BEHIND THE SCENES IN American Business

By JOHN CRADDOCK

New York, Dec. 27 — When the complete story of America's gigantic war production is fully recorded into one impressive document a chapter that will undoubtedly stand out is the record of small business firms. It is now apparent that this nation could not have become such a great arsenal in so short a time, were it not for the cooperation of thousands of small manufacturers and the larger producers of war materials.

Although at the outset of the war some of the smaller manufacturers reported difficulties in getting government contracts, most small plants today have become vital links in the chain of war production by serving as sub-contractors for large companies. During the coming year, small business again will be called upon to exercise its resourcefulness and flexibility and some quarters believe that small plants which can demonstrate efficient manpower utilization may even get a somewhat larger percentage of total war business.

Moreover, as and when materials and manpower become available in 1944 for the beginning of reconversion to civilian production, small plants may get the green light first. The theory behind such preference would be to compensate small manufacturers who may have been slighted in the early days of gearing up for war production.

GLASS SERVES TOO — A trim WAVE and a washboard with a glass working surface have no similarity in appearance, but research technicians assert they are doing identical wartime jobs. Glass is serving the same home-front role as the WAVE, WAC or SPAR in freeing a man for combat service.

Already, glass has conserved hundreds of millions of pounds of strategic metals for munitions, these technicians say. Glass produced for washboards since January 1, 1943, by Libbey-Owens-Ford Glass Company alone has saved more than half a million pounds of zinc, brass and tinplate used in pre-war days.

Vitrolite glass — heat tempered for extra strength — has even conserved quantities of tough steel. Estimates of savings in steel for table tops alone reach 20,000,000 pounds, while another 50,000 000 pounds of steel has been saved by supplanting this metal with glass in sections of air-conditioning units.

How research experts stepped in to relieve the home-front shortage of metals for household tools is typical of American ingenuity in this war. Glass — ridged for washboards, smooth for table-tops — was designed to replace metals in home-front service at the same time that thousands of feet of glass went to war in plane windshields, precision instruments and other wartime uses.

THINGS TO COME — Homes with air-conditioning units that will filter dirt, dust and pollen . . . Sterilizing lamps that will eliminate bacteria . . Electric heating of the soil to force the growth of special or hot-house crops . . . Railroads using radio-electronic devices to prevent collision, derailment and other accidents . . . Edible fats derived from coal or petroleum.

POST - WAR AUTO — Outstanding engineers are dissipating those fanciful predictions of the shape of the first post-war automobiles. After canvassing 81 "leading oil and automotive engineers of America," A. T. Colwell, wice-president of Thompson Aircraft Company, announced that people who expect the post-war car to resemble "a combination of crystal ball and a rolling solarium are putting faith in a fairy tale." And Delmar G. Roos, vice-president of Willys-Overland Motors, recently told a session of the Society of Automotive Engineers that tear-drop, rear-engine cars made of "super" materials belong to the next decade. Roos, who cooperated with the Army in developing the hard-hitting "Jeep," cited these four points as an "engineer's approach" to post-war automobile design:

(1) There will be a demand for more efficient vehicles at lower initial cost. (2) Radical changes will be slow in coming. (3) Manufacturers will not gamble their reputations on "futuristic" models which can't stand the hard test of public use. (4) Plastic bodies and curved glass surfaces, in their present form, are unsatisfactory, with the latter as now developed presenting a dangerous handicap to clear vision.

CIGARETTES AND AIR — Man's ability to harness the resources of nature continue to baffle us from time to time.

Take the simple case of air. This invisible, odorless and tasteless mixture of gases which surrounds the earth plays an important part in the making of the more than 200 billion cigarettes we Americans consume every year.

According to one leading cigarette maker, it takes about 40 cubic feet of controlled air to bring the cigarette from the tobacco field to your lips. One of the specialists in "putting air to work," the B. F. Sturtevant Company of Boston, has estimated that to make one cigarette it requires 46 times its own weight of "air at work." Engineered air is used in making cigarettes from the time the tobacco leaf goes into the storage building where moisture-laden air hastens aging and fermentation to the final packaging of 20 finished cigarettes.

North Carolinian Named Sperry Vice President

JAMES E. WEBB, who is a native of Oxford, North Carolina, has been elected vice president of the Sperry Gyroscope Company, Inc., New York, a leading manufacturer of precision instruments for the United Nations armed forces. Graduated from the University of North Carolina a Phi Beta Kappa, Webb later studied law at George Washington University. He won his pilot's wings at the Marine Corps flight school, Pensacola, Fla., in 1931 and served on a tour of active duty. Joining Sperry Gyroscope Company as assistant to the president in 1936, Webb was elected treasurer in 1941 and secretary in 1942.

To Train Women At State College

Raleigh, Jan. 5.—Two short courses designed to train men and women for positions in war industries will begin at State College January 17, it was announced today by Director Edward W. Ruggles of Engineering Science and Management War Training at the College.

Sponsored by the U. S. Office of Education, courses on aircraft inspection and architectural and marine drafting will be taught to students from all parts of the State, who may enroll for these subjects at the College. Students must have a high school education or the equivalent in practical experience. The Federal Government pays all costs except for room, board, and textbooks. Ruggles estimates that the expense per student for a 12 weeks course will be from $80 to $120.

The course on aircraft inspection involves the study and practice of engineering drawing and blueprint reading; the study and execution of aircraft welding; a brief discussion on the theory of airplane design and aircraft power plants; a detailed study of aircraft materials, processes, and inspection; and a survey of manufacturing procedures.

The study on architectural and marine drafting will include rapid sketching and the translation of these sketches into working drawings. Emphasis will be placed upon construction details, tracing and lettering, and blue printing. The latter half of the course will be devoted principally to marine drafting. Instruction will be given on the physical qualities and uses of the most common materials required in building and engineering construction.

The carefully-planned and concentrated courses are designed to give the student the necessary background in essential skills for war work without frills or wasted time, Ruggles said. Thousands of "graduates" of the courses have been placed in vital industrial positions or given technical assignments in the armed services, he said.

Full particulars may be obtained by writing Director Ruggles at State College.

Washington Snapshots by James Preston

Industry's plan to stave off post-war depression by peacetime production and employment, as outlined in the annual convention of the National Association of Manufacturers, is causing rays of hope to light up the Potomac's clouds.

The convention theme of "A Better America," to be realized by greater production and a higher standard of living, admittedly depends largely upon government's adopting a cooperative rather than a punitive attitude toward business.

Industry's program calls for the fullest degree of economic security and the widest possible employment —but these are contingent, as intelligent Congressional opinion here is quick to point out, upon relaxation of government wartime controls at the earliest practicable moment after the war.

Reduction of wartime taxes and prompt payment by government when it cancels contracts are two "musts" before industry's "Better America" can be realized.

The disclosure of General Motors' "master plan" to aid postwar prosperity by spending $500.000.000 for plant reconversion from war to automobile production further brightens the rays of hope. That program is based upon expectation of a vast backlog demand for automobiles and a hoped-for $100 billion national income, a third more than in pre-war years.

New Type Life Raft Designed For Seamen

An improved type of life saving raft has been developed by several companies throughout the country for the use of merchant seamen torpedoed, bombed or shelled at sea. The raft carries a sail, berth beds for injured men, fishing tackle and may be equipped with a stove for cooking sea food, according to the American Merchant Marine Institute.

The raft not only has emergency rations, but also carries nearly every type of first-aid equipment which might be needed after a disaster. The first-aid kit includes bandages, compresses, boric acid ointment, tourniquets forceps, eye dressings, sulfanilamide crystals, benzedrine and phenobarbital. Instruction for the use of all are printed on the packages which are enclosed in watertight transparent covers.

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Farm News

QUESTION: Is canned food safe to eat after it has frozen?

ANSWER: State College canning specialists report that freezing in itself does not spoil canned food. They point out, however, that the food swells in freezing and that this may cause a break in the glass jar or a leak in the can. When the seal is broken on a can or jar, spoilage organisms may then reach the food and result in its loss. Cans showing any such leakage should be used immediately.

QUESTION: Can I develop a good pasture on land which is too poor to grow profitable cash crops?

ANSWER: No, says John A. Arey, Extension dairy specialist at N. C. State College. He recommends that only good land be used in developing permanent pastures. Poor land gives little grazing and the food a cow gets from such a pasture is used up in supplying the energy required to gather it. She has no food left for milk. The seeding of pastures on poor land with the resulting failures has convinced many farmers that fine, permanent pastures can't be produced in some sections of North Carolina.

QUESTION: Is it all right to use 4 to 10 inch poles as a border for the tobacco plant bed?

ANSWER: This was the old system but State College agronomy specialists now suggest the use of boards about 8 to 10 inches wide, because it will be much easier to use the fumigation method of blue mold control under these conditions. The boards should be sunk about three to four inches into the soil to keep water from washing under the boards. Under the fumigation method of blue mold control, the plant bed should be comparatively air-tight. If the bed is kept tight, this will also help in the control of insects.

Points To Watch In Saving Tractor Fuel

Much fuel can be saved if the tractor is kept in good condition, necessary adjustments are made, and the machine properly operated, reports J. D. Blickle, Extension agricultural engineer at N. C. State College.

"In these times when national needs for fuel are great, saving is a vitally important matter," he says.

To help save fuel and maintain peak tractor operation, he offers several good suggestions. The spark plugs and ignition should be carefully checked, being sure that they are correct for the engine and the fuel to be burned. Also, carburetors, manifolds, governors, and chokes should be set for the given fuel.

In making adjustments, shut off the motor because an idling tractor consumes large amounts of fuel. Correct lubrication reduces friction to a minimum and saves on power and fuel. Overheating the engine results in loss of efficiency and also a large loss of fuel.

Correctly inflated tires reduce draft and rolling resistance, and help to save on fuel.

A poor hitch creates unnecessary draft and the pulling of dead weight. This calls for extra power and fuel.

The brakes should be kept properly adjusted. A dragging brake is just so much dead weight, and a real fuel hog.

Accelerate the tractor slowly and steadily. A throttle which is advanced too rapidly pours fuel through the engine faster than it can be turned into useful work. Fast speed-ups throw dangerous overloads on the moving parts of the tractor and the tools which it pulls.

Farmer Can Grind Corn For Hog Feed

In feeding pigs, it will not pay a farmer to have his corn ground at a commercial mill but, if he has his own hammer mill, he can grind it to advantage, says F. H. Smith, animal nutritionist with the State College Experiment Station.

Recent tests have shown that grinding gave a better utilization of corn, with about 15 per cent less feed being required to give 100 pounds of gain.

"Medium-fine grinding of corn gives better results than finely-ground. A gritty-feeling product is superior," Smith says.

He points out that wheat, barley, rye, and other such feeds should be ground because the hog does not crush the small grains with his teeth as readily as the larger grains. Also, the animal is unable to use the food values of the whole grain because the hard, outer layers protect it from the digestive juices as it passes through the digestive tract.

Small grains should always be ground for hogs but with corn it only pays where the farmer has his own hammer mill. "A three-sixteenths inch screen in a hammer mill will give the correct fineness in grinding corn," Smith says.

Buy U. S. War Bonds and Stamps.