

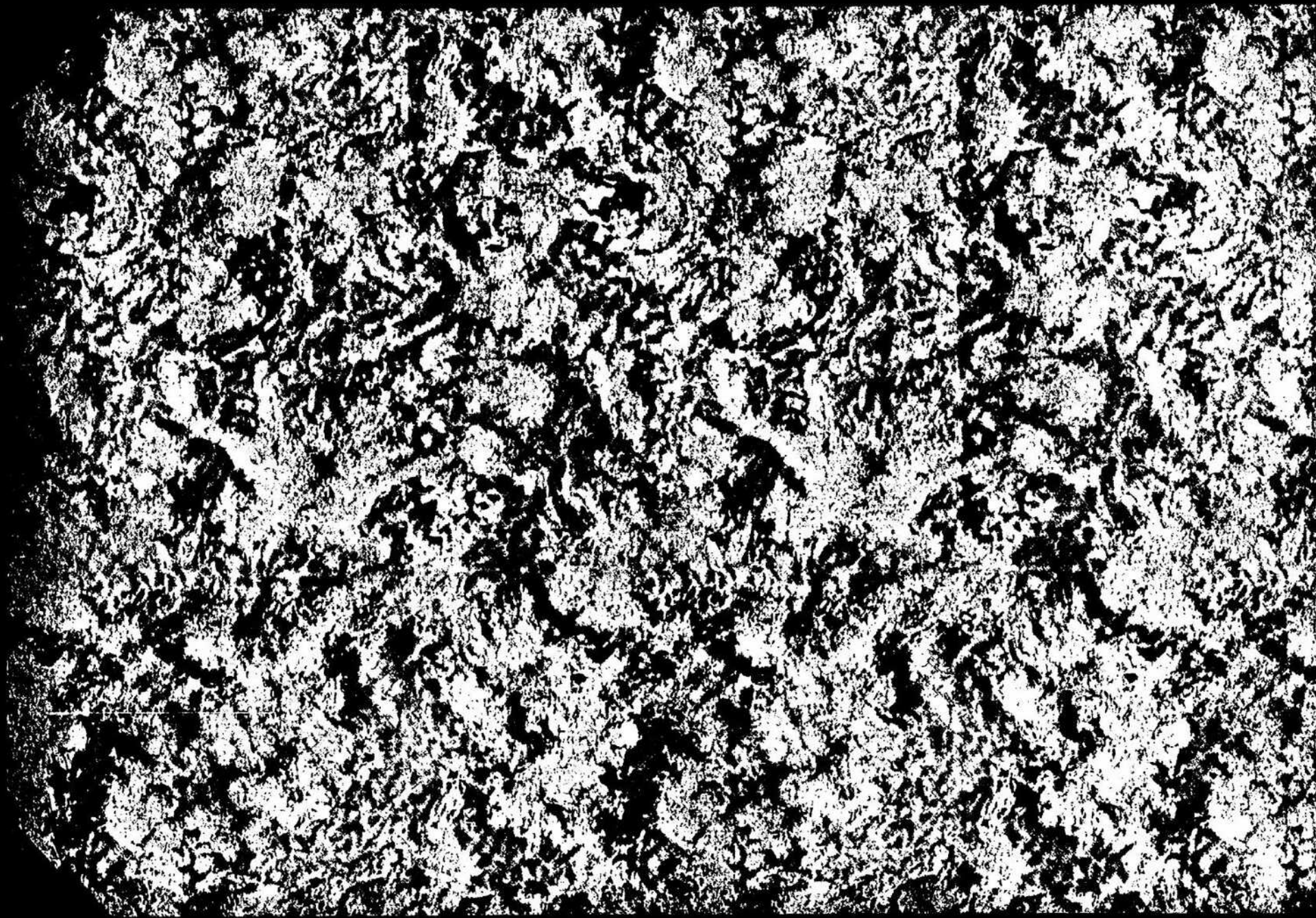
11  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10

国立公文書館	
分類	③ ④
配架番号	3 A
	14
	18-11

1 2 3 4 5 6 7 8 9 10

国立公文書館	
分類	3 A
記架番号	14
	18-11





## CANON

La meilleure d'él  
moyen

Cette artillerie e  
perfecti

La guerre dernie  
l'artiller

Ces enseigneme  
Le matériel de e

portées  
canon d  
pouvoir

Mais il ne suffit p  
des obje  
de prend

En un mot, le fu  
de charg

COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT

(SAINT-CHAMOND)

---

**CANON DE CAMPAGNE G.C.T. DE 75<sup>m</sup>/<sub>m</sub> "SAINT-CHAMOND"**  
(MODÈLE 1923)

---

**NOTICE SOMMAIRE**

La meilleure définition que l'on puisse donner de l'artillerie de campagne est la suivante : c'est l'artillerie qui, par l'ensemble de ses qualités moyennes, est capable de satisfaire aux exigences d'un combat moyen.

Cette artillerie est, dès lors, celle qui est répandue au plus grand nombre d'exemplaires dans les armées, et il résulte, de ce fait, que tout perfectionnement nouveau apporté au matériel de campagne a un retentissement tactique particulièrement important.

La guerre dernière, par les enseignements nombreux qu'il est possible d'en tirer, fait connaître les perfectionnements dont il faut doter l'artillerie de campagne future.

Ces enseignements peuvent se résumer comme suit :

Le matériel de campagne doit être à *grande portée*. Tandis qu'avant la guerre on n'envisageait comme portées utiles au combat que des portées de l'ordre de 3 à 5 kilomètres, actuellement, il est extrêmement utile, indispensable même, de pouvoir atteindre avec le canon de campagne des portées de l'ordre de 10 kilomètres. Et le canon de campagne, en tant qu'organisation de son affût, doit pouvoir pointer à l'angle de 45°, de manière à permettre le tir courant à cette portée maximum de 10 kilomètres environ.

Mais il ne suffit pas de pouvoir tirer loin. Dans les terrains de topographie tourmentée, il faut souvent pouvoir tirer assez près et atteindre des objectifs très défilés. Il faut, dès lors, pouvoir tirer à *trajectoires plongeantes*, ce qui permet d'ailleurs au matériel de campagne de prendre lui-même des défilements protecteurs et de mieux utiliser l'efficacité des obus explosifs.

En un mot, le futur matériel de campagne doit avoir toutes les qualités de l'*obusier* et il doit, dès lors, être pourvu d'une *gamme complète de charges réduites variées* permettant de tirer en trajectoires courbes à toutes les distances de tir.



Les avantages du tir de campagne fait en trajectoires plongeantes prennent toute leur valeur quand il est possible de pointer en *tir vertical*, c'est-à-dire à des angles de tir supérieurs à 45°.

Aussi, maintenant que la technique des matériels d'artillerie permet de réaliser ces angles de tir vertical, est-il nécessaire d'imposer cette réalisation pour les futurs matériels de campagne.

D'autant mieux que ces possibilités de pointage en tir vertical sont indispensables si l'on veut pouvoir faire du *tir anti-aérien* avec la canon de campagne. Et d'après les idées nouvelles, compte tenu de l'importance qu'aura certainement le tir anti-aérien dans une guerre future, il sera on ne peut plus précieux que tous les matériels de l'artillerie de campagne, quels qu'ils soient, deviennent aptes au tir contre les avions.

Cette nécessité de faire du tir anti-aérien impose inévitablement aux futurs matériels de campagne de posséder un *champ de pointage latéral* considérable.

Il faut donc que ce grand champ de pointage latéral soit conféré à ces futurs matériels de campagne; d'autant plus que ce grand champ de pointage latéral, en restant dans les questions plus immédiates du tir à terre, est seul capable de permettre d'effectuer en toute rapidité des *tirs par concentrations* des feux rapides et massives, comme le requiert de plus en plus la tactique d'artillerie moderne.

Cette nécessité de concentrations de feux rapides et massives exige, par ailleurs, que les possibilités de *tirs ultra-rapides* soient maintenues pour le canon de campagne.

Contrairement à certains avis mal justifiés, émis pendant la guerre, il est capital de conserver au canon de campagne les qualités de rapidité extrême du tir, lesquelles ne peuvent être absolument maintenues que par la séparation complète des pointages en direction et en hauteur, confiés chacun à un servant spécial, et par l'emploi du dispositif de la « hausse indépendante », qui permet d'effectuer chacune des opérations du pointage en hauteur par un seul mouvement.

**Le canon de campagne G. C. T. de 75 % "Saint-Chamond" Modèle 1923** a été construit en vue de satisfaire spécialement aux divers "desiderata" dégagés des enseignements de la guerre qui viennent d'être indiqués. Ce matériel reste du type à traction par chevaux et son poids en ordre de route a été maintenu à la valeur particulièrement faible de 1.800 kgs, de manière que sa mobilité en terrain varié soit toujours assurée.

Il conserve le tracé intérieur du canon de 75 Modèle 1897 français et permet d'atteindre, dès lors, la portée maximum de 11 kilomètres passés, sous l'angle de tir de 45°.

Il tire, à cet effet, la cartouche réglementaire, à obus explosif, française.

Son champ de pointage vertical est considérable; le matériel peut atteindre l'angle de tir de 65°; il est donc apte au tir vertical et peut, le cas échéant, coopérer au tir anti-aérien.

Indépendamment de sa cartouche pour tir à grande portée, le matériel est pourvu d'un obus spécial séparé de la charge et d'une douille correspondante contenant une gamme convenable de charges réduites variées.

Cette munition nouvelle permet d'utiliser le matériel à la manière d'un obusier et même d'un mortier et lui confère la possibilité de prendre de très grands défilés et d'atteindre soit du personnel soit du matériel ennemis, très défilés par le terrain.

Ce matériel possède également « chage », de faire tifs qui permette

Au point de vue de l'age

La bouche à feu, fermée sur un corps de f

Ce frein est du type général liquide, avec dia Modèle 1897 fran

Il est à recul automatique de tir vertical san

Ce frein repose sur un be

Le berceau repose, par se

La masse oscillant vertica

Le petit affût sert au poin

C'est ce petit affût qui po

La sellette constitue l'ext munie de deux bé

A sa partie antérieure la s par rapport à l'aff

Un bouclier très envelopp

L'appareil de pointage en

Le frein de roues, à utilis

possible de pointer en *tir vertical*,

, est-il nécessaire d'imposer cette

de *tir anti-aérien* avec la canon  
le tir anti-aérien dans une guerre  
qu'ils soient, deviennent aptes au

der un *champ de pointage latéral*

l'autant plus que ce grand champ  
able de permettre d'effectuer en  
plus en plus la tactique d'artillerie

s *ultra-rapides* soient maintenues

de campagne les qualités de rapi-  
plète des pointages en direction  
pendante », qui permet d'effectuer

de satisfaire spécialement aux  
matériel reste du type à traction par  
kgs, de manière que sa mobilité

rtée maximum de 11 kilomètres

onc apte au tir vertical et peut, le

aré de la charge et d'une douille

confère la possibilité de prendre  
ar le terrain.

Ce matériel possède également un champ de tir latéral considérable qui lui permet, sans qu'il soit nécessaire de procéder à aucun « débè-  
chage », de faire, le cas échéant, du pointage contre objectifs anti-aériens et surtout d'effectuer des changements brusques d'objec-  
tifs qui permettent des concentrations de feux brusques et massives.

Au point de vue de l'agencement technique, le canon de campagne G.C.T. de 75 mm "Saint-Chamond" Modèle 1923 est organisé comme suit :

*La bouche à feu*, fermée par une culasse du type à bloc vertical équilibré et à fermeture automatique, peut glisser, au départ du coup,  
sur un corps de frein muni de tourillons.

Ce frein est du type général des freins "Saint-Chamond", c'est-à-dire qu'il est du modèle hydropneumatique utilisant l'oléonaphte comme  
liquide, avec diaphragme séparateur de l'huile et de l'air du récupérateur, selon le principe classique du frein du canon de campagne  
Modèle 1897 français.

Il est à *recul automatiquement variable* comme longueur, avec l'inclinaison du canon, de manière à permettre de pointer aux grands angles  
de tir vertical sans que la culasse aille rencontrer le sol.

Ce frein repose sur un *berceau de pointage* servant à l'installation mécanique de la *hausse indépendante*.

Le berceau repose, par ses tourillons creux, sur un *petit affût* autour duquel se fait le pointage en hauteur.

La masse oscillant verticalement (bouche à feu et frein) est équilibrée autour des tourillons par un *équilibreur à ressorts*.

Le petit affût sert au pointage en direction ; il pivote autour d'un axe vertical porté par une *sellette* inférieure.

C'est ce petit affût qui porte l'appareil de pointage en direction.

La sellette constitue l'extrémité antérieure d'un *affût monoflèche* à très large fosse de recul, dont la partie postérieure qui repose à terre est  
munie de deux *bêches d'ancrage* au tir et d'une flèche axiale pour l'attelage à l'avant-train.

A sa partie antérieure la sellette, par un pivot horizontal, s'engage dans l'essieu de manière à permettre à cet essieu de jouer latéralement  
par rapport à l'affût, assurant ainsi un appui régulier des roues et de la flèche sur le sol, quelles que soient les formes du terrain.

Un *bouclier très enveloppant*, porté par le petit affût, protège très complètement les servants.

L'appareil de pointage en direction est du type dit à *lunette panoramique* ; il corrige automatiquement l'inclinaison des tourillons.

Le frein de roues, à utiliser pour la route, est du modèle dit à *patins*

## DONNÉES NUMÉRIQUES PRINCIPALES

Poids de la pièce en batterie . . . . .	1.326 kgs
Poids du tube (avec culasse). . . . .	450 kgs
Prépondérance à l'anneau de crosse (pièce attelée). . . . .	54 kgs
Poids de l'avant-train vide . . . . .	410 kgs
Poids de l'avant-train équipé (sans munitions). . . . .	452 kgs
Poids de l'avant-train chargé (3 coups explosifs) . . . . .	474 kgs
Poids de la voiture-pièce . . . . .	1.800 kgs
Hauteur des tourillons au-dessus du sol. . . . .	0 m. 870
Hauteur de la ligne de feu . . . . .	0 m. 930
Hauteur de la ligne de mire. . . . .	1 m. 295
Longueur maximum de recul permis par le frein hydropneumatique . . . . .	1 m. 340
Longueur normale de recul (pièce horizontale) . . . . .	1 m. 100 à 1 m. 200
Longueur normale de recul à l'angle de 45° . . . . .	0 m. 830
Distance horizontale de l'essieu à la pointe de bêche. . . . .	2 m. 150
Amplitude de pointage en hauteur (site). . . . .	- 10° à + 12°
Amplitude de pointage en hauteur (hausse) . . . . .	0° à 65°
Amplitude de pointage en direction. . . . .	40°
Déplacement angulaire du canon par tour de volant de site. . . . .	10 millièmes
Déplacement angulaire du canon par tour de volant de hausse . . . . .	10 millièmes
Déplacement angulaire du canon par tour de volant de direction. . . . .	4 millièmes
Épaisseur du bouclier . . . . .	3 <sup>7</sup> / <sub>8</sub> 5
Surface du bouclier. . . . .	2 m <sup>2</sup> 5
Longueur totale de la pièce en batterie . . . . .	5 m. 200
Longueur totale de l'avant-train. . . . .	4 m. 184
Longueur totale de la voiture-pièce . . . . .	9 m. 193
Voie. . . . .	1 m. 520
Diamètre des roues. . . . .	1 m. 400
Largeur de la pièce hors tout . . . . .	1 m. 837
Tournant minimum de la voiture-pièce . . . . .	8 m. 300

Poids de l'obus con  
 Obus explo  
 Obus à ball  
 Poids de la charge i  
 Obus explo  
 Obus à ball  
 Cartouches :  
 Cartouche s  
 Cartouche s  
 Cartouche n  
 Poids des cartouche  
 Avec obus e  
 Avec obus à

Portée à l'angle de ti  
 Obus explos  
 Obus à balle  
 Vitesse initiale des p  
 Obus explos  
 Obus à balle  
 Portées limites en ti  
 Fusées de 22  
 Fusées de 31  
 Longueur totale de la  
 Longueur parcourue  
 Volume total de l'am  
 Volume de la chamb  
 Nombre de rayures  
 Profondeur des rayur  
 Inclinaison des rayur

1.326 kgs  
 450 kgs  
 54 kgs  
 410 kgs  
 452 kgs  
 474 kgs  
 1.800 kgs  
 0 m. 870  
 0 m. 930  
 1 m. 295  
 1 m. 340  
 1 m. 100 à 1 m. 200  
 0 m. 830  
 2 m. 150  
 - 10° à + 12°  
 0° à 65°  
 40°  
 10 millièmes  
 10 millièmes  
 4 millièmes  
 3 <sup>7</sup>/<sub>16</sub> 5  
 2 m<sup>2</sup> 5  
 5 m. 200  
 4 m. 184  
 9 m. 193  
 1 m. 520  
 1 m. 400  
 1 m. 837  
 8 m. 300

## MUNITIONS

Poids de l'obus complet :	
Obus explosif Modèle 1917 français . . . . .	6 kgs 125
Obus à balles Modèle 1897 français . . . . .	7 kgs 240
Poids de la charge intérieure de l'obus :	
Obus explosif (chargé en mélinite) . . . . .	0 kg 670
Obus à balles (chargé en poudre noire) . . . . .	0 kg 120
Cartouches :	
Cartouche sertie à obus explosif pour le tir jusqu'à . . . . .	11.200 m.
Cartouche sertie à obus à balles pour le tir jusqu'à . . . . .	9.600 m.
Cartouche non sertie, avec obus explosif, à charges divisibles pour le tir vertical.	de 3.000 à 10.000 m.
Poids des cartouches :	
Avec obus explosif . . . . .	7 kgs 965
Avec obus à balles . . . . .	9 kgs 170

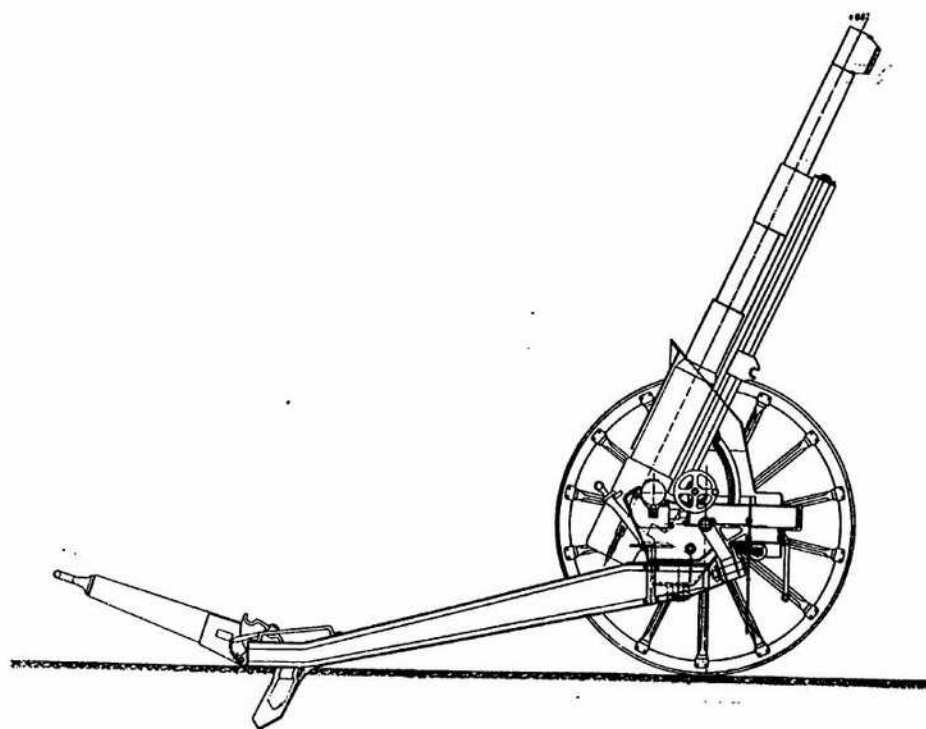
## DONNÉES BALISTIQUES

Portée à l'angle de tir extrême de 45° :	
Obus explosif . . . . .	11.200 m.
Obus à balles . . . . .	9.600 m.
Vitesse initiale des projectiles tirés à charge normale :	
Obus explosif . . . . .	575 m.
Obus à balles . . . . .	535 m.
Portées limites en tir fusant :	
Fusées de 22 secondes (angle 16°8') . . . . .	6.500 m.
Fusées de 31 secondes (angle 23°50') . . . . .	8.000 m.
Longueur totale de la bouche à feu . . . . .	2 m. 708
Longueur parcourue par le culot du projectile (obus à balles) . . . . .	2 m. 286
Volume total de l'âme . . . . .	11 dm <sup>3</sup> 630
Volume de la chambre (avec obus à balles) . . . . .	1 dm <sup>3</sup> 390
Nombre de rayures . . . . .	24
Profondeur des rayures . . . . .	0 <sup>7</sup> / <sub>16</sub> 5
Inclinaison des rayures . . . . .	7°

裏面白紙



COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT  
(SAINT-CHAMOND)

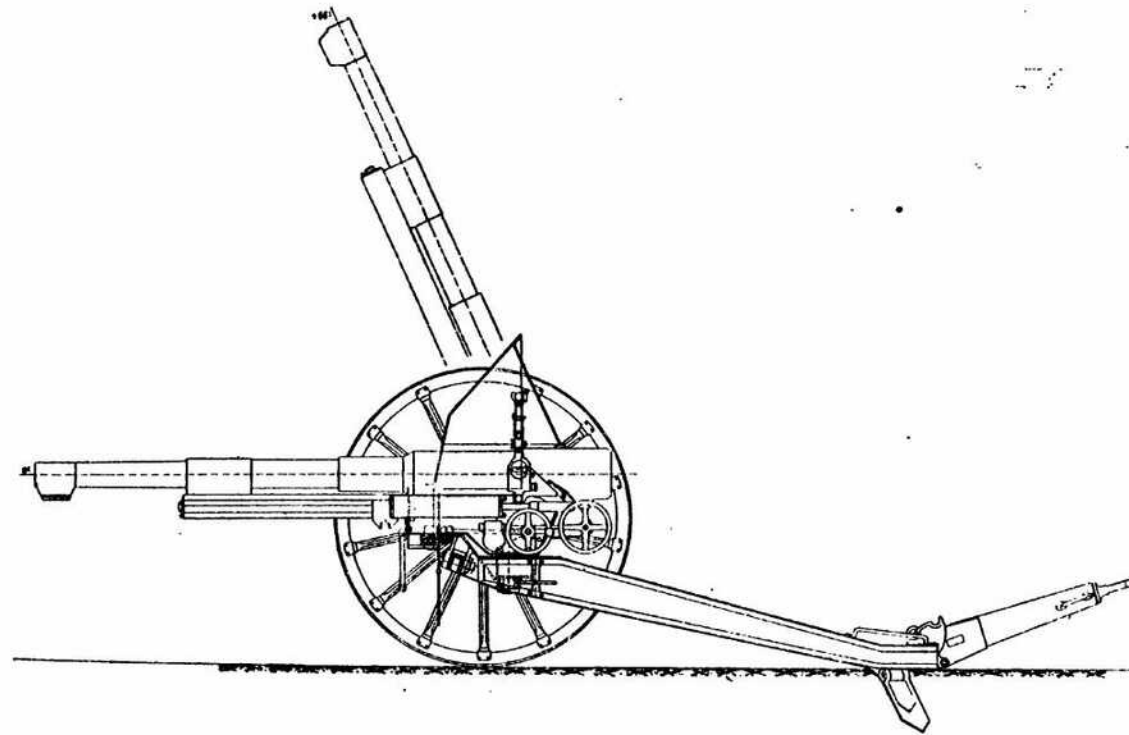


Canon de Campagne G.C.T. de 75<sup>mm</sup> « Saint-Chamond » M<sup>n</sup> 1923. — Pièce en batterie — Élévation — Côté droit — Le canon pointé à 65° — Echelle 1/30

P. 5.

裏  
面  
白  
紙

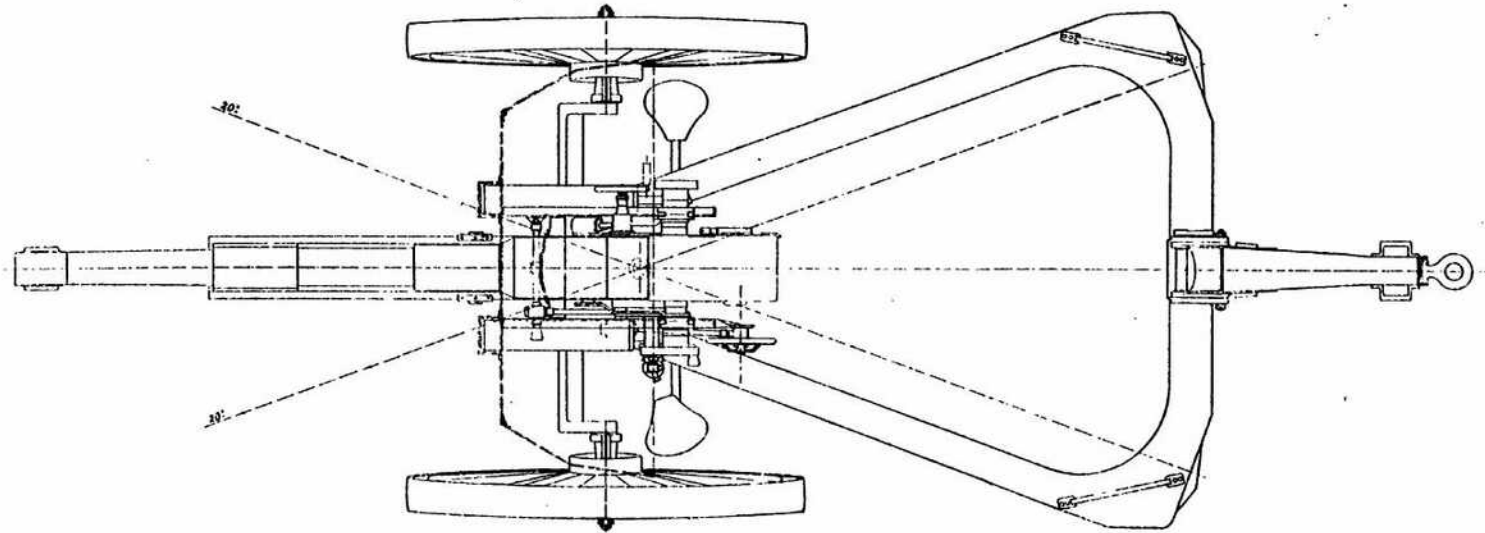
COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT  
(SAINT-CHAMOND)



Canon de Campagne G.C.T. de 75<sup>mm</sup> « Saint-Chamond » M<sup>n</sup> 1923. — Pièce en batterie — Élévation — Côté gauche — Echelle 1/20.

裏  
面  
白  
紙

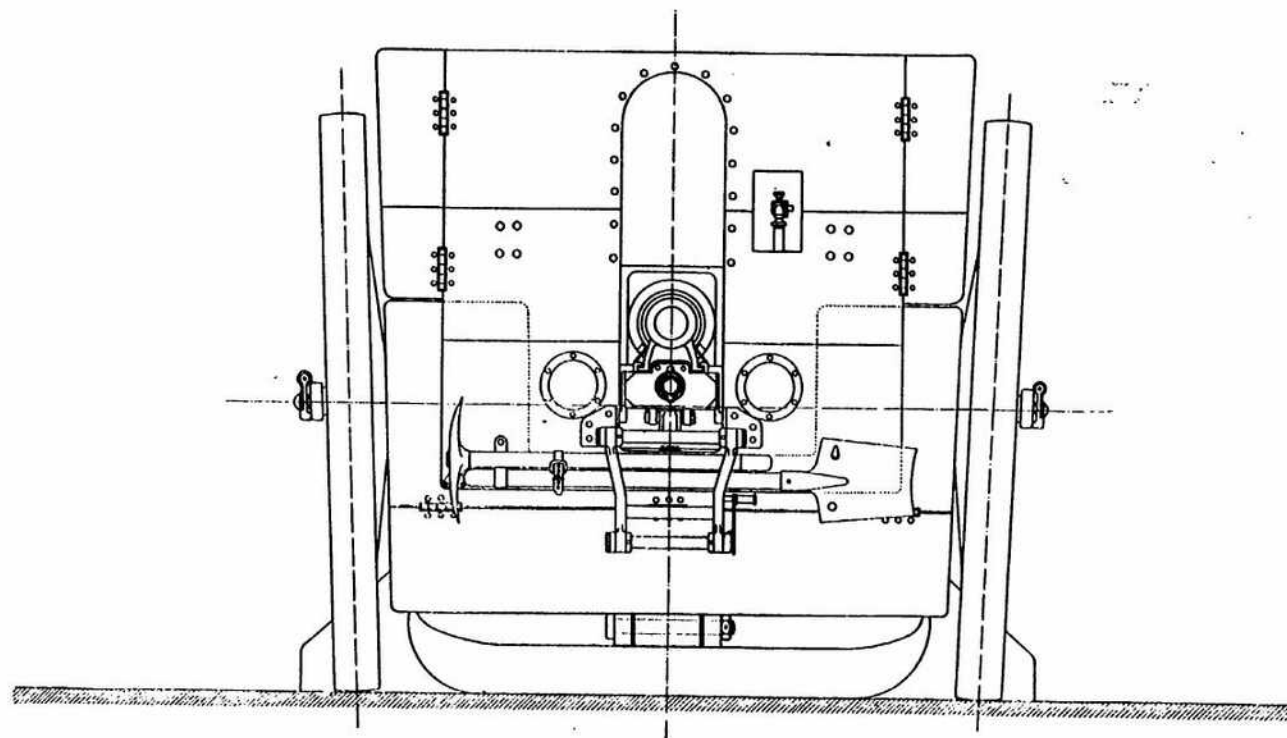
COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT  
(SAINT-CHAMOND)



Canon de Campagne G.C.T. de 75 mm « Saint-Chamond » M<sup>h</sup> 1923. — Pièce en batterie — Vue en plan — Echelle 1/50.

裏  
面  
白  
紙

COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT  
(SAINT-CHAMOND)



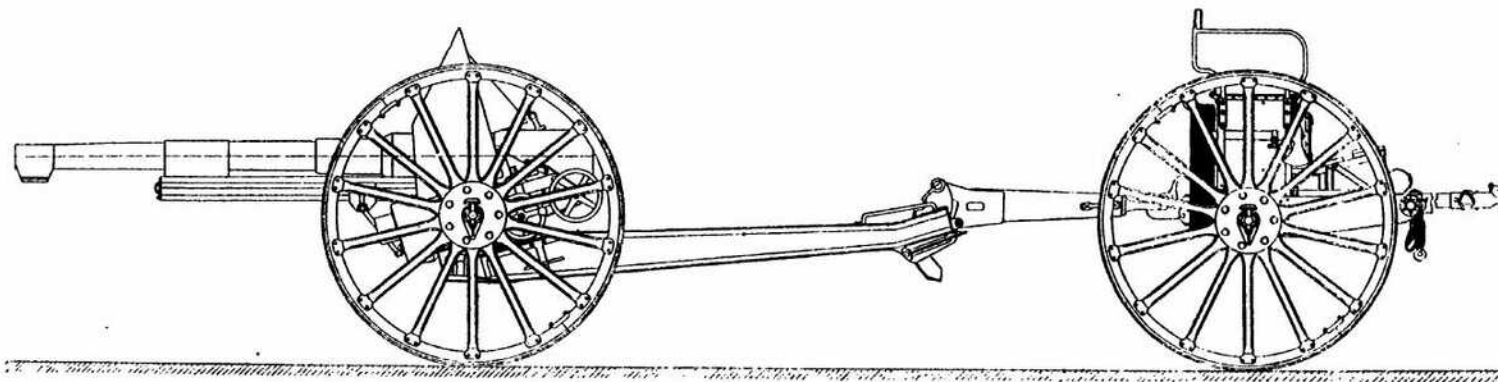
Canon de Campagne G.C.T. de 75 mm « Saint-Chamond » M<sup>re</sup> 1923. — Pièce en batterie — Vue avant — Echelle 1/50.

P. 8.

裏  
面  
白  
紙



COMPAGNIE DES FORGES ET ACIÉRIES DE LA MARINE ET D'HOMÉCOURT  
(SAINT-CHAMOND)



Canon de Campagne G.C.T. de 75 <sup>mm</sup>/<sub>7</sub> « Saint-Chamond » M<sup>o</sup> 1923. — Voiture-pièce — Élévation — Côté droit — Echelle 1/25.

Fig.

裏面白紙



昆式四七式 歩兵砲  
九七式

裏面白紙



第4回0号

axle in	Length of Case, inches	2.88	3.08
translates	Length of Assembled Round, inches	11	12.6
fixed the	Case Capacity, cu. in.	4	8
of the	Charge weight, lbs.	.037	.05
of fire	Muzzle Velocity with	2.24" and 75 mm. Infantry Mortars, M. 1923E	
		ft. sec.	
of 1923	1st Zone	430	
r, model	2d Zone	395	
l be seen	3d Zone	350	
Infantry	4th Zone	310	
pivoting	5th Zone	275	
at on the	6th Zone	245	
ground	Max. pressure in chamber	12,000 lbs. per sq. in.	
The final		65°	45°
option.	1st Zone	1,450	1,850 yds.
ds of the	2d Zone	1,158	1,480 yds.
cedure is	3d Zone	910	1,170 yds.
own from	4th Zone	720	930 yds.
radle con-	5th Zone	570	740 yds.
upon the	6th Zone	450	590 yds.
g in the	Zone Overlap min.	20 yds.	
r wrench,	Length of recoil	10 inches	
pin with-	Type of recoil	Hydro-spring	
rod from	Elevation of gun	45° to 65°	
own to the	Total traverse (axle)	10°	
nism after	General Characteristics.	2.24" Inf. Mortar M. 1923E	75 mm. Inf. Mortar M. 1923E
ely rotat-	Weight in firing position, lbs.	220	285
an be dis-	Diameter of wheel, inches	24	24
ed.	Width of wheel, inches	2	2
75-mm. Inf.	Ground clearance, inches	9	9
Mortar, M.	Range, C. to C.	22	22
1923E	Weight of gun, lbs.	55	75
12.12	Weight of cradle, lbs.	60	70
	Weight of trail and spade, lbs.	45	70
	Weight of wheel, axle and elevating mechanism	55	65
	Weight of sight, lbs.	5	5



# Infantry Artillery Weapons

Model of 1923

By

K. F. ADAMSON

Member A. O. A.

A SHORT time after the Armistice the Ordnance Department was authorized to proceed with the design and manufacture of a cannon for use by the Infantry which would function both as an anti-tank gun and as a weapon to replace the 3-inch Stokes mortar. The basic requirements were that it should fire an armor-piercing shell through one inch of armor at 500 yards and that it could be used for plunging fire at angles greater than 45 degrees for ranges from 400 to 2,000 yards, while the complete unit was required to be sufficiently mobile to accompany the infantry at all times either for draft on its wheels or by carrying.

After numerous studies, the infantry howitzer, model of 1920, was designed and built. The carriage of this unit was so constructed that it would mount a 1.8-inch, 25-caliber gun firing a 3-pound shell at a muzzle velocity of 1,450 feet per second, or a 2.24-inch howitzer of 13.3 caliber length firing a 6-pound high explosive shell at a muzzle velocity of 700 feet per second. In the trials of this unit, it was found that the armor-piercing requirements were fulfilled when using the 3-pound shell, but trouble was experienced in getting 1.8-inch high explosive of 4.5-pound and 5.6-pound to fly true with the resulting tendency to land on their base. The 6-pound high explosive shells in the 2.24-inch howitzer were reasonably satisfactory, but as these did not have the capacity of the 3-inch Stokes mortar shell, an effort was made to utilize 8-pound and 10-pound shells, which were unsatisfactory for the same reason as the heavy 1.8 inch.

Much valuable time was lost in attempting to make this unit give high velocity for armor-piercing conditions, and low velocity for the plunging fire at short ranges, and so,

after rather exhaustive tests, it was recognized that the solution was fundamentally wrong, and consequently the unit was discarded.

Approval was recently granted to change the specifications of the infantry matériel to permit the design of two weapons; one to be used for anti-tank work and for firing against small known targets, and the other to be used for plunging fire against personnel or where a Stokes mortar shell would normally be used. The additional requirements for these weapons were laid down along the following lines: that the unit could be carried by man; could be drawn on the road; could be carried on pack animals or transported in trucks. In addition, no component part could weigh more than 75 pounds and the complete unit should not appreciably exceed 300 pounds in weight, while other characteristics desired were that the disassembling into its component parts should be done without the use of any but the simplest tools, and that the time consumed be only a few seconds.

With these requirements in mind, the Ordnance Department has recently designed and built wooden models of the following weapons: a 37-mm. gun, a 2.24-inch infantry mortar, and a 75-mm. infantry mortar. These are described in detail in the following discussion, with photographs and illustrations of the wooden models.

### 37-mm. Gun and Carriage, Model of 1923

This gun and carriage is illustrated in Figure 1, which shows it in firing position for maximum elevation, while Figure 2 illustrates the four loads into which the complete unit can be broken up for man pack.

The gun consists of a single layer tube to which is

degrees. The traverse is obtained by rotating the axle in the wheels by the use of a suitable crank, which translates the entire top carriage about a pintle to which is fixed the spade. This feature has been introduced because of the tendency of the wheels to slide normal to the line of fire when traversing the mount.

### 2.24-Inch Infantry Mortar and Carriage, Model of 1923

The 2.24-inch Infantry Mortar and Carriage, model 1923E, are illustrated in Figures 5 and 6, and will be seen to be of the same general design as the 75-mm. Infantry Mortar and Carriage, with the exception that the pivoting spade has been eliminated, as it is believed that on the small spade necessary, there will not be sufficient ground resistance to cause the wheels to slide laterally. The final test alone can show the correctness of this assumption.

In the dismantling into the four component loads of the two above described weapons, the following procedure is necessary: First, the two taper pins are withdrawn from the cradle strut forks and trunnion bar. The cradle containing the rammer is then balanced horizontally upon the elevating mechanism, after which the front ring in the cradle is turned by means of a special spanner wrench, which unlocks the gun from the cradle, and the pin withdrawn, which disconnects the recuperator piston rod from the breech ring. The mortar tube is then withdrawn to the rear, and the cradle lifted off the elevating mechanism after the disconnection of one additional pin.

The trail is disconnected from the axle by merely rotating it through 90 degrees, after which the axle can be disengaged, due to the nature of the special joint used.

Projectile	2.24" Inf.	75-mm. Inf.
	Mortar, M. 1923E	Mortar, M. 1923E
Weight of Shell, lbs.	6	12.12

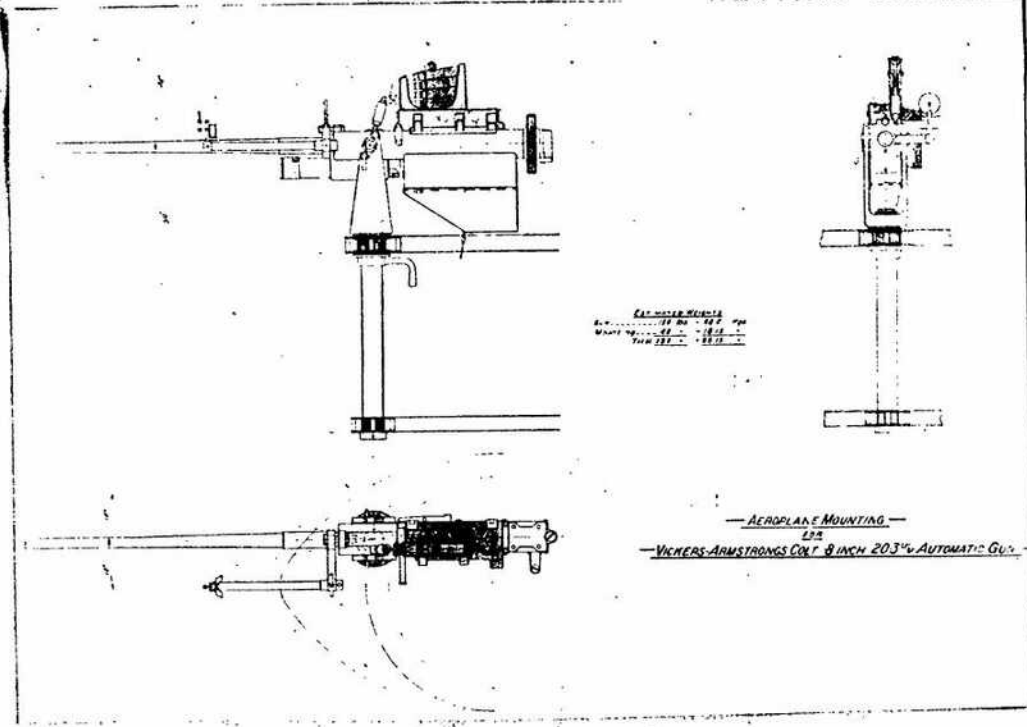
## INFANTRY ARTILLERY WEAPONS

Length of Case, inches	2.88	3.08
Length of Assembled Round, inches	11	12.6
Case Capacity, cu. in.	4	8
Charge weight, lbs.	.037	.06

Muzzle Velocity with	2.24" and 75 mm. Infantry Mortars, M. 1923E	
	ft. sec.	
1st Zone	430	
2d Zone	395	
3d Zone	350	
4th Zone	310	
5th Zone	275	
6th Zone	245	
Max. pressure in chamber	12,000 lbs. per sq. in.	

	65°	45°
	1st Zone	1,450
2d Zone	1,158	1,480 yds.
3d Zone	910	1,170 yds.
4th Zone	720	930 yds.
5th Zone	570	740 yds.
6th Zone	450	590 yds.
Zone Overlap min.	20 yds.	
Length of recoil	10 inches	
Type of recoil	Hydro-spring	
Elevation of gun	45° to 65°	
Total traverse (axle)	10°	

General Characteristics.	2.24" Inf.	75 mm. Inf.
	Mortar M. 1923E	Mortar M. 1923E
Weight in firing position, lbs.	220	285
Diameter of wheel, inches	24	24
Width of wheel, inches	2	2
Ground clearance, inches	9	9
Gage, C. to C.	22	22
Weight of gun, lbs.	55	75
Weight of cradle, lbs.	60	70
Weight of trail and spade, lbs.	45	70
Weight of wheel, axle and elevating mechanism	55	65
Weight of sight, lbs.	5	5

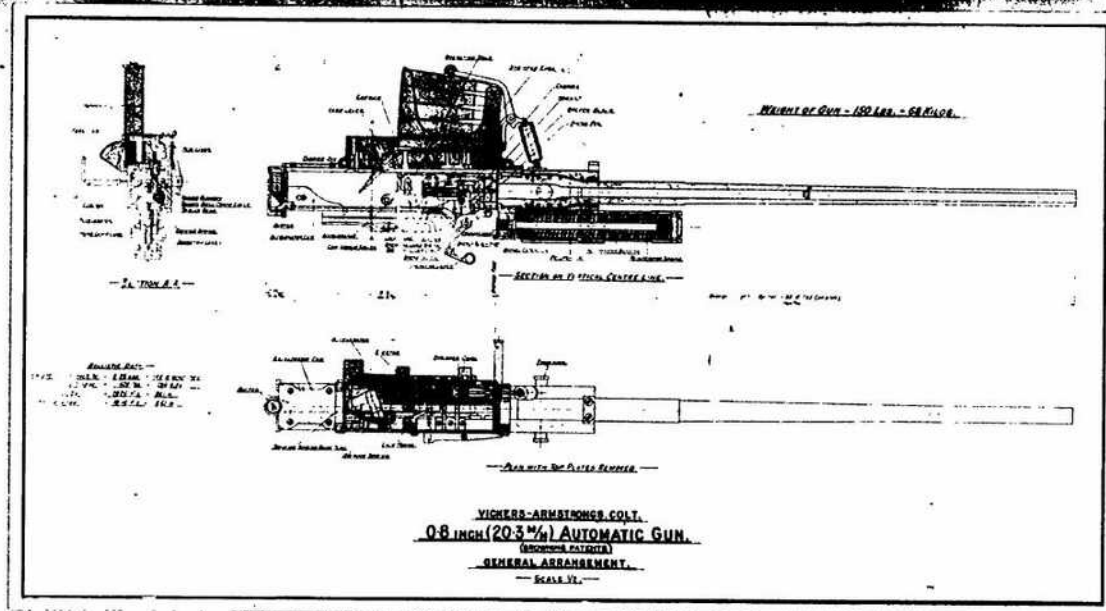


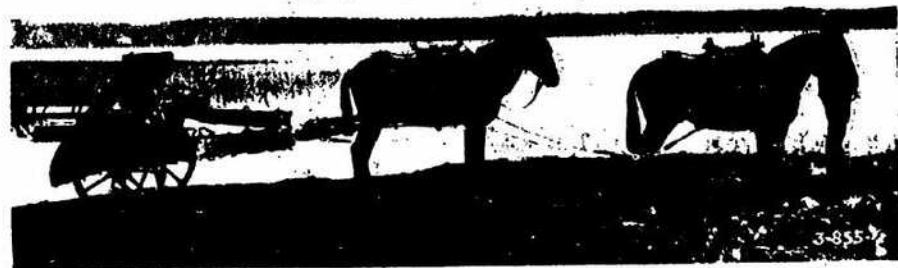
COLT 8 INCH 20.3 DEGREE  
MOUNTING  
1917

—AEROPLANE MOUNTING—  
VICKERS-ARMSTRONGS COLT 8 INCH 20.3° AUTOMATIC GUN



402





30年式 Bofors 20口径 75 耗山砲  
(官式製)

$a = 75$

$b = 6.5$  (指彈 極限距離)

$V = 405$  (指高 0.600) 運搬

$X = 9200$

= 馬鞍又 駝

方向 =  $10^\circ$

駝馬数 8

高低 =  $60^\circ$

一馬 最大重量 123.6

放列 = 800 kg.

砲身 = 210 重

重量(附掛) = 252

半自動銃機式

砲架

側板式(二分徑)

砲軸高 0.910

車軸間隔 0.950

車輪中徑 0.900

後復生機

水圧式後生

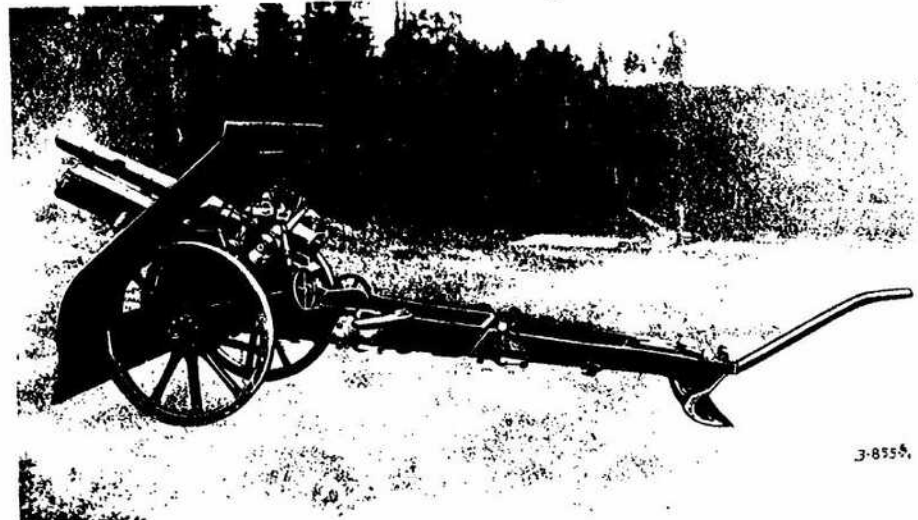
弁機

後生長 長 950

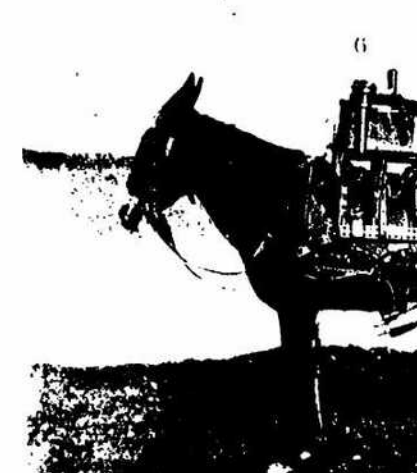
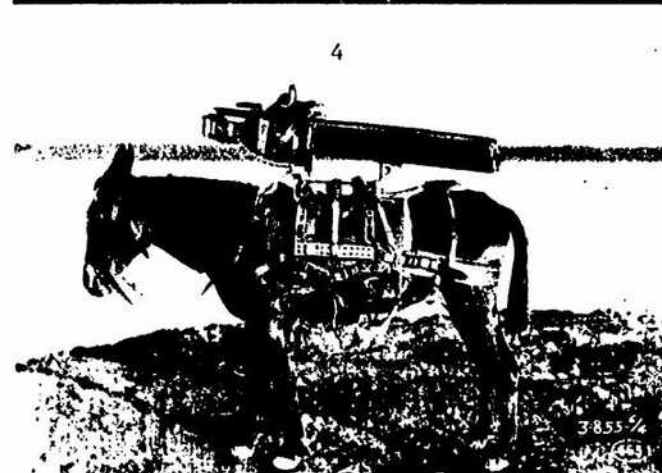
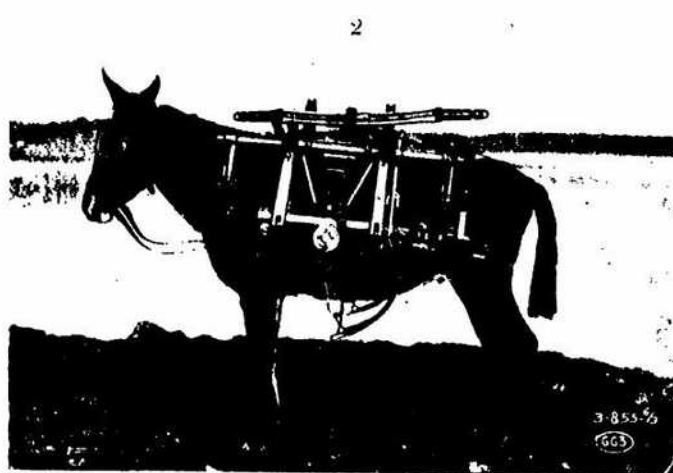
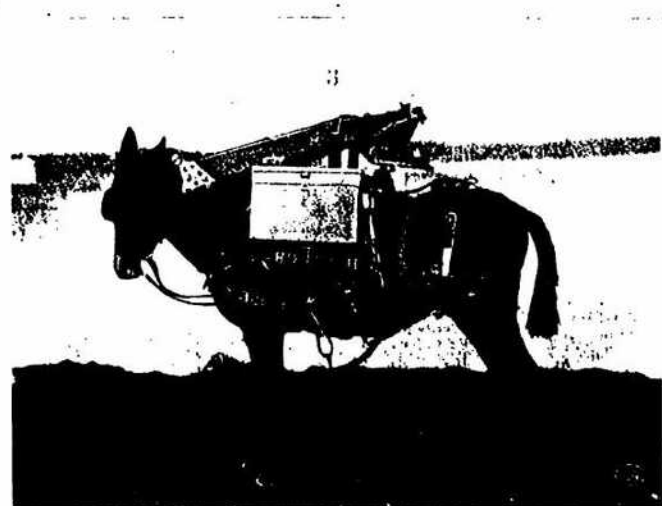
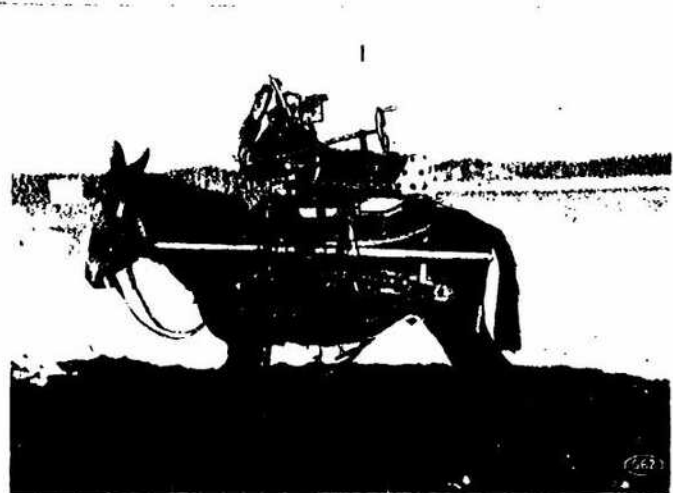
徑 525

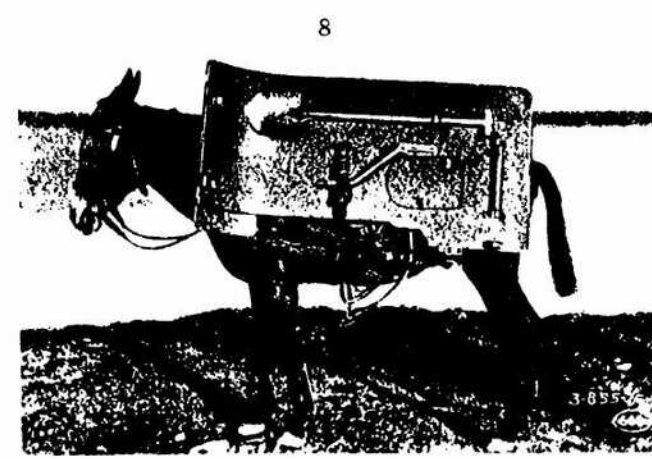
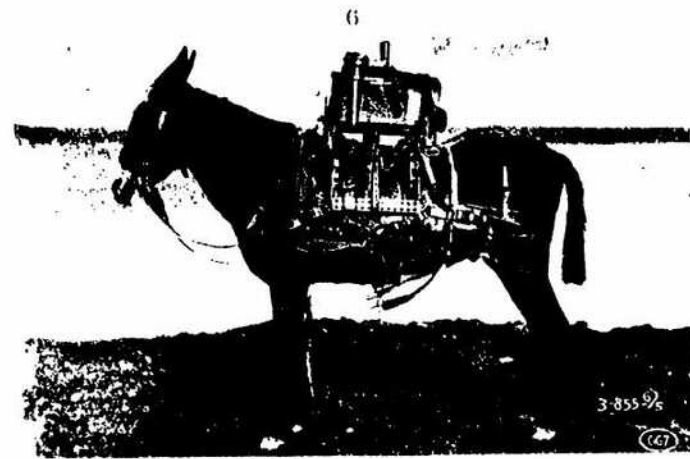
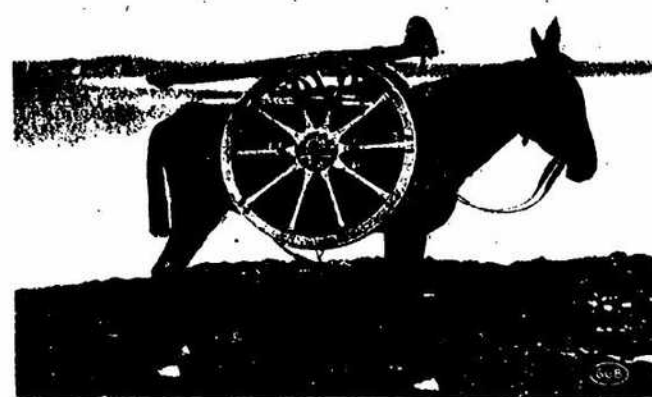
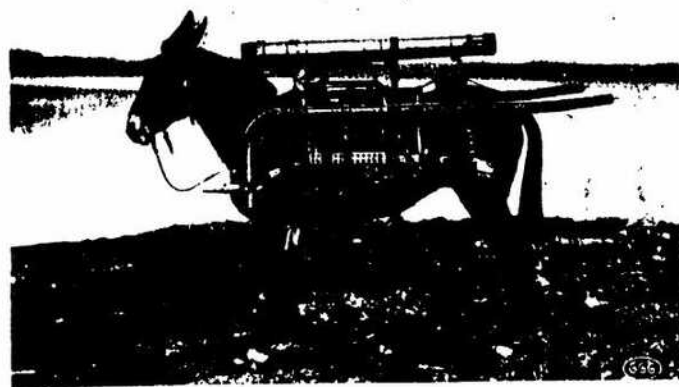
特製履帶

30年式 Bofors 山砲

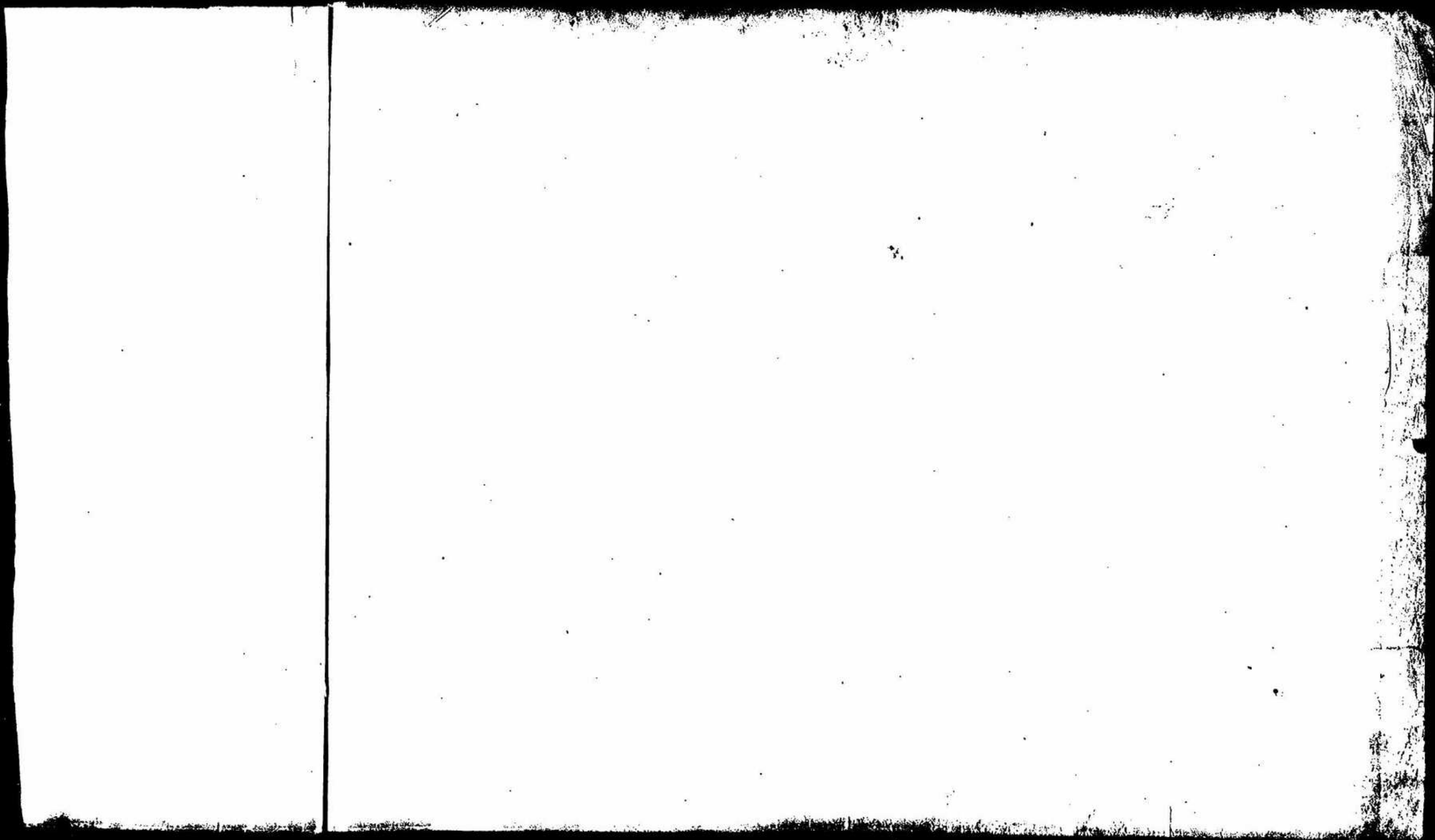












Schneider 40mm 高射砲

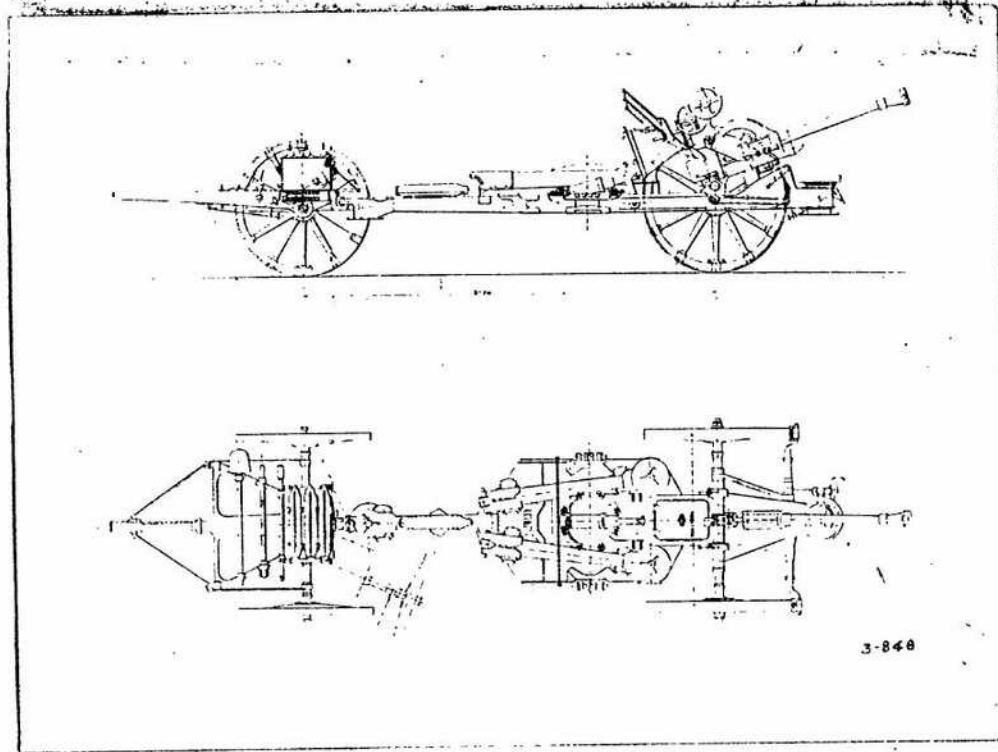
口径	40mm
彈長	0.9
莖長	0.3
莖徑(mm)	0.76
彈莖筒	1.960
初速	800m
最大射程	10,000m
最大仰角(90°)	6,900m
砲身長	1.600 (40cal)
砲身重量(肉體計) (砲架計)	155kg
規型後生長	250mm
全高	1.200
高低角度	-25°~+90°
方向	360°

砲車	
軌幅(軌向)	1.550m
前車車輪中徑	1.220
輪帶幅	0.070
後車車輪中徑	1.300
日輪帶幅	0.090
前車重量(除彈莖)	
汽桿機桿, 十字軸 (1), (1) 彈莖筒, 柱(2), 小彈莖筒(座),	380kg
砲車全重量 (彈莖筒為)	1380kg
前車重量 (空彈莖筒為)	410kg
彈莖筒重量(56發)	110kg
前車(彈莖筒)	520kg
繫架砲車重量 (彈莖筒56發)	1520

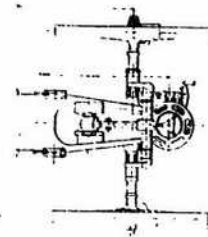
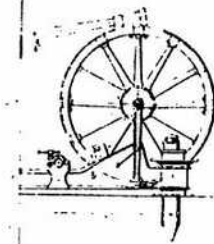




新式  
水車

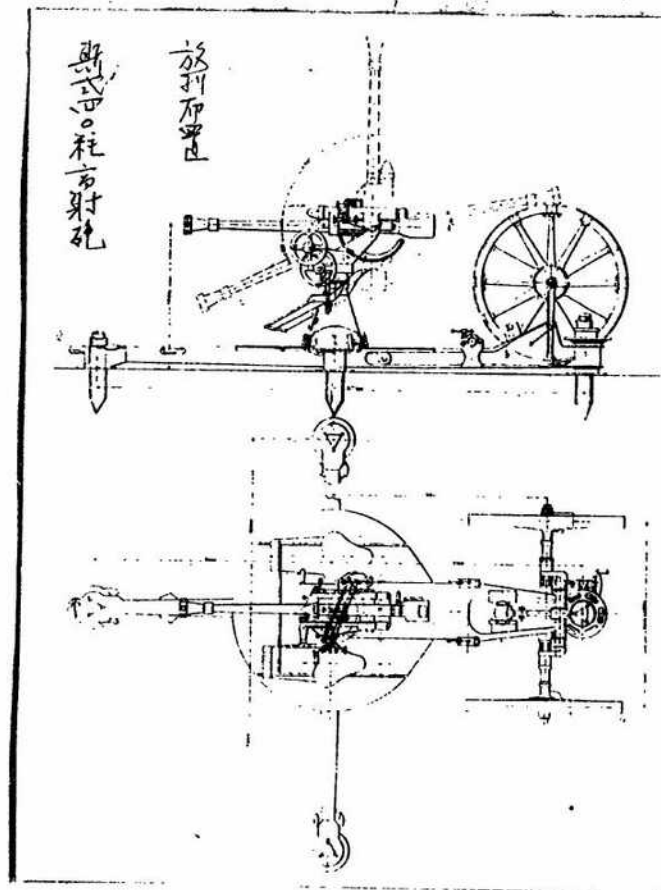
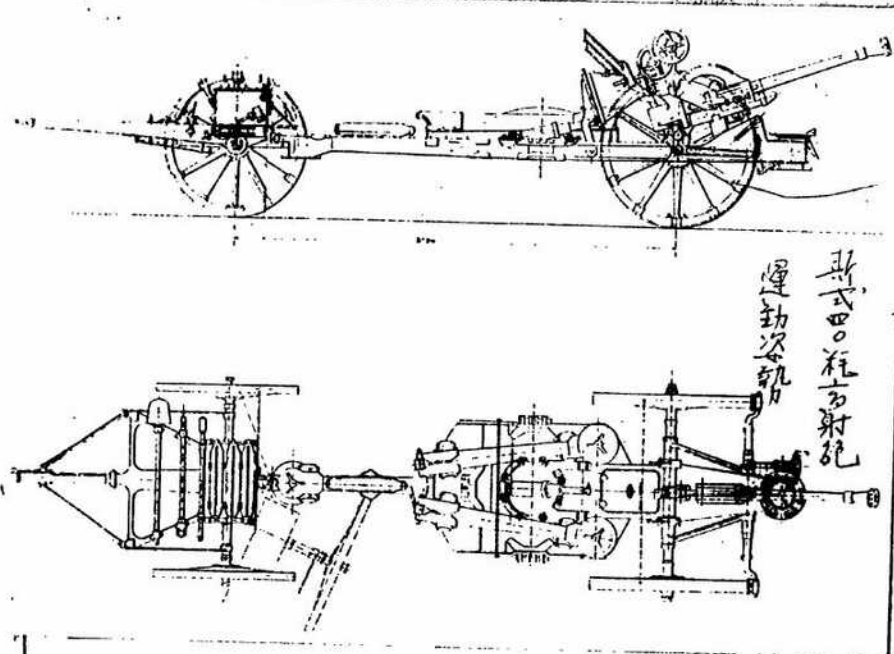


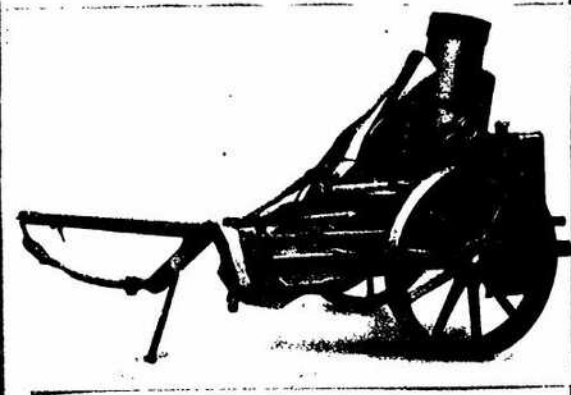
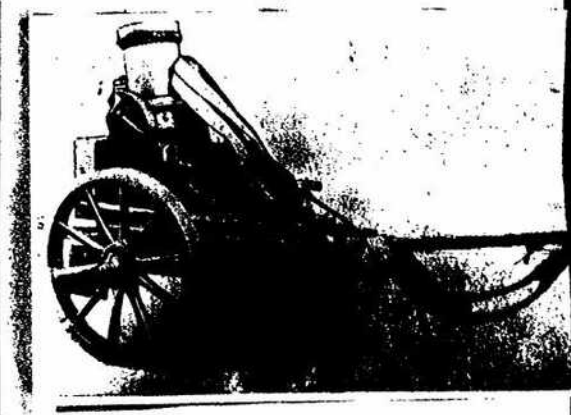
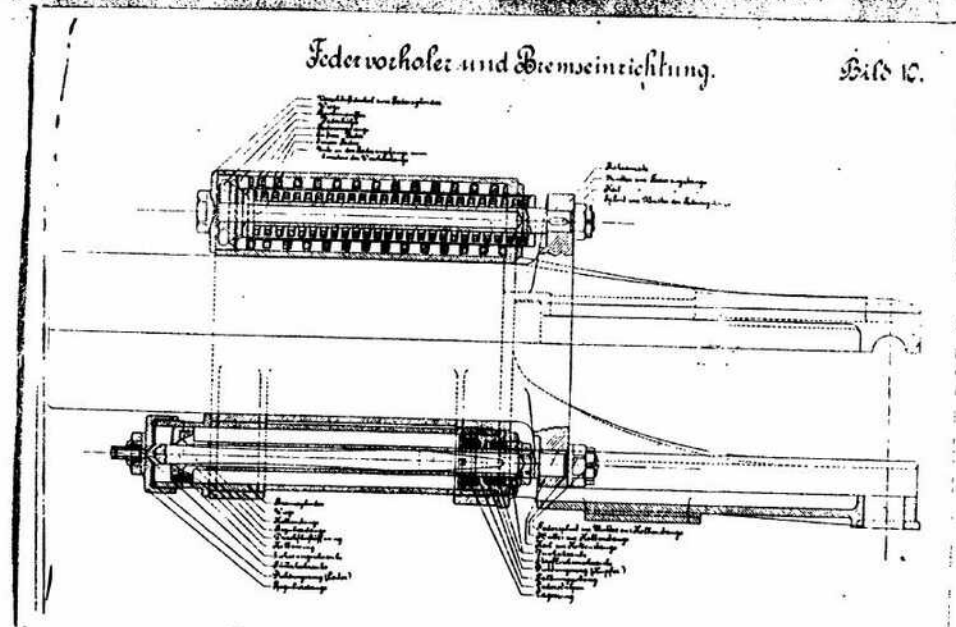
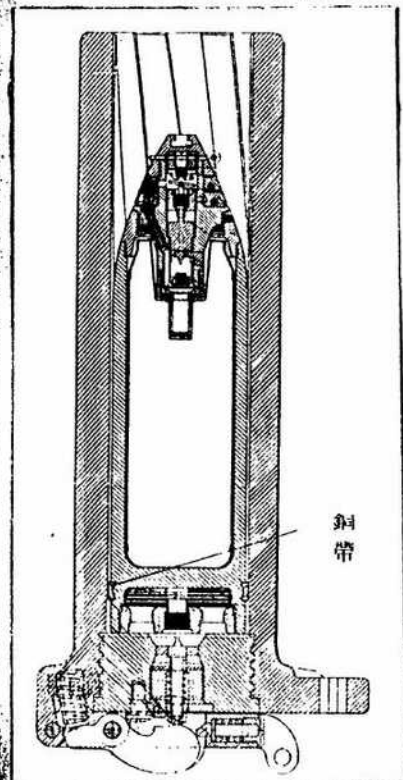
3-848



裏面白紙



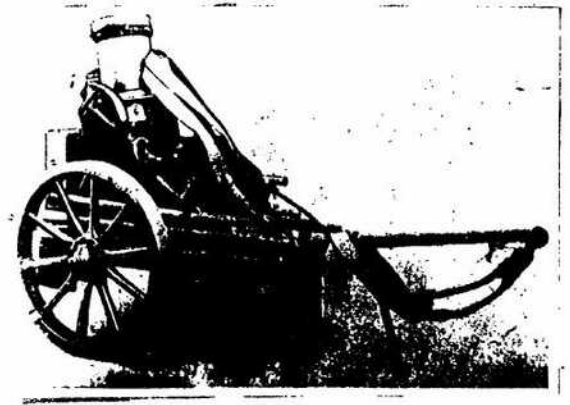
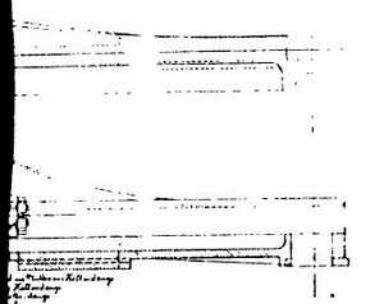


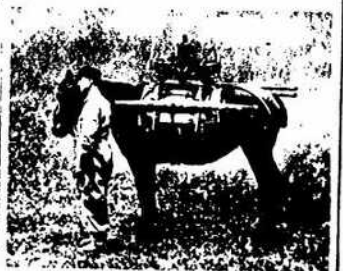
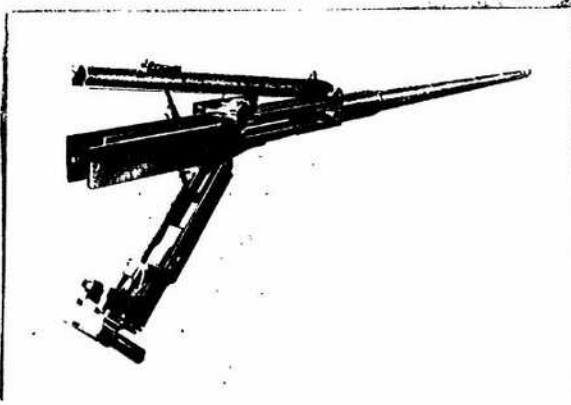
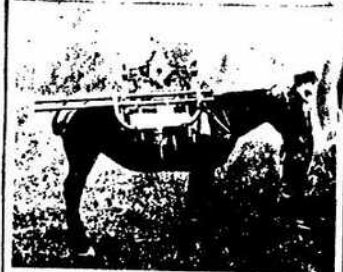


richtung.

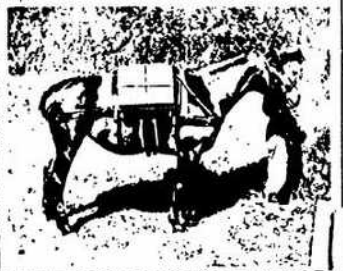
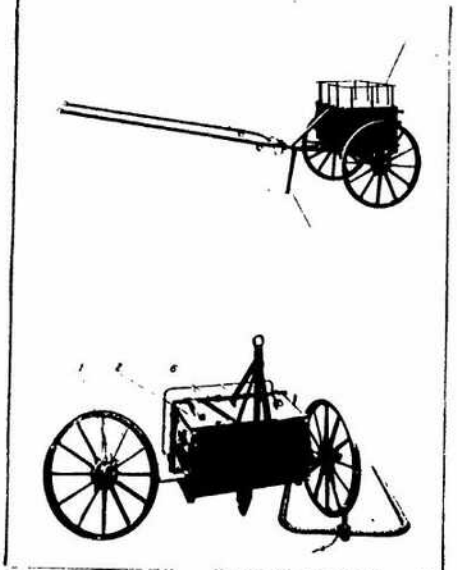
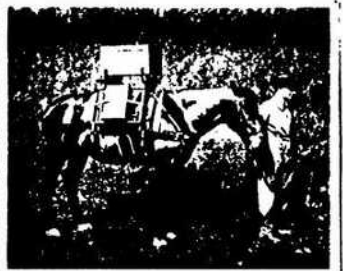
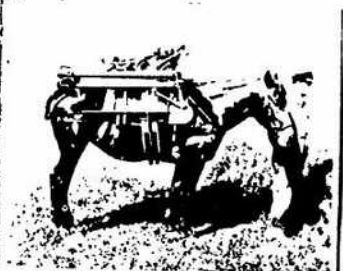
Bild 12.

Einmal  
Nur ein Baumstamm  
auf  
Klein- und Mittelbau





377-136

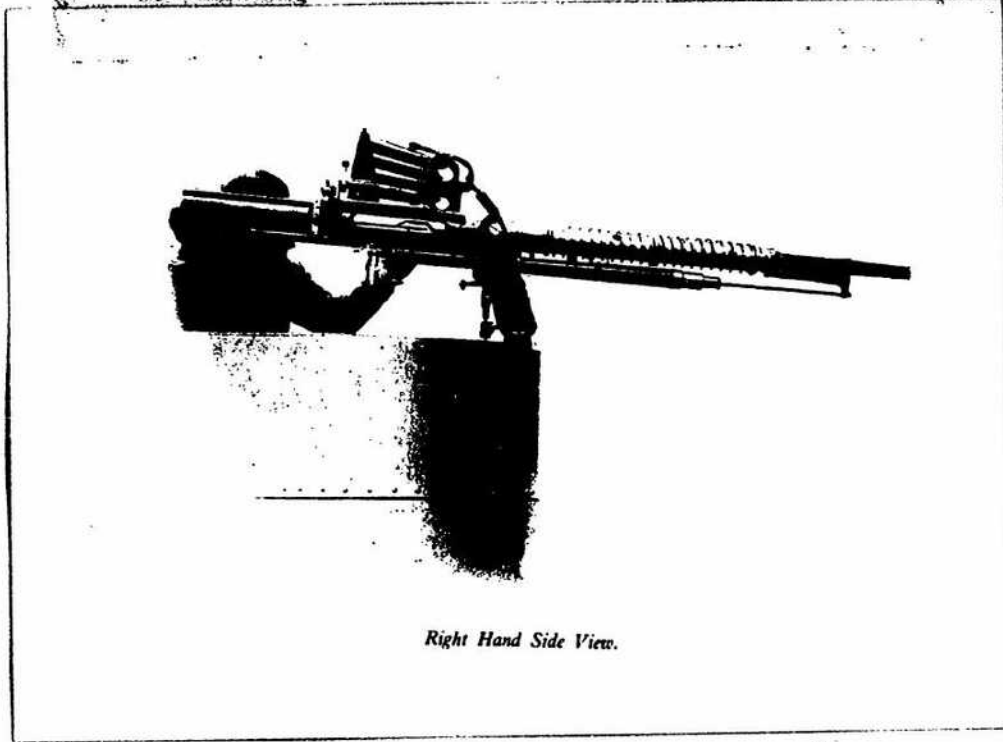


ノ式=15耗様月誌



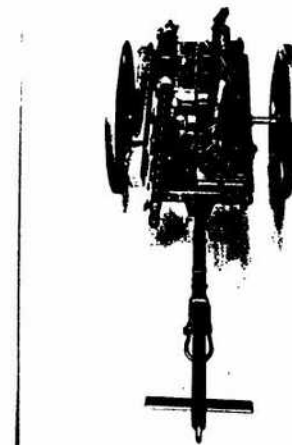
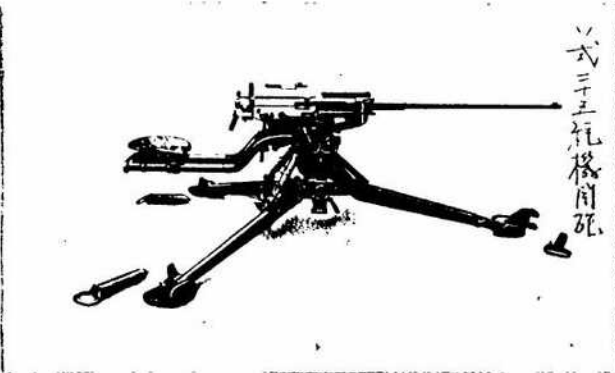
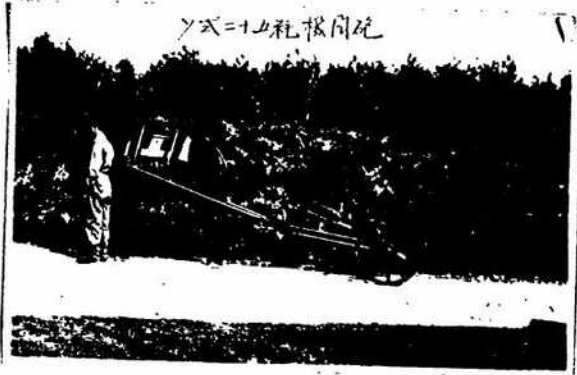
ノ式=十五瓦機同記

ノ式=十五瓦機同記



Right Hand Side View.

裏面白紙

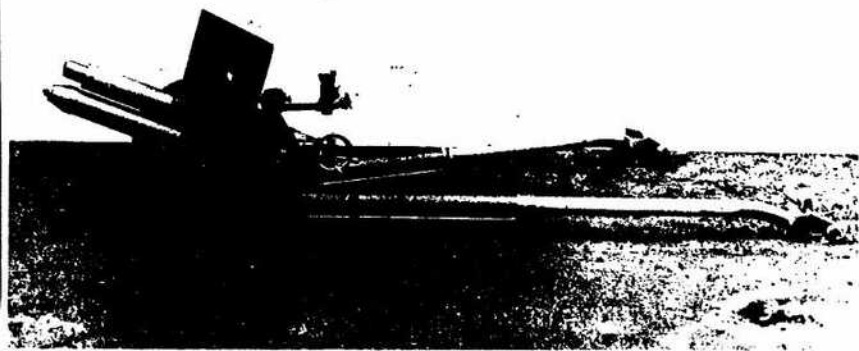


裏面  
白紙

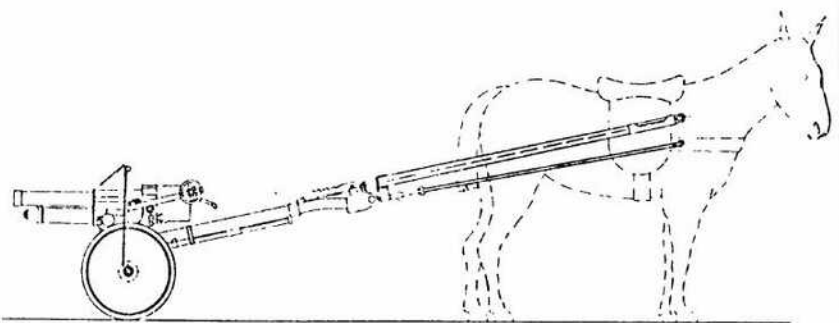




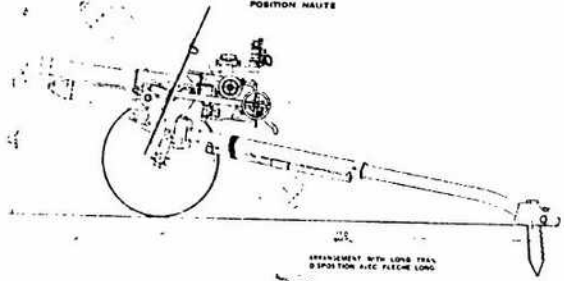
3-846



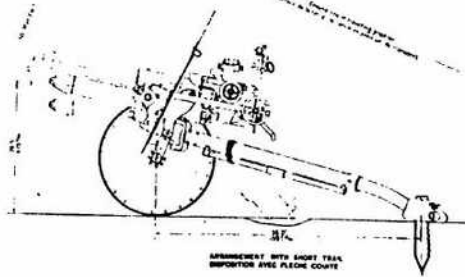
ORDNANCE OF SA 65<sup>mm</sup> INFANTRY.  
ARRANGEMENT OF CARTRIDGE IN TRAVELLING POSITION



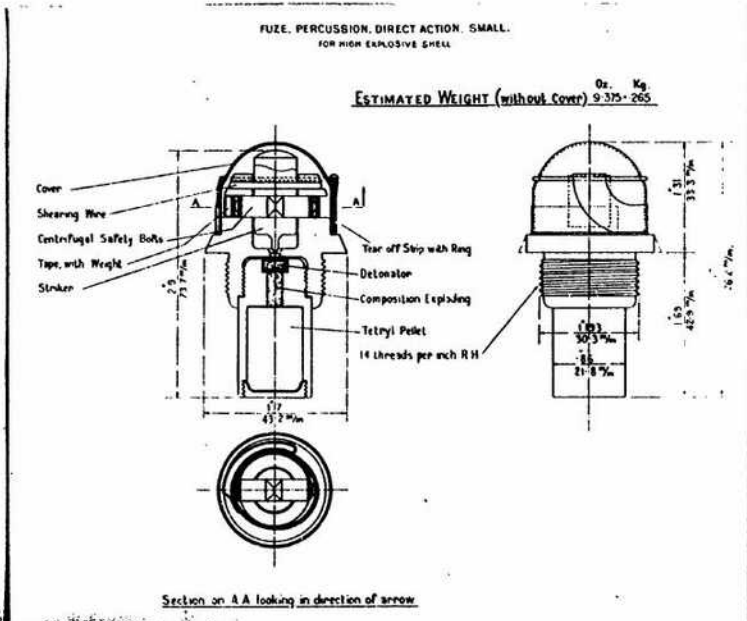
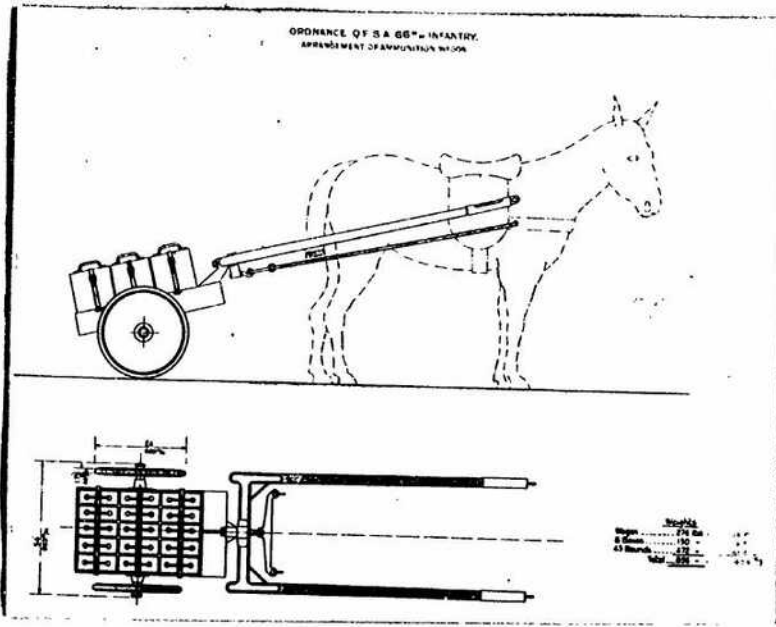
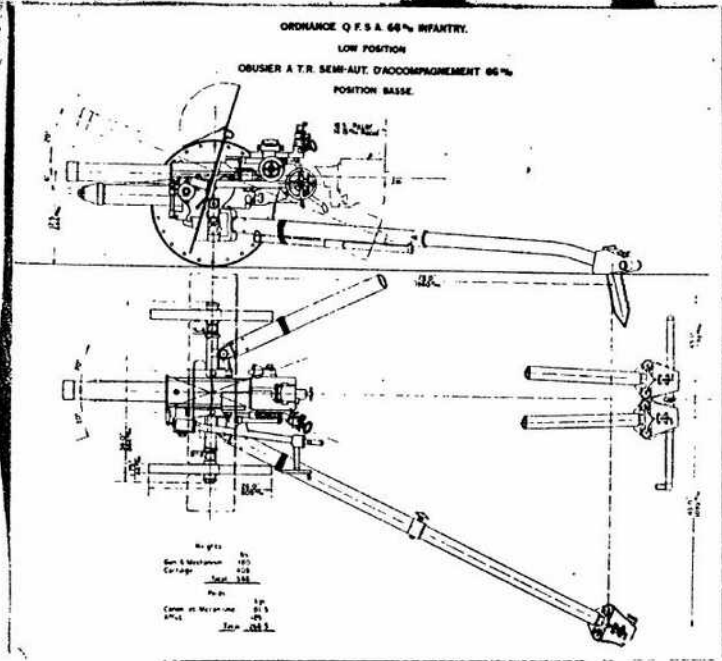
ORDNANCE OF SA 65<sup>mm</sup> INFANTRY  
HIGH POSITION  
OBUSIER A TR SEMI AUT. D'ACCOMPAGNEMENT 65<sup>mm</sup>  
POSITION HAUTE



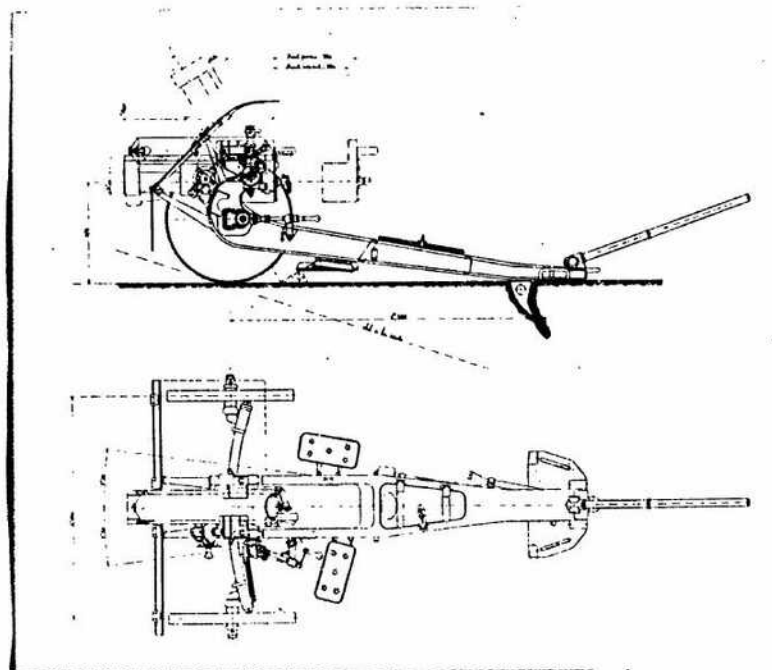
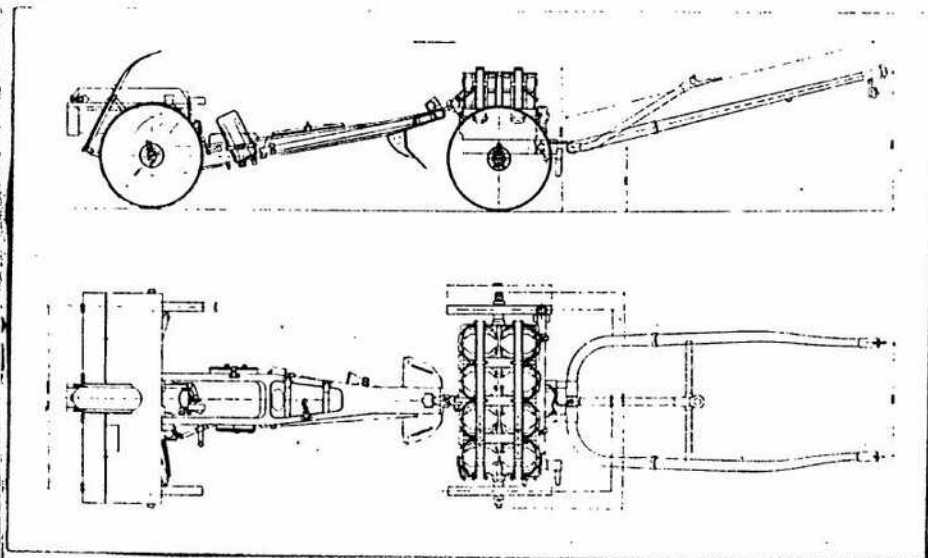
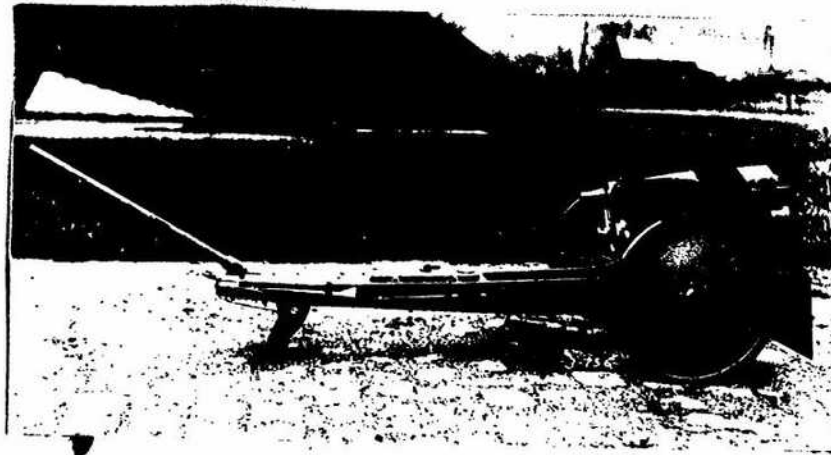
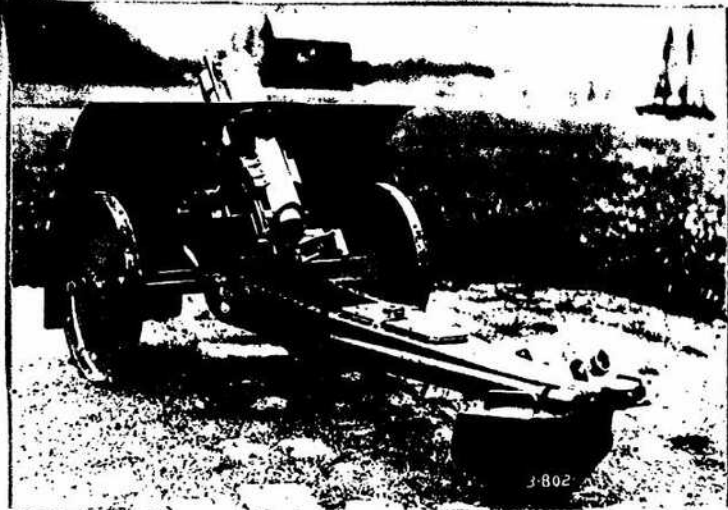
ARRANGEMENT WITH LONG TRAIL  
D'ACCOMPAGNEMENT AVEC FLECHE LONGE

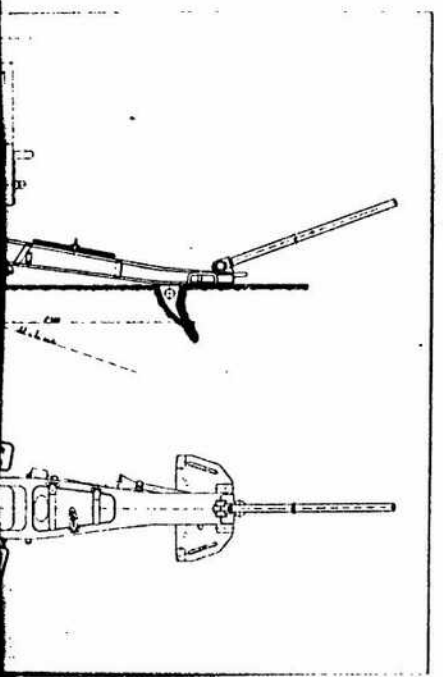


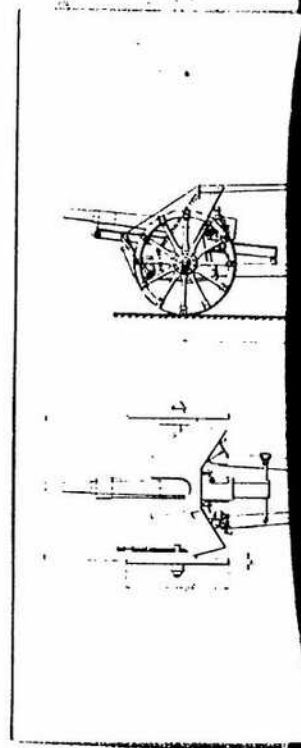
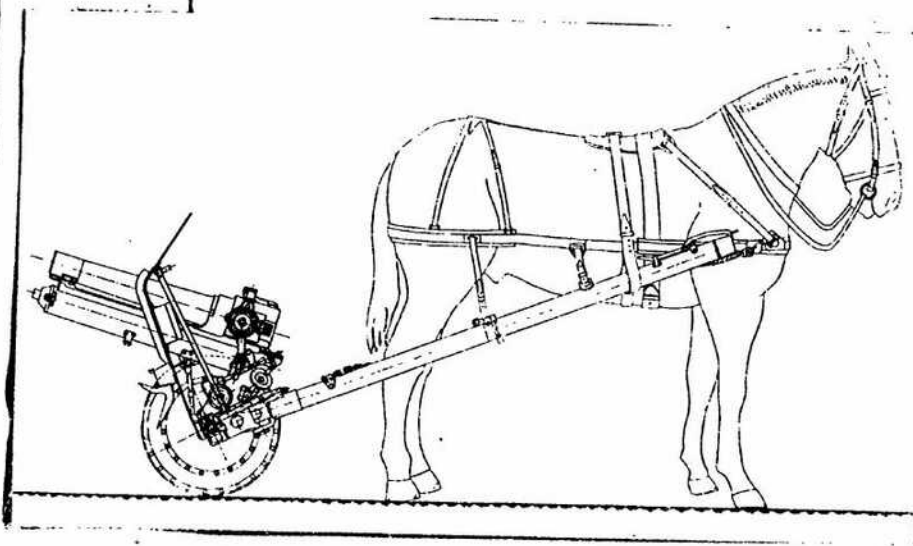
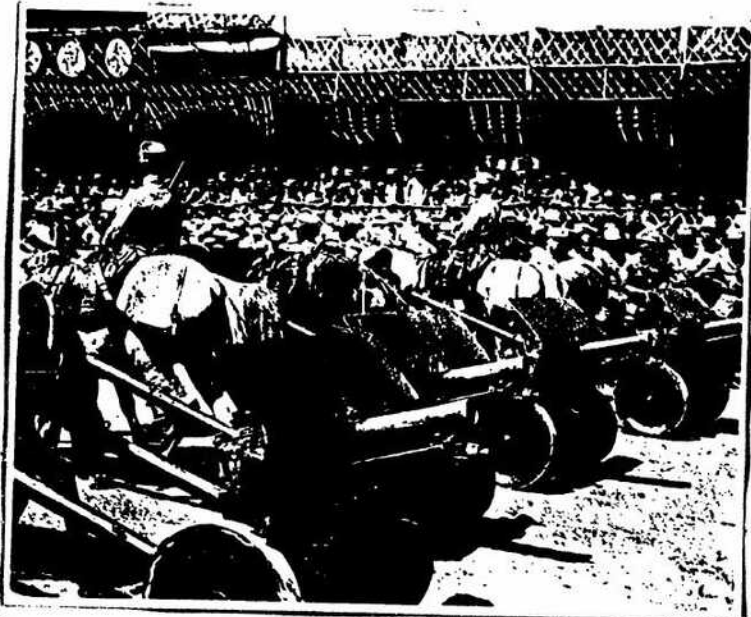
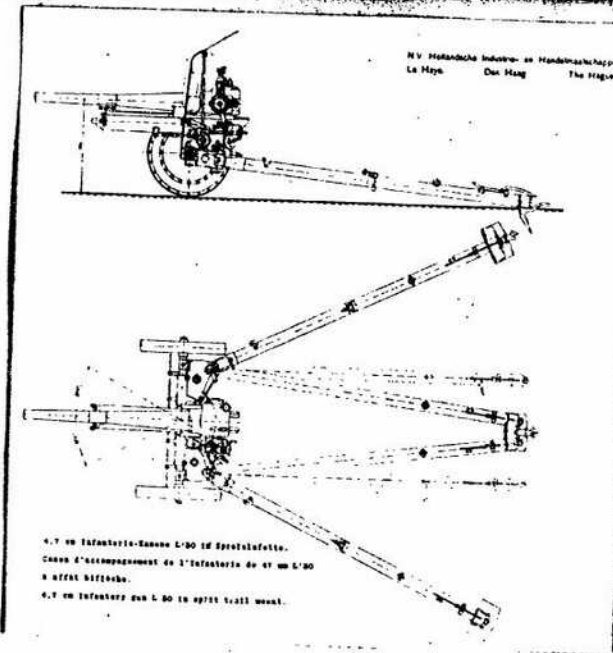
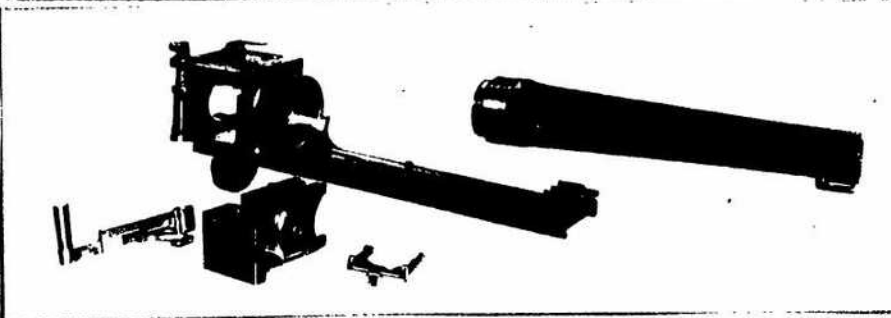
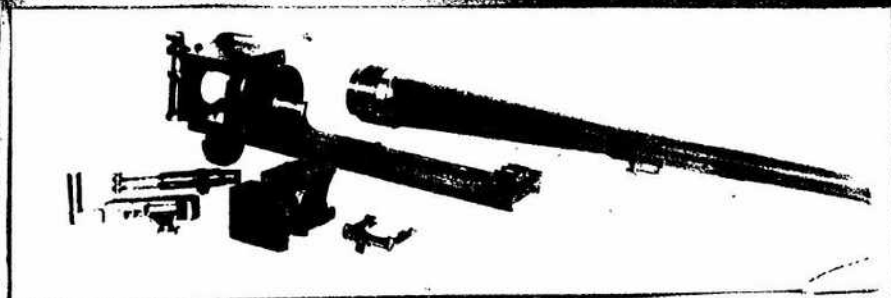
ARRANGEMENT WITH SHORT TRAIL  
D'ACCOMPAGNEMENT AVEC FLECHE COURTE



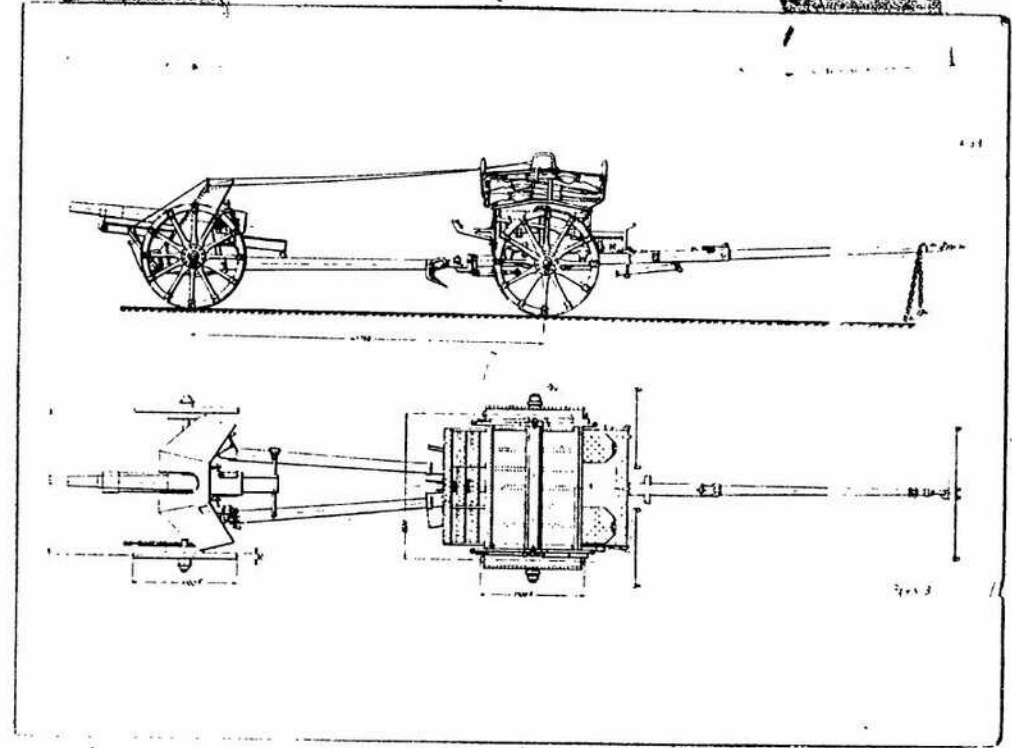
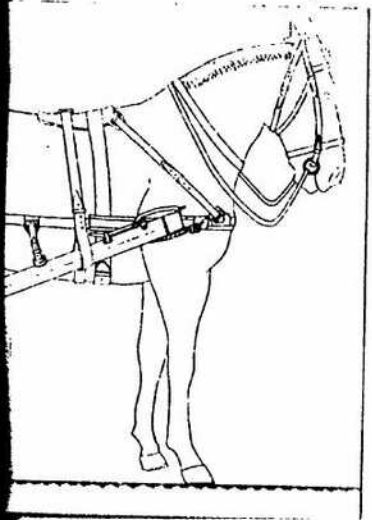
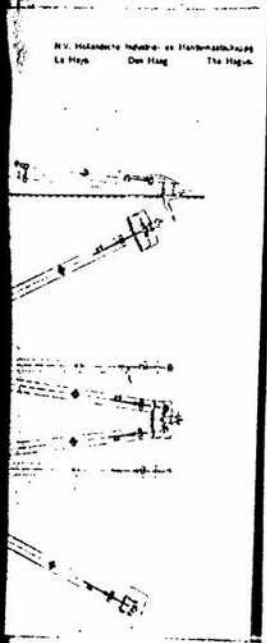








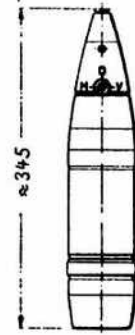




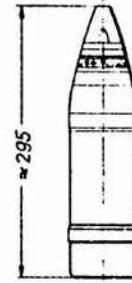
裏面白紙



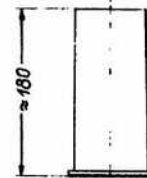
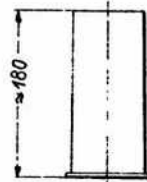
high explosive shell



shrapnel

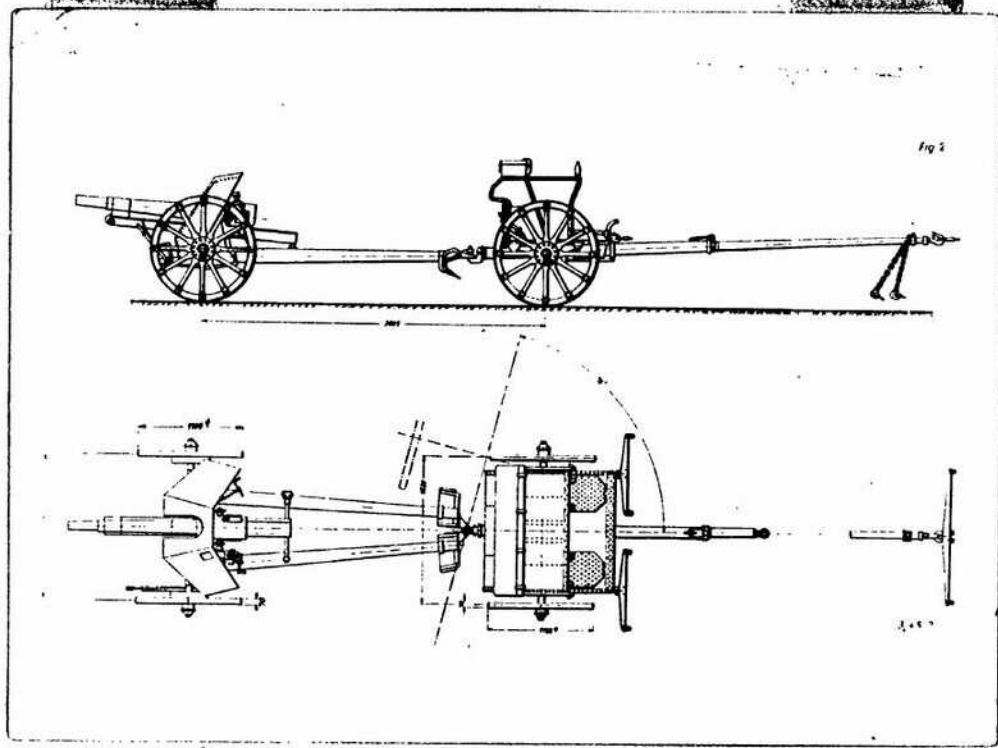


cartridge case with charge



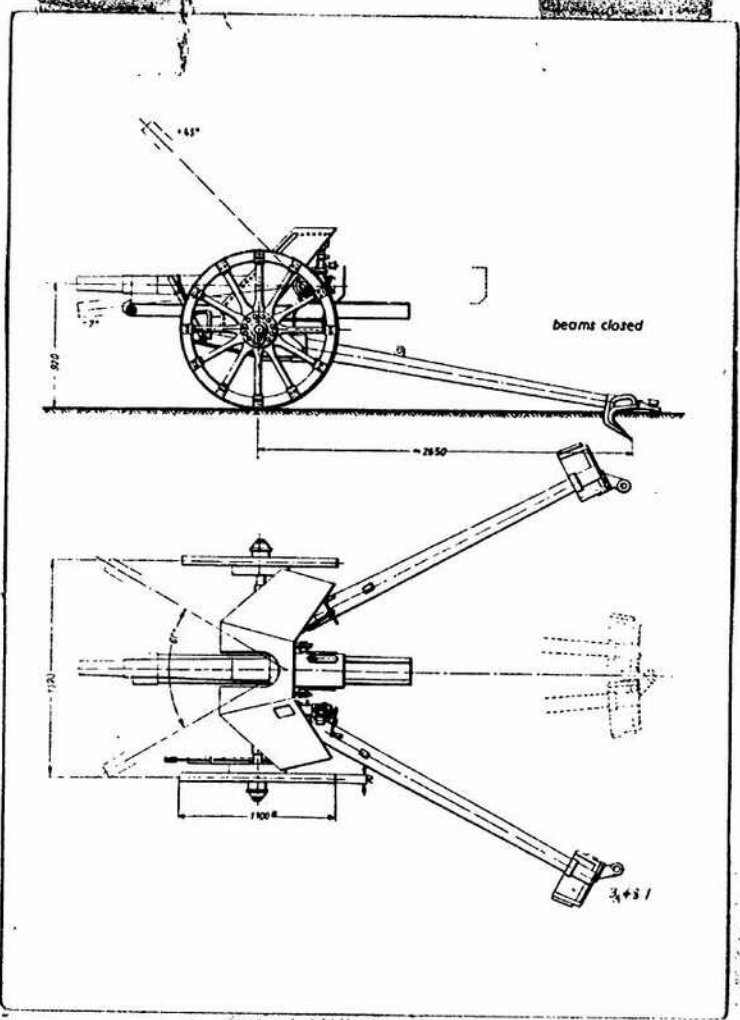
3748-4

N.V. Handelsche Industrie- en Handwerkschool  
La Haye Den Haag The Hague



裏面白紙

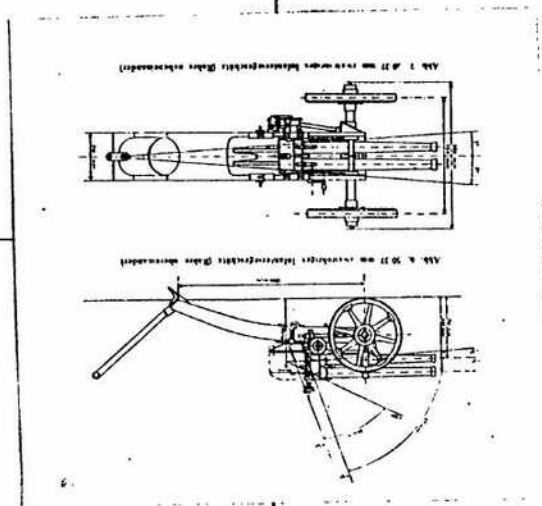
N.Y. Hofmann's Invention: an Handdrückschiff  
La Haye Den Haag Tin 1848



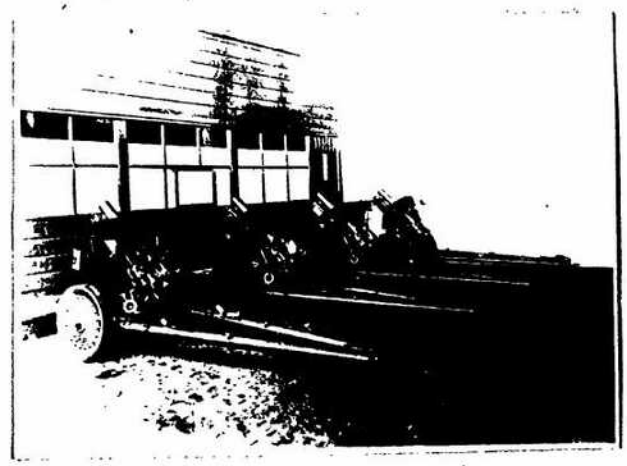
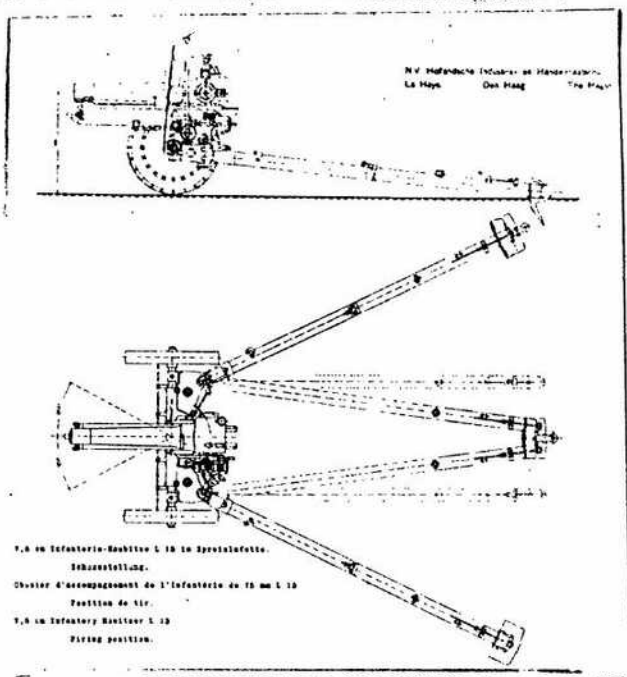
裏面白紙

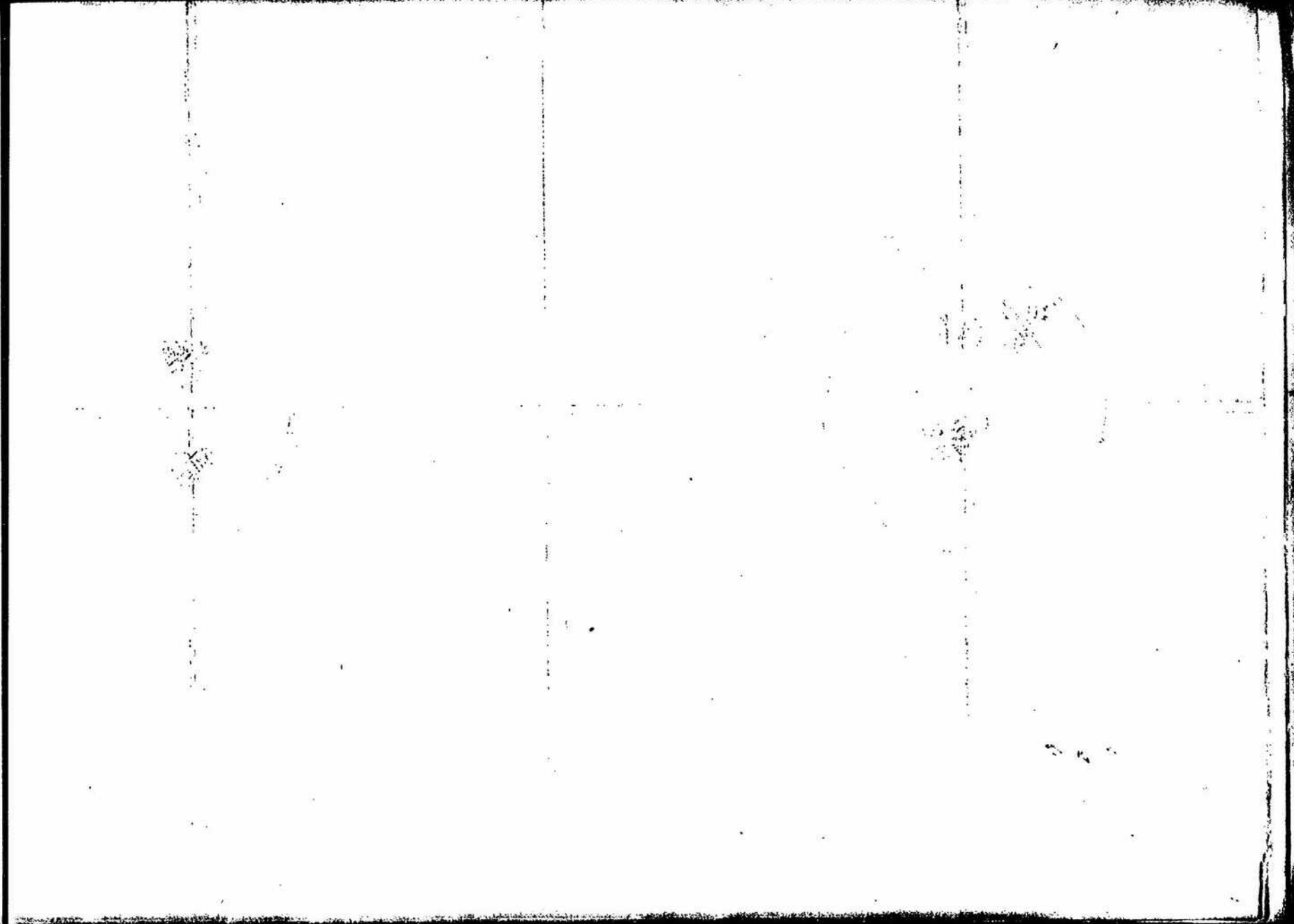
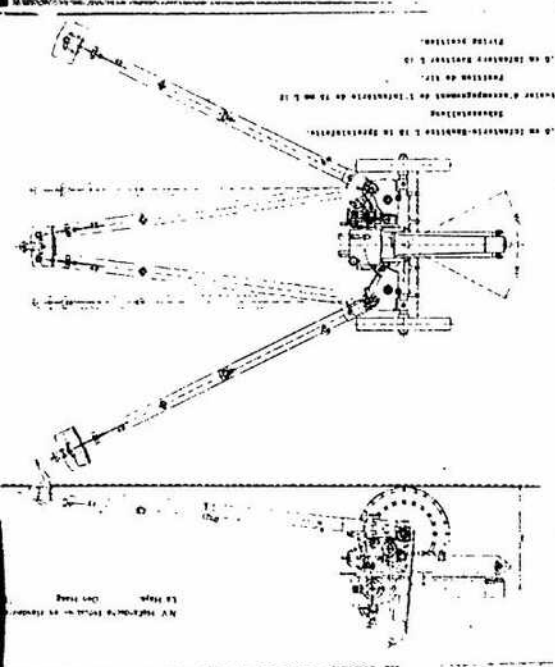


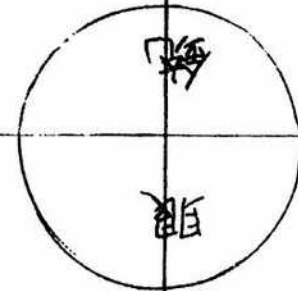
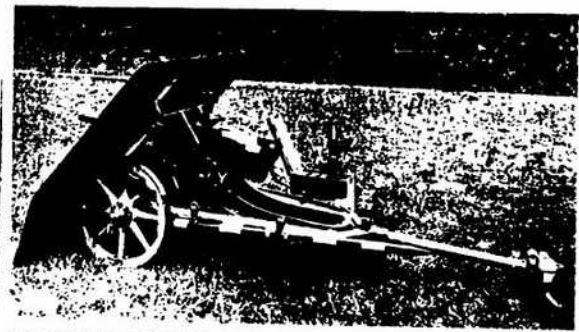
眼  
銃

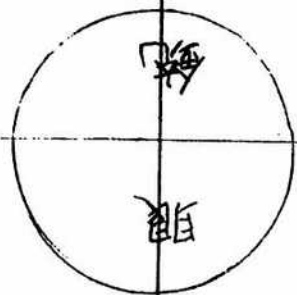


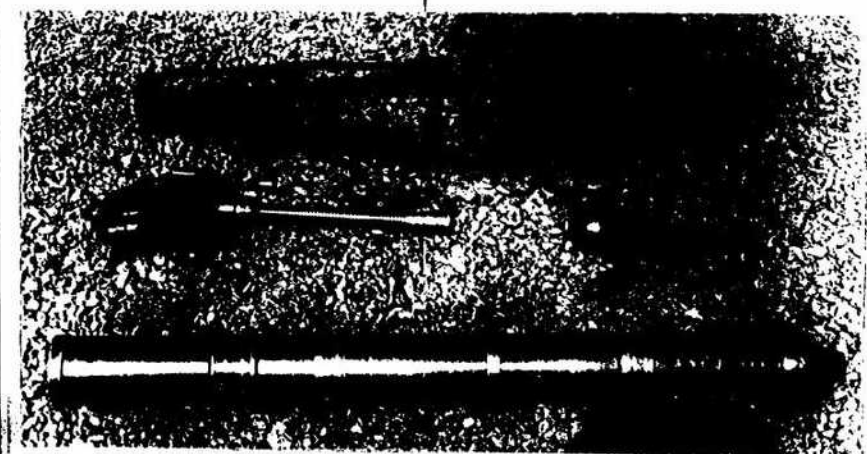
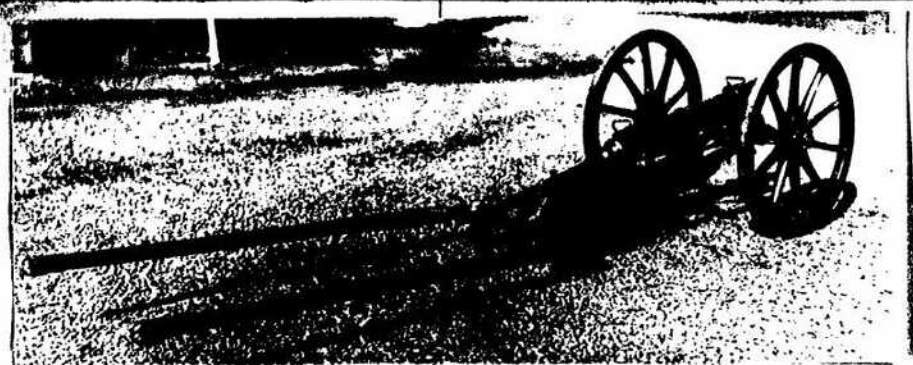




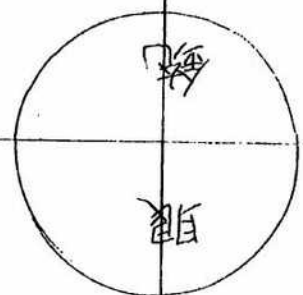




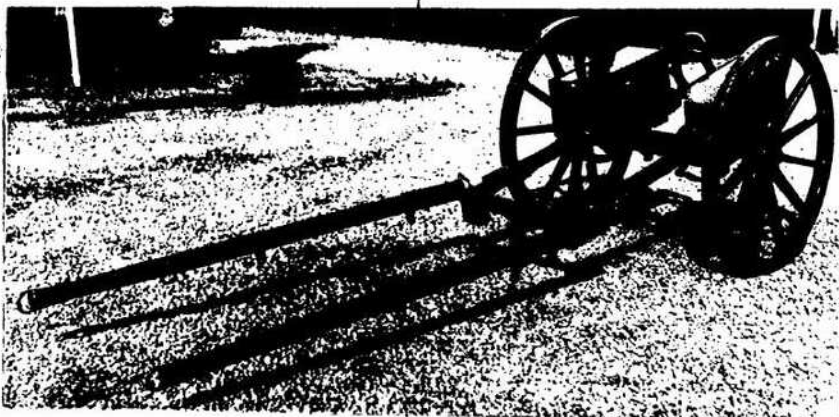
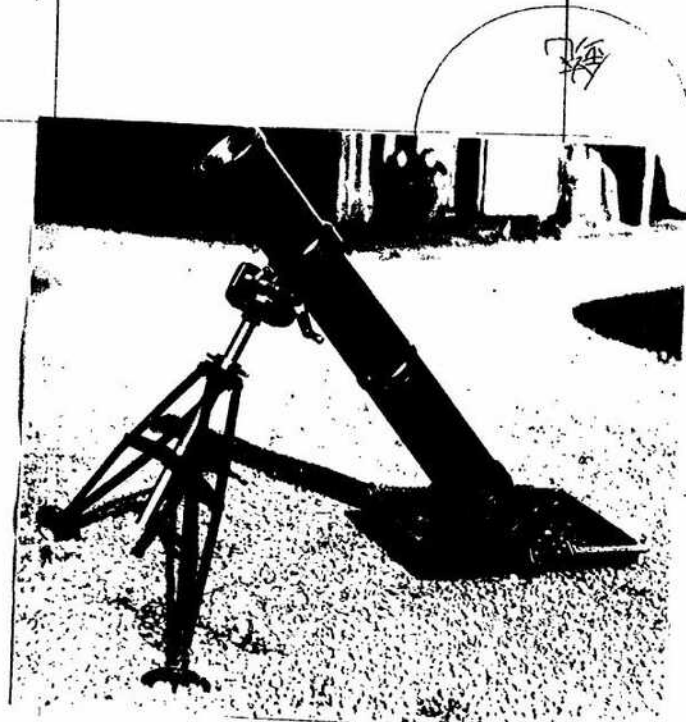
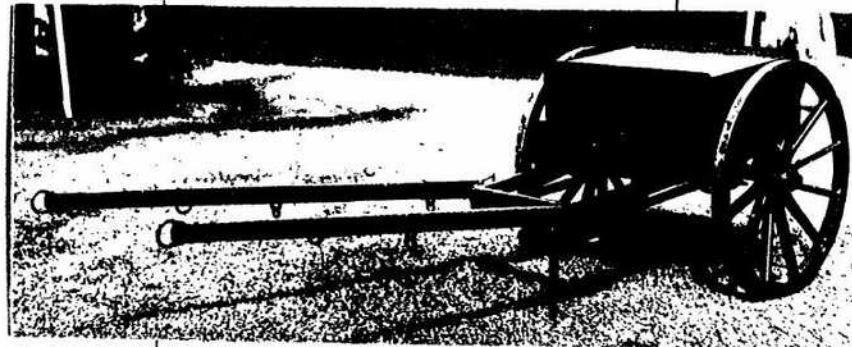
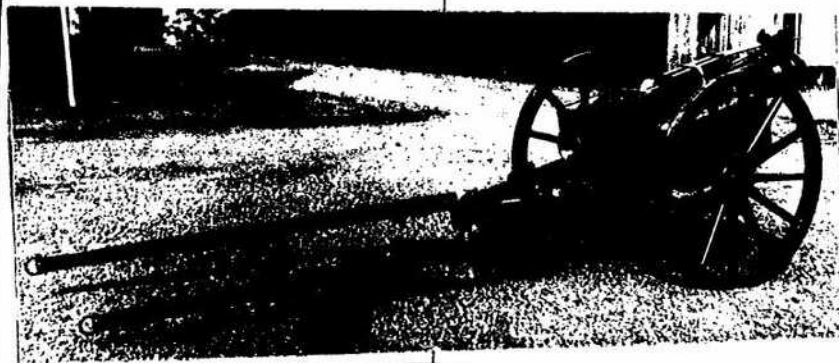


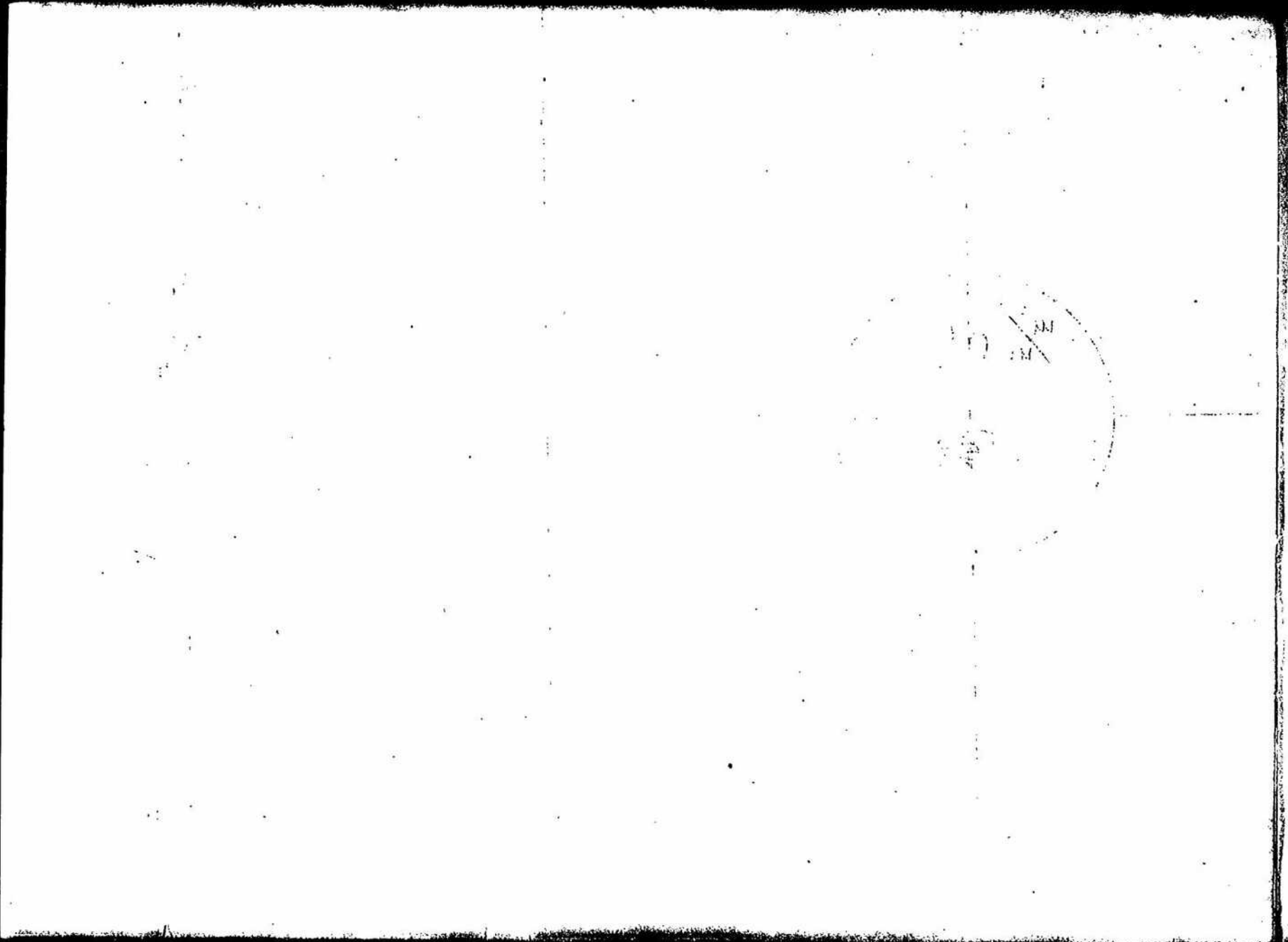
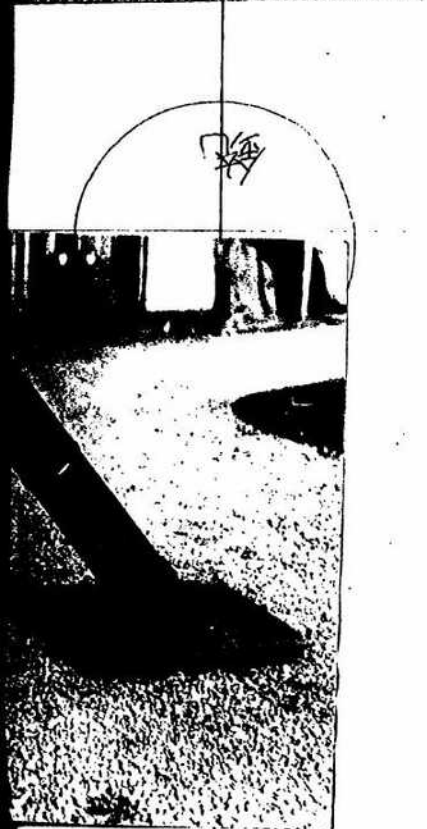
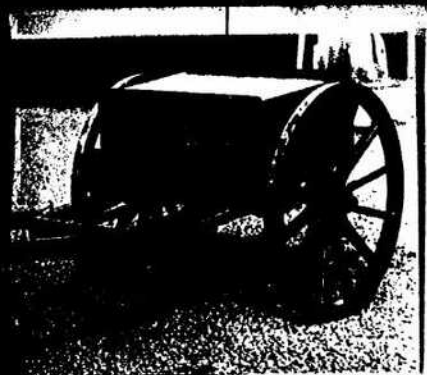


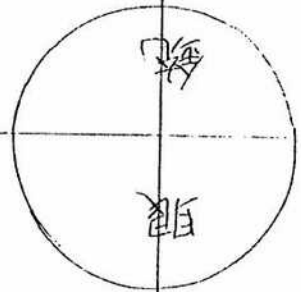
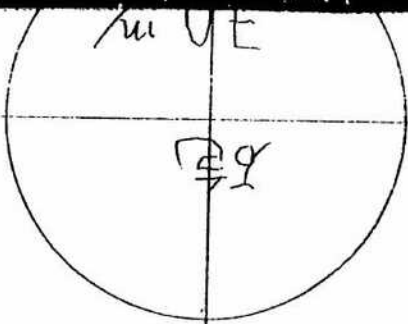
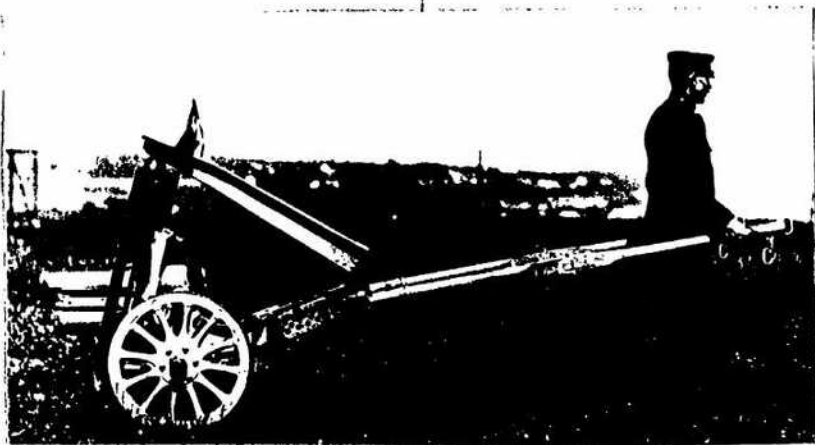
銃  
眼

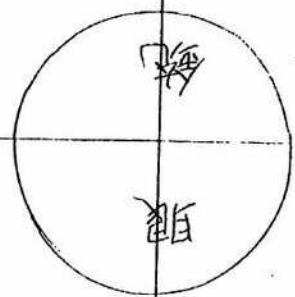


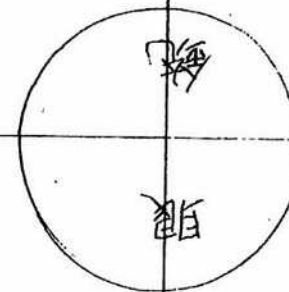
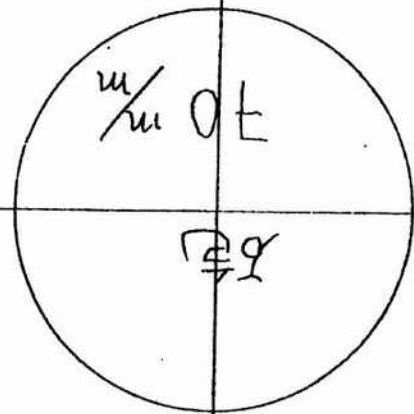




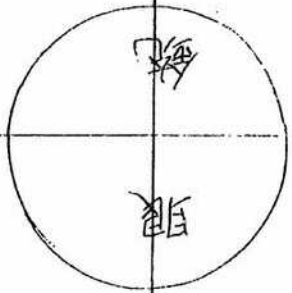








- a. 105 mm
- v. 610, 4
- p. 15 kg (物)
- x. 13200 103
- 重量 砲身(肉色)  
砲架  
砲架本脚
- 閉鎖機 出撃支
- 砲軸高 2734
- 車脚 1524
- 車輪中心 144
- 掃帚幅 ~~89~~ 117
- 後径 1220  
915
- 方向 砲架  
砲架
- 高低 -5 ~



a. 105 mm  
 v. 610, 460, 220.  
 p. 15 kg (桶) 炸 1.6  
 x. 13200 10300 84130  
 重量 砲身(用差) 610k }  
       砲架 1498 } 2108k  
       砲床及桿 89 }  
 閉鎖機 螺文  
 砲油高 2734  
 車脚 1524  
 車輪冲至 1448  
 輪帶幅 ~~89~~  
           117  
 後坐距 1220(0°) ~  
           915(45°)  
 方向 砲塔 ±3°  
       砲床 360°  
 高低 -5 ~ +45°





VICKERS 40 <sup>m</sup>/<sub>m</sub> AUTOMATIC GUN  
 CANON AUTOMATIQUE DE 40 <sup>m</sup>/<sub>m</sub> VICKERS

BALLISTICS.

Weight of Projectile ... .. 2 lbs.  
 Muzzle Velocity ... .. 2,000 f.s.  
 Muzzle Energy ... .. 55.5 f.t.  
 Range, max. ... .. 7830 yds.  
 Height at max. Elev. ... .. 14,500 ft.

WEIGHTS.

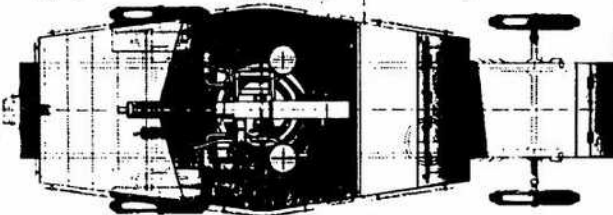
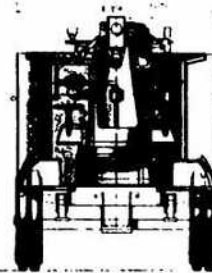
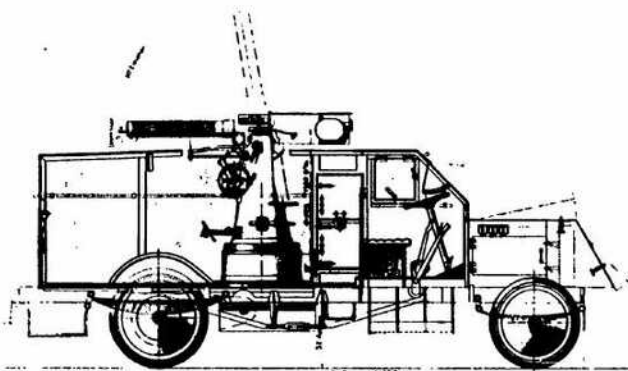
Gun and Mechanism ... .. Cwt. Qrs. Lbs.  
 ... .. 4 2 23

BALLISTIQUES.

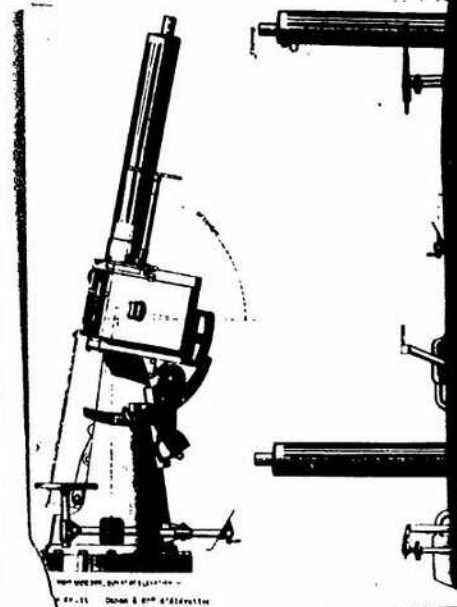
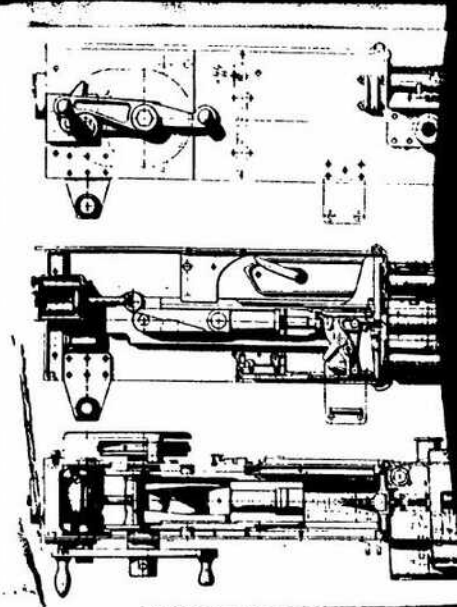
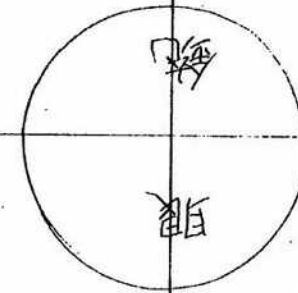
Poids du Projectile ... .. 91 kgs.  
 Vitesse Initiale ... .. 609.55 m.s.  
 Energie à la bouche ... .. 17.18 m.t.  
 Portée maxima ... .. 7160 mètres.  
 Hauteur à l'amplitude maxima  
 d'élevation. ... .. 4420 mètres.

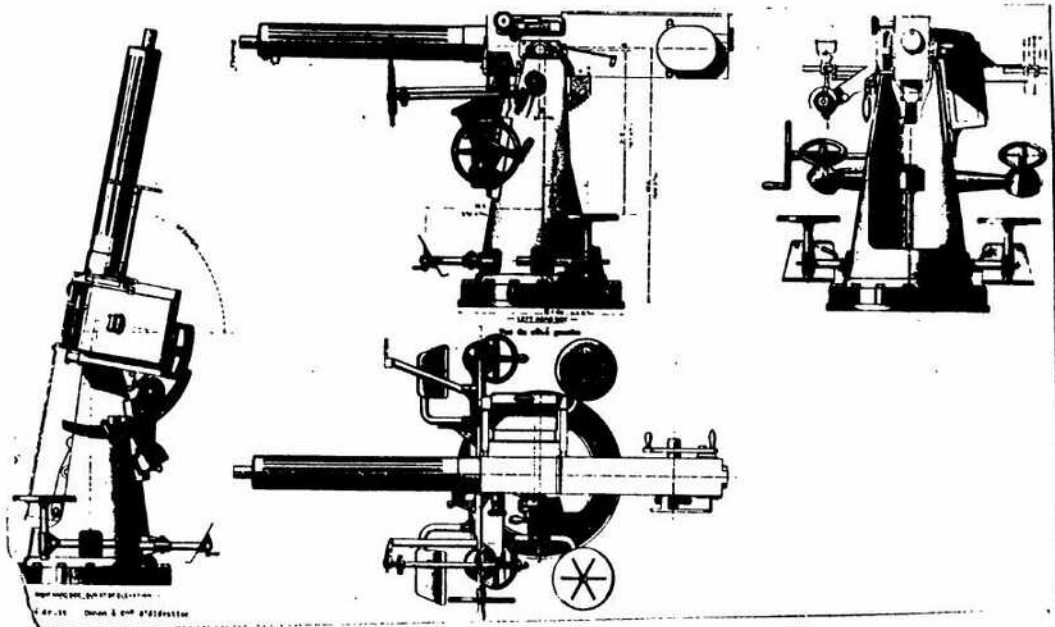
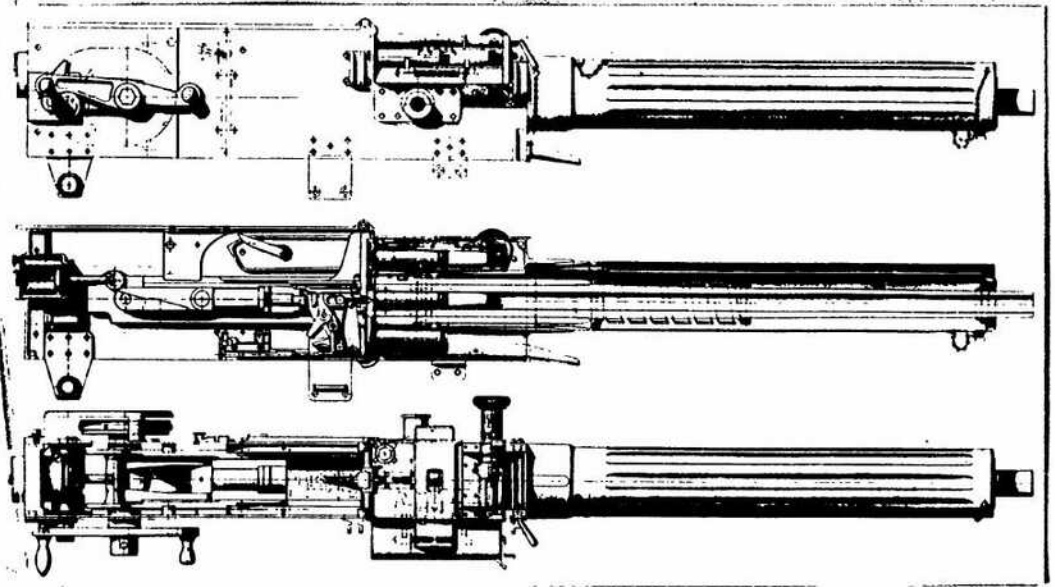
POIDS.

Canon et Mécanisme de Culasse ... .. 239



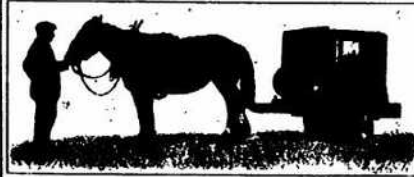
Section de A.A.  
 VICKERS  
 Drapeau Industriel  
 regardant à l'arrière



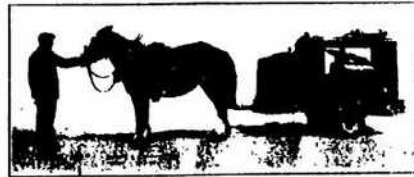


銃眼

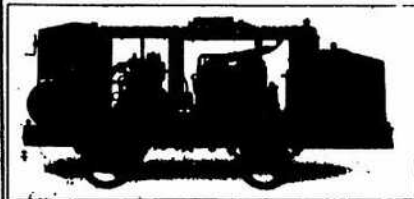
A PORTABLE AIR COMPRESSOR  
BROOM AND WADE, LTD., HIGH WYCOMBE, ENGLAND



THE COMPRESSOR CHASSIS



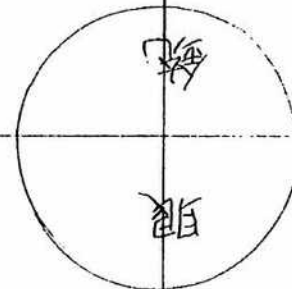
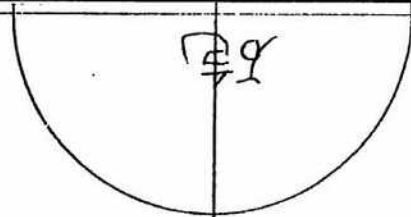
THE ENGINE CHASSIS

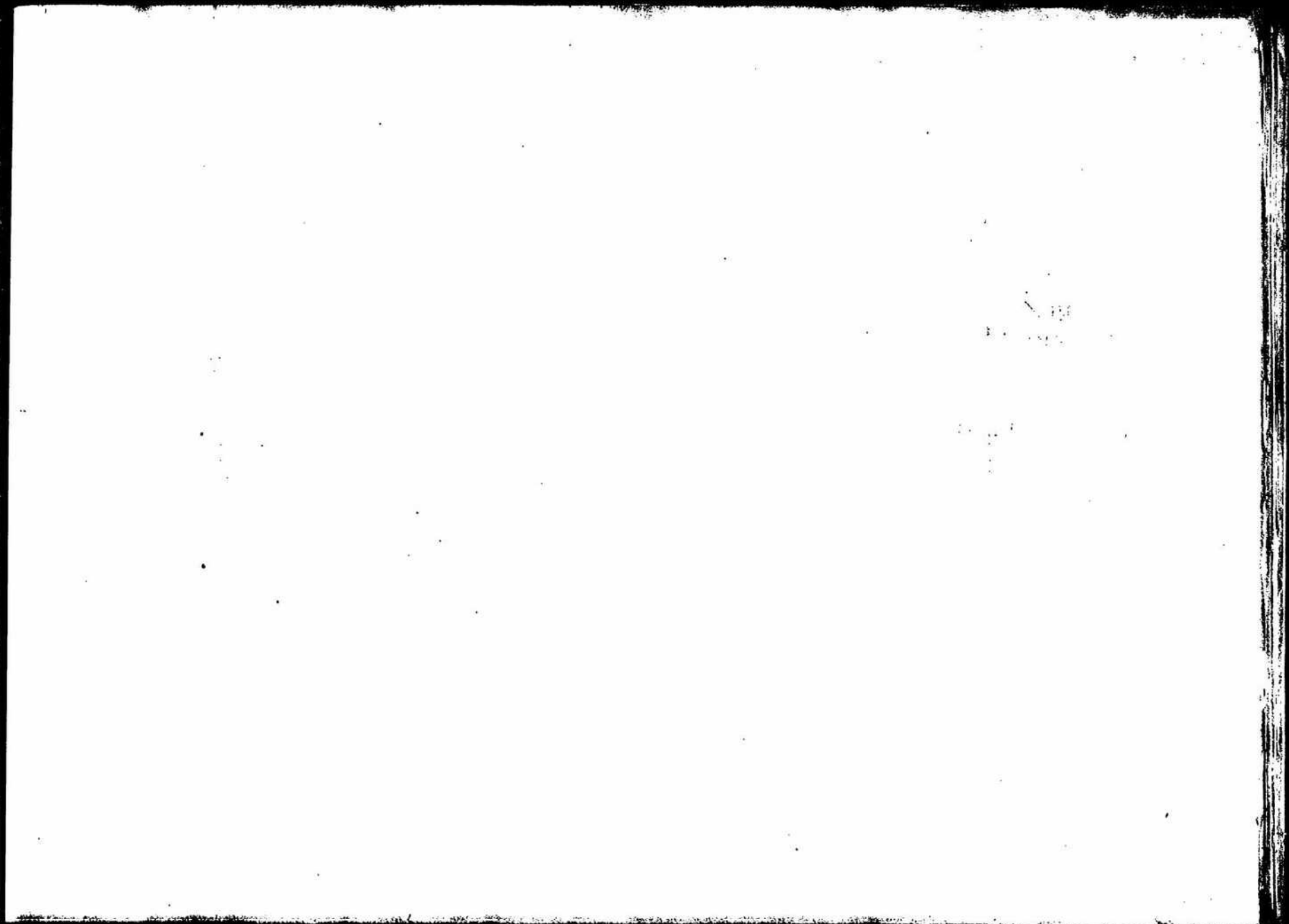
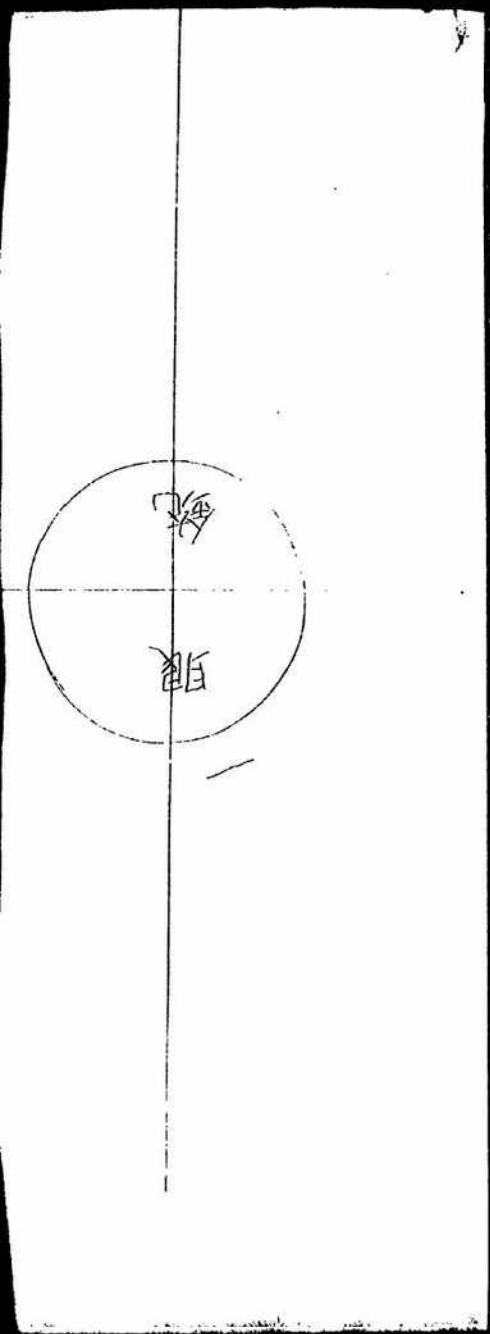


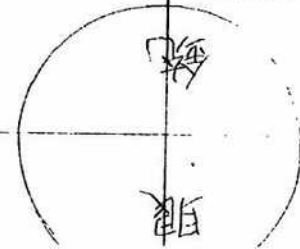
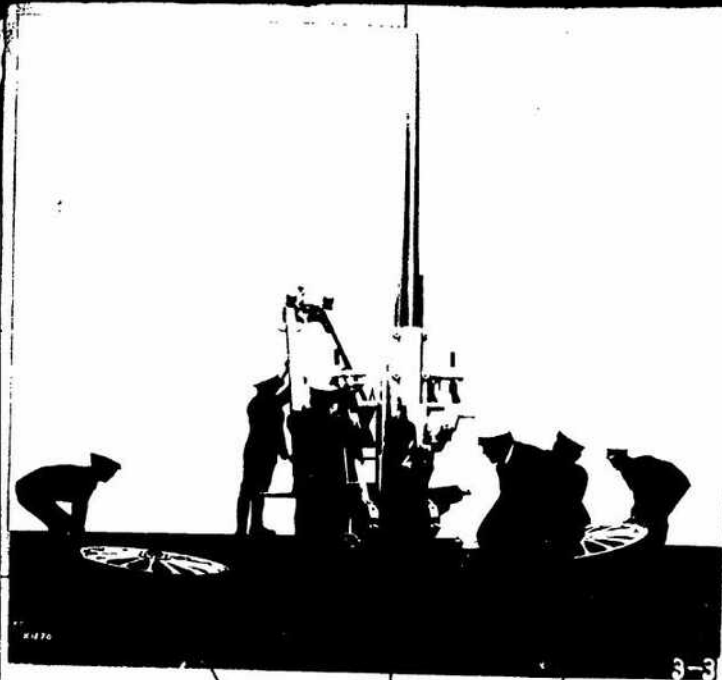
THE COMPLETE COMPRESSOR

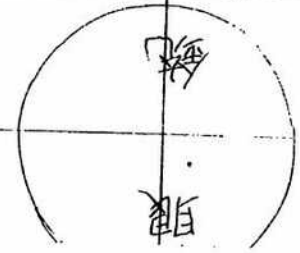
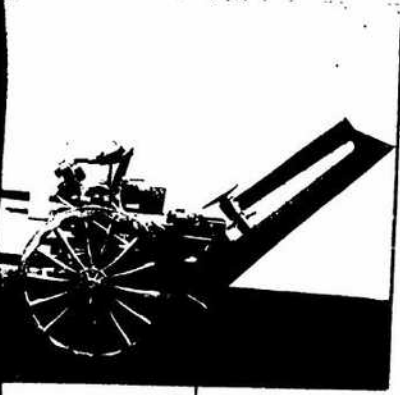


THE TOOL-BOX CHASSIS













42

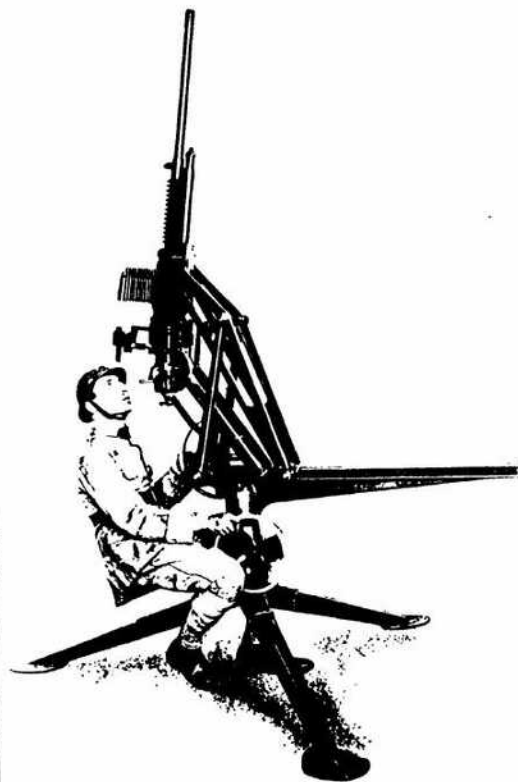
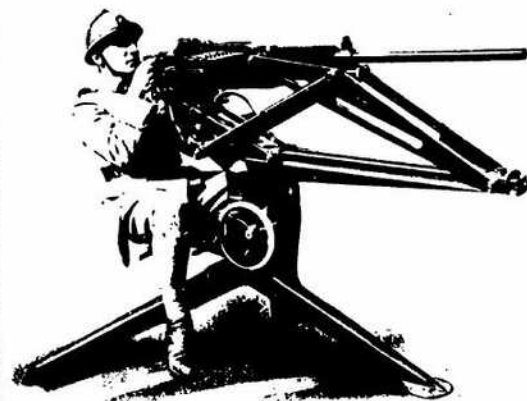
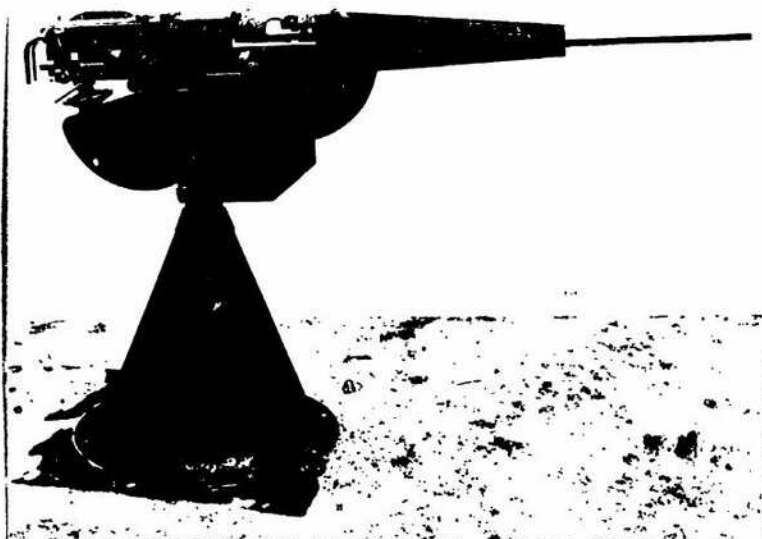
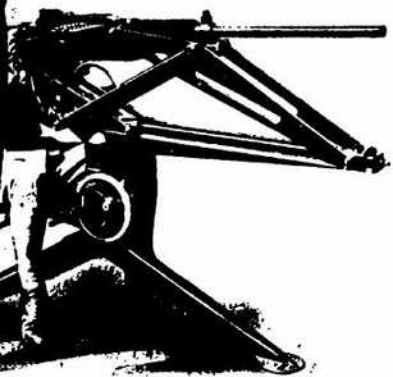
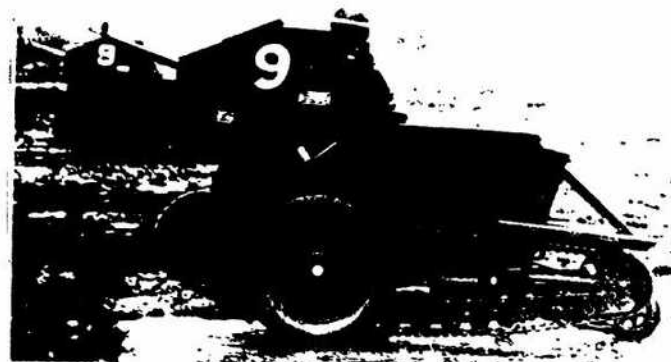
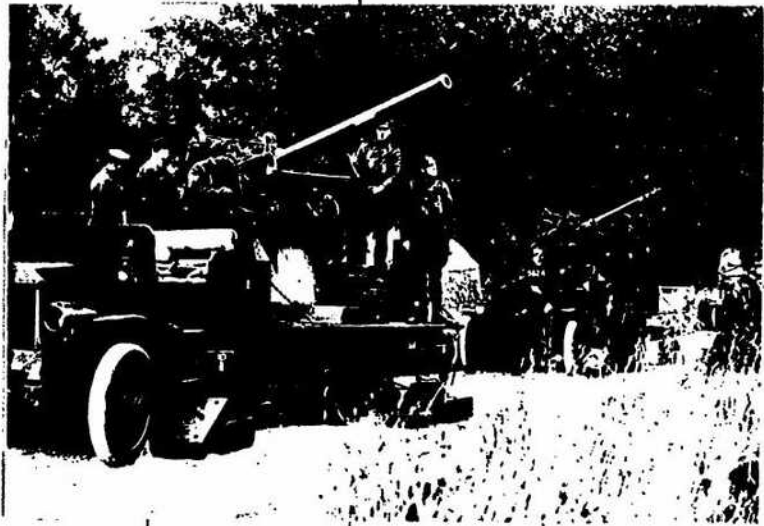


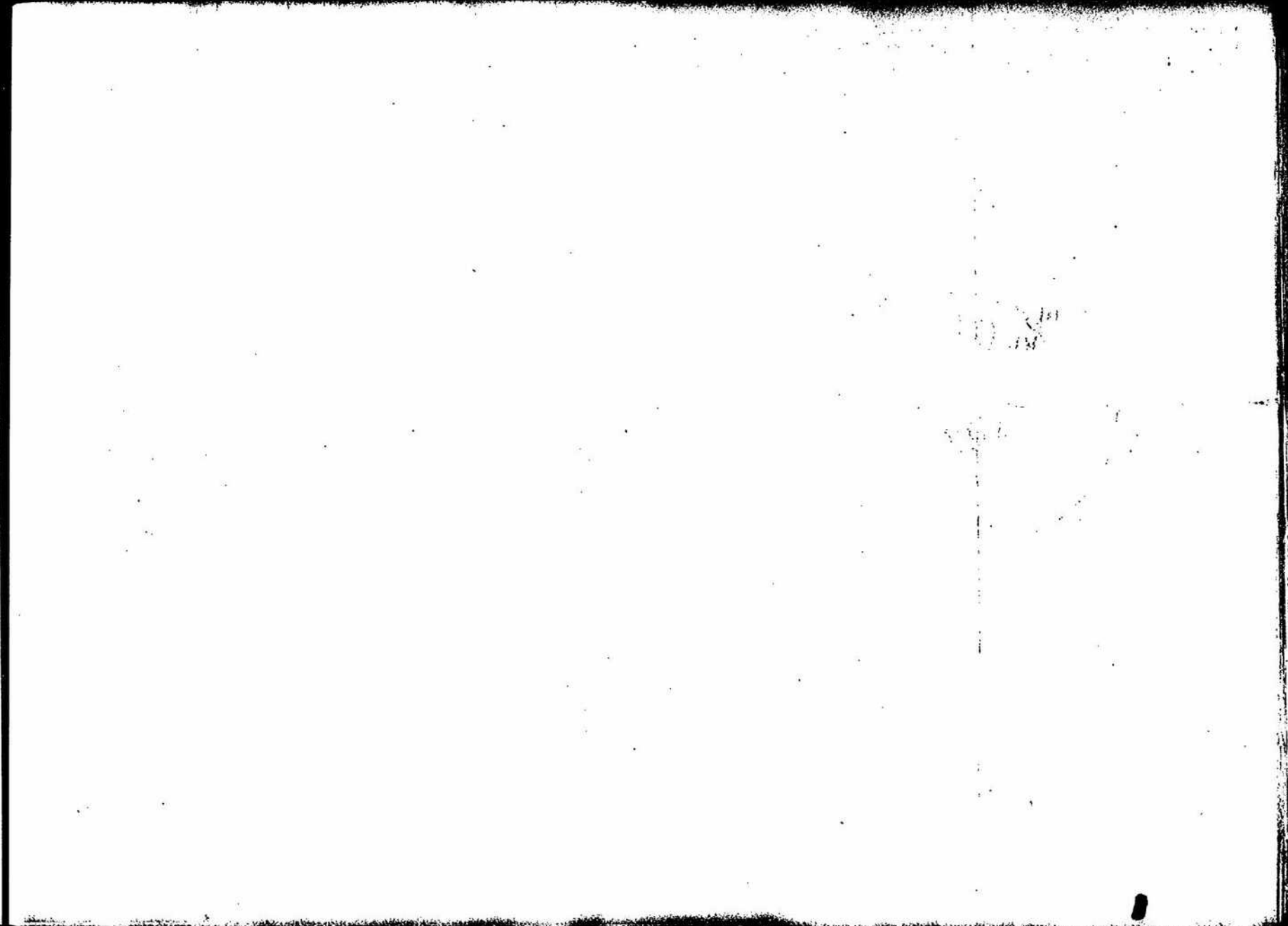
Fig. 1. Mitrailleuse de 13 mm n. 2 au feu de campagne  
(Deux aspects).

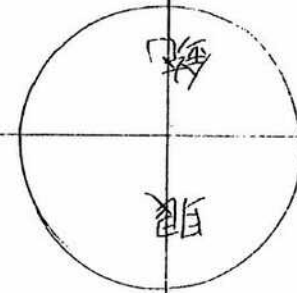
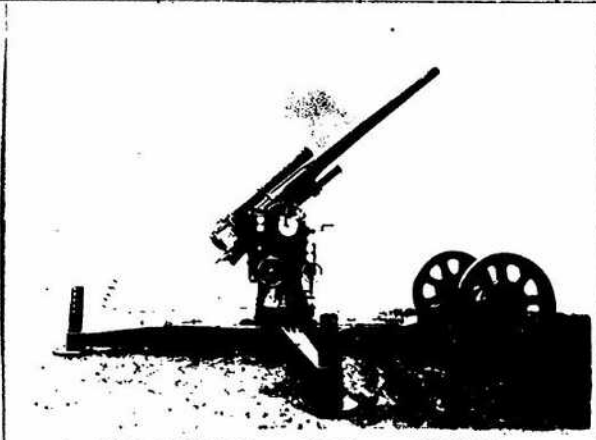
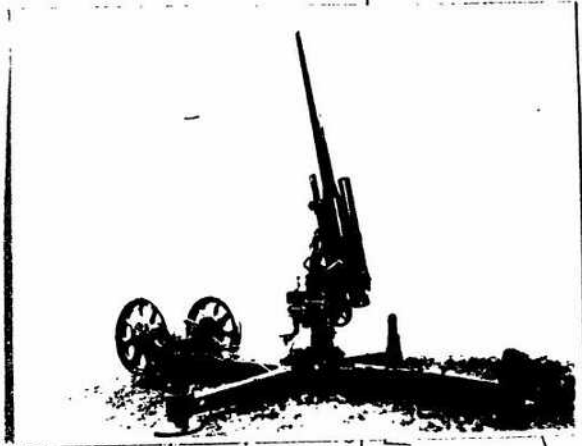


Engelleux - Hochkran de 13 m sur affût de campagne.  
(In use alpine areas)





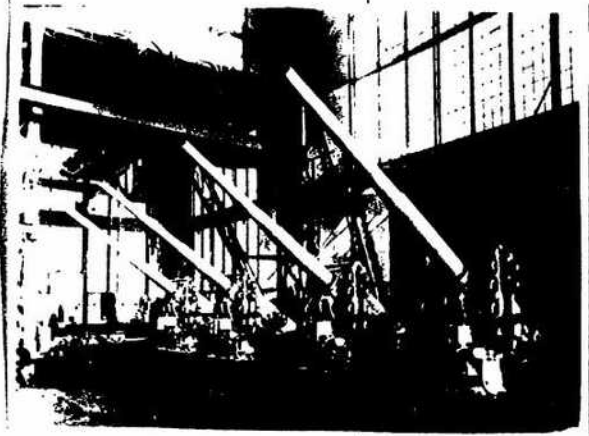
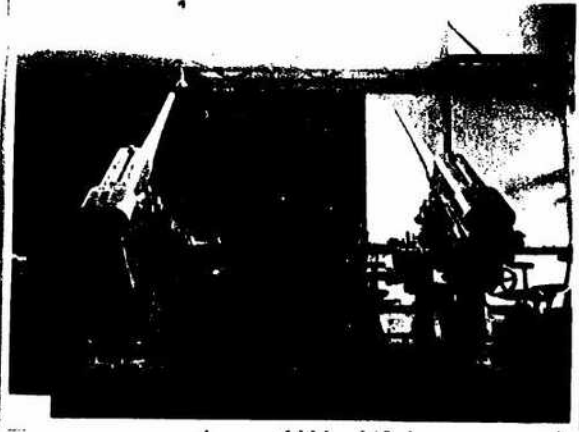




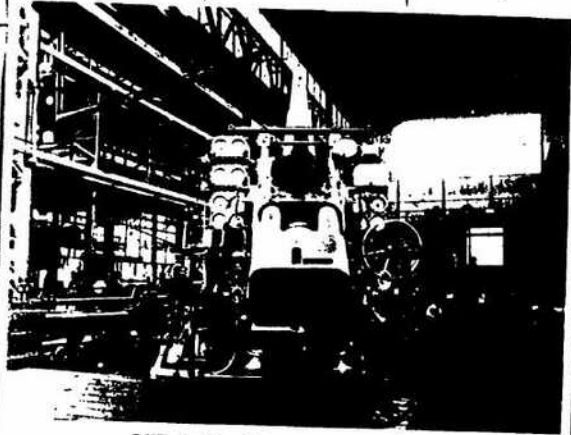
眼  
一

10  
10

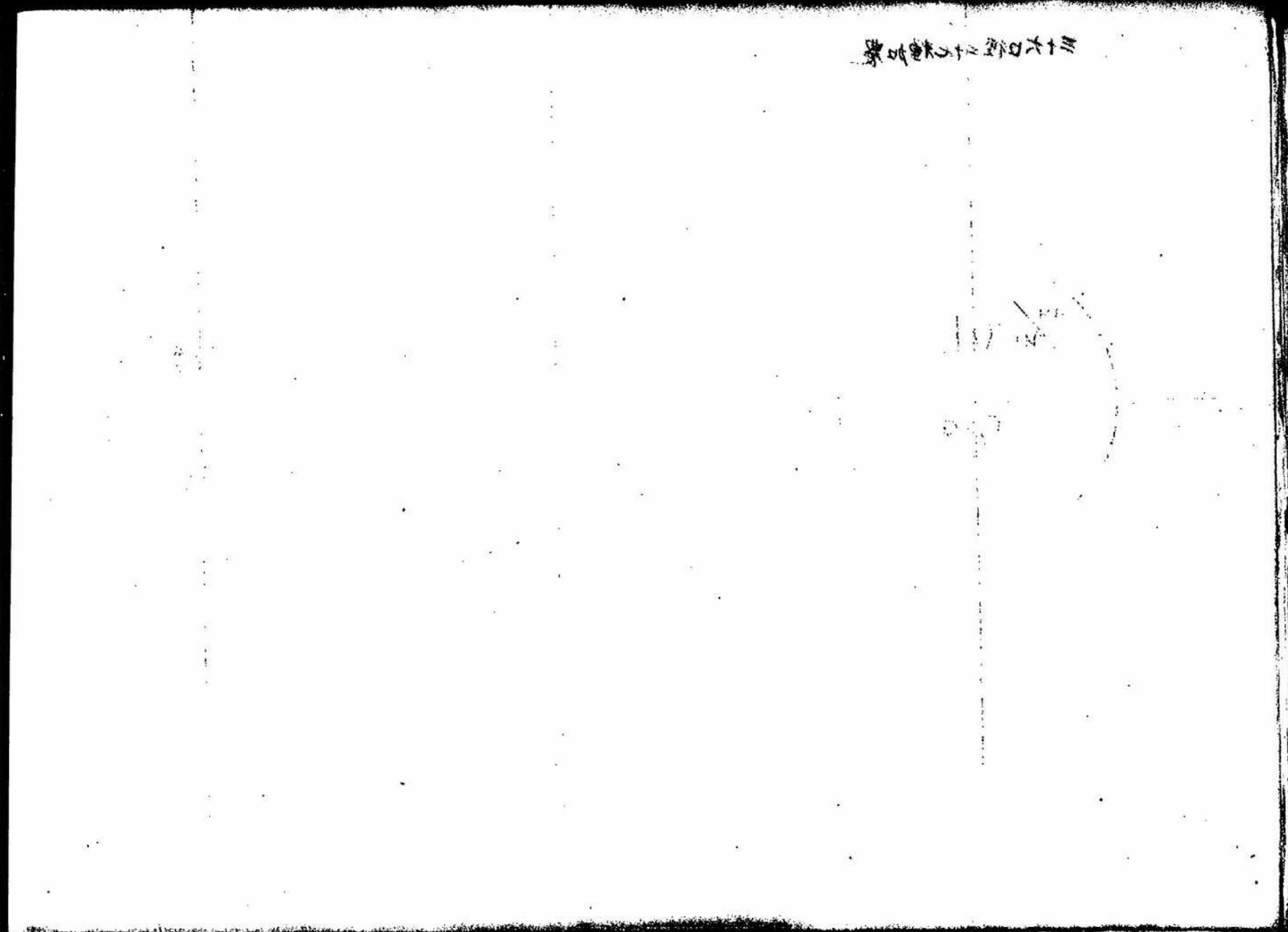
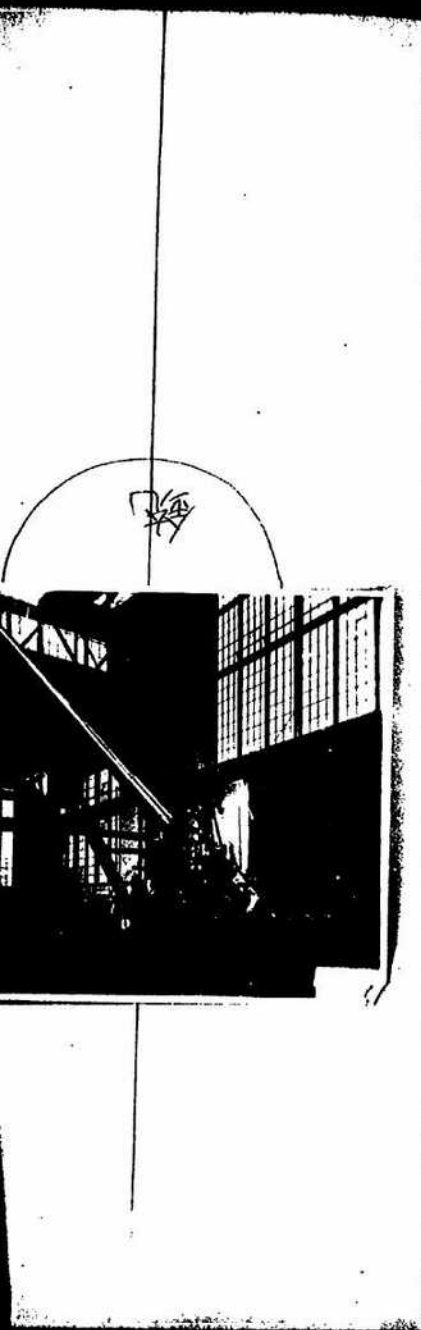




100 VL

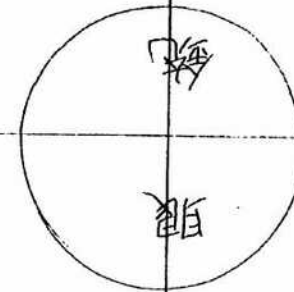


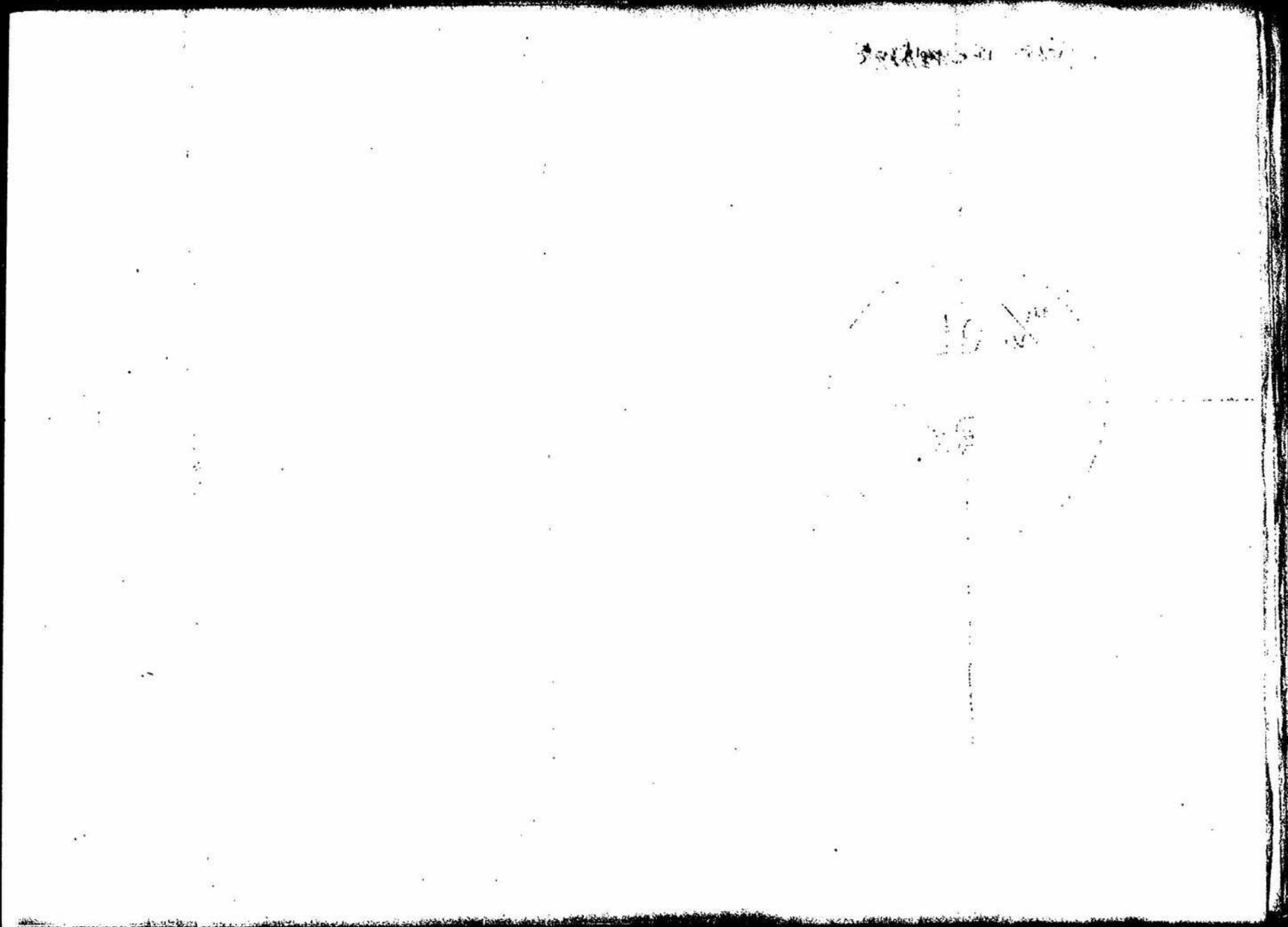
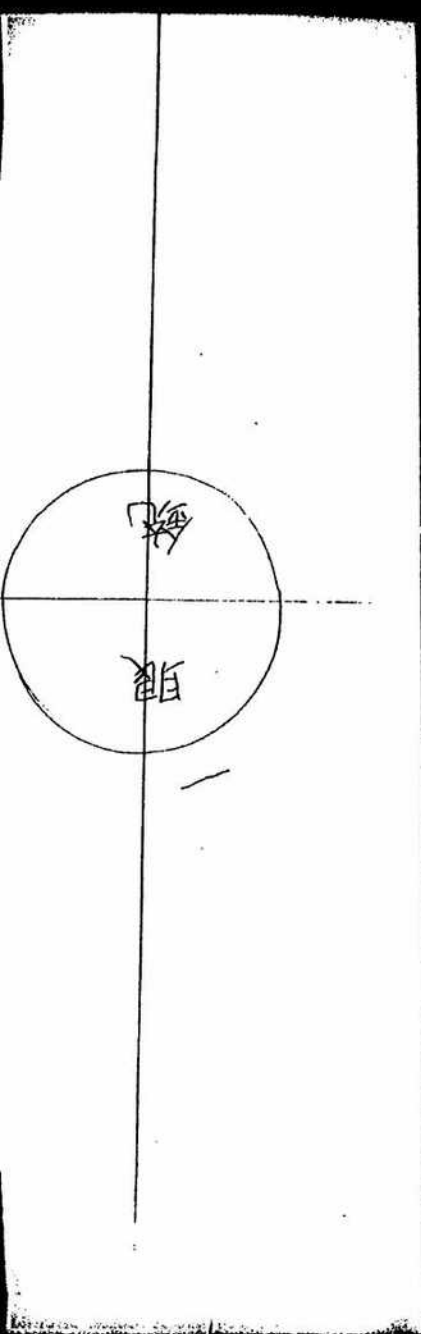
100 VL



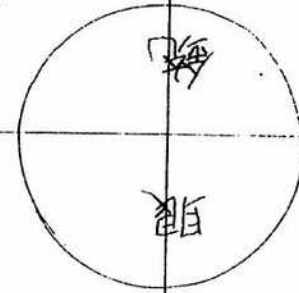
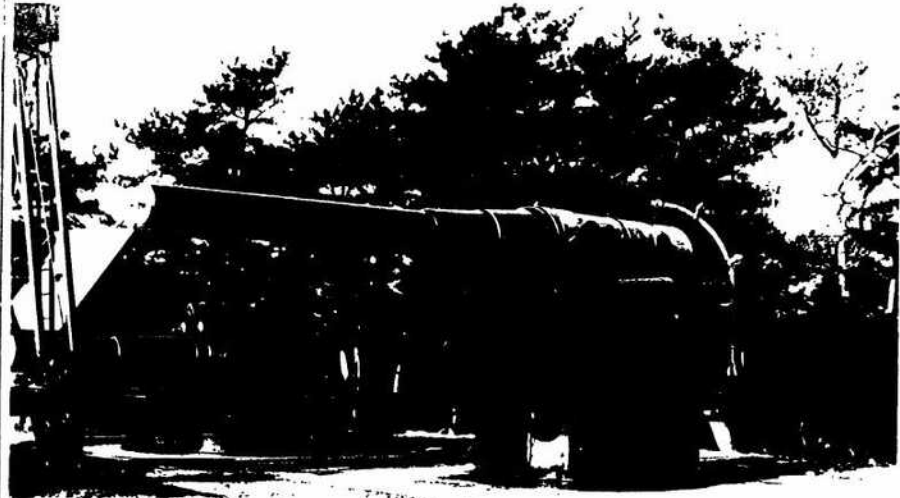
川十次郎の...

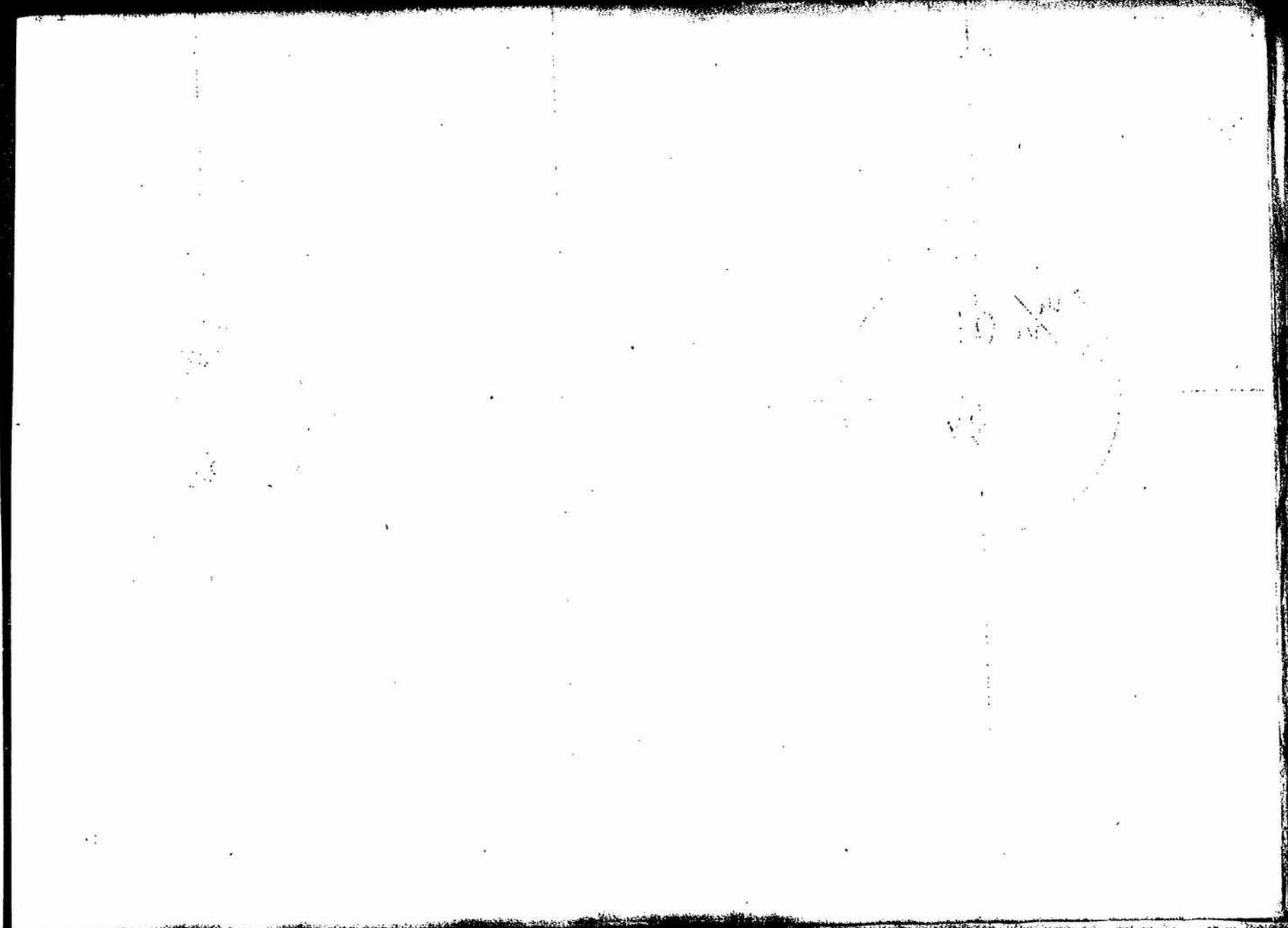
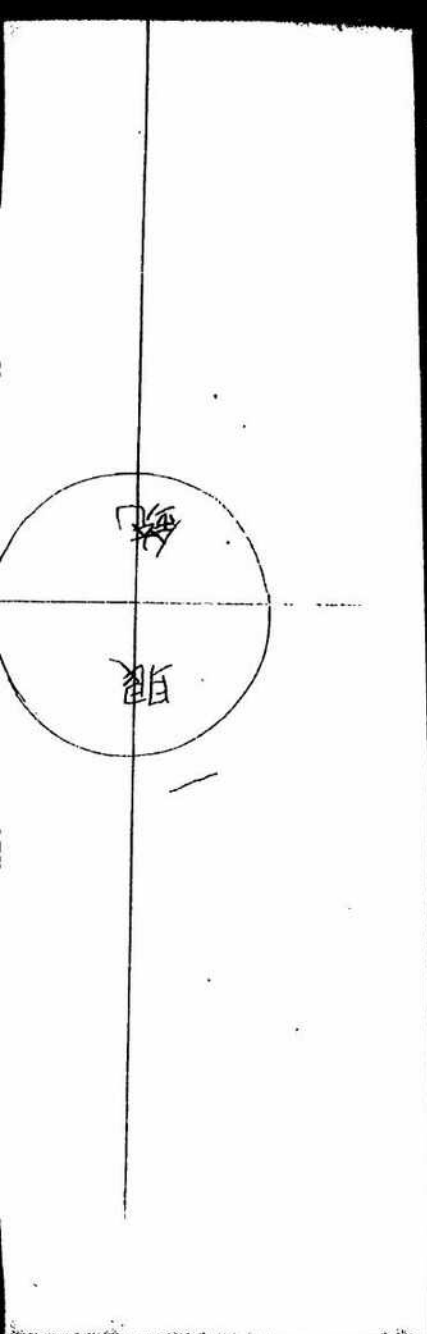
三十六口径十七種加農





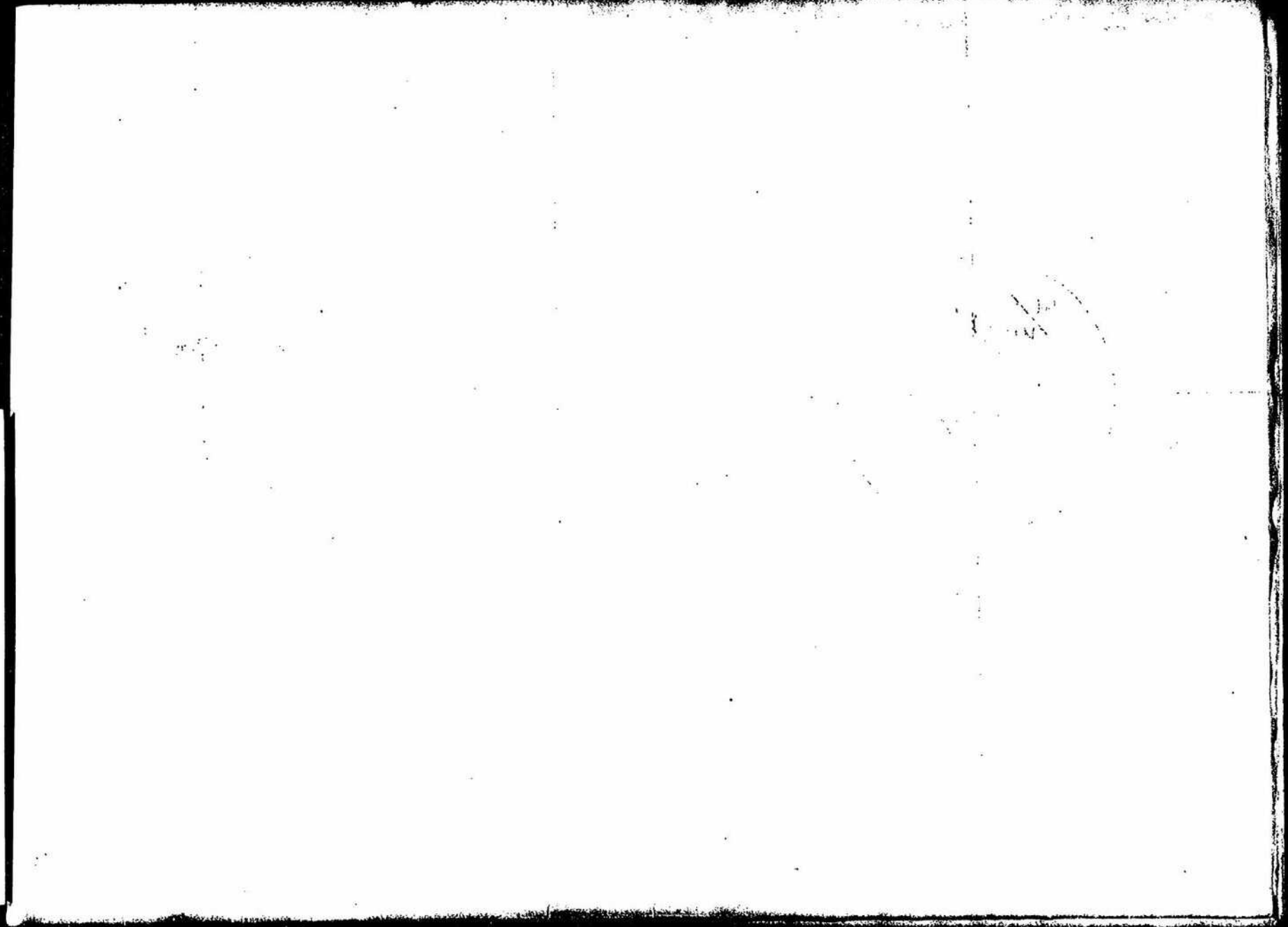
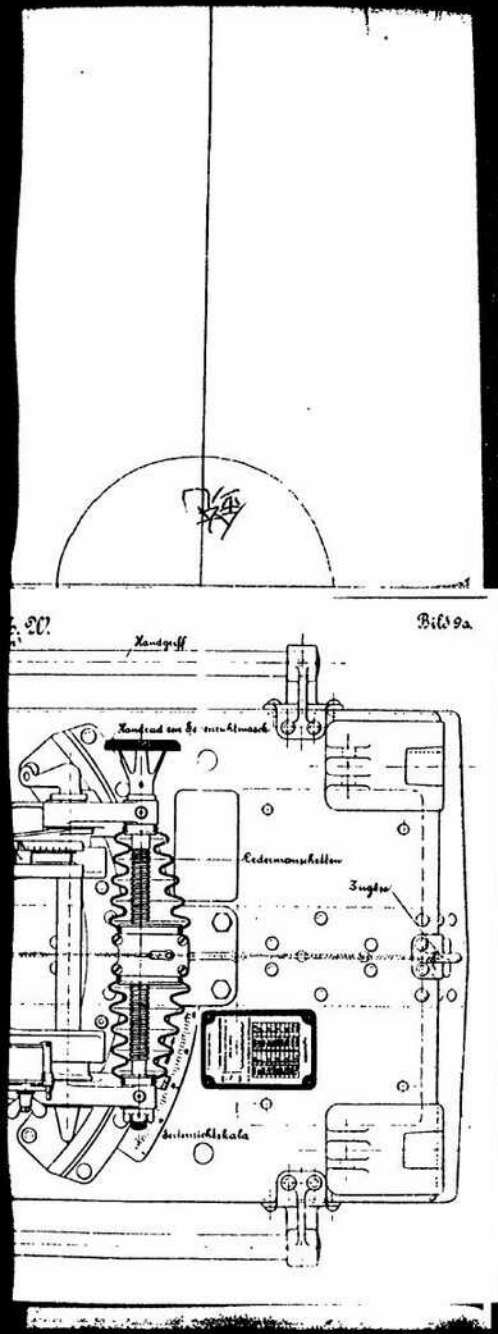
三十四年二月廿九日

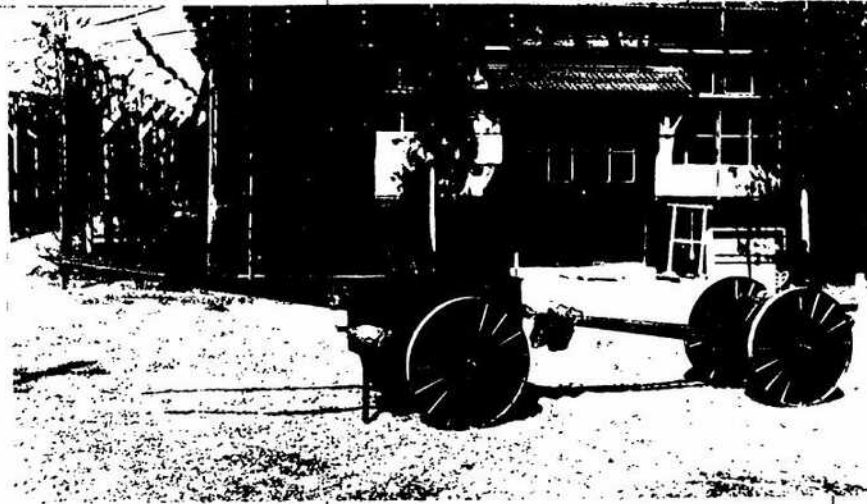
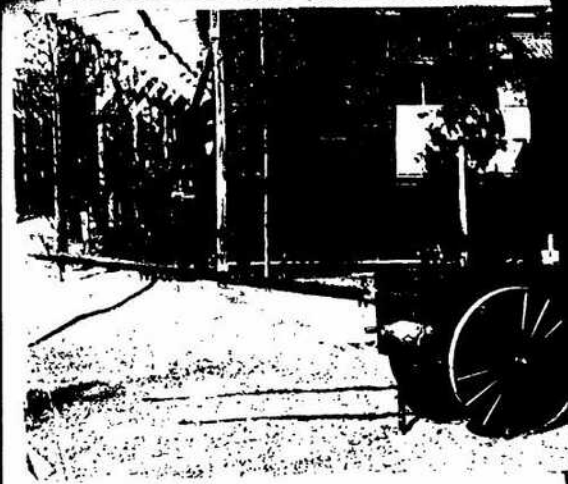
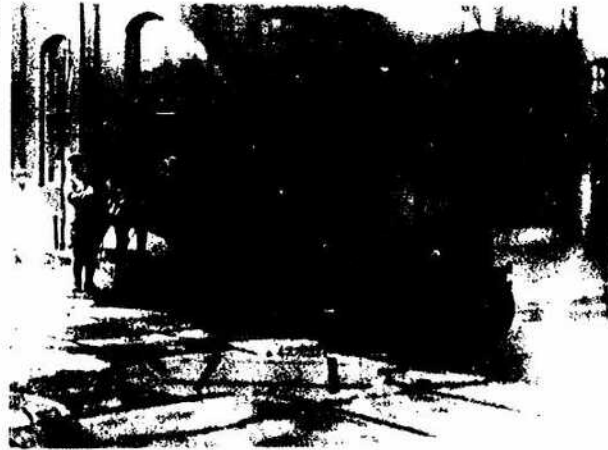




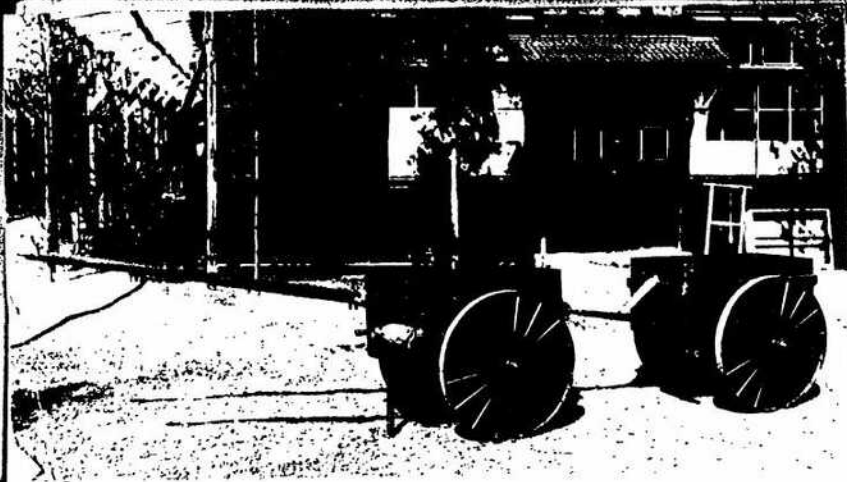


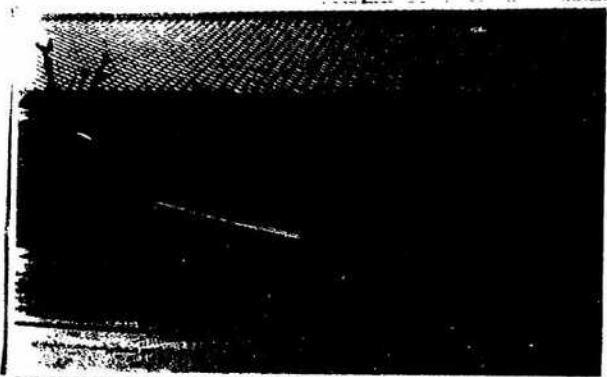




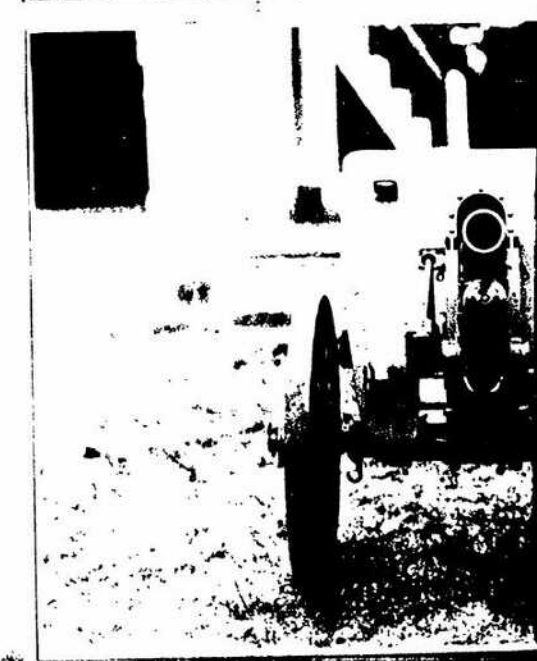
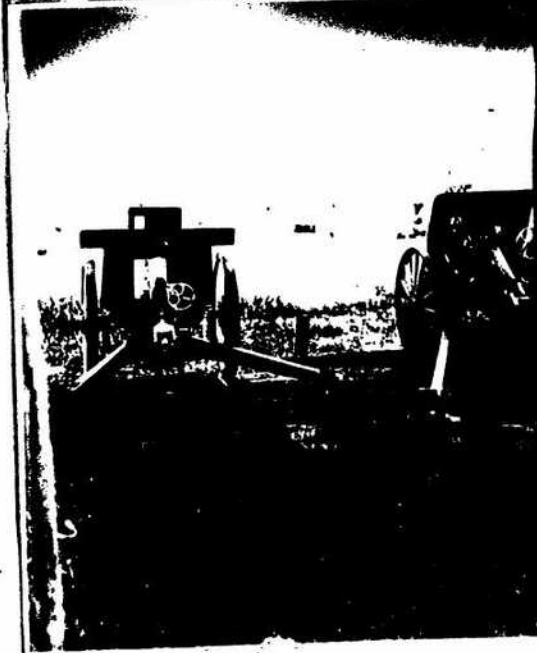
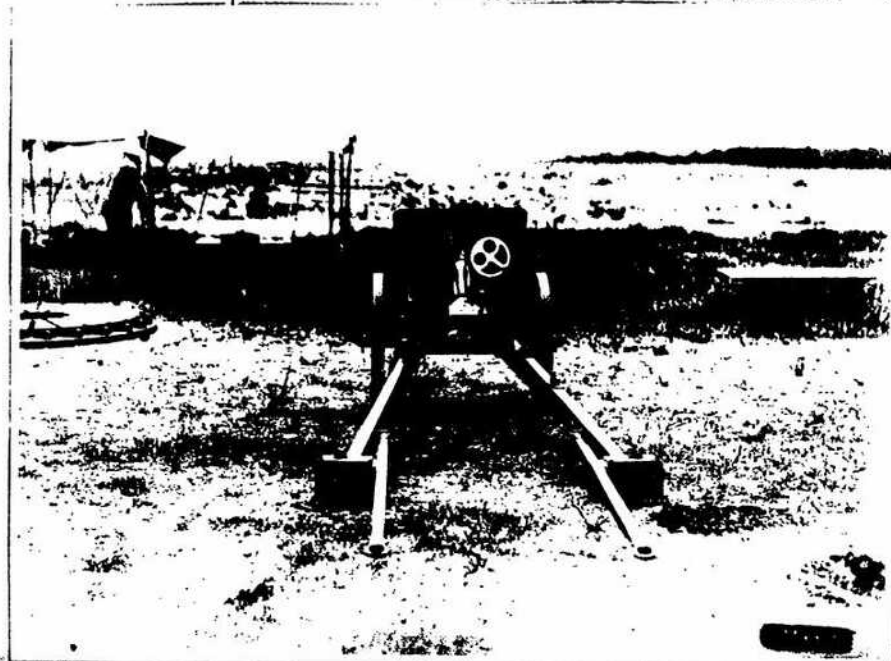


Handwritten text in a circle, possibly a date or a reference number.

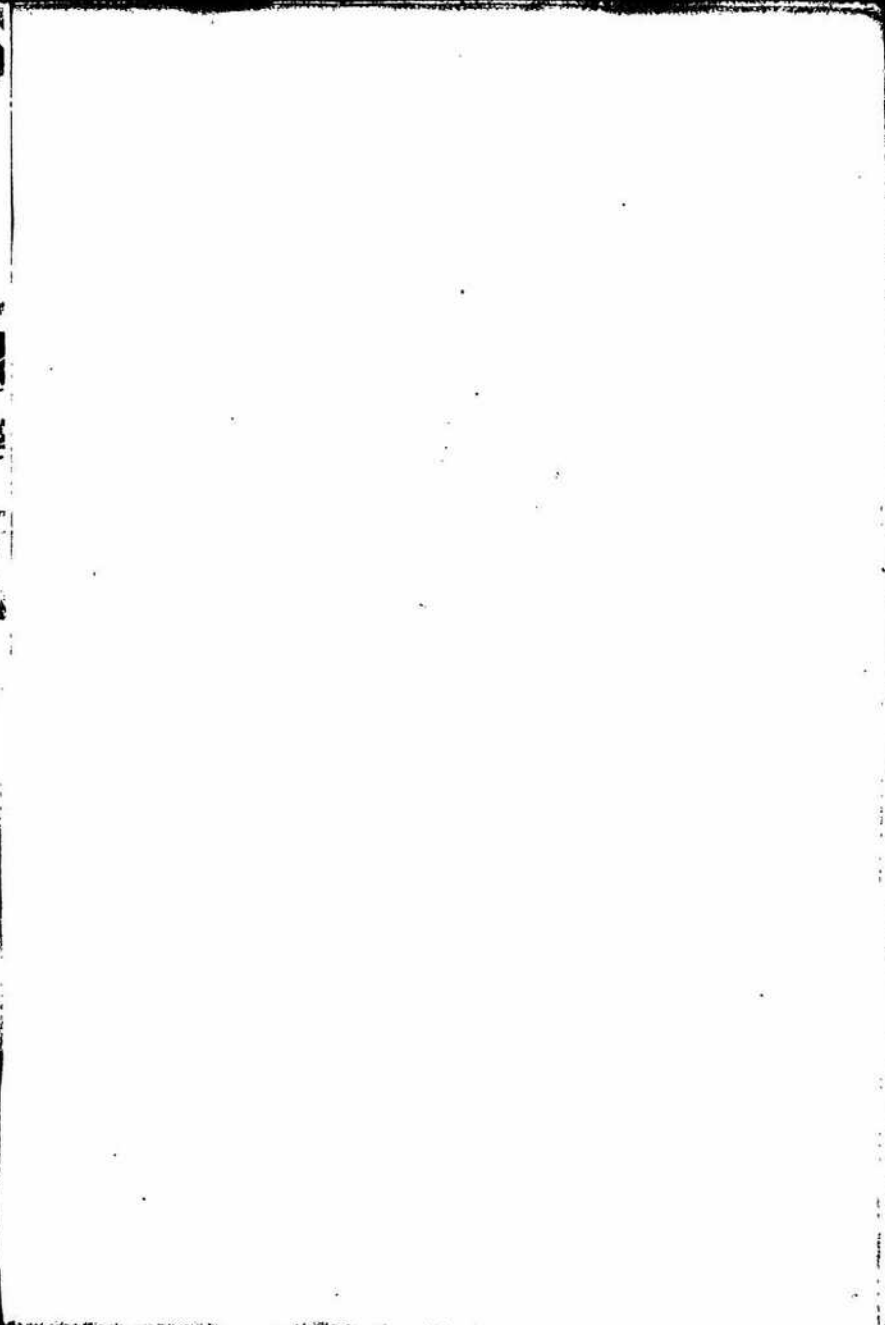
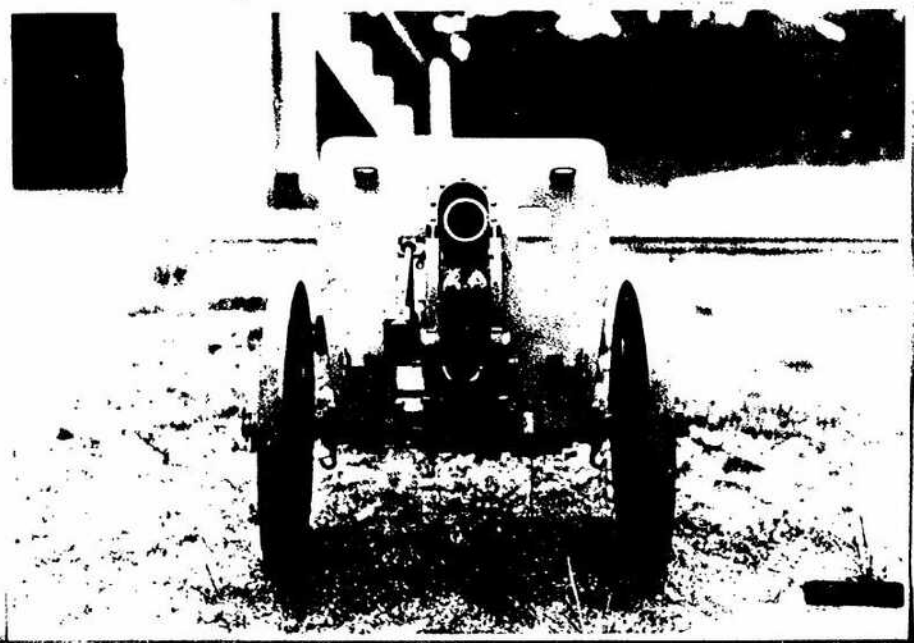
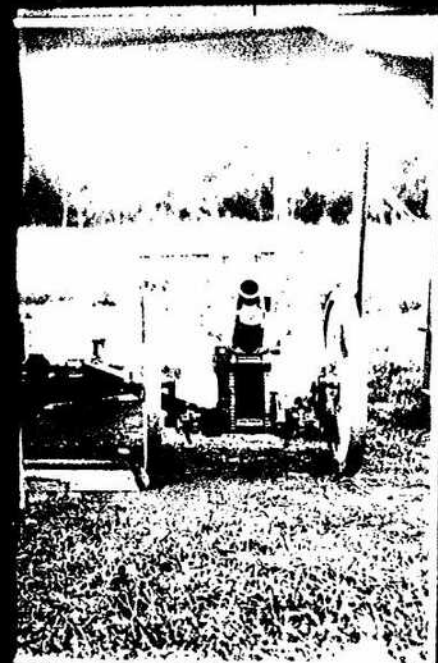




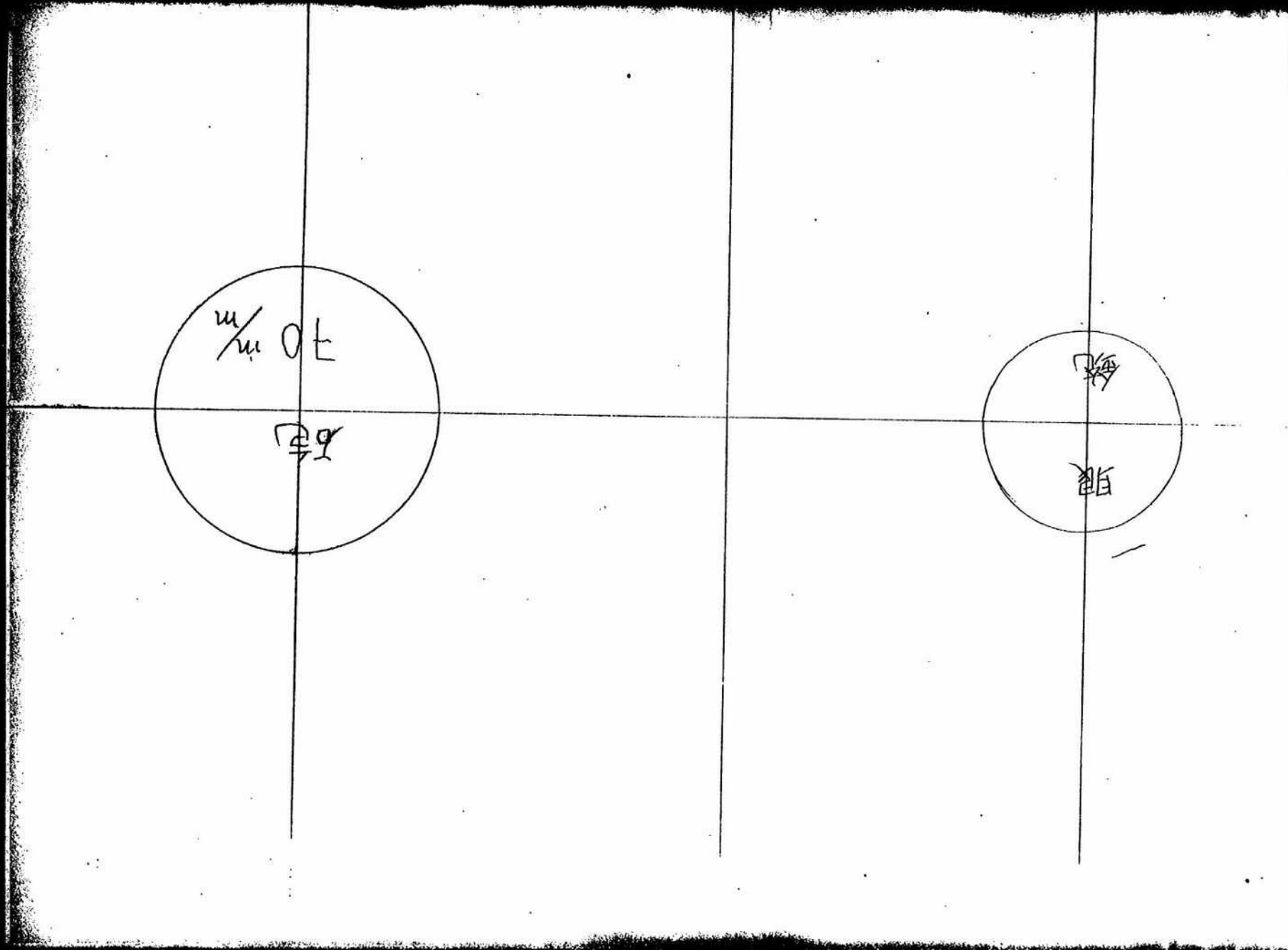
Handwritten text: *u / su ot*









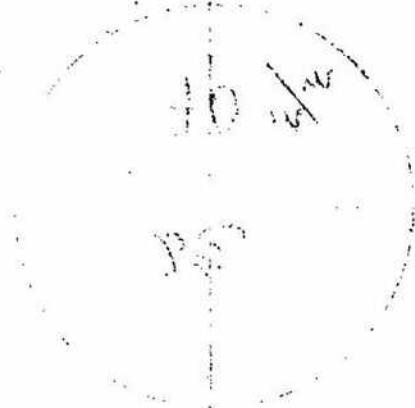


Derlikon 2 cm Automatic

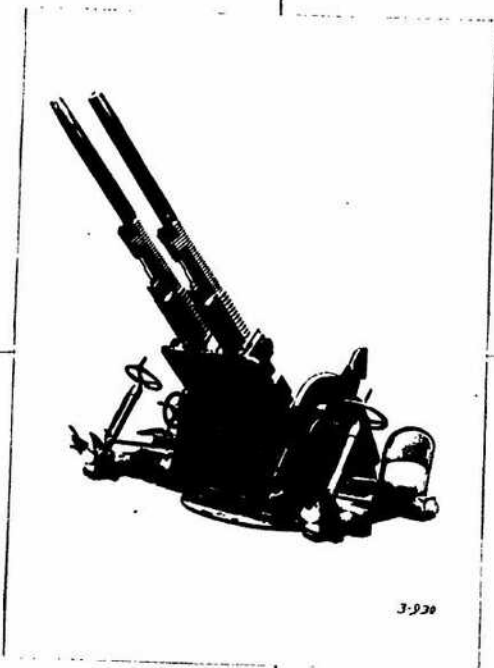
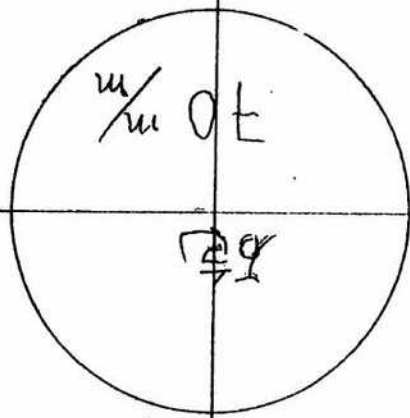
	Model "F"	Model "L"
口径	2 cm	2
視界長	40 cal	60
視界全長	140 cm	182
腔鏡數	9	9
腔鏡深	0.4%	0.4
腔鏡傾角 右傾角	5°	5°
初速	550	670-700
最大腔壓(約)	2800 atm	3000
腔重量(約)	29	42
筒口徑(38口径)每分	130	125
筒口徑		
Cadence de tir	450	350
Portée		約 4 Km
Plafond		約 3 Km

Qerlikon 2 cm Automatic gun.

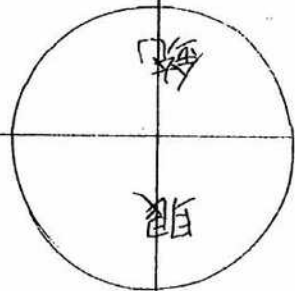
	Model "F"	Model "L"	Model "S"
口径	2 cm	2	2
口径长	40 cal	60	70
口径全长	140 cm	182	210
膛线数	9	9	9
膛线间距	0.4 m	0.4	0.4
膛线倾角, 右倾等角	5°	5°	5°
初速	550	670-700	835-890
最大膛压(约)	2800 atm	3000	3200
膛容量(约)	29	42	63
膛口(膛口)的 口径	130	125	120
Cadence de tir	450	350	280
Portée		约 4 km	5
Plafond		约 3 km.	3.5

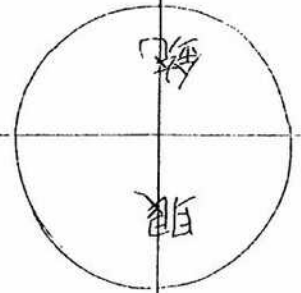


Handwritten text at the top of the page, possibly a title or reference number.



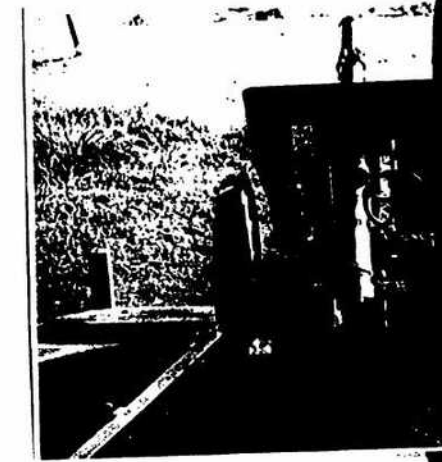
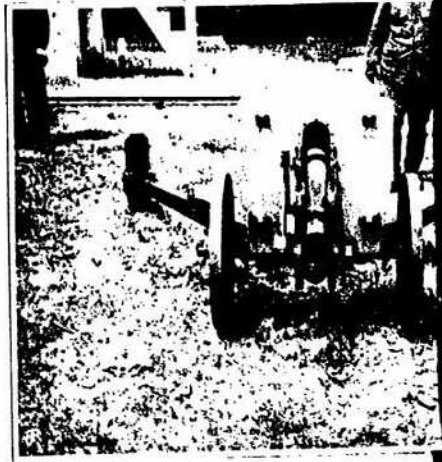
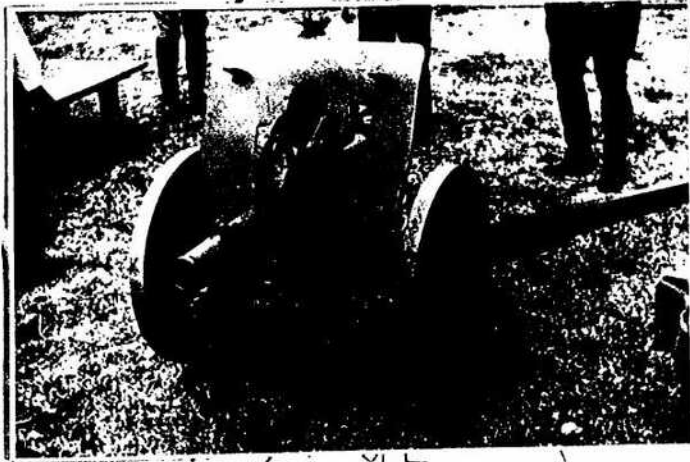
3-230

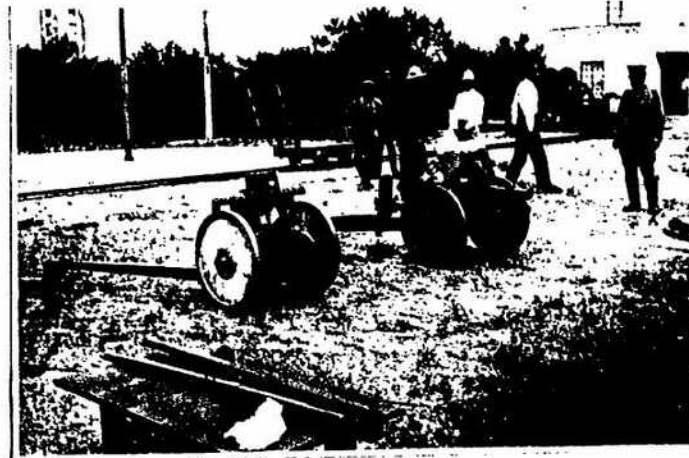
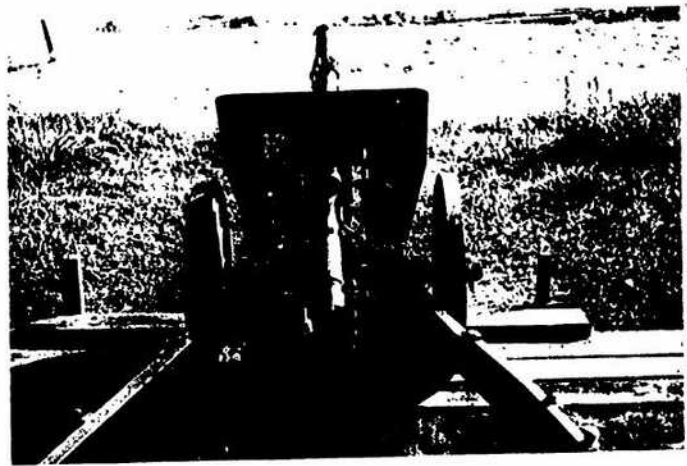
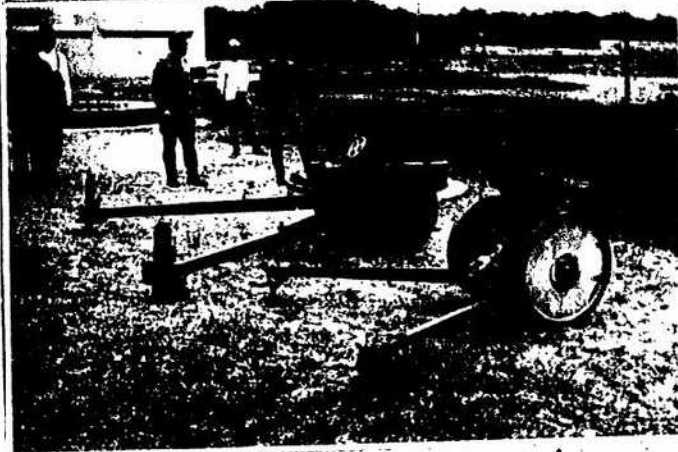
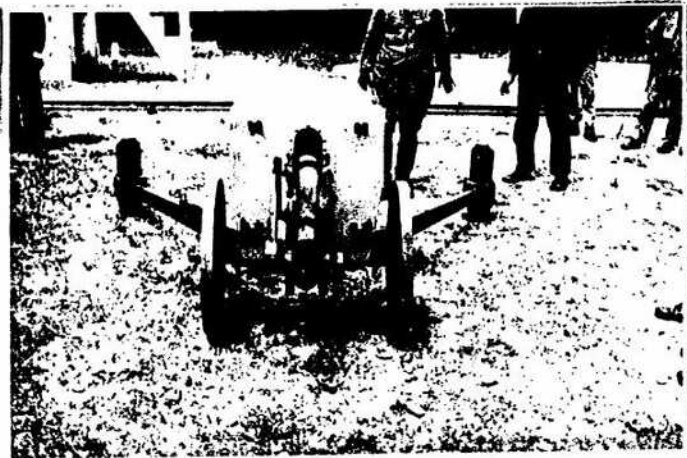


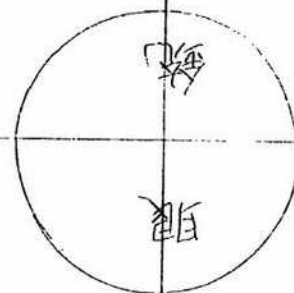
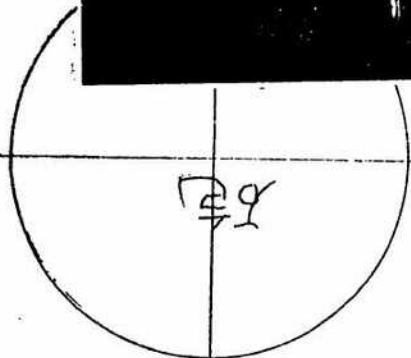


鏡

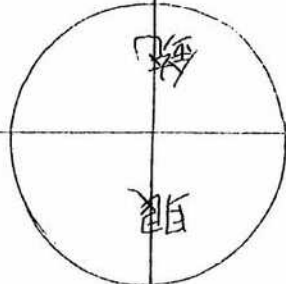
眼

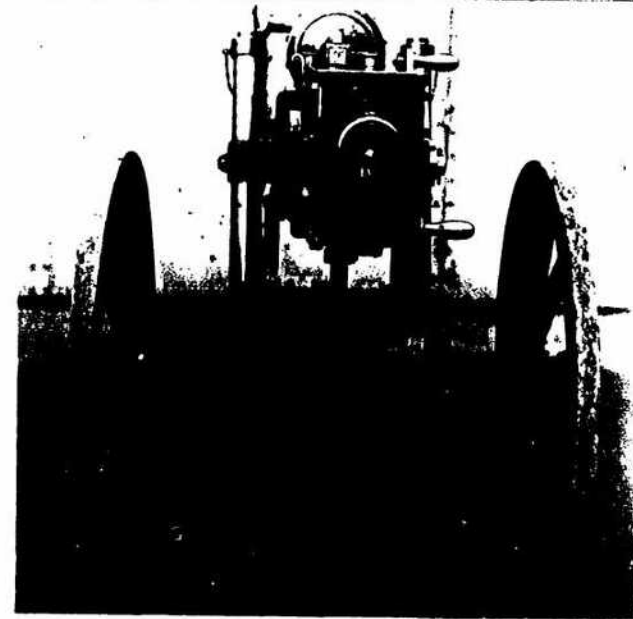
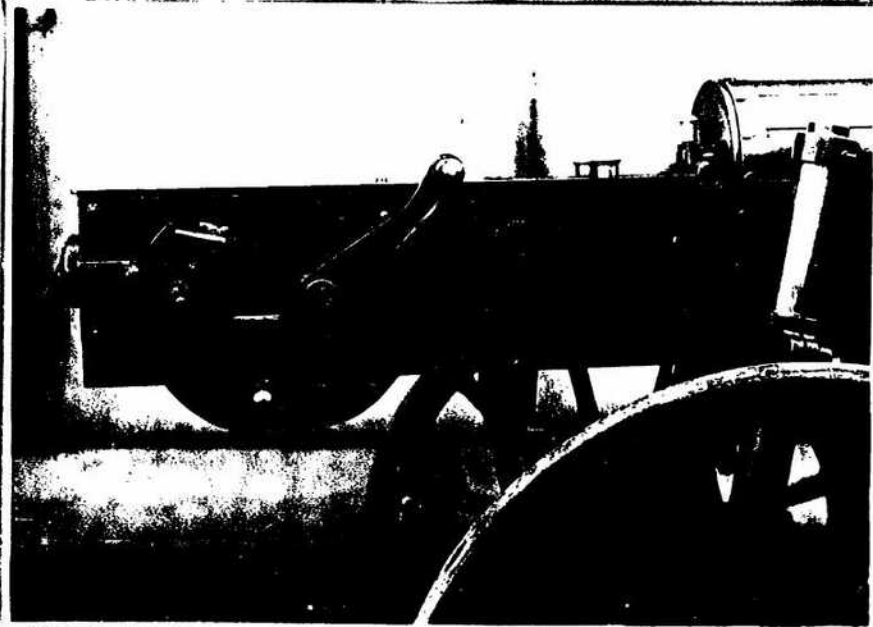




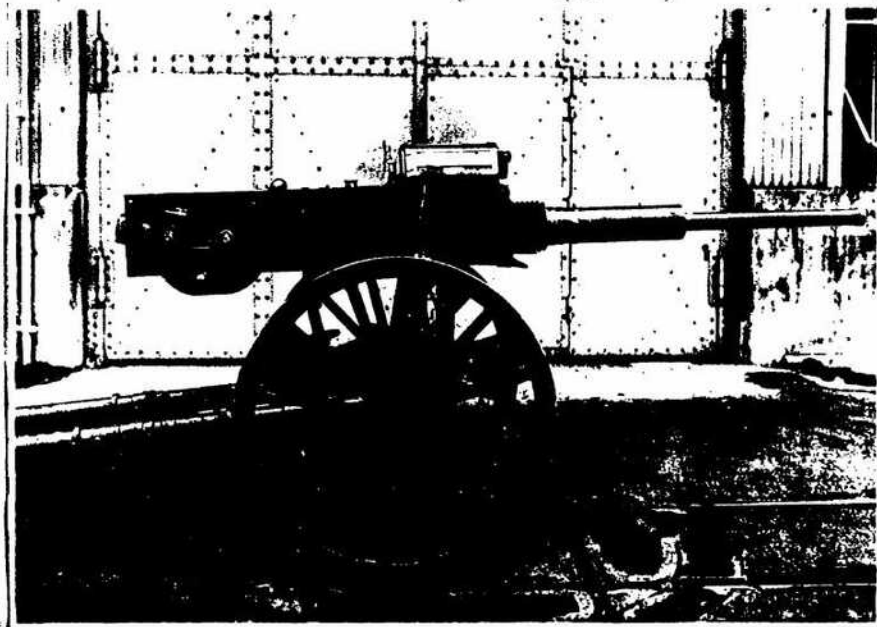
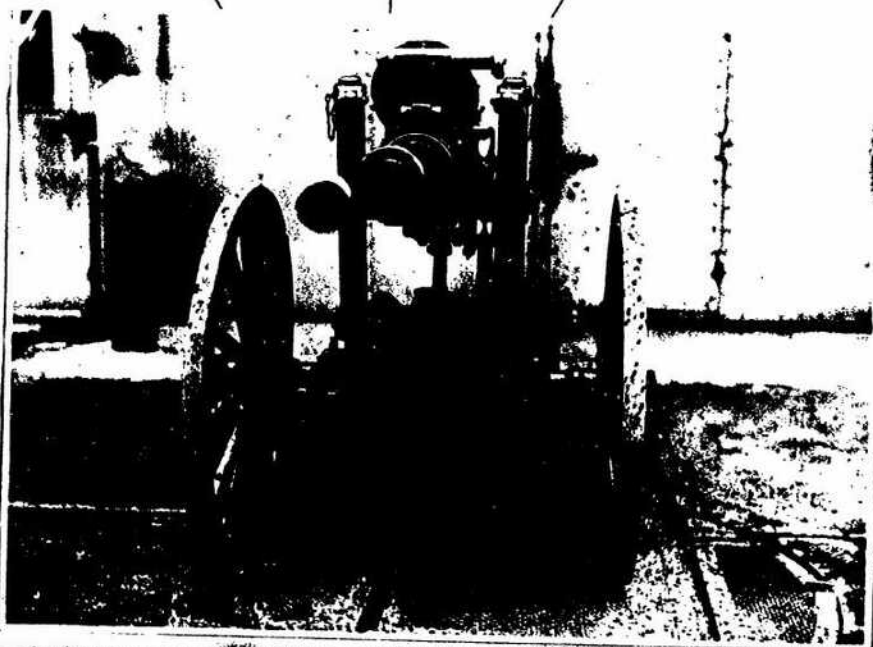




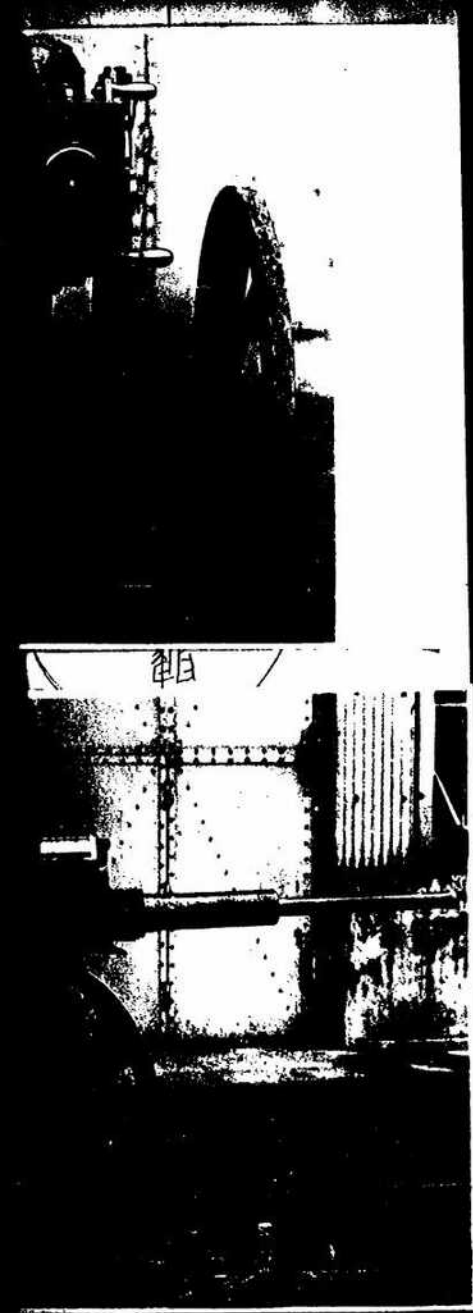




組

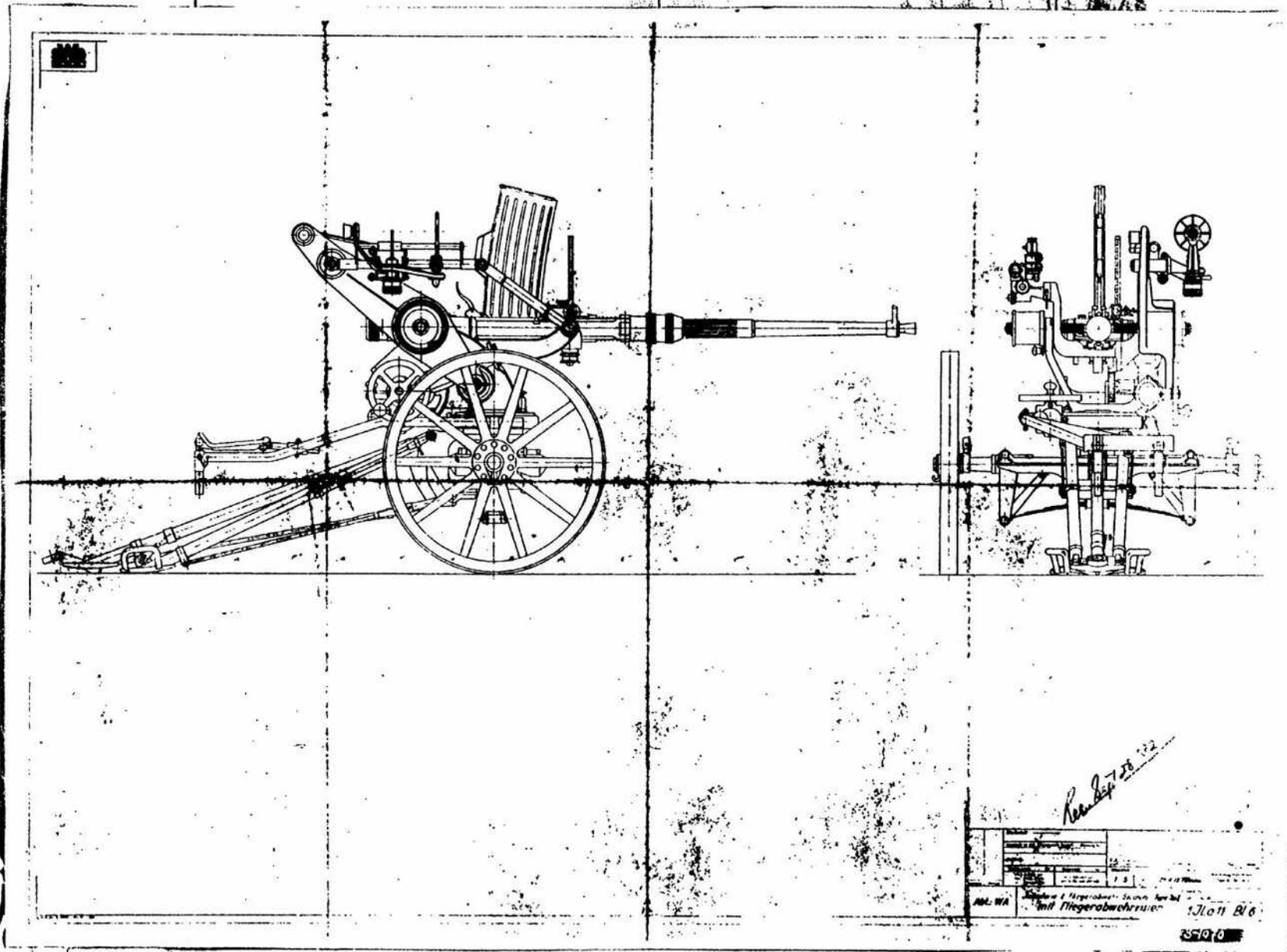


試製三十七號機

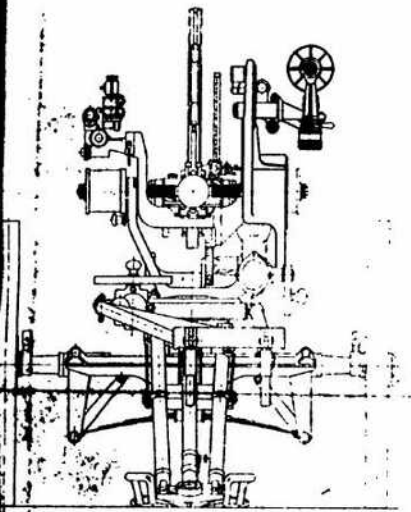


大正十七年九月

Carlsson 20 mm



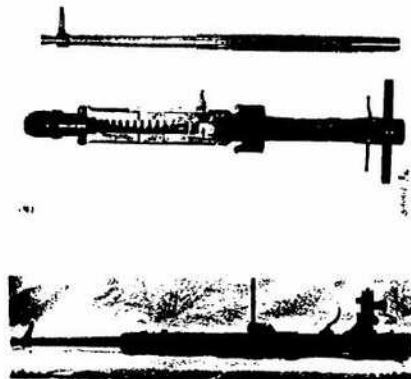
*Derlikon 20 mm Maschine Gewehr.*



*Rev. 27.28.22*

AM. WA	1/1011 B/6	5790
--------	------------	------

Verikon 20 m/m Au



3-1901-3

3-1901-6



3-1901-5



3-1901-7



3-1901-8



3-1901-9

目録

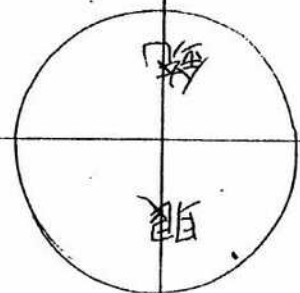
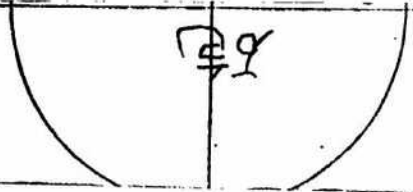
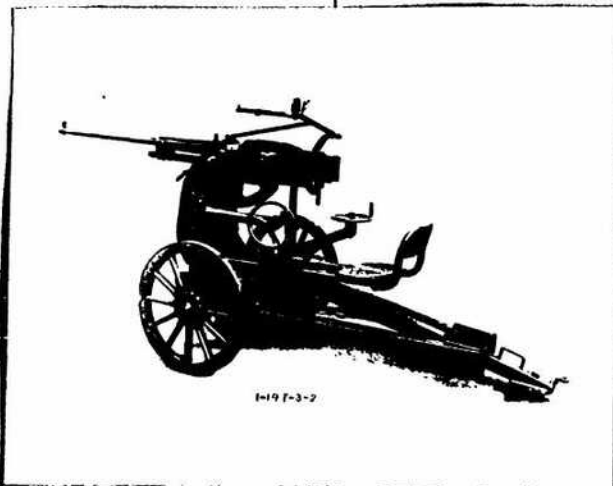


Oerlikon 20mm Automatic Gun

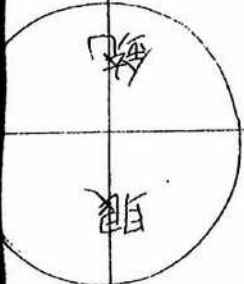


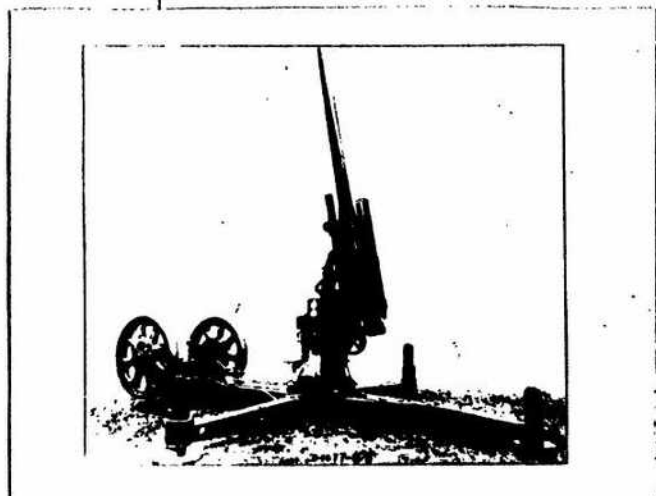
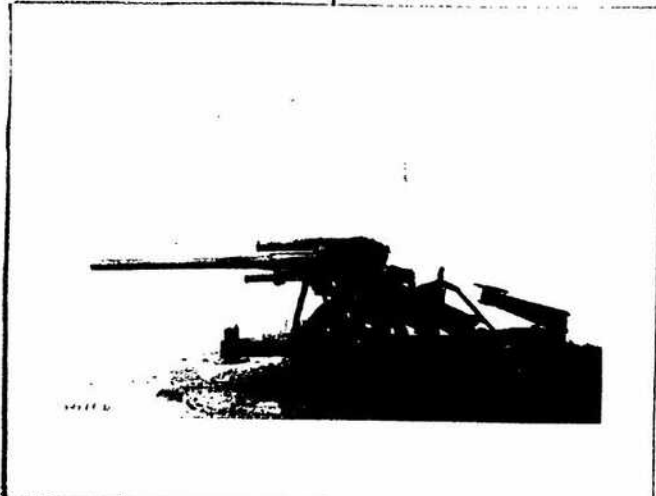


伊国 旗



伊国 九ヶ核同砲.





和蘭

銃

眼

和蘭工系会社

- 口径 80mm
- 砲身長 50cal
- 初速 750m
- 最大射程 15000m
- 射高 9000m
- 弾量 8kg
- 放射距離 3800kg
- 発射速度 25発
- 運行速度 35~4
- 放射距離 4
- 高低射角 -30~
- 方向 36
- 水筒砲の量
- 十字型 11号 等径 4
- 内管の径 100mm
- 最大射程 15
- Revol 570

和蘭工事会社 Siderius. 80mm 口径

口径 80mm

砲身長 50 cal

初速 750 m

最大射程 15000 m

射高 9000 m

弾量 8 kg

放射率 3800 kg

発射速度 25 発

運行速度 35~40 km/hr

放射距離 4 分

高低角度  $-3^{\circ} \sim +80^{\circ}$

方向  $360^{\circ}$

水平砲面角  $7^{\circ}$

射程 11 分 4 本

内装火薬量 1500 斤

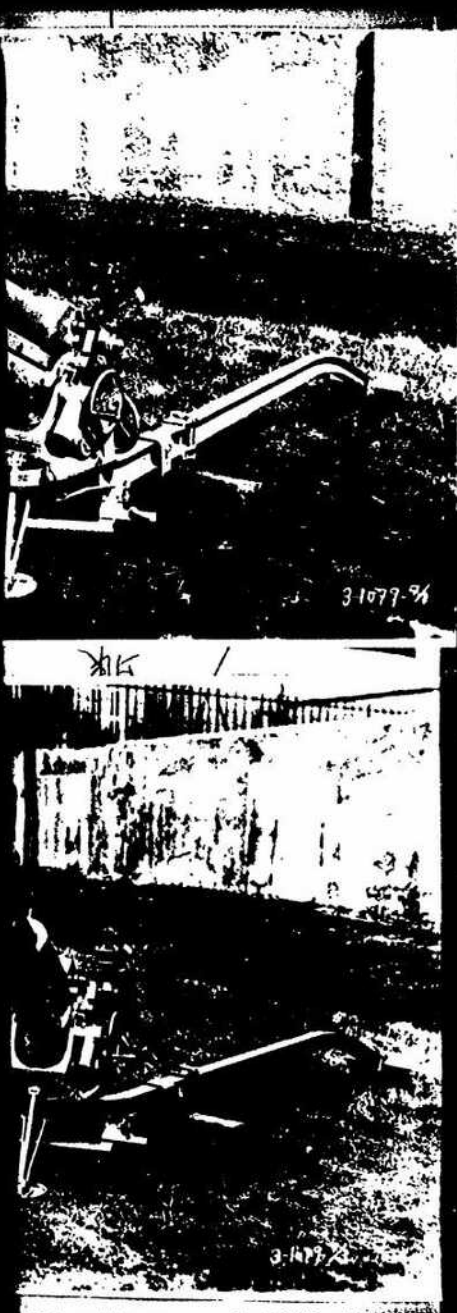
最大射程 15000 斤

Revol 570-1100 本

海

目





Böhler 44mm 47mm 紙製歩兵砲 (増子陸軍, 故より旧歩兵砲を改造せる)

設計 同社 Pressing, 設計.

目的 主に野戦車に其他地上部用  
 対空曲射 砲用 対空艇使用  
 砲口2m以上

播架(砲身外管)以下全径同一

諸元	44mm	47mm
口径	44	47
砲身長	1714 耗	1668
淨重	対空用 1.2 対射用 2.0	2.4
初速	700 25/188	640 25/188
射撃物架前大径孔	8200	8000
口径	4500	4200
全砲連長	20	20
射撃筒	580	580
仰角	-10° ~ +60°	
方向移動用	50°	
後生長	650/330	
放射距離全長	3m 230	3m 110
射撃筒距離	880	
放射距離全長	266k	266k
運行距離全長	276	276k
放射距離全長(空筒)	54	54
空筒重量	1.74 2.46	1.98 2.188
甲殼重量(500)	48%	44
	60%	33

復生弁條 一内二條  
 射撃筒口徑 44mm 砲管及  
 突光射撃筒 2mm 口径 2mm

價目表

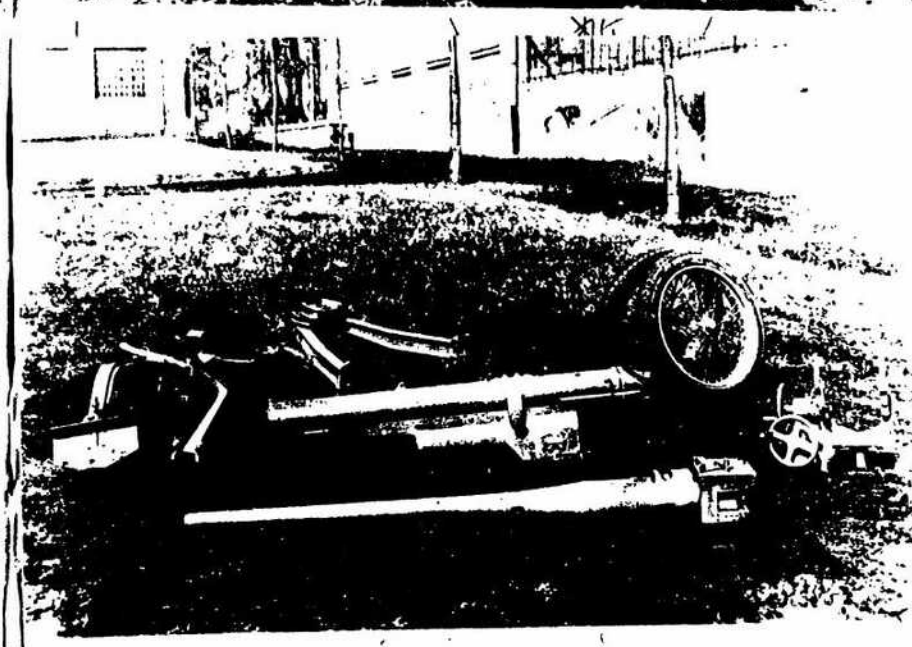
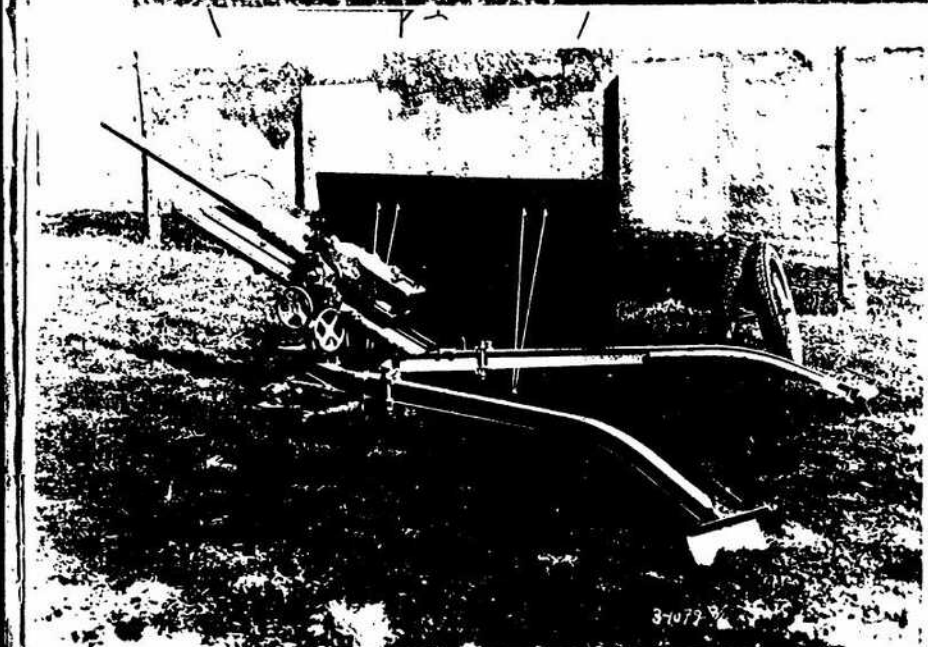
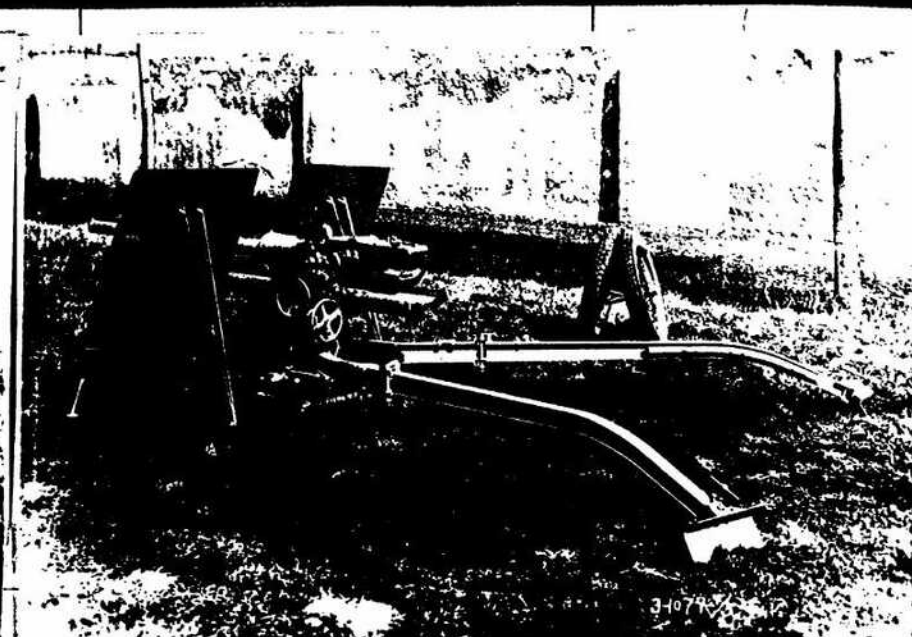
射撃筒	二	四	六	八	一
砲管	〇	〇	〇	〇	〇
砲架	〇	〇	〇	〇	〇
砲口	六	五	四	三	三
砲身	〇	=	四	八	=
砲架	五	四	四	三	三
砲身	五	七	一	五	一

鋼板 抗力 150kg/cm<sup>2</sup>  
 1 No. Co. 鋼板

精度

口径	射撃筒	砲管	砲架	砲口	砲身
44	方向散佈	0.62	方向散佈	四	二六九五未
47	方向散佈	0.70	方向散佈	四	三五
44	高低散佈	0.67	射撃筒散佈	三九	夏
47	高低散佈	0.67	射撃筒散佈	三六	五
44	方向移動	0.275	方向移動	一八	
47	方向移動	0.29	方向移動	一三	五
44	高低移動	0.285	射撃筒散佈	一八	〇八
47	高低移動	0.26	射撃筒散佈		一五

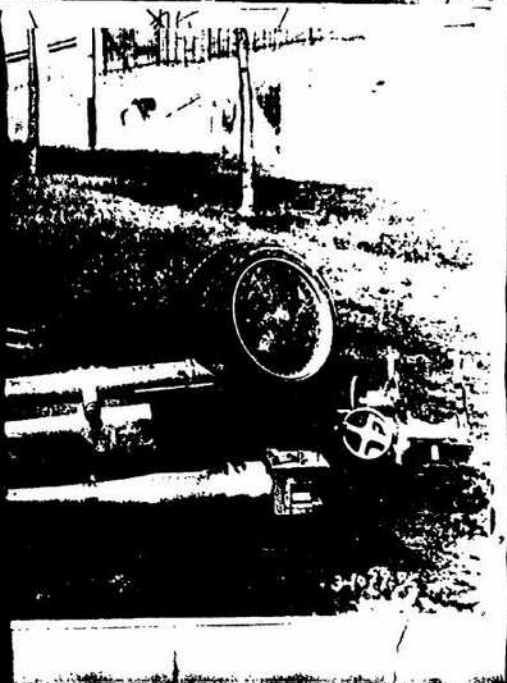
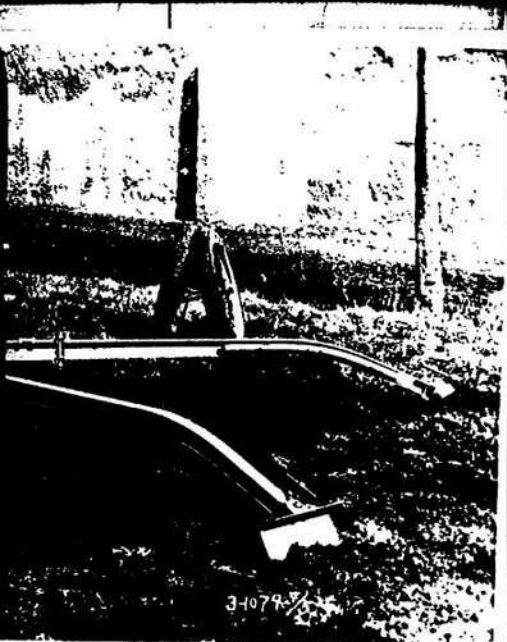




44mm 砲諸元

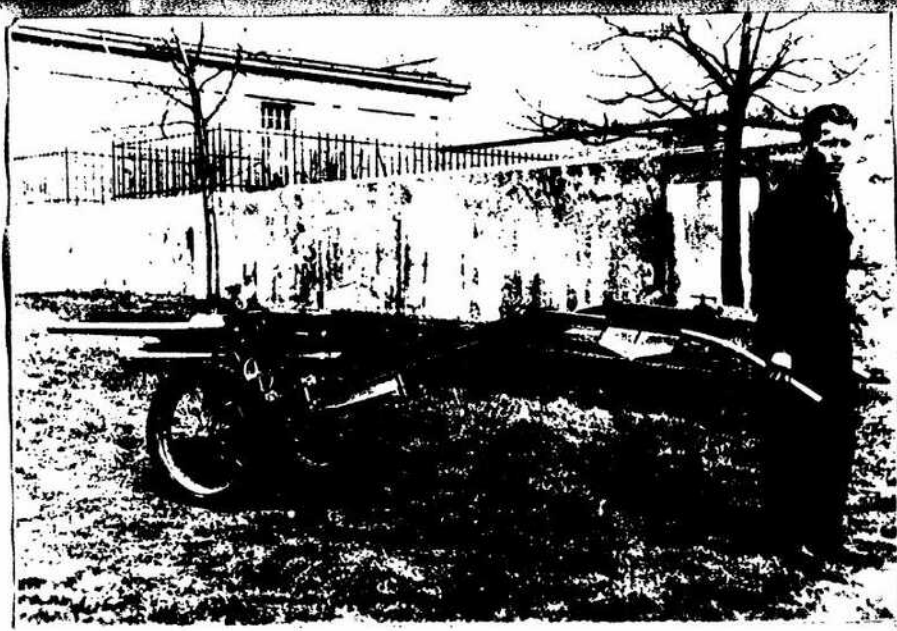
口径	44mm
砲身長	1714mm
弾量	1.2 - 2.0
V <sub>0</sub>	700 250/188
砲口出力	30 mt.
砲車1台別	113 m.kg.
射距離	8200 m
射高	450 m
膛線右旋	25 cal.
膛線數	24
湯	0.5 mm
後生長	650/330 mm
全長	3230 mm
輻向	880 mm

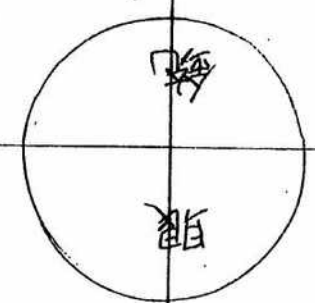
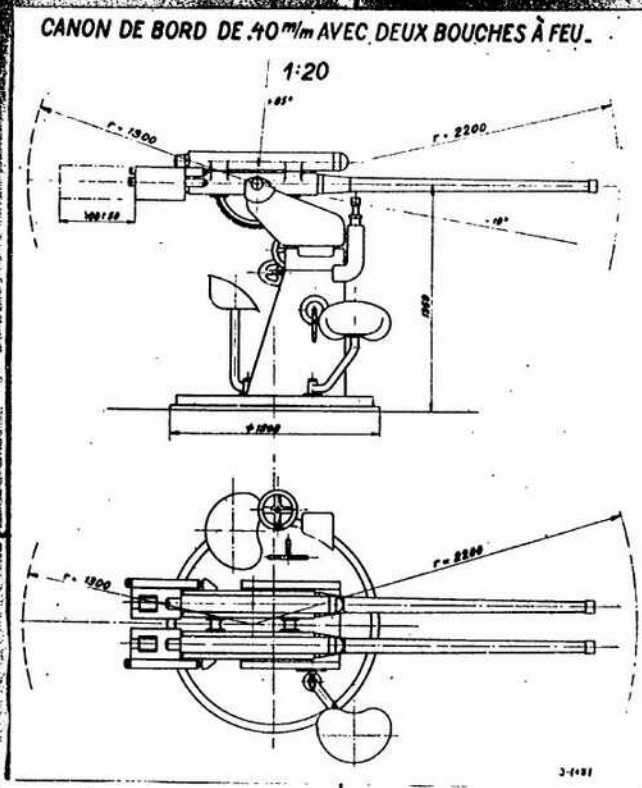




44mm 砲精元

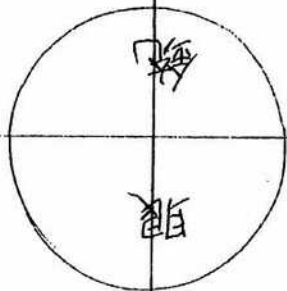
口径	44mm
砲身長	1714mm
弾量	1.2 2.0
V <sub>0</sub>	700 250/188
砲口出力	30 mt.
砲車1台重	113 m.kg
射撃機軸距離	8200mm
射撃	4500mm
膛線右巻	25 cal.
膛線数	24
深	0.5mm
後生長	650/330mm
全長	3230mm
重2向	880mm





Skoda 40mm

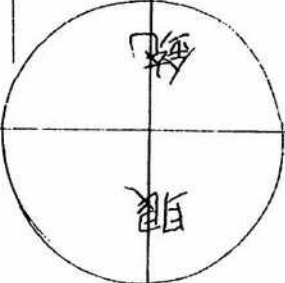
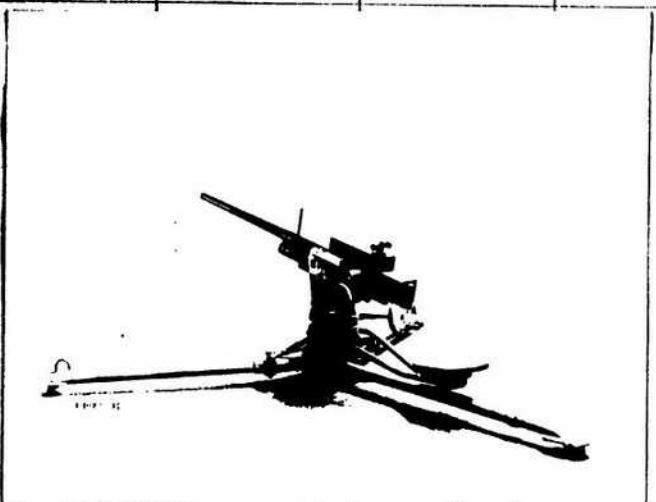
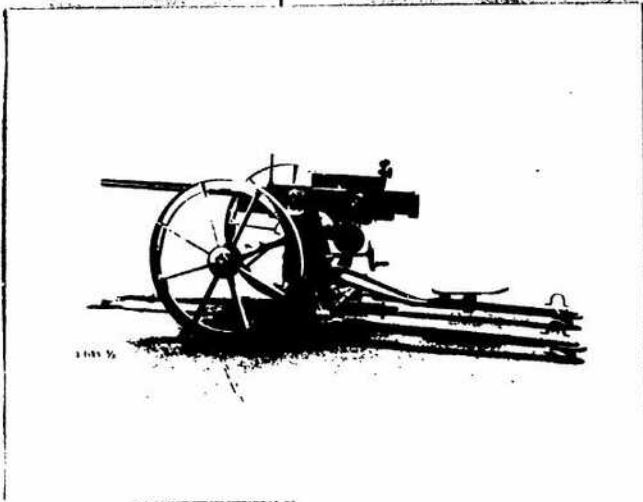
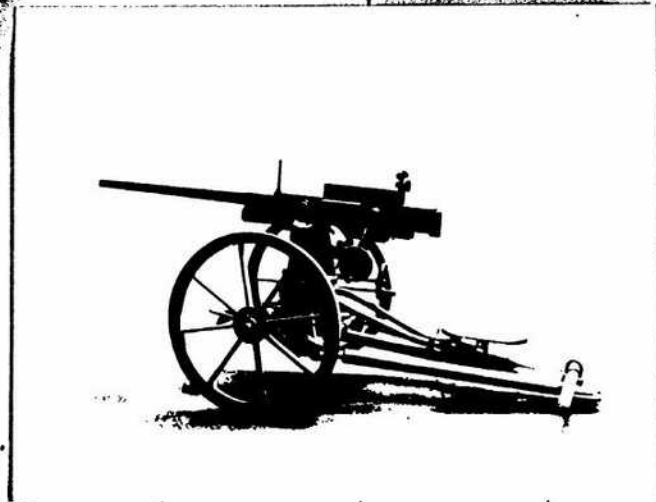
砲身 単肉 自緊  
 向銃機 垂直銃機式  
 駐退機 空後坐  
 機架 兩砲包身之共通  
 後後坐、準比  
 二内筒あり  
 射撃機構 兩砲用射撃機  
 又各同、射撃機  
 219年制、射撃機  
 是部、射撃機  
 照準装置 砲(左側)之機  
 照準中央、亦  
 電氣又、電氣機  
 連絡あり



Skoda 40mm 双筒加农炮

砲身 單肉自擊  
 前裝機 垂直鉗柱式  
 半自動式  
 駐退機 空氣簧  
 搖架 兩筒包身之共通  
 後座生(半自動)  
 二門筒  
 發火機構 兩筒同時發射  
 又之同一筒內Mech.  
 2.5. 半自動之發火機構  
 且初之發火用踏板有之  
 照準裝置 砲(左側)之備  
 照準中央亦之備  
 電氣又-電氣的調整30cm  
 運轉中

彈量 0.95  
 初速 950m  
 高低射界 -10°~+85°  
 方向射界 360°  
 最大射程 9300  
 最高彈道高 6700  
 發射速度 40  
 一砲身之重量 1000kg  
 後座力  
 砲全備重量 1350  
 彈藥筒 2x25  
 彈倉(16發) 55k  
 後座長 400(最大450)

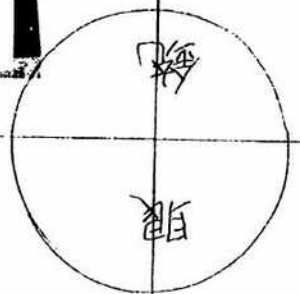


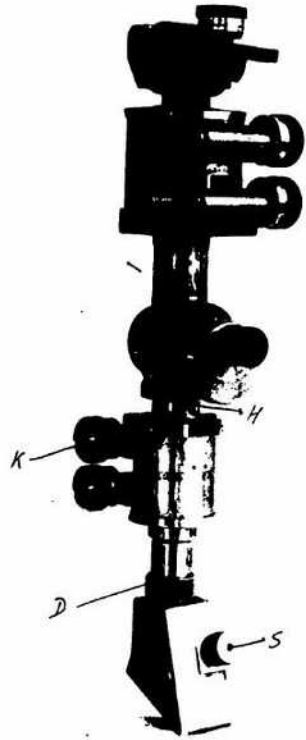
Vickers Armstrong Colt  
20.3 mm Anti-tank Gun.

Cal.	20.3 mm
length of bore	1422.3 mm
in cal.	70
Wt. of Barrel	15 kg
V	885 m
Muzzle energy	5.1 mt.
Wt. of A.P. shell	128.5 gr.
Max. range	5800 m
Working pressure	3050 atm.
Penetration	Hard steel plate
200 m	30 mm
300 m	27 mm
500 m	21 mm
1000 m	11 mm

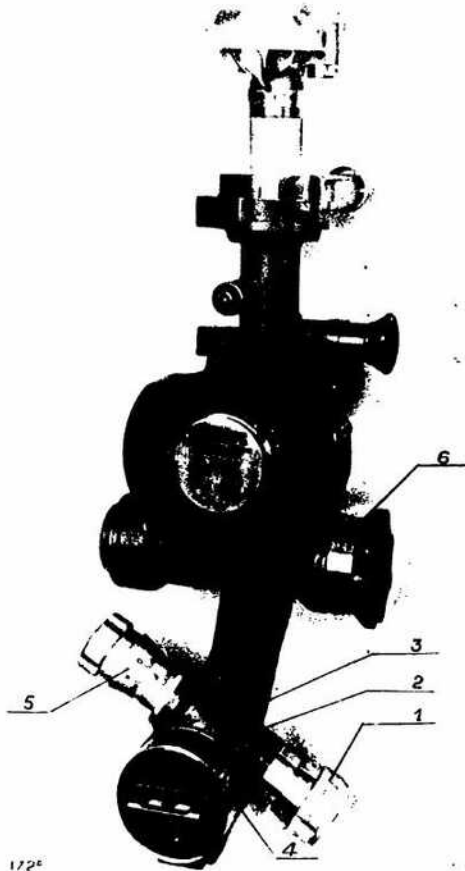
Vickers Armstrong Colt (第17.22)  
 20.3 mm Anti-tank Gun  
 第17.22

Cal. 20.3 mm  
 length of bore 1422.3 mm  
 i in cal. 70  
 Wt. of Barrel 15 kg  
 V 885 m  
 Muzzle energy 5.1 mt.  
 Wt. of A.P. shell 128.5 gr.  
 Max. range 5800 m  
 Working pressure: 3050 atm.  
 Penetration Hard steel plate  
 200 m 30 mm  
 300 m 27 mm  
 500 m 21 mm  
 1000 m 11 mm

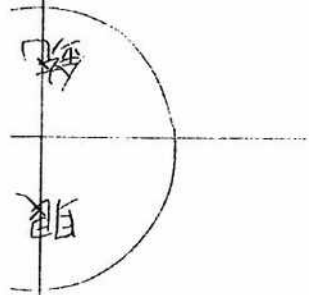




2971



1725



鏡  
眼







Fig. 2. The Medium Tank, T2.

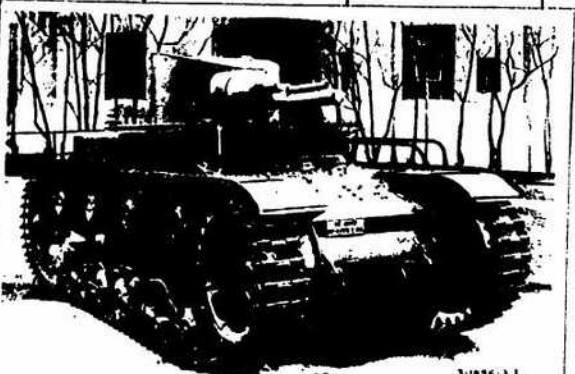


Fig. 3. The Light Tank, T1E1.

TABLE 2. Comparative Weight of Major Tank Units, Crew Space and Steer Power

VEHICLE	Total Vehicle Weight, Lbs.	Engine H. P.	Weight of Tank Tracks, Lbs.	Power of Main Drive, H. P.	Transmission, Excl. of Dr. Shaft, Pipes and Pumps	Final Drive	Steering Clutch	Cooling	Total Power System	Actual Power, Wt. of Tank, H. P.	REMARKS	Cu. Ft. Crew Space	Cu. Ft. per Ton of Vehicle Weight	Power per H. P.	
Medium Tank T-1, 22-Ton 1926	66,000	200	14,000	31	1000/1853	1800	14 Compound Epicyclic Valve 1920	900	6944	15,000/32	8.7	340	10.0	3.1	
Light Tank T1E1 1921	13,120	90	25,000	17.5	1120/1100	883		293	3220	1135/27	1.9	72	9.6	1.6	
Medium Tank T2 1926	21,000	300	22,000	23	2300/1600	1900	Included in Tank Weight	1004	6044	16,000/24	26	300	13.5	0.5	
Medium Tank T2 (Chrysler) 1921	22,300	300	17,000	17.5	600/1476	730 Chain 1600-Gear	370	600	2700 Chain 1600-Gear	1250/18	8.77	Final Drive is Separate from Transmission	96	6.9	1.1
Combat Car T2 (Convertible) 1921	17,000	134	18,000	28.5	1300/900	Included in Transmission	1200	Included in Eng. Wt.	3100	2010/17	5.17	Final Drive is included in Tank, Diff. and Steer. Clutches	138 Dodge 27/24/22 77. Present Vehicle	16	6
Light Tank T1E1 1921	17,000	130	22,000	26	1120/1100	883		430	3383	8000/20	17.6	Estimated from Component Wt. of T1E2 Tank	100	12	2.0
Be Yoo Tank M. 1917 1917	13,000	40	18,000	36.5	220/800	1075		210	325	8000/20	5.3		65.6	7.4	1.7
Mark VIII Tank 1920	87,000	320	19,000	22	6000/1600	3366	Included in Tank Weight	1000	10,700	29,000/23	7.7		100	12	1.3

sued to our purpose because our requirements are somewhat contradictory in that the speeds demanded of our vehicles require light, high-powered engines of the passenger car or airplane type, which engines are not well suited in ruggedness to the heavy duty involved in propelling track-

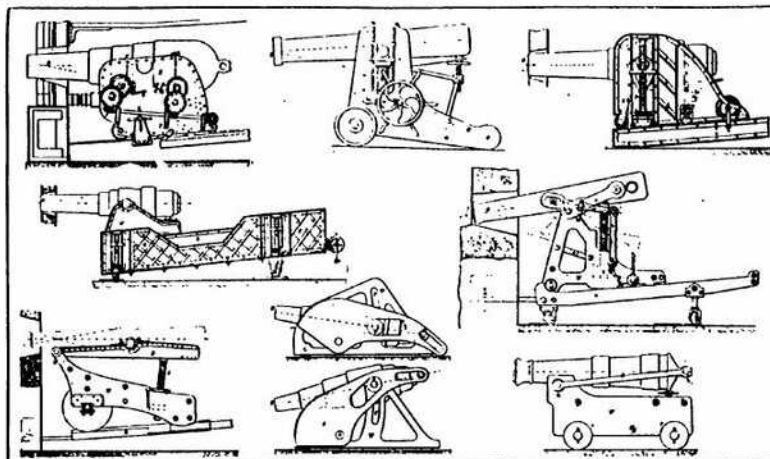
crew. Some idea of the enormous power demanded in fast track-laying vehicles, as compared with wheeled vehicles, can be seen from Fig. 1. In addition to these general problems, there is the great specific problem of providing a track which will have a long life. The tracks and, to a lesser

Speed ft. per min.	Power H.P.	REMARKS	Ch. P. Crew	Ch. P. per Ton	Ch. P. per Ton for 1000 lbs.
4.8	210		10.8	2.2	
12	77		6.4	1.4	
20	205		10.2	2.1	
27	96	Final Drive is Separate from Transmission	8.9	1.1	
37.5	120	Final Drive is Included in Tank, DAF and River Chassis	10	1.6	
44	77	Estimated from Component Wt of T1E2 Tank	9.6	1.1	
54	102		12	1.8	
64	38.8		7.4	1.7	
77	200		11	2.2	

enormous power demanded in fast  
compared with wheeled vehicles.  
In addition to these general prob-  
lematic problem of providing a track  
life. The tracks and, to a lesser

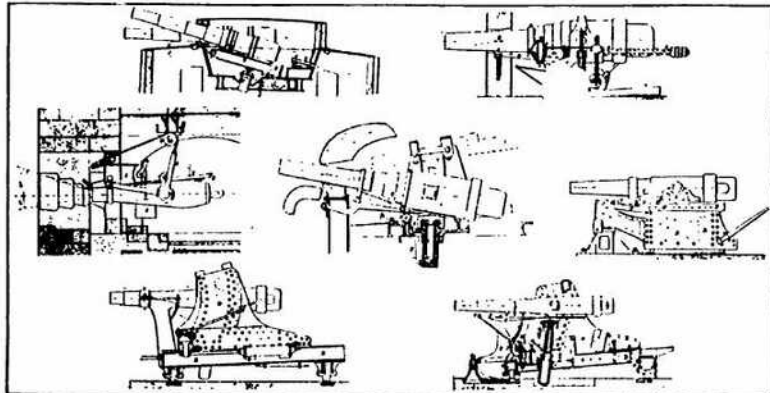


*m*  
*m* *of* *E*



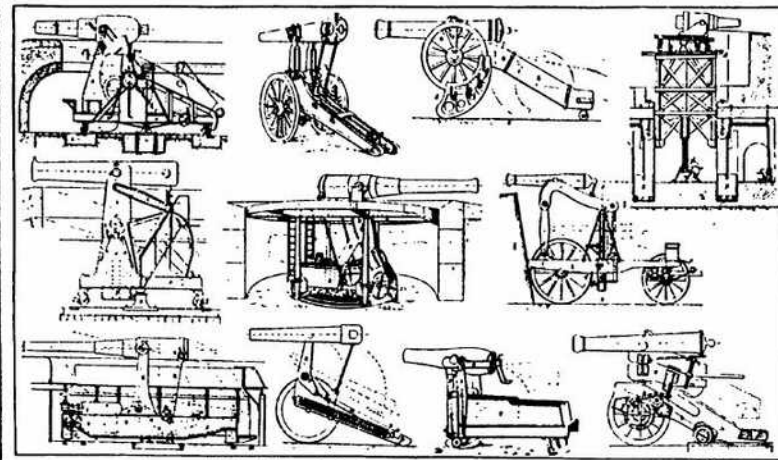
Types of Metal Carriages Used in Fortifications and Aboard Ships. 31855 G-2

Here are shown some of the unusually heavy double mounts in which the lower carriage rotates on two tracks in order that the gun may be brought parallel to the wall when rotated to one or the other extreme. The idea of providing a mechanism for permitting the gun to disappear behind the parapet is not embodied in these types but it was to evolve through these stages.



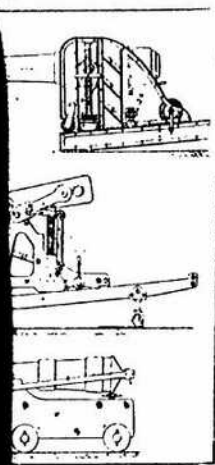
Forerunners of the Solution Developed for Use in American Fortifications from 1880 to 1911. 31855 G-3

The scheme of firing through an embrasure in a wall, later to be replaced by firing above it and returning to position behind an enclosure, was not satisfactory although forts designed and built as late as the Civil War, Fort Sumter, for instance, had series of floors with cannon projecting from embrasures close together on all floors. Old fortifications of this type are familiar in America and Europe. In the above drawing is included a prototype of the cupola using armor plate over the gun.

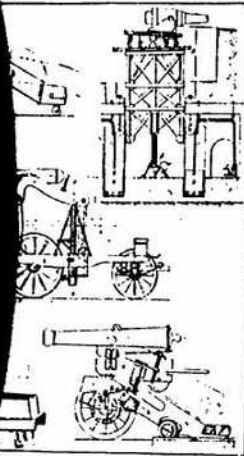


Earlier Designs in the Search for a Disappearing Weapon. 31855 G-4

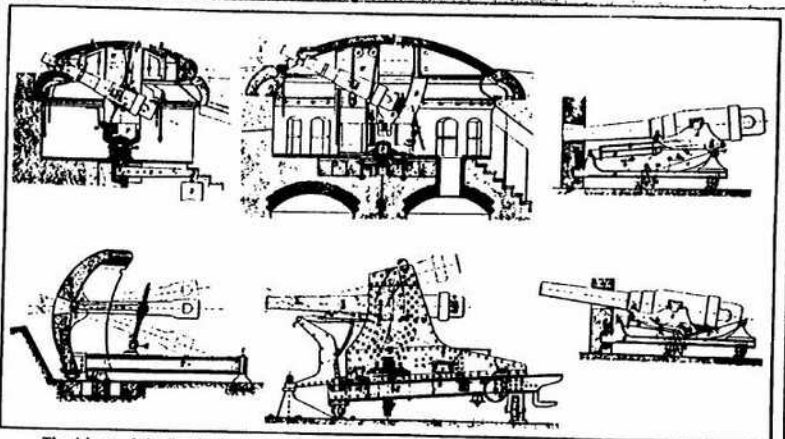
Some of these types were intended for use in the field and others were for permanent emplacement in fortifications. They represent the gradual attainment of the later perfected mount and although they seem crude now, they were apparently satisfactory for use at the time of their construction. Many, of course, did not progress beyond the experimental stage of development.



Ships.  
The turret rotates on two tracks in order to provide a mechanism was to evolve through these stages.

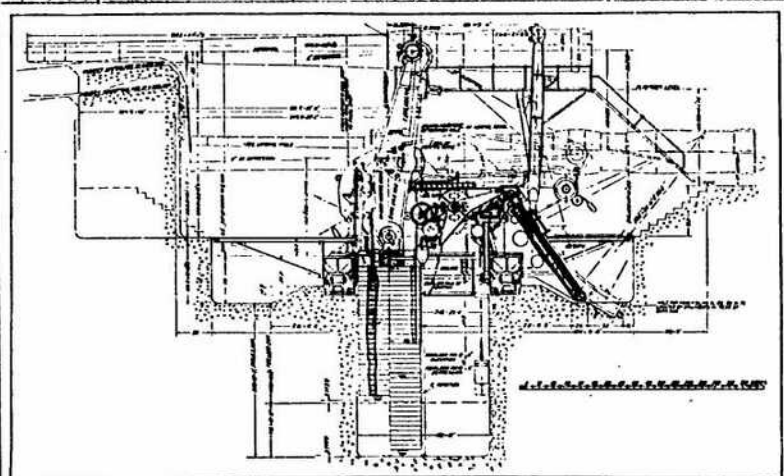


Weapon.  
In their present employment in fortifications. They seem crude now, they were apparently satisfactory beyond the experimental stage of development.



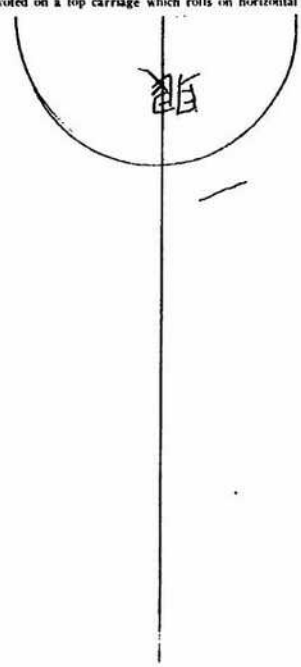
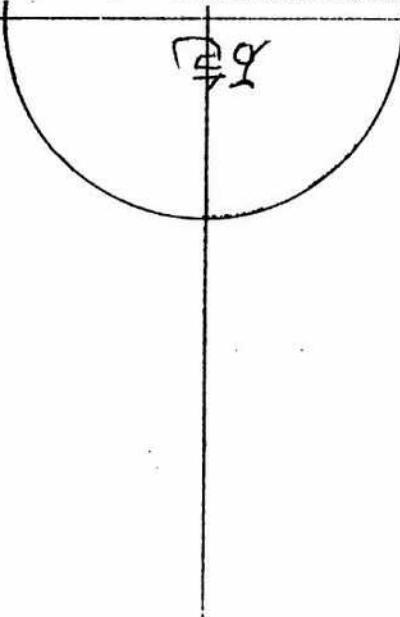
The Advent of the Cupola Marked the Last Stage of Advance to the Disappearing vs. the Barbette Mount.

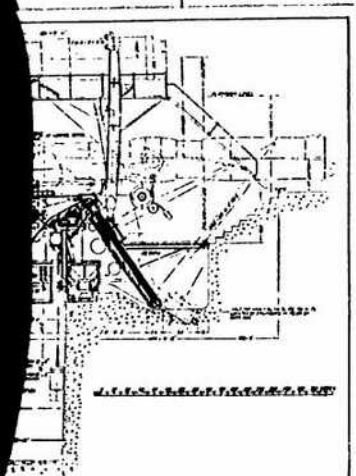
With the increasing gun elevations of today the limited scope of earlier practice is apparent. At the time of these developments when the gun was not fired from an embrasure, those embodying the disappearing principle aimed to achieve at most 15 degrees elevation and 7 degrees depression at which point any object was assumed to be safe from fire from shipboard.



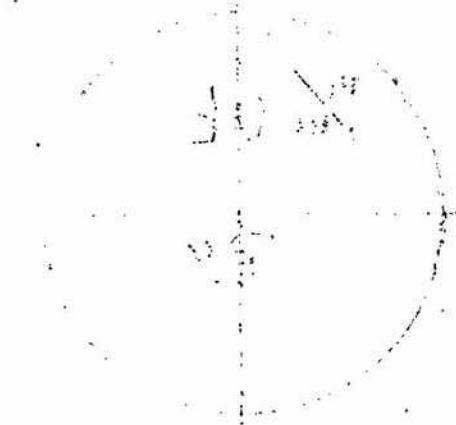
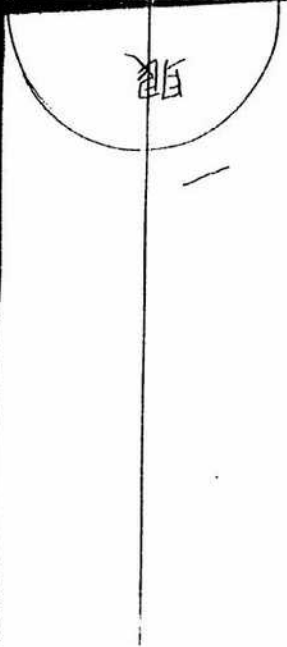
Disappearing Carriage, Model 1917, Mounting 16-inch, 50 Caliber Gun.

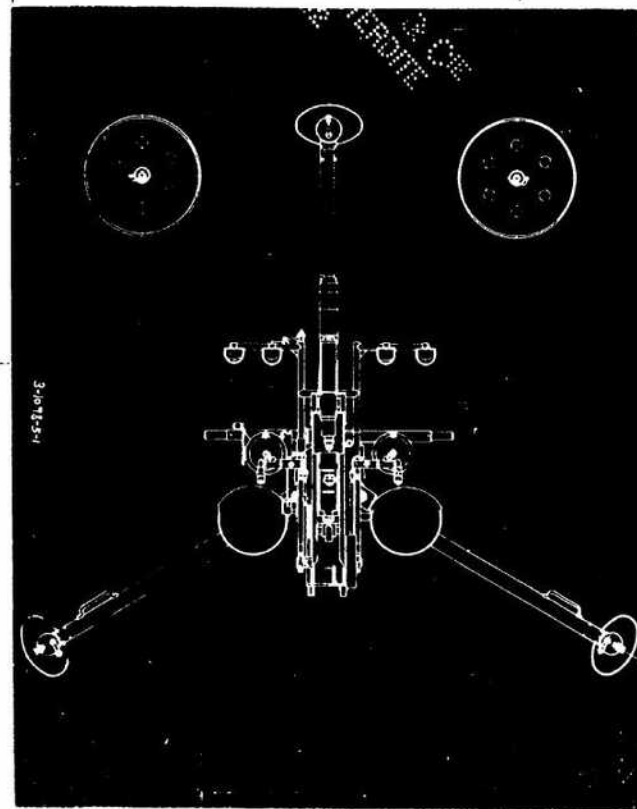
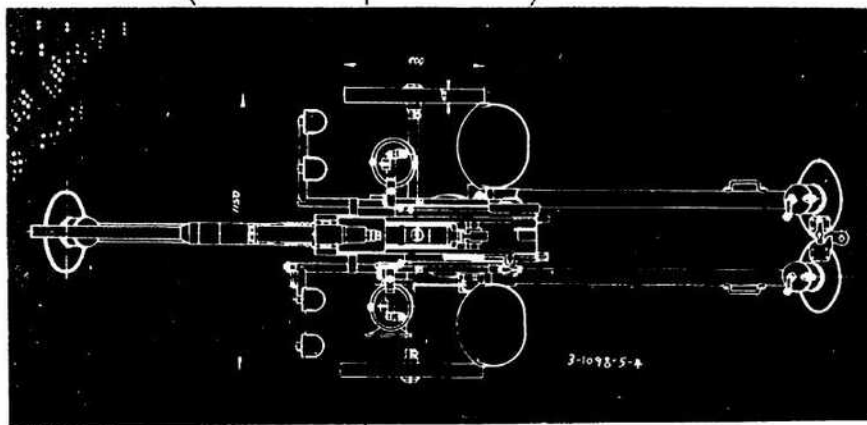
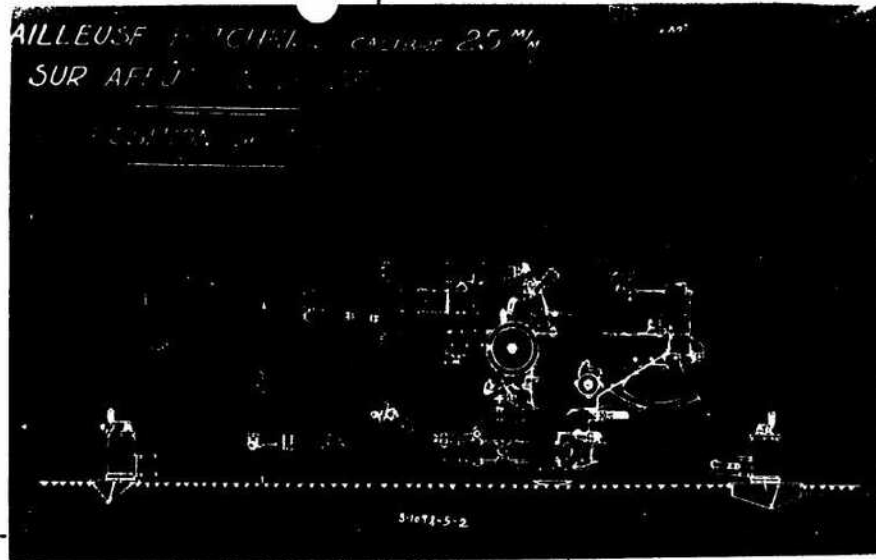
This is perhaps the limit of development in disappearing carriages. The weight shown in the well is attached to the lower end of the gun lever which supports the gun. The levers are pivoted on a top carriage which rolls on horizontal guides.



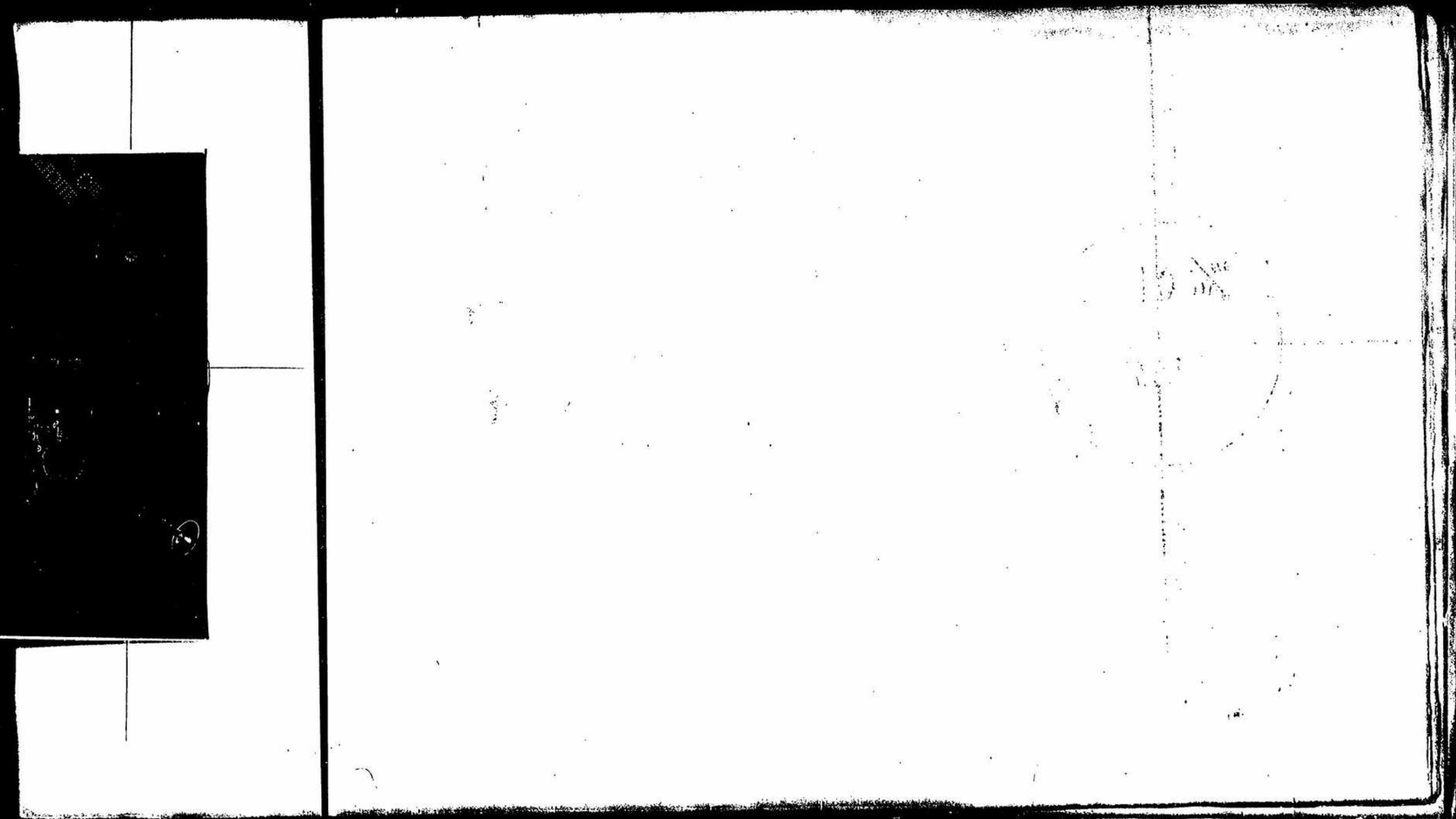


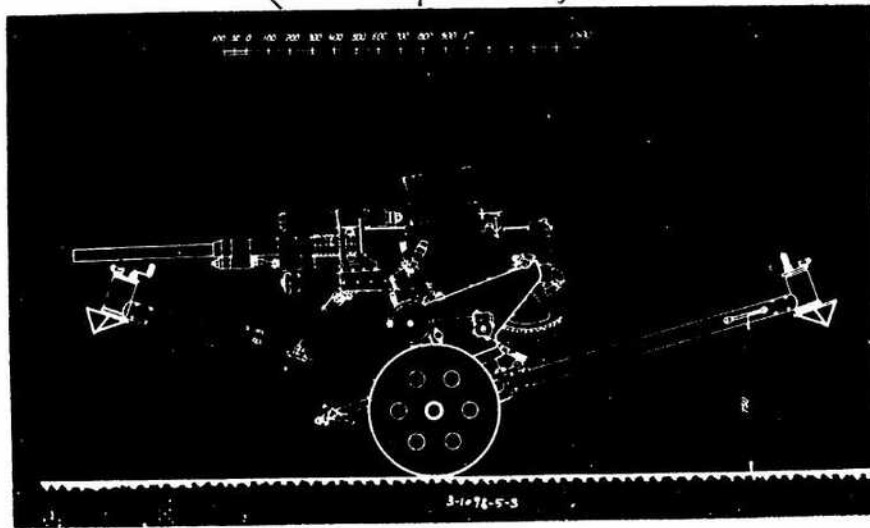
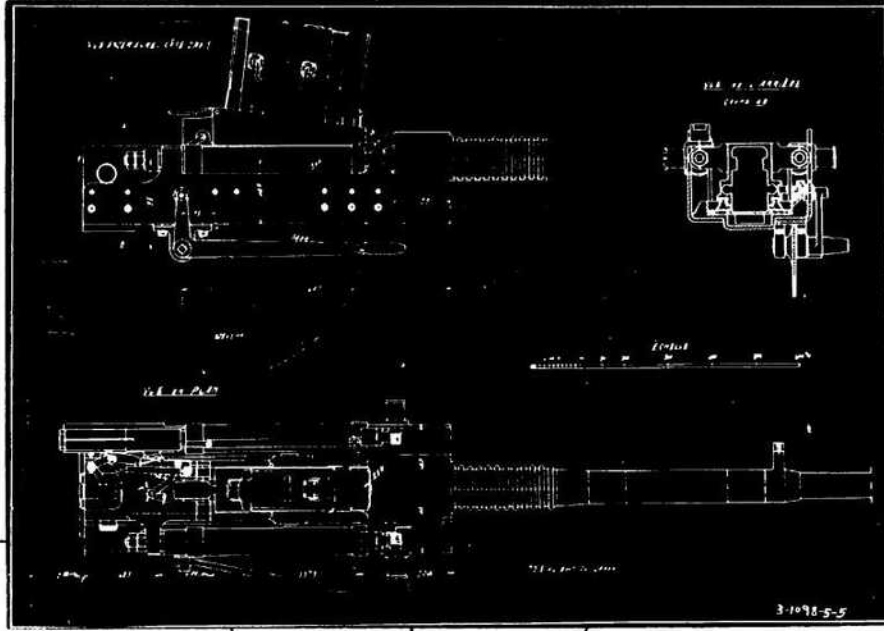
...nting 16-inch, 50 Caliber Gun.  
...tes. The weight shown in the well is attached to the  
...sited on a top carriage which rolls on horizontal guides.



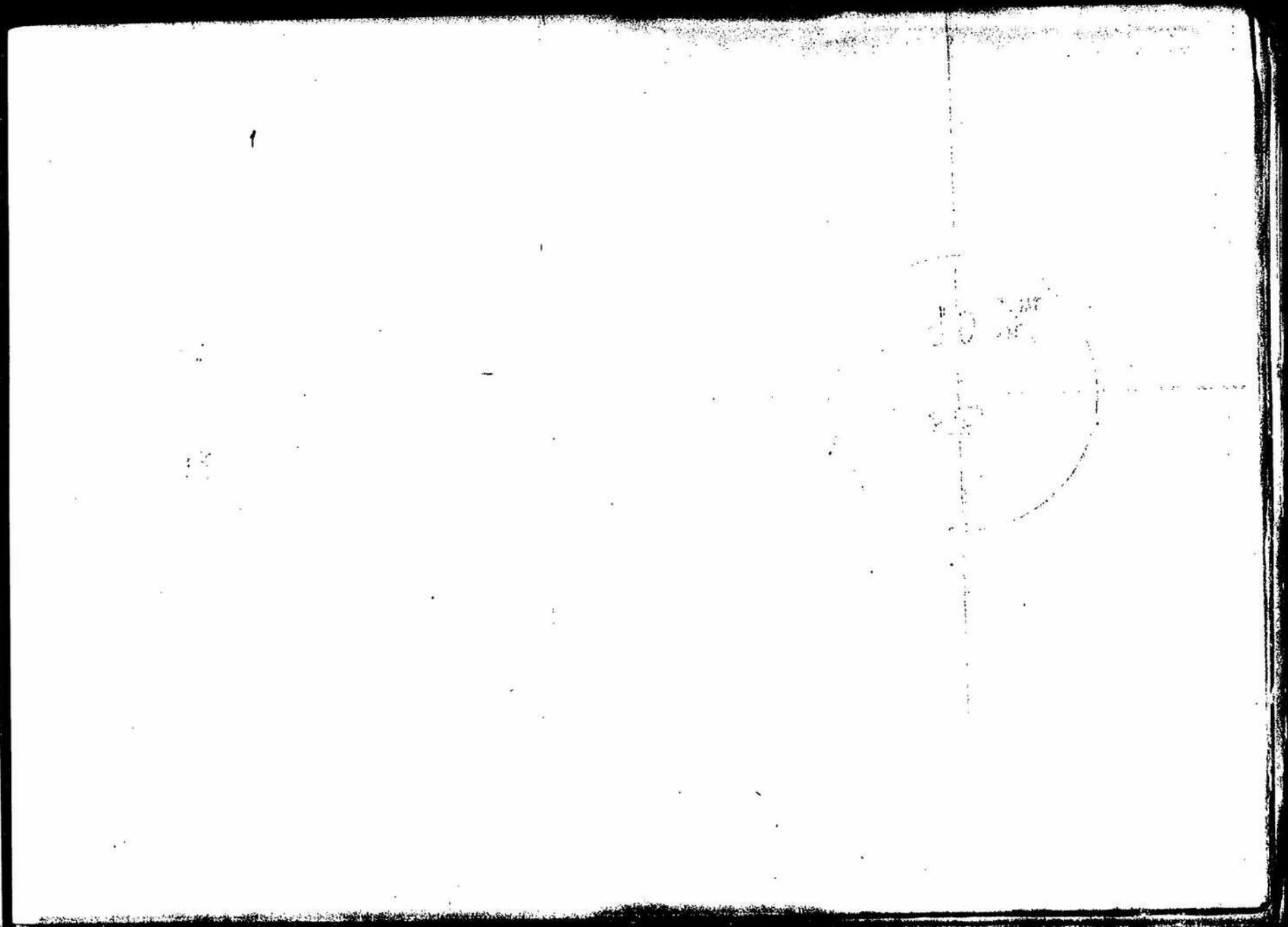








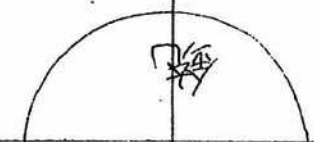
眼  
—



カーテンロイド = 照鏡式 47 野砲  
(機関銃、使用弾丸口径及速射機ニ対シテ使用セラルルモノ)

諸元

方	向	.....	±10°
高	仰	.....	-5°~+15°
弾	量	.....	1.5 kg
種	類	.....	徹甲弾及榴弾
初	速	徹甲弾	488 米
		榴弾	362 米
最	大射程	徹甲弾	4,700 米
		榴弾	3,000 米
換	行弾薬	.....	100 発



カーテンロイド式 火砲前車

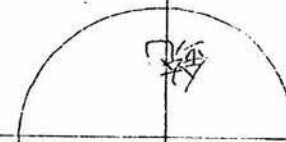
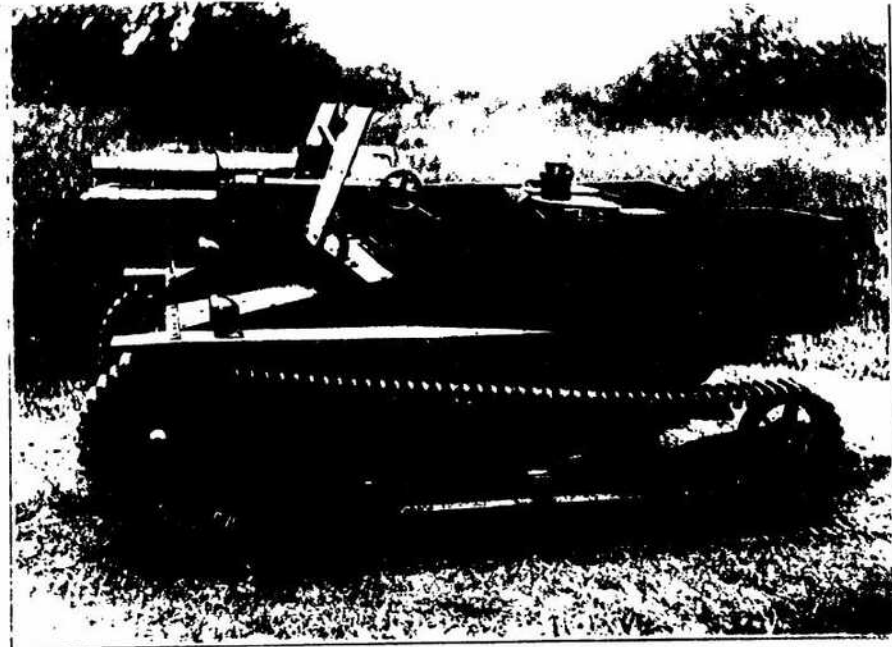
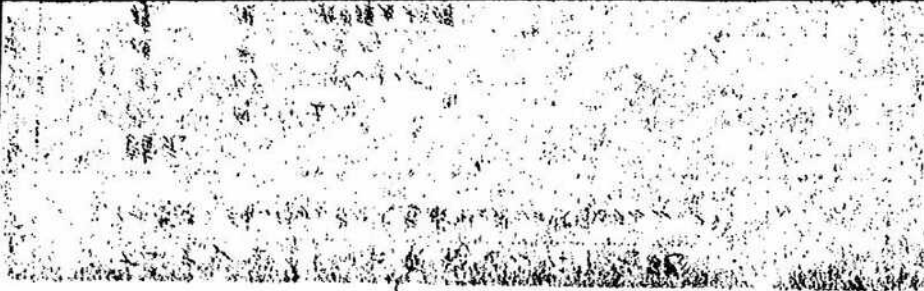
75 野砲前車諸元

重	量	.....	673 kg
長	サ	.....	4 米 27
巾	サ	.....	2 米 27
高	サ	.....	76.7 釐

カーテンロイド式

(75 野砲前車 30 発 70 公升)





カーデンロイド式火砲前車

175 榴野砲前車諸元

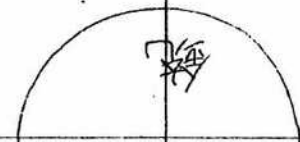
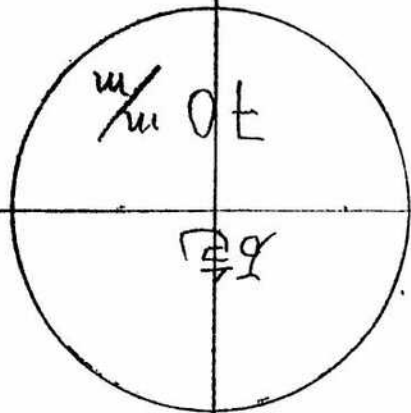
重量 ..... 673 ㎏

長さ ..... 4 米 27

幅 ..... 2 米 27

高 ..... 76.7 ㎝

裏面白紙



カーデンロイド式  
 (75粒野砲車諸元)

カーデンロイド式火砲前車

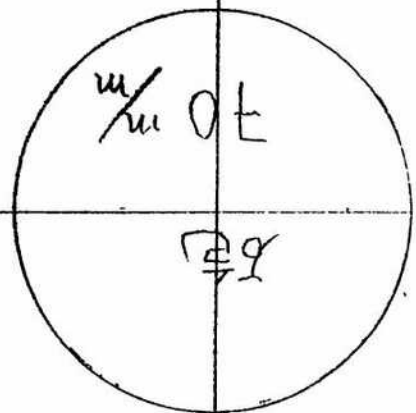
75粒野砲前車諸元

重量 ..... 673 kg

長さ ..... 4米27

巾 ..... 2米27

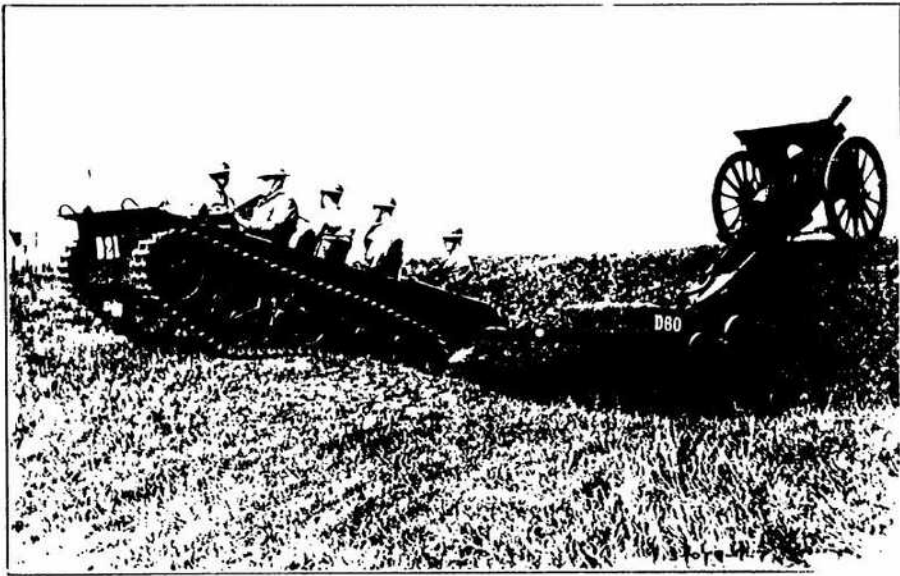
高さ ..... 76.7 釐



品名	...
数量	...
単位	...
備考	...

...

...





カーテンコイド式大砲前車

(75粒用砲薬30巻ヲ収容シ野砲ノ前車トス)

クロスレイ六輪車架載ノピ社40粒高射砲

諸示

射 角 ..... 80°

射 界 ..... 360°

発射速度 ..... 200 巻/毎分

射撃ノ必要ノ際 四本ノジメツキ式支柱ヲ用ス

運行姿勢カラ地トニジメツキト下サレ 数分間ヲ調整シ得

裏面白紙



3-1097-7-5

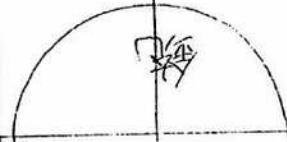
Plate XXVIII

已前車

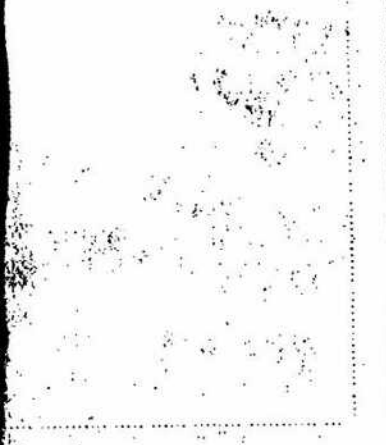
クロスレイ六輪車架載ノビ社40粒高射砲

諸示  
 射 角 . . . . . 80°  
 射 界 . . . . . 360°  
 発射速度 . . . . . 200 發/分  
 射撃ノ安定ノ爲ニ四本ノシメツク次支柱ヲ設ク  
 運行姿然カラ地トニシメツクト下サレ數分間ヲ觀察シ得

裏面白紙



砲車



クロスレイ六輪車架載ノビ社40粒高射砲

諸元  
 射 角 ..... 80°  
 射 界 ..... 360°  
 発射速度 ..... 200 発/毎分  
 射撃ノ空速ノ際 四本ノジメツク大支柱ヲ有ス  
 運行姿勢ヲ地上ニジメツクカ下クレ數分間ヲ調整シ得



裏面白紙

野戦用牽引車トシテ用ヒラレタルカーデンロイド<sup>7</sup>

(「カーデンロイド」特殊糸條附運搬車ニ積載セル  
95 粒榴弾砲)

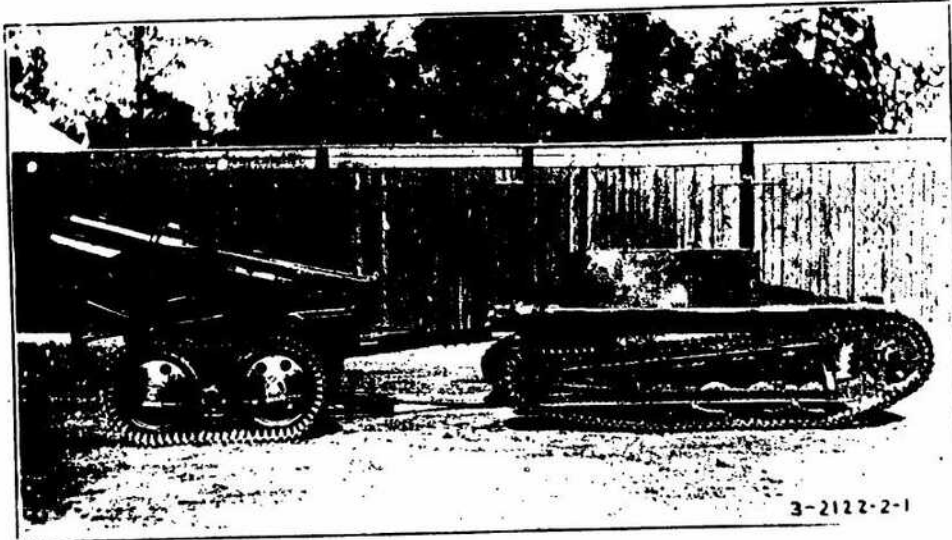


毘式牽引車

(1/2 屯ノ荷重ヲ積載シ同時ニ7屯ノ車輛ヲ牽引シ得)

カーデンロイドニ積載  
(1/2 屯ノ荷重ヲ積載シ同時ニ7屯ノ車輛ヲ牽引シ得)

(2) 荷重積載  
 (3) 2.5トンの荷重を同時に積載し、7トンの車軸を牽引する  
 (4) 牽引能力



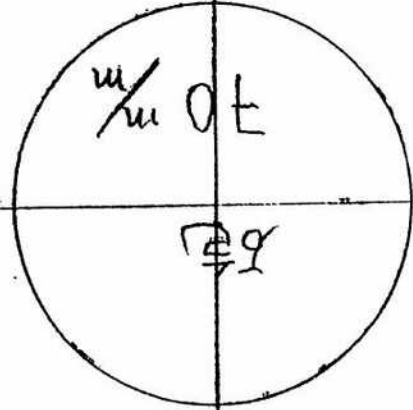
3-2122-2-1

鬼次牽引車

(2.5トンの荷重を積載し同時に7トンの車軸を牽引する)

裏面白紙

トラクターの模写  
 (1) 1922年7月、津波の被害



鬼式牽引車  
 (2½匹ノ荷重ヲ積載シ同時ニ7匹ノ車輛ヲ牽引シ得)

カーデンロイド = 積載  
 (18寸径、72巻、彈簧ノ積)





カーデンロイド = 積載セル放射機 (弾薬 72 発)  
(放射機 1 72 発 1 弾薬 7 積載セル 1 方法)

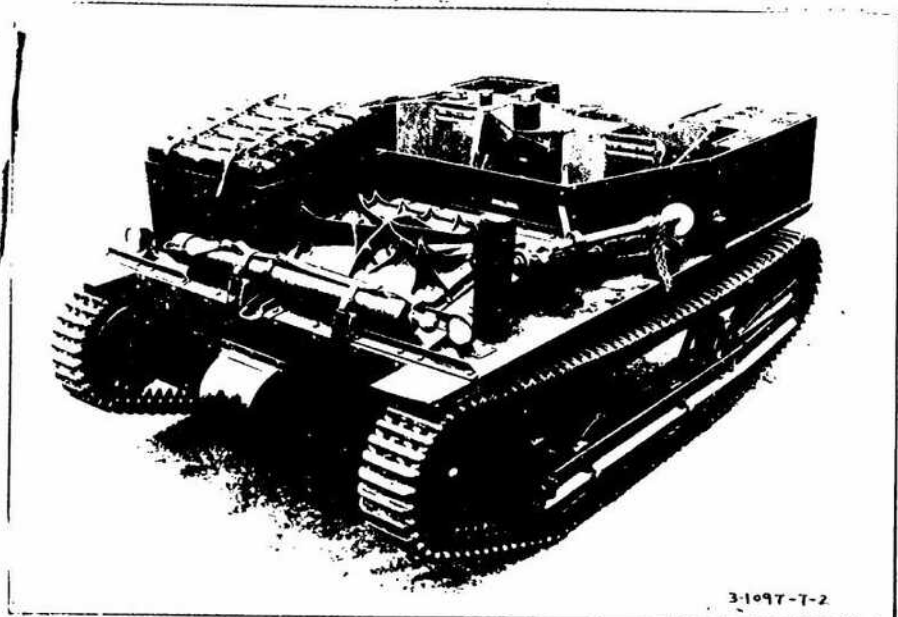
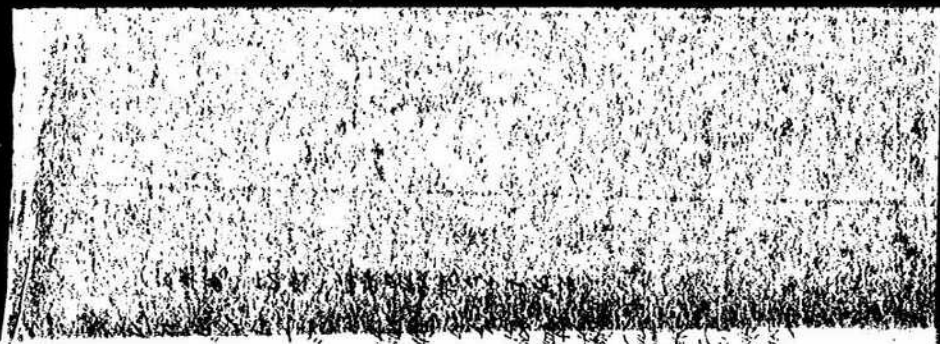
牽引車

時 = 7 分、車輪 3 牽引機)

カーデンロイド 式 火砲 運搬車

(運行速度 20 馬力)

裏面白紙



3-1097-7-2

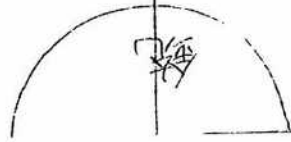
牽引車

(時=7台ノ車輛ヲ牽引得)

カーゴロイド大口径運搬車

(進行速度20km/h)

裏面白紙



牽引車

時=7分、車輛ヲ牽引シ得)

カーデンロイド式火砲運搬車

(運行速度 20 哩/時)

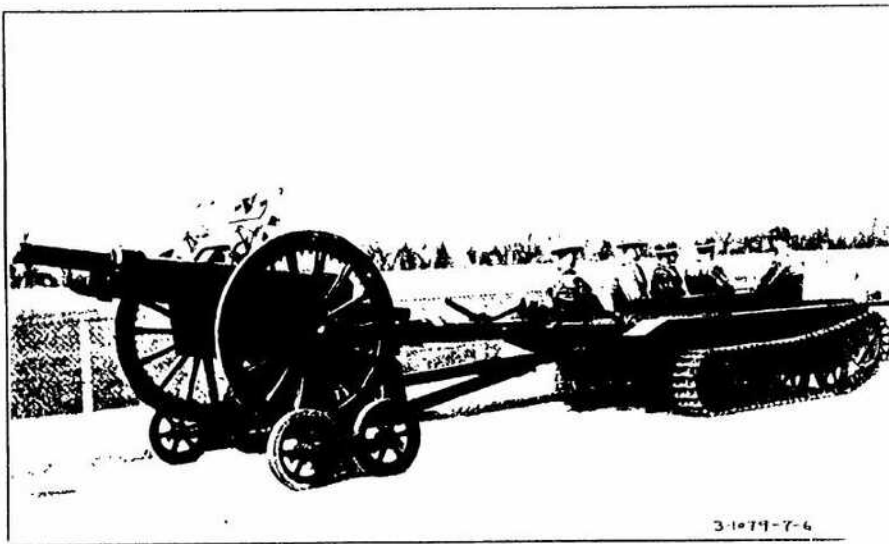
銃

牽引車

時=7分、車輛ヲ牽引得)

(銃は多量に)

東京野火火隊 11月6日



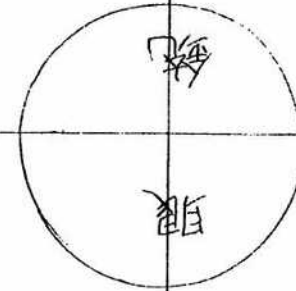
3-1079-7-6

カーデンロイド式軽牽引車

野戦用ニ依リテ、非常ニ低ク目立ク運搬容易ニシテ

五人或ハ十人乗車シ得

機関ハ六気筒水冷式 50馬力ヲ裝備ス



裏面白紙

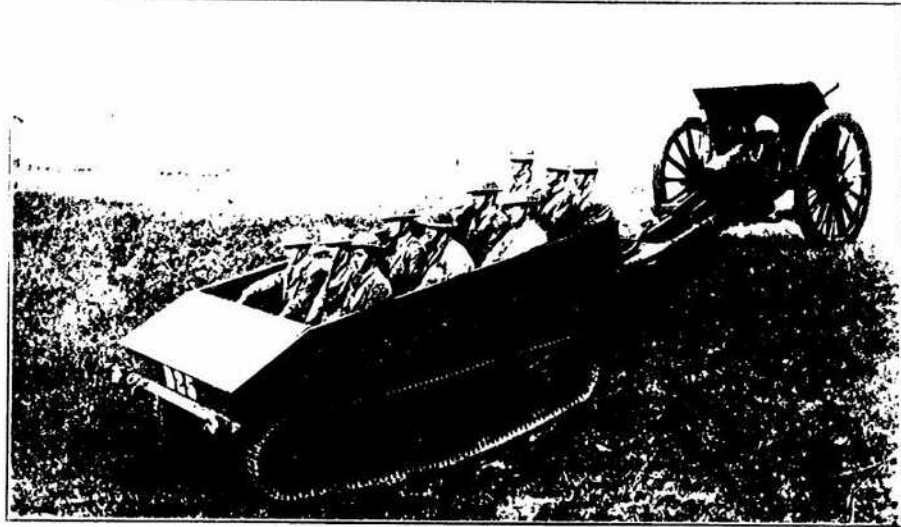
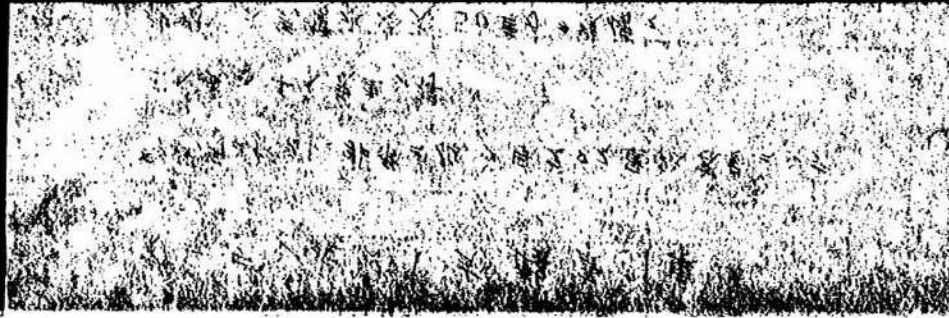
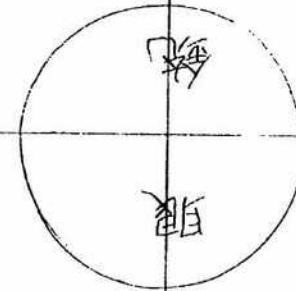
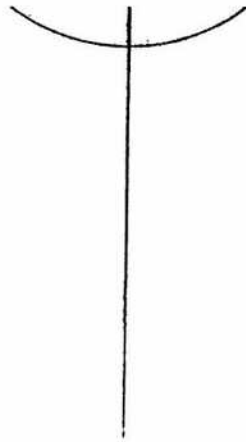
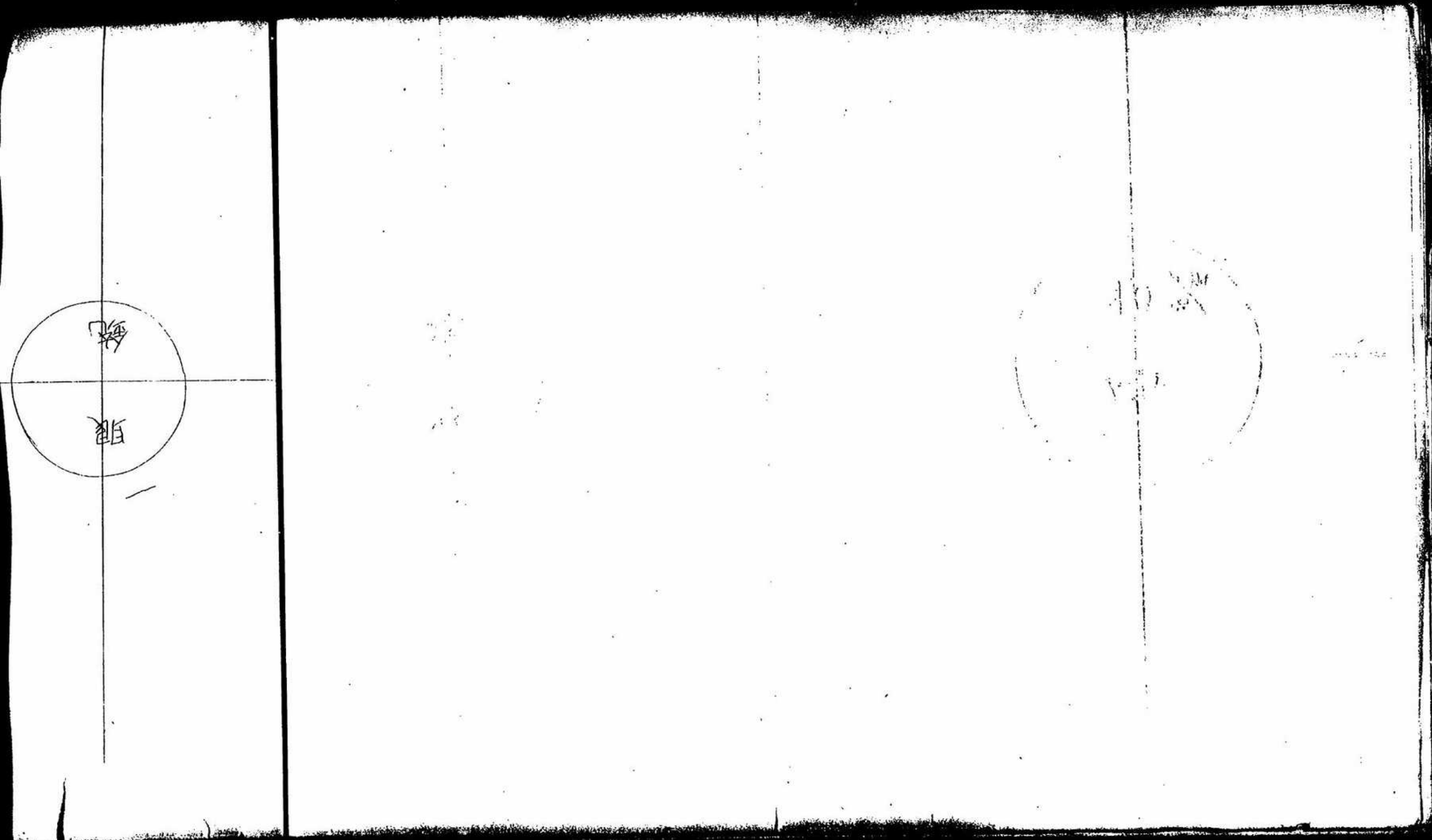


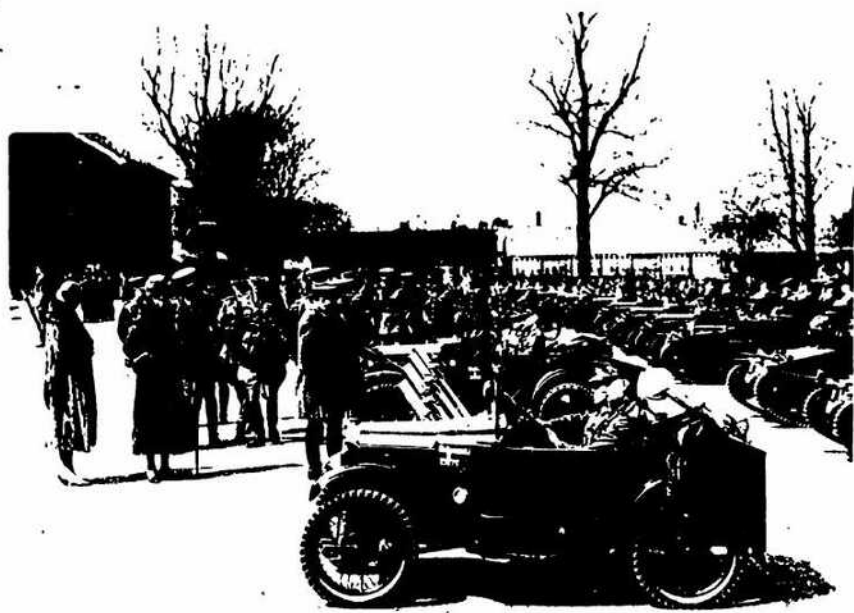
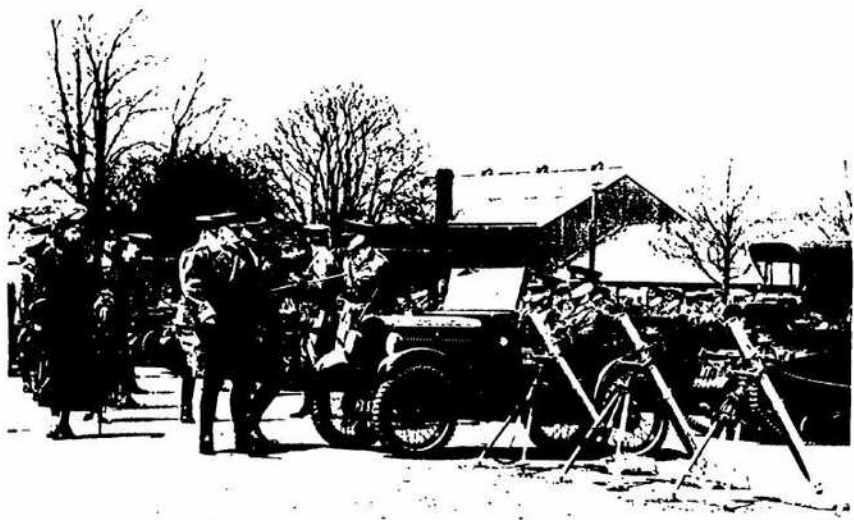
Plate XV

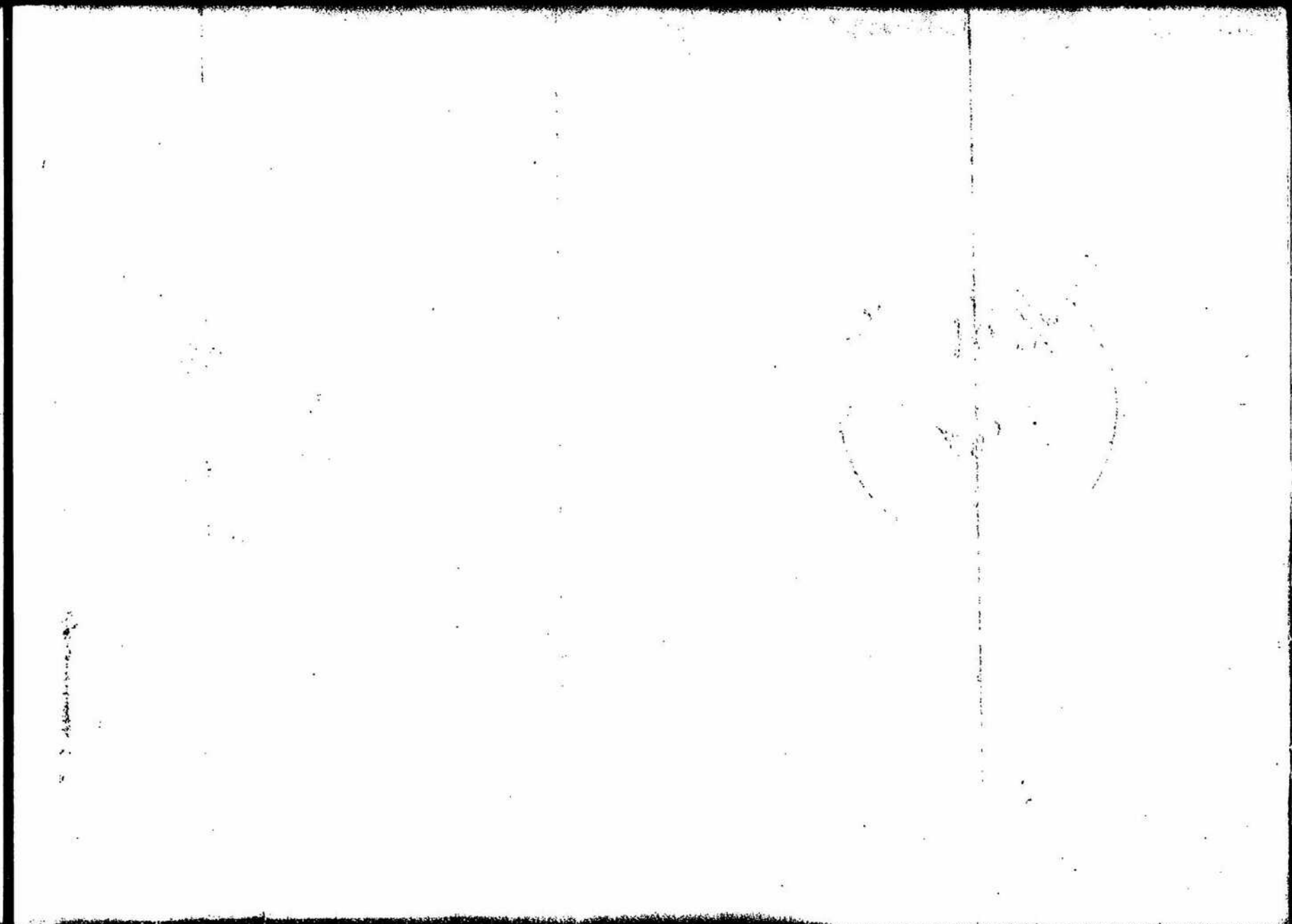
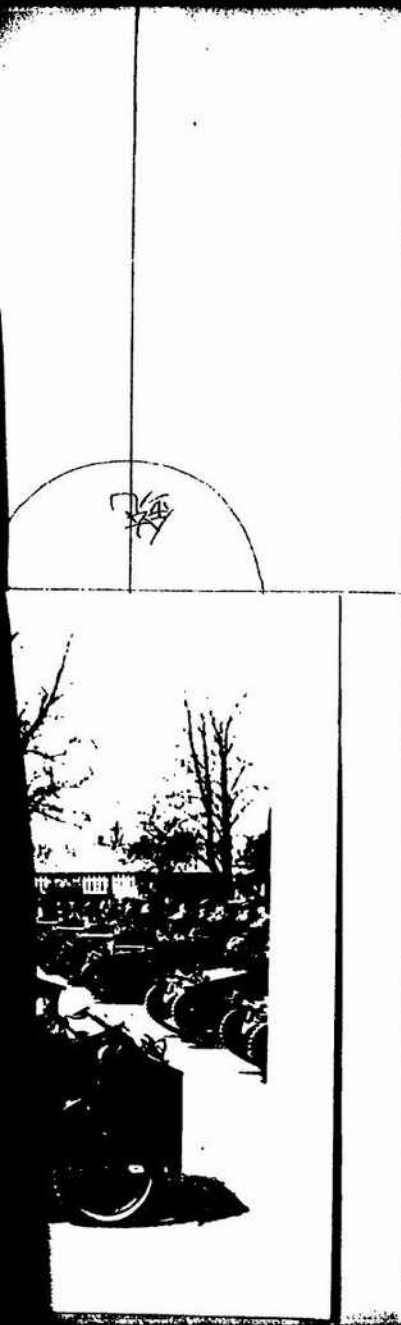
3-1077-7-4



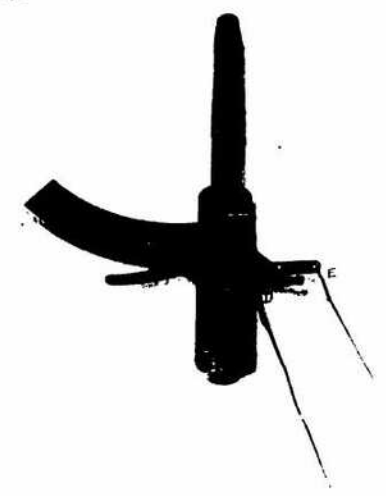
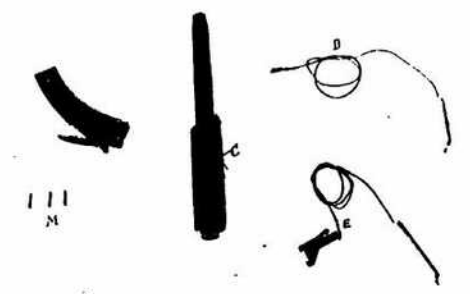
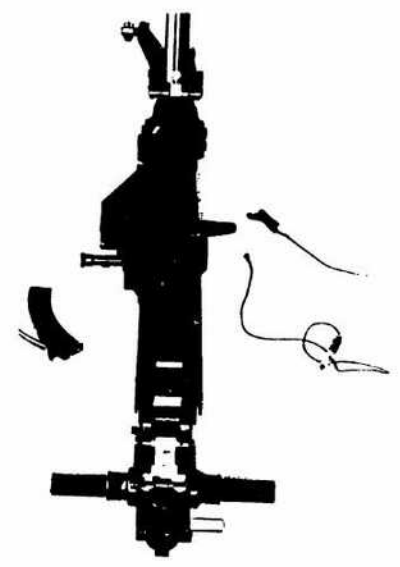
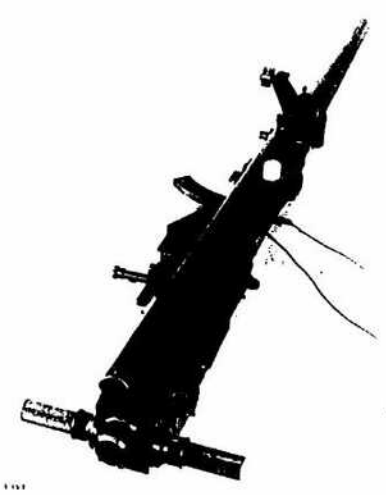




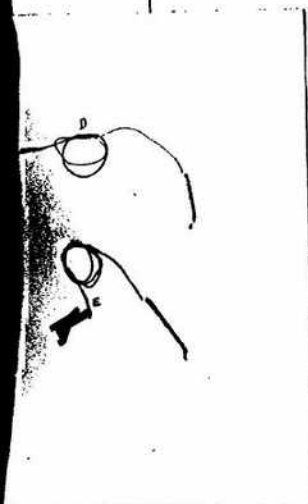




Solotur

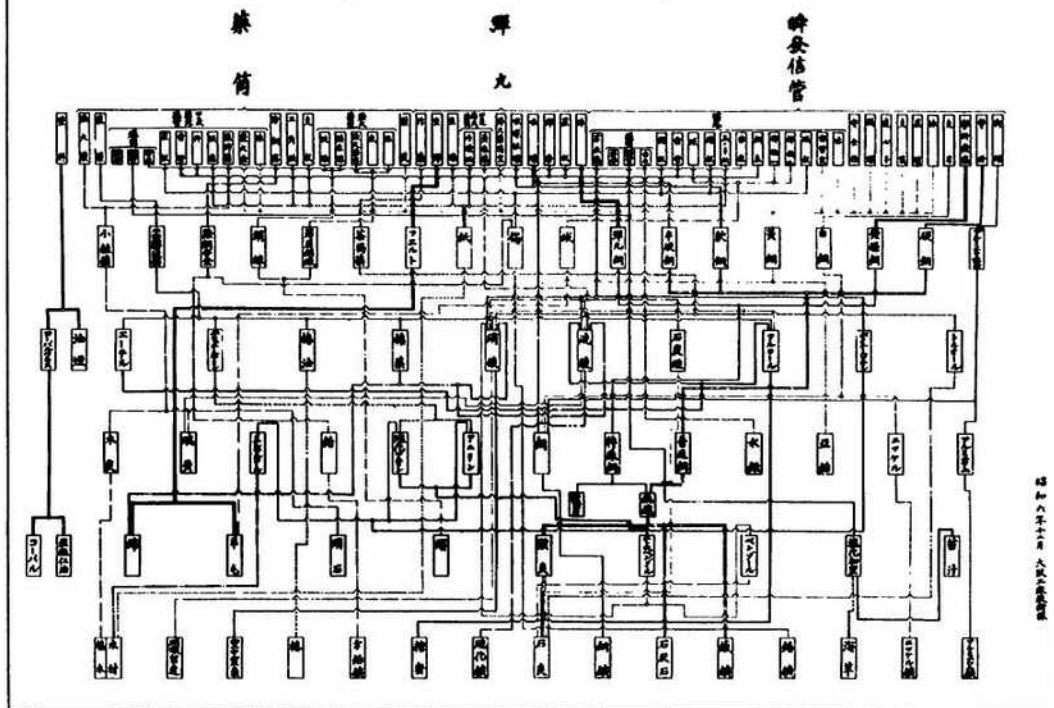


Soloturn. 板岡砲用内堀銃



砲

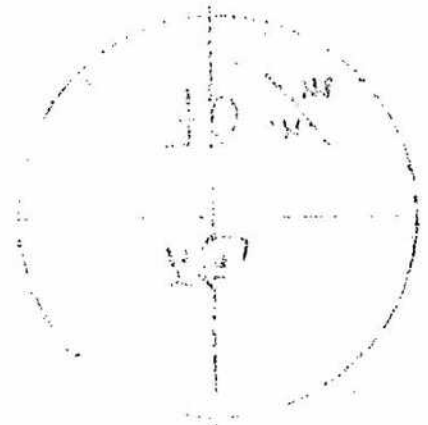
野砲陣地構築原一覽圖



昭和八年十月六日陸軍省編纂

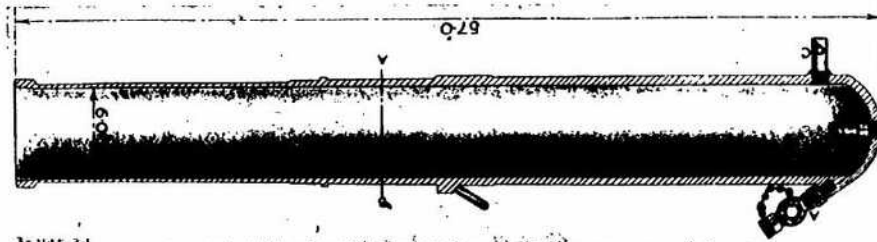
銃眼

鏡  
眼





ORDNANCE, M.L. 6-INCH TRENCH MORTAR, MARK I.  
(Scale 1.)



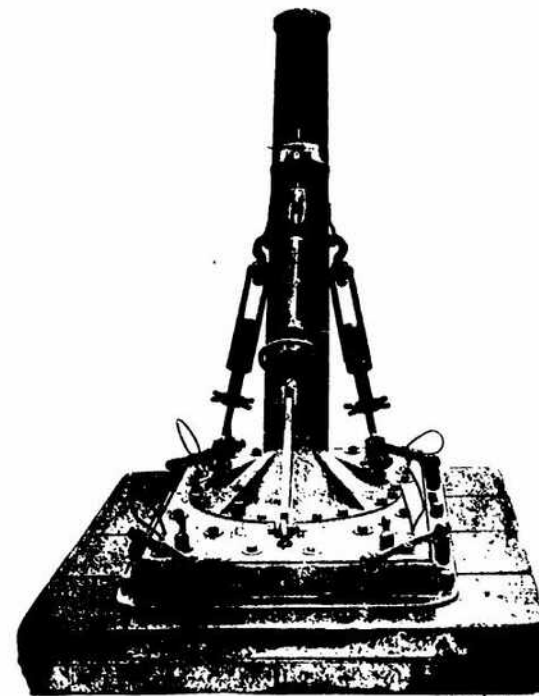
3-2145-3-1



Section A.B.

- A. Missfire and Stop Plug.
- B. Striker Stud.
- C. Guide Stud.

112 6吋 塹壕 砲 砲 身

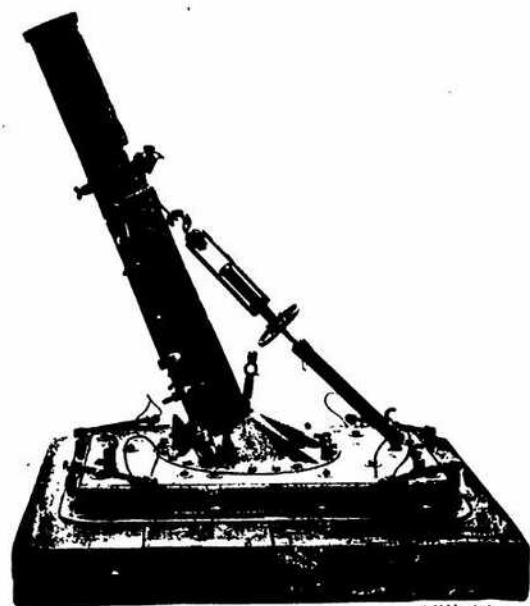


3-2145-3-3

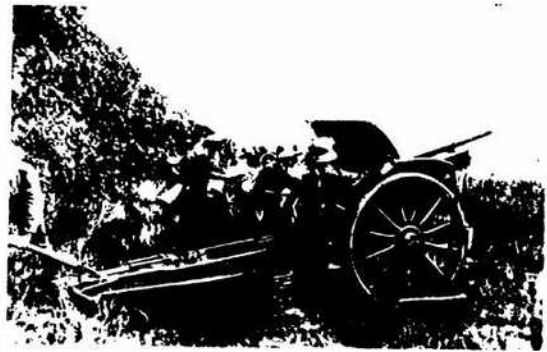
112 6吋 塹壕 砲



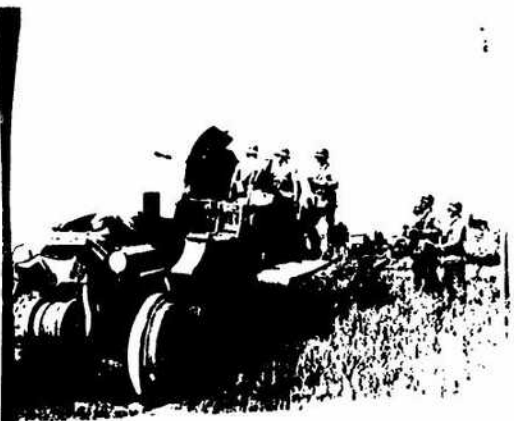
112 6吋 塹壕 砲



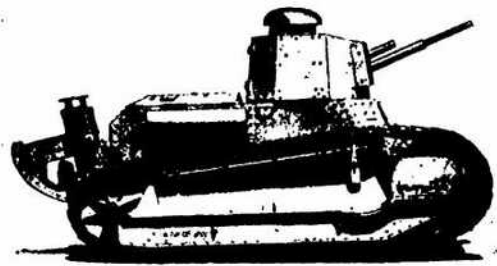
1921年製倍化.



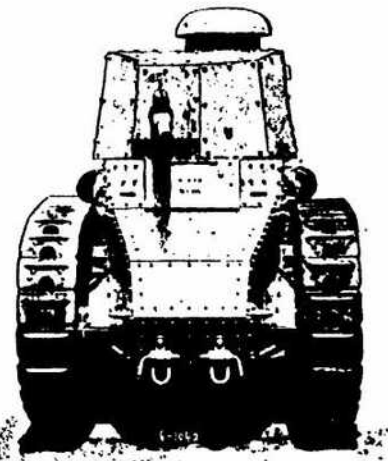
め  
く  
れ  
ず



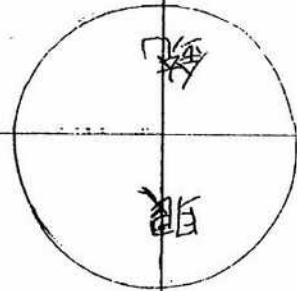
めくれず

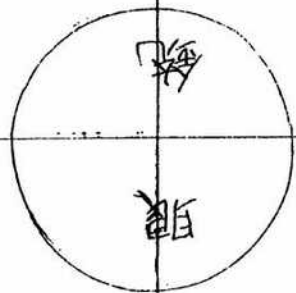


Fiat Tank—Type 3000 B



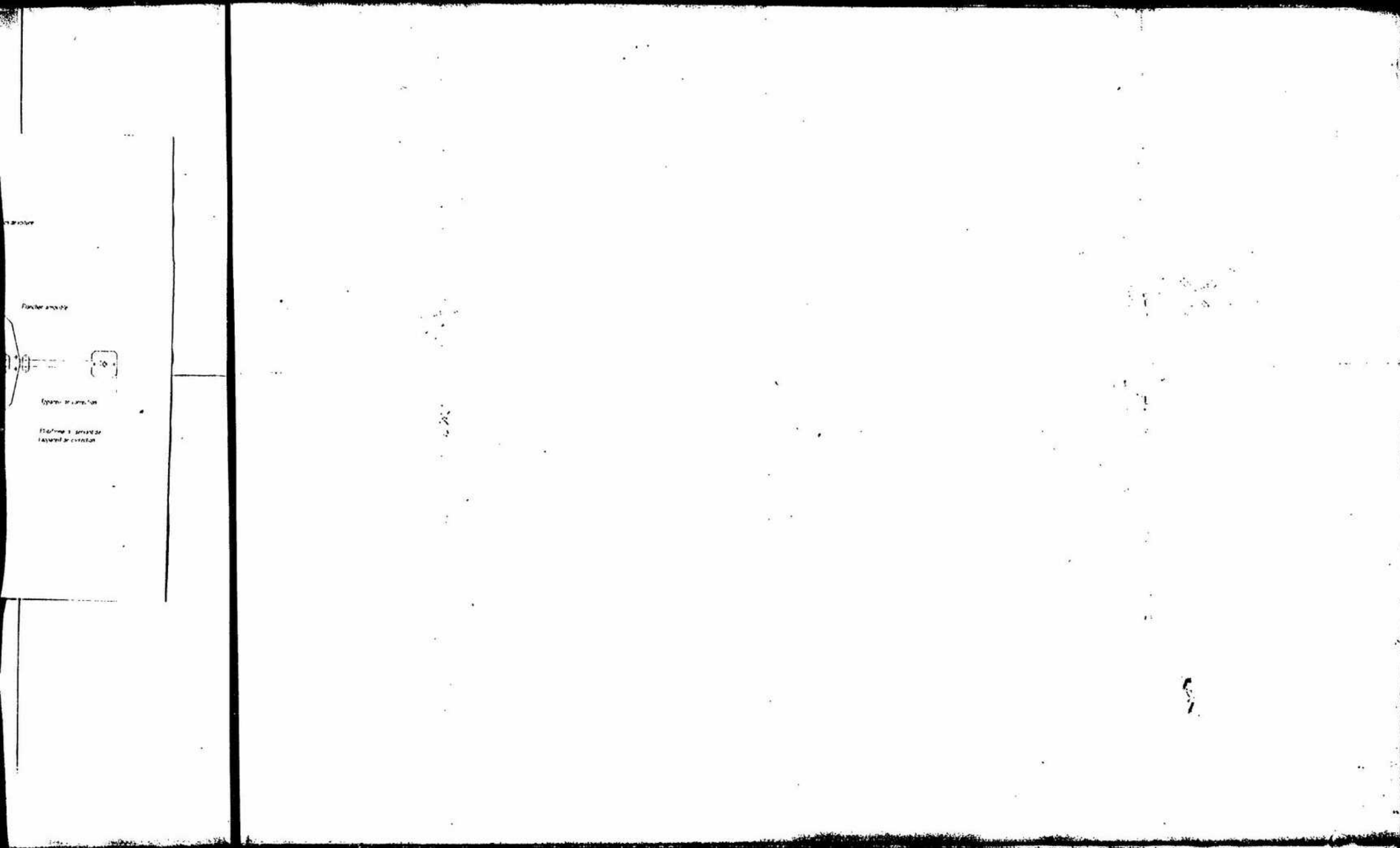
Fiat Tank, Type 3000 B  
Front View











...

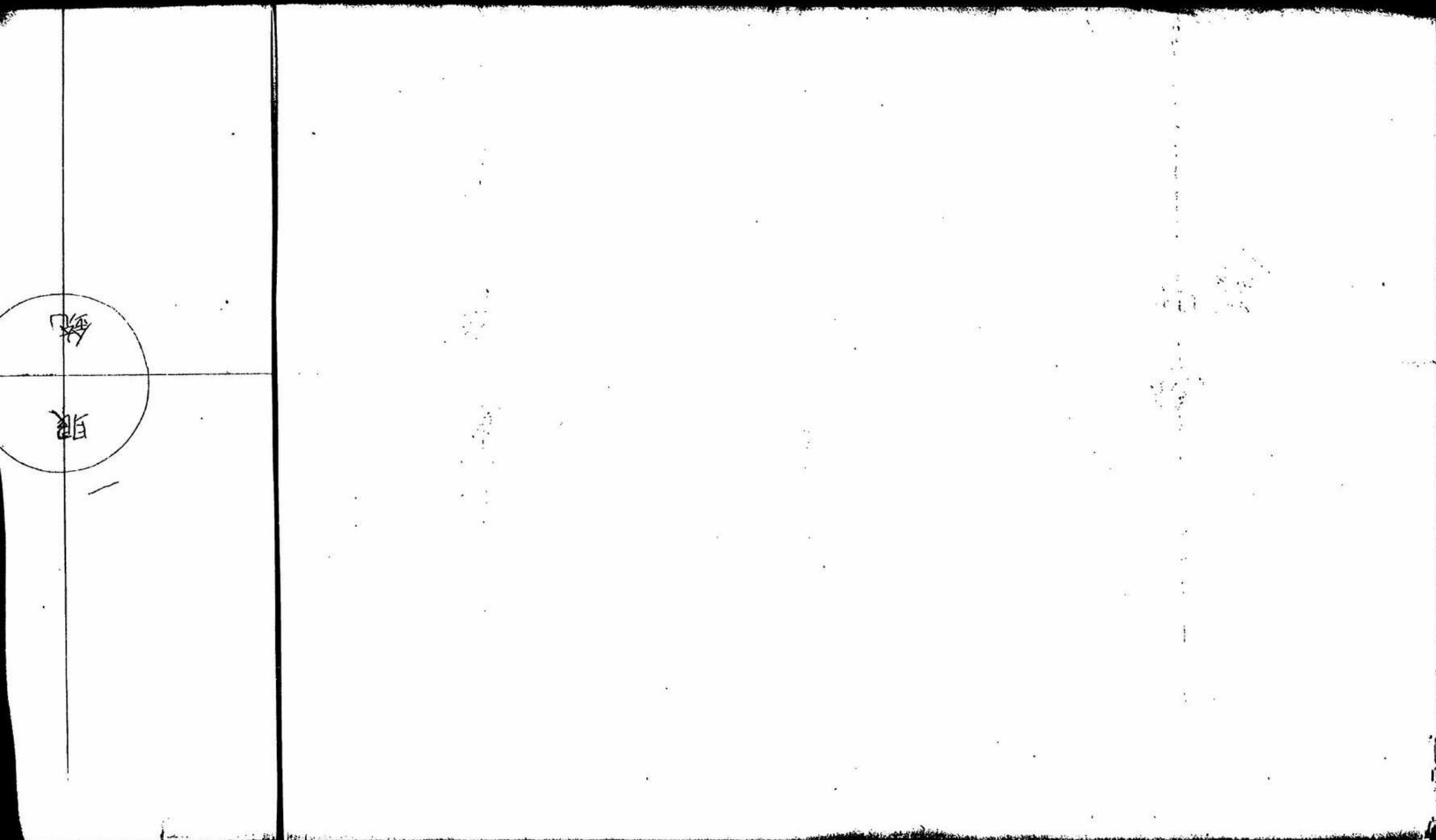
...



...

...





I)



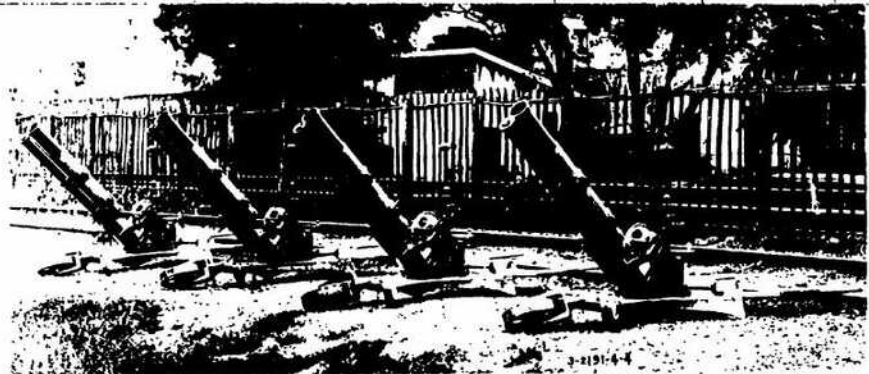
3-2191-4-1



石車 (イ)



3-2191-4-2



3-2191-4-3

八七五耗砲追撃砲 (1912-1914年)

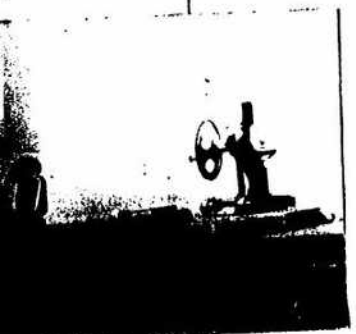
$$KE/v = 38.2 \text{ kg}^2/\text{m}^2$$

「マチニヨール」七五耗迫撃砲

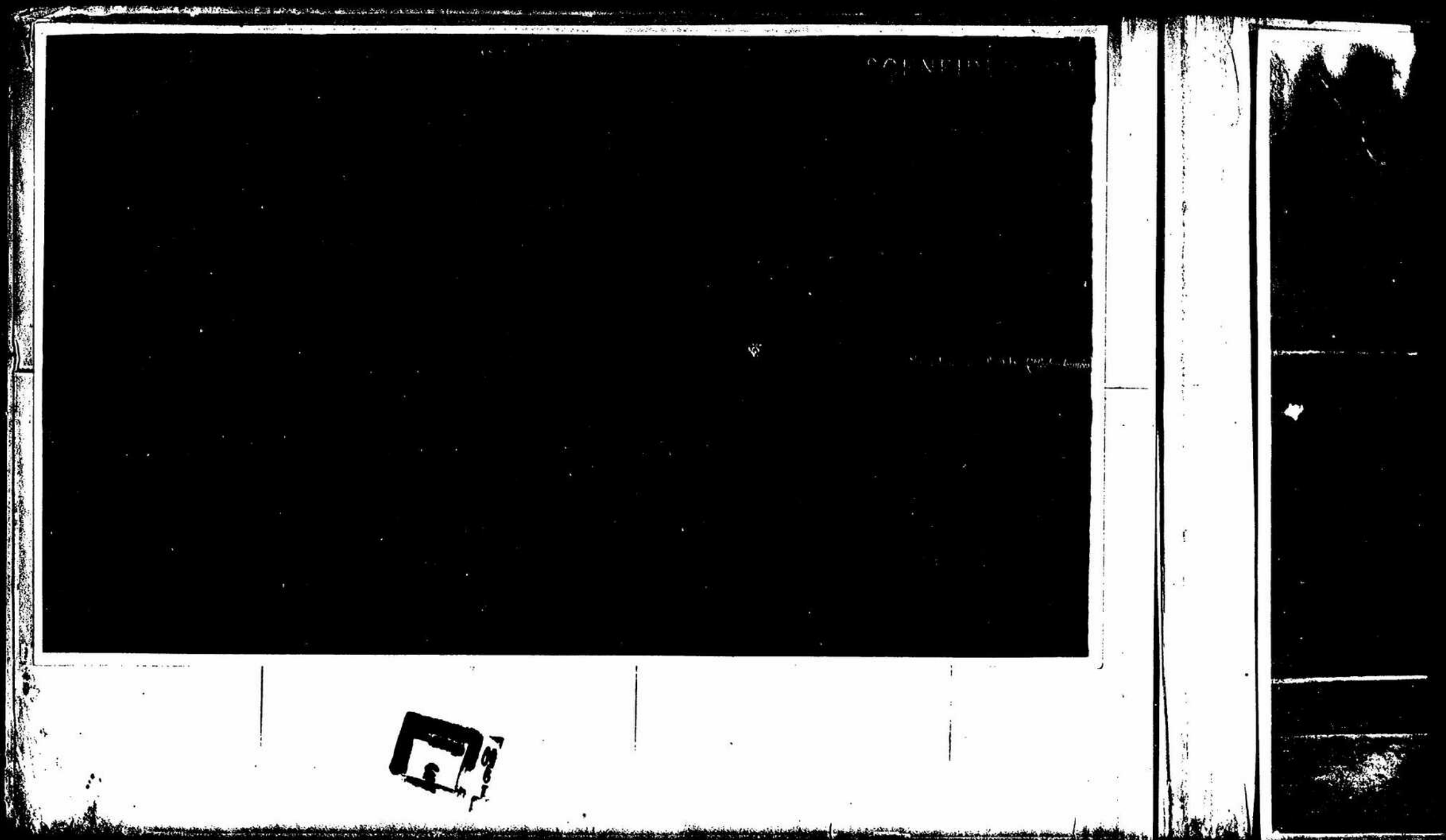
口徑	七五耗
彈種	榴彈又ハ發煙彈（砲口裝填導帶附） 藥莢ヲ使用ス（砲尾裝填）
彈量	三疋二五〇（炸〇疋八）
初速	八〇米乃至一四〇米
高低射界	正一〇度乃至正七〇度
方向射界	四〇度
發射速度	八乃至一〇發
砲架形式	床板式、駐退復坐機ヲ有ス 後坐長二〇〇耗
放列砲車	八五疋

陸軍

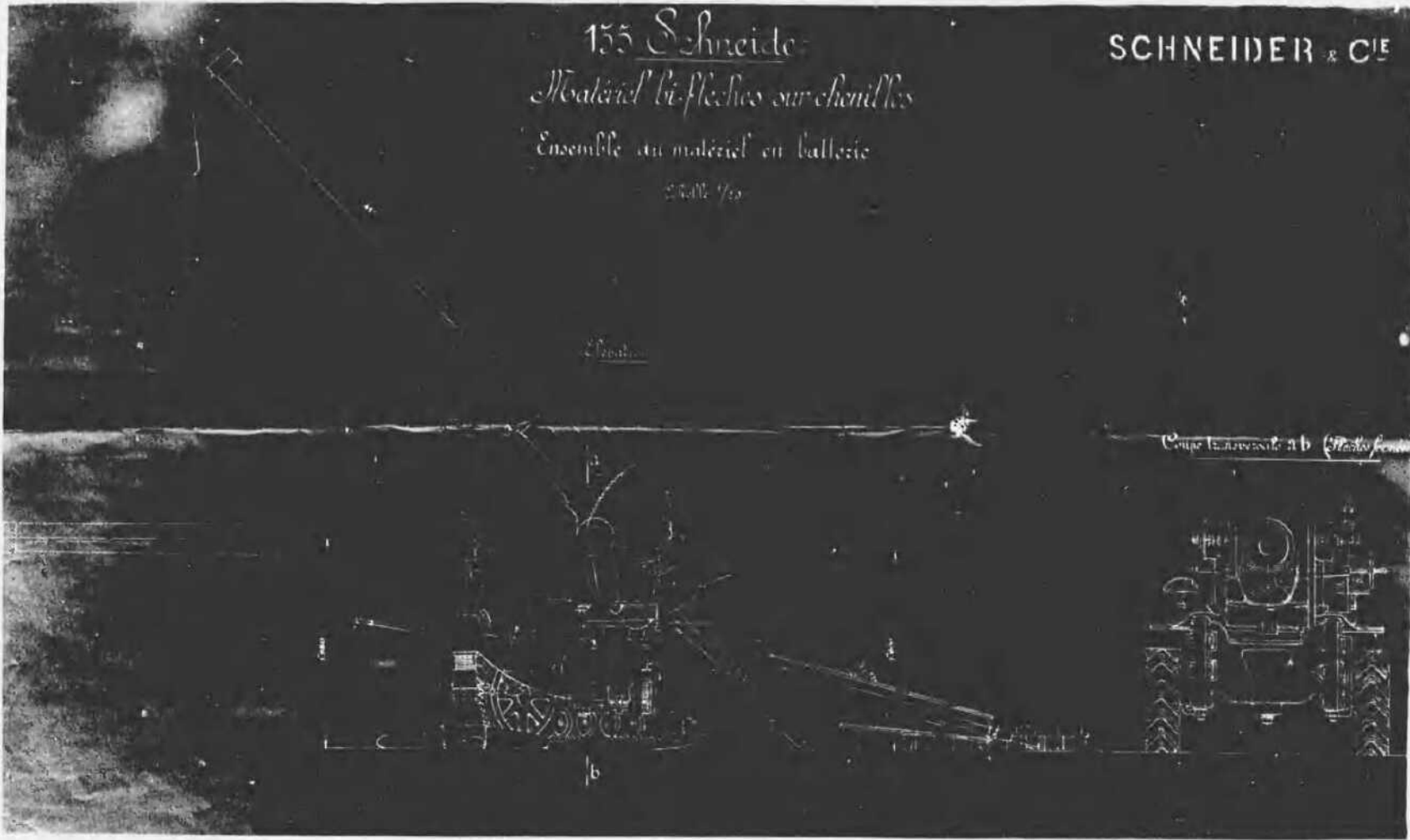
裏面白紙





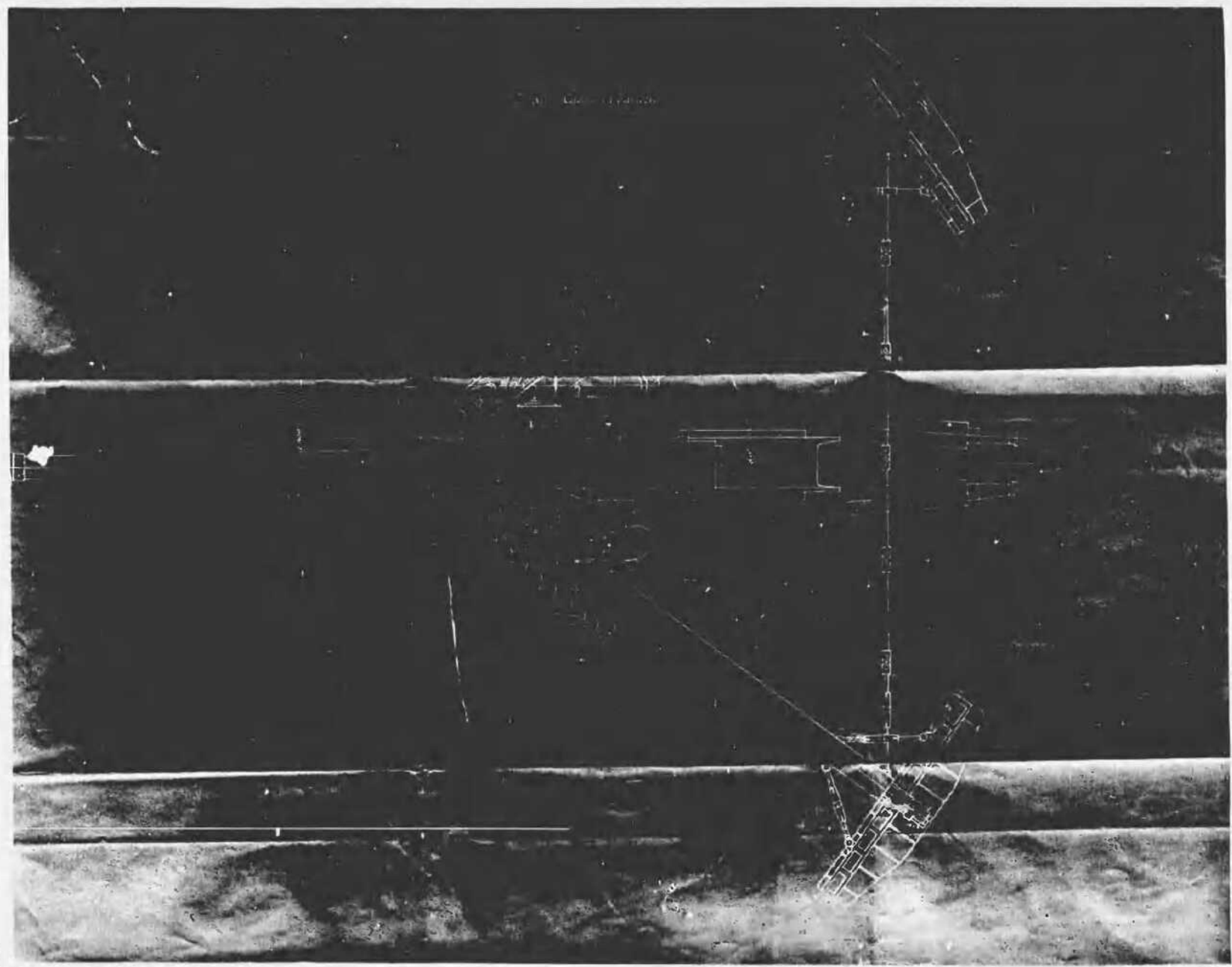






SCHNEIDER & C<sup>IE</sup>

Coupe transversale a b (Plancher de bois)



155 Schneider  
Matériel de forage et de mines

SCHNEIDER & C<sup>IE</sup>

Construction des machines  
Lithée 156

Voiture unique



Poids total de la voiture 17,000  
Charge sous les roues 16,000  
Charge sous les roues d'arrière 8,500  
Prix total de la voiture 17,000

Voiture pourvue de l'axe et de la chaîne de transmission  
en vue de transporter le matériel en avant de la galerie



Poids total de la voiture 17,000

Plan de démontage des machines



Plan de démontage



Voiture canon



Poids total de la voiture 2,000  
Charge sous les roues d'arrière 1,500  
Charge sous les roues d'avant 500

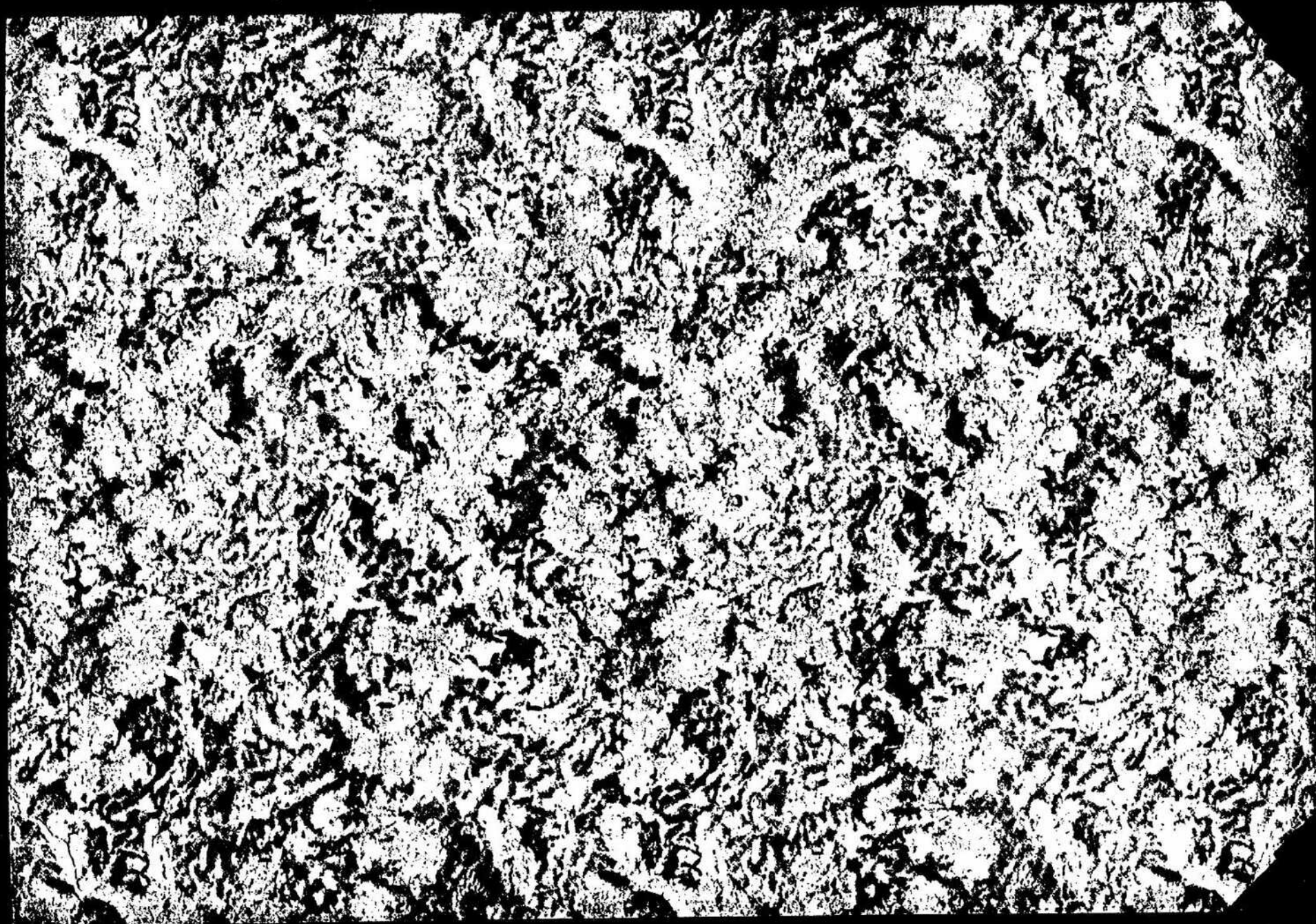
Voiture à fuel

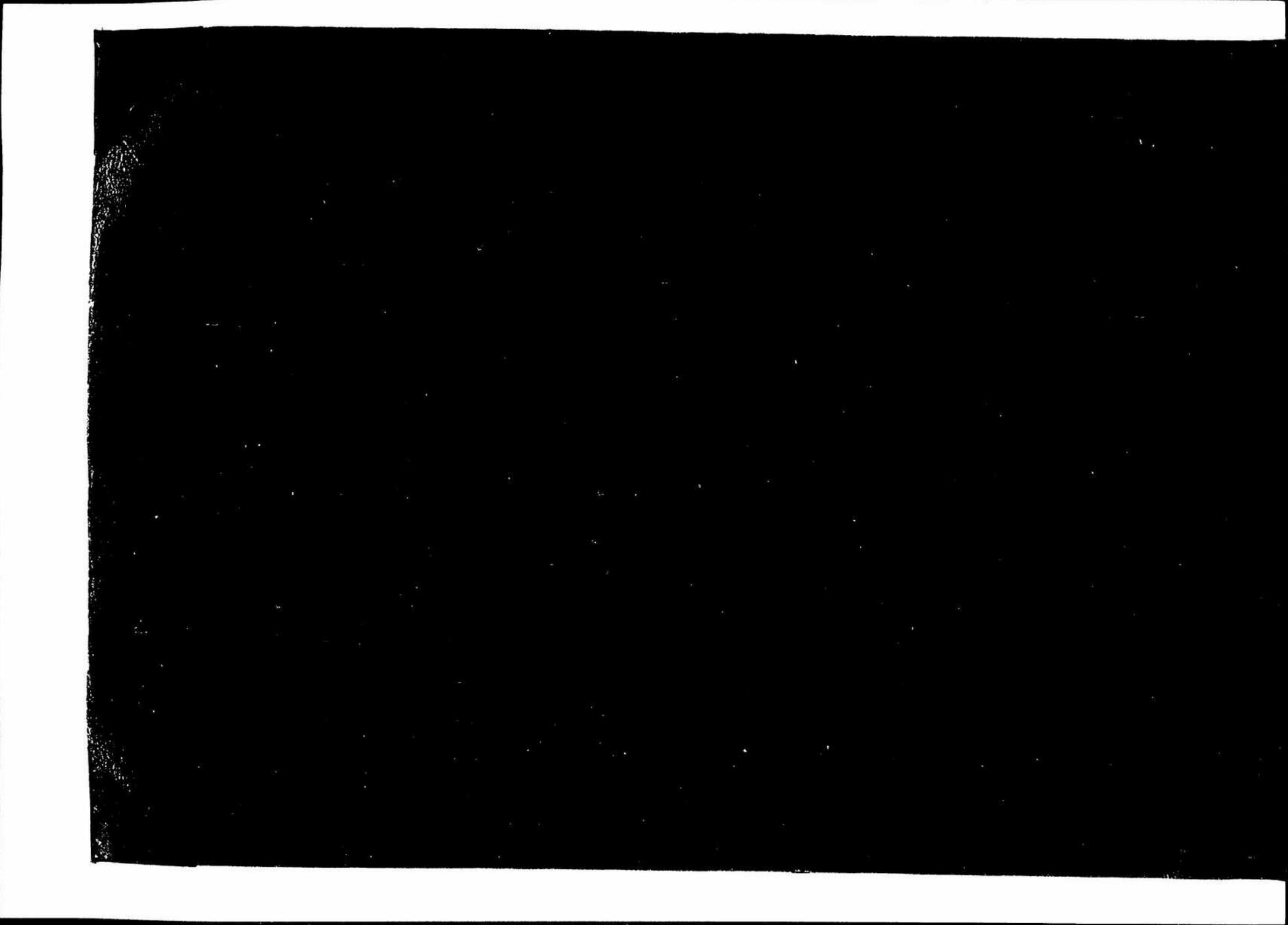


Poids total de la voiture 2,000  
Charge sous les roues 1,500  
Charge sous les roues d'arrière 500

ST  
MC







m 1 2 3 4 5 6 7 8 9 10

国立公文書館	
分類	返 赤
配架番号	3 A
	14
	18-12





# 秘 兵 要 地 誌 圖 圖 式

備第七九二部隊 參謀部編製

**注意事項**

一 本圖 = 規定セザル事項ハ地形因圖式、軍隊符号等ノ應用ニ勉メテ簡明ナラシムルニトス

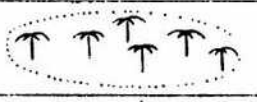

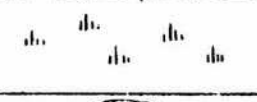
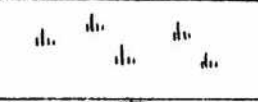

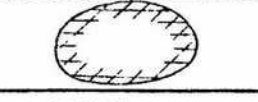
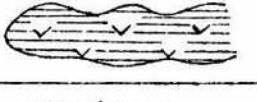
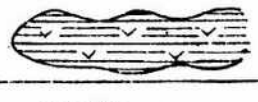


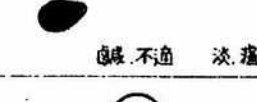
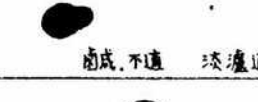

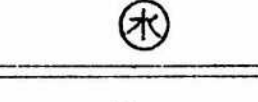


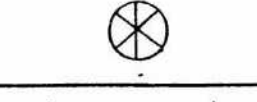
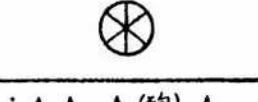
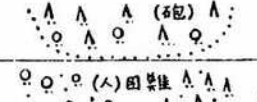
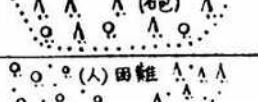
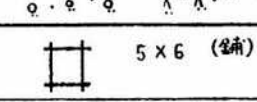
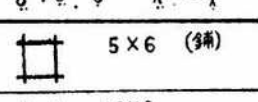
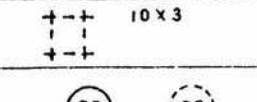
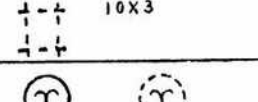
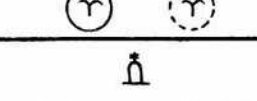
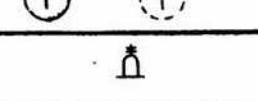
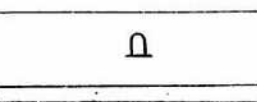
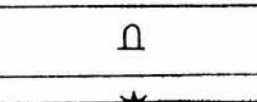


二 着色ハ下記ニ據ルニトス  
 1 道路、住民地、飛行場等ノ用ルル事項及一般ノ註記 ----- 橙色(赤色)  
 2 河川、湿地、給水及地名等ノ用ルル事項 ----- 藍色(黒色)

三 註記ノ横書スルトハ下記ニ據ル  
 1 地名 右列左、  
 2 英地 左列右、







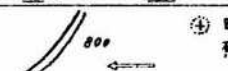

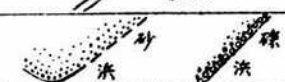
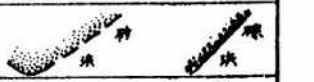



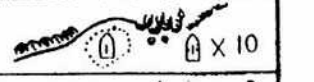
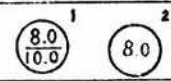

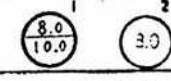
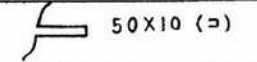
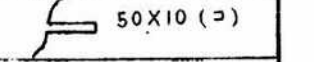
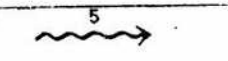
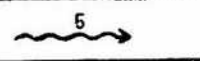
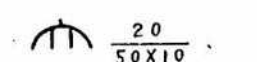
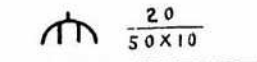
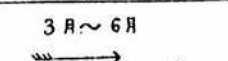
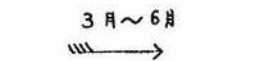


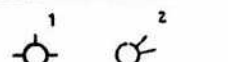



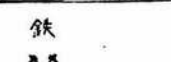
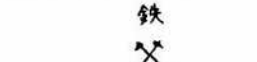
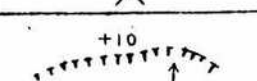
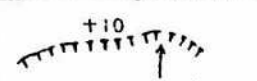
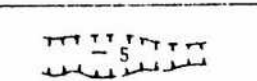
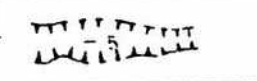
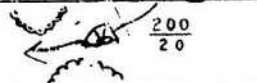

**備考** 本圖式ハ中部太平洋島嶼ノ特性ヲ考慮シ特殊事項ニ關シ補備セルモノナリ

区分	圖式(正色)	說明	圖式(正色)	
道	<b>自動車道</b>  <small>既成道路ニ非ザルモ自動車ヲ通シ得ルモノ</small>	1 道路舗装ノ状態ハ註記ヲ以テ砂利、石、コンクリート等ノ明瞭ニス 2 道路ノ傾斜ハ例ヘバ $\frac{1}{10}$ ノ如ク註記ス 3 構築中ノ道路ハ構築中ニ註記ス 4 徑路不明ノ道路ハ豫想徑路ノ傍ニ英、日註記ス 5 蛇行(九十九折)道ハ~~~~、如ク蛇行ノ度ニ適宜屈折セシム 6 破壊道(馬)ハ***、如ク現在ノ價値ヲ明コサセム	 <small>既成道路ニ非ザルモ自動車ヲ通シ得ルモノ</small>	
	<b>野砲道</b>  <small>既成道路ニ非ザルモ野砲ヲ通シ得ルモノ</small>		 <small>既成道路ニ非ザルモ野砲ヲ通シ得ルモノ</small>	
	<b>輜重車道</b>  <small>既成道路ニ非ザルモ輜重車ヲ通シ得ルモノ</small>		 <small>既成道路ニ非ザルモ輜重車ヲ通シ得ルモノ</small>	
	<b>駄馬道(徒小徑)</b>  <small>既成道路ニ非ザルモ駄馬ヲ通シ得ルモノ</small>		 <small>既成道路ニ非ザルモ駄馬ヲ通シ得ルモノ</small>	
	<b>湿潤道</b> 		工事ヲ施スニ非ザレバ通過困難ナル部分ニス	
	<b>橋梁</b>  <small>(木) 20(4) (石) 馬</small>		1 橋梁ノ種類及可能通過物料ハ次ノ如ク示サレテ (木) 木橋 (輜) 輜重車 (コ) コンクリート橋 (人) 單獨兵 (馬) 馬 (石) 石橋 (舟) 舟橋 (戰) 戰車 (鉄) 鉄橋 (砲) 野砲 (自) 自動車及野戰重砲 2 例 - 長20米幅4米木橋ニテ自動車ヲ通ス 例 - 石橋ニテ馬馬通過可能	 <small>(木) 20(4) (石) 馬</small>
地	20 樹高	樹高 單位ニ米ニス	20 樹高	
	 0.5	泥濘ノ深サハ米單位ヲ赤記ス	 0.5	
		紅樹林(マングローブ)		
		椰子林		
		農地		

めくられず

形		椰子林	
		叢地	
河川		河幅 50米(流水幅35米) 水深 3米(流速1.2米) 河底砂礫水質良	
	乾燥期乾燥 		
地	常陸湿地 		
	井戸 井 不良 5.1(1.3)	1 水質不良 井戸数多し部塔・TIT平均水位及平均水深ヲ用テ 水位5.1米(水深1.3米)	井 不良 5.1(1.3)
給	地下水位 -5.2	2 水質ハ次ノ区分ニ依ル 良(良) 不良(不良) 一般的ニ良否ヲ区分スル場合 濃適(濃適) 濃適ニハ飲用ニ適スル也 希適(希適) 希適ニハ飲用ニ適スル也	-5.2
	泉 良 20t	淡(淡) 汽水 鹹(鹹) 鹹度高ク飲用ニ適スル也 曹(曹) 曹連分多ク飲用ニ適スル也	良 20t
水	水流 濃適 水 320t	3 水量(1t=1立方米)ニ毎時ニ於ケル流量又ハ湧出量ハス	濃適 水 320t
	湖沼 鹹不適 淡濃適 		鹹不適 淡濃適 
水		水源地	
		貯水池	
		給水塔	
森	疎林 	1 必要ノ部分ノ地契界線ヲ用テ 2 可能通過物料ノ略記号ニ橋梁ノ部ニ同ジ 3 特ニ森林ノ分布状態ヲ明示スルヲ要スル時ハ下記図式ヲ之ニ加附シ且要スル樹林記号ヲ省略スルコトヲ得	
	密林 		
飛行場	陸上 5x6 (鋪) 	廣テ(長テ) 500米X(幅) 600米 滑走路鋪裝セテ	5x6 (鋪) 
	陸上(適地) 10x3 	廣テ(長テ) 1000米X(幅) 300米	10x3 
海	水上 	水上飛行場 (同適地)	
		燈浮標	
		無燈浮標	

飛行場	陸上	5X6 (鋪)	廣サ (長サ) 500米 X (幅) 600米 滑走路鋪裝シテ 廣サ (長サ) 1000米 X (幅) 300米	5X6 (鋪)
	陸上(通地)	10X3		10X3
	水上		水上飛行場 (同通地)	
海岸			柱燈浮標	
			無燈浮標	
			燈台	
			破泊(投錨)通地  大船舶  中船舶  小型船舶	
		(東北風)	波浪高ク上陸用舟艇ノ行動困難ナル海岸 特記事項ハ赤記 例ハバ(東北風)ノ時ハ波浪大ナルガ如シ	(東北風)
		常時露岩  岩石  珊瑚礁		岩石  珊瑚礁
		隠頭岩  岩石  珊瑚礁		岩石  珊瑚礁
		上陸可能  暗礁	1 上陸可能海岸ハ——ヲ付ス + 最も上陸容易ニ箇所ハ——ニ示ス 2 上陸困難ハ赤記ス 3 單位ハ米突トス	暗礁
		砂礫浜	砂浜 水邊線不明ノ部ハ真線ヲ表シ 礫石海岸	
		X10	舟艇秘匿通地  小艇  大艇 小艇+隻秘匿可能示ス	X10
岸	水深	8.0  10.0  8.0	海水深  干潮時 満潮時 單位ハ米突トス	8.0  10.0  8.0
	棧橋	50X10 (コ)	棧橋 土製 コンクリート製 木製等ノ区分ハ橋梁ニ準ジテ行フ	50X10 (コ)
	潮流	5	潮流 数字ハ毎時ノ速サ(軒)	5
住民地	例一 (清原) 第二 30(150) 5(200) 例二 (権腰) 15 河(原)	例一 前名ニ註記 改名展濟 戸数 30 (人口 150) 井戸数 5 (積雪 200) } ノルコヲ示ス 例二 新地名 腰 戸数 15 飲用水河(原)	例一 (清原) 第二 30(150) 5(200) 例二 (権腰) 15 河(原)	
其他	洞窟	20 / 50X10	洞窟 20 (高サ) / 50(間口) X 10 (奥行) 單位ハ米突トス	20 / 50X10
	恒風	3月~6月		3月~6月
	見張所			
	展望良好地真	1  2	1 ハ四圍ニ對シ } 展望良好ナルモヲ示ス 2 ハ某方向ニ對シ	1  2
	好目標		固有ノ固式記号ヲ有スル地物ハ要スレバ當該記号ニ依リ現示ス	
他	鉄山	主要鉄山ヲ註記ス 但シ探鉄種ニ就テハ例ハバ鉄ノ如ク赤記ス	鉄	

		例ハバ(東北風)ノ時ハ波浪大ナルガ如シ		
常時露岩				
隠頭岩				
上陸可能		1 上陸可能海岸ハ——ヲ付ス 4 最も上陸容易ノ箇所ハ——ヲ付ス 2 上陸幅員ハ赤記ス 3 單位ハ米突トス		
砂礫浜		砂浜 水灌線不明ノ部ハ長真線ヲ表ハス 礫石海岸		
		舟艇秘匿道地  小艇  大艇 小艇+隻秘匿可能ヲ示ス		
水深		海水深  干潮時(満潮時) <sup>1</sup> 干潮時 <sup>2</sup> 満潮時ヲ表ス 單位ハ米突トス		
棧橋		棧橋 土製 コンクリート製 木製等、区別ハ橋梁ニ準ジテ行フ		
潮流		潮流 数字ハ毎時ノ速ヲ(軒)		
住民地	例一 (清原) $\frac{30(150)}{5(200)}$ 例二 (権腰) $\frac{15}{河(原)}$	例一 前名ニ註記 改名展清 $\frac{戸数 30(人口 150)}{井戸数 5(積込 200)}$ 例二 新地名 権腰 $\frac{戸数 15}{飲用水河(泉)}$ } ナルコトヲ示ス	例一 (清原) $\frac{30(150)}{5(200)}$ 例二 (権腰) $\frac{15}{河(原)}$	
其	洞窟	 $\frac{20}{50 \times 10}$	洞窟 $\frac{20(高さ)}{50(開口) \times 10(奥行)}$ 單位ハ米突トス	 $\frac{20}{50 \times 10}$
	恒風		3月~6月	
	見張所			
	展望良好地真		1 ハ四圍ニ對シ } 展望良好ナルヲ示ス 2 ハ某方向ニ對シ	
	好目標		固有ノ圖式記号ヲ有スル地物ハ要スレバ當該記号ニ依リ現示ス	
他	鉱山	鉄 	主要鉱山ヲ註記ス 但シ探鉱種ニ就テハ例ハバ鉄ノ如ク赤記ス	鉄 
	断崖		登攀可能ノ部ニ限リ矢印ヲ施ス 例ハバ ↑	
	地隙			
			船艇ノ大小ノ船艇秘匿道地及碇泊地ノ記号ヲ適用ス $\frac{200(噸)}{20(水深)}$ 青記(赤記)ス	



秘

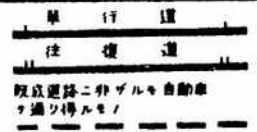
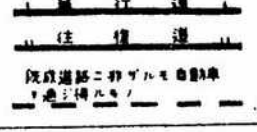
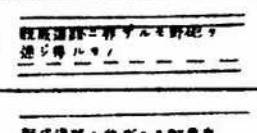
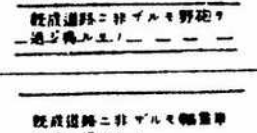
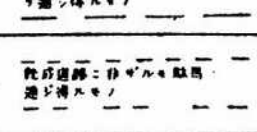
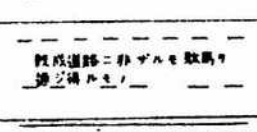
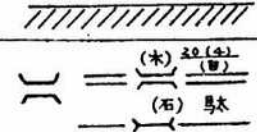
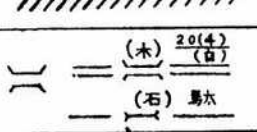

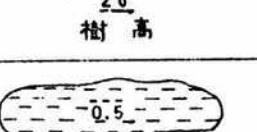
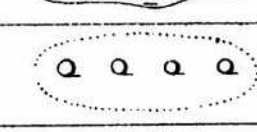
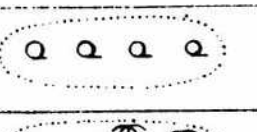
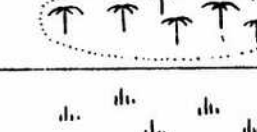



# 兵要地誌圖圖式

備第七九二〇部隊 參謀部調製

## 注意事項

- 本圖 = 規定セザル事項ハ地形圖圖式、軍隊符号等ヲ應用シ、簡明ナラシムルニトス
- 着色ハ下記ニ據ルニトス
  - 道路、住民地、飛行場等ニ關スル事項及一般ノ註記……………橙色(赤色)
  - 河川、湿地、給水及地名等ニ關スル事項……………藍色(黒色)
- 註記ヲ横書スルトキハ下記ニ據ル
  - 地名 右列左ニ
  - 其他 左列右ニ

備考 本圖式ハ中部太平洋島嶼ノ特性ヲ考慮シ、特殊事項ニ關シ補備セルモノナリ

区分	圖式(正色)	說明	圖式(正色)
道	<b>自動車道</b> 	<ol style="list-style-type: none"> <li>道路舗装ノ状態ハ註記ヲ以テ砂利、石、コンクリート等ノ月跡ニス</li> <li>道路ノ傾斜ハ例ハ<math>1/10</math>ノ如ク註記ス</li> <li>構築中ノ道路ハ構築中ニ註記ス</li> <li>径路不明ノ道路ハ豫想径路ノ傍ニ其ノ首ヲ註記ス</li> <li>蛇行(九十九折)道ハ~~~~ノ如ク蛇行ノ度ニ適宜屈折セル</li> <li>破壊道(馬)ノ如ク現在ノ價値ヲ明クナラセム</li> </ol>	
	<b>野砲道</b> 		
	<b>輜重車道</b> 		
	<b>駄馬道(狭小径)</b> 		
	<b>湿潤道</b> 		
路	<b>橋梁</b> 	<ol style="list-style-type: none"> <li>橋梁ノ種類及可能通過物料ハ次ノ如ク略号ヲ用テ                      (木) 木橋 (輜) 輜重車 (コ) コンクリート橋 (人) 單獨兵                      (馬) 馬馬 (石) 石橋 (舟) 舟橋 (戰) 戰車                      (鉄) 鉄橋 (砲) 野砲 (自) 自動車及野戰重砲                 </li> <li>例一 長<math>20</math>米幅<math>4</math>米木橋ニテ自動車ヲ通ス                      例二 石橋ニテ馬馬ヲ通過可能</li> </ol>	
	<b>樹高</b> 		
地		珊瑚ノ深サハ概單位ヲ赤記ス	
		紅樹林(マングローブ)	
		椰子林	
		叢地	