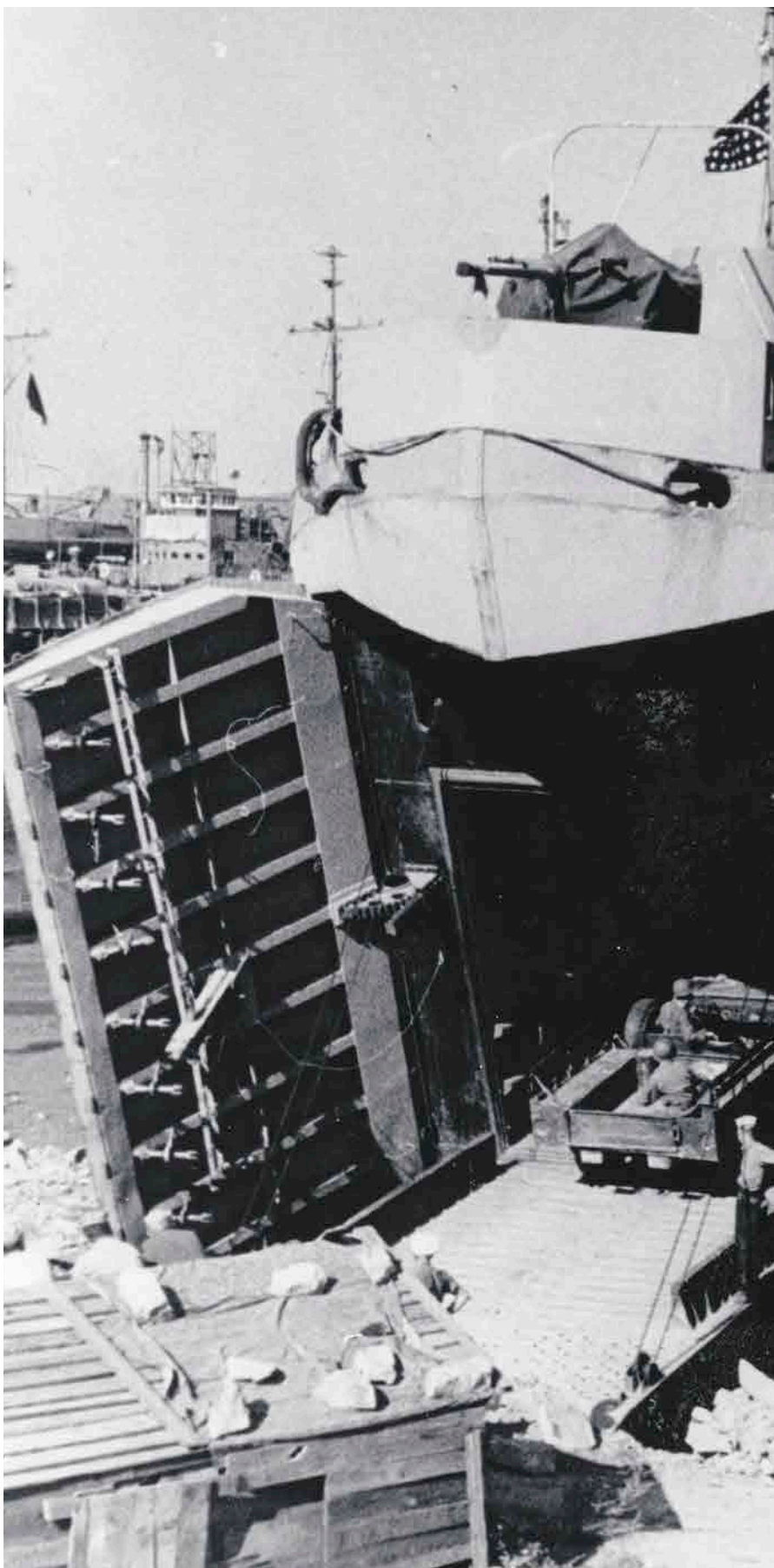


The War Machine

During WWII, Pennsylvania companies and residents embraced ingenuity and teamwork to become the 'arsenal of America'

by Bart A. Stump

With the onset of hostilities during WWII, Pennsylvania was instrumental in providing people and equipment for the war effort. While more than 1.25 million Pennsylvanians served in the armed forces with 33,000 making the ultimate sacrifice, it was the industries on the home front that powered the Pennsylvania "war machine."





Beached at low tide on October 13, 1950, on Wolmi-Do Island, Inchon Harbor, the USS Dunn County (LST 742) loads supplies for the upcoming invasion of Wonsan. The landing ship tank was launched by the Dravo Corporation of Neville Island on April 22, 1944, and served in the Asiatic-Pacific theater during WWII (earning three battle stars) and the Korean War (earning five battle stars). It was decommissioned in 1961.

US NATIONAL ARCHIVES PHOTO #80-G-421526



Two and a half million workers poured into factories and workshops, large and small, to produce critical supplies from battleships, tanks, landing craft and utility vehicles to compressors for air conditioning and refrigeration units, steel for armor plating and the lubrication that kept everything moving. According to then-Gov. Arthur James, Pennsylvania would become the “arsenal of America.”

Let’s take a look at some of Pennsylvania’s most significant contributions to the war effort.



The York Plan

THIS INITIATIVE WAS PUT forth by some of the most successful industrial leaders in York County. With its slogan “To do what we can with what we have,” the effort focused on getting small companies to work together, collectively using manpower and equipment to procure large government contracts.

Among the key aspects of the 15-point plan were to make use of present facilities in regard to tools, get idle tools and idle men working, and study the types of work that could be done with the facilities at their command.

The York Plan would become a national model for improved efficiency and cooperative production.

American Car and Foundry’s Stuart Tanks

BORROWING ON THAT CONCEPT, the Jackson and Woodin Car Works of Berwick, Columbia County, which produced railroad freight cars, joined a multi-state conglomeration with 12 other railroad car manufacturers in 1899 to form the American Car and Foundry Company (ACF).

Early in the war, the Berwick plant



U.S. SIGNAL CORPS PHOTO BTO-HQ-44-9119

switched to military production and started manufacturing the M3 light tank, which was deployed to England and Russia as part of the Lend-Lease Program. The British named the M3 “Stuart” in honor of Confederate Gen. J.E.B. Stuart. Lightly armored and only armed with a 37-mm gun and multiple machine guns, the M3 was fast and best suited for reconnaissance missions.

The tanks first saw action with the British in North Africa. While they were favored for their mechanical reliability



ALFRED T. PALMER, PHOTOGRAPHER; LOC.GOV/PICTURES/ITEM/2017878400/

In addition to manufacturing 12,363 M3 tanks in three different versions (an M3A1 is shown above going through a water trial at Fort Knox in 1942) as well as 365 of the earlier M2A4 light tanks, American Car and Foundry in Berwick, Columbia County, produced 1,000 M5A1 tanks, like this one shown at left passing through the battle-torn village of Coutances, Normandy, which was captured by American troops on July 29, 1944.

and speed, the M3s were criticized for their limited range. The first time U.S. crews engaged in tank-to-tank combat was against the Japanese in the Philippines. The M3 performed well in the Pacific, where it traversed the jungle terrain effectively and had heavier armor than the Japanese tanks.

However, in the European theater, the M3 lacked the firepower and armor protection to be effective against the more heavily armed and armored German tanks. There, it was relegated to scouting and infantry support roles.

While the American Car and Foundry was the exclusive manufacturer of the M3 series, the improved M5 series was also made by other companies. The Berwick plant transitioned to producing the M5A1 series in October 1943 and ceased production on April 17, 1944, after making 1,000 units. From 1940-44, 13,728 tanks were shipped from Berwick, and the company produced a total of 15,224

tanks; 1,496 of them were produced in St. Charles, Missouri.

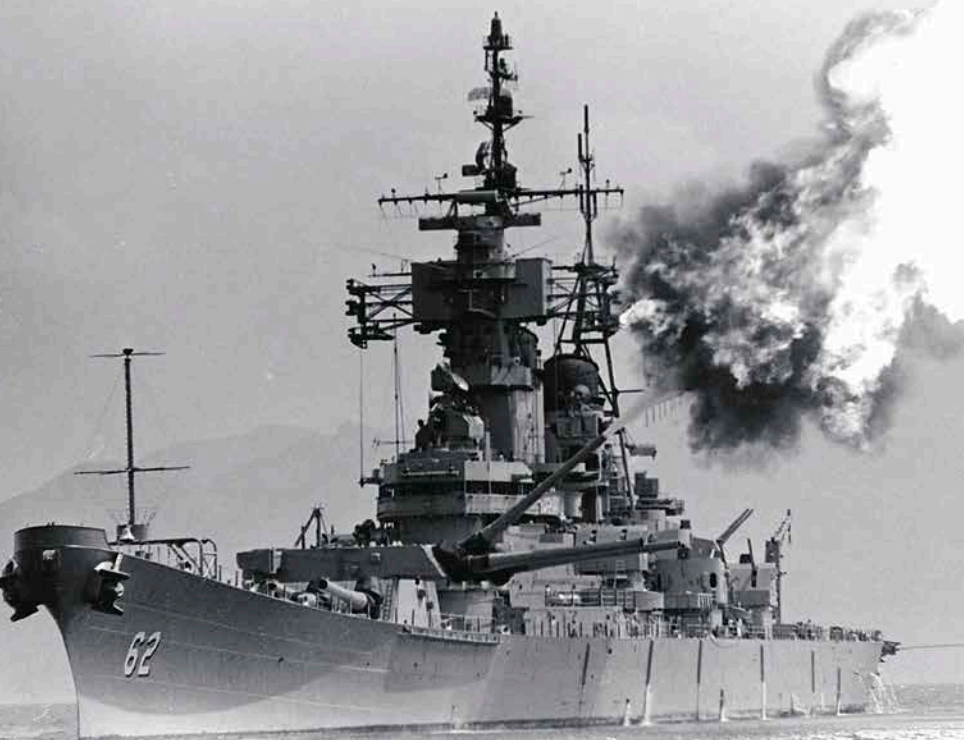
For their efforts, the employees were awarded the prestigious Army-Navy “E” Award for excellence in production of war equipment. This award was only earned by 5% of the more than 85,000 companies producing goods for the war.

Dravo Shipyard's Landing Ship-Tanks

THE FIREPOWER THAT TANKS like the M3 brought to foreign shores would not have been possible without the efforts of the Dravo Corporation's Neville Island Shipyard in Pittsburgh. So crucial was the shipyard's role that during the war, its workforce increased from 1,500 to 15,000 and production ran 24 hours a day, seven days a week. Here, Dravo built 145 landing ship-tanks (LSTs) during WWII. Dravo would build a total of 385 ships.

These ocean-going amphibious assault transport ships were capable of landing tanks, trucks and other heavy equipment directly on the shore without the use of docks or piers. The ship's filled ballast tanks, an ingenious design, allowed the flat-bottomed boat to sit low in the water for ocean travel and then be pumped out for beaching.

Once the LST was beached, large bow doors were swung open, and a ramp was extended. The transport ships could carry



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(top) The USS New Jersey fires her guns near Tuyho on South Vietnam's central coast in late March 1969. (top, right) The USS Wisconsin (BB-64) is under way at sea between 1988-91. (above) The officers and crew of the USS New Jersey (BB-62) stand on the decks in 1946.

up to 20 tanks and 200 troops. LSTs were used in almost every major amphibious landing of the war. Though nicknamed “large stationary target” by some of their crews, the majority of LSTs survived.

To free up coastal shipyards for larger deep-draft ships, facilities along inland waterways were established; they earned the nickname the “cornfield shipyards.” Five of these facilities—those located in Seneca, Ill., Evansville and Jeffersonville, Ind., and Pittsburgh and Ambridge, Pa.—produced 670 of the total 1,051 LSTs made during the war.

At Dravo, which was designated the lead shipyard, fabrication techniques were developed that reduced construction time from four to two months. These methods were then employed at all the

LST shipyards. On March 5, 1942, Dravo was the first during WWII to receive the Army-Navy “E” Award for its service and would receive nine more through the course of the war.

American Bantam Car Company's Jeep

WHILE LSTs WERE KNOWN for landing heavier vehicles and equipment, a smaller vehicle became the iconic image of American ingenuity. The American Bantam Car Company of Butler is credited with designing arguably the most recognizable vehicle of WWII: the Jeep.

The beginnings of this automobile date back to when the U.S. Army, acknowledging the need for a lightweight all-terrain utility vehicle, reached out to American automobile manufacturers to design a functional prototype. The catch? It had to be ready in 49 days.

The Butler County company recruited engineer Karl Probst, who in five days developed a design that met the army specifications for a four-wheel-drive ve-

hicle capable of carrying a payload of 600 pounds. The Jeep was born.

Beating out rival manufacturers Ford and Willy's Overland, Bantam finished a prototype and delivered it for rigorous military testing just a half-hour before the deadline. Pleased with the test results, the army ordered 70 more of what Bantam called “reconnaissance cars” (BRC-60) to be delivered in 12 weeks.

Because of Bantam's small production capabilities and the overwhelming demand for Jeeps, the army gave the vehicle's designs (citing that they were government property) to Willy's and Ford to help produce the rugged vehicle. In total, American automobile manufacturers cranked out almost 650,000 Jeeps during WWII. Bantam, which produced 2,675 Jeeps before switching to cargo trailers, received the Army-Navy “E” Award three times.

Philadelphia Naval Shipyard

WHILE JEEPS WERE SOME of the smallest military vehicles produced in Pennsyl-



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The American Bantam Car Company chose to compete in the U.S. Army's competition for an all-terrain utility vehicle and was the only manufacturer able to deliver a working prototype in just 49 days. Above is one of the later variations of the Bantam Jeep design.

vania, the Philadelphia Naval Shipyard produced some of the largest.

Founded in 1801, the shipyard was the nation's oldest navy yard. During the war years, between 40,000 and 60,000 workers built more than 50 warships and repaired close to 600 damaged ships. The shipyard earned six Army-Navy "E" awards in the process.

Two of the most significant ships built in Philadelphia were the battleships USS New Jersey (BB-62) and USS Wisconsin (BB-64). Measuring just under 890 feet and armed with nine 16-inch guns capable of firing projectiles that weigh between 1,900 and 2,700 pounds up to 24 miles, the two ships were among the last four American battleships ever built.

The New Jersey was launched on De-

cember 7, 1942, the first anniversary of the Pearl Harbor attack, and the Wisconsin exactly one year later. Both ships served in the Pacific, where they bombarded Japanese positions and provided aircraft carrier task forces with anti-aircraft defense. For their service during WWII, the New Jersey earned nine battle stars and the Wisconsin received five.

NONE OF THESE WARTIME accomplishments would have been possible without our commonwealth's "war machine." Millions of Pennsylvanians labored in countless small workshops and large factories across the state to develop innovative ideas for more efficient production methods, create new fighting vehicles and transportation systems, and assemble some of the most powerful weapon platforms of the war. Collectively, these innovations and equipment, coupled with the strength and determination of our service members, enabled us to win the war. 🇺🇸

—Bart A. Stump writes from York.

WHEN YOU GO

The Stuart Tank Memorial Association hosts an annual **WWII Weekend** each July at the Riverfront Park Test Track in Berwick, Columbia County. The event features WWII living history encampments, military vehicles, food vendors, historical displays and live big-band entertainment. bringstuihome.org

The Friends of the Bantam Jeep Association holds the annual **Bantam Jeep Heritage Festival** the second weekend of June at Coopers Lake Campground in Slippery Rock, Butler County. The festival, one of the largest annual gatherings of Jeep owners anywhere in North America, offers off-road trails, a playground with obstacles, a Jeep history exhibit and vendor area. bantamjeepfestival.com

The **USS New Jersey** serves as a museum ship in Camden, N.J. It was retired as the most decorated battleship in U.S. history, having served in WWII, Korea, Vietnam and the Lebanese Civil War. battleshipnewjersey.org

The **USS Wisconsin** is a museum ship docked at Nauticus in Norfolk, Va. The retired battleship served in WWII, Korea and the Persian Gulf War. nauticus.org/battleship-wisconsin 🇺🇸