

UDC 069:51(477.83):623.421.2“13/14”
DOI 10.24919/2519-058X.19.233814

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Bibliographic Description of the Article: Verkhoturova, M. & Marchenko, Y. (2021). A Short-Barrelled Wrought Iron Firearm of the End of the XIVth – Beginning of the XVth Centuries in the Collection of Lviv Historical Museum. *Skhidnoievropeiskyi Istorychnyi Visnyk [East European Historical Bulletin]*, 19, 30–41. doi: 10.24919/2519-058X.19.233814

**A SHORT-BARRELLED WROUGHT IRON FIREARM
OF THE END OF THE XIVth – BEGINNING OF THE XVth CENTURIES
IN THE COLLECTION OF LVIV HISTORICAL MUSEUM**

Abstract. *The purpose of the research is weapon analysis and refinement of gun attribution from Lviv Historical Museum Collection. The research methodology is based on empirical approaches to historical weapon science, laser scanning method has been used. The source base is the weapon of assets and inventory books of Lviv Historical Museum and Museum of Scientific Society named after T. Shevchenko. The Scientific Novelty.* The paper offers a detailed analysis of a short-barrelled wrought iron firearm of the end of the XIVth – beginning of the XVth centuries preserved in the collection of LHM. The history, development and dissemination of this type of guns has been analyzed. Furthermore, the museum history of the gun has been dealt with and its possible provenance has been proposed. **The Conclusions.** A thorough research of military artifacts of the museum collections enables to expand the horizons of scientific knowledge, open new aspects of the issue. In addition to documental items, the

remnants of armed artifacts are considered as important historical source. Nowadays, another important issue is given to the history of guns in the museum collections. Skilled reading of morphology of a barrel is particularly important in the study of a gun. Each saved artillery item has a historical, scientific, cultural, antique and ethnographic value and requires a thorough and comprehensive research. Considering the absence of a documental background, every single gun of that period is invaluable for science. Since the gunpowder implementation for military purposes, the era of experimental gunsmiths had launched. There were produced extremely large as well as small artillery guns. The original handmade guns differed just in size, weight and caliber from the first artillery systems. On the basis of analysis and comparison of a number of sources and facts, it was suggested that the guns could be manufactured in Belz at the end of the XIVth – beginning of the XVth centuries.

Key words: firearm, the XIVth – the XVth c., Belz, Museum of Scientific Society named after T. Shevchenko, Lviv Historical Museum.

КОРОТКОСТВОЛЬНА ЗАЛІЗНА КОВАНА ВОГНЕПАЛЬНА ЗБРОЯ КІНЦЯ XIV – ПОЧАТКУ XV СТОЛІТЬ У ЗІБРАННІ ЛЬВІВСЬКОГО ІСТОРИЧНОГО МУЗЕЮ

Анотація. Метою статті є аналіз залізної кованої гармати під інвентарним номером 3-2838 з фондів Львівського історичного музею, уточнення та доповнення її атрибуції. **Методологія дослідження.** У ході дослідницької роботи обиралися методи відповідно до завдань конкретного етапу дослідження, потреби у використанні технічних прийомів (лазерне сканування, вимірювання), проведення операцій з теоретичним і фактичним матеріалом у логічній послідовності. **Новизна дослідження.** На підставі комплексного дослідження проаналізовано залізну ковану гармату кінця XIV – початку XV ст. з колекції Львівського історичного музею. В ході проведеного зброєзнавчого аналізу встановлено типологію гармати, особливості її застосування. У процесі дослідження застосовано метод лазерного сканування для отримання схематичного графічного зображення гарматного ствола. Уточнено атрибуцію предмета. **Висновки.** Тенденції сучасного європейського зброєзнавства тягнуть до поглиблення попредметного дослідження пам'яток зброї у музейних колекціях. Враховуючи одиничну кількість гармат кінця XIV – початку XV ст. в музеях України, ґрунтовне вивчення таких пам'яток набуває особливого значення. На підставі проведеного зброєзнавчого аналізу встановлено типологію означеного гарматного ствола, описано специфічні особливості бойового застосування. На підставі порівняльного аналізу додатково підтверджено датування гармати. Через зіставлення низки джерел зроблено припущення про можливе виготовлення гармат у Белзькому князівстві вже з кінця XIV – XV ст. Досліджено музейну історію гармати. Встановлено, що до фондів Музею НТШ предмет передав отець-декан Іларіон Гела у 1935 р., звідки під час музейної реформи, що відбувалася у Львові в 1940 р. гармата була передана до новоствореного тоді Львівського державного історичного музею. На сьогодні описана гармата є найдавнішою пам'яткою вогнепальної зброї в зібранні музею.

Ключові слова: вогнепальна зброя кінця XIV – початку XV ст., Белз, Музей НТШ, Львівський історичний музей.

The Problem Statement. At present, studies on historical weapons, museum and military history develop in Ukraine rapidly. Early forms of weapons, including firearms preserved in museum collections attract particular interest of scholars. Thorough research of weaponry in the museum collections enables researchers to expand the horizons of knowledge and to open new fields of study.

In addition to the documents, surviving examples of weaponry are considered as important historical sources. Particular attention is required to read and interpret inscriptions, emblems or coats of arms, if present on a gun barrel. This is because a correctly read gun inscription may allow to attribute the artefact properly. Nowadays,

another important issue is the history of guns in museum collections. A competent interpretation of morphology of a barrel is particularly important in studies on old guns. Each surviving example of firearms has a historical, scientific, cultural, antiquarian and ethnographic value and requires a thorough and comprehensive investigation. Considering the absence of a documental background, every single gun of that period is invaluable for science.

The Analysis of Sources and Recent Researches. There have been numerous studies on the XIVth – the XVth centuries firearms in European collections. Concerning works of contemporary Ukrainian and European researchers, the studies of O. Mal'chenko are worth noting. In one of his books he analyses in detail the history of the spread of artillery and traces the development of firearms' technologies at the territory of today's Ukraine in the XIVth – the XVth centuries. Based on historical sources he analyses the typology of guns that were in service in today's Ukraine castles (Mal'chenko, 2005, pp. 66–126). We should also mention the work "Museum artilleriae ucrainicae saeculi XV – XVIII. Pars I", which contains a detailed and informative description of two short-barrelled guns which date back to the XIVth – the XVth centuries (Mal'chenko, 2011, pp. 97–99). It is impossible to ignore the work on hand-held firearms of the XIVth – the XVth centuries published by Polish scholars: P. Strzyż in the work "Broń palna w Europie Środkowej w XIV – XV w." covers various aspects of early firearms development, and typologically similar to our weapon model from the Muravskaya Trebova Museum (Strzyż, 2014).

Several works on this subject were published by A. Kirpichnikov (Кирпичников 1959; Kirpicznikov, 1976) Early Harquebuses and Pistols from the Collections of Russian Museums, Fasciculi Archaeologiae Historicae, fasc. IX, 1996, 43–50. In the context of the outlined subject, the study of B. Markevych published in St. Petersburg in 1994 is an informative source (Маркевич, 1994, 55–60).

The Purpose of Publication. This work is an attempt at analysing a wrought iron firearm from Lviv Historical Museum (hereinafter – LHM). The gun barrel typology is established, the features of the application are made, the assumption is made about the origin of the gun, the way of entering the object into the LHM funds is analyzed. We used various research methods including 3D laser scanning. Additional data is offered by the collection and inventory books of the LHM and the Museum of T. Shevchenko Scientific Society (hereinafter – Museum of NTSH) (SALR, f. 2591, d. 3, c. 303; AMIE NASU, p. 137).

The Main Material Statement. Since the gunpowder implementation for military purposes, the era of experimentation in the gun manufacture began. Both extremely large and small firearms were produced. The earliest hand-held firearms differed just in size, weight and calibre from the first guns (Karman, 2006, pp. 135–147).

The short-barrel firearm was a kind of firearms used in the XIVth – XVth centuries. It was a gun with a short barrel and of a small calibre. It had a cylindrical powder chamber with a hemispherical bottom. The powder chamber slightly narrowed toward the bore. Such guns were muzzle-loaders. A touch hole was located in the rear part of the powder chamber. This gun fired buckshot which was in two forms – small stones or small pieces of iron, slag, or small lead bullets (Varentsov et al, 1959, pp. 97–99).

Barrels of such guns were usually fixed to a wooden bar that served as a butt with the use of metal fittings (Hassenstein, 1941, pp. 38–47). *Illustration 1*

Despite the small size and light weight of such guns themselves, they were not very mobile because of the size and weight of their stands. To be moved from place to place the gun had to be removed from the stand, and the stand had to be dismantled and moved along with the gun. Then, all parts had to be assembled together again. During a battle in the open field it was a difficult task. Therefore, such guns were unsuitable for combat in the open field. On the other hand, it can be assumed that they could be used in defence of fortification for destroying the enemy's manpower.

The lack of universally accepted terminology for firearms of the XIVth – the XVth centuries in Europe and Asia and a slow spread of this new weapon are completely natural phenomena. Therefore, the same types of guns could have different names in the East and the West. We have described a gun type which was called “tyufenh” in the East. This term was borrowed from the Turkic languages, and it originally meant handgun. Then, the term was transferred to the Russian terminology tradition as “tyufyak” but the name “shotgun” and a general term “gun” for artillery “gun” were used in parallel (Kirpichnikov, 1976, pp. 67–75). However, it should be noted that this term was later used for Turkish “tufaky” – muskets which were in use in the XVIIIth – the XIXth centuries. In inventory books of today's Ukraine castles and municipal arsenals, the term “tyufyak” is not mentioned. Instead, a general Slavic name “rifle”, as it comes from German “Büchse”, which on its part derives from Latin “pixis” – dose, round box; or a Latin origin “bombard” are used. In our work, we believe that it is correct to use the terminology of a particular region where the discussed firearm was found.

Currently, the firearm under analysis is stored in the LHM under Inv. No. 3-2838. **Photo 1.**

The present condition of the firearm is satisfactory. The barrel is slightly beveled. The wooden stock is lost. The inventory numbers, written with white paint, can be seen on the muzzle ring and the breech.

Specifications are listed starting from the bore of the barrel as the first part, and then, a sequential numbering of parts is continued towards the breech.



Illustration 1.
Image of a gun staircase
from the Fwervekbuch tractat



Photo 1.
Short-barrelled wrought
iron firearm of the end of
the XIVth – the XVth cn.
in the collection of the LHM
(Inv. No. 3-2838)



Photo 2.
Short-barrelled wrought iron firearm of the end of the XIVth – the XVth cn. in the collection of the LHM (Inv. No 3-2838)



Photo 3.
The breech of short-barrelled wrought iron firearm of the end of the XIVth – the XVth cn. in the collection of the LHM (Inv. No. 3-2838)

For the sake of accuracy, substantial differences between the maximum and minimum measurement values are given. The diameters of the rings and a fillet are given as measurements of maximum points.

Dimensions: total length: 275–280 mm; diameter of the bore: 47–57 mm; length of the bore: 256–263 mm; length of the chamber: 55–60 mm; diameter of the chamber: 80 mm; length of the barrel: 275–280 mm; height of the muzzle (the first ring): 50–60 mm; diameter of the first ring: 135 mm; width of the first ring: 44–50 mm; diameter of the muzzle: 130–140 mm; height of the second ring: 12–20 mm; diameter of the second ring: 100 mm; height of the third ring: 55–57 mm; diameter of the third ring: 86–89 mm; height of the fourth ring: 40–50 mm; diameter of the fourth ring: 245 mm.

Lengths of the facets of the octahedral breech: facet 1, which contains the touch hole: 95 mm; then moving clockwise – facet 2: 100 mm; facet 3: 101 mm; facet 4: 103 mm; facet 5: 105 mm; facet 6: 102 mm; facet 7: 100 mm; facet 8: 95 mm.

Widths of the facets are in the same order: facet 1: 45–50 mm; facet 2: 30–39 mm; facet 3: 40–49 mm; facet 4: 35–40 mm; facet 5: 39–49 mm; facet 6: 37–47 mm; facet 7: 40 mm; facet 8: 35–42 mm.

Diameter of the base ring: 108 mm; diameter of the fillet (as above): 110 mm; diameter of the touch hole: 7 mm; distance from the base to the central ring of the touch hole: 33 mm; the height of the priming pan: 10 mm.

Weight: 11 kg. *Photo 2.*

Concerning the central axis, the gun is curved at 330°.

The body of the firearm is of a fungus-like shape. Visually and structurally it consists of five parts – rings of different diameters and lengths. The cylindrical powder chamber is slightly larger in diameter than the diameter of the bore. The chamber's bottom is slightly convex to the plate.

Photo 3.

The diameter of the outlet of the chamber is slightly smaller than the diameter of the bore. In O. Malchenko's opinion, this internal structure bears evidence of the use of buckshot, not full diameter projectiles, because this shape of the bore during the shot provided flying spread of the fractions (Malchenko, 2016, pp. 27–43).

The massive barrel comprises very thick and the largest diameter in the structure of the gun ring which is rather rough and somewhat oval, like all gun – a very rough work. The muzzle is uneven, of heterogeneous structure with clearly visible metal layers. Traditionally, the muzzle is a “weak point” of the gun barrel, and therefore it needs further strengthening. A surface examination of the muzzle suggests that the blacksmith simply wrapped several layers of metal in the process of manufacturing the ring which reinforces the muzzle. Given the volume of the powder chamber such a ring is quite practical. The muzzle’s orifice looks like an “egg” – it is oval and, slightly “deepened”. The edge of the muzzle is uneven. **Photo 4.**



Photo 4.
The muzzle of short-barrelled wrought iron firearm of the end of the XIVth – the XVth cn. in the collection of the LHM (Inv. No. 3-2838)

Next, the second ring is uneven and is the smallest one with regard to its height. The third ring of the firearm has the shape of a truncated circular cone. The fourth ring is the smallest in diameter. Obviously, this ring was fastened to the stock with a metal fitting. The fifth ring, that is, the bottom part is in the form of an octahedron which is extended toward the fillet (the part of the bore closing the channel from the breech. The fillet is flat. The fillet of a mortar type can imply that the gun was used to conduct

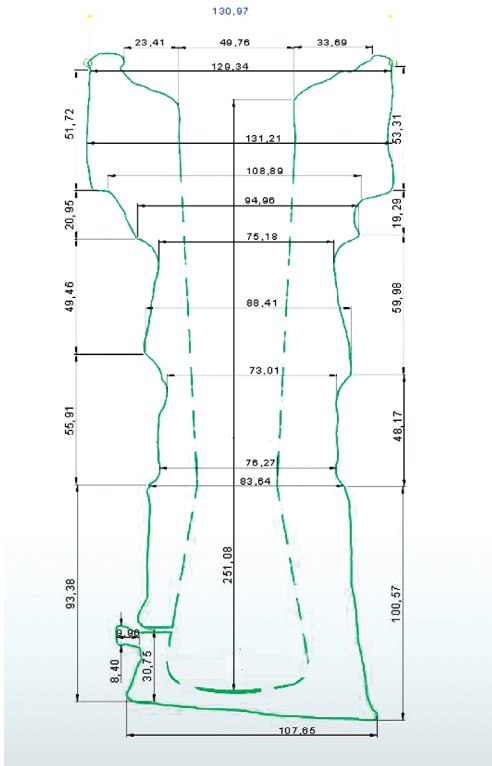
plunging fire. There are no inscriptions, emblems or decorative ornaments. The gun was fastened with metal fittings to a wooden stock. The stock is lost.

In the study of guns it is helpful to use graphics – line drawings, which will show details and dimensions, as well as features that are not always clearly seen in photographs. The curvature of the firearm did not allow us to use a classical linear drawing. However, considering the need for a graphic presentation of the discussed gun, we used a 3D laser scanning method. This technology allows a high speed and accurate coordinated determination of a significant number of points on the surface of the examined artefact. This made it possible to express the metric measurements of the firearm graphically. **Drawing 1.**¹

It must be pointed that it is a very interesting and original example of firearms. The gun’s dimensions and weight allow us to classify it as a handgun. A slightly conical bore is characteristic for such weapons as the “tyufenh” or “tyufyak”, a “shotgun”. The cross-section of the muzzle is slightly oval (Malchenko, 2011, pp. 97–99). The muzzle’s walls form a roughly worked ring. The gun’s calibre: 4.98 cm – is typical for early examples of hand-held firearm. In later development of handguns one can see a tendency to increase the length of the barrel and to reduce its calibre (Zuk, 1992, pp. 453–463).

After a simple cursory examination the barrel surface is clear that gun was manufactured from separate forge-welded parts, which is a typical early technology for ferrous firearms. A “cutting” in the central part of the barrel resembles architectural detail. This trait is typical for the Gothic style that prevailed in gun production in the XIVth – the XVth centuries.

¹ The application of modern technologies in studies on medieval firearms can provide interesting results. For example, 3D laser scanning of the discussed gun allowed us to print 3D models. This greatly simplified the process of reconstruction of the wooden bed of the gun. Additionally, we should highlight the feasibility of using such models for exhibition purposes. This will give a visitor a chance to hold a 3D model of a gun, which will make a museum visit more interesting and will enable visitors to better understanding of how gun shooting was conducted.



Drawing 1.
Linear drawing of a firearm from the LHM
(Inv. No. 3-2838) by laser scanning

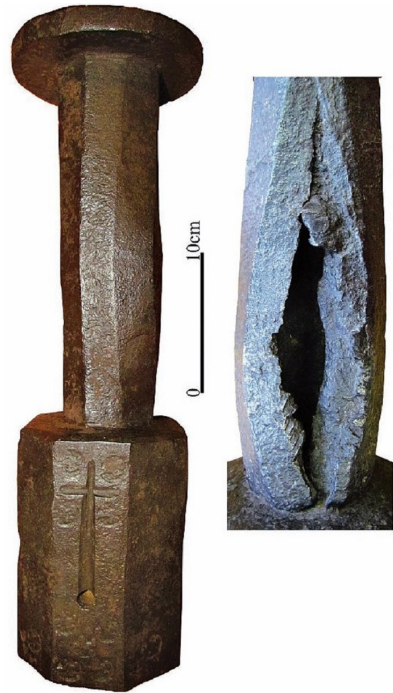


Photo 5.
The firearm of the end of the
XIVth – the XVth cn. from
Moravská Třebová Museum
(Photo by P. Strzyż)

A flat fillet and the lack of trunnions and dolphins are also considered as the characteristics that help attribute the gun to this period. For example, in the Military Historical Museum of Artillery, Engineering Troops and Communication Troops in St. Petersburg, a morphologically similar iron forged bombard is stored (Malchenko, 2011, p. 34).

Therefore, we believe that the discussed gun is an early short-barrelled firearm which can be dated to the end of the XIVth – beginning of the XVth century (Trubnikov, 1998, p. 695).

This type of small arms is considered to be widespread in Europe. Confirmation of this is a certain number of artifacts that have survived to our times. Taking into account the full uncertainty of the calibers and other technical characteristics of hand small arms of the XIVth and the XVth centuries, we will take into consideration those models, the diameter of the barrel channel, the length of the barrel and the weight of which are close to the parameters of the hand weapons described by us.

The Moravská Třebová Museum preserves a similar firearm of the end of the XIVth – the XVth cn. Structurally, the barrel of the firearm consists of two parts – the muzzle and breech. Muzzle part of the trunk is torn from the bottom. Muzzle is thickened with a ring. Breech part is octagonal and thickened. The inflammatory inlet is located in the breech part of the barrel. Weight – 11.6 kg (Durdik, Mudra, Sada, 1977, p. 25; Strzyż, 2014, pp. 29–30, p. 281). **Photo 5.**

It was mentioned the iron forged cannon from the collection of the Military Historical Museum of Artillery, Engineering Troops and Communication Troops in St. Petersburg (Inv. No. 9/7). It dates back to the XIVth – beginning of the XVth cn. and belongs to the type of hand firearms described by us. **Photo 6.** O. Malchenko identifies her as originating from the Genoese colonies in the Crimea. We are interested in the design features of the gun barrel, which consists of two parts – the muzzle and breech. The muzzle of the trunk is conical, and the breech l – extends somewhat to the base ring. Gunpowder chamber is cylindrical, diameter – 50 mm. Weight – 11.5 kg (Malchenko 2014, p. 34).

The described hand-held firearms as a rule, were fastened with metal plates or staples on a wooden box that served as a butt-stock.

Thus, comparing three firearms samples described above we can make a conclusion that they belong to the same type. Namely – hand short-barreled firearm of the end of the XIVth – beginning of the XVth cn. Considering the geographical origin of the samples we consider that this type of weapons was widely used from the second half of the XIVth – the XVth cn. and has become one of the first prototypes of the hand firearms.

The firearm has an interesting museum history. The museum reform of the 1940s which was conducted in Lviv led to the destruction of previously existing museums and transferred their collections to several major museums. While there were 26 fully self-sustaining museum institutions before the reform, five major museums were formed in result of it. Many exhibits, supporting documentation and archives were lost (Tersky, 2004, pp. 4–27). In the process of this reform it came to a destruction of one of the leading museums – the Museum of NTSH. The primary task of this institution was to show a high level of cultural development of the Ukrainians in multi-ethnic Galicia. The formation of collections of this museum was not a systematic process (Petruk, 2015, pp. 259–263). Many artefacts were found during different excavation works, and a large part was granted to the Museum by private persons. This was also the case with the bombard in question. Volume 7 of the Museum’s inventory book gives information that the gun arrived in the collection on November 19, 1935 from Belz as a donation from Dean Fr. Ilyarion Gela. The artefact was assigned accession number 25492 (AMIE NASU, p. 137). After the dissolution of the Scientific Society Museum’s collection in 1940, it was incorporated into the collection of the LHM, where the bombard was placed (LHM, p. 1309).

Consequently, based on records in the inventory book of the Scientific Society Museum, we will discuss a possible origin of the bombard.



Photo 6.
The firearm of the end of the XIVth – the XVth cn. from the Genoese colonies in the Crimea from the Military-Historical Museum of Artillery, Engineering Troops and Communication Troops in St. Petersburg (Inv. No. 9/7) (Photo by O. Malchenko)

Belz (Sokal District, Lviv Region, Ukraine) – one of the oldest towns in Volhynia – was a significant administrative and defensive centre of the Western Bug region. It was mentioned for the first time in the “Primary Chronicle” under 1030 in connection with a campaign of the Kyievan Grand Duke Yaroslav the Wise (Pogoralsky, 2004, pp. 60–65). A difficult political and military situation enforced the construction of fortifications which were provided with powerful weapons (Krypiakievych, Hnatevych, Stefaniv, 1992, pp. 145–153). Another chronicle mention of Belz in 1188 is connected with the struggle for power between the princes. During 1207 – 1211, Vasily Romanovich ruled in Belz, and from 1234 Belz principality passed over to the possessions of Danylo Halytsky. The XIVth cn. was marked by the struggle for the rule of the principality between Poland, Lithuania and Hungary. In 1340, Belz fell under the power of Lithuania, but in 1349, along with other Volyn cities, it was subordinate to the Polish King Casimir III the Great. Next year, Belz again finds itself under the authority of the Lithuanian princes. Before the Polish crown completely subjugates the lands around Belz, more than 100 years will pass, during which the city will not stand beside the siege (Dabrowski & Jusupovic, 2017, p. 709).

As it is known, traditionally Volyn rulers had close relations with Central and Northern Europe: the Teutonic Knights and rulers of the Holy Roman Empire. A good piece of evidence for the growth of Belz’s defensive value at the time of the fall of the Galicia-Volyn state in the mid-XIVth cn. was an unsuccessful siege of the town by the Polish-Hungarian army in 1352. However, a rather difficult siege took place in 1377. It was at that time that the town was first granted the Magdeburg law that should have changed the ethnic composition of its population. Obviously, the town attracted lots of foreigners at that time, primarily from Latin Europe (Knush, 2004, pp. 66–72; Kozytsky, 2014, pp. 22–38). The inflow of new inhabitants could also contribute to the emergence of firearms specialists, and in fact, the first appearance of guns.

The town experienced active development. During the rule of Vladislaus II of Opole, analogously to Lviv, the starost’s castle was constructed in the old suburb, in the western part of the fortifications. Obviously, the inhabitants of the new-built town located on the Magdeburg law were almost entirely not the Ruthenians. This could also promote the appearance of firearms (Peteguruch, 2004, pp. 18–23).

In 1388 the Polish King Vladislaus II Jagiełło gave Belz to the family of the Masovian Duke Zemovit, who was married to his sister Alexandra. The duke had four sons – Zemovit V, Traidenis II, Vladislaus I and Casimir II. They rebuilt the fortifications and adapted them for artillery (Peteguruch, 2004, pp. 18–23). A rapid development of artillery in the lands of the Kingdom of Poland falls within the time of reign of King Jagiełło. At the same time the Lithuanian army under the leadership of Vytautas also used artillery on a broad scale (Malchenko, 2005, pp. 66–80). According to Jan Długosz, Casimir II of Belz was keen on forging. He forged weapons – swords. Considering the contribution of the ruling family to the construction of fortifications, it is logical to assume that the rulers of Belz were also interested in providing the town with the most modern weapons – artillery (Omelchuk, 2010, pp. 15–23).

It is known that there were temple buildings along defensive lines of medieval town and cities. The same was the case in Belz. It is possible that the bombard could belong to a town temple, and was supposed to defend a certain area of the town’s fortifications (Slobodian, 2006, pp. 176–185; Omelchuk, 2010, pp. 15–23). It is worth noting that the Dominican Friars were first invited to Belz by Duke Siemowit IV in 1394, who gave them land in the south suburbs. The cathedral of the Holy Spirit and the Dominican monastery was built in the area.

The municipal coat of arms depicts a defensive tower completed with four battlements from which a warrior fires a gun. This fact can serve an important argument of the use of artillery in the early days of Belz (Hrechylo, 2004, p. 28). *Illustration 2.*

The emergence of the coat of arms of the town can be associated with granting the Magdeburg law to the town in 1377. However, after the burning of the town by the Tatars and Turks in 1509 Belz received a reaffirmation of the Magdeburg Law and a number of privileges that contributed to its rapid development. Thus, in 1578 there were 24 dryers, 8 tailors, 19 shoemakers, 9 furrows, 20 bakers, 6 cutters, 1 goldsmith, 2 malters, 8 bonders, 2 locksmiths, 2 carpenters, 7 weavers, 2 knives, 4 blacksmiths, 2 coppers, saddlers, shovels, reamers, swordsman one by one, 3 masts, 2 baths (Tkachuk, Kharuk & Verkhoturova, 2020, pp. 9–23).

The oldest known municipal seal with the coat of arms of Belz is dated to the XVIth cn. and is now kept in the National Museum in Krakow, in the department of manuscripts. It shows a stone tower with four spikes from which a warrior fires a gun. The seal is provided with an inscription “+ SIGILLUM + CIVITATIS + REGIE + BELZ” The seal is round with the diameter of 36 mm (Hrechylo, 1998, pp. 35–51). Images on the Belz coat of arms also show the town’s role as a defensive point.

Geographically Belz was located at the crossroads of trade routes. Therefore, it is likely that our short gun could be brought to Belz by merchants. Despite a great deal of research done by numerous outstanding scholars Belz still remains one of the least studied areas of Western Ukraine.

It is difficult to assert whether the bombard was made by a local blacksmith of Belz or it was brought to the town. The bombard is an example of a rough manufacture. Its “construction curvature” makes it possible to assume that the gun was made hastily or by a blacksmith who was not a professional gun manufacturer. On the other hand, the octagonal bottom excludes hasty manufacturing. It could be rather suggested that the gun is a piece of evidence for experimenting with an appropriate shape for a newly invented kind of weapon.

In addition to documental items, the remnants of armed artifacts are considered as important historical source. Particular attention is required to decrypt epigraphy, labeling or heraldry, if they are available on a barrel, because the correctly read gun texts allow to attribute the subject properly. Nowadays, another important issue is given to the history of guns in museum collections. Skilled reading of morphology of a barrel is particularly important in the study of a gun. Each saved artillery item has a historical, scientific, cultural, antique and ethnographic value and requires a thorough and comprehensive investigation. Considering the absence of documental background, every single gun of that period is invaluable for science.

The Conclusions. This work is an attempt to analyze a forged iron firearm from Lviv Historical Museum. The source base is the weapon of assets and inventory books of LHM and Museum of Scientific Society named after T.Shevchenko. In VII inventory book of the Museum it is said that the collection Cannon arrived in November 19, 1935 from Belz, granted on Dean Fr. Ilyarion Gela and assigned accession number 25492. Note that at that time only church of the Holy Spirit – Cathedral of Holy Spirit up to the end of the XVIIIth cn. –

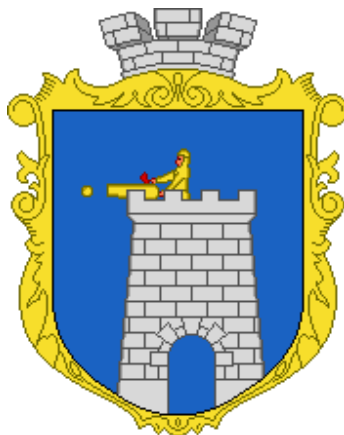


Illustration 2.
Belz coat of arms
(Hrechylo, 2004, p. 28)

was in acting. After the dissolution of the Scientific Society Museum collection in 1940, the museum was included in the assets of LHM, where the firearm was placed.

One of the oldest cities in Volyn land – Belz (nowadays – the city Belz, Sokal district, Lviv region, Ukraine) – a significant administrative and defense center of the Western Bug region. In 1388 the Polish King Vladislav Jagiello gave Belz to the family of Mazowiecki knyaz Zymovyt, who was married to his sister Alexandra and had four sons Zymovyt V, Traidenis II Vladislav I and Casimir II. They rebuilt the fortification and adapted them for artillery. It is known fact the functioning of temple buildings along the defensive lines of medieval cities. The same was in Belz.

From the results of the research we can make preliminary conclusions briefly that the absence of those elements that are more advanced alloys of iron proves that we can consider confirmation of the correctness of the dating of the cannon carefully.

Since the gunpowder implementation for military purposes, the era of experimental gunsmiths had launched. There were produced as extremely large as small artillery guns. The original handmade firearms differed just in size, weight and caliber from the first artillery systems.

Acknowledgements. Sincere thanks to the Center SAPR for laser scanning. Thanks to the staff of the Lviv Historical Museum. Special thanks to Rector of Hetman Petro Sahaidachnyi National Army Academy for the support.

Funding. The author's received no financial support for the research and publication of this article.

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The article was received June 04, 2020.

Article recommended for publishing 19/05/2021.