at Vanderbilt University. Brother Henderson, a graduate of Armour, is at present the head of the United Engineering Corporation.

### PI KAPPA PHI

We take great pleasure in announcing the pledging of Edwin Bucks '41, Edwin Biederman '41 and Robert Maxwell '40, and wish the new men the best of luck in all their future undertakings.

Congratulations to Harry Perlet on his pledging to Salamander and to Brother Thomas to Sphinx.

The Dad's Night Banquet, which had followed a Mother's Club tea two weeks ago, reached a high point in the social events of the chapter. With nearly a hundred per cent attend-

ance, the dads had a grand time in the game room and in seeing the motion pictures donated by John Dodge. Our co-ops, Schmidt, Small and Olinger, are doing a rushing business selling candy to the house members. In fact, so many nickels are being donated that we're wondering if the surplus tax law on corporations wouldn't apply.

### THETA XI

Our bowling team is in training and we hope to do quite well in the coming tournament. Brother Eugene Norris in Niagara Falls, N. Y., dropped us a letter and let us know how he was getting along.

The Alpha Gamma Chapter of Theta Xi wishes to announce the formal initiation of Anthony C. Giovan, M. E. '39, and George M. Ives, E. E. '38.

### RHO DELTA RHO

Formally initiated at a banquet held last Friday night at the Allerton Hotel were the following men: Irving M. Footlik '39.

Frank Miller '40.  
Robert Pincus '40.  
Harvey Rothenberg '39.  
Sidney S. Silverman '40.  
Bernard Sternfeld '40.

Rho Delta Rho takes great pleasure in formally welcoming these men into the fraternity.

## Co-Op Code

A strange paradox—the co-ops are looking forward to work! Seven weeks have passed and soon they will be able to retire at night without fear of an exam on the morrow.

### Green Caps

But they will miss the necessity of wearing green caps. On St. Pat's anniversary the fellows banded together to defy the sophomores to deputize them. About seventeen walked from the "L" station minus that main factor of manly dignity. Anyway, it wasn't cold.

### Pictures

Last Tuesday morning the fellows posed for the photographer in the gym. The pictures will be used for the Cycle and Professor Lease's campaign to interest more industries in the co-operative plan.

### Basketball

Winning by a score of 31-11, the Frosh retaliated against the Sophomore Co-ops in a cage game in the gym. High point man for the freshmen was B. Booth, who earned 14 points. Reinrich scored two baskets to lead the sophs.

The freshman co-ops will play the Phi Pi Phis in the gym tomorrow morning at 9:30.

Any organization wishing a game should see G. Henry, co-captain.

## Lonely Lost Articles Cry Out for Owners

About ten scarfs, several good hats, some textbooks, and a collection of various other articles in usable shape await the appearance of their owners in the Registrar's office. These articles are the result of a semester of collection.

If the owners of the "missing" goods do not call soon, the Registrar's office will dispose of them as it sees fit. No, there will not be an auction sale.

Also missing or lost are seventy registration cards that haven't arrived at the office. The cards have been missing for six weeks—they are slightly overdue. Rumors have it, that the cards weren't turned in at all.

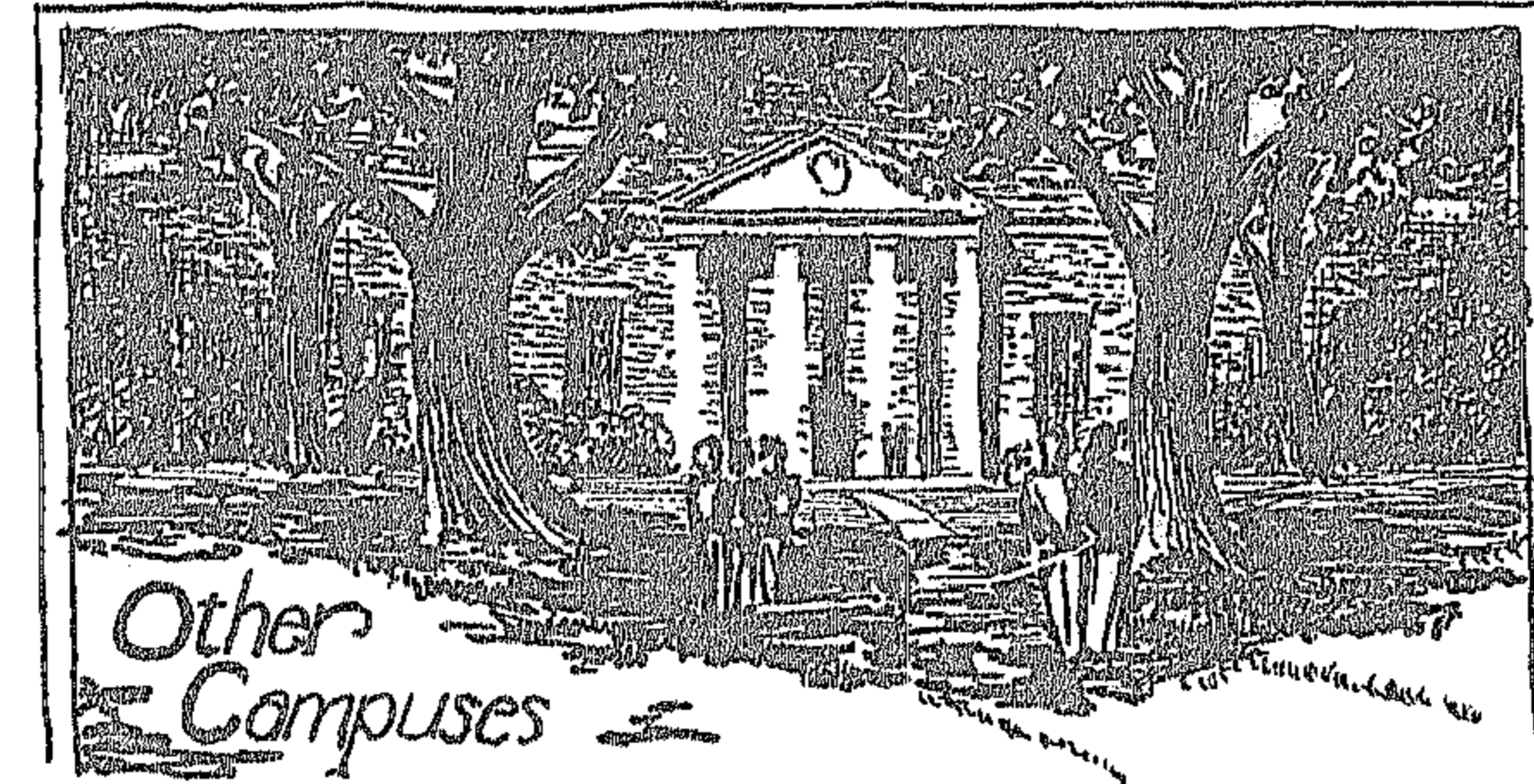
queue became so long and by sheer mass of numbers they stormed the commissary and wrought havoc galore. They carried off everything they could get their hands on, stepped on cases of eggs, spilled milk all over the place, broke open cases of canned goods and before the National Guardsmen and police could restore order, the commissary looked like a shambles, and smelled so nauseating that even an aeration could not dispel the stench. However, the negroes were happy. They now had probably more in the way of food and property than they ever before had in their lives.

### Floors Become Warped

I could write for hours on all I've seen but that would take too much time and also take too much space. I'd like to give one more picture though. After the water had receded I had an opportunity to visit one of the homes that had had water on the first floor, as most of them did in the West End. There just wasn't anything that could be salvaged outside of the sink, the bath tub, and the steel bed springs. The furniture had fallen apart, veneering torn off, piano turned over and deposited in another room by the water, the rugs so soggy and mud caked as to render them unrecognizable. The floors had buckled every two feet, doors were swollen and warped and plastering cracked. Just think what it will mean to the older people who have probably their life savings invested in a submerged house and furnishings. The younger people can start all over, but I can't help but think despairingly of the older ones.

The letter, I know, is sketchy. However, it will give the high lights of the flood because they are pictures I can't eradicate from my memory. Incidentally, I have another picture that I could write and describe and praise at great length. Oh the joys of taking a bath after nine days of perspiring and drying of perspiration on the body. However, if I get started on that I won't be able to stop.

Otto Freilinger, '35.



Old Man Opportunity beating a knock-knock tatoo couldn't even get a certain University of Texas professor to open the door once the bell has rung and the class has begun.

Likewise, all late students are barred. They might just as well go home as try to force the locked door.

Annoyed at his unusual procedure, members of the class burned inwardly and waited for a chance to get back at him.

"We'll have an exam during our next lecture meeting," announced the professor not long ago.

On the day of the test, all the students were in their seats long before the ten o'clock bell rang. But no professor. Two minutes passed. Hurried footsteps sounded in the corridor, but before they stopped at the door, one of the revenge-seekers had turned the lock.

Ignoring the pounding, students stayed in their seats. Five minutes later they all went home.

Counting sheep has long been a loyal method of confirmed insomniasts for dropping off to sleep. Now law students at Ohio State University count words of lecturers for the opposite reason—to stay awake.

Because they make bets on the number of times the professor will use certain common words such as "the," "or," and "however," lecture-attenders listen closely to the driest of discourses.

"Say, manager, can I get another pair of shoes?" came the query from a timid-looking rookie when track equipment was being issued at Oregon State College.

What's wrong with the pair you have?" asked the manager, busy with his job of passing out suits to varsity and rookie track men. "Didn't you try them on? What did you take them for if they didn't fit?"

"Oh, they fit all right as far as size goes," answered the freskie, but . . .

"But what?" barked the manager. "I'm too busy to bother with you dumb rooks. What's wrong with your shoes anyway?"

The jolster fidgeted uneasily and his face reddened, but he managed to blurt:

"They fit all right, but they both fit on the same foot."

With no kingdom to offer for a horse, the tentative Riding Club at Alfred University has disbanded because of its naglessness.

A smashing victory in its final game of the basketball season gave John Tarleton College its 78th consecutive win and its fourth undefeated year of competition.

Plans for building an aeronautical wind tunnel capable of developing

winds up to 400 miles an hour and simulating variations in atmospheric pressure to an altitude of 35,000 feet, are announced by the Massachusetts Institute of Technology's President Compton.

Because heavy snows have choked off the food supplies of pheasants and deer in the neighboring game refuge, St. John's University has provided feed and grit at several distributing stations in the woods.

To improve the flavor of your canned gratefruit, aerate it. That is, pour it from one glass to another a few times, say scientists at the University of Illinois.

By betting on horses, a professor at an English university is trying to show his students concretely the folly of gambling.

Speaking statistically, a Pennsylvania State College reporter has found that his institution's 690 resident faculty received their degrees at 162 different colleges and universities in the United States and Europe.

What a columnist of the Minnesota Daily heard at the Miners' shindig: "Here, John, put my purse in your pocket. It won't hurt your figure any!"

"Mistake and be charitable," is the motto of Midland College typists. In recent accuracy tests, the click-clack-ers had to donate an egg or a can of tomatoes to the Salvation Army for each error made.

Since a careless bird caused a \$2,500 fire at the Delta house of Western Reserve University by building its nest too near the chimney, members have been waiting with shotguns for its return.