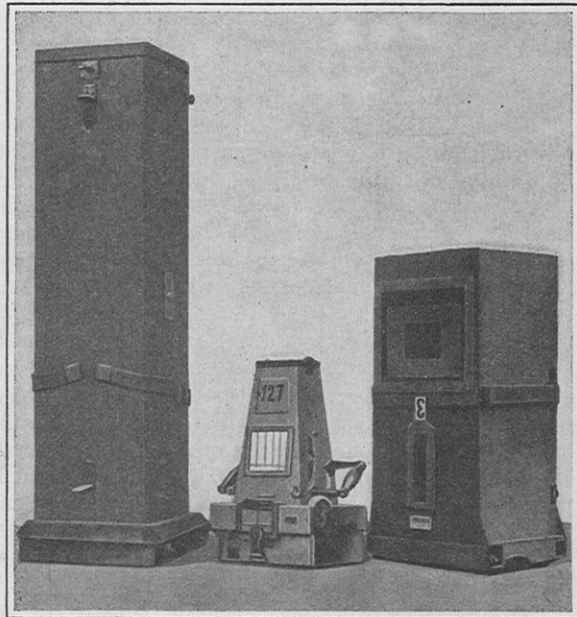


Recent Progress in Aerial Photography*

Remarkable Improvements During War and Applications To Peace-Time Needs

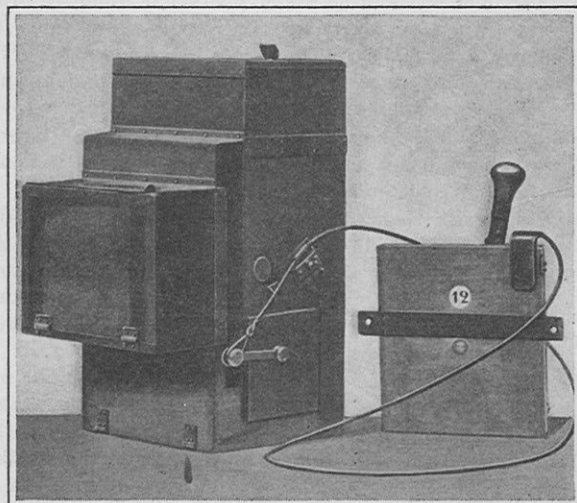
By L.-P. Clerc

SOME fruitful photographic reconnaissances carried out in August, 1914, by a number of airplane observers in the Yser, the Marne and the Lorraine sectors drew attention to the value of this method; but it was not until the discovery of a German apparatus for aerial photography realized the need for installing a regular airplane photographic service at the front. In December, 1914, a section of aerial photography was created



Air camera in metal in center. At right and left are the "night table" and "grandfather clock" (18x24). French types of early 1915

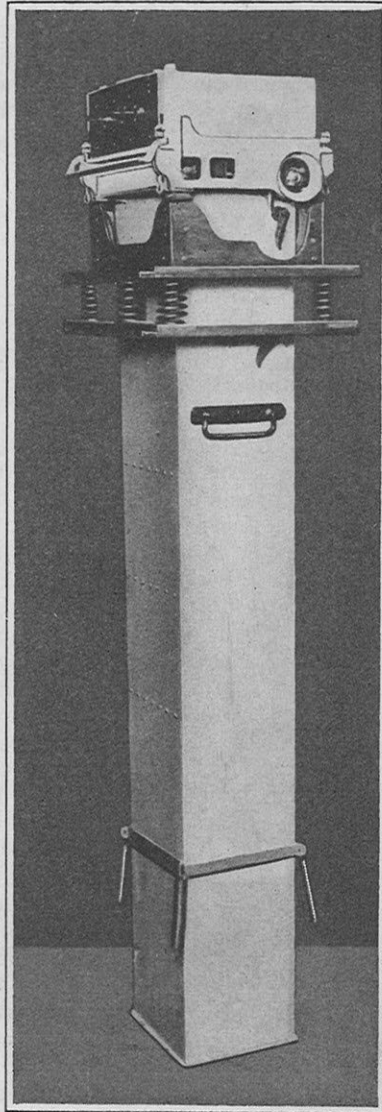
in each of the French armies, but it was exceedingly rudimentary both as to personnel and material equipment. For example, at first each section had only two 13 x 18 cm. cameras at its disposal with a staff of one enlisted photographer, one junior officer draughtsman and one officer without specified duties. In spite of such small beginnings the results obtained were so important that the military authorities soon recognized the necessity of developing this branch of the service. By March, 1915, the staff of each S. P. A. (*Section photographique aérienne*) had been increased to 6 photographers, the first apparatus had been replaced by improved types, the remaining equipment had been improved and enlarged, and each section had also the entire use of two motor cars, one fitted as a travelling laboratory and developing room and the other being a small service truck. About this time also we began



Italian 13x18 of $f = 0.24$ m. All manipulations semi-automatic by means of the lever at the right

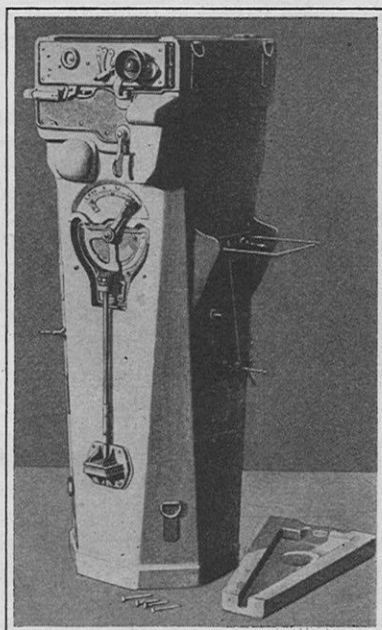
to pay attention to the special instruction of the staff. Aerial photography was at first confined to the squadrons of the army and a very limited number of proofs were struck off, but the importance of the service rendered by this branch, particularly during the Artois offensives in March and June, 1915, soon led to the general use of photography throughout the army and caused the distribution of thousands of proofs among all ranks. The original 13 x 18 cm. cameras each of which was provided with only one magazine holder carrying one dozen plates was replaced by

*Translated from *La Science et La Vie* (Paris); photographs by courtesy of the same.



French type of 1917. $f = 1.20$ m. magazine of 12 plates; high level reconnaissance

metal apparatus containing three interchangeable magazine holders. To these were added 18 x 24 cameras of wood with separate frames not used in aerostier companies. . . . It was then decided to increase the number of sections in the department of aerial photography, and in September, 1915, a section

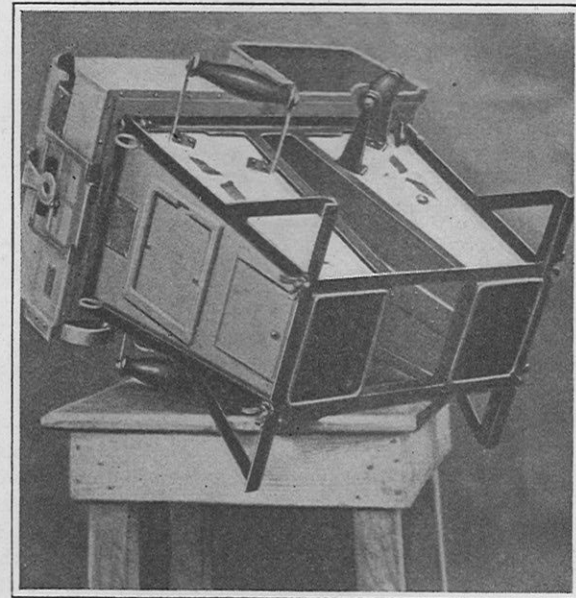


German 13x18 in 1916. Body is wood cloth-covered. Magazine is removed

of photography was added to each squadriglia of an army corps besides those employed in connection with bombarding and reconnoitring. These newly installed sections were each provided with an improved laboratory motor car, with two 13 x 18 cameras having a focal length of 0.26 meters, and soon afterwards with an 18 x 24 camera having a focal length of 0.52 meters. The staff consisted of four photographers and a draughtsman, one of whom ranked as head of the section. These new sections first went into action in September, 1915, in Artois and the Champagne and the

staff soon proved too small to meet the increasing demands for photographs; it was, therefore, increased by the addition of two photographers, a draughtsman and an officer observer ranking as Chief of Service.

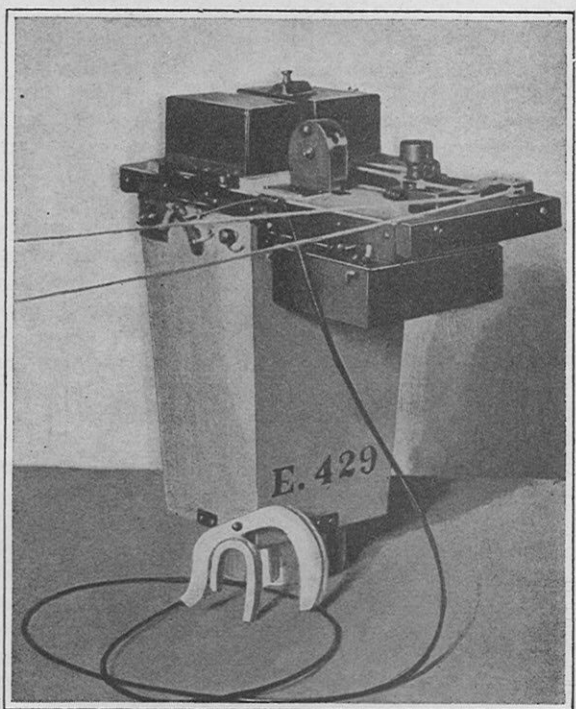
For the preparation of the Somme offensive, rendered useless by the German turn in March, 1917, and for the preparation of the Champagne offensive in April of the same year, many of the sections were required



French twin apparatus, 13x18, of $f = 0.26$. Stereoscopic views made by successive individual exposures at a few seconds' interval

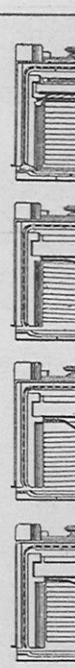
to turn out daily more than 4,000 prints struck off from some forty negatives.

To the apparatus already mentioned there were added cameras of the dimensions 18 x 24 with a focal length of 1.20 meters and the various 18 x 24 cameras which had been provided up to that time only with separate plate holders were furnished with interchangeable magazine holders holding a dozen plates each. Automatic apparatus of various models was also put in service and proved highly valuable in many circumstances because of the greater freedom their use permitted the staff. . . . In the hands of young observers however these models were wasteful when a photographic expedition was regarded merely as a chance to "beat the record" of the number of expos-

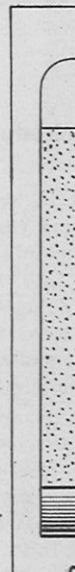


English 10x12 1/2 of $f = 0.25$ m. Cords regulate plate changer. Flexible cable shutter release

ures made. This frequent immoderate waste was to some extent also encouraged by the habit of the commanding officer in setting down in his daily record of aerial operations not the surface of the ground covered photographically by each squadriglia but the number of exposures made. For this reason many observers used three dozen plates on a reconnoitring tour when eight or ten would have been ample; furthermore, they



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