

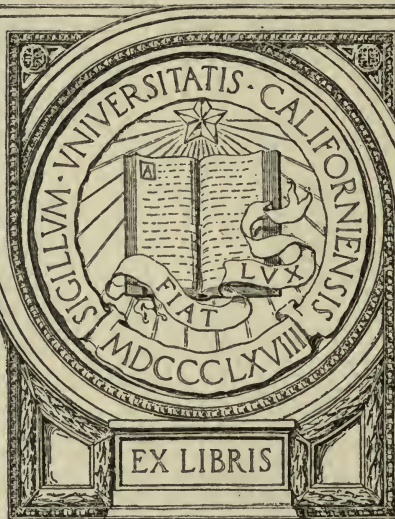
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NOTES ON
THE GERMAN ARMY
IN THE WAR



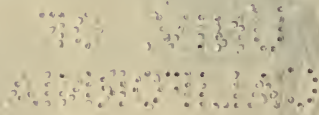
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WAR DEPARTMENT,
WASHINGTON, *July 28, 1917.*

The following Notes on the German Army in the War are published for the information of all concerned.

BY ORDER OF THE SECRETARY OF WAR:
[062.13 A. G. O.]

TASKER H. BLISS,
Major General, Acting Chief of Staff.

OFFICIAL:

H. P. MCCAIN,
The Adjutant General.

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CHAPTER I.

THE GERMAN ARMY BEFORE MOBILIZATION.

The Army consisted of 1 guard corps; 21 army corps numbered from 1 to 21 (Twelfth and Nineteenth Saxons, Thirteenth Württembergers, Fourteenth Badens); 3 Bavarian Army corps; total, 25 army corps.

All army corps comprised, as a rule, two divisions and the following troops not contained in divisions: One or more foot artillery regiments (of two battalions); one or more four-company pioneer battalions; one train section; (later) a battalion of light infantry and a detachment of machine guns.

A division comprised generally two brigades of infantry (each with two regiments of three battalions); one brigade of artillery (two regiments, of two battalions, of three batteries, of six guns); one brigade of cavalry (two regiments).

INFANTRY.

It comprised—

First. Two hundred and seventeen regiments of 3 battalions, consisting of 11 regiments of the guard (5 regiments grenadiers, 5 regiments foot guards, and 1 regiment of fusiliers); 182 regiments, numbered from 1 to 182; 24 Bavarian regiments, numbered from 1 to 23, and a Lieb regiment.

Second. Eighteen battalions of chasseurs, of 4 companies, plus a company of machine guns and a cyclist company; (14 battalions numbered from 1 to 14; 2 battalions of guards, 2 Bavarian battalions).

Third. Companies of machine guns (one to a regiment or battalion of chasseurs).

Fourth. Eleven detachments of machine guns (for cavalry divisions).

Fifth. Sixteen fortress machine-gun detachments.

CAVALRY.

It comprised 110 regiments, divided into—

First. Fourteen regiments of heavy cavalry: One of guard corps; 9 of cuirassiers (from 1 to 8 plus 1 regiment of the guard); 2 of heavy Saxon cavalry; 2 of heavy Bavarian cavalry.

3 NOTES ON THE GERMAN ARMY.

Second. Twenty-six regiments of line cavalry (Uhlans): Three of the guard (1 to 3), 16 Prussian (1 to 16), 3 Saxon (Nos. 17, 18, 21), 2 Württemberger (Nos. 19 and 20), and 2 Bavarian (Nos. 1 and 2).

Third. Seventy regiments of light cavalry: Twenty-eight regiments of dragoons; 21 regiments of hussars; 13 regiments of mounted chasseurs; 8 regiments of Bavarian light horse. There existed only one division of cavalry in peace times, that of the guard.

ARTILLERY.

First. Field artillery: One hundred regiments (guard from 1 to 4; line from 1 to 84; Bavarian, from 1 to 12); 1 regiment of instruction, at Jüterbog.

Second. Foot artillery: Twenty-five two-battalion regiments, including three Bavarian regiments, one of the guard, and one instruction regiment at Jüterbog.

PIONEERS.

Thirty-five battalions, with 35 searchlight detachments.

LINE OF COMMUNICATION TROOPS.

Railroaders.—Three regiments and a battalion of Prussians; one Bavarian battalion; three Berlin-Jüterbog companies for railroad operation.

Telegraphers.—Ten battalions, including two Bavarian (45 companies, including 16 wireless).

Aeronauts.—Six battalions (17 companies); one mixed battalion of aeronauts and automobilists, Bavarian.

Automobilists.—One battalion (4 companies); 1 Bavarian company.

Aviators.—Five battalions, including 1 Bavarian (14 companies).

THE TRAIN.

Twenty-five four-squadron sections (doubled at mobilization).

CHAPTER II.

THE GERMAN ARMY AT MOBILIZATION.

A. RESOURCES—B. THE MOBILIZED ARMY.

A. Recruiting resources. (See the pamphlet "What we should know of the German Army," 22d edition, pp. 7-9.)

B. The army mobilized: It comprised at the beginning—

First. The 25 corps of peace times, mobilized.

Second. Reserve corps (less in number than the active corps—about 15).

Third. Some landwehr units (mixed brigades and divisions).

Fourth. Some formations of landsturm (battalions and groups) of an uncertain number of battalions.

Fifth. Cavalry divisions (11 divisions).

COMPOSITION OF THE MOBILIZED ARMY CORPS, HEADQUARTERS AND STAFF.

Infantry.—Two divisions. (See below.)

Artillery.—One battalion of heavy artillery (4 batteries of 4 heavy howitzers of 15 cm.) and light-ammunition column.

Pioneers.—One company of pioneers, with bridge equipment; 1 telegraphers' section of the army corps; 1 telephonist detachment; 1 wireless detachment (2 stations); 1 detachment of field signalers; 1 detachment of aeronauts (with gas column); columns of ammunition (4 infantry and 8 artillery); 1 ammunition column of 8 caissons for heavy howitzers; trains; 1 field bakery and bridge equipment of army corps; 6 provisions columns; 7 supply columns; 12 field hospitals; 2 remount depots, of 100 horses each.

COMPOSITION OF THE INFANTRY DIVISION.

Two infantry brigades of 2 regiments of 3 battalions, with 1 company of machine guns (7 guns, including 1 spare one).

Cavalry.—Divisional squadrons of variable number (2, 3, or 4).

Artillery.—One brigade of 2 regiments of field artillery. Each regiment comprised 2 battalions of 3 batteries of 6 guns. In one of

these divisions a battalion was armed with 10.5 centimeter howitzers; total, 72 guns.

Pioneers.—A telephonist detachment, a searchlight section, four light ammunition columns of artillery, ambulances.

COMPOSITION OF THE RESERVE ARMY CORPS.

About the same as that of the active corps, except the artillery. The reserve division comprised originally only one artillery regiment (of 2 battalions of 3 batteries of 6 guns) and did not usually have field howitzers; total, thirty-six 77-caliber guns, instead of the 72 in the active division. Actually the regiment of artillery has, as a rule, 9 batteries, including 2 or 3 light howitzers. There even exists with the Twelfth (Saxon) and Fourteenth (Württemberg-Baden) Corps of Reserves, one brigade of field artillery to a division.

Landwehr.—Landwehr brigades were generally organized as mixed brigades, of 2 regiments of infantry, 1 or 2 batteries of artillery, a squadron of cavalry, and a company of pioneers. Several mixed brigades have been grouped two together into divisions of Landwehr, with one or two regiments of artillery (of 2 battalions of 3 batteries).

The brigades bore the number of that brigade of the corps which had the lowest number.

At the beginning of 1916 there were 1 corps and 21 divisions of Landwehr. In October, about 25 divisions.

Landsturm.—The unit was the battalion (one or more battalions in a Landwehr district). In certain places there were groups of battalions of Landsturm. There have also been formed squadrons and batteries of Landsturm, as well as battalions of laborers.

CHAPTER III.

THE GERMAN ARMY IN THE FIELD.

A. LARGE UNITS CREATED, THEIR COMPOSITION.—B. MODIFICATION OF EXISTING UNITS. CREATION OF UNITS OF SPECIALISTS. EMPLOYMENT OF NEW OR MORE PERFECTED MATERIALS IN THE PIONEERS, INFANTRY, AND ARTILLERY.

Created units, their composition.—In the beginning of the campaign, after rapidly crushing the enemy by numbers, Germany wished to utilize her enormous resources of men. To that end she formed, in addition to the army mobilized the first days, the different formations indicated below in chronological order.

First. *Ersatz formations* (since August, 1914).—These formations, foreseen in peace time, were to be used, as a rule, only as garrisons for frontier posts.

Second. *Reserve corps.*—Series of October, 1914. Nos. XXII to XXVII and Sixth Division of Bavarian Reserve. Marine Corps.

Third. *Reserve corps.*—Series of January, 1915, Nos. XXVIII to XLI and Eighth Division of Bavarian Reserve. This creation was the last of the real creations of the German Army in 1915. The new units formed later are merely selections from already existing units. These are—

Fourth. *The five divisions of series 50* (from March, 1915—Nos. 50, 52, 54, 56, 58) plus the Tenth Bavarian Division.

Fifth. *The 12 divisions of the series 100* (from March. Uneven numbers from 101 to 123, inclusive) plus the Eleventh Bavarian Division. (A One hundred and eighth Division was created later.)

Sixth. *The brigades numbered 183, 185, 187, 192, and the Twenty-fourth and Twenty-fifth Bavarian Regiments.*—From May, 1915. (These brigades were transformed into divisions in 1916.)

ALPINE CORPS.

Seventh. *The numbered regiments* (series 10 and 300).—Usually grouped in large units of Ersatz and Landsturm. From June, 1915.

Eighth. *The divisions 201 to 204, 205* (later) and Twelfth Bavarian Division. Formed in the interior of Germany from resources of the depots toward the middle of 1915. The divisions 195, 197, 199,

200, and 206 to 227, as well as the Fourteenth Bavarian Division, and later the Sixteenth Bavarian Division, were formed at the front by selections from existing units.

Ninth. *Landwehr Divisions*, formed by regiments of the series 500.

Tenth. A. *The 13 divisions of the series*.—231, half composed of the class of 1898; 242, one-fourth composed of selections, one-fourth of convalescent wounded.

B. *The 10 divisions of series 251*, comprising, no doubt, the same elements, but in different proportions.

COMPOSITION OF NEWLY CREATED UNITS.

First. *Ersatz formations*.—The word *Ersatz* implies sometimes a class of newly summoned recruits (see Chap. I), sometimes battalions in depot (see Inf. Mob., Chap. IV), and sometimes mobile formations coming from these depots. It is with these last that we are concerned here. They are—

A. *Ersatz battalion brigades* (B. E. B.).—With the best material of the depots a B. E. B. was formed for every brigade of infantry, because there were two companies in each regimental depot. Each B. E. B. bore the number of its mobilized brigade. In the army corps these B. E. B.'s have usually been grouped in one brigade, bearing the number of the brigade of the army corps which has the lowest number.

B. *Ersatz battalions of the active or reserve regiments*.—In the depots of certain infantry regiments (active or reserve), where the recruiting resources permitted, entire battalions were picked out and sent to the front, either to form fourth battalions, or as an independent unit, or to enter into the composition of *Ersatz* regiments.

C. It was with the elements of the categories A and B, above, that the *Ersatz* regiments and *Ersatz* reserve regiments were formed. They usually bore the name of their commander, and sometimes the number of the brigade or division which organized them.

D. *Ersatz* reserve units, *Landwehr* and *Landsturm* (*Landwehr* B. E. B., *Ersatz* battalions of *Landwehr*, reserve regiments of *Ersatz* and *Landwehr*), have the same method of formation as categories A, B, and C.

E. *Large Ersatz units (active or reserve)*.—Brigades, divisions, and army corps. These were created by the joining of *Ersatz* regiments to whom *Ersatz* units of different branches were assigned, formed on the same lines as the infantry units. (*Ersatz* companies of machine guns, *Ersatz* companies of cyclists, *Ersatz* squadrons of cavalry, *Ersatz* companies of pioneers.)

Some divisions have a regiment of artillery (2 battalions of 5 batteries of 4 guns). Others have two regiments, formed by uniting mobile Ersatz groups.

F. *Regiments of the series 300*.—(See further creations from June, below.)

Second. *Reserve corps* (October series and Marine Corps).—In October Germany put in the field six reserve army corps and one Bavarian division (Sixth Bavarian Reserve Division) and the Marine Corps.

Corps numbered from XXII to XXVII are formed with infantry regiments of the series 200 (201 to 248) and of chasseur battalions (numbered from 15 to 26 of the reserves). The Sixth Reserve Bavarian Division comprises the regiments 16, 17, 20, 21 of reserve.

These corps are formed by volunteers, men from depots, remains of certain regiments, and, finally, by Landwehriens.

Cavalry.—About a squadron to a division.

Infantry.—Each corps had 8 regiments of infantry and 2 battalions of reserve chasseurs. Each regiment had 3 battalions and 1 platoon of machine guns (instead of 1 company in the active regiments).

Artillery.—Each division actually has a regiment of 3 battalions of 3 batteries of 4 guns, that is to say, 36 guns per division. Usually 1 of the three battalions is armed with howitzers.

Heavy Artillery.—When they were created, each Reserve Corps was given 1 or 2 heavy batteries, bearing the number of the corps. This allowance has been raised to a battalion, and in some cases, even to an entire regiment of heavy artillery.

Pioneers.—A company per division, with bridge equipment.

The *Marine Corps* had as a nucleus the 3 infantry battalions of marines of peace times, transformed little by little into regiments. Later 5 regiments of rifle marines were taken from the fleet. The Corps has been given Landwehr cavalry and artillery.

Third. *Reserve Corps of the series of January, and the Eighth Bavarian Reserve Division*.—In January Germany made a new effort and put into line 4 new reserve corps and a Bavarian reserve division (the Eighth). These corps, numbered from XXXVIII to XLI, comprise the regiments of the series 249 to 272.

These regiments are largely composed of men of the class of 1914, of slightly wounded returned to the front, and of Ersatz reservists.

The Eighth Bavarian Reserve Division comprises the Eighteenth, Nineteenth, Twenty-second, and Twenty-third Reserve Regiments.

These reserve army corps have been formed of only six regiments, instead of the usual eight.

The regiments have the same composition as those of the October series (they have one complete machine-gun company to a regiment).

Artillery.—The artillery of these reserve corps comprises 2 regiments to a division, each of 2 battalions of 3 batteries of 4 guns. A certain number of these batteries were, at the beginning, armed with the old-fashioned 9-cm. gun. One of the 8 battalions of the reserve corps is usually armed with 105 howitzers. Therefore there are to a division 48 guns and howitzers.

Heavy artillery.—A battalion of 3 or 4 batteries of 4 guns of reserve foot artillery, bearing the same number as that of the reserve corps.

In addition, each army corps comprised 1 battalion of pioneers, of 3 companies, 2 sanitation companies, 2 reserve cyclist companies, 2 train detachments, 2 divisional bridge equipments, 1 telephonist detachment, 1 searchlight detachment.

Fourth. *Divisions of the series 50, and the Tenth Bavarian Division* (creation of March, 1915).—These divisions, numbered 50, 52, 54, 56, 58, and the Tenth Bavarian Division, are, properly speaking, reconstructed divisions. They were formed by the German staff at a moment when reserve groups were desired. They were formed by selecting units from active or reserve corps (original formations), and comprised only three regiments of infantry and one cyclist company bearing the number of the division.

Their artillery (regiments of the series 100) was made up of elements taken from existing units. It includes 2 regiments of 2 battalions of 3 batteries of 4 guns, or 48 guns. One of the 4 battalions is generally armed with 105 howitzers.

Heavy artillery.—One battalion of 4 batteries of 4 guns, bearing the number of the division, formed by selections from already-existing units.

Pioneers.—Two companies.

Cavalry.—As a rule, two squadrons.

Fifth. *Divisions of the series 100, and the Eleventh Bavarian Division* (March, 1915).—These divisions are numbered from 101 to 123 (even numbers do not exist, except the One hundred and eighth Division, which was created later). There are, then, 13 divisions of this series. The mode of formation was the same as that of the divisions of series 50.

For the infantry, the composition is the same as for the divisions of series 50.

Field artillery.—The artillery at first appeared to be weaker. Certain divisions had only one regiment of artillery of 7 or 8 batteries of 4 guns, making a total of from 28 to 32 guns. Now they have at least 9 batteries, or 36 guns. The One hundred and twenty-third Division (Saxon) has two regiments of field artillery.

Heavy artillery.—Like the division of series 50, i. e., 1 battalion of 4 batteries of 4 guns.

Pioneers.—One company.

Sixth. Brigades of the series 183, 185, 187, and 192.—The creation of large units having exhausted the supply of cadres, the Germans tried at one time to use their late surplus in men to swell the effectives of existing units. Some regiments had their companies brought up to 300 men. Others had 1, 2, 3, or even 4 supplementary companies. The Germans then grouped these increased units, and from this groupment came the regiments of the series 183 to 190, etc., and the Twenty-fourth and Twenty-fifth Bavarian, completed with the aid of individual selections from existing corps. These regiments were later grouped in brigades of 3 regiments, to which were given some artillery (1 battalion) and later pioneers (1 company). Finally, in 1916, divisions were made from them by greatly augmenting their artillery, giving them a regiment of 9 batteries (in the case of the 185th and 192d Divisions), or even a brigade of 2 regiments (in the case of the 183d and 187th Division). The Alpine Corps owes its existence to Italy's entering the war, and was organized with a certain number of chasseur battalions and the Bavarian Leib Regiment.

Seventh. Groups of Ersatz and Landsturm units, from June, 1915. These units embrace:

(1) Existing Ersatz units (active, reserve, Landsturm, Landwehr). These units have been grouped into regiments bearing numbers from 329 up. (The numbers from 401 to 416 and from 442 to 477 are not part of this series.)

(2) Existing Landsturm units grouped into regiments bearing sometimes the number of active regiments belonging to that region of the army corps where they were formed (series 109, 115, and 118), and sometimes the number of the army corps which produced them (1 to 20), followed by their own numbers.

The Landsturm battalions are numbered according to a series which, in each army corps, begins with 1 and unites the Ersatz battalions of the Landsturm. The highest number indicates the minimum number of Landsturm battalions of the army corps.

As a rule, the men wear on their collars the number of the army corps in Roman figures, followed by the battalion (or battery) number in Arabic figures.

Eighth. Divisions of the series 201 to 205, the Twelfth Bavarian Division, divisions of the series 195, 197, 199, 200, 206 to 227, and the Fourteenth and Sixteenth Bavarian Divisions.—The first series embraces divisions formed in the interior of Germany by the help of selections from depots. They are made up of the following:

Infantry.—One brigade of 3 regiments of 3 battalions, plus 1 company of machine guns. The brigades have been numbered normally by doubling, except the Twelfth Bavarian Division, the three regiments of which constitute a brigade which has taken a number following active Bavarian brigades.

Artillery.—Probably 1 regiment of 9 batteries.

The second series embraces the divisions formed at the front by the aid of selections of parts (regiments, usually, and battalions of chasseurs) of existing units. Composition:

Infantry.—One brigade of 3 regiments of 3 battalions, plus 1 company of machine guns.

Artillery.—One regiment of 8 or 9 batteries.

Ninth. Divisions of Landwehr (series 19 and 20).—Each formed by regiments of Landwehr, series 300. Two of these divisions, the Nineteenth and Twentieth, were identified on the western front on October 17, 1916. These divisions seem to have been created in September, 1916. The regiments which enter into their composition were formed at the front, largely selected elements from Landsturm battalions, supply services, and also from depots in the interior. The Nineteenth Division consists largely of Saxon elements. These divisions may be classed in the same category as the divisions 201 to 204.

Tenth. Divisions of the series beginning 231 and the series beginning 251.

A. Series from 231.—Ten Prussian divisions (231 to 240), 1 Saxon (241), 1 Wurtembergian (242), and 1 Bavarian (15).

These divisions include the regiments of the series 442 to 447, and the Thirtieth, Thirty-first, and Thirty-second Bavarian Regiments, composed 50 per cent of 1918 recruits, 25 per cent of selections from the front, and 25 per cent of convalescent wounded.

Composition of a division:

Infantry.—Three regiments of 3 battalions of 4 companies, plus 1 company of machine guns, forming a brigade bearing the same number as the division.

Artillery.—One regiment of 3 battalions of 3 batteries of 4 guns, and 1 ammunition column to a battalion.

Engineers.—Two companies of pioneers, 1 company of trench mortars, telephone section with 2 signalling detachments.

Health service.—One company of sanitation, 2 ambulances.

Trains.—One divisional motor section.

B. *Series from 251.*—Ten (?) divisions (251 to 260) composed of 4 regiments, each of the series 600. These regiments are recruited in part like the preceding ones, but the proportions do not seem to be the same, and there are a fairly large number of old men, selected even from Ersatz battalions of Landsturm.

B. MODIFICATION OF EXISTING UNITS. CREATION OF UNITS OF SPECIALISTS, EMPLOYMENT OF NEW OR MORE PERFECTED MATERIAL IN THE INFANTRY, ARTILLERY, AND PIONEERS.

The creation of large units during the war affected the constitution of units existing at mobilization, as they had to lend officers, non-commissioned officers, and material. On the other hand, experience in the war has demonstrated the necessity for enlarging or modifying certain organizations and material, and creating special units.

Below are outlined the different modifications which have been made:

INFANTRY.

A. *Cutting down the number of infantry regiments in most of the active and reserve corps.*—As a result of the taking of entire regiments for the formation of divisions of the series 50, 100, 183, etc., army corps, with rare exceptions, now have only 6 infantry regiments instead of the prescribed 8.

On April 1, 1917, there were approximately 215 old divisions, of which 20 have 4 regiments, or 2,250 battalions; 13 new divisions; 10 (?) divisions being formed, of which 10 are to have 4 regiments; 238 divisions in all, of which 30 have or are to have 4 regiments.

B. *Increase in the number of machine guns—formation of machine-gun organizations.*—The infantry regiment had, at the beginning, 1 company of machine guns of 3 platoons of 2 guns, plus 1 reserve gun. This was augmented first by the addition of platoons of field machine guns (feld maschinen gewehr züge) of 3 guns (independent platoons at the beginning), then by the addition of platoons of complement machine guns (ergänzungzüge) also of 3 guns, both having

been formed at the same time. Finally a certain number of these platoons were grouped in companies of from 6 to 9 guns, and every regiment of infantry has actually a uniform complement of 3 companies of machine guns (i. e., about 24 guns). Some have even 4 companies.

We note in passing the use of detachments of fortress machine guns on the front, and the utilization of machine guns captured from the enemy. We also note the appearance of units of "Maschinengewehr-Scharfschützentrupp" of 6 or 9 guns, which are selected companies of machine guns, created according to the same idea as the selected infantry troops, "stoss or sturmtrupp" (platoon, company, or battalion). Units of "Leichtmaschinengewehr." The platoon of light machine guns (leichter Maschinengewehr-Trupp) comprises 3 groups of 3 guns each. The light machine gun is of the Bergmann system, model of 1915, manufactured at Spandau. This gun, which weighs 25 pounds, was originally intended for aviation, but was found to be technically impracticable, owing to its irregularity of function during flight. The cooling of the gun is done by air, but it is not effective after 250 or 300 rounds of continued fire. For this reason the guns have been grouped in threes, firing alternately a series of 30 cartridges, and giving the impression of fire executed by a single machine gun. This gun in reality is only a simple automatic rifle.

At the end of October, 1916, even larger formations appeared, and the M. G. S. S. abteilungen comprised 3 companies. These abteilungen seem to be divisional units.

C. *Creation of Musketeer Battalions (Mehrladerziel feruohrgewehr) and infantry machine guns (automatic rifles).*—As the fighting value of their soldiers decreased, the Germans tried to increase the power and precision of their fire. They therefore created the Musketeer battalions, 3 of which have so far been identified. Each battalion, originally of 3 companies, possesses to-day 4 companies of from 150 to 170 men each, supplied with 30 automatic rifles to a company, or 120 to a battalion.

To increase the effectiveness of the fire of small infantry units a certain number of good shots in each unit received a "Mehrlador," a rifle with a magazine of large capacity (25 cartridges) which fits under the arm. But this arrangement seems to be disappearing. It will be replaced by automatic rifles, or "Infantry Maschinen-Gewehr," either on the model of the Bergmann light machine gun, or on the model of the small barrel 32 cartridges gun, or on the Madsen model. Each company will have an "Infantry M. G.

Trupp" of 3 (and later 6) guns. Finally, certain Scharfschutzees will receive rifles with telescopic sights (zielfernrohr) for precise fire.

D. *Use of special projectiles "Spitzkerugeschoss" and special devices, Granatenwerfer, signalwerfer, Light Minenwerfer (see Pioneers).*—The bullet "S" being incapable of perforating the French parapet shield and reaching the man behind it, the Germans have for some time been using bullet "K" (Keru geschloss), a projectile similar to the ordinary bullet but inclosing an elongated core of steel.

E. *Formation of supplementary cyclist companies, and later of cyclist battalions and brigades, to increase manœuvering possibilities and the mobility of a large number of small units.* The only cyclist units existing at mobilization were the cyclist companies of Chasseurs battalions. Since then a cyclist company has been organized for most of the newly formed divisions (some of the active and reserve divisions also have one).

Of the (approximately) 200 existing companies, a certain number have been grouped in battalions. Five battalions have been identified, of 4 companies each, plus a machine-gun company formed by selecting from companies of battalions of chasseurs or cyclist companies of the new divisions of 1915. One cyclist brigade (No. 2) has been organized, formed by the three first battalions.

F. *Formation of specialized companies in infantry regiments.*—The number of existing pioneer units have proved insufficient for the needs of the present war. Infantry units therefore have had to call upon specialists in their ranks, and provide themselves with the mechanisms and parts of machines they lacked. Thus a great number of regiments actually have a company of regimental pioneers or miners, organized by selection of specialists from the other units of the corps, and often commanded by an officer of pioneers. Among the names given to these units are noted "Bergkompagnie" (miners), "Schauzompagnie," and "Bau und Beten Kompagnie," though the latter may also be applied to specialist companies of the Armierungs battalions which are discussed below.

G. *Unarmed battalions of Landsturm, Armierung and Arbeiter battalions, and battalions of prisoners of war and civil prisoners.*—At mobilization there was formed, from the uninstructed men of the Landsturm, unarmed battalions of Landsturm.

These battalions comprised, first, fortification battalions (Armierung); second, battalions of laborers (Arbeiter).

The armament battalions, restricted in number at the beginning, were intended for work on fortifications. They were recruited, from the beginning of mobilization, in the zones of the fortifications,

and comprised men of all ages. Their work, which was of short duration, being finished, these men were again available and shared the lot of their class.

But as the war became rapidly one of position, the field armies needed large numbers of fortification battalions. The number of these, therefore, has been steadily increased.

The existing battalions have sent back, little by little, all men capable of combatant service, and all men called at the time of mobilization, whose age at that time exempted them from combatant service. The replacing of these men, and the formation of new battalions has been accomplished by calling out, first, the most mediocre men of the uninstructed Landsturm; second, the workmen battalions.

The workmen battalions, organized from the inferior men of the uninstructed Landsturm then available, were charged with the execution of heavy work in the zone of fortified regions and behind field armies. As a result of the numerous inroads made upon them by the combatant services and fortification battalions, the workmen battalions have disappeared, little by little, and have been replaced by prisoners of war and civil prisoners. There now remain only a few purely German workmen units. These latter are charged with the execution of special technical work, principally on the lines of communication.

The actual status of these Landsturm battalions seems to be:

First. *Fortification battalions*.—There are about 190 fortification battalions of which 60 are on the eastern front. Each battalion comprises about 4 or 5 companies, of about 200 men each. The distribution of fortification battalions on the different fronts seems to have been made with the idea of having one battalion to a division sector. But in the zones of operations this proportion has been increased by shifting them from quiet zones, and even by moving them from one theater of operations to another. Thus, Verdun drew a certain number of battalions used until then on the eastern front.

Second. *Workmen battalions*.—The workmen battalions have almost entirely disappeared. There seems to exist only 100 companies, charged with the construction of roads (*Strassenbau Kompanie*), and a few battalions charged with special technical work (*Facharbeiter*).

The depots of unarmed Landsturm.—There has been formed in each region a depot of variable size to supply the fortification battalions and the few German workmen battalions still in existence. These depots draw their resources from the waste of the depots of other

formations, and, perhaps, will include shortly elements from that contingent which will be called out by the law on national auxiliary service.

Battalions of war prisoners and civil prisoners.

I. *Prisoner-of-war battalions.*—There are known to be more than 150 battalions of prisoners of war. From information gathered on these formations, a battalion of prisoners-of-war comprises 2,000 men, guarded by a company of Landsturm taken from armed Landsturm battalions.

The prisoner-of-war battalions are used for the same work as the workmen battalions and right up into the zone of fire. This is established from numerous statements of escaped prisoners and different documents.

II. *Battalions of civil prisoners.*—Recently a certain number of battalions of civil prisoners (Zivil arbeiter) have been found. The highest known number is 31. So far no information on the organization of these battalions has been procured. Some documents indicate the use of these units up to and including the immediate zone of the front.

H. *Use of dogs.*—In a great number of organizations dogs are trained for two purposes:

First. As Moldehund (dog to carry dispatches from one post to another; for example, from the first line to the post of the battalion commander). Detachment No. 46 has been remarked. Second. As postenhund (guard dogs placed by a sentinel to warn of approach of enemy).

The sanitary service also uses dogs to find wounded.

In the same way in order to assure liaison by every possible means, field-pigeon detachments have been organized in the army corps. Divisions in the first line are provided with 3 or 4 posts of 4 carrier pigeons each, whose cotes are usually 25 or 30 kilometers (15.535 or 18.641 miles) in the rear. Sometimes carrier-pigeon posts have been installed in the first line trenches.

ARTILLERY.

A. *Reduction of the number of guns to a battery.*—The field artillery of the new formations, having been formed principally by selection, the number of guns of existing batteries has been reduced, and the field batteries have only four guns instead of six.

B. *Modification in the number of batteries and increase in the number of light howitzer (105 millimeters) in the division.*—After the reduction of the number of guns the active army corps had only 48 guns to a division (2 regiments of 2 battalions of 3 batteries of 4 guns).

All the other divisions which had at first a smaller number of guns have been tending toward 48 guns to a division. (See Chap. IV, Artillery.) But now, as a result of the selections made to equip the artillery of the new divisions and the reduction of the divisional infantry to three regiments, the average complement of artillery in all the divisions seems to be one regiment of three battalions. Possibly, if the productive ability of Germany permits, this complement will later be increased.

The artillery of caliber 77¹ having proved of little use in the field, the Germans have increased the output of their excellent light howitzer (105 mm.). At the beginning of the war only one of the battalions, an army corps (2 brigades of 2 regiments of 2 battalions of 3 batteries) was armed with the 105 howitzer. To-day every division, no matter how many 77 batteries it may have, has usually three 105 batteries. In a more general way, it may be stated that on the whole the proportion of light howitzers is one-fourth and possibly even one-third of the artillery complement of three battalions to a division.

C. Increase of heavy artillery.—The initial assignment of one battalion of heavy artillery to an army corps (4 batteries of 4 guns of heavy 15 cm. howitzers) has been found insufficient in the course of the war. In the first months of the war it was increased by the addition of a variable number of batteries of 9 cm. (old), then by the assignment of heavy army artillery (battalions of mortars comprising two batteries of four 21-cm. mortars), or batteries taken from siege, coast, and defense artillery (see Chap. IV, Artillery). Finally these organizations were made permanent, especially by the formation, in May, 1915, of heavy batteries of the series 200. (See Chap. IV, Artillery.)

According to certain information it appears that, at the end of 1916, the complement of heavy artillery to a division was from 20 to 25 pieces, usually 3 batteries of 15-cm. heavy howitzers, 1 battery of guns (100, 130, or 150 mm.) and one battery of 210 mortars. It must be remembered, however, that this complement varies according to the sectors of the front.

D. Infantry guns (see above).

E. Antiaircraft guns (*Abwehrkanone*).—They are of different calibers—25, 77, 105, 75 mm. They are generally grouped in platoons of two guns (about one platoon to a division), and sometimes even in batteries of four or six guns. (See Chap. IV.)

¹ The "77" gun has just been provided with a howitzer carriage, to increase its range (*Kanonim Houbitz Lafette*).

F. Formation of range finders.—As this war has called for siege methods, an organization of range finders has been formed, whose officers are charged with making a range map of the front, and often even with regulating the fire of the heavy batteries. The topographic or battle map section of the army corps is called "Messplouabteiburg." The range finders' personnel is called "Messtrupp." The observing stations are called "Messtellen."

There also exist platoons of sound locaters ("Schallmesstrupp"), 69 of which have been identified so far.

The army is also provided with a topographic section, called "Vermessungsabteilung."

PIONEERS.

Enlarging of units—Use of special materials.—In general, the divisions now have two companies of pioneers (instead of one), these two companies have just been grouped with the divisional company of Minnenwerfer and that of Schmwewerfer, and form a battalion. Special appliances, whose use on a lesser scale was foreseen before the war, are being largely used, such as the Minnenwerfer, Flammenwerfer, Granatenwerfer, Signalwerfer, gas projectors, etc. (See Chap. IV.)

Each company (or battery), and each battalion and regimental headquarters is provided with a Signalwerfer.

Each infantry regiment is provided with a detachment of 24 Granatenwerfers, throwing grenades weighing 1.8 kilograms (2.646 pounds), containing 2.25 grammes of explosive. The regiment also has 3 sections of 4 (and later 8) light Minnenwerfers.

AVIATION.

Since January, 1915, the Germans have increased the number of their squadrons. There was usually one field squadron to an army corps, and one to an army. Up to 1915 the squadrons and apparatus were not specialized, and were used without distinction for reconnaissances, photographs, and bombing. Since then there have appeared "artillery squadrons" for the adjustment of fire, squadrons for combat and chase, and, finally, for bombing. (See Chap. IV.)

AERONAUTICS.

The Zeppelin predominates. The Schulte-Lanz and the Parseval are practically abandoned.

CHAPTER IV.

ARMS OF THE SERVICE—RECRUITING, MOBILIZATION, CADRES, INSTRUCTION, ETC.

INFANTRY.

1. *The regiment; the battalion of chasseurs; the machine-gun units.*—A mobilized regiment contains usually 3 battalions of 4 companies of 3 platoons each. Since the new ruling (1917) on "Instruction of Foot Troops," a company remains at 3 platoons, plus an infantry machine-gun detachment of 3 (and later 6) guns (automatic rifles). There are 250 men to a company, and 3 machine-gun companies (about 24 guns) to a regiment. There is also a granatenwerfer (at least 12) detachment, and a detachment of 3 sections of light men-menwerfer (one to a battalion) to a regiment.

A battalion had at the beginning 20 officers or noncommissioned officers on duty—the battalion commander (major), the adjutant, 4 officers (or noncommissioned officers acting as such) to a company, and 2 doctors. Total strength, 1,000 men.

Each battalion had a telephonic equipment of 1 officer and 12 men, with 4 telephones and 12 kilometers of wire. The material was carried by the men (1 telephone and 2 kilometers (1.243 miles) of wire to a company) and by the combat train (4 kilometers (2.486 miles) of wire).

The combat train of a battalion consisted of 4 caissons of ammunition, 4 rolling kitchens, and 1 medical wagon.

Each battalion has its flag.¹ In addition, a battalion has a signalwerfer, some granatenwerfers, and a platoon of light regimental trench mortars.

The active nucleus of each company is generally 4 officers, 13 to 20 noncommissioned officers, and 150 men. Each company has 5 signalers and range estimators.

The chasseurs battalion had 4 companies (of 250 men), plus 1 cyclist company (3 officers, 14 noncommissioned officers, 100 men), and 1 machine-gun company. The machine-gun company consisted of 3 or 4 platoons of 2 guns (with 1 duplicate) to a company. Some companies, however, of 9 guns have been found.

¹ Orders have been given that all flags should be sent back to Germany.

The machine guns are carried on wagons. The platoon has 2 wagons of 2 horses for the transportation of machine guns, and 1 caisson of ammunition. The gunners are on foot. They carry about 13,500 cartridges to a machine gun.

A machine-gun detachment carries its gunners on a wagon. It comprises 6 machine guns on wheels and 3 caissons of ammunition. It is especially for the purpose of being attached to cavalry organizations.

There are also mobile detachments of fortress machine guns (same composition as machine-gun companies).

2. *The mobilization of Infantry.*—At mobilization, the active nucleus of each unit was brought up to war strength by the arrival of reservists. The reserve units were formed by reserve and Landwehr (first battalion) men of the younger classes. Landwehr units were formed by the older classes of Landwehr (first battalion), and by men of the second battalion of the Landwehr. The Landsturm units were selected from Landsturm classes (second battalion). Infantry units have been supplied with men during the campaign by means of the depots.

Constitution of depots.—As a rule, conforming to the plan of mobilization, every infantry regiment, active, reserve, and Landwehr, had to form a "Depot battalion" ¹ (Ersatz battalion). There were two companies in the chasseurs battalions.

At this point the active regiments may be classed in three categories:

First. Regiments belonging to those districts which formed the regiments of the series 300 (districts near the German-Russian frontier). These regiments have only one depot battalion, which supplies the active regiment and its mobile Ersatz formation.

Second. Regiments belonging to districts which formed the regiments of the series 200 (north, central, and southern region). These regiments have two depot battalions, one of which is shared with a regiment of fresh formation. (The regiments of the guard and of the XIIIth Region have, however, only one depot battalion.)

Third. Regiments belonging to districts which have created no new units since mobilization (west—territory of small extent). All these regiments seem to have two depot battalions.

¹ It has been noticed (Ersatz formations) that the depots of certain active regiments had a second depot battalion, where recruiting resources permitted, which was usually put into a new Ersatz formation.

In the beginning of 1917 the steady disappearance of second Ersatz battalions was remarked, as a result, probably, of the formation of new divisions 231 to 251.

The men assigned to these depot battalions comprised—

1. Men of active service (the malingerers and those temporarily unfit for the front).
2. Reservists.
3. Landwehrians.
4. Ersatz reservists, recruits, and men of the Landsturm.

Men of this fourth category are not directly assigned to the Ersatz battalion. They have previously received instruction in the "Rekruten depot," which is operated alongside of each Ersatz battalion, the latter consisting only of instructed men. It now seemed as if there was a tendency not to place the Rekruten depot so conveniently near the Ersatz battalion, but to group and classify the recruits in camps (permanent or temporary), from which they are sent directly to the Felrekruten depots (see below).

As a rule men of the younger classes should be assigned to the depots of active units.

Newly formed reserve regiments do not usually have depots and supply themselves from the depot of the active corps which has mobilized them. It is the same with Ersatz formations.

Up to the first part of October, 1915, the Germans seemed able to sustain their depots at a fairly constant figure (870,000 men for the whole Empire). As a result of losses and lack of fresh resources the effectives of the depots have been considerably diminished. As the losses suffered by the different army corps were very variable, they were obliged to attach to the depot of one district men from another district, and to send to certain regiments men coming from depots of another. The depots of certain corps, actives, reserves, and Landwehr, were even consolidated into one. But at the beginning of 1917 the influx of convalescent men again swelled the depots.

It has been seen that alongside of the depot battalion there was a "Rekruten depot," charged with instructing men before they were sent on to the depot, and from thence to the front. There exists still another category of Rekruten depot, which seems to have been created at the beginning of 1915. They are the "depots of field recruits" (Feldrekruten depot), established back of the front, in villages or temporary camps near the units they have to supply. They borrow their instruction cadre from the units at the front.

Usually the recruiting depots of a brigade, division, or army corps are grouped together, and the depot supplies impartially any of the organizations of these large units. It is more a real depot than a Rekruten depot, because the men who come there have all had at least two or three weeks of instruction. This depot of recruits has the advantage over the Ersatz battalion of being well in their stride and being able to furnish immediate reinforcements for the front. In one or two exceptional cases these depots have been used at the front as organized units. The strength of the Feldrekruten depots is naturally variable, owing to their rôle of reservoir. They seem to have a divisional average of 1 battalion of 4 or 6 companies of 200 men. They usually receive their recruits simultaneously from the depots of all the regiments of the division. This is done periodically and on a single transport order. Sometimes the F. R. D. also receives supplies from a district other than that of its normal recruitment. There are also two large depots of recruits, one at the camp of Beverloc (Belgium) for the western front and the other at Warsaw for the eastern front.

Utilization of different classes.—In Germany each class is designated by the date of the birth of the men who constitute it (and not by that of the year when these men are 20 years old, as in France). A class has at a maximum 600,000 men, of which from 450,000 to 460,000 are good for service (75 or 80 per cent of the total strength).

Calling up of classes in Germany presents no difficulties. It is regulated in each State and in each district by special instructions, which take into account proven losses (very variable, according to the different army corps), the availabilities of barracks, the local or political conditions (Alsatians and Poles are called out promptly, in contrast to the tardy calling in Berlin and certain industrial centers).

In every district classes may be called as a total or in parts. It is therefore difficult to state precisely the date of incorporation of a class whose summoning has stretched over a period of three or four months. In their entirety, however, the calls have corresponded with a general plan which the second bureau has in its possession.

The majority of the elements of the different classes have been classified as follows (classes given in French system—year on which they are 20):

August to November, 1914: Reservists of all kinds, having already had their active military service, and most of the volunteers.

November-December, 1914: The incorporation of the 1914 class.

August, 1914, to February, 1915: Simultaneously to the above summoning, all the Ersatz reserve was incorporated.

January, February, March, 1915: Uninstructed Landsturm from 21 to 35 years of age.

May, June, 1915: Incorporation of the main part of the class of 1915.

July to September, 1915: Uninstructed Landsturm from 36 years up, and many slackers of the Landsturm of the first ban on reprieve, as well as a part of the class of 1895, which became a part of the second ban on April 1, 1914.

September to November, 1915: Incorporation of the main part of the class of 1916.

From September, 1915: Men found deficient before the war, and summoned to a fresh examination (first large revision).

December, 1915: Incorporation of certain specialists of the 1917 class. Census of the 1918 class.

March, April, and May, then July and August, 1916: Incorporation of the main part of the class of 1917.

From September, 1916: New examination of all the deficient not yet incorporated as well as the excused, the adjourned, and the reprieved cases.

September, October, November, 1916: Incorporation of the main part of the class of 1918.

April, 1917: Inspection of the 1919 class.

In résumé, the resources of the depots now consist of—

- (a) Reexamined men (who were excused, adjourned, or reprieved).
- (b) Remains of the last classes (41 to 45 years of age) of Landsturm, second battalion uninstructed, and called out as a whole.

(c) Convalescents.

(d) Volunteers of the class of 1919 and a certain number of summoned specialists of this class, analogous to preceding classes.

As resources, Germany has only the class of 1919, the examination of which, in certain districts, has begun. They have begun to inscribe the class of 1920 in the Stammrollen month by month as the boys reach the required 17 years of age. In view of the exhaustion of these resources, a wider and wider summons has been sent to men of all classes previously excused (about 2,700,000 men). These have been summoned before examining boards, who have classed them in four categories:

1. Fit for active service.
2. Fit for garrison service.
3. Fit for workshops.
4. Definitely excused.

Summons for men of the first three categories have been sent out in certain districts, at various times, according to the needs of the corps supplied by these districts and with no regard to any general rule. Moreover, the category of men maintained on reprieve (about 700,000) has been reduced by summons. It seems hardly capable of greater reduction if great inconvenience is to be avoided in the exercise of public duties. This category contained about 580,000 men in January, 1917.

No official measure seems to have been taken to prolong the term of military service in Germany to 50 years or more. This prolongation seems to have been under consideration since the month of August, 1915. In any case, it must be remembered that the Germans know how to twist the law to suit their convenience.

Official statistics and mortality scales show the number of men between 46 and 54 years to be about 1,500,000, of which 780,000 have served their military term, and the remaining 720,000 were never soldiers.

Utilization of Landsturm.—It is learned from different sources that the Landsturm used near the French front are generally composed of men of Landsturm first battalion, of all ages and of indifferent quality, and include only a small number of men from Landsturm second battalion, instructed.

These latter formed at the beginning the entire first formations of Landsturm, and the older contingents which they represent (one-half the class of 1869 and succeeding classes to 1875, inclusive) still suffice to form the greater part of existing Landsturm formations. If they have been replaced in the neighborhood of the French front by very mediocre men of Landsturm first battalion, it is because they have received other special assignments.

It is probable that in Landsturm second battalion, instructed—

(a) The youngest and most apt have formed the Landsturm units, now considerable in number, on the eastern front about 100 battalions.

(b) They have furnished an important part of the noncommissioned officers for actual Landsturm formations composed of inferior men of Landsturm first battalion of less military instruction than themselves.

(c) The oldest have been, on account of their age, used only for Landsturm formations of the interior, garrisons of invaded territory, and, possibly, as guards for communications and prisoners, in spite of the fact that these latter services seem to be reserved more for the weak members of Landsturm first battalion.

(d) As a result of a mistake (reported by the press) in the carrying out of an order from the minister of war, a certain number of the oldest men of Landsturm were sent back to their homes; but this happened only with small numbers and in few districts. They have, no doubt, already reappeared or will be called at the next examinations.

(e) Finally, a certain number of men of Landsturm second battalion, instructed, have been assigned, after reexamination, to Landwehr formations, active or reserve, where they are employed in convoys, combat trains, and in general work behind the front. They are therefore rarely found among prisoners.

CADRES (OFFICERS).

Normally, cadres are procured in one of the following ways:

A. *Active*.—1. About one-third of the officers come from the cadet corps, a member of which, on leaving the "Oberskunda" at 17 and passing the "Fahnrich" examination, is eligible for admission to a "Kriegsschul" after seven months of service.

2. About two-thirds of the officers come from Fahnenjunker. To be eligible under this status for admission to a regiment, it is necessary to fulfil certain conditions of age (17 to 21 years), physical aptitude, education, income, and general proficiency. On having certificates stating that these conditions have been complied with, the corps commander announces the acceptance of the candidate as a Fahnenjunker at the first vacancy after having had 6 or 8 months service with troops as Gemeine, Gofreite, Fahnrich (after examination), the Fahnenjunker enters a Kriegsschule where Fahnenjunker and cadres are cast in the same mold.

3. Some reserve officers specially authorized by the Emperor and possessing certain diplomas, may, after a fairly long period of instruction in a regiment but without passing through a Kriegsschule, undergo the examination for officers, and they receive their commission after a favorable vote of the officers of their regiment.

4. In very rare cases noncommissioned officers who have distinguished themselves in action can be made officers without examination, provided they have already reached the grade of "Feldwebel" or "Vizefeldwebel" ("Wachtmeister" or "Vizewachtmeister").

At the end of the war schools' (Kriegsschule) course, the cadets and Fahnenjunker undergo the examination for officers. If they pass, they return to their regiment to wait for the first lieutenantcy

vacant, and they receive their commissions, signed by the Emperor, after the officers vote on them.

The professional and technical instruction of the young officers is then pursued in special schools of arms, Spandau (infantry), Hanovre (cavalry), Jüterbog (artillery).

A certain number of officers, carefully selected, are sent later to the *Kriegsakademie*.

B. Beurkaubtenslaud, Officers of Reserve and Landwehr.—These officers were drawn from either old active officers, unemployed, or from volunteers of one year's service. The latter, after having passed a theoretical and practical examination in the course of their year of service, were named "candidate officers." In the course of the two years which followed they had to complete two periods of instruction of eight weeks each, after which they were proposed by the corps commander for commissions as officers of the reserve, and could be assigned after the vote of the reserve officers' corps of the district.

C. Nominations during the campaign.—On studying different documents relating to the recruiting of officers during the campaign, it is found that the Germans tried to preserve the character of caste in their officers' corps, accepting only the same kind of individuals as in normal times. Active officers therefore were recruited from among the officer-candidates of peace times, and from among the volunteer soldiers of the higher social classes which have been furnished in abundance by the classes of 1914, 1915, and 1916 since the beginning of the war.

However, concerning the *Fahnenjunker*, a cabinet order of August 24, 1916, slightly modified that of September 12, 1914, regulating the question of advancement for the duration of mobilization:

"The acceptance of *Fahnenjunker* in infantry, cavalry, field and foot artillery, and engineers will be decided upon only by the commanders of active troops qualified to do it. The request for admission should be addressed to the depot which examines the applicant. This depot adds its opinion and forwards the application to the commander of the mobilized unit, who makes the final decision. The nomination of *Fahnenjunker* in the field artillery continues to be subject to my decision."

To fill the numerous gaps in the ranks of active officers, recourse had to be had to other classes of persons. But, as it was not desired to retain them as officers after the war, those coming from social classes from which reserve officers would be recruited in peace times were commissioned reserve officers.

At length recourse was had to nominations of Feldwebelleutnants and Offizierstellvertreter (the latter are not officers), who are chosen wherever possible from men who will no longer belong to the active army after the war. Thus active noncommissioned officers can not be named Feldwebelloutnants (grade conferred by the Emperor), but only Offizierstellvertreter (a nomination revocable when the need is no longer felt, and made by the regiment commander).

According to the old cabinet order of November 15, 1877, the grade of Feldwebellentrant could only be bestowed in war times in depot, garrison, and Landwehr troops. But it has had to be bestowed on active troops in this war, and they even have had to assign to active troops all men in the above-named formations who were eligible for active service. In this way, once hostilities cease, Feldwebelleutnants and Offizierstellvertreter will automatically disappear from the active officers.

The cabinet order of September 19, 1914, regulated in a general way, for the duration of the war, the method of recruiting reserve and Landwehr officers. These officers are recruited—

1. From the old officer candidates of peace times who had attained the grade of ensign, feldwebel, or vize webel (Wachtmeister or Vizewachtmeister).

2. From the volunteers of one year's service who were with the colors at the beginning of the war, from volunteers enlisted for the duration of the war, and from enlisted men enrolled since the outbreak of the war who had certificates of fitness equal to a one-year volunteer.

(NOTE.—These candidates are nominated at their request by the regiment commander (there are 2 to 10 to a regiment), and usually after five months of service, to take the course of candidate officers, which is the same for active and reserve. There are courses of instruction at the camps of Munster (Xth), Lenne (VIIth), Lochstedt (IXth), Warthe (Vth), Doeritz (IIIId), Gd Moyeuore (Briey), and Beverloo. After these courses the candidate receives the grade of unteroffizier, vice Feldwebel, or Feldwebel. He fulfills the functions of a noncommissioned officer if he is unteroffizier. If he is vize-Feldwebel or Feldwebel he can fulfill the duties of officer. After a certain time and a fresh examination (offizier-prüfung) he can be named officer.)

3. From the noncommissioned officers and men of reserve and Landwehr who have distinguished themselves in action, provided

they are already Feldwebel, Vize-feldwebel, Wachtmeister, or Vize-Wachtmeister.

All these nominations can be made only after a vote by the corps of officers concerned, and after very serious investigations as to the morality of the candidate as well as that of his family.

According to a recent number of the army "Verordnungsblatt" (September, 1916) supernumerary officers may be named after receiving the instruction *ad hoc*.

(a) Landsturm, first and second battalion, fit for field service and having the certificate of *Einjährige*.

(b) Candidate officers and sword-bearing noncommissioned officers of Landsturm, who, before or after their liberation from active service, have acquired the certificate of fitness for the grade of officer, or those who have distinguished themselves in action.

(c) Feldwebelleutnants of Landsturm, fulfilling conditions similar to those demanded of men, and whose social position would be no discredit to the officer corps.

The instruction of officer candidates (active or reserve) begins in the corps and is completed in instruction schools, sometimes placed back of the front, sometimes in Germany (especially in the large camps). The length of the course seems to be about 5 or 6 weeks.

Regulations relative to this instruction vary in different army corps, but the general rule seems to be that the volunteer officer candidate can not take his officer examinations until he has had eight months of service.

(NOTE.—To remedy the lack of officers in the infantry, Germany early called on officers of other arms of the service, and, since March, 1915, several units of infantry have been commanded by artillery or cavalry officers.)

CADRES (NONCOMMISSIONED OFFICERS).

One of principal factors of strength in the German Army at the beginning of the war was her remarkable cadre of good regular noncommissioned officers (about 110,000).

Recruiting of noncommissioned officers was carried out in the following way:

1. By the noncommissioned officer schools, where one could enter at 17. After two years of study the boy was sent to the troops with the grade of noncommissioned officer (they were preparatory schools for the noncommissioned officer schools).

2. By reenlistment soldiers reenlisting while serving with troops could be named noncommissioned officers.

A certain number of noncommissioned officer schools continue to operate, especially back of the front, where noncommissioned officer courses have been instituted, usually one to a division or one to an army corps.

According to the Zeitung Hagen of June 16, 1916:

For 1916-17. Autumn, 1916—Six schools: Iena, Bortenstein, Wülburg, Beberich, Wohlan, Mölleu. Spring, 1917—Five schools: Annaburg, Sigmaringen, Greifenberg, Frankenstein, Iena.

Classification of grades.—See "What we should know about the German Army." Twenty-second edition, pages 25, 26, and 27.

ARTILLERY.

The general distribution of the artillery in the large units has already been indicated in the course of this booklet. It is to be recalled that the artillery of an army corps comprises as a rule—

1. Light field artillery of divisions, that is, to a division 3 battalions of 3 batteries of 4 guns of 77 caliber, and 1 battalion of light 105 howitzers (except modifications as a result of new formations).

2. Heavy artillery of army corps, distributed usually among the divisions.

3. Contingently, heavy artillery attached to armies, variable in quantity and comprising batteries of field mortars of 4 mortars of 210 mm. ("15" cannon on protected carriage, etc. (See further siege, garrison, and coast artillery).

For detailed information on material and range tables, apply to Collector of Intelligence and Numerical Data. Concerning materials used by the German Army, see S. T. A., February, 1915, or "Notes on German Fuses" of November, 1915, from the British staff, or "What we should know about the German Army" (twenty-second edition), pages 32, 33, 34.

The armies still have, for special purposes, guns of 380 and howitzers of 420.

1. *Field artillery—Its mobilization.*—The German field artillery, which had in peace times 642 batteries, has put in the field more than 2,000 batteries, which means about 9,000 guns. The proportion of light 10 x 5 howitzers seems to be at least 25 per cent.

The mobilization of artillery was effected on the whole like that of infantry units, though reserve and Landwehr units have no depot of their own.

The mobilized German field artillery comprises—

1. Artillery of active corps (active regiments of 6 batteries of 4 guns).

2. Artillery of cavalry divisions (11 mounted battalions of 3 batteries of four guns).

3. Artillery of reserve corps of old formation (32 reserve regiments of 6, 7, or 8 batteries of 6 or 4 guns). The artillery of these corps was in process of augmentation, and it seemed probable they would get the same complement as the army corps (2 regiments to a division); but on account of the formations at the beginning of 1917 this increase seems to have been arrested.

4. The artillery of reserve corps No. XXII to XXVII and the Sixth Bavarian Reserve Division (October series). Thirteen regiments of reserve of 9 batteries of 4 guns.

5. Artillery of reserve corps No. XXXVIII to XLI (January series), and the Eighth Bavarian Reserve Division. Eighteen regiments of 6 batteries of 4 guns (i. e., same equipment as active army corps).

6. Artillery of new divisions (series 50, and Tenth Bavarian Division). Twelve regiments of 6 batteries of 4 guns (same as active A. C.).

7. Artillery of new divisions (series 100, and the Eleventh Bavarian Division). Fourteen regiments of 7, 8, or 9 batteries of 4 guns. These regiments have batteries of light howitzers. The increase of their artillery seems to be continued, in order to equip them like active divisions. Artillery regiments of divisions of the series 50 and 100 have been formed with elements taken from existing units. Their formation coincides with the reduction to 4 guns of a large number of active batteries. The artillery of brigades, later then divisions of the series 183 (1 battalion of 3 batteries of 4 guns to a brigade) was formed in the same way. This artillery was brought up to 2 battalions (and even to 2 regiments in two instances), when the brigades became divisions. It seems that the new divisions of the series 200 were, at the beginning, provided only with 1 regiment of 2 battalions of 3 batteries of 4 guns.

8. The artillery of new divisions (series 195 to 227). These divisions seem to be provided either with 1 brigade of 2 regiments of 2 battalions of 3 batteries, like the divisions of the series 50, or with a regiment of 8 or 9 batteries, like those of the series 100. Artillery units were new formations. Some of the men, nevertheless, may have been taken from batteries at the front.

9. The artillery of divisions of the series 231 and 251. This artillery seems to have been formed partly by selection of a battalion from the divisional artillery of certain active divisions which had 12 batteries and partly with new matériel. It is possible that if

production allows, the active artillery divisions will be made up to 12 batteries again. The reduction to 3 battalions corresponds proportionately to the reduction from 4 to 3 regiments of infantry in each division.

10. Mountain artillery. At least 18 batteries of 4 guns of mountain artillery seem to have been formed, principally by Bavarian and Wurttemberger contingents. There exists at least one platoon of mountain howitzers.

11. Infantry batteries of revolving cannon; assaulting batteries. There are a certain number of organizations, usually of 37 caliber, called by different names (Nahkampfgeschütz, Grabenkanone, infantry battery, revolver-kanone). An official document of August 4, 1916, shows that at that time there existed 9 infantry batteries armed with Russian guns of 7.62 cm. There will be also newly formed assaulting batteries, supplied with a 77 light model gun for rapid fire. The guns will be dragged by 2 horses, and the gunners will be on foot.

12. Platoons of antiballoon guns (range 4,200). The number of platoons of antiballoon or antiaircraft guns have noticeably increased. There are about 180 platoons (that is about 1 to a division plus several extra companies and even some battalions), in all, about 130 batteries. The matériel of these platoons consists of guns of 50 mm., 65 mm., 71 mm., 77 mm., 9 and 10 cm., some 75 (which will be drilled to 77) and transformed Russian guns. There are also automatic guns of 25 mm., able to fire 200 projectiles a minute.

13. The artillery of Ersatz, Landwehr, or Landsturm organizations. About 136 Ersatz battalions of 2 batteries (of 6 or 4 guns); about 25 or 30 Landwehr battalions of 2 batteries (of 4 or 6 guns); about 25 or 30 Landsturm battalions of 2 batteries (of 4 or 6 guns). These batteries were formed in the following manner: Each active regiment formed 1 Ersatz battalion of 2 batteries.¹ One of these batteries was armed with howitzers if the regiment had a battalion of howitzers. Regiments whose resources were sufficient formed a second Ersatz battalion. Each army corps mobilized, usually, (a) 1 battalion of Landwehr of 2 batteries, (b) 1 or 2 batteries of Landsturm. These units were intended to form the artillery of the Landwehr and Landsturm units. Divisions of Ersatz and Landwehr have a regiment and a brigade of 2 regiments respectively.

14. Independent batteries of the series 200. The depots have begun to organize new batteries, numbered onward from 800. The

¹ As in the infantry this does not concern regimental depot batteries (Ersatz batteries), but a mobile organization formed with surplus.

highest number so far determined is 915. These units seem to remain independent, and are assigned according to the needs of different units.

II. Foot artillery—Its mobilization.—Foot artillery comprised, in peace times, 25 regiments of 2 battalions of 4 batteries each, plus 1 battalion formed in 1914, a total of 51 battalions. These 51 battalions formed at the mobilization—

First. Heavy field artillery.

(a) The heavy field artillery of the active army corps.—Twenty-five battalions, 15-centimeter howitzers (S. F. H.) (Schwere Field Hanbitze), of 4 batteries of 4 pieces.

(b) The mortar battalions of the army.—Eight or nine 21-cm. mortar battalions became, by the redivision, 16 to 18 battalions of 2 batteries of 4 pieces. Some of these battalions have been grouped into regiments. The mortar battalions are now nearly all attached to army corps.

(c) Heavy siege artillery and garrison artillery.—Thirteen or fourteen battalions of 4 batteries of 4 pieces (howitzers of 15, guns of 10, of 12, of 13, and of 15, mortars of 21 cm. and of 28). Some are horse drawn, and others not horse drawn are generally garrison batteries. Nearly all of these are now at the front.

(d) Seacoast artillery.—Four battalions of 4 batteries of 4 pieces (guns of 10, 12, 13, 15, and 21; howitzers of 15; mortars of 21, 28, and 30.5 cm. At present these battalions are provided with tractors, etc., and are now generally used at the front.

(e) Various elements created during the course of the war, supplied with garrison, seacoast, or marine matériel, or new matériel, and forming a heavy high-power artillery. Regiment of mobile heavy artillery of the marine corps, 8 batteries; batteries of heavy seacoast mortars, 10 batteries; batteries of marine howitzers, 10 batteries; 13 armored trains, equivalent to 13 batteries; batteries of 15-cm. guns, 13 batteries (at least); guns of 21, marine or new (?); guns of 240, marine(?); Austrian mortars of 30.3(?); mortars of 420 and 540(?); guns of 380(?).

Reserve regiments and additional batteries.—As a rule each active regiment has mobilized a reserve regiment of 2 battalions of 4 batteries of 4 guns. This number has been gradually increased in a certain number of regiments up to 9 to 14 batteries. Armament: Howitzers of 15; guns of 9, 10, 12, 13, 15, and 21; mortars of 28. A part of these battalions form the heavy artillery of the reserve corps (old organization); the others are assigned to the garrison and seacoast artillery, but nearly all of them are now at the front.

In addition, certain regiments have been able to mobilize additional batteries, which were originally intended for garrisons. Some of these are now at the front. In October and December, 1914, 11 battalions, of 3 or 4 companies each, were formed to furnish the heavy artillery for the newly-created corps. Six other battalions of reserves were formed with the object in view. The date of organization of the latter is unknown.

Ersatz battalions and batteries.—Each active regiment mobilized a certain number of Ersatz batteries (4 or 8), grouped, according to their number, in one or two battalions. A certain number of these batteries, horse drawn, are on the front, and they, with the reserve battalions, enter into the composition of heavy artillery of reserve corps (series of October and January).

Landwehr regiments and battalions.—Each regiment has formed either a battalion of Landwehr of 4 batteries or a regiment of 2 battalions or 4 batteries. A certain number of these batteries are attached to reserve Ersatz or Landwehr units on the front. Armament: Pieces of all calibers.

Landsturm batteries.—A certain number of army corps have mobilized battalions of Landsturm foot artillery, which bear the number of the mobilizing army corps. Some of these batteries are on the front.

(f) *Batteries of the series 200.*—Since May, 1915, at which time the foot artillery seemed to have mobilized 835 old batteries and about 136 new ones for corps formed in the course of the campaign, a certain number of new batteries have been noticed, whose numbers run from 201 to 800.

These batteries, which were called at first after the matériel used (Mörger Battery, Schwere Feld Houbitz Battery, Fuss Artillery Battery), now bear the general title of Fuss Artillery Battery, and are usually batteries of position. Their effective is 2 officers, 110 to 120 men, and 4 guns. They were selected from Ersatz (depot) batteries, nonmobile, and, for the most part, they do not seem to be horse drawn. Since August, 1916, a certain number of these batteries have been provided with modern matériel and horses, and have been entered into the composition of horse-drawn battalions (of 3 batteries), numbered upward from 40 (the highest figure found so far is 98). The existence has also been remarked of a certain number of battalions numbered upward from 201, and into whose composition enter batteries of position. These battalions do not seem to be horse drawn.

To sum up, the German foot artillery seems, at the end of 1916, to comprise approximately 1,580 heavy batteries, against 2,000 batteries of field artillery; that is a proportion of 75 per cent of the heavy.¹

The Germans have preserved, for the entirety of their mobile batteries (heavy artillery of divisions, A. C.'s., armies, and siege and garrison heavy artillery) the proportions of peace times, i. e.—53 per cent 15-cm. howitzers; 20 per cent mortars of 21 cm. and above; 27 per cent guns, which makes 73 per cent of mortars and howitzers and 27 per cent of guns.

The artillery of position and high-power artillery seem to be provided in equal portions with guns and howitzers.

PIONEERS.

In peace times the corps of pioneers is formed of 26 battalions of pioneers of 4 companies, 9 fortress battalions of 4 companies; total, 35 battalions; that is to say, 140 companies. (674 companies, plus 60 Ersatz companies have been mobilized.)

The mobilization of the pioneer corps was effected in the following manner:

(A) As a rule, the 26 battalions have each formed 2 battalions called—

First. Battalion of Pioneers No. —, comprises the 3 first companies of the battalion in peace times, and assigned to the active army corps.

Second. Battalion of Pioneers No. —, comprises the fourth active company, 2 reserve companies (Nos. 1 and 2), and generally assigned to a reserve army corps.

The greater part of the battalions also formed, in 1915, a field company, No. 5, formed by men selected from the existing companies and brought to full strength by selections from the infantry regiments. These fifth companies, as a rule, are assigned to the first battalion. Later, a sixth company was formed and nearly always assigned to the second battalion. Some of the battalions mobilized a third battalion. Some others formed 4 reserve companies instead of 2. One or two recruiting depots are attached to each active battalion, and they also serve the Landwehr organizations. Total: 56 field battalions, comprising about 224 companies (active and reserve).

¹ On May 1, 1917, these figures seem to be: 1,700 heavy batteries of 7,200 pieces, and 2,200 batteries of field artillery.

(B) The 9 fortress battalions formed each a regiment of 2 battalions and 1 siege train. The first battalion includes the first and second active companies and the first reserve company. The second battalion the third and fourth active companies and the third reserve company. The siege train is formed of 2 park companies and a train column. A certain number of regiments mobilized additional field companies. All these units, organized in battalions and companies, are now at the front. Total: Nine regiments, consisting of about 68 companies.

(C) *Detachments of pioneers of the cavalry divisions.*—One detachment (active organization) per division (11).

(D) *Bridge equipages.*—There has been mobilized: One divisional bridge train for each division, able to construct a footbridge of 60 meters (65.618 yards), or a bridge of 35 meters (38.277 yards), or a reinforced bridge of 20 meters (21.873 yards); one bridge train for each army corps, able to construct a footbridge of 150 meters (164.045 yards), or a bridge of 120 meters (131.263 yards), or a reinforced bridge of 75 meters (82.022 yards); one heavy bridge train of the Rhine, with matériel sufficient to construct 200 meters (218.726 yards) of bridge for each army corps.

(E) *Ersatz organizations.*—Each field battalion has mobilized an Ersatz battalion (four to eight companies) of the same number, one company of which is assigned to a Ersatz or Landwehr organization. As a rule, garrison regiments have three Ersatz companies, which form part of the regiment. Total: About 160 Ersatz companies.

(F) *Landwehr organizations.*—In each army corps there are mobile companies (one or two) of Landwehr (for the reserve, Ersatz or Landwehr organizations), and companies (one or two) of immobile Landwehr, intended for the garrisons, but now at the front. Total: About 66 companies.

(G) *Organizations of the Landsturm.*—Each army corps has mobilized a certain number of companies of Landsturm, assigned to field units or to garrisons. Total: About 87 companies.

(H) *Organizations created during the campaign.*—

(1) Thirty-first Regiment, formed by the battalions 11/G and 11/28.

(2) Regiments 35 and 36, of 6 companies each, using asphyxiating gas.

(3) Reserve regiment of guard pioneers, of 11 or 12 companies, using flame throwers.

(4) Battalions 32, 33, 34 (of three companies). Various assignments.

(5) Reserve companies 43 to 54, and 75 to 86, of the reserve divisions of the same number (one for each division).

(6) Reserve companies 87 to 92, and 16 to 22, Bavarian. Various assignments.

(7) Companies 99 to 116, of the divisions 50 to 58 (two for each division).

(8) Companies 183, 185, 187, 192, of the divisions of the same number (one for each division).

(9) Companies 201, 205, 209, to 245, of the divisions 101 to 123 (one for each division).

(10) Companies 246 to 291. Various assignments. A certain number are called garrison companies.

(11) Miner companies, 292 to 344, and First to Eighth Bavarian Companies. Various assignments.

(12) Companies 401 to 404, of the divisions 201 to 204.

(13) Marine companies (three marine pioneer companies). (See battalion pioneer companies.)

Total: About 229 companies.

There existed also an assault battalion (strumbattalion), formed of four companies of pioneers, two of gunners, and one of flame throwers, used on the eastern front. (?)

To sum up, there now exist the equivalent of three companies of engineers for each infantry division (not including the 160 companies of Ersatz). Two companies are usually assigned to a division; the other army units of pioneers are temporarily placed at the disposal of the larger units. In the division, the two companies of pioneers, the company of mine throwers, and the searchlight company are grouped in a battalion.

SPECIAL INFORMATION.

TRENCH MORTARS.

These units were not provided for in the original plan of mobilization. It was simply specified that these devices were operated by pioneers. A ministerial order of February 2, 1915, directed that a detachment of two heavy trench mortars and a detachment of six medium trench mortars be assigned to each army corps. An act of May 26 added a detachment of six light trench mortars to the army corps. This allotment has been greatly increased.

First. Companies of trench mortars. The detachments of heavy, medium, and light trench mortars have been united and formed into companies; so each division now has a company of trench mortars,

which now appears to have 4 heavy trench mortars and 8 to 12 medium. In a general way, the companies are numbered in the following manner: In the active divisions and the divisions of series 50, 83, and 101, the number of the company is the same as that of the division.

In the old reserve divisions and the reserve divisions of the series Nos. 43 and 75, the number of the company is equal to the number of the division plus 200. In the Landwehr divisions, the number of the company is equal to the number of the division plus 390. The Bavarian companies have different numbers, but assigned in the same way.

There are now about 200 companies of trench mortars.

III. Battalions of trench mortars.—To date there have been found six battalions of trench mortars which are different from the divisional companies. They appeared on the front between July, 1915, and July, 1916. They were formed originally by uniting old companies. They are now each of four companies, which, according to prisoners' testimony, have from 160 to 180 men, and each use 6 heavy trench mortars and 12 light trench mortars.

There are no medium trench mortars in companies forming parts of battalions. Battalion No. 3, the composition of which we show, has four companies, a detachment of telephone operators and signalmen (gunsprech und signalabteilung), a detachment of munitions (munition parkabteilung), one or more detachments of teams (bespannungsabteilungen), and a repair section (messtrupp). This appears to be the usual complement of a battalion of trench mortars.

These battalions are mobile units, used in the active sectors; they are elements of the army; their use varies according to circumstances. They are placed at the disposition of the battalion commanders of the armies, and remain in the sectors. A certain number of heavy detachments are provided with automobiles.

Ersatz battalions.—Seven Ersatz battalions of trench mortars have been discovered. They are stationed at—the first at Markendorf (near Jüterborg), where the trench-mortar school is also situated, the second at Thom, the third at the Henberg camp, the fourth in the XVIII Region, the fifth probably in the VIII Region, the sixth in eastern Prussia, the Bavarian Battalion at Munich. These battalions are formed of a variable number of companies; 9 have been found in the first battalion, 7 in the second, 5 in the others.

IV. Trench-mortar schools.—There are several very large trench-mortar schools in Germany, at Markendorf (near Berlin), at Unterluss (Hanover), at Henberg (Banen), at Thom (?).

Information regarding matériel.—(See twenty-second edition of "What it is necessary to know about the German Army," pp. 35, 36.)

Searchlight sections (Scheinwerfer).—The detachments are supplied with three types of apparatus (approximately of 90 cm., of 60 cm., and of 30 cm.). There seemed to be 600 searchlight detachments at the beginning of November, 1916. (See "What we should know about the German Army," twenty-second edition, p. 80.)

Detachments of flame throwers.—By means of an apparatus carried on a man's back, liquid fire may be thrown 25 to 30 meters (27.341 to 32.809 yards). One man carries a reservoir, another man carries a nozzle, 1.3 meters (1.366 yards) long, which is connected to the reservoir by a rubber hose 5 or 6 meters (5.468 or 6.561 yards) long.

Detachments of specialists in the use of gas.—(No precise data.)

Detachments of specialists for utilizing high-tension currents (Starkstromabteilung).—(No precise data.)

AVIATION.

We have seen that the allotment of the field aero squadrons (Feldfliegerabteilung) is about one to each army corps and each army. Aviation is directed technically by the chief of the Aviation Service in the Field (Flügwesen), who is at the general headquarters of the army, and, in each army, by the chief airmen of the Aviation Service of the Army. The troops of aeronautics, aviation, and aerial defense constitute the ("Luftstreitkräfte") air-fighting forces, forming a separate arm of the service under the orders of one chief for the interior.

The aero squadrons receive what they need from the army aviation park (Flüjzengpark or Flügpark) (storehouses for matériel, apparatus, and workshops) or from an organization for reinforcements (Ersatz) situated in Germany, which supply the aero squadrons with matériel, and especially with personnel. There are also a number etape aviation parks.

In the beginning there were only field aero squadrons. During 1915 artillery aero squadrons were formed for the exclusive use of this branch of the service, then a few fighting aero squadrons, which were given a machine having a great reputation, the Fokker. To-day the organization of the fighting aero squadron is very fully developed and different types of machines are used. There are 10 (?) fighting aero squadrons (Kampfgeschwader), each of 6 echelons (staffeln) of 10 machines.

The Germans have completely given up the "Tankes," and use fewer and fewer monoplanes. They are trying to produce a very powerful biplane (one of the Albatross-Roland type). Nearly all the motors have mufflers. They have several machines with transparent wings, or slightly tinted with blue (Blaue Maüs). The distinguishing marks on these machines are very numerous, but they always conform to the type or in the shape of an iron cross. It is also possible that the Germans use a cockade of the national colors.

The best-known types of aircraft are the biplanes Albatross, Aviatik, L. V. G. (Luftverkehrsgesellschaft) and A. E. G. (Allgemeine Electricität Gesellschaft), and the Fokker monoplanes. Less used are the Otto and the Rumpler.

Organization of the German aero service on the eastern front.—The usual distribution of the aviation units on the eastern front seem to be as follows: At the disposition of general headquarters, 6 battle squadrons (Kampfflugzeug-Geschwader) subdivided into 36 fighting aero squadrons (Kampfstaffel), and comprising 216 machines. At the disposition of each army headquarters, 1 Pursuit aero squadron (Jagdstaffel) of 6 machines, and 2 or 3 scouting aero squadrons (Gildflieger Abteilungen) of 12 to 18 machines. At the disposition of each army corps headquarters, 1 scouting aero squadron (Geldflieger Abteilungen) of 6 machines, 1 artillery aero squadron (Artilliere Flieger Abteilungen) of 6 machines.

This distribution is subject to important changes on account of the concentration of the aviation units where circumstances demand.

CAVALRY.

In peace times the cavalry was composed of 110 regiments, in brigades, and assigned to the different army corps. Only the guard had a division of cavalry. During the mobilization 11 divisions of cavalry were formed.

The cavalry division is generally composed of—

Three brigades of 2 regiments of 4 troops each, without distinction between the different types of cavalry; 1 battalion of 3-horse batteries of 4 guns, with a column of ammunition; 1 detachment of pioneers (1 officer, 3 noncommissioned officers, 27 men); 1 machine-gun detachment; 1 signal corps detachment; 1 or more battalions of light infantry, including a cyclist company.

The rest of the cavalry constituted the divisional cavalry. In the beginning there was, usually, one regiment of cavalry to each active

division. But this allotment has been entirely revised, and a great many divisions no longer have divisional cavalry. In the divisions formed in 1917 only 10 of the divisions of the 251 series appear to have cavalry units, of undetermined strength.

As a rule, the regiment has 4 squadrons, plus 1 machine-gun squadron.

A squadron is composed, in round numbers, of 5 officers and 150 men and is divided into 4 platoons.

A regiment has a telegraphic section (4 noncommissioned officers and 4 troopers) under the orders of an officer, and 2 signal groups, which operate the visual matériel carried in the regimental wagon.

The combat train of the regiment has 1 hospital wagon; 2 pontoon wagons, carrying explosives and light bridge matériel sufficient to make a bridge 8 meters (8.749 yards) long by 3 meters (3.281 yards) wide, or a footbridge of 20 meters (21.873 yards). There is also 1 telegraph wagon.

A regiment in peace times had five squadrons. One of these squadrons, assigned during mobilization, becomes the depot of the mobilized regiment. In certain regiments this squadron was made mobile and entered into the composition of ersatz organizations. As a result, these regiments have two depot squadrons, one of which is mobile [sic].

The reserve units have one depot squadron for each army-corps district. Those of the Landwehr are of variable strength and have no depot of their own.

Use of the cavalry—Organization—Dismounted cavalry.—The dismounting of the cavalry units, commenced in 1915, particularly affected the reserve cavalry. According to information received, 8,000 horses had been turned over to the artillery by the end of 1916, and of the 645 squadrons at least 125 were listed as dismounted.

RAILROAD TROOPS.

In peace times they had 3 Prussian regiments (Nos. 1, 2, 3) of 8 companies; 1 Prussian battalion (No. 4) of 4 companies; 3 companies for operating the military railroad, Berlin-Jüterbog; 1 Bavarian battalion of 4 companies.

Total, 34 companies.

During mobilization there were formed—

Companies for railroad construction: 35 companies for railroad construction; 32 reserve companies for railroad construction; 6 Landwehr companies for railroad construction; 1 Bavarian Landstrum company for railroad construction.

Exploitation companies: 36 companies.

Railroad stevedore companies: 23 companies.

Battalions of railroad section gangs: 5 battalions.

Auxiliary battalions: 4 battalions.

Depots: The four railroad regiments and the Bavarian battalion each have a battalion depot.

The general organization of this service is similar to the same service in France.



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