Wolfgang Finze

Prussian Needle Guns

Guideline

For prospective

Collectors and Shooters

Dedicated to my wife

„Die Gartenlaube“ (Gazebo), 1868 , page 629

Acknowledgment

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Preface

The years between 1848 and 1876, in which the Prussian army was armed with Needle guns, are the years between the “Ölmützer Punktation” and the creation of a German nation under Prussian leadership. The “Ölmützer Punktation” treaty meant that Prussia had to waive its ambitions for the leadership in Germany. The German nation was created in 1871 after Prussia had won three wars, despite this treaty.

Prussia took the nearly revolutionary decision to adopt the needle gun. At that time other armies had just finished the conversion from flintlock to percussion lock. The infantry of these nations was, for the most part, armed with smoothbore muzzleloaders. The needle gun was not only a breech-loader but it also used a paper cartridge. The actual introduction of the needle gun in the Prussian army started in 1848. The decision was taken to equip the army in its totality with needle guns.Prussia achieved a technical advantage over other nations that lasted nearly 20 years. Prussia’s infantry became after 1850, partly because of the adoption of a breech-loader, the best and most powerful army in Europe.

This book limits itself to the needle guns that were developed by Nikolaus (von) Dreyse and that were adopted by the Prussian army. Patterns that never left the trial stage (for instance the Needle pistol) are not discussed. Wall guns and other needle gun systems adopted by other nations are also not addressed. In this book, a lot of information, that can only be found in difficult to assess contemporary literature and Prussian instruction manuals is brought together.

A large part of this book is about needle gun ammunition and information about training. This book also provides information about the combat use of the needle gun.

In most of the previous publications about needle guns, this kind of information is treated briefly or not at all.

Furthermore, this book tries to create a link between collectors and shooters. Some collectors will never shoot their needle guns. But others will participate enthusiastically in matches.

This book also describes where needle gun matches are held, who can help with technical problems with a rifle and how to make needle gun ammunition.

Rostock, February 2021

Wolfgang Finze

History of the needle gun

> *“Your Royal Highness, 60.000 soldiers, armed with this rifle under the leadership of a talented general and the leadership of Your Majesty the King, will determine where Prussia’s Borders will be situated.”*

(Major Prien, At an audience of the Crown Prince, later King Friedrich Wilhelm IV, 1838)

Prussia adopted the needle gun developed, by Nikolaus von Dreyse in 1841. It was the best military rifle of its time and far superior to any other military rifle. The adoption in 1841 did not mean however that the Prussian army was immediately equipped with the needle gun in its totality. The changeover for the army started in 1848 and was not even finished in 1866.

Nikolaus (also written as Nicolaus) Dreyse, 20/11/1787 – 09/12/1867 in Sömmerda, was nominated “Komissionsrat” in 1846 and „Geheimen Komissionsrat“ in 1854 and became, therefore „Hoffähig“ (right of presentation at Court). Because of his outstanding merits, he was ennobled in 1864 and could change his name to ***von*** Dreyse.

Dreyse experimented with cartridges and needle ignition since 1827. His goal was to simplify loading by using a cartridge consisting of a bullet, the powder charge, and a primer. The Prussian army followed these developments with a lot of interest. The Crown Prince (later King Friedrich Wilhelm I) and the Prince of Prussia (later King Wilhelm I) supported Dreyse. The breakthrough came in 1836 when Dreyse presented a breech-loader with a rifled barrel. Prussia adopted this rifle for its “Füsilier” battalions, after some improvements and successful troop trials.

Dreyse transferred the rights of his invention to the Prussian state for a yearly salary[1] of 1200 Taler and a one-time payment of 10.000 Taler. On the 4th of December 1840, he received orders for 60.000 rifles and 500 cartridges for each rifle. He also obtained a loan of 90.000 Taler for the construction of the rifle factory. The rifle and ammunition were a state secret. The rifles were called light percussion rifles because of this. This name was kept until March 22, 1855, when it was changed to “Zündnadel-Gewehr” (Needle rifle).

The rifles built in Sömmerda were put into storage under strict secrecy until enough rifles were available for the Füsilier battalions. +/- 45.00 rifles were in storage in the arsenals of Berlin and Magdeburg at the start of 1848. Twenty-two million cartridges were stored separately in other arsenals. On June 6, 1848, the King ordered that the Foot Guard regiments no. 1 and 2, the Reserve Guard regiment and the Füsilier battalions of the Infantry regiments 2, 9 and 32 were to be equipped immediately with needle rifles. The issuance of the rifle took some time, however.

The regimental history of Infantry regiment No.32, for instance, mentions the issuance of the rifles in 1849.

> *“A significant event for the Füsilier battalion of the regiment in this year (1849) was the conversion from Percussion rifles to breech-loaders.*
>
> *The regiment was equipped with the “Zündnadelgewehr” M/41.”*

The arsenal in Berlin was stormed on June 14, 1848. The revolutionaries seized the stored needle rifles. They did not get any cartridges because the cartridges were stored separately in the Artillery Laboratory near the Oranienburg Gate. The long-kept secret was not a secret anymore!

All of the captured weapons were recovered except for 30 rifles. Some of them certainly found their way to other countries. The needle rifle did not receive a favorable opinion. Everyone saw the weaknesses (that were present without a doubt). The cartridges were also considered to be far too dangerous for military use.

Ploennis[2] writes:

> *“Because they couldn’t see anything new in the locking mechanism or the ignition pill the crux of the matter was overlooked, namely the independent decision by the Prussian government to adopt an advanced breech-loading rifle, with the systematic and methodical consequence that the care and conservation of the proper weapon and its cartridge could be taken care of by domestic establishments. It ensures that the last details are taken into consideration and that the integration into the army structure is seamless.”*

On June 20 the Prussian King ordered the allocation of needle rifles to an additional 14 Füsilier battalions.

The first use in combat of needle rifles was in 1849 during the fighting in Dresden and the suppression of the revolt in Baden. Five Füsilier battalions equipped with needle rifles were deployed in Schleswig-Holstein on July 23—26 to test the new rifle under combat conditions. Additional Füsilier battalions[3] were equipped with needle rifles in 1849 (Dreyse delivered 1200 rifles in 1849). In 1852, 32 Füsilier battalions were armed with Zündnadel rifles. The “Musketier” battalions that still used the smoothbore musket M/39 were not equipped with needle rifles until 1852.

The capacity of the factory in Sömmerda was too small to complete all orders. Dreyse had already licensed the Prussian state factories in 1849.

Prussia took over the privately-owned arms factories in Danzig and Potsdam and tooled them up for needle rifle production. The state factories could produce needle rifles from 1855 onwards.

Prussia used the years after 1849 to include the tactical possibilities of the needle rifle in the training of the army. The Prussian Military calculated that the firepower of the needle rifle was equal to the firepower of 900 muzzleloaders.

Dreyse developed new rifle models in the years after 1845. These new developments took the operational experience into account. The Prussian military, however, did not adopt all these new designs. The acceptance process for a new rifle model was as follows:

- A new weapon is developed and submitted to the army.
- A number of the weapons is ordered for an army trial when the design is accepted.
- Improvements can be suggested by the military if the weapon is rejected after the army trials. Another trial with the improved weapon then follows.
- The exact dimensions are recorded when the weapon is accepted. An A.K.O (“Allerhöchste Kabinettsordre”, Sovereign court order) is issued announcing the introduction in the army. The A.K.O also specifies the model number. Preparations for the production of the rifles are made subsequently.
- The rifles are put into storage until a sufficient number of needle rifles are available to arm complete army units. Around this time the instruction manual for the weapon is issued.

This means that several years lie between the model year and the year of introduction. The artisanal manufacture of the rifle made high production numbers impossible. The

publication date of the manual for the rifle is a good estimate for the introduction date of the rifle model.

The accuracy of the Füsiliers needle rifle was on a par or even better than the accuracy of the muzzleloading Jäger carbine.

Therefore, the Jägerbüchse M/49 (also called “the light percussion rifle”) for the “Jäger” units was developed first. The first rifles were issued in 1852 and were used until 1856 by the Garde-Jäger battalion and until 1867 by the Garde-Schützen battalion. It is quite likely that the M/49 was only used for an extended army trial to gain experience for the design of carbines. The rifles were only produced in Sömmerda. The rifle did not meet the expectations. The literature of the period provides no data on why it was not satisfactory.

On June 19, 1851, the King issued the order that “Zündnadelgewehre” were going to be produced exclusively in Prussia. The adoption of the needle rifle Zündnadelgewehre was not uncontroversial, however. The thought process of many generals was still stuck in the era of the Napoleonic wars. These wars were thought to be the perfection of the art of war. The generals opposed any change to the current regulations. Prussia was in the middle of the changeover when the Crimean war broke out between Russia on one side and England, France and somewhat later the kingdom of Sardinia on the other side. The infantry of the Guards and about half of the Line regiments were armed with Zündnadelgewehre. The other units were armed with smoothbore muzzle-loading M/39 muskets.

Analysis of the war had shown that units armed with smoothbore muskets (Russian army) stood no chance against units with rifled muzzleloaders (England, France). This analysis also concluded that a part of the Prussian army

would have been armed with an inferior weapon if Prussia would have become involved in the Crimean war.

The magazine from Berlin the “Kladderadatsch” (unholy mess) commented this as follows:

The introduction of a new rifle in Reuss-Schleiz-Greiz-Lobenstein-Eberndorf (nonsensical description of a fictional German state)

A new rifle/ breech-loader/without a hammer/ It needs a new regulation, “Kladderadatsch,” August 8, 1852

There was a shortage of at least 267.300 rifles[4]. Three solutions to solve this problem were considered.

- Increase the production of needle rifles. An addition of a maximum of 160.000 rifles was possible in this way.
- Transformation of M/39 muskets. This possibility was discarded because the capacity for the production of the needle rifle systems and ammunition was not available.
- The third possibility was the transformation of the M/39 smoothbore musket into Minié system rifles.

Only the third possibility was viable. The King gave the order, on May 21, 1855, to start the transformation of the smoothbore muskets immediately. Transformation workshops were established in many locations. These workshops converted 302.431 smoothbore muskets until November 1856. These converted rifles were used to re-equip Musketier battalions still equipped with the original M/39. These units were equipped with needle guns after 1858, and the converted rifles were put in reserve.

In 1866 parts of the „Landwehr”[5] (for instance those who fought near Langensalza) and “Pioniere” were still equipped with these converted muzzleloaders.

The opponents of the needle gun had prevented the issue of the needle rifles in 1855. They had been put in storage instead. In June 1858 Crown Prince Wilhelm ordered the armament of the entire Infantry with needle guns. Crown Prince Wilhelm was the representative, since October 23th.1857, for King Friedrich Wilhelm IV, who had become ill. The needle gun finally had asserted itself.

New models of the Zündnadelgewehr were developed gradually. Technical innovations like the use of cast steel were included in the barrel manufacture. The first new development was the M/54 carbine model. The introduction was on March 22nd., 1855. (A.K.O)

The Garde-Jäger battalions were the first to receive the rifles in 1856. The normal Jäger battalions received the rifles

much later in 1859. All Jäger units were armed with this rifles in the wars of 1864 and 1866. The Prussian navy used the M/54 rifle from 1854 until 1884 when the last rifles were taken out of service.

The Jäger did not particularly like the M/54. The Pike, the transformed cleaning and unloading rod, that served as a bayonet surrogate, did not function very well. The stability was insufficient. It made the carbine unnecessarily heavy, and the traditional Jäger missed the “Hirschfänger” (a long double-edged, stabbing, and hunting knife). The “Hirschfänger“ was a kind of status symbol for the Jäger.

In 1855 a cartridge with a new bullet, the Prussian “Langblei” (long lead), was introduced for all needle rifles. This cartridge had better ballistics than the predecessors. It was used in the wars of 1864, 1866 and 1870/71.

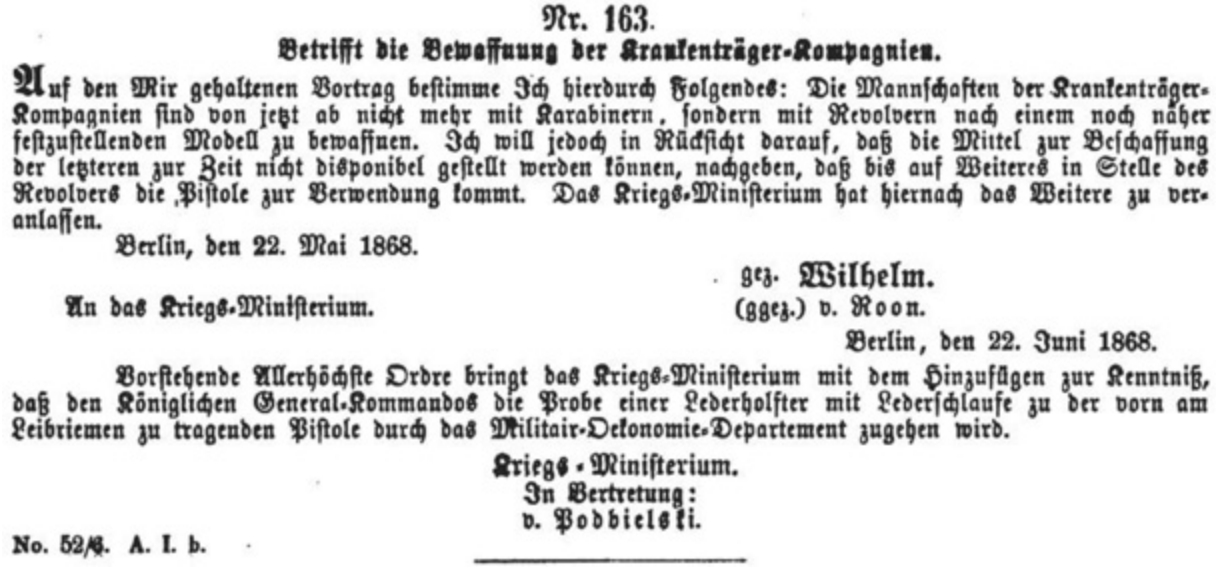
Needle rifles were also developed for the cavalry around this time. In February 1857 The “Garde-Dragonerregiment” received the M/55 carbine. By A.K.O of April 9, 1857, the M/57 carbine was adopted. The name of the M/55 changed to M/57 after the barrel material was changed to Cast Steel (Gussstahl). The manual was published in 1859. The same year saw the introduction of the carbine for the Light Cavalry (Dragonern and Husaren). The history of the dragoon regiment No. 1 mentions on page 450, that May 27th., 1859, was the official introduction date of the carbines:

> *“On May 27th. the needle carbine arrived at the regiments. The “Kabinetts Ordre” (order by the court) of February 2 had already announced that the percussion rifles and carbines had to be returned.”*

The Dragoon and Hussar regiments were entirely equipped with M/57 carbine at the start of the war of 1870/71. The carbines could fire the rifle cartridge, but the recoil was

considered to be excessive. A carbine cartridge was therefore developed with the same components as the rifle cartridge, but with a reduction of the powder charge of 1.15 gram (17.7 grains).

The medic companies used a carbine from 1855 onwards. It was carried on the back of the soldier. The medics first received a rifled muzzleloader. It was replaced later with a needle carbine with sling swivels.



Nr. 163.

Betrifft die Bewaffnung der Krankenträger-Kompagnien.

Auf den Mir gehaltenen Vortrag bestimme Ich hierdurch Folgendes: Die Mannschaften der Krankenträger-Kompagnien sind von jetzt ab nicht mehr mit Karabinern, sondern mit Revolvern nach einem noch näher festzustellenden Modell zu bewaffnen. Ich will jedoch in Rücksicht darauf, daß die Mittel zur Beschaffung der letzteren zur Zeit nicht disponibel gestellt werden können, nachgeben, daß bis auf Weiteres in Stelle des Revolvers die Pistole zur Verwendung kommt. Das Kriegs-Ministerium hat hiernach das Weitere zu veranlassen.

Berlin, den 22. Mai 1868.

gez. Wilhelm.

An das Kriegs-Ministerium. (ggez.) v. Roon.

Berlin, den 22. Juni 1868.

Vorstehende Allerhöchste Ordre bringt das Kriegs-Ministerium mit dem Hinzufügen zur Kenntniß, daß den Königlichen General-Kommandos die Probe einer Lederholfter mit Lederschlaufe zu der vorn am Leibriemen zu tragenden Pistole durch das Militair-Oekonomie-Departement zugehen wird.

Kriegs-Ministerium.
In Vertretung:
v. Podbielski.

No. 52/6. A. I. b.

Army Administrative Order Journal 1868 no. 17[6]

By A.K.O of 22-05-1868, the medics[7] were ordered to hand in the carbines. A revolver would replace the carbine. A pistol was issued until the revolver was available. The revolver, however, was never issued and the medics were in 1872 again armed with a carbine.

Nr. 342.

Bewaffnung des Trains mit Karabinern.

Auf den Mir gehaltenen Vortrag genehmige Ich, daß die berittenen Mannschaften der Train-Bataillone und Administrationen, die Handwerker, die Reserve-Fahrer bei den Proviant- und Fuhrparks-Kolonnen, die Mannschaften der Bäckerei-Kolonnen, sowie die Krankenträger der Sanitäts-Detachements mit Karabinern auszurüsten sind, wogegen die bisher etatsmäßigen Schußwaffen in Fortfall kommen.

Homburg vor der Höhe, den 1. August 1872.

Wilhelm.

An das Kriegs-Ministerium. Graf v. Roon.

Berlin, den 18. August 1872.

Vorstehende Allerhöchste Kabinets-Ordre wird hierdurch mit dem Bemerken zur Kenntniß der Armee gebracht, daß der Zeitpunkt der Ueberweisung der Karabiner noch näher bezeichnet werden wird, und daß Neubeschaffungen der Zubehörstücke zu den Pistolen nicht mehr zu erfolgen haben.

Kriegs-Ministerium.

No. 485. 8. 72. A. I. b. Graf v. Roon.

Army Administrative Order Journal 1872 No. 218

The Army reform of 1859/1860 entailed the change of reserve regiments into Füsilier regiments. 33 – 40 were their regimental numbers. The name of the Garde-Reserve-Infantrie-Regiment changed to Garde-Füsilier-Regiment. 36 new regiments were created from Territorial Army formations. The peacetime strength of the Prussian army was increased from 532.700 to more than 647.000 men in this way.

In 1860 a new generation of needle rifles with an air chamber was introduced. The air chamber had the same design as the air chamber of the M/1841 rifle. The Füsilier rifle M/60 was the first of the new generation rifles developed for the newly formed Füsilier regiments. The troops were issued this rifle at the start of 1864. During the war against Denmark in 1864 only Füsilier regiment 35 was armed with this rifle.

Nine Füsilier regiments (the Guards regiment included) were armed with the M/60 in the Prussian – German war of 1866. All twelve Füsilier regiments, the Saxonian Schützen regiment included, were equipped with this rifle in 1870.

The line Infantry also received a new rifle. The A.K.O of 28/07/1862 introduced the M/62. The 32 Füsilier battalions

exchanged their “old” M/41 rifles[79] against M/62 rifles in 1867.

Nro. 1338.

Betreffend die Einführung eines neuen Gewehr-Modells.

Nachstehende Allerhöchste Kabinets-Ordre:

Nachdem Mir über das Ergebniß der mit dem verkürzten Zündnadel-Gewehr wiederholt angestellten Versuche Vortrag gehalten worden, will Ich nunmehr das wieder beifolgende Modell mit brunirtem Lauf und Bajonett $\left(\frac{M.}{62}\right)$ mit der Bestimmung genehmigen, daß fernerhin die Herstellung der Infanterie-Gewehre nach diesem Modell stattfinden soll.

Das Kriegs-Ministerium hat demgemäß das Weitere zu veranlassen.

Neues Palais, den 28. Juli 1862.

(gez.) Wilhelm.
(gegengez.) v. Roon.

An das Kriegs-Ministerium.

wird hiermit zur Kenntniß der Armee gebracht.

Berlin, den 6. August 1862.

Kriegs-Ministerium.
v. Roon.

No. 24/8. A. K. D. 11.

Military Weekly 1862 No. 32[10]

In 1868 the changeover was made for the battalions No I & II. The M/62 was meant to replace the M/41. The production of the M/41 stopped when the production of the M/62 started. The M/62, however, would never completely replace the M/41. Some units used the M/41 until the end of the needle rifle era.

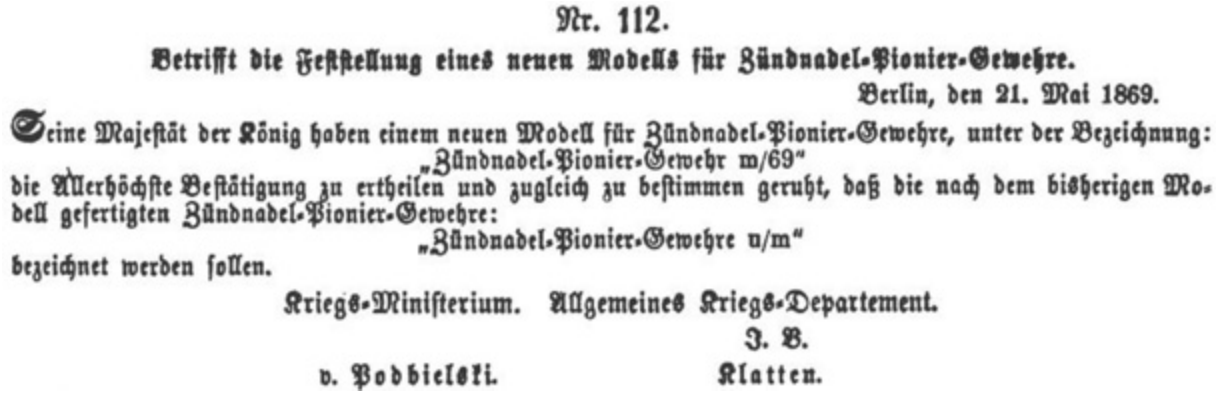
In April 1865 a new Jäger rifle was introduced. This rifle had an octagonal barrel, a set trigger and the M/65 “Hirschfänger” bayonet.

The set trigger froze occasionally in the cold winter of 1870/71. The Jäger had to fire their rifles without setting the trigger.

Five hundred of these rifles had already been issued to the Jäger battalions 5 and 6 in October 1865. The Jäger battalion no.14 from Mecklenburg (Mecklenburg had a military union with Prussia) exchanged the M/60 against the M/65 rifle. Battalion No. 14 was issued the M/60 in 1864. The manual for this carbine did not appear until 1869. All Jäger

battalions were equipped with the M/65 carbine at the start of the German-French war.

The Pioniere (Sappers) received the needle rifles quite late. In 1865 the transformation of the M/54 carbines to Zündnadel-Pionier rifles was ordered by A.K.O. The transformation used M/54 rifles that had become surplus to requirement by the introduction of the M/65.



Nr. 112.

Betrifft die Feststellung eines neuen Modells für Zündnadel-Pionier-Gewehre.

Berlin, den 21. Mai 1869.

Seine Majestät der König haben einem neuen Modell für Zündnadel-Pionier-Gewehre, unter der Bezeichnung:

„Zündnadel-Pionier-Gewehr m/69"

die Allerhöchste Bestätigung zu ertheilen und zugleich zu bestimmen geruht, daß die nach dem bisherigen Modell gefertigten Zündnadel-Pionier-Gewehre:

„Zündnadel-Pionier-Gewehre u/m"

bezeichnet werden sollen.

Kriegs-Ministerium. Allgemeines Kriegs-Departement.

J. V.

v. Podbielski. Klatten.

Army Administrative Order Journal 189 No.10[11]

The Garde-Pionier battalion was the only one to use the Zündnadel-Pionier-Gewehr u/m in the war of 1866. A new Zündnadel-Pionier rifle, the M/69, was introduced in 1869. The transformed carbines that started as M/54 was renamed to Zündnadel-Pionier rifle U/M.

Insufficient numbers of M/69 Pionier rifles were available when the war of 1870/71 broke out. A large part of the Pionier battalions was still armed with Zündnadel-Pionier U/M rifles.

It was obvious to the Prussian military that the Austrian Lorenz rifles introduced in 1853 were more precise and had better ballistics than the Prussian rifles. The Prussian Lieutenant Colonel v. Malachowski wrote[12] about the rifles:

> *"The Zündnadel rifle was, to our current standards, an undistinguished rifle. The trajectory and the precision of*