

ideally suited, they stated, to further processing either by ball milling, or by stamp milling, obtaining a very fine grade of bronze powder. The particles formed are flakes. "It is obvious," they said, "that the particles of which these deposits are composed grew in two dimensions only."

In the investigation made which resulted in the discovery of this new type of copper, it was found that when the cathodes in the electrolytic bath had received an application of certain oils, the deposits on them are brittle. The cathode

is the electrical terminal on which the refined metal is deposited in the electrolytic process.

"In particular," they declared, "certain asphaltic oils and such vegetable oils as corn oil gave deposits over ten-day periods which were easily stripped from the rolled cathode surface." They were brittle enough to be easily broken up. Castor oil, oxidized with perchloric acid, is preferred. The cathodes are dipped in heated oil and allowed to drain.

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Radical Research

➤ MIDWESTERN farmers often assert that no one has ever seen the lower end of a bindweed root. Some go further and declare that they don't have any lower ends—that they come straight up through the ground from the place where they were invented. Certain it is, in any case, that this field-ruining wild morning-glory, probably the single weed species in the great Grain Belt, is extremely deep-rooted.

Now, however, someone has seen the lower end of a bindweed root. He is Dr. John C. Frazier, a young botanist on the staff of the Kansas State Experiment Station. Dr. Frazier is an exceedingly persistent young man, for he dug down alongside one bindweed root for a little more than 23 feet before he got to the bottom of it.

Dr. Frazier did his digging into the hidden life of the bindweed in the course of researches aiming at a better knowledge of why and how this ill weed grows so apace. By planting its seeds in cleared soil and keeping close track of root growth week by week, he obtained a more accurate picture of the bindweed's potentialities for mischief than has ever been available.

Even when only two weeks old, bindweeds already had six-inch-deep roots. Before they were three months old, their roots were down more than a yard. And at the end of the 120th week of their persistent, perennial lives, they were sending their roots down to the 23-foot level.

At the same time they were spreading sidewise at comparable rates. When the roots were down a yard, they had a radial spread of a yard and six inches. When they had got to the 23-foot length, they were spreading "at least" 16 or 17 feet.

PSYCHIATRY

Psychiatry at the Front

➤ AN IMPORTANT step toward salvaging for combat or other active military duty the men who would otherwise crack up mentally under the excessive strains of warfare, is the appointment of a psychiatrist on the staff of each Army division.

This physician will live with the men and share their experiences, "ride their vehicles, participate in their bivouacs, take their infiltration courses." Thus he will gain the respect of the soldiers and will also put himself in a position where he can most effectively apply his professional skill and judgment to problems of training and combat.

Acute manpower shortage has led to the reversal of the Army's former practice of wholesale discharge of men believed to be emotionally unfit for military service, it is disclosed in a special article in the *Bulletin of the U. S. Army Medical Department* (March) announcing this new step in preventive mental medicine.

Now the new Division Neuropsychiatrist will be expected to save such men through his clinical judgment, skill, contacts and influence. He will get personally acquainted with the line officers and be in a position to help them when they seek his advice. He will "forget psychiatric jargon and explain his findings and recommendations in simple terms," the article, which was prepared in the Office of the Surgeon General, states.

For the first time in the Army, the psychiatrist will have an opportunity in some degree to modify and influence the soldier's environment, it is explained, so as to improve morale and prevent maladjustments. He will advise in all matters pertaining to the mental health of the command.

The Division Neuropsychiatrist will

form a team with the classification officer to aid in the placing of individual soldiers where they can function best and thus eliminate improper placement which is a factor in poor mental health.

He will visit division dispensaries and help the medical officers to solve problems where physical ailments are linked with mental or emotional maladjustment.

And when the men reach combat, the Division Neuropsychiatrist will supervise the care of the neuropsychiatric casualties which, it has been found, are numerous in heavy combat. (See *SNL*, April 22)

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MILITARY SCIENCE

Ancient Warlike Device Gets New Improvement

➤ A MODERN improvement on a warlike device that is at least as ancient as the wars between the Greeks and Persians is the subject of patent 2,346,713, granted to an Army officer, Maj. Brooks Walker, and assigned royalty-free to the government.

The device is a caltrop. In its original form, the caltrop was a group of four sharp spikes radiating from a common center in such a way that one would always fall pointing upward when tossed on the ground. Man or horse stepping on a caltrop could be considered through for the day.

Major Walker's improvement consists merely in making the spikes hollow with openings near the ends. Any pneumatic-tired vehicle running over one of them will of course lose the air from the punctured tire through the hole, and be as effectively crippled as any of the King's horses or the King's men of old.

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Bindweed roots not only spread; they start new bindweeds every here and there. Buds appear in them at irregular intervals. If the root is near the surface, the bud sends up a new stem at once.

If it is deeper, it produces a rhizome, or underground stem, which in turn starts overground stems on their twining, strangling careers.

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• Books Off the Press •

ARCTIC MANUAL—Vilhjalmur Stefansson—*Macmillan*, 556 p., illus., \$3.

BIOLOGY AND MAN—Benjamin C. Gruenberg and N. Eldred Bingham—*Ginn & Company*, 719 p., illus., \$2.24.

GLIDERS AND GLIDER TRAINING—Emanuele Steri—*Duell, Sloan & Pearce*, 118 p., \$3. A picture history as well as a handbook of gliders and glider training.

HANDBOOK OF COMMERCIAL, FINANCIAL AND INFORMATION SERVICES — Walter Hausdorfer, comp. — *Special Libraries Assn.*, 207 p., paper, \$3.

HEATING, VENTILATING, AIR CONDITIONING GUIDE, 1944; Vol. 22—*American Society of Heating and Ventilating Engineers*, 1,272 p., illus., \$5.

I LIVED WITH LATIN AMERICANS—John L. Strohm—*Wilcox & Follett*, 377 p., illus., \$2.50.

ILLUSTRATED FLORA OF THE PACIFIC STATES, Vol. II, Buckwheats to Kramerias—Leroy Abrams—*Stanford Univ. Press*, 635 p., illus., \$7.50.

INVESTIGATIONS IN EROSION CONTROL AND RECLAMATION OF ERODED LAND AT THE BLACKLAND CONSERVATION EXPERIMENT STATION, TEMPLE, TEXAS, 1931-41—H. O. Hill, W. J. Peevy, A. G. McCall and F. G. Bell—*Gov't. Printing Off.*, 109 p., illus., paper, 20c., U. S. Dept. of Ag. Technical Bull. No. 859.

JOURNAL OF JOS. W. FAWCETT—*David K. Webb Private Press*, 59 p., \$1.

MANUAL FOR AVIATION CADETS—John R. Hoyt—*McGraw-Hill*, 199 p., illus., \$2.50.

OCEANOGRAPHIC OBSERVATIONS ON THE "E. W. SCRIPPS" CRUISES OF 1940: Cruises X-XVI—H. U. Sverdrup and the Staff of the Scripps Institution of Oceanography—*Univ. of Calif. Press*, 87 p., \$1.

PALESTINE, LAND OF PROMISE — Walter Clay Lowdermilk—*Harper*, 236 p., \$2.50.

PETROLEUM AND AMERICAN FOREIGN POLICY — Herbert Feis — *Food Research Inst.*, 62 p., paper, 50c., Commodity Policy Studies No. 3.

PILE-DRIVING HANDBOOK—Robert D. Chellis—*Pitman*, 276 p., illus., \$4.50. Theory, design and practice of pile foundations.

PLASTICS FOR INDUSTRIAL USE—John Sasso—*McGraw-Hill*, 229 p., illus., \$2.50. An engineering handbook of materials and methods.

PLENTY OF PEOPLE—Warren S. Thompson—*Jaques Cattell Press*, 246 p., \$2.50.

SMALL COMMUNITY HOSPITALS—Henry J. Southmayd and Geddes Smith—*Commonwealth Fund*, 182 p., \$2.

STUDY AND REVISION OF ARCHIMEDES (HALL)—G. E. Condra and M. K. Elias—*Geological Soc. of America*, 243 p., illus., paper \$2.50, Special Papers No. 53.

THE THEORY OF THE GYROSCOPIC COMPASS AND ITS DEVIATIONS—A. L. Rawlings—*Macmillan*, 182 p., illus., 2nd ed., \$3.

TOWARDS A DEMOCRATIC PEACE—GERMANY—Hiram Motherwell—*Am. Friends of German Freedom*, 39 p., paper, 25c.

TROPICAL NURSING—A. L. Gregg—*Phil. Library*, 185 p., illus., \$3, 2nd ed.

TVA — DEMOCRACY ON THE MARCH — David E. Lilienthal — *Harper*, 248 p., \$2.50.

TWENTIETH CENTURY ENGINEERING — C. H. S. Tupholme—*Phil. Library*, 201 p., illus., \$3.00.

VERIFIABILITY OF VALUE—Ray Lepley—*Columbia Univ. Press*, 267 p., \$3.50.

THE WAR AND MENTAL HEALTH IN ENGLAND—James M. Mackintosh—*Commonwealth Fund*, 91 p., 85c.

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PSYCHIATRY

Psychiatrists Urged To Start Rehabilitation

► PSYCHIATRISTS, psychiatric social workers and clinical psychologists at the Chicago meeting of the American Orthopsychiatric Association were called on to start immediate action in their own communities for psychiatric rehabilitation of service men discharged from the armed forces because of medical or psychiatric disabilities or both.

The call was issued by Dr. Thomas A. C. Rennie, of the New York Hospital and Cornell Medical College, director of the division of rehabilitation of the National Committee for Mental Hygiene.

"The problems facing the men discharged from service are multiple," he said. "Perhaps the most common is the mistaken sense of being stigmatized by discharge for a nervous or mental condition. Although employment in the main is now easy to obtain, some employers

refuse to take back men diagnosed as psychoneurotic.

"Socially these men find the adjustment at home difficult," he continued, pointing out that companionship is denied them because men their age are in service. They are ashamed or unable to seek work, ashamed to telephone former friends, uncertain how to explain their reappearance into civilian life and may make up some symptom to explain their discharge. Many of them stay at home, only occasionally wandering out alone in the evening to a movie.

Many know their diagnoses but their attempts to read up on the subject of psychoneurosis confuse them. Their parents are equally baffled and their fear and over-solicitude make the problem worse. When the men try to get help they find "too many jobs too poorly chosen for their needs" offered them, so they quickly shift from one job to another. Many groups and agencies are eager to help, but their activities may only add to the men's confusion, especially as the agencies frequently are working without reference to each other and without knowledge of the varied resources available.

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CHEMISTRY

Plastic Eyes Developed Which Are Non-Explosive

► PLASTIC EYES are being successfully produced in this country. Equalling glass eyes in popularity, they have the advantage of being non-explosive. In rare instances a glass eye has exploded due to temperature changes.

Before the war practically all artificial eyes were blown from a special glass, with a velvety texture, that could be secured only from a small town in Germany. Today the German monopoly has been broken and the material for glass as well as plastic artificial eyes are being made in America.

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