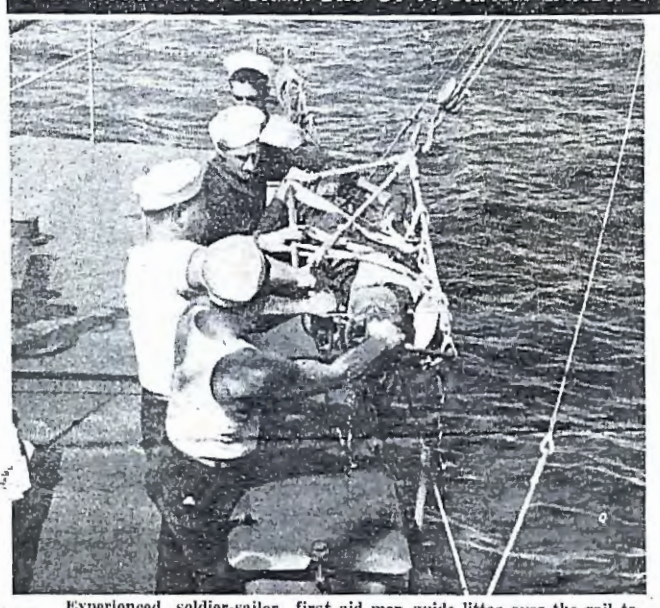
MIAMI DAILY NEWS
BACKGROUND
Photomagazine
SUNDAY, OCTOBER 15, 1944, SECTION B



ARMY 'SPLINTER FLEET'

Watchdog of the Caribbean

RAFT CARRYING SURVIVORS OF A CRASH LANDING BOBS ON A SMOOTH SEA. TWO SOLDIERS STAND READY TO ASSIST SURVIVORS ABOARD SPEEDY P-240



Experienced soldier-sailor first aid men guide litter over the rail to elevator leading to dispensary below. Raft will be dismantled.

Eager Eyes Protect Planes

The Caribbean wing of the army's air transport command utilizes its own small navy-Splinter fleet and operates Catalina flying boats on trips to boat-bases from Florida to Trinidad.

On a houseboat named Silver Wedding, it keeps headquarters for army boatmen, and on dots of islands in the Caribbean sea, soldiers in sailor suits pursue a single duty of dissipating the rangers of a 1,000-mile aircraft flight over water.

When each day scores of air transport command planes, or planes of any other command, Allied nation or commercial company, drone from South Florida to Puerto Rico or Trinidad—first leg of air journeys to far continents—an ATC navy is convoying the airways they follow.

This miniature navy's system of check points, rescue boats, PBY Catalina flying boats, grid charts, and search planes, revealed here for the first time, have made the first overwater leg of the ATC southern route where a forced landing will never be a journey over friendly territory, far from immediate rescue. Below Trinidad the rescue system is taken up by ATC's South Atlantic division.

An unorthodox and effective organization of air-sea rescuers has been fashioned by Maj. J. W. S. Foster, air-sea rescue officer of the Caribbean division, ATC, and his executive, Capt. Howard S. West, by combining radio communications, boats, airplanes, and a method.

The method, based on co-operation with other services and confirmed by several life-saving rescues, carries out the idea of putting a series of life-nets under men who fly the route.

This is the idea: Between 36th Street AAB, Miami; Morrison Field, West Palm Beach, other army, navy and commercial fields in Florida, and Puerto Rico or Trinidad, Maj. Foster's organization maintains four check points and one rescue station. At each station the army holds ready a rescue boat that can cruise about 600 miles at 15 knots to pick up survivors of any plane that has ditched in the sea.

The four check points are so called because at each a radio operator is on duty constantly to "check" by voice every airplane that flies over the route. As a C-54 or a B-24 flies north or south above the small bare islands below, a GI radio man in his wood shack or tent listens for:

"Check three. This is army 3327 on course. Over."

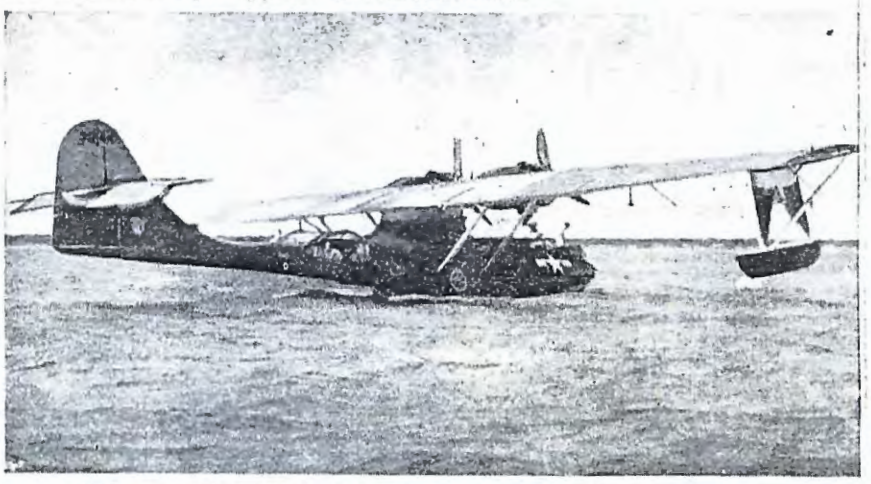
To which the solitary GI replies: "Roger, over and out," and writes on a piece of pad-paper before him that army 3327 has passed by safe on her way to war or back.

If army 3327 fails to

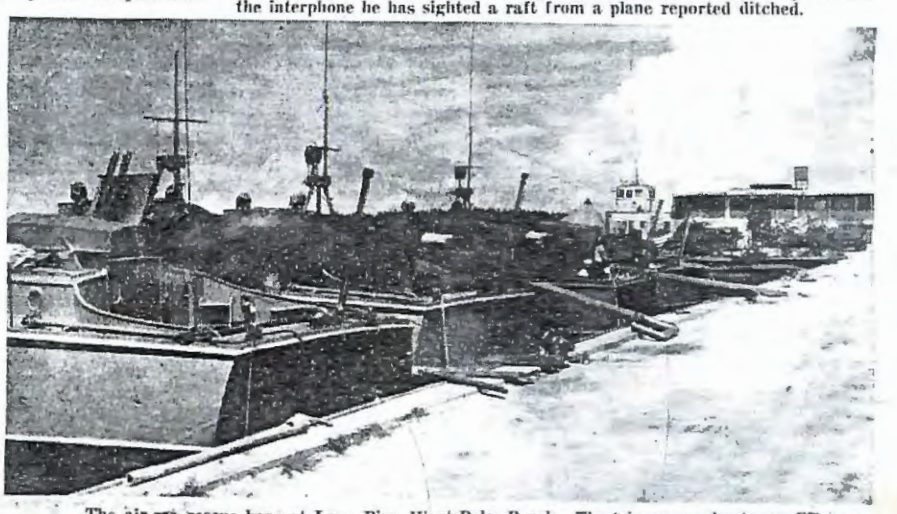
(Continued on Next Page)



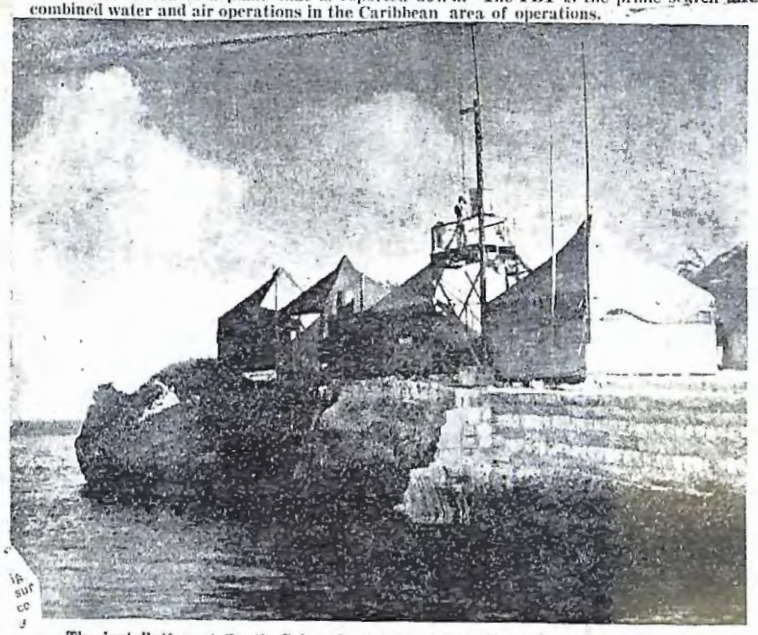
Corp. Walter P. Barnas, engineer of a PBY boat, tells pilot over the interphone he has sighted a raft from a plane reported ditched.



At Mayaguana island, "Check 3" of the air-sea rescue chain, a PBY flying boat prepares to take off in search of a plane that is reported down. The PBY is the prime search aircraft for these combined water and air operations in the Caribbean area of operations.



The air-sea rescue base at Long Pier, West Palm Beach. The trim rescue boats are PT type 63-footers. All are maintained and operated by army personnel. In the background is the houseboat used as headquarters. It is completely equipped for directing all operations.



The installation at South Caicos is singular and solitary. It is built on the edge of the wooden bucket in the center is the camp's showerhead. The section of to the left was sliced off during a hurricane some years ago. The men assigned to this post have little or no recreation facilities and rate furloughs when relieved.



Maj. Walter S. Foster, organizer and director of the air-sea rescue outfit, confers with Capt. Charles E. Sunderland, captain of its boat company. Major Foster, a boatman and aircraft pilot, and Captain Sunderland, familiar with boats, have straightened out many kinks.



The Mayaguana base, seven tents on the beach of a lonely island, where soldiers stand ready to speed on a rescue mission. The GI's have plenty of time to battle sandflies, chiggers and land crabs. A soldier in the radio tent talks to each plane that flies overhead. In the foreground Sgt. Virgil Kurtz; Cpl. David Calumnci is standing by the flagpole.

WAR PROVES VAST SUPERIORITY OF AMERICAN MACHINERY

Earth Moving Machines Speeding Axis Defeat

By JOHN A. MENAUGH
(Special to The Miami Daily News)

CHICAGO, Oct. 14.—Just as the weapons and other combat equipment of America's fighting men are superior in general to those of other nations, so also is there a marked superiority in the American machines that make it possible to employ artillery, tanks and planes.

Science

The machines that we here have in mind are in the main earth-moving implements used in building and repairing roads, in construction and repairing airdromes, and in digging trenches and other excavations. They consist of trucks, tractors, bulldozers, scrapers, carry-type scrapers, graders, mechanical and hydraulic rollers, earth augers and similar specialized machines.

The power units are the trucks and tractors, the latter of the track-laying type invented by an American, Benjamin Holt, nearly 40 years ago, and the wheeled type, which was developed concurrently with the development of the automobile. The track type tractor's most striking contribution to warfare has been its adaptation to the tank, the tank destroyer, and the self-propelled gun mount, but it is equally important in its various uses in connection with non-combat vehicles.

Flown To Battle

Today the earth-moving machines of the army engineers and the Seabees (naval construction battalion) and other building and repairing organizations go to war on their own wheels or tracks, by railroad, and by ship or landing craft. They even are flown to the battle front in planes especially adapted for the purpose.

Thousands of American machines are in use with our fighting forces. Other thousands of American-made machines are employed by our Allies, who also have developed machines of their own on similar principles. Untold numbers are used far from the war zones on road work, air field construction, strip mining and other projects.

The Germans and the Japanese possess imitations of virtually all the various machines, but never have they developed them to the high degree that we have. Enemy earth-moving equipment that has been captured is clumsy as compared with that built in this country and usually made of inferior material. The writer has seen a picture of a Japanese road Stales soldiers. Its crudeness of design is apparent even in the picture. The Germans have employed the track type tractor for years, but have concentrated in recent years apparently on adapting it to the tank and other combat vehicles.

Lack Facilities

Both Germany and Japan, however lack the facilities to manufacture earth - moving equipment upon the scale that it is made in this country.

The bulldozer perhaps is the most versatile of the earth-moving machines. It consists simply of a pushing blade which is attached to the front end of a track type tractor. The blade is operated (raised and lowered) either by arms and winches or by hydraulic cylinders. It is the handiest of all implements for shoving earth in leveling roads and air fields and is, definitely an American invention. So far as the writer has been able to determine, the bulldozer was employed first on a Holt tractor. The original Holt Manufacturing company now is represented by the Caterpillar Tractor company of Peoria, Ill., which was formed nearly 20 years ago by a merger of the Holt company and the C. L. Best company.

Tractors built by the Caterpillar company are being used both as towing vehicles and as pushers of bulldozers on every war front — in Africa, Italy, France, Russia, China, the Aleutian islands and the islands of the western Pacific. At Attu, for example, bulldozer-equipped track type tractors of this kind were among the first pieces of equipment put ashore by the American landing forces. They were used to build ramps for the landing of guns and trucks.

Other Makers

Manufacturing companies other than the Caterpillar company also make track type tractors. These include the Allis-Chambers Manufacturing company, the Cleveland Tractor company, the International Harvester company and the Clark Truck-Tractor division of the Clark Equipment company. Their products likewise are seeing service on the war fronts as well as the home fronts.

Newest of the bulldozer-vehicle combination consists of a bulldozer mounted on the front of an M-4 medium tank. The outfit is called a tank-dozer, and it was developed especially for the use of the armored engineer battalions. The 3½-ton bulldozer blade, manufactured by the La Plant-Choate Manufacturing company, has a capacity to that of the largest size tractor-mounted blade. It can be jettisoned from the tank in 10 seconds, but even with the blade in place the tank maintains its full fire power and maneuverability. The great weight and high speed of the tank give the blade a momentum that makes the tank-dozer a battering ram whose destructive force apparently exceeds that of any weapon in the current army hook.

Used In Hot Spots

It is not intended that the tank-dozer take the place of the tractor bulldozer, but rather it was designed for "hot spots" where the armored protection and fire power of the tank are needed. Highly favorable reports on the success of the tankdozer already have come from the battlefield of France. Tankdozers led the advance in Normandy. Where tanks alone were trapped by stone walls and road blocks, tankdozers broke through, sweeping across hedgerows, ripping up trees 18 inches in diameter, and shoving aside most obstacles.

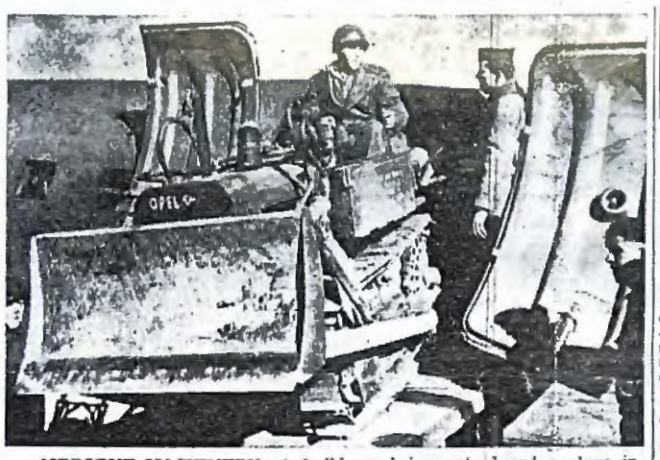
Another valuable machine is the scraper, which, as its name implies, is employed to scrape earth in leveling surfaces. When constructed with a body for carrying off loosened earth it is called a carry-type scraper. The largest have great capacities. They are useful in road and air field construction and, like the bulldozer, are employed for both military and non-military work. Graders are similar to scrapers and are used where leveling of surfaces is called for. Rollers and tamping rollers are familiar to every one who has witnessed road construction and repair work. They, too, are important to military engineering.

Rapid Worker

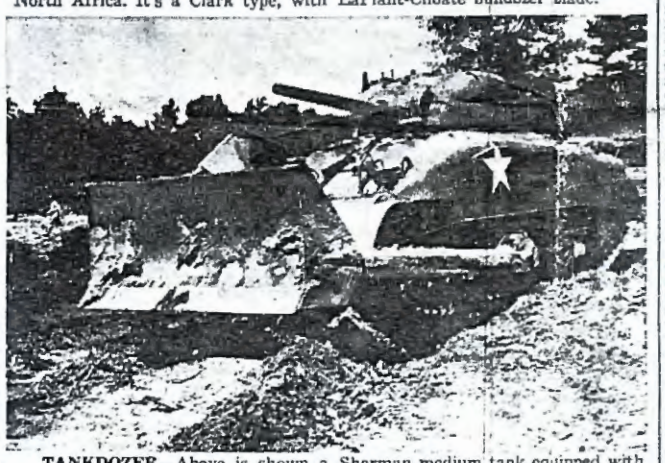
The mechanical or hydraulic shovel hitched to the front of a track-type tractor is a rapid digger in excavation work and much more easily transported and operated than the huge steam shovels that are used on large peace time projects.

Earth augers, some with blades more than four feet in diameter, have been employed to advantage in boring holes for the setting of telegraph, telephone and power line poles, in installing tank traps, and for recovering unexploded air bombs that have buried themselves deep in the ground. These augers drill at an extremely rapid rate. They are made in this country by several companies, including the Four Wheel Drive Auto company and the Buda company. A number were shipped from America to England to be used by the British bomb disposal squads during the aerial attacks by the Germans.

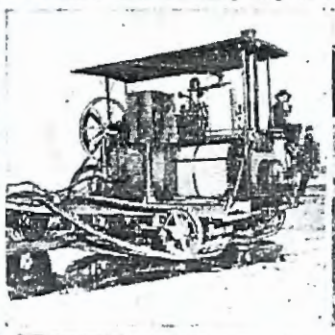
velopment of the traction ditcher. This is a machine originally devised to dig ditches. The trencher under most favorable conditions can dig a trench four feet wide and five feet deep at the rate of 16 linear feet a minute. Reports from Canada tell of American trench diggers that have average 500 yards of trenches a day under all sorts of conditions.



AIRBORNE MACHINERY—A bulldozer being put aboard a plane in North Africa. It's a Clark type, with LaPlant-Choate bulldozer blade.



TANKDOZER—Above is shown a Sherman medium tank equipped with a bulldozer blade for heavy duty in a front-line battle area.



PIONEER—Benjamin Holt's first track type tractor on its trial run in 1895.



IN THE ARMY NOW—Ditch-digging or trench machine on a pipe-line job in France.

Nathan Mayo Backed His Hunch To Limit, And State-Farm Co-Operatives Prospered

By ALLEN MORRIS
(Special to The Miami Daily News)

TALLAHASSEE, Fla., Oct. 14.—Because Commissioner of Agriculture Nathan Mayo once couldn't sleep, marketing of Florida farm produce has undergone a 10-year revolution exceedingly profitable to growers.

Out of Mayo's tossing on a trancontinental train in 1933 has come an expanding system of state-farmer co-operatives—27 now—in which commodities from snap beans to beeves to gladiols fetched $23,316,097.51 during the last fiscal year.

That figure may be contrasted with the sales of $518,625 at the Sanford market, first in the network, during the beginning year of 1934-35.

Mayo recalls he was returning disconsolately from California with L. M. Rhodes, marketing commissioner, after having gone there to see if that state offered a solution to Florida's problem of getting farmers a fair return for their crops.

Plight of Growers

This state's growers then were dependent largely, says Mayo, on what commission houses in New York, Chicago and elsewhere would pay for produce shipped them on speculation. Too often these sales paid little more than the cost of transportation.

Other farmers had to rely upon their individual bargaining ability to cope with traveling buyers who had on their side the advantage of down-to the-minute knowledge of markets, plus the weapon of being able to back an offer for perishables with "take it or leave it."

"We found conditions in California entirely different than prevailed in Florida," recounts Mayo. "Agriculture there ran to solid blocks: all the citrus in one place, grapes in another, vegetable in a third.

Crops Scattered

"This contiguous nature was ideal for organization of growers by crops into efficiently functioning combines for packing, shipping and selling.

"In Florida, we enjoyed no such tailored situation, for our agriculture was scattered. Citrus groves were intermingled with general farming, and cattlemen might be found all the way from Pensacola to the tip of the peninsula.

"When Rhodes and I started home, we were at a loss. We just couldn't see how in the world we could follow California's plan."

His failure kept Mayo awake after he had retired to his Pullman berth. He had rolled restlessly for quite a while when an idea occurred that let him drift off to sleep.

Mayo's Idea

At breakfast, he told his companion: "Rhodes, we've spent the state's money and haven't got a durn thing to carry back. Yet I've got an idea that if the state came into this deal by building inexpensive farmer markets about 50 miles apart, we may be able to lick our problem."

The marketing commissioner, as others later were to do, at first objected to what he then saw as putting the state into business.

Mayo explained he meant the state to provide a meeting place for grower and buyer only where private enterprise would not do so, and Rhodes accepted the idea enthusiastically.

Funds Provided

What Mayo laid down then since has been the governing principle of the state markets: None was placed in any area where a private market existed. The state, too, has endeavored to interest outsiders in establishing markets.

At the 1935 session of the legislature, which met shortly after the return of Mayo and Rhodes from California, state department of agriculture obtained authority to use surplus funds for erection of markets.

The first, at Sanford, was a success from the first sale. But when Mayo went to Gov. Dave Sholtz, third member with Rhodes and Mayo of the state agricultural marketing board, for approval of plans for others, he unexpectedly bumped into an obstacle.

"I'll never consent to the opening of another state market," Sholtz is quoted as saying. "I've had plenty of kicks about Sanford."

Mayo said nothing more about markets to Sholtz but when Fred P. Cone succeeded him, the commissioner of agriculture spread the plan before Cone and was told to "go the limit; this is what our folks need."

Goes The Limit

Mayo went the limit. The new markets were truly co-operative: a community would furnish the land, 10 to 20 acres; the state road department built the access roads and parking aprons, the WPA helped erect the sheds, and the department of agriculture provided some money but mainly the "know how" for running the sales.

Control of each market remains in large measure with a local advisory board.

"We tell them: This is your market, yours to make a success or failure'," says Mayo. "We try to work out matters as they want, even though we don't always agree."

At Plant City, for example, the method of sale was switched from auction to private bargaining and then back to auction. Although the state had found that auction is preferable, the Plant City group was left to discover its advantages by trying the other plan.

Quality Improved

Mayo finds the markets, because all may see what kind of product brings the best price, has done more to improve the quality of Florida farm merchandise than all the grade educational work done in the past.

"I imagine there were a thousand persons present at the recent sales in the Arcadia market," says the commissioner, "and everyone around the pen had examples before their eyes of the importance of breeding better animals in the very difference between good and poor."

Mayo thinks the state could use two or three more livestock markets, one east of Pahokee and another in the vicinity of Lake Wales and Frostproof, and a vegetable market near Lake Istopoga.

The markets are not operated for profit, although the state does attempt to adjust its fees to break even. Figuring depreciation, the markets actually showed a slight loss during the 12 months ending June 30, 1944.

Figures Compared

Mayo has just received this comparative report from William L. Wilson, director of state markets:

Fiscal Year Ending June 30	Number Markets	Commodity Operating	Commodity Sales	Percent. age of Increase
1935	1		$518,625.00	
1936	3		750,000.00	44.6
1937	5		800,000.00	6.67
1938	9		1,705,672.20	112.9
1939	15		4,818,937.58	171.1
1940	21		7,721,116.17	58.1
1941	21		13,160,155.54	54.8
1942	26		13,290,967.78	18.9
1943	27		20,141,103.84	51.5
1944	27		23,316,097.51	15.7
Grand Total	5		$1,332,946.80	

Markets operating in the last fiscal year were situated at Arcadia, Bonifay, Chipley, Cocoa, Dade City, De Funiak Springs, Florida City, Fort Pierce, Holly Hill, Jay, Lake City, Live Oak, Marianna, Ocala, Pahokee, Palatka (2), Palmetto, Pensacola, Plant City (2), Pompano, Quincy, Sanford, Starke, Titusville, Wauchula.





NATHAN MAYO and WILLIAM L. WILSON
One's Figures Back the Other's Hunch

Short Range Transport For Postwar Air Traffic

Glen L. Martin Designs Novel Plane Carrier

Aviation

BALTIMORE, Md., Oct. 15.—A short range, 30-passenger, twin-engined, postwar transport designed specifically to meet requirements set up by the Air Transport Association has been announced by the Glenn L. Martin Company, which has submitted preliminary data and drawings together with a complete engineering study to the ATA aircraft Requirements committee and to the airlines.

Produced by the same engineering skill which has resulted in the B-26 Marauder, PBM Mariner and JRM Mars, and designated as the Martin model 202, the new airplane features unique provisions for rapid conversion from passenger to cargo or combined passenger-cargo services. The preliminary designs further provide for both high and low wing versions, alternate power plants, alternate seating arrangements and a choice of three wing loadings to meet various airport requirements.

Three Basic Models

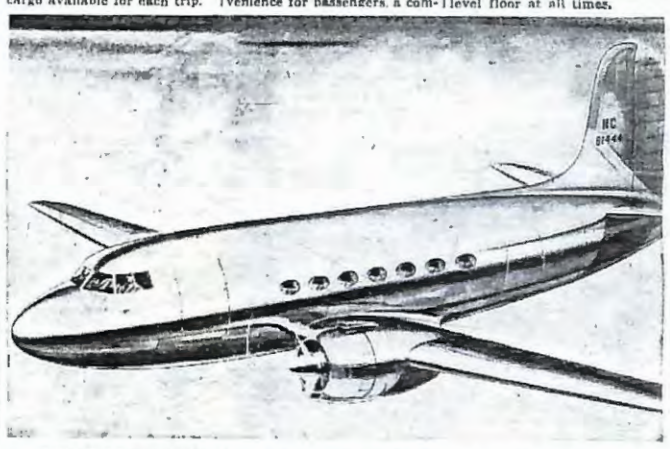
The three basic models—202-11 and 202-12, low and high wing versions designed around the Wright R-2600 engine, and 202-15, similar to 202-11 but designed around the Pratt and Whitney R-2800 engine—meet all ATA specifications for what is known as an A-1 class transport except the size of airport from which they must operate. Here it was found that the most economical airplane had a wing loading which required a 3,250-foot airport at sea level. However, with slight modifications the 3,000-foot airport requirement can be met at a very small sacrifice in operating cost, while models designed to operate from both 2,000 foot and 2,500 foot airports were [illegible] versions.

Speedy Change

Passenger and cargo handling facilities in the 202 include two large hatches—one forward and one aft—at lower than truck height; a moveable bulkhead or wall which slides back as seats are removed to separate cargo and passenger compartments, thus varying the size of each compartment according to the number of passengers and amount of cargo available for each trip.

Standard cargo tie-down fittings are utilized, permitting a complete conversion in 20 minutes or less, and specially designed demountable seats, the backs of which may be folded back against the fuselage wall as protective padding during cargo operations, with cushions stored in the overhead hat racks. As an added convenience for passengers, a compartment for hand luggage is included just inside the entrance so that air travelers can bring their own bags aboard [illegible] through the flight.

Both high and low wing designs have been prepared with the former offering better passenger visibility, ease of loading and unloading and reduced ground time while the latter provides shorter landing gear and reduced weight empty. In both cases tricycle landing gear provides added convenience in loading and unloading, and a level floor at all times.



POSTWAR PLANE—Low wing model of the Martin model 202 which is designed for commercial transport. A high wing plane has also been designed. Interior arrangement of both planes is unique, designed especially for bigger payloads of freight and passengers.

Splinter Fleet---Army's Watchdog Over Fliers

(Continued From Preceding Page)

report to check four or exceeds her estimated time of arrival or calls in distress, a radio man down the line notifies station WZXD at boat company headquarters, and calls the solitary GI at check three to ask the check time of army 3327. By determining when and where the plane reported last, headquarters localizes the search area in which army, navy, and RAF planes must look for the missing ship.

Thus, if a plane reports to Check Three, and fails to talk to Check Four, organized searchers know it must be down below those two points. In such instance, the division air-sea rescue office alerts all check points and other rescue agencies in the Caribbean and institutes by radio a search plan which is based on careful coordinated understandings between ATC, the navy, RAF and civil air patrol.

Search System

If Major Foster should radio: "Request you institute AZTEC plan," each agency would immediately refer to a uniform grid chart of the Caribbean area, on which sections of ocean and island 26 by 42 square miles are blocked out as searching areas. According to whether Aztec, Cobra, Camel or other search plans are asked for, each search aircraft will take off to cover a designated area.

At the same time, division headquarters asks foreign operations of all ports of aerial embarkation in south Florida to alert crews and to fly subsequent flights over the course taken by the missing aircraft, at 1,000 feet altitude until the search is concluded.

When wreckage or survivors are spotted in a grid-area, the air-sea rescue officer requests change of plans by a message such as: "Request you cancel Aztec plan and concentrate on Dog Three."

Rescue Starts

Then, when survivors are located, the nearest rescue boats are dispatched to take them aboard. At top speed they follow instructions of a plane which circles the survivors. If the rubber raft that holds the downed airmen contains its "Gibson Girl" radio after the concussion and scramble of ditching, the boat takes a fix on the small radio's signal and rides to the raft on a direct radio-directional beam.

The moment the tired airmen are spotted, soldiers who have learned well to man their trim boats throw a rope net over the side and ease up to the yellow raft.

Care Of Injured

Two soldiers help exhausted fliers up the net to deck. Injured men are fastened to a wire stretcher while still in the raft and are pulled by a hoist to a small elevator in the after hatch which lowers many to a small, well-appointed dispensary below decks. Then, under way either to sheltered water where a PBY can land and take the wounded aboard for a fast trip to a hospital, or off to home base, the airmen are given food and first aid.

But, centered on the purpose of creating a rescue system that is most effective in saving lives in the Caribbean area, Major Foster and his unit commanders—Capt. Charles E. Sutherland of the boat company and Major Brockman, well-known PBY pilot whose landings are watched throughout the Caribbean, have evolved the curious organization which is spread from West Palm Beach to South Caicos Island, BWI.

Houseboat Base

At Palm Beach, Captain Sunderland runs his army-navy from a houseboat donated to ATC by a navy commander of that city. The houseboat holds a complete short-wave radio station in its forward wheelhouse, quarters for 40 men, a mess hall, PX, kitchen with gas range and fancy silex (donated) officers' mess, orderly room, and tiled bathrooms unsurpassed in the city. Here the communications network of air-sea rescue centers. For 24 hours daily such phrases as, "Walter Zebra Ex-Ray Dog, this is Walter Baker Easy Charlie, will you check Able Seven Baker . . ." drift in an undertone through the boat while on nearby Long pier three clean blue-grey PT-type boats ride side by side undergoing a washing process that never ends. Under scrawny pine trees on the shore greasy suntanned soldiers overhaul a Hall-Scott marine engine in preparation for another trip down into the islands.

These islands are named Cat Cay, Nassau, Great Exuma, Mayaguana, and South Caicos; solitary places where living can be either luxury, just existence, or uncomfortable endurance, depending on the name of your particular island.

At Cat Cay, for instance, about 50 miles south of Palm Beach, GI radio representatives live where the rich sported before the war. On the walls of its Casino are scrawled the names of princes and playboys. The RAF there maintains rescue facilities, and makes the view anything but dim. It's pretty nice for being overseas.

Or at Nassau. Or, for that matter, at Great Exuma, where the army sailors live with the navy, eat navy chow and work in closest co-operation with the other service to a nice point where two sailors and two soldiers alternate shifts in the base weather station, and their readings are sent out for army, navy and civilian weather bureaus.

Lonely Outposts

At Great Exuma the men live in barracks. They see no white women, but between the two services their lot has been made endurable.

Men back from Mayaguana or South Caicos are the GI's who really deserve the immediate furlough a Mayaguana, where every boatman eventually puts in his time, is disliked for chiggers that love to hore under the toenail and lay eggs which swell up and have to be sliced out before a worm is bred that will crawl through the soldier's interior; for millions of tiny sand flies that can pass through the finest screen with Disney-like ingenuity; for its isolation which is like those South Pacific atolls; and for reasons and reasons.

Men on Mayaguana live in a half dozen tents. Fifteen to 18 of them constitute the white population of an island that has few natives.

The morale problem could be serious, but it is not. A supply ship calls monthly with food stocks and heavy supplies. Weekly a PBY takes off from Morrison Field with mail, ice cream, fresh fruits, vegetables, eggs and other perishable foods.

Tents On Cliff

At the last check point going south, Cockburn harbor on South Caicos, BWI, six tents are balanced on the hard rock of a cliff. A pile of white salt separates the camp from a town of 800 negroes whose main occupation was to produce salt from sea water. Life there is more kindly than at Mayaguana. The salt seems to deter vicious sand flies, and land crabs which share the island with the 18 whites and 800 negroes are only annoying.

Besides a library and victrola, the GI's have a non-commissioned officers' club, where in the evening natives sing songs with a Haiti jump and play guitars, and time passes. A basket and backboard has been set up beside a salt warehouse but the basketball is getting frayed.

Three months ago the soldiers introduced baseball to the "jigs" and recently in a hard-fought contest the negro boys, playing barefoot and never using more than one hand to catch a ball, defeated the soldiers, 7 to 3, with a white pitcher.

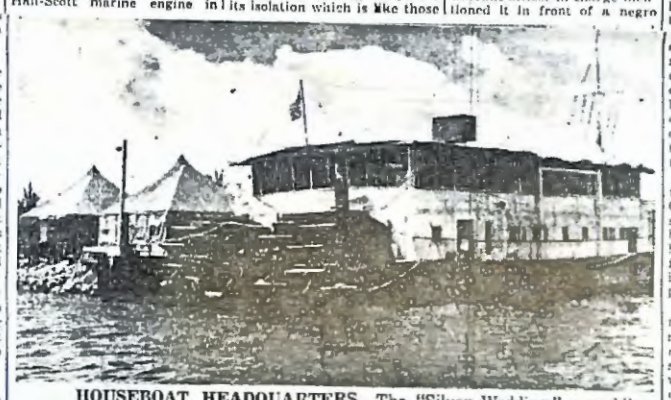
Saltpile Bleachers

A few weeks ago the air-sea rescue supply boat brought "Sensations of 1945" for the GI's at South Caicos. At mess the evening before showing a warrant officer in charge mentioned it in front of a negro boy named "Bulldog" who was doing KP. When the picture flashed on the side of the old salt warehouse next evening and Cab Calloway let loose with a frenzied howl, the saltpile bleachers echoed with joyous shouts of 600 dusky jckey aficionados of the Caicos islands. The soldiers were startled.

Those boats are pretty well established now. They were started in January when in 10 days the four check points were originated by sending 104-foot boats to each spot with radio communications and weather observers, carrying enough rations to feed 16 men who lived three months on each boat.

Since that time, working with navy and RAF, the ASR of Caribbean wing has located several survivors of planes that have been forced down, and have picked up and cared for fliers forced down in the vicinity of their check and rescue points.

Probably the most unusual mission undertaken by the ATC rescue boat was necessary when a plane that had ditched in shallow water near an island was spotted by scores of aircraft flying the route and was reported as a new crash. Finally a boat was dispatched to dismantle and salvage the plane to reduce the overflow of false alarms from that area of the Caribbean.



HOUSEBOAT HEADQUARTERS—The "Silver Wedding," a paddle-wheel houseboat, serves as headquarters for the boat company of the Caribbean division, air-sea rescue of the ATC. Its facilities include billeting, mess, administration offices, officers' mess, radio communications and PX service.

TWO INVENTORS OFFER NEW TOXIN TO AID WAR ON WHOOPING COUGH

By N. Y. TIMES CORRESPONDENT

RICHMOND, Va., Oct. 14.—A new toxoid preparation for treating whooping cough and a method of recovering biotin from industrial fermentation wastes are among the 454 inventions listed in the current issue of the Official Gazette of the United States Patent Office.

Patents

Merritt E. Roberts and Edwin F. Voight of Pearl River, N. Y., won No. 2,359,388 on a process for preparing pertussis toxin and toxoid for use in immunizing children against whooping cough and in treating the disease itself.

Tests made on rabbits and mice indicated that this product "apparently is a true antigen toxin and not an endotoxin, a non-antigenic toxic substance," the patentees state. The toxoid since it stimulates the production of antibodies in the blood of a child so that his serum will neutralize the toxin, is said to be effective in immunizing against whooping cough. It is held that the toxin developed under this process is stronger than any previously known.

The patent was assigned to Lederle Laboratories, Inc., of New York City.

Vitamin Developments

Also assigned to the Lederle firm was No. 2,359,443, covering a process for recovering biotin, a vitamin of the B complex group, from waste liquors resulting from the production of fumaric acid by molds, developed by Anne Irene Schivek of Pearl River, N. Y. The process produces about one gram of pure biotin from 2,000 gallons of liquor.

Use of biotin still is in the experimental stage clinically, although it has been used by brewers to speed the multiplication of yeast cells.

A process along this line was patented by Horace E. Harrison of East Brunswick Township, Middlesex County, N. J., as No. 2,359,521. Assigned to the Anheuser-Busch, Inc., brewing company of St. Louis, Mo., the patent covers a method of producing yeast high in vitamin B-1 content by adding to a yeast culture.

Other developments in vitamin chemistry included a water-soluble compound having vitamin K activity (anti-hemorrhage), patented by Bernard R. Baker of Nanuet, N. Y., as No. 2,359,282 and assigned to the Lederle company, and a stable vitamin and mineral composition heavy in vitamin B-1, patented by Dr. Louis Freedman, director of research for the United States Vitamin Corporation, as No. 2,359,413 and assigned to that company.

Tri-Metal Plane Brake

A novel brake material designed especially for use in aeronautical brake installations was patented by Kenneth M. Glesner and Roland F. Koering of Dayton, Ohio, as No. 2,359,361. The composition may be used in any clutch or brake mechanism with friction surfaces subject to rapid heating through friction to extremely high temperatures.

The method comprises the sintering of a thin layer of loose, non-compacted metal powder onto a steel support to form a highly porous layer. A layer of silver powder then is distributed on this conditioned surface and a layer of powder copper is diffused into the latter under high pressure while simultaneously briquetting a copper with a layer of the powder. A strong friction element thus is formed in the bond with the solid steel supporting element, and the composite material is held ready for use in the manufacture of heavy duty engine machinery. The patent is assigned to General Motors Corporation.