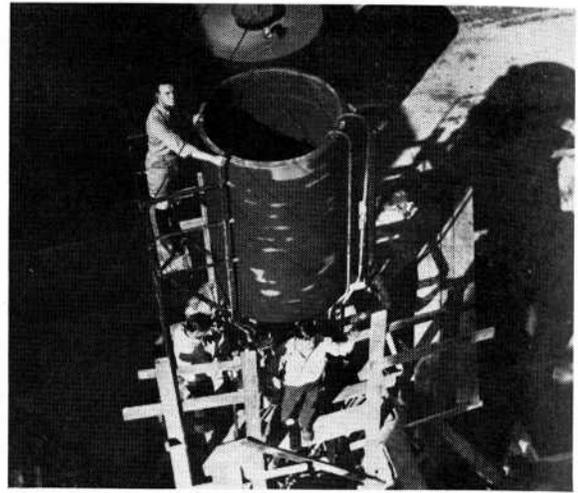


Engineers aren't afraid of greasy hands

STUDENTS AT O. U. LEARN HOW
TO MAKE THE WHEELS TURN BY
REAL FIRST-HAND EXPERIENCE



An unusual view of students making a "run" at the University's refinery plant

NO classroom theorists are University of Oklahoma engineers! They learn their technical skill by performing actual processes on equipment that represents the kind of machinery they will have to deal with when they get out of school.

Several important items of equipment have been added during the last year for demonstration, experiments and research.

For some time the University has had a gasoline distillation plant with a capacity of about 250 barrels a day, but until last year no university in the country had a lubricating oil setup operating like a commercial plant. Last year, the equipment necessary for the processing of lubricating oils was designed, and now has been installed in connection with the University refinery. This equipment is large enough that the data obtained from it may be applied in the designing of large refineries.

This plant is capable of producing such final products as automobile lubricating oil, both light and heavy, finished petrolatum which is better known as vaseline, paraffin wax, asphalt, special naphthas, greases and other similar products.

The engineers learn how to run crude

oil through a series of complicated processes, one of which chills the oil to fifty degrees below zero and then dewaxes it through a centrifuge.

Practical oil well drilling methods are learned on a test well which was drilled last semester in front of the Petroleum Engineering building. Five hundred feet deep, the well is equipped with casing, tubing, rods and pump.

With surface equipment which was donated by the Lufkin company, the well will be used to study bottom hole temperatures, pump efficiency and other problems relating to practical operation of oil and gas wells.

A newly-erected \$16,000 wind tunnel is a valuable addition of equipment for use in aeronautical engineering courses at the University. Although no courses in actual flying are offered, the College of Engineering gives a broad education in the technical side of aviation.

The wind tunnel, which is more than eighty feet long, has an air passageway five feet in diameter at the narrowest point. At the test section of the tunnel, there is a small three-story building housing the testing instruments.

The air flow is supplied by a 400-horse-

power airplane engine which is operated most of the time on natural gas for reasons of economy. An air flow of 200 miles per hour is obtained, which is necessary for testing models of modern high speed airplanes.

In the materials testing laboratory, the engineer learns how to manipulate delicate instruments that tell what a piece of metal is like inside, and how much strain it will stand before breaking.

The college has micrometallographic equipment with inverted microscope and camera, which is used for systematic investigation of the structure of metals.

For example, the strength of seamless steel tubing in combined loading is of vital importance to the airplane industry. To aid in research in that field, equipment was designed and made that can be used to convert the 50,000-pound Olsen universal testing machine into a column testing machine.

There is also equipment for testing metal to see when it gets "tired" from repeated stresses. This "fatigue strength" of metal, as engineers call it, is often more important than the metal's ability to stand one hard strain.

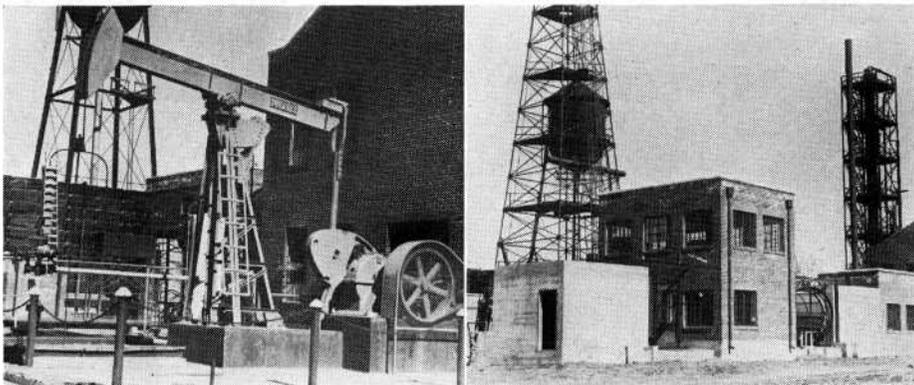
While the petroleum engineers are getting their hands greasy learning how to run a refinery, civil engineers are going them one better and studying plain old dirt.

Only the scientific term for it is "soil," and it is a field of growing importance.

Students of conservation are facing just as serious an engineering problem as students of road building faced 20 years ago when the automobile suddenly caused a demand for safe highways, says J. F. Brookes, director of the School of Civil Engineering.

"The nation's economic existence is affected by the vital problem of soil and water conservation. This perplexing situ-

(TURN TO PAGE 159, PLEASE)



The test well used by petroleum engineers, and the new wind tunnel

Charles C. Miles, '22as, Norman, manager of the University Book Exchange.

Homer Heck, '35ex, program director for WNAD, University radio station, and assistant to Alumni Secretary T. M. Beard.

A total of 26 new Life Members have been received since Secretary Beard took office three months ago.

New annual memberships—from persons not previously members of the association—also have increased rapidly.

These new memberships on the annual basis are from Richard H. Flynn, Dr. F. T. Reid, Dessie Teague, James B. Boren, Sam K. Pack, J. B. Carmichael, D. D. Kirkland, Mrs. Don Allison, J. Arthur Herron, Walter Arnote, Roy Spears, A. P. Craig, Douglas McMurray, Dr. J. L. Had-dock, Jr., Mary Hackett, J. J. Bollinger, G. J. Scott, Ida Sloan, Schenk H. Griffin, Bernard J. Doud, Louis Nance, Joe Chas-tain, Dan Baker, and Grace A. Brown.

Life Membership in the University of Oklahoma Association including a life-time subscription to the Magazine costs \$60, which may be paid at the rate of \$5 a quarter. The money goes into a trust fund, and only the interest can be used for expenses of the Magazine and for associa-tion activities. Subscription to *The Sooner Magazine* by the year costs \$3, which in-cludes annual dues in the association.



ENGINEERING FACULTY IS WELL ROUNDED

(CONTINUED FROM PAGE 145)

zation of the early Spanish explorers and the Indians, and has made a fairly ex-tensive study of this subject.

Dean Dodge is nationally known as an educator in the field of physics and has had several distinctions from national organizations.

The recent Ohio river floods stirred memories for J. F. Brookes, director of the School of Civil Engineering, for with-in a month after his graduation as a civil engineer from Vanderbilt University in 1908, he obtained employment helping Uncle Sam curb rivers of the Ohio valley.

He received promotions and continued in professional engineering work for ten years before alluring stories about the Uni-versity of Oklahoma persuaded him to accept a teaching position here.

Mr. Brookes' interest in the establish-ment of a professional basis for engineer-ing practice in Oklahoma led to his ap-pointment as member of the State Board of Registration for Professional Engineers in 1935. This statute, designed to "safe-guard life, health, and property," also in-sures engineering graduates a professional field in which to function, he points out.

"The public now has an improved con-ception of the engineer and his worth to society. Thirty-six states have registered a total of 50,000 professional engineers; Oklahoma contributes 725."

J. E. Smay, although the youngest of all the directors of schools in the College of Engineering, is one of the busiest. He was supervising architect for the new Business Administration and Biological Science buildings, which have been widely praised for their architectural excellence, and he has supervised the plans for the proposed new Geology and Petroleum Engineering buildings.

He is a sociable sort of person, soon calling most of his students by their first names. Under his direction, the School of Architecture has advanced rapidly.

His hobby is hunting, and he spends much of his leisure time outdoors.

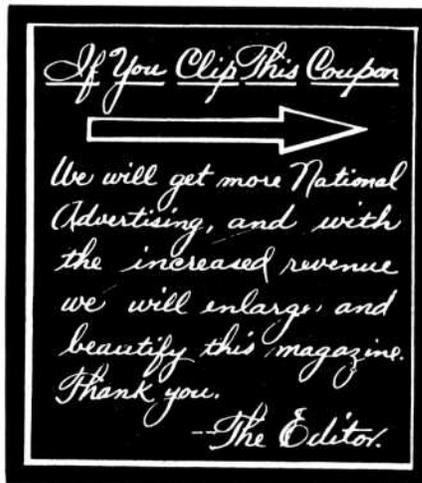


ENGINEERS AREN'T AFRAID OF GREASY HANDS

(CONTINUED FROM PAGE 142)

ation presents problems of crop manage-ment, water control, municipal water sup-ply, power manufacture, the relocation of communities, and many other problems.

"Soil must be protected and its fertility



preserved. Water must be conserved and its movement regulated. With the re-cent experience of the Ohio valley fresh in mind, our future problem calls for scientific knowledge and engineering ap-lication."

N. E. Wolfard, of the University engi-neering faculty, has just completed a year with the Oklahoma State Conservation commission, and M. E. Mills, associate professor of civil engineering, has con-ducted tests of soil bearing capacity on the campus and the new Civic Center at Oklahoma City.

This program of soil tests was initiated last year by the first annual Street and Highway conference on the campus.

In the face of all these "down-to-earth" and practical activities of Sooner engineers, it looks as though the critics who accuse modern education of being frivolous must have overlooked the College of En-gineering.

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