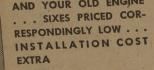
Page 4

Movie on Alaska For **Biology** Club Tuesday





Your Friendly Ford Dealer

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N. Main

Seniors to Plan

"Alaska: A Perfect Paradise for Hunters" is the title of a movie to be shown in the Chemistry Lec-ture room Tuesday night, February 11, at 7:30 o'clock, it was an nounced today by W. E. Reifschla ger, vice president of the Texas A. & M. Biology Club, under who's auspices the movie is being shown. This picture, filmed in techni-color, was produced by the Gult Oil Corporation of Houston so that the people of this country might get a first hand idea of the magic wonders of the great and vast country known as Alaska.

wonders of the great and vast country known as Alaska.
Organizational Meeting Of Graduate Students Tonight
Officers will be elected at the organizational meeting of the Graduates Students' Club this even ing at 7:30 in the YMCA Chapel, followed by an address from Dear T. D. Brooks on "The Graduate Students, faculty members, and their wives are invited to at tend.
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Aggie Institution

Records and Players, Paint, Wall Paper and Varnishes, Picture Frames.

CHAPMAN'S

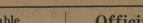
Bryan

Items of Interest to Students of Chemistry, Engineering, Physics, and Biology

The "Whitest of White" Pigments from Black Ore

Next to P. O.

It is a strange fact that the ninth most To attain this end in



Applications Available For Henry Fellowships

Announcements of the Henry Fellowships to Oxford or Cam-bridge in England have been re-ceived, Dean F. C. Bolton an-nounced Monday. The fellowships are available to American students and have a value of \$2400. Anyone in-terested may secure an applica-

terested may secure an applica-tion form at Dean Bolton's office.

-ELECTION-

(Continued from Page 1)

Continues for the society in formation, it was stated.
Continues for the society in feasing of the society in feasing students and the society in feasing students from the SALE.
The talk will be of interest tal engineering students from the SALE.
The talk will be of interest tal freshmen and sophomore engineering students from the SALE.
The talk will be of interest tal freshmen and sophomore schemed and invitation is extended ta at freshmen and sophomore schemed as differences.
The talk will be of interest tal freshmen and sophomore schemed in a police of the work of the train boots, and on alternate Wednesday that plans are being inacting students that an inspection trip is expected to be madia freshmen and sophomore and housing arceas, told of the work of the housing officies.
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Mere Wen Never Been Lidekd, Walter Marge of one of the housing officies.
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Mere Marger's movie of life at an critities was and the drage of the work of the meeting.
Mere

BILL

The Veterans Have Come to Life!

— For —

PRESIDENT

Of the Veterans Students Association

MURPHY

THE BATTALION

F. C. BOLTON Dean

dated 30 January 1947, from this cinded. students who have receive new pick up their re

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS Office of the Dean of Men Memorandum No. 41 5 February 1947 Subject: Dance Accomodations for Ladies To: Reserve Officer Students 1. Effective this date, Memorandum No. 40. dated 30 January 1947 from this

assignments may pick up th from the Placement Office,

Official Notices

The coast line of Norway, in-NOTICE TO THE BATTALION cluding the greater islands and indentations, totals about 12,000 to Oxford or Cambrid , having a value of six hundred (\$2400) each and available to n students. Anyone interested eive an application form at my miles.

First Adding Machine

12,000 Miles of Coast

The first adding machine was nvented by Blaise Pascal, a Frenchman, in 1642.

SCHEDULE CHANGES SCHEDULE CHANGES Any students desiring to add a must present a written statemen the department concerned, that is a place in the class for him, statement must be presented to Dean of his School. With the approval, the Registrar will be orized to make the change. Transfers from one section to a in the same subject will be mu the department involved. department involved. uary 10th will be the last da courses can be dropped withou ade. It will also be the last dat which new courses may be added. H. L. HEATON Registrar.

LAB ASSISTANTS

possible. 3. Accomodations for ladies may be arranged for by requesting same at the office of the Chief of Housing, Room 100 Goodwin, at any time prior to 5:00 p.m. Friday, 7 Fehruary 1947. (Signed) Wm. G. Preazeale, Acting Assistant Dean of Men, few posts for physics laborato assistantships for the present are still open. Men who have the handling of apparatu ories. The scale of com the laboratories. The scale of com-sation is \$25, per month for 10 hours vice per week and proportionate unts for more or fewer hours, pplicants are to register at the office be descripted. department. J. G. Potter Physics Department

CLASSIFIEDS

ATTENTION ENGINEERS: Get your ngineers' math chart at the Exchange

THE SCRIBE SHOP-Typing, mimeo-graphing, drawing. Phone 2-6705. 1007 E. 23rd, Bryan.

WOOD DELIVERED: Per cord, 4 ft. \$9.00; 2 ft. \$10.50; 16 inch \$11.50; 10 inch, \$12.50. Telephone 4-1188.

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NOTICE: Six months Coronet only \$1.00; also you can give Reader's Digest to your friend in a foreign country in their own language, one year \$1.50. Johnson's Magazine Agency at College Book Store. Box 284, phone 4-8814.

FOR SALE: White enamel coolerator; Elgin bicycle—hardly used. \$30 each. 114 Cooner St., East Side, College Station.

FOR SALE: Cocker Spaniel puppies, notorbike, motorscooter and motorola car adio, very cheap. R. D. Brite, 2600 Todd,

WANTED: Riders from Annex to Ad inistration Building. Phone 4-1280, Mrs

LOST: Antique amethyst ring, Thurs-day night, presumably in Guion Hall. Phone 2-5285 after 5:00 p.m.

LOST: Man's Elgin watch, square case, pink face. If found return to T. J. Byrd, Dorm 6 Room 104, Reward.

FOR SALE: 1941 Chevrolet Tudor Se-an. See Picone, K-13 Walton or Dorm 1-217.

LIBERAL REWARD OFFERED for return of billfold belonging to C. W. At-kinson, P. O. Box 2554, College Station or BAAF (A-18-3). Finder may keep money in wallet in addition to reward. No ques-tioner.

FOR SALE: Two burner gas hot plate, used one month, excellent condition. Pro-ject House, Apt. 11-B.

FOR SALE: One pair Senior Boots Size 8. Come by Room 313, Dorm 5. FOR SALE: Royal Standard typewriter New 1946 model, touch control. Phone

FOR SALE: Golf Clubs, Wilson "Gene Sarazen" model 8 irons and 3 woods. New. Bargain. Phone 2-5723.

FOR SALE: Bedroom suites, spring nd mattresses, floor lamp and odd fur-iture. Student Coop or 308 Foster Ave-

GOOD NEWS MEN-You now can seed your spring clothes in the privacy of GOOD NEWS MEN-You now can se-lect your spring clothes in the privacy of your home or office. Pioneer tailor has handsome display of fine fabrics your choice of which can be delivered in early March perfectly fitted in your favorite style. For appointment phone 4-1252 or

THOSE

FRIDAY, FEBRUARY 7, 1947





should have been regarded as "rare" for over a hundred years after its discovery in 1791. But that is the story of titanium, actually more abundant than zinc, copper, lead, tin, and nickel combined. One of the factors that have kept titanium from being better known is the difficulty of handling some of its compounds commercially.

prevalent element in the earth's crust

Bryan

If, as a student, you were to look up the equations for the manufacture of titanium oxide pigment, you might find something like this:

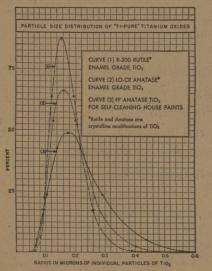
 $\begin{array}{l} \mathrm{FeTiO_3.\ nFe_2O_3*} + (3n+3)\mathrm{H_2SO_4} \longrightarrow \mathrm{Ti}(\mathrm{SO_4})_2 \\ + \mathrm{FeSO_4} + \mathrm{nFe_2}(\mathrm{SO_4})_3 + (3n+3)\mathrm{H_2O} \end{array}$ $Fe_2(SO_4)_3 + 2H^+ \longrightarrow 2FeSO_4 + H_2SO_4$ $Ti(SO_4)_2 + (x+2)H_2O \longrightarrow TiO_2.xH_2O + 2H_2SO_4$ $TiO_2.xH_2O \longrightarrow TiO_2 + xH_2O$

*-The exact composition of ilmenite varies with the source of the ore.

From these equations, the manufacture of the "whitest of white" pigments from black ilmenite ore appears to be chemically simple and straightforward. However, the processing required to obtain industrial titanium oxide of sufficient brightness, hiding power and fineness is more complicated than one would anticipate.

Controlling a Metastable System

The final product must have a particle size averaging 0.2 microns in radius and varying between 0.1 and 0.5 microns.



that is ready to go in the wrong direction at any time requires exceedingly rigid control conditions

The essential steps in the operation are: 1) The careful solubilization of ilmenite in concentrated sulfuric acid to avoid hydrolysis. 2) The complete reduction of any ferric iron to facilitate purification of the solution, with removal of any unconverted residue and colloidal slimes. 3 Crystallization of 70

per cent of the iron as FeSO₄.7H₂Oa critical operation in which temperature must be kept low and wild seed crystals avoided. 4) Hydrolysis around 105-109° C.-the most important step of all-because the initial particle size and pigment properties of the final product depend on concentration, temperature, time of hydrolysis, intensity of stirring, and presence of foreign materials. In this operation it is not unusual to talk in terms of parts per million, rather than the usual analytical accuracy of 0.01-0.02 per cent. 5) Vary-ing salt treatment of the precipitate, depending on the impurities. 6) Calcination between 900-1000° C. to obtain the desired particle size. 7) Grinding to give the proper aggregate size. 8) Treat-ment of the dried pigment in various ways depending on end use; e.g., in the automotive, rubber, ceramics, paper, linoleum, printing, or other fields.

Wide Diversity of Research Problems

Long and patient research was necessary to develop the manufacturing techniques now used. Some of the problems demanded technical skill of the highest order from the colloid chemist, the physical chemist, the analyst, the crystallographer, the physicist, and other spe-cially trained men. A wide variety of instruments, such as the petrographic microscope, the electron microscope, x-ray diffraction unit, ultra-centrifuge, and spectrophotometer were used in

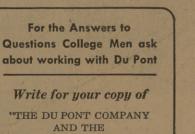
More facts about Du Pont-Listen to "Cavalcade of America," Mondays, 7 P. M. CST, on NBC



Ilmenite (left). Titanium Dioxide (right). Apparatus in the background is a rotary filter.

this work. Finally the metallurgist, the chemical engineer, the mechanical en-gineer, and the industrial engineer had to design equipment to handle this extremely corrosive system economically.

The manufacture of titanium pigments is another example of the problems that constantly challenge chemists, engineers and other specialists.



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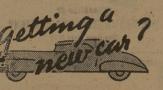
Cocker Spaniel pups for sale. See Mrs. Clifford, Registrar's Office.

Trailerhouse for sale, 18 ft. glider, ean. See Trailer T-6, Area No. 5 on

DO YOU OWN A CONVERTIBLE? One tarpaulin for sale, 18'x28'. Never been used. N. B. Huff, 7-J Puryear.

LOST: Officer's short coat, A.&M. G.I. ssue. Left in Assembly Hall, Thursday light, Has Senior Cap in pocket. Please eturn to Bill Pollard, Rm. 401, Dorm. 9.

FOR SALE: Boy's bicycle, coffee table, hild's auto-seat and training seat. Phone



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