THE TIKKAKOSKI COMPANY LTD.

HEAVY MACHINE-GUN

1932 MODEL

O/Y TIKKAKOSKI A/B JYVÄSKYLÄ, FINLAND

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This machine-gun is an improved Maxim-model, thus of the type with a recoiling barrel. In this type of machine-guns the breech is not released from the barrel till after the projectile has left the muzzle, and the powdergases have thus been enabled to exercise their maximum effect on the projectile.

As is wellknown, the pressure of the powdergases cannot be fully utilized in types with fixed barrels, and the initial velocity of the projectile is consequently materially lower than in the case of a gun with recoiling barrel, even though the ammunition be similar and the barrels of similar length. With regard to our machine-gun, the initial velocity is exactly the same as in the case of the corresponding infantry weapon.

RECOILING DEVICE AND RECOIL STRENGTHENER

We have constructed a recoiling device and a recoil strengthener which render it possible to regulate the firing speed. With our new model either 500 or 1000 shots per minute can be fired. This implies that, when necessary, rapid fire showing hitherto unattained

results can be achieved by a simple manipulation, while again, when so desired, economy of firing can be practised and recourse be had to slower fire. This recoiling device can be fitted to all older Maxim models at a trivial outlay.

METAL CARTRIDGE BELT

By the aid of the new metal cartridge belt utilized for our gun, we have eliminated practically all the disturbances apt to occur in machine-gun fire. Owing to damp, cold and heat the woven fabric belts hitherto in use have often undergone such changes that the belt has not run normally in the feed-block, as the stretching or contraction of the belt has considerably hampered the regular introduction of the cartridges into the cartridge chamber, etc. etc. To this must be added the further advantage that the cartridge belt rapidly can be refilled, thus dispensing with the necessity for a large number of cartridge belts. (Beltfilling machine, Lahti). Our experiments with the new metallic belt have led to the satisfactory result that 90 % of the disturbances hitherto occurring have been successfully eliminated.

MAIN PARTICULARS

Combined weight of the complete machine-gun, tripod mounting, spare barrel and spare breech, together with toolbag	58 kgs.
Weight of the actual machine-gun itself, complete	26 »
» » » tripod mounting	29 »
» » » barrel	2,2 »
» » » breech	0,7 »
» » » a cartridge belt containing 250 shots	6,8 »
Length of barrel	720 mm.
Initial velocity of ammunition, cal. 7.62	870 m/sec.

Our machine-gun is normally constructed for ammunition of cal. 7.62, but it can also be adapted to other calibres.

As a rule, the machine-gun is water-cooled; in cold weather, however, use must be made of a solution with a lower freezing-point. The machine-gun can eventually be adapted for air-cooling. In the course of numerous firing trials held in Finland during the winter months, when the temperature of the outer air has been as low as —30° C., our machine-gun has proved a great success.

All parts which are apt to become worn are fitted with either replaceable casings or lists.

All movable parts of our machine-gun are made to exact scale patterns, and can consequently be replaced without any adaptation whatsoever. All parts are manufactured of the best and most suitable material for the purpose and undergo the most rigorously careful thermic processes, so that with a

maximum degree of hardness also a maximum degree of tenacity is attained. As the result of many years' experience in selection of the right materials and utilization of the thermic process, the factory has obtained the most successful results; this may be seen from the fact that no less than some 750,000 shots have already been fired from a test-gun, without any repairs of importance having been necessary or any parts whatever having had to be replaced, the gun even to-day still functioning irreproachably.

At tests in the factory it was found that series of up to 15,000 shots were fired without the machine-gun having to be taken apart for cleaning.

In consequence of the great stability of the gun, the precision of aim is exceedingly high. Our machine-gun can also be used for indirect fire, in which case it must be fitted with the requisite independent line of sight. Telescopic sights can also be fitted.

Thanks to ingenious and simple sighting devices, areas of enemy territory both deep and wide can at will be swept by fire.

The machine-gun can be taken apart easily and rapidly without special tools. The replacement of the barrel can be effected in about 30 seconds. The barrel can be cleaned and examined without the gun having to be taken to pieces.

The machine-gun can be fitted with armoured shields.

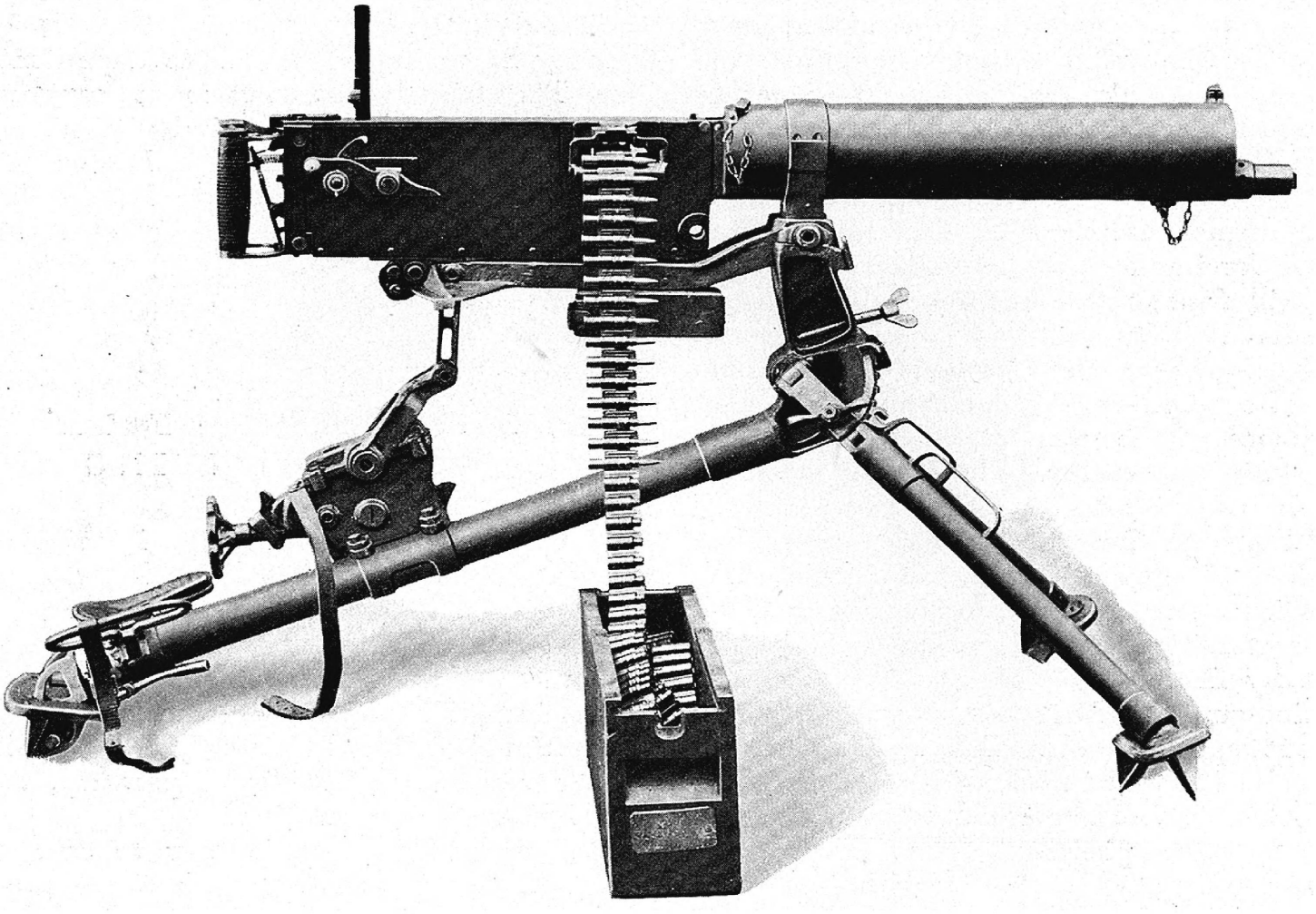
The transportation of the machine-gun entails no difficulty, thanks to the fact that the gun itself can easily be uncoupled from the tripod mounting.

The tripod mounting is so constructed that it can be used over every kind of ground. Each of the front legs can be elevated or lowered independently, thus rendering it possible to bombard the objective also at an inclined angle relative to the horisontal plane.

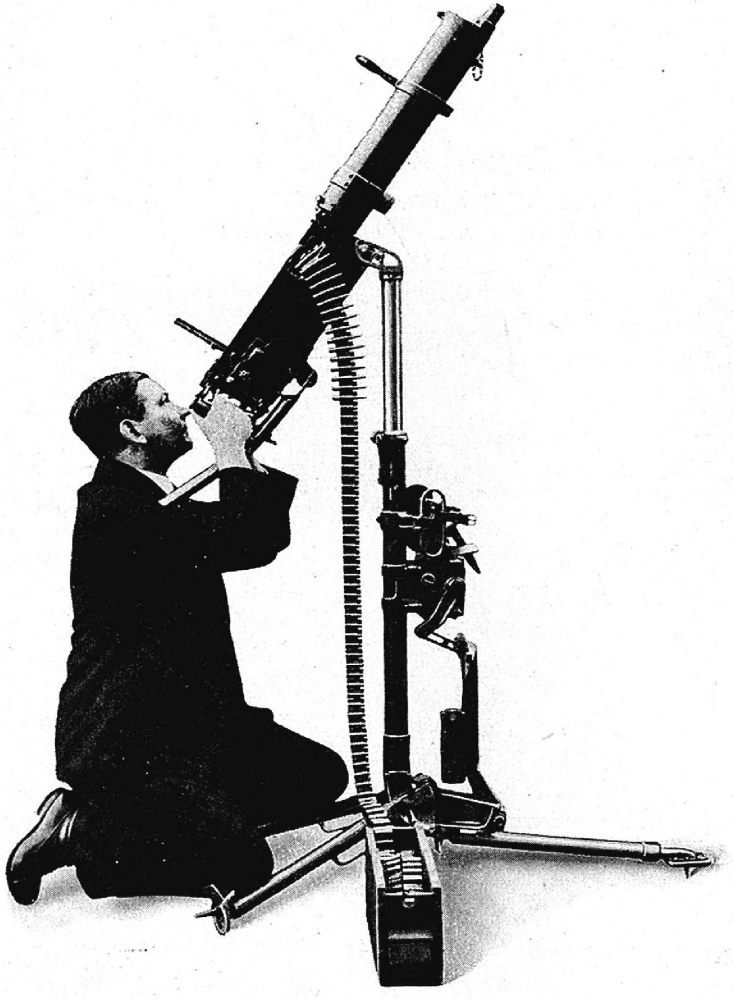
CONSTRUCTION OF THE TRIPOD MOUNTING

Our new tripod mounting is so constructed that by attaching a small additional part, it can be ready for action in air defence (zenith mounting) within the space of about 1 minute. We have succeeded in making this improvement without noticeably increasing the weight of the mounting, the total additional weight being only 2 kgs. This additional part can also be carried separately, *e.g.* by one of the men serving the gun.

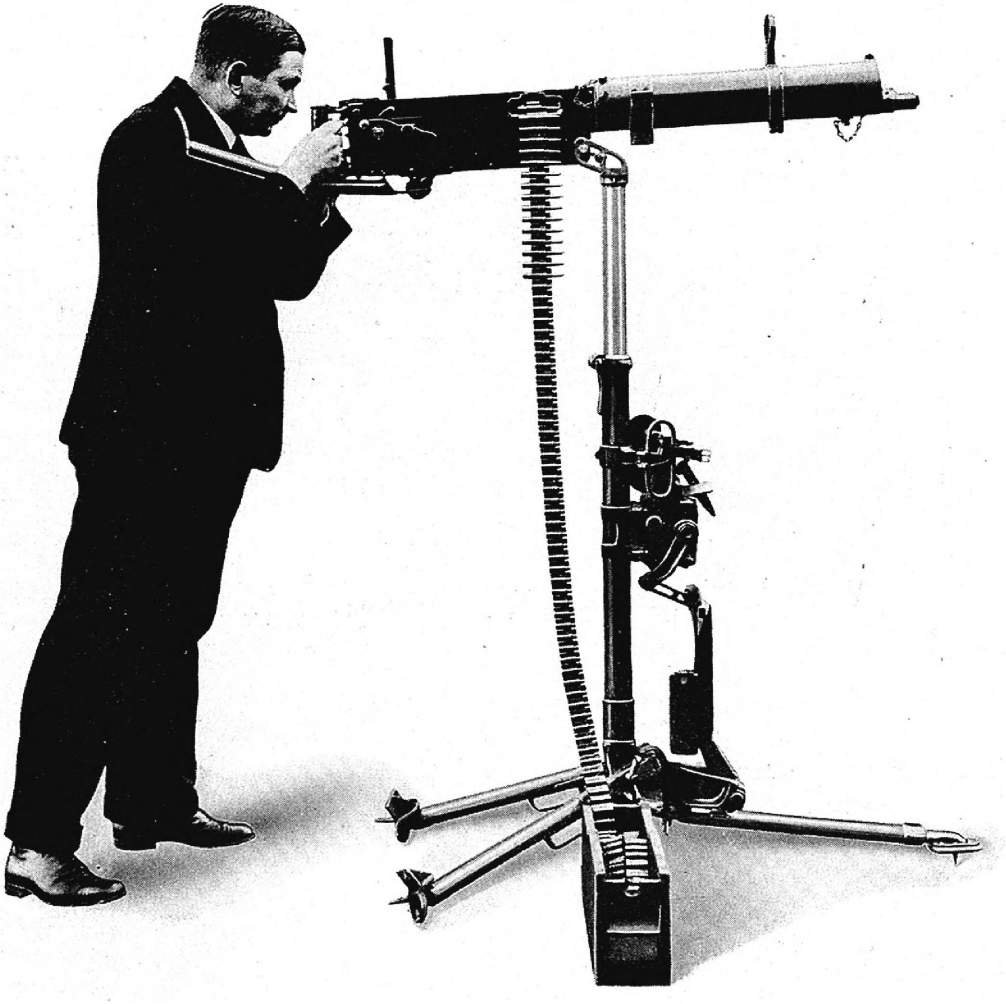
This machine-gun is easy to serve, reliable and of simple construction, in consequence whereof the guncrew require only a short time of training.



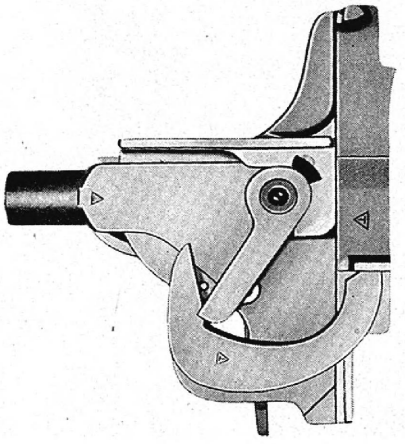
Machine-gun, complete, horisontal position, seen from the righthand side.



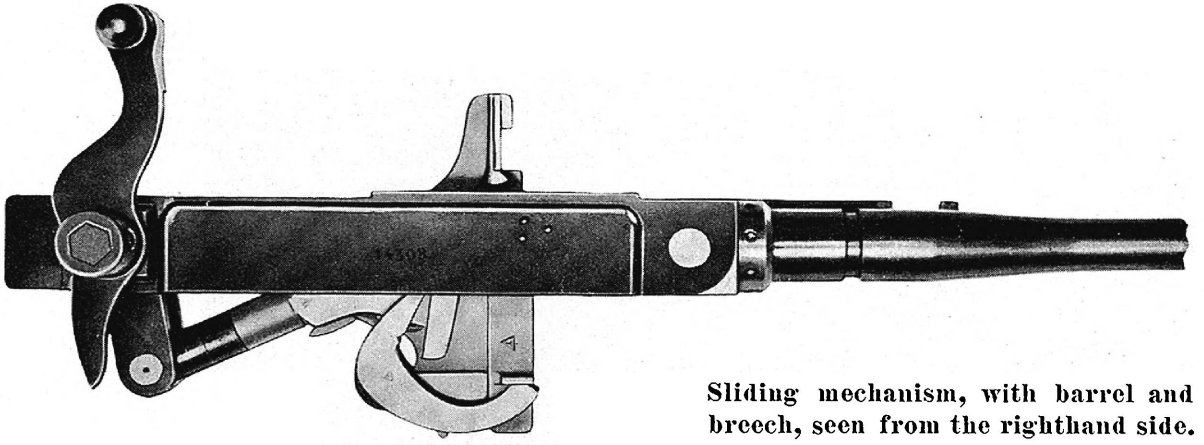
Machine-gun in position for air defence, seen from the righthand side.



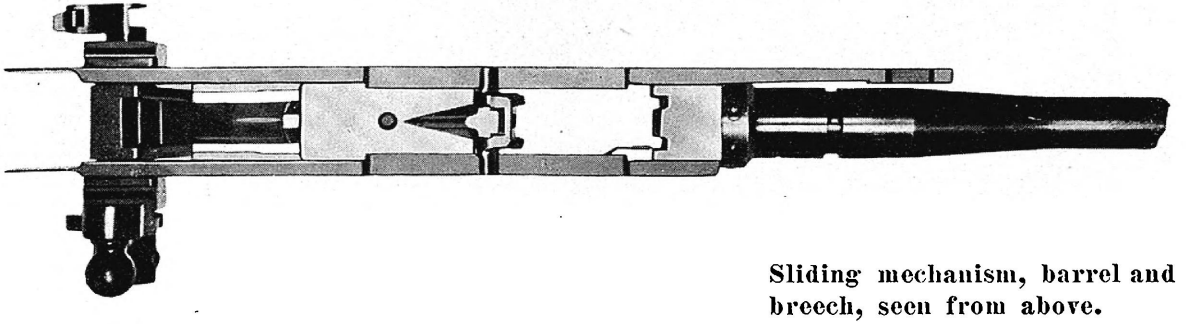
Though the machine-gun is still in position for air defence, it can be trained on a horizontal target.



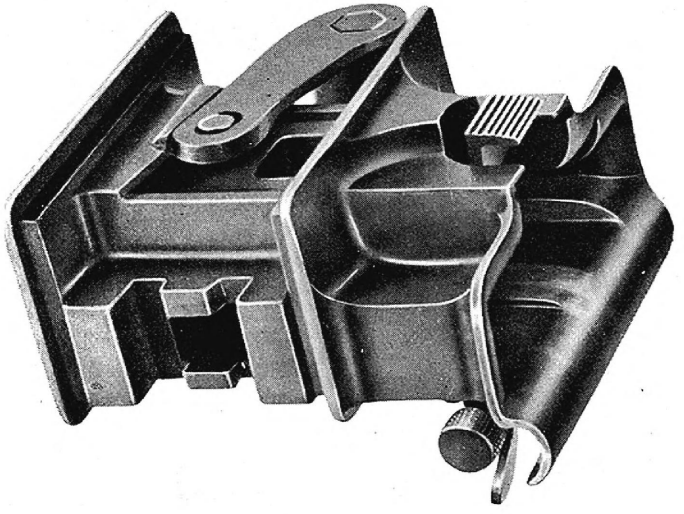
Breech, seen from the right.



Sliding mechanism, with barrel and breech, seen from the righthand side.



Sliding mechanism, barrel and breech, seen from above.



Feed-block.

Handgrip.

Printed by F. Tilgmann Ltd
Helsinki 1933