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DEPARTMENT OF THE ARMY
UNITED STATES ARMY INTELLIGENCE AND SECURITY COMMAND
FREEDOM OF INFORMATION/PRIVACY OFFICE
FORT GEORGE G. MEADE, MARYLAND 20755-5995

REPLY TO
ATTENTION OF:

Freedom of Information/
Privacy Office

AUG 20 2009

Mr. John Greenwald, Jr.
[REDACTED]

Dear Mr. Greenwald:

This is in further response to your Freedom of Information Act (FOIA) request of June 1, 2009, to the Defense Technical Information Center (DTIC), for a copy of a document entitled The Weapon of Victory, report number FSTC-HT-0047-91, dated December 1991, with AD Number B1709973 and supplements our letter of July 9, 2009.

Coordination has been completed and the record has been returned to our office for disposition. The referred record has been reviewed, determined to be partially releasable and is enclosed.

Information has been sanitized as the release of the information would result in an unwarranted invasion of the privacy rights of the individuals concerned, this information is exempt from public disclosure provisions of the FOIA per Title 5 U.S. Code 552 (b)(6).

The withholding of the information described above is a partial denial of your request. This denial is made on behalf of Major General David B. Lacquement, the Commanding General, U.S. Army Intelligence and Security Command, who is the Initial Denial Authority for Army intelligence investigative and security records under the FOIA. You have the right to appeal this decision to the Secretary of the Army. If you wish to file an appeal, you should forward it to this office. Your appeal must be post marked no later than 60 calendar days from the date of this letter. After the 60-day period, the case may be considered closed; however, such closure does not preclude you from filing litigation in the courts.

If you have any questions regarding this action, feel free to contact this office at 1-866-548-5651 (Press 2/Press 9), or email the INSCOM FOIA office at: INSCOM_FOIA_ServiceCenter@mi.army.mil and refer to case #533F-09.

Sincerely,


Susan J. Butterfield
Director
Freedom of Information/Privacy Office
Investigative Records Repository

Enclosure

The Weapon of Victory

ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER ...

04 DEC 1991

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220 SEVENTH STREET, NE
CHARLOTTESVILLE, VIRGINIA 22901-5396

FSTC-HT-0047-91



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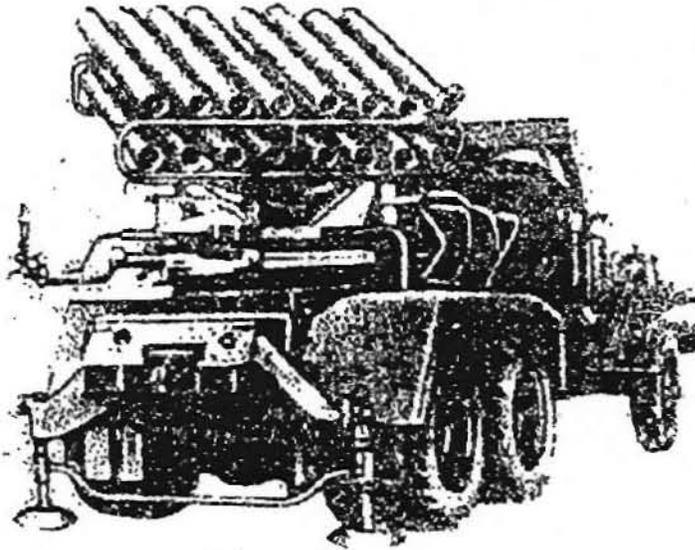
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From the History of the Multi-Rail Rocket Delivery Systems

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ARMS OF THE VICTORY

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When you review the history of the famous "Katyusha", you may recall the sad truth "Success has many parents, failure is an orphan". However traces remain. Based on surviving documents, it became possible to name the six main creators of the "Katyusha".

Nikolay Ivanovich Tikhomirov (1860-1930) was the creator of the gas dynamic laboratory (GDL). He solved the problem of the stable burning of the smokeless gunpowder in the rocket jet engine.

Boris Sergeevich Petropavlovski (1898-1933), after the death of Tikhomirov, headed the GDL. Under his leadership the experimental construction works were brought to the first tests.

Georgi Erikhovich Langemark (1898-1938) (was) deputy head and chief engineer of the Rocket Research Institute (RRI). His contribution in the creation of the future "Katyusha" is substantial. The theoretical research and the practical workout by Langemark allowed the development of the rocket propelled projectile to increase to a level of quality, which assured its acceptance as part of the armament.

Vladimir Andreevich Artemiev (1885-1962) (was) a close collaborator of Tikhomirov, an excellent designer, and gifted inventor. His research of the gunpower (jet) charge substantially contributed to the development of the rocket shells.

Ivan Terentievich Kleymanov (1899-1938) (was) beginning 1932 head of GDL and first head of RRI. He has shown himself as a good organizer. Under his leadership the outline was done of the main direction of use of the rocket propelled artillery.

Yuriy Alexandrovich Pobedonostsev (1907-1973). Beginning in 1934 he worked for many years in the development of the rocket artillery. His calculations regarding outside and inside ballistic of the rocket shell are very valuable.

Many readers will reproach us for undeservingly forgetting A.G. Kostikov, who in the second edition of the Great Soviet Encyclopedia (B.23/1953) is called the creator of a "new kind of armament".

We could justify ourselves by quoting the letter of the academicians V.P. Glushko and S.P. Korolyov written to the editors of BSE and dated January 15, 1957. The letter says: "During the years 1937-1938, when our country was going through the difficult days of mass arrests of Soviet cadres, Kostikov, working in the Institute as a regular engineer, made great efforts to make possible the arrest and sentencing as enemies of the people the managerial staff of the Institute, including the basic author of the new kind of armament, the talented scientist designer, the deputy head of the science matters, G.E. Langemak. In this way Kostikov became head of the Institute and "author" of this new kind of armament, for which he was generously rewarded in the beginning of the war." However, I think that the myth of Kostikov, only with this document, cannot be destroyed.

The letter of the two scientists, unfortunately, did not receive wide dissemination, perhaps for the reason that the two authors did not insist on its publication, but merely requested "to take into consideration the matter of their presentation". Naturally, mentioning the name of the false creator of the "Katyusha" decreased rapidly, but nothing more than that. Some people, assuming that genius and felony can coexist beautifully, reason like this: "Yes, Kostikov is a bad man. But in those days many suffered from spy mania. Glushko and Korolyov quite justifiably don't love him because he is guilty of their arrest. However, apart from ethics there is also an engineering share of the matter. Langemak and Kleymanov were arrested in the year 1937, but the "Katyusha" was approved and used in the beginning of the war. In other words, Kostikov, who became head of RRI, cannot be removed from this success of the engineering thought. Besides the author's certificate for the invention "Katyusha" was issued to him. These are the facts."

But let's clarify the matter. A.G. Kostikov commenced working for RRI in the year 1934, immediately after graduating from the military engineering academy "Zhukovski". After a year he received an independent project: "Development of a Pump for Feeding of Fuel in a Liquid Oxygen Rocket Engine" (LORE). Nothing reasonable was achieved. In the year 1936 he began another project: "Investigation of the Heat Balance of LORE". The available draft papers persuade us that again there was no great success.

In the year 1937 the head of the Institute Kleymenov conducted a reorganization - instead of the five departments, ten project groups were formed. This was done to be able to unload the administrative functions from the designers. Deciding to use Kostikov at least for administrative work, Ivan Terentievich made him head of the group LORE, which included Glushko and Tikhonravov.

After a short while Glushko headed his own group, Tikhonravov got different work and Kostikov appeared to be superfluous. It is possible that in this moment he changed his role and transferred himself from scientific research into epistolary genre drafting of so-called "signals". The results were timely: Kleymenov and Langemak were arrested, and Kostikov became chief engineer. In the book by Yu. A. Pobedonostsev and K.M. Kusnezov "First Starts", saturated with facts and information about those tragic events, little is said: "In this period - the autumn of the year 1937 - in RRI there was a change of management".

We should note that the "change" happened in a time quite convenient for Kostikov, because the development of the rocket shells RS-82 (caliber 82 mm.) and RS-132 (caliber 132 mm.) was finished. The design and technological documentation received designation "A", which meant that the claimant already received the technical documentation and that the manufacturer must coordinate any changes with him. Insignificant remaining changes included extension of the rocket camera to increase the drive charge and to exchange the mine-charge for a higher power charge. These changes were done in the munition factory "Vladimir Ilich". After that the rocket shell in general remained the same until the end of the war.

The time came for army tests. For RS-82 the tests were started during the time of Kleymenov and Langemak, but for RS-132 hindrance occurred because of the late delivery of the gunpowder charges. The new management tried to postpone the tests, claiming that the reliability of rocket shells was insufficient. A.G. Kostikov reported to the higher-ups that there were cases of sudden increase of the pressure when burning of the gunpowder charges and because of it "the tests of RS, especially from airplanes, and when the rocket drive consists of 34 gunpowder charges ... , should be prohibited, also when the ambient temperature in the shade is above 20-23 degrees Centigrade."

This temperature limitation was the equivalent to a request for cancellation of army tests. The tests, however, took part thanks to the adherence to principle and to the persistence displayed by Yu. A. Pobedonostsev, and that way the rocket artillery was accepted in the armament in the middle of the year 1938.

The civic courage of Pobedonostsev could be evaluated on the merit only if the existing situation in the Institute in the time is taken into account. Repression of many creative members was beginning. For example, two general meetings of the scientific-technical council on February 13 and 20, 1938 were dedicated to the "Case" Glushko. The "learned Men" relegated all possible misdeeds to him, e.g. that he

together with "the Enemy of the People Langemak" published a book, thereby revealing many secrets, and that he owed money to the mutual aid fund, thereby expressing disregard for the community. Only Professor Petrov, who worked in the Institute on several appointments, tried to prove that the published book did not reveal any secrets. Probably he was the one abstaining, when Kostikov requested voting on a resolution expressing mistrust of Glushko. Everybody supported the resolution. A few days later Valentin Petrovich was arrested. Soon after that another "enemy of the people" - Sergey Pavlovich Korolyov was unmasked. At the end of the year 1938 according to contractual obligations with the Main Artillery Administration it was required to carry out extensive shooting tests of RS-132 (mounted) on a self-propelled platform. The design of the platform did not represent difficulties. Earlier, in the year 1934, Langemark stated: "On the details and arrangements of the rocket cannon we are not going to pay too much attention now because the forming of that will be subject to simple (future) design". The Project Engineer I.I. Gvay requested approval of his platform project with only one endorsement. It is possible that the administration did not want to share responsibility, because it insisted on high reliability of the shells.

The proposal of Gvay was as follows: To mount square on an automobile guides in two rows. For the purpose the two meter-guides used already in the aviation were found suitable. The matter came down to the preparation of a piping frame supported on carriers and a lifting mechanism. The horizontal aiming was enabled by turning the automobile. In September, 1938 two such platforms were equipped, and at the end of the year gun volley shootings were carried out.

In the explanation papers of the project Gvay enumerated advantages of volley shooting at areas using self-propelled platforms. He did not contribute new original ideas to what was already known, but he presented the advantages very persuasively. The test showed inadequate group aiming of the volley, but the shells were satisfactory and reliable. The main artillery administration ordered speeding up the work, requested improvement of the platform to be able to aim horizontally and to increase the length of the guides according to the recommendations of Yu. A. Pobedonostsev.

A. P. Kostikov understood the great future of the volley shooting from self-propelled platforms and noticing that the idea for such shooting was not patented, decided to form it as an invention. On the 9th of April, 1939 A.G. Kostikov and I.I. Gvay applied for a patent in the Peoples' Commissariat for Defense. Later they were joined by the Deputy Head of one of the departments of the Main Artillery Administration, a B.B. Aborenkov in the case file (No. 216662). No documents are left regarding the decision making process, because of that it is not possible to evaluate the contribution of the third person.

The three were given Author's Certificate No. 3338 defined as follows: "Mechanical installation for shooting rockets, chemical, mines, incendiary and other shells of different calibers, mounted on a platform on a motor truck, caterpillar truck or trailer, differentiated

by separate sections arranged in two rows over the frame (1), which provides the possibility by means of mechanical linkages and hand grips to crank for vertical targeting around axle (2) supported on carriers on frame (3) and on a horizontal surface together with frame (3) around rampart (4), fastened on the frame of the platform over a movable carriage".

As it is well known, an invention begins after ending of the limitational part of the formula and passing through its distinctive part, in other words, after "being distinguished". Proceeding from that, the three authors of the installation can be called inventors of the "Katyusha" with the same right as a man who mounts legs on a television set and after that calls himself the inventor of the television.

Dominating the management of the Institute Kostikov succeeded bending the entire group. The papers produced during the investigation of the Institute, done from September to November, 1940, state as follows: "At that for RS and CPAB (Concrete Piercing Aviation Bombs), given for armament during the years 1936-1937 total of 19,970 roubles, but during the years 1938-1939 and the nine months of the year 1940 are spent a total of 24,000 roubles and nothing was produced for the armament except the delivery for serial production of automobile platforms, for which it was spent 674 thousand roubles, which is 3 percent of all expenditures of the years 1938-1940."

According to the order of the Peoples' Commissariat of the Military Supplies dated November 28, 1940, the head of the Institute was fired, and A.G. Kostikov was punished. Later, in the beginning of the year 1941 it was decided to change him with a "more suitable" comrade. But it was done only on paper, as one of the employees of the RRI, a F.N. Poyda remembers, in the beginning of the War the People's Commissar P. N. Goremikin nevertheless decided to remove Kostikov from work, but when he brought the order to G.M. Malenkov for approval, he waived his hands: "Just now arrived a report from Orsha where it was shot a volley at the Germans from the installation of Kostikov. The Fritz run in panic, and their materiel and equipment burned. I go to report to Stalin. Kostikov should be rewarded as a hero!" Soon after that Kostikov became head of the Institute, but for a short time.

The hero of the Socialist work, Laureate of Stalin's prize of first degree, Major General, Member Correspondent of AN of USSR Andrey Grigorievich Kostikov died peacefully in December, 1950. The time arrived now to restore justice and to call not only the names of the true creators of the "Katyusha", but also the one, who deprived them of the gratitude of their contemporaries and their progeny. This was possible to repair, but not rectify.

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