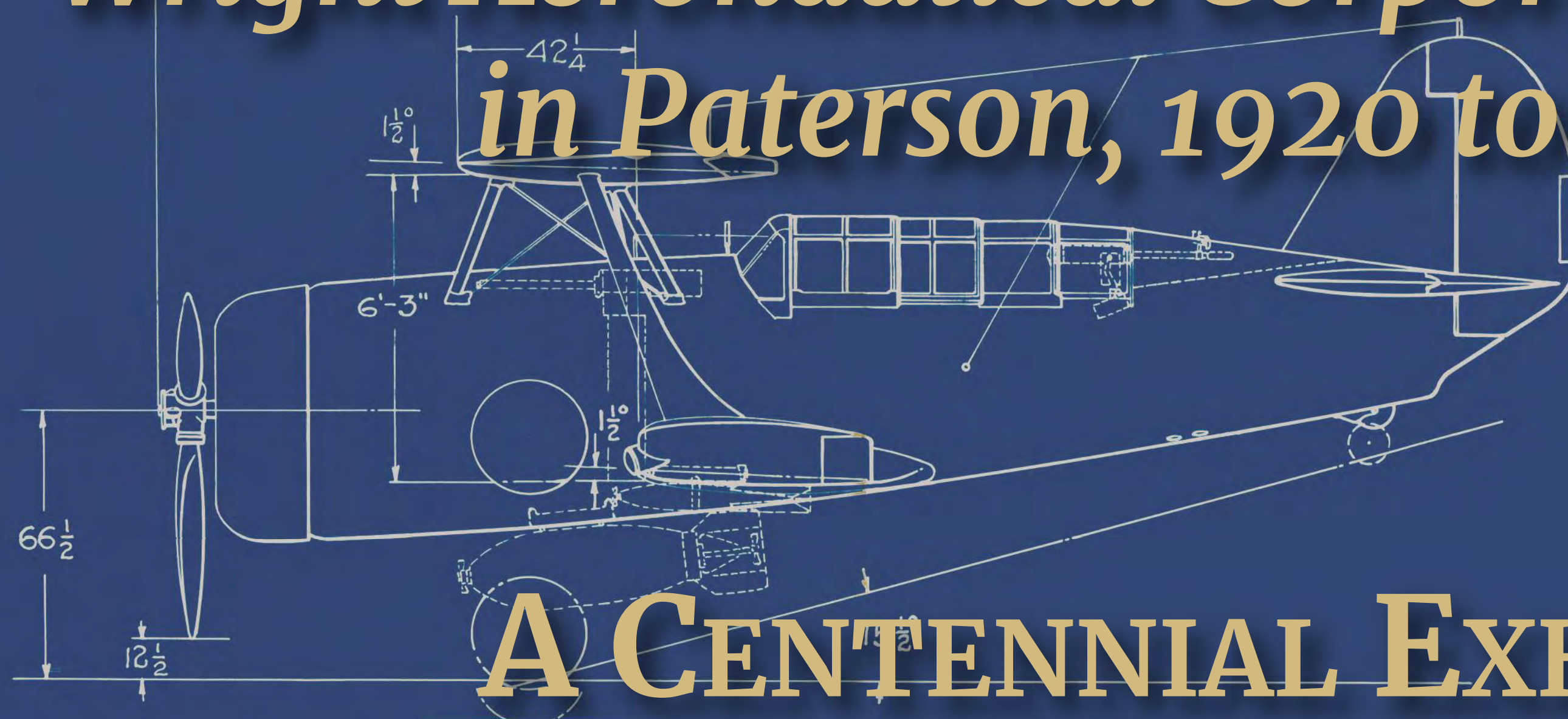


THE WRIGHT WAY

*Remembering Curtiss-Wright and the
Wright Aeronautical Corporation
in Paterson, 1920 to 1946*



A CENTENNIAL EXHIBIT

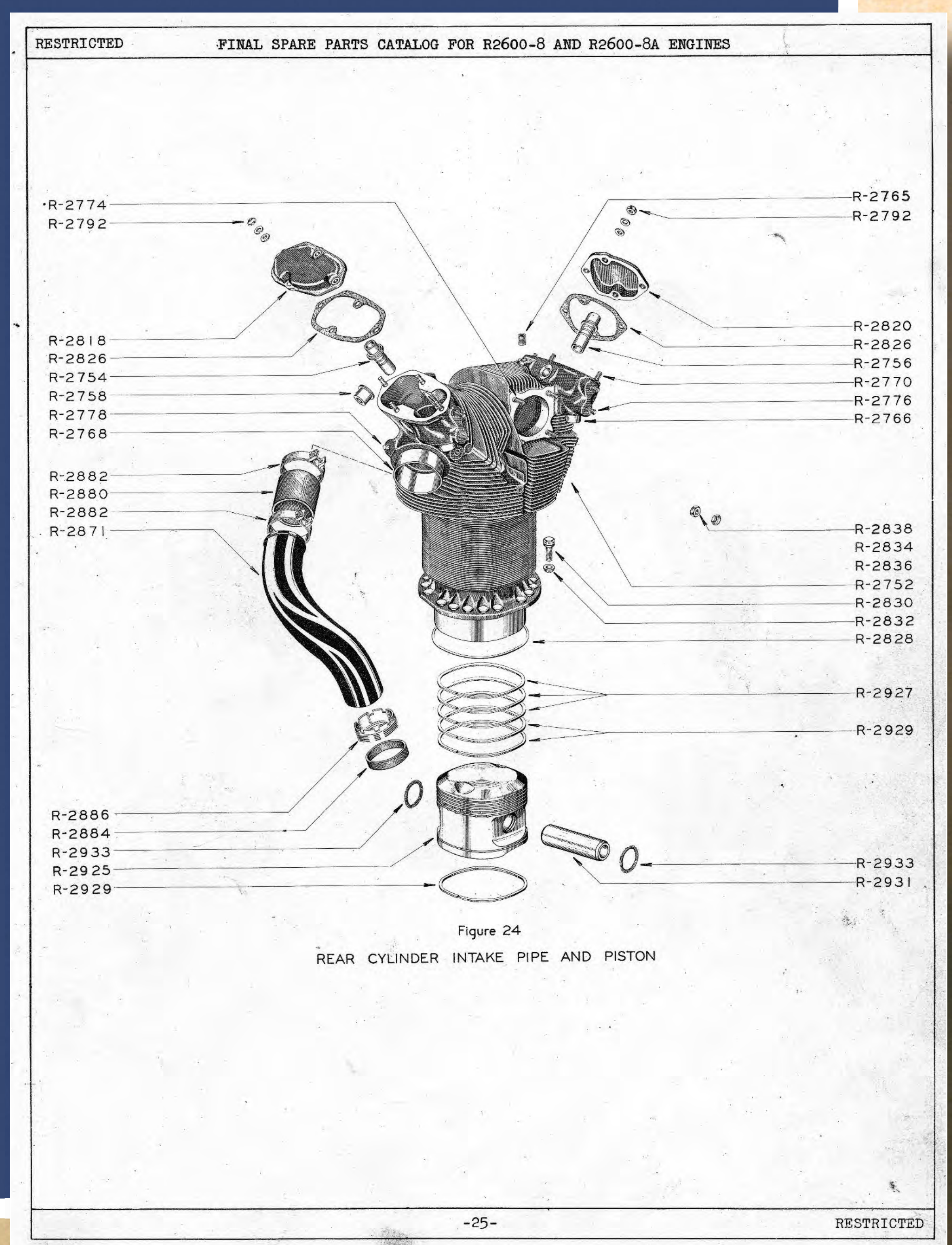
About this Exhibit

This exhibition is a collaboration between the Paterson Museum and the Passaic County Historical Society to commemorate the centennial of Wright Aeronautical Corporation, later Curtiss-Wright, opening Plant 1, in Paterson in 1920. The company would remain a major employer throughout the Greater Paterson area for over two decades, opening a series of plants on both sides of the Passaic River.

During their time in Paterson, Wright engines powered the Golden Age of Aviation, breaking records and flying around the world. The onset of World War II saw a marked increase in production, with employees working around the clock to produce quality engines for the war effort.

The Paterson Museum's collection dates back to our 1985 exhibition, *The Wright Years in Paterson*, and includes both images and artifacts related to the company, its employees and their many activities on and off the factory floor.

The Passaic County Historical Society's Curtiss-Wright Collection consists of over 15,000 archival items related to the company. The material dates from 1929 to 1947, with a concentration in the 1920s and 1930s and includes blueprints, fact sheets, and press releases along with photographs. The efforts to digitize and preserve this collection have been funded courtesy of the Fred J. Brotherton Charitable Foundation.





The CURTISS-WRIGHT CORPORATION

traces its roots back to Orville and Wilbur Wright, inventors of the world's first successful airplane, and Glenn Curtiss considered the father of naval aviation. In 1916, the Wright Company merged with the Glen Martin Company, becoming the Wright-Martin Aircraft Corporation, based in New Brunswick, NJ. In 1920, under the new name of Wright Aeronautical Corporation, their factory relocated to Paterson, NJ. In 1929, the company underwent another merger and became the Curtiss-Wright Corporation.

In 1920, the Paterson factory began as a four-story building located at 238 Lindbergh Place, and was expanded over time until the area spanned 6.7 acres, bounded by Beckwith Avenue, the Erie Lackawanna (Conrail) railroad tracks, and Louis Street (now Lindbergh Place). The Paterson facility was described as "the largest airplane engine factory in the United States," by the 1939 Federal Writers' Project. It employed over 2,400 workers at any given time.

The Wright Aeronautical Corporation, a division of Curtiss-Wright, produced Whirlwind and Cyclone engines used in military and commercial aircraft. The "Spirit of St. Louis," flown by Charles Lindbergh on the first solo nonstop flight across the Atlantic Ocean was powered by a Wright Whirlwind engine, as were record-breaking aircraft flown by noted aviators Richard Byrd and Amelia Earhart.

During World War II, the mass-production of aircraft engines by Curtiss-Wright triggered a major expansion of the Paterson facilities. Wright engines powered many of the aircraft utilized during World War II, including the B-17 Flying Fortress, the B-25 Mitchell and the B-29 Superfortress. At its peak, the Curtiss-Wright Company and its subsidiaries operated numerous factories across the United States of America in Ohio, New York, Missouri, and elsewhere, even reaching across national boundaries into countries such as Chile. Shortly after the war, with demand reduced, the Paterson factory was shut down, and the property was sold in 1947.

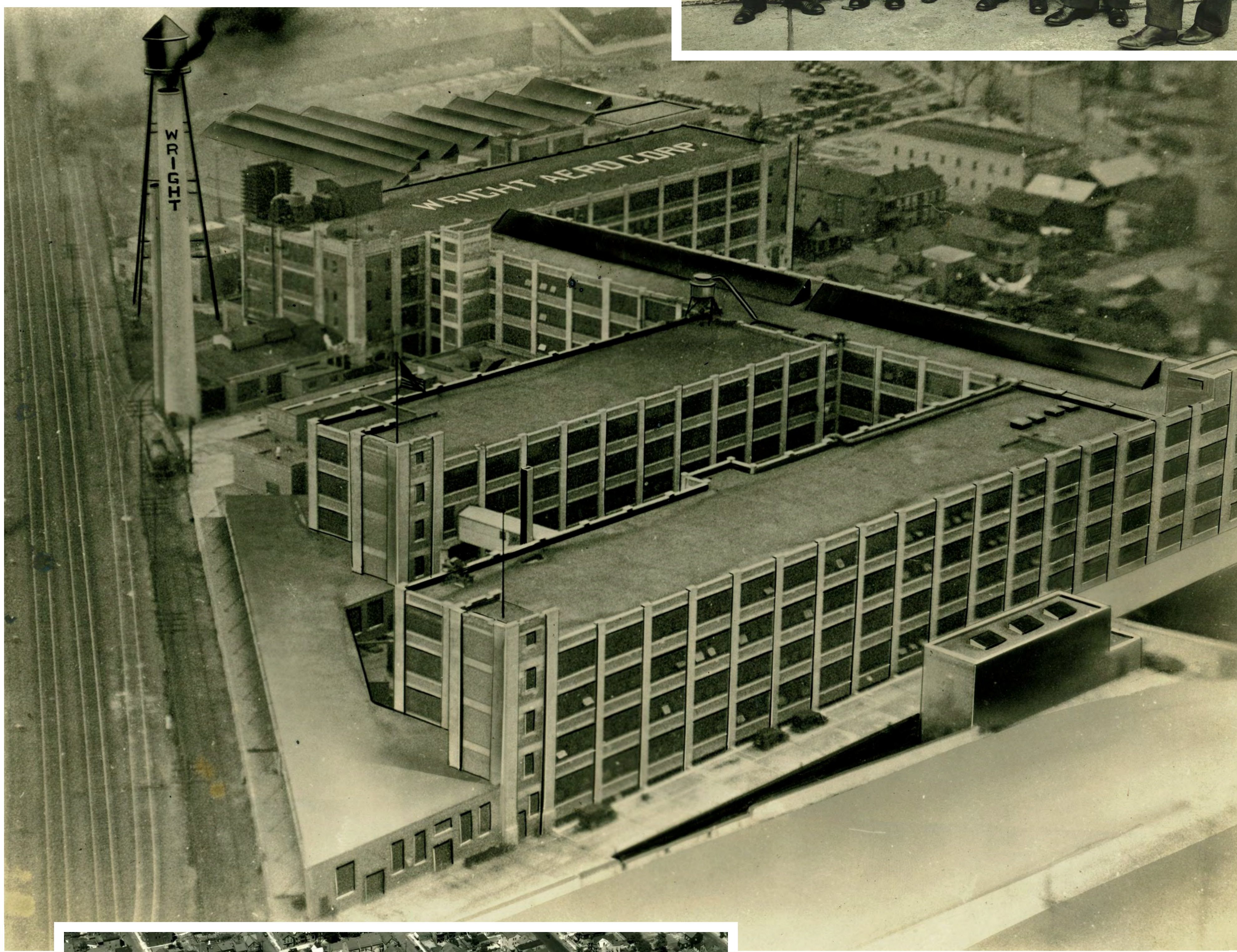
Paterson Plant 1

A group of executives and foreign visitors outside of Plant 1. Second from left is W.D. Kennedy, Wright Service Manager; third from left is Philip B. Taylor, Wright Chief Engineer; fourth from left is William A. Reeks, Export Liaison; fifth from left is Air Commodore R. Leckie, who trained personnel for the British Royal Air Force. All others are unidentified.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.03448

Aerial view of Paterson Plant 1, circa 1930. Originally the Corporation worked out of a single wing (seen in the foreground of this photograph reading Wright Aero Corp). The additional wings were added between 1927 and 1929, to accommodate the company's many growing departments.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.20180



Another aerial perspective of Paterson Plant 1, with the original wing on the far left.

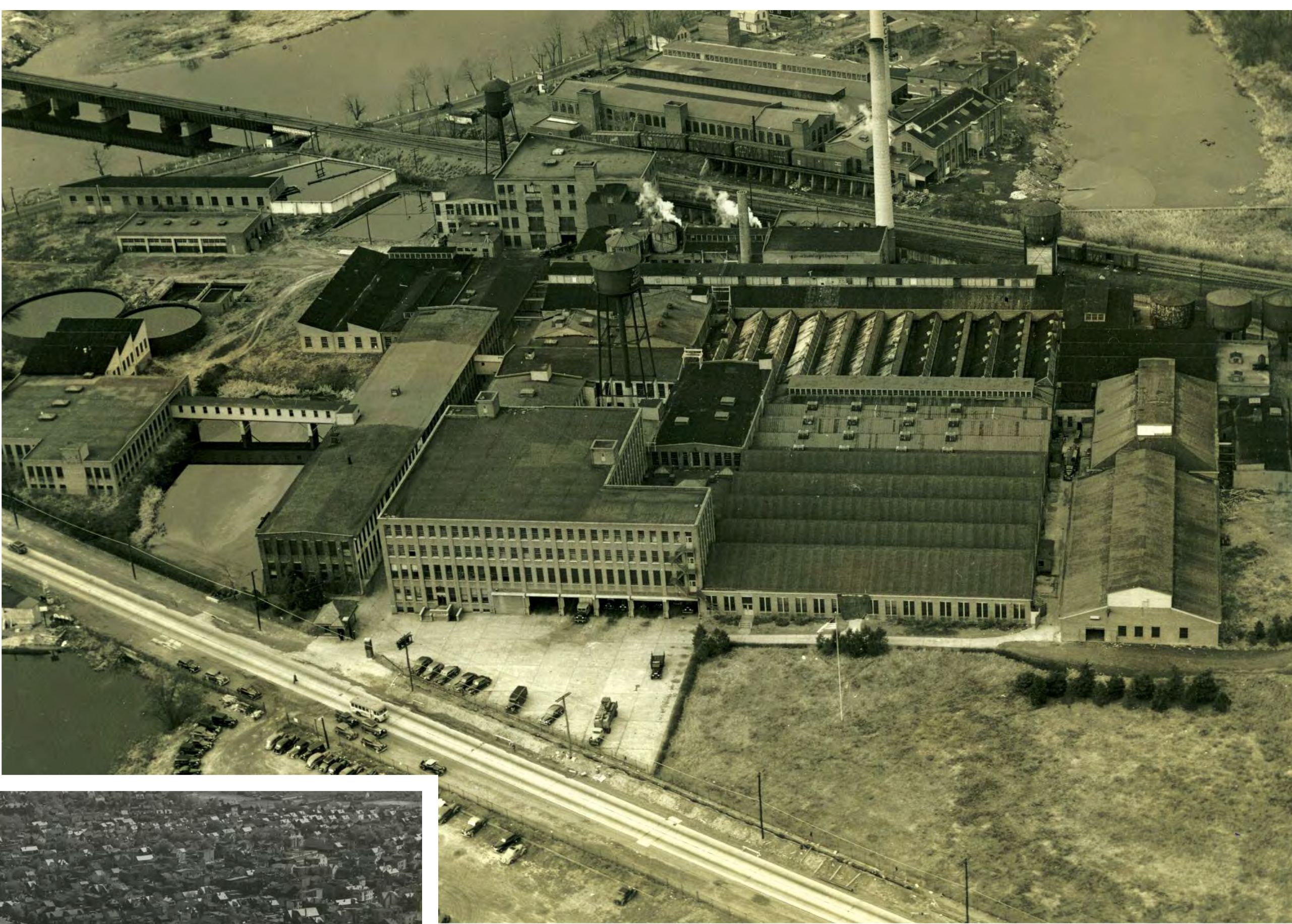
Passaic County Historical Society,
Curtiss-Wright Collection, B995.00209

Wright Aero in Paterson



City of Paterson Airship Day, September 1949.

Paterson Museum Collection



The East Paterson plant, also known as Plant 4. This site had been a textile mill before Wrights took it over. Later it would become Marcel Paper.

Paterson Museum Collection

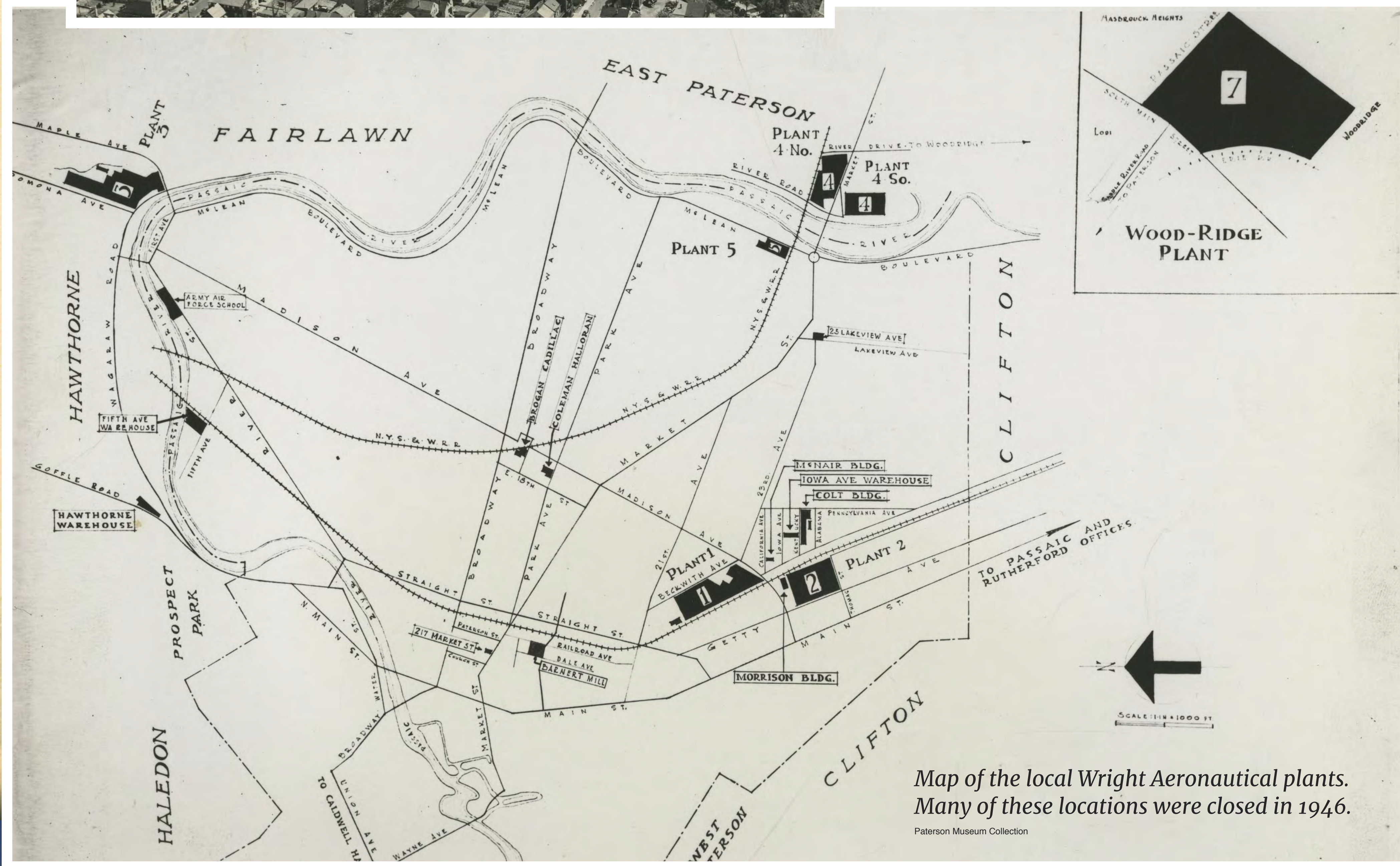


The two Wrights plants in Paterson.

Plant 1 (Madison and Beckwith) was the first Wrights building on this location.

Plant 2 (Getty and Madison) had previously been the location of American Locomotive Company.

Paterson Museum Collection



Map of the local Wright Aeronautical plants. Many of these locations were closed in 1946.

Paterson Museum Collection

Around the U.S.



*Curtiss-Wright Corp. factory,
Hazelwood, MO, 1929*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.00300

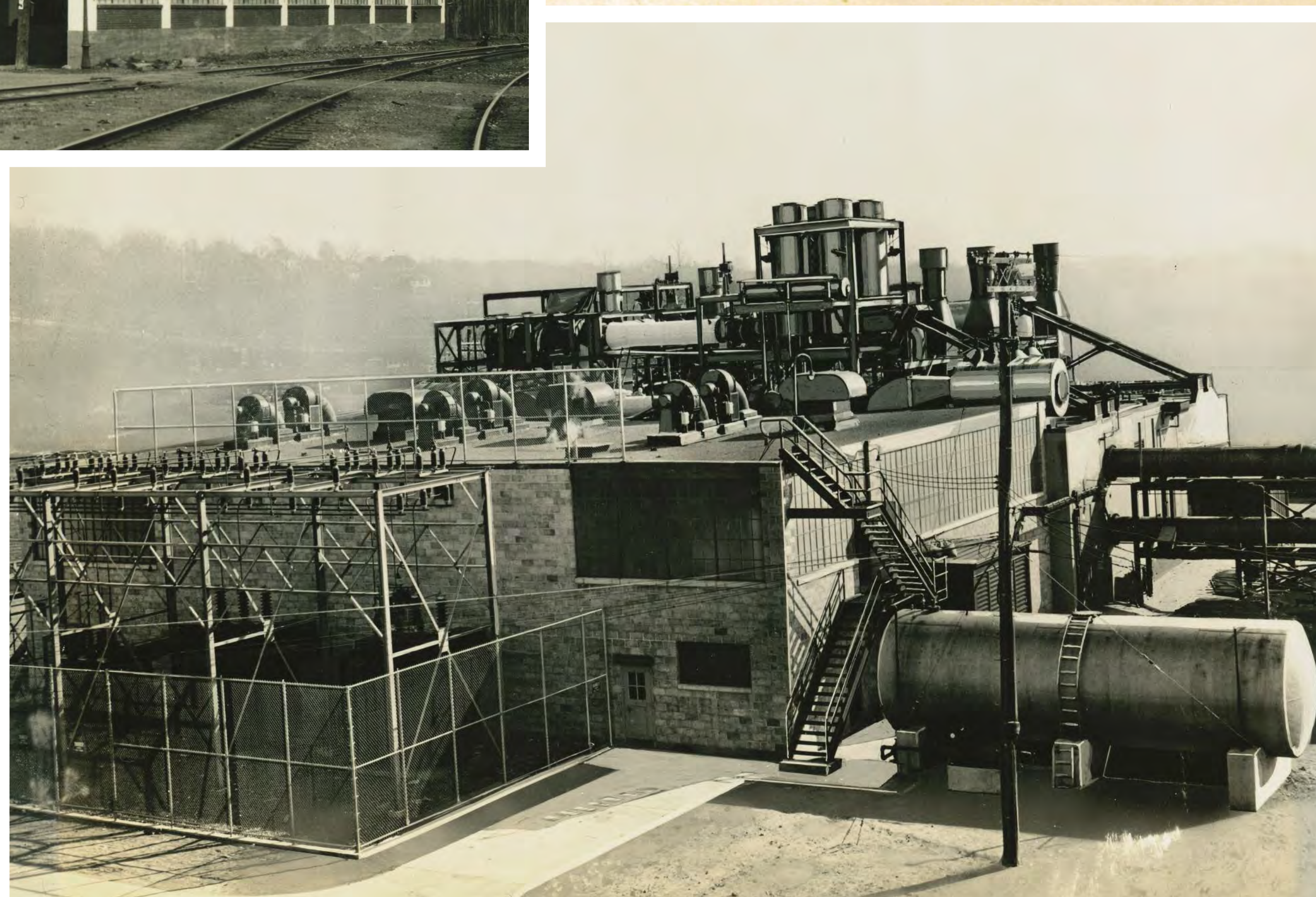


*Curtiss-Wright Corp. factory, Wood-Ridge, N.J.
This location was opened between 1945-1983.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02107

*Curtiss-Wright Corp. gas turbine
development laboratory,
Wood-Ridge, NJ, 1947.*

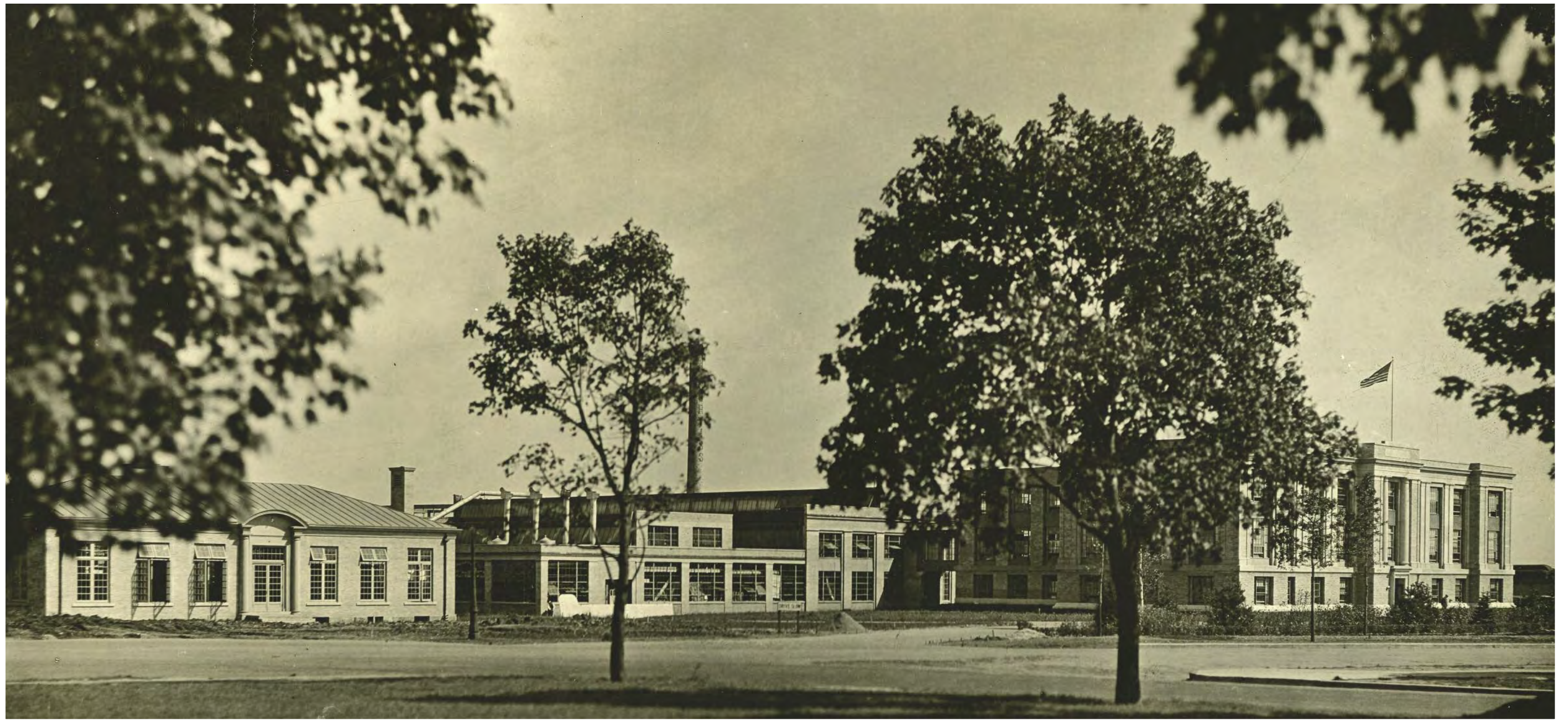
Passaic County Historical Society,
Curtiss-Wright Collection, B995.03416



Around the World

*Curtiss Aeroplane and
Motor Company Factory,
Garden City, Long Island, NY,
1917-1932.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.00632



*Curtiss-Wright
Flying Service Airplane
Hangar, Miami, FL.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.03416



Workers in front of Curtiss-Wright Fabrica de Aeroplanos, Santiago, Chile, 1931.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02622

On the Factory Floor

Knock-out men, breaking apart the cooled sand cast molds, to release the cylinder heads.

Passaic County Historical Society,
Curtiss-Wright Collection,



The mixer for the sand compound, which created the sand molds used in production. Each year over one hundred million pounds of special sand was used.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02171

Service pins were awarded to employees in the Paterson Plant after every five years of service.

Paterson Museum Collection



Employee using an Aktiebolaget Alpha to test the hardness of an engine part.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02164

Inspection and Assembly



Employees inspecting various components. Over 50,000 tests were conducted per engine in the course of manufacture.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02127

Prepared sand cast molds for cylinder heads, waiting to be transported to the foundry for casting.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02174



After the Cyclone and Whirlwind engines were assembled in Paterson, they traveled to other factories around the country, to be attached to airplanes.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.00596



Quality Control

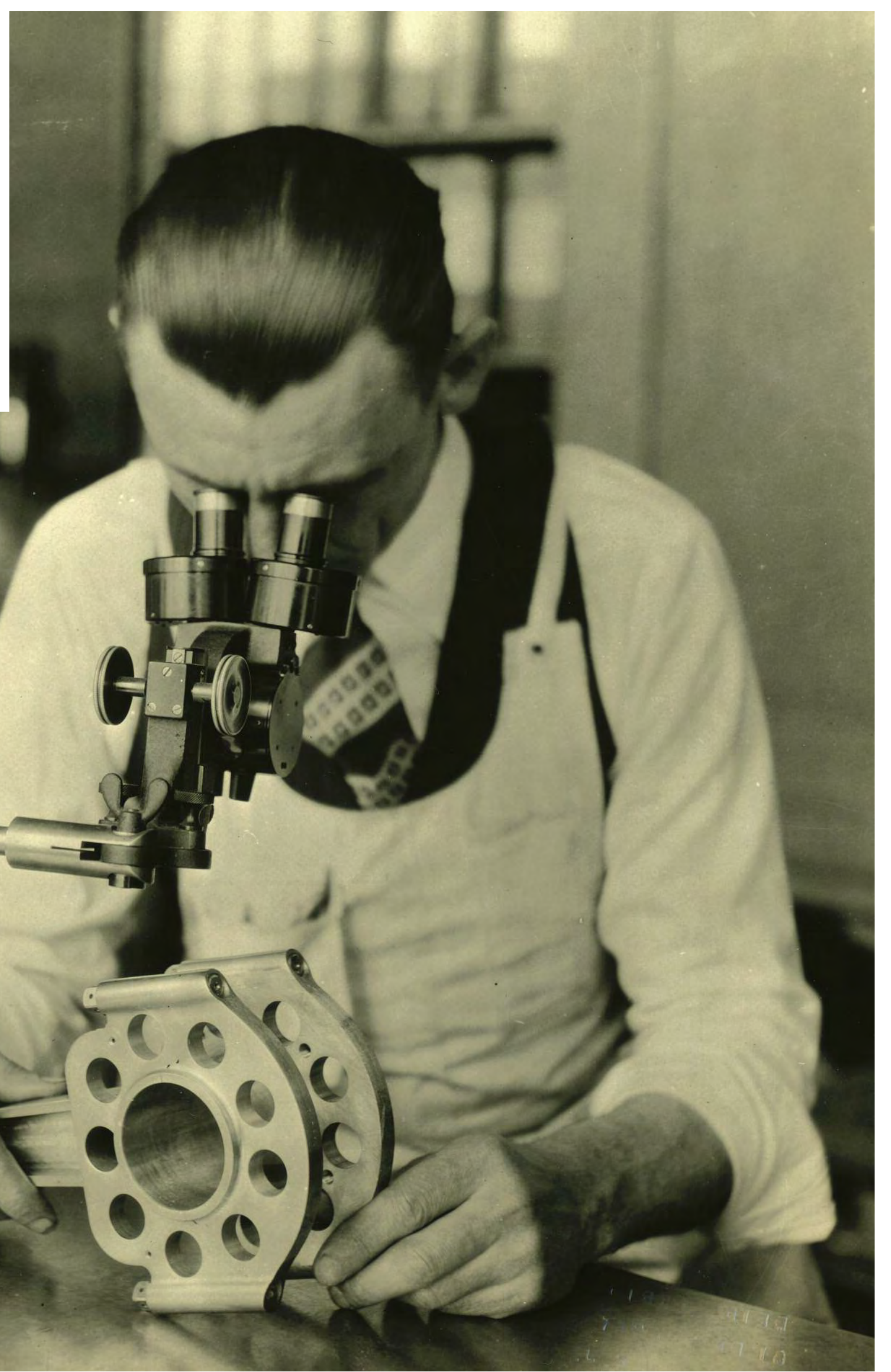
Laying out the intake and exhaust ports for drilling.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02123



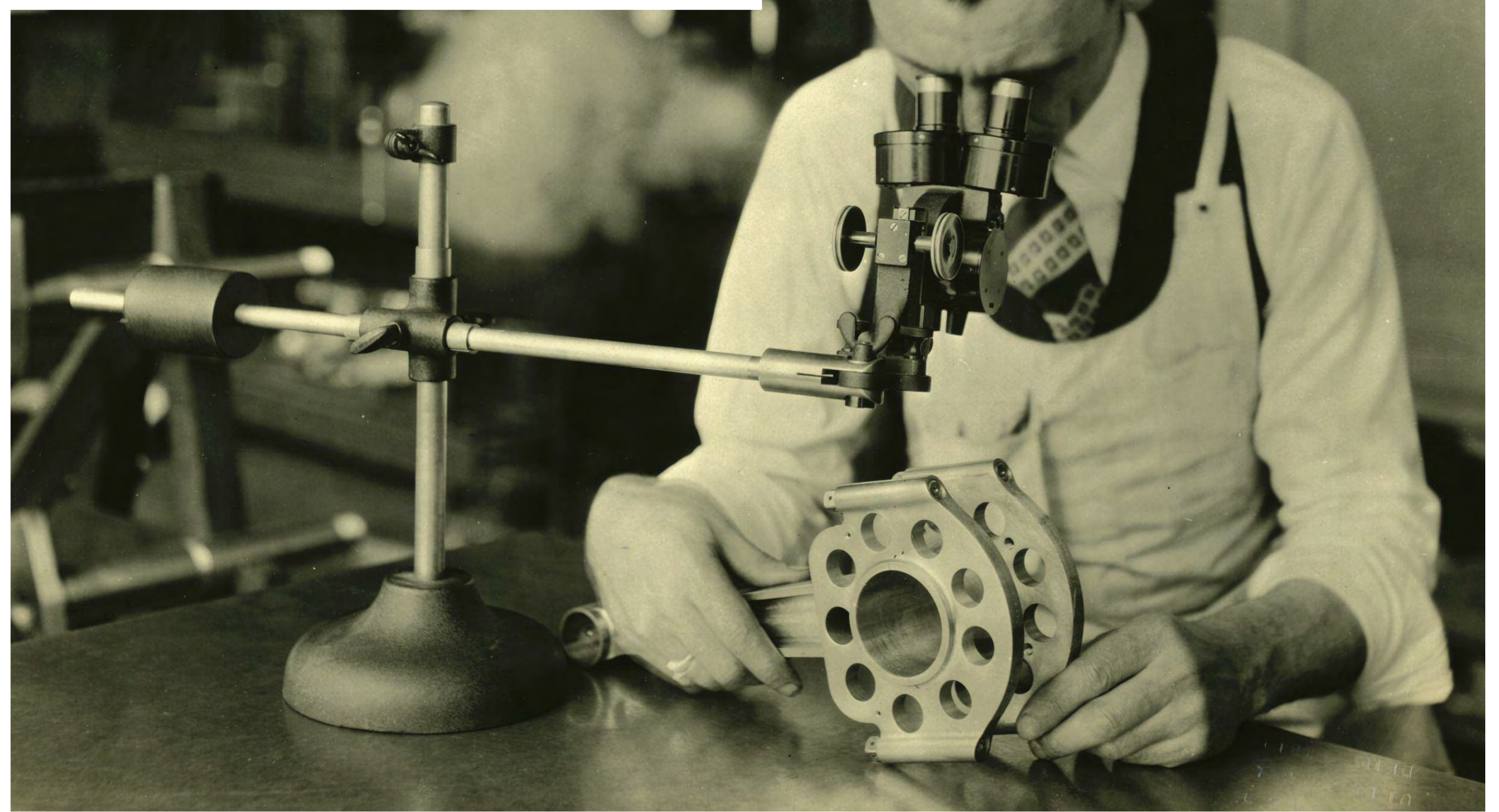
Testing the compression of a cylinder ring.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02167



Taking a closer look at the master rod. The master rod needed perfect balance and weight distribution to pass final inspection.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02165

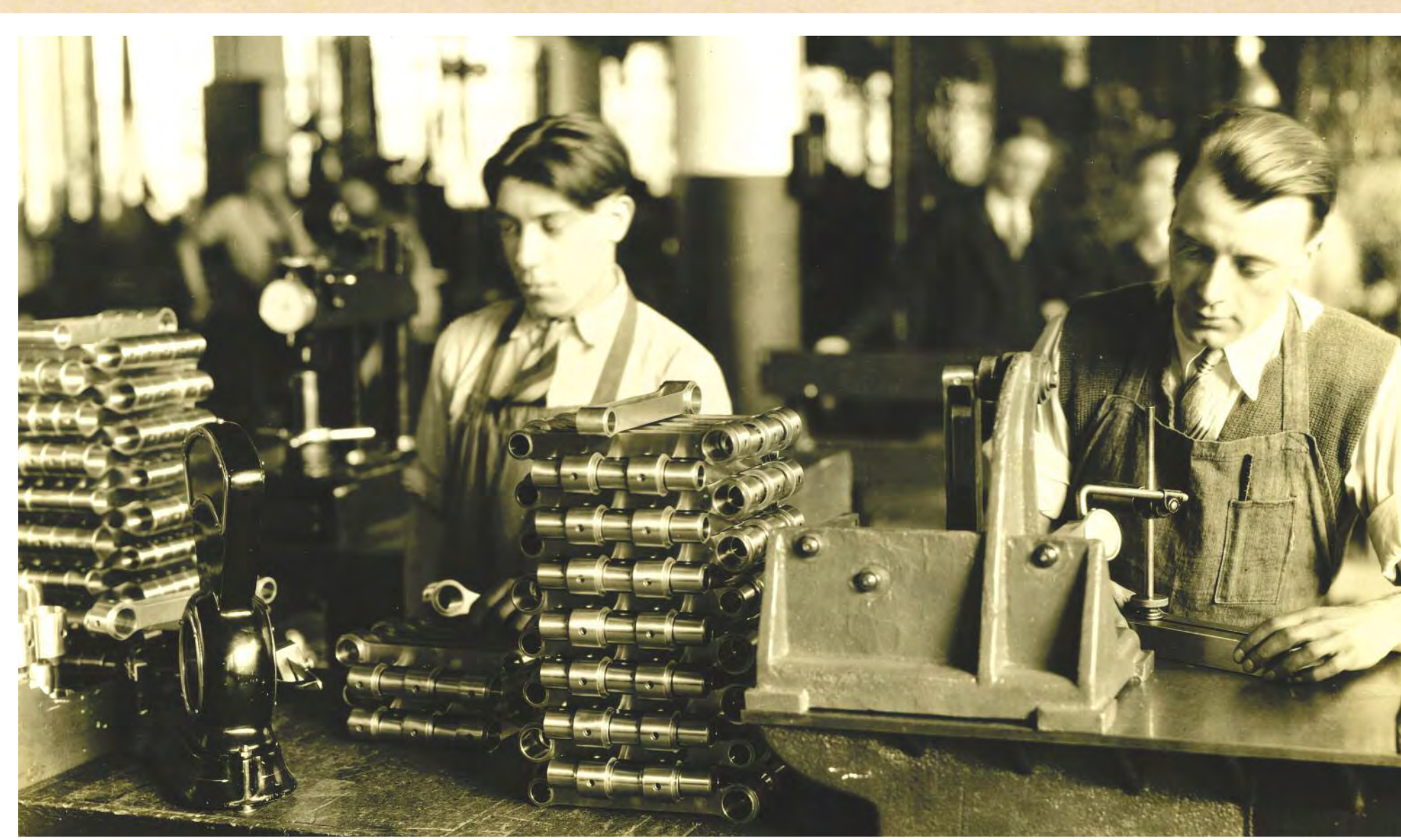


The Men of Wrights



Foundry workers at Plant 1, pouring molten aluminum from a crucible into a smelting ladle or pouring pot. This metal was used in the casting of the engine's 8,000 parts.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.01445



Two employees inspecting the connecting rods, which will later be connected to the piston.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02136

Using a horizontal mill to drill a clearance in the master rod for placement of the articulated rod knuckle pin.

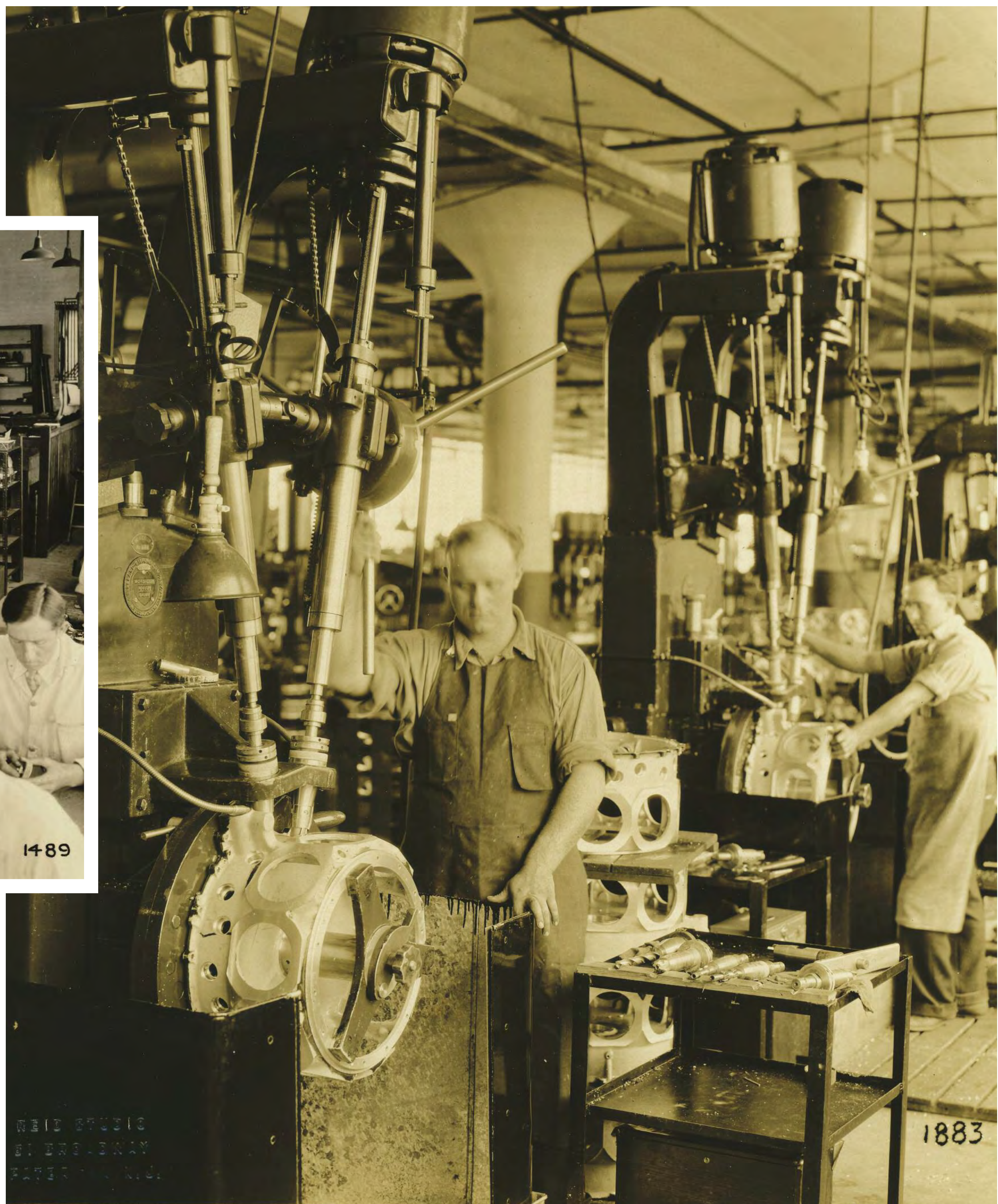
Passaic County Historical Society,
Curtiss-Wright Collection, B995.02151



Care and Precision

*Drilling holes in the crank case
to insert push rods.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.00266



*Accuracy and precision were critical to keeping
Wright engines flying. Inspection units were
a major part of every stage of production.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02143



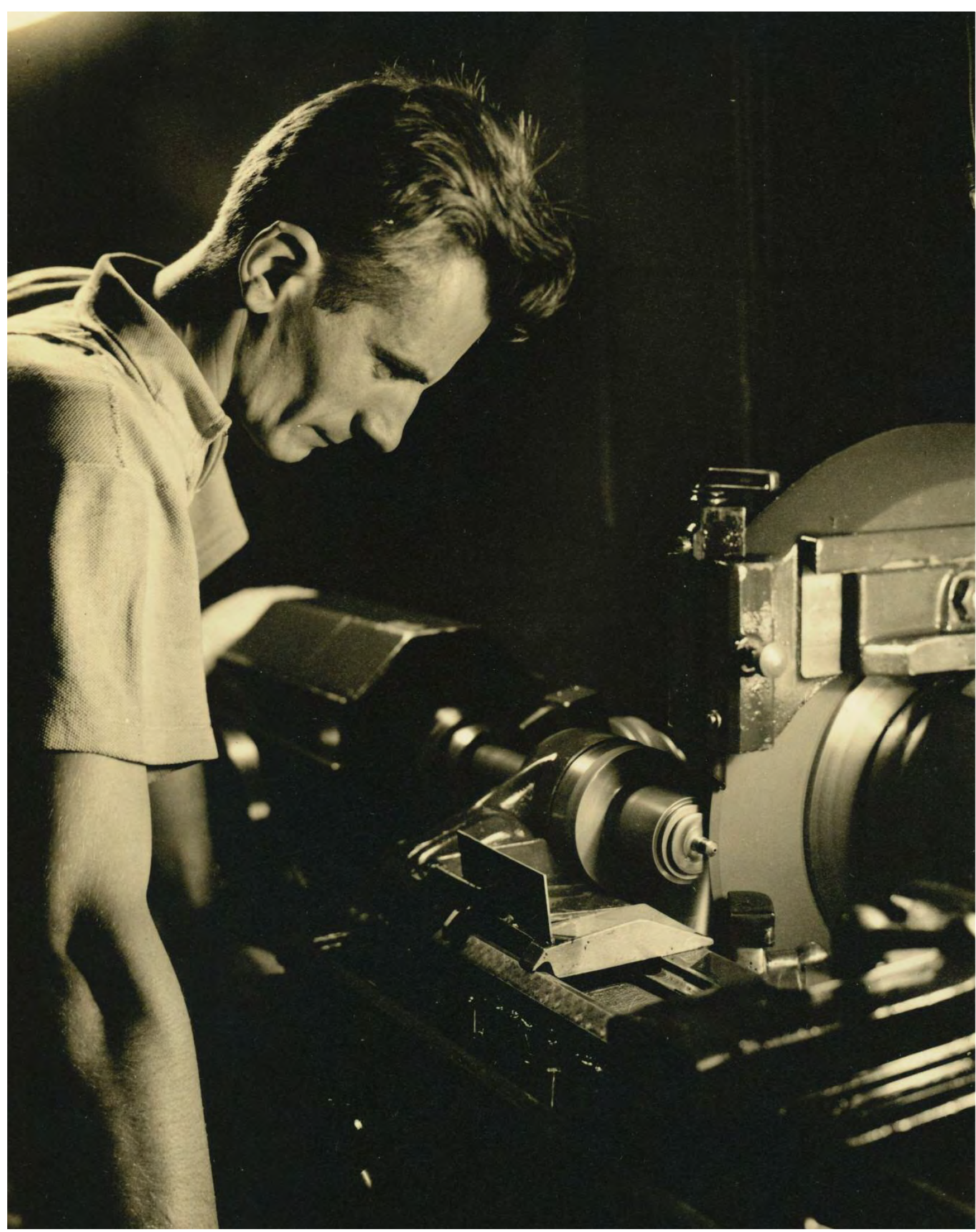
*Inspection of every engine component multiple times was a essential part of engine assembly.
Some inspections took place right on the main manufacturing floor.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.02137

Working the Wright Way

Operating a cylindrical grinder.

Passaic County Historical Society,
Curtiss-Wright Collection, B995.0342



*Making adjustments to the Curtiss-Wright X-19 VTOL
(Vertical Take-off and Landing) circa 1960.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.03342



*Line assembly techniques were employed to speed output of propeller blade electrical de-icing systems.
Curtiss-Wright Corp. factory, Caldwell, NJ, August 22, 1947.*

Passaic County Historical Society,
Curtiss-Wright Collection, B995.03114

The Women of Wrights

Mrs. Harriet Bruggess inserting threaded collars into propeller hubs for propeller attachment.

Paterson Museum Collection



Natalie Miller producing propeller parts, while her husband Samuel served in World War II.

Paterson Museum Collection



Margaret Alexander of the Propeller Department, inspecting parts for defects as a part of quality control.

Paterson Museum Collection



Barbara Miller, the first female employee drafting in the Engineering Department at the Propeller Division, in Caldwell, NJ. She is seen here tracing blueprints for precision-built Curtiss Electric Propellers.

Paterson Museum Collection