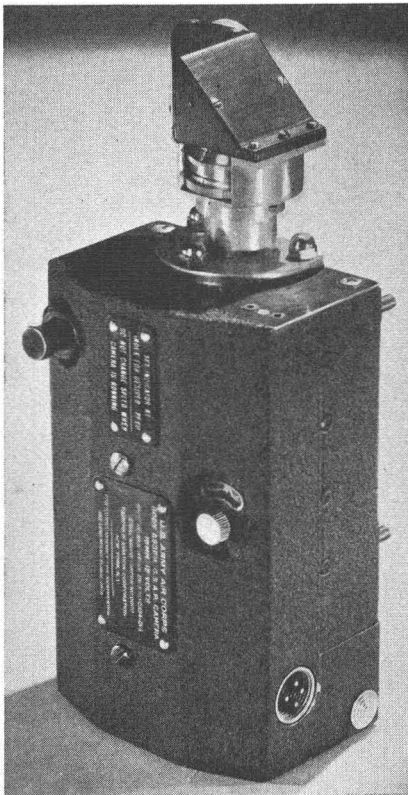


## FAIRCHILD AVIATION CORPORATION—ITS HISTORY AND DEVELOPMENT

*Harold K. Yulke*

**D**URING World War I aerial photography received its first great impetus—its value in military reconnaissance had been definitely established—and the airplane had provided a reasonably stable platform from which a camera could be operated. However, the war also revealed the inadequacy of ordinary cameras for aerial photography. Toward the close of the war cameras especially



The Fairchild Gun Sight Aiming Point Camera (GSAP). Latest type machine gun camera.

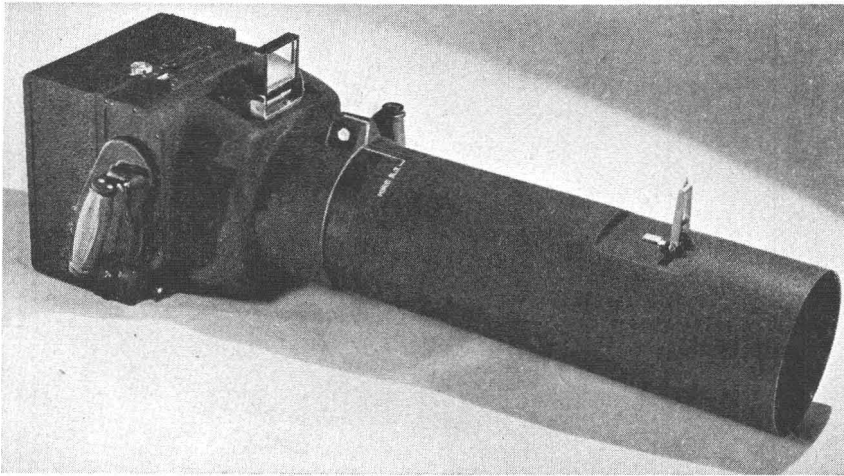
designed for aerial work made their appearance but they still left much to be desired. It was about that time that a young amateur photographer, Sherman M. Fairchild, set about to improve what he considered to be one of the most serious shortcomings of aerial cameras then in use. His first problem was the design of an improved between-the-lens shutter for aerial cameras. However, before his new design could be fully developed to the point where it was practical, the war came to an end but Fairchild continued his experiments and early in 1920 he was ready to start the manufacture of an aerial camera incorporating his new shutter. The shutter was not the only thing new about his camera for he had other ideas—many of them considered to be radical—and the result was an aerial camera more precise, more rugged, and more flexible in its applications than any previous unit. This was the forerunner of our present day aerial cameras.

The period around 1920 was not an auspicious one in which to sell equipment of a military nature. World disarmament was the topic of the day—there'd be no more armies—no more arms—hence, no wars. Nevertheless, Mr. Fairchild was able to interest the Air Corps in the purchase of a few units and set up a small manufacturing shop on West 52nd Street in New York City. The success of the new Fairchild camera was immediate and its future possibilities were readily apparent. However, Army appropriations were small and purchases of camera equipment were extremely limited. Mr. Fairchild, always a man of great vision, looked beyond the military applications of aerial photography and foresaw extensive civilian and commercial uses for his camera. The result was the formation of what today is Fairchild Aerial Surveys, Inc., one of the country's largest and most successful commercial aerial survey organizations.

There were a great many problems confronting the aerial photographer in those days, among them the inadequacy of the then current types of aircraft

for aerial photography. Again Mr. Fairchild took the initiative and his persistent efforts brought about the design of the first photographic airplane which, incidentally, was also the first successful cabin airplane manufactured in the United States. This event projected Fairchild into the aircraft manufacturing business—but that's another story.

The early Fairchild cameras were a far cry from those used in World War I. For one thing they were all-metal construction and incorporated such features as interchangeable lens cones, roll film magazines and interchangeable sub-assemblies. Through their successful use in the Army and in the growing commercial field they soon became famous and in the ensuing years became standard equipment, not only in the United States but in Canada, Latin America, China, and in many European countries. The interest of the United States Army and Navy Air Forces in Fairchild cameras has always been high, with the result that



K-15 Aerial Camera for High Altitude Intelligence Photography.

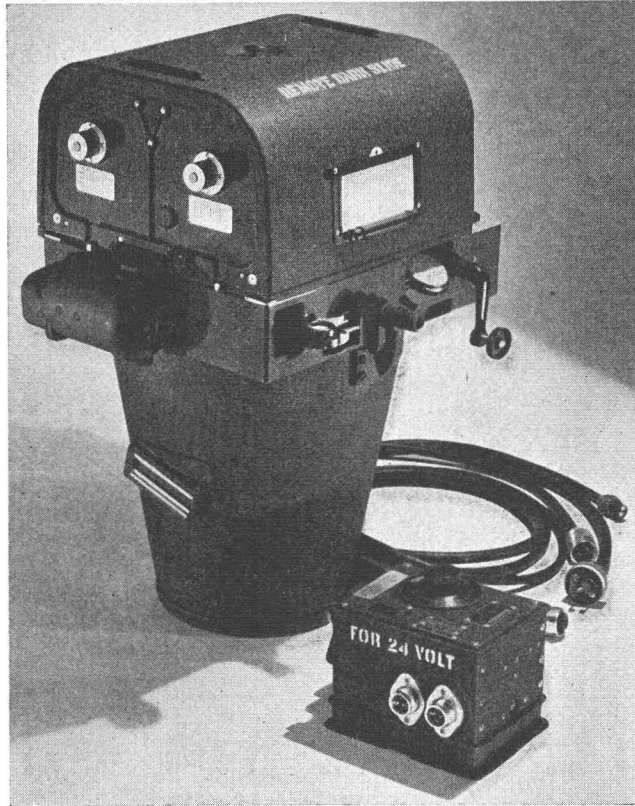
new ideas for improvements or new designs were constantly forthcoming from the military and naval personnel who used the equipment. This interest fostered a spirit of cooperation between manufacturer and user which has been responsible for the development of more than 50 distinct types of Fairchild aerial cameras in the last 20-odd years.

One of the early developments resulting from this cooperation was the T-3A camera, a five-lens unit which had as its basis the Bagley 3-lens camera of late world war days. Among other early cameras of unusual design that were developed through cooperative effort were the K-6, a camera with a 20-inch lens for long distance, high altitude photography using infra red film; the K-7A with a 9×18 inch exposure size and 24 inch lens for high altitude intelligence photography; the K-12, for night aerial photography; and the F-11, with a 40-inch telephoto lens. So advanced in design were these cameras that their counterparts are found today in the aerial cameras used by the United Nations in the present world conflict.

All of the cooperation Fairchild has received did not come from the military, however. Commercial aerial mapping organizations, civil government agencies, and American lens manufacturers, notably Bausch and Lomb, and Eastman, have all made contributions to the improvement of aerial cameras. In 1935, for

example, Fairchild, through the cooperation of Lt. Commander O. S. Reading and the U. S. Coast and Geodetic Survey built the world's largest aerial camera—the giant 9-lens unit which is still in service. About the same time a special tandem-5 lens unit, which in effect was a 10 lens camera, was developed for Fairchild Aerial Surveys, Inc., for a special mapping project in the "Dust Bowl" area of the Southwest. This unit was subsequently adopted by the Air Corps for use in large military mapping projects.

In 1938, the Fairchild F-51 photogrammetric camera was introduced for the



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first time at the semi-annual meeting of the American Society of Photogrammetry held in September of that year. This unit was designed to meet the demands for a highly-precise, wide-angle mapping camera capable of producing photographs of extreme accuracy called for by government agencies.

The foregoing are only a few of the aerial camera designs developed by Fairchild with the cooperation of those who use them. The entire 22 years of the company's existence has been marked by continual research in the field of aerial photography with the purpose in view to develop new equipment and improve existing equipment to meet the needs of the rapidly progressing art.

When the National Defense program was launched, less than two years ago, fifteen different types of aerial cameras were in production on a relatively small scale. Since then, Fairchild has expanded its production facilities many times

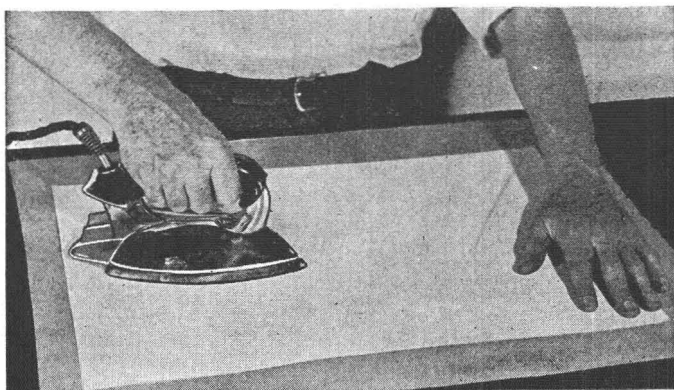
meanwhile carrying on its research and development program to bring out new models dictated by experience gained in actual use. In the past two years alone six new types of military aerial cameras were designed and placed into production.

In addition to aerial cameras, Fairchild manufactures other associated aerial photographic apparatus including the Solar Navigator, a development introduced by Fairchild Aerial Surveys, Inc., in 1938, the Stereo-comparagraph, the invention of Capt. B. B. Talley of the U. S. Army Corps of Engineers, stereoscopes, printing and developing equipment, and other units for the aerial photographic laboratory. Furthermore, as the result of its experience in precision manufacture, Fairchild has been able to expand its facilities to accommodate the production of such precise instruments as gun fire control equipment, octants, rangefinders, etc., so important to our all-out war effort.

Throughout its entire existence, the Fairchild Aviation Corporation has maintained a policy of close cooperation with military and civil government aerial photographic departments, commercial contractors, individuals, and film and lens manufacturers, with one purpose in mind—to produce the world's finest and most advanced aerial photographic equipment. The success of this policy is reflected in the modern Fairchild factory which is today producing the world's most extensive line of aerial cameras and associated apparatus as well as other precision devices.

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