I have written an investigation about Finnish wooden-locks of almost 1 000 pages. I divided the Finnish wooden-locks into the following main groups:

- A. Locks with wooden stock and wooden springless mechanism; key and bolt separated (plate I, picture 1).
- B. Wooden springless bar-locks with key to be turned (plate I, picture 2).
- C. Locks with wooden stock and iron mechanism with spring (plate I, pictures 3 and 4), vertical and horizontal.

To get the best comprehension of the lock-systems I investigated locks in many countries, including Romania.

Speaking about the oldest wooden-locks with wooden mechanism, it is known that the oldest one is from Egypt and Assyria, Ninive, the palace of Khorsabat. This type is 4 000 years old (plate I, pictures 5 and 6), as it is noticed in Encyclopedia Britannica¹, and in Charles Curtil-Boyer's book 2.

The type "B" belongs to the culture of the Mediterranean Sea and it is said that the Greeks used such locks for the first time 500 years before our era³ (plate 1, picture 7).

The type "C" is the youngest, dated from the 11th century, in France and Germany ⁴ (plate I, picture 8).

By this short paper I am going to prove that on the mountains line (The Carpathian Mountains and The Alps) there is a border between the northern type of wooden locks and the so-called Egyptian type, in which the key is placed into the bolt.

TERRITORIAL ADJUSTMENT IN ROMANIA

I got the material of wooden-locks still in use from the following administrative districts: Bacău, Bistrița-Năsăud, Caraș-Severin, Cluj, Gorj, Harghita, Maramures,

SOME FEATURES OF THE WOODEN-LOCKS IN ROMANIA*

Alfred Kolehmainen Helsinki

Mures, Suceava, Vilcea (see the map). On the map the lined circles show the territories where the bar-locks with joint keys are used.

The figures 9 to 27 (plate II) show the types of the locks with wooden stock and springless mechanism.

The Southmost territories with barlocks are in Gorj, Vîlcea and Vaslui. These bar-locks are mainly Greek-like types (plate I, figures 28 -42). On the territories to the South of the mentioned areas there are less locks of these types. On the Northern Carpathian Mountains the other end of the bar moves on a tap and a second one in an "ear". However this north territory has the Greek-like type too, penetrated from the South Carpathian Mountains and it is used mostly in churches. On the map the point is marked by a cross in Sălaj.

On the whole it can be said that the bar-lock with a joint-key is known almost everywhere on the Alp territories⁵. The types are also the same.

It is very interesting to see that the territories of wooden locks in Romania are preserved today in the mountains only and the greatest part of them is in North Romania. That area belonged to the Dacians and their culture is preserved persistently in Maramures and Suceava. The

^{*} I express my deepest gratitude to the Romanian Institute for Cultural Relations with Foreign Countries which gave me the opportunity and possibility to investigate old wooden locks in Romania.

south border of Dacians in 67 A.D. was bounded by the Danube on the other side of which was the Empire of Rome⁶.

THE STOCK OF WOODEN-LOCK IN ROMANIA

I have divided the stocks into the following groups:

THE RECTANGULAR STOCKS

1) Narrow-edged, equal in height. This type can be found in the following districts: Bacău, Bistrița-Năsăud, Cluj, Mureş. The main part of the types is in Cluj (see map).

2) Convex, simple type. This type can be found in Suceava (see map).

3) Convex, profiled on the ends and decorated with carvings. The type is spread in Harghita (see map).

4) Block- and pillarshaped:

a) Convex smooth type in Caraş-Severin and Gorj;

b) Convex, decorated type, in Maramureş (see map).

MECHANISM

1. Pins

a) There is no mechanism with one pin in Romania.

b) Mechanism with two pins. The mechanism of this type is found in locks which are still in use in Cluj, Harghita and Mureş. The pins are not similar in every lock and one can raise them up of the bolt either by turning or raising the key. The pins with a hole in their center are opened by a key which is to be turned and which is not placed into the bolt. Such pins which are without any hole are opened with a key which is to be raised up and which is placed into the bolt.

c) Mechanism with three pins. Wooden locks with three pins are used in the following districts: Bacău, Bistrița-Năsăud, Caraș-Severin, Cluj, Harghita, Maramureș, Suceava and in some places in Gorj. Most of these locks are opened with a key which is to be turned. Only in Caraş-Severin and Cluj there are locks with three pins and those are opened by a key placed into the bolt and which is to be raised up by opening; these types are used side by side with the type with key which is to be turned.

d) Mechanism with four pins. Locks with four pins are used in Cluj and Gorj. In Cluj the key is placed into the bolt and is to be raised up; in Gorj the key is not placed in the bolt and is to be turned.

2. Keys

On the territory researched the keys remind the Finnish ones with the exception of those types placed into the bolt which are not to be found in Finland. The keys are made of hard wood just like most of the stock of locks. If there had been a blacksmith in the village, it was possible to have the keys made of iron.

As I have explained there are two methods to open the wooden-lock; one is by turning the key — and another the key being placed into the bolt and being raised up by opening (see plate III).

3. Bolts

The bolts of wooden-locks in the Carpathian Mountains are very substantial mostly because the keys are placed into them. The dents of the bolts are depending on the form and number of pins.

On the basis of my investigation we can separate the following types of bolts (see plate IV).

THE USE OF LOCKS WITH WOODEN STOCK AND MECHANISM

It can be said that the use of locks with wooden stock and mechanism has been very common and almost exclusive until today in the Carpathian Mountains. The predominant custom was that the small and neatly-made wooden locks were used on the doors of dwelling-houses and churches, and the big as well as the sturdy ones

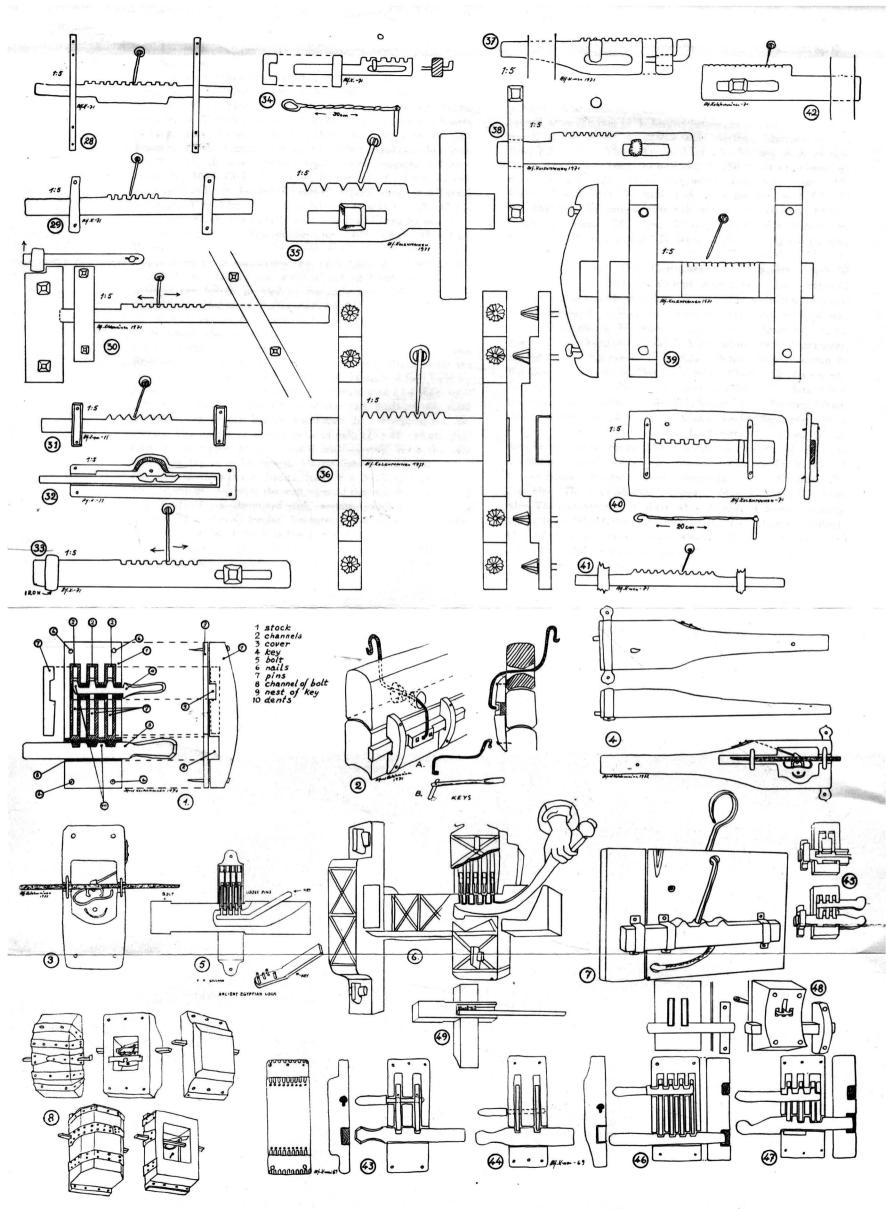


PLATE I: 1 - Finnish wooden-lock with wooden stock and wooden springless mechanism; 2 Finnish wooden springless bar-lock with key to be turned; 3 - Finnish wooden-lock with iron mechanism, vertical; 4 – Horizontal; 5 – Ancient Egyptian lock; 6 – Ancient Egyptian lock; 7 – Ancient Greek lock; 8 – Old German locks from the XIth century (Explanation continued next page).

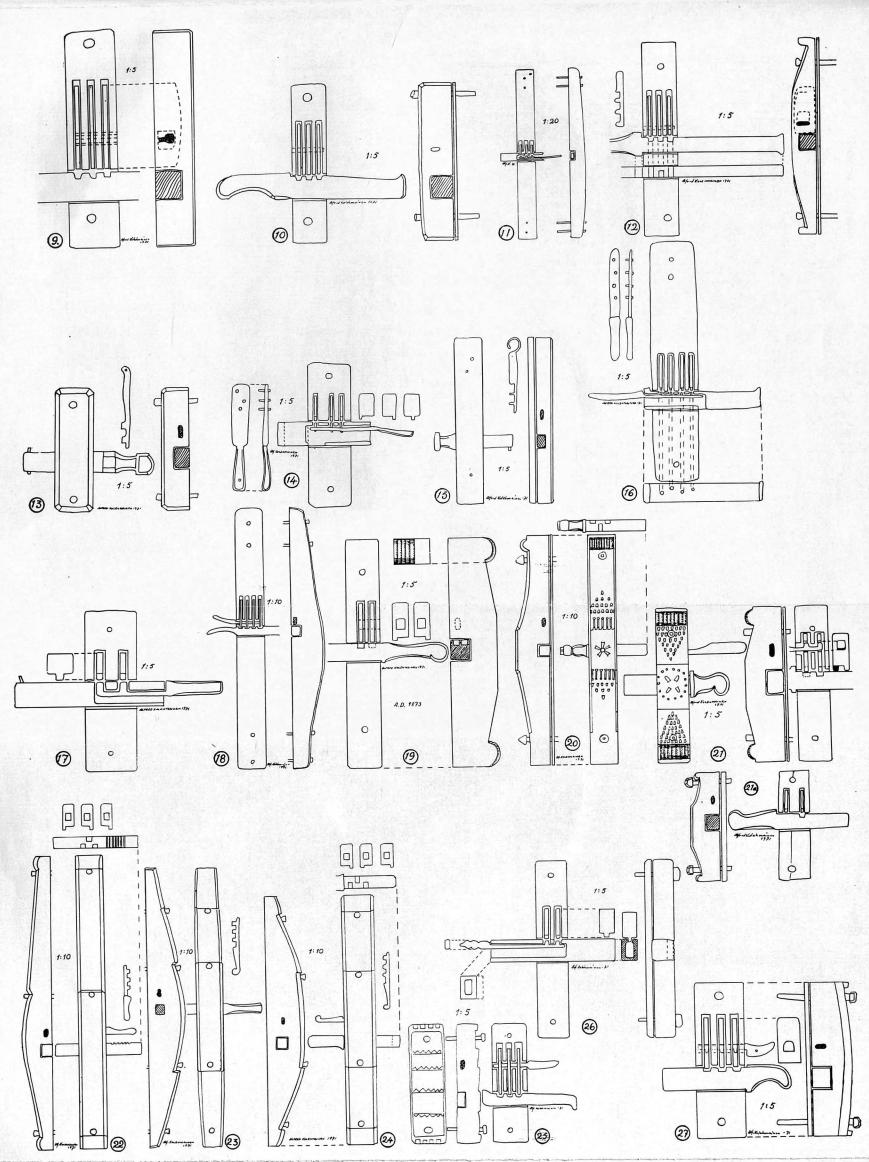
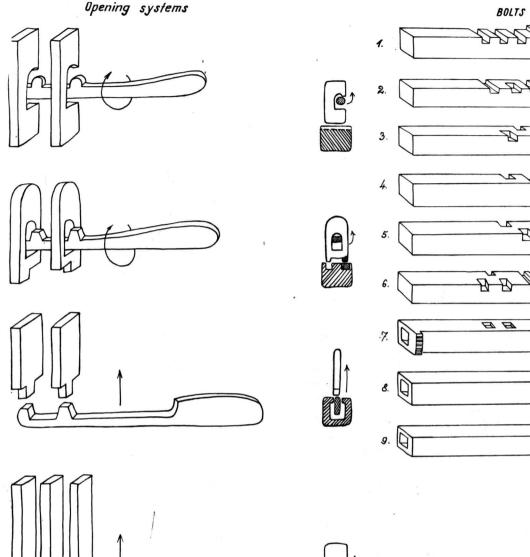


PLATE II: 9 - Bacău, door-lock, length 56 cm, breadth 13 cm, height 11 cm.

 14×16 cm, key is to be turned. Muzeul Satului, Bucharest; 23

Bolt and key of oak, stock of red-beech. Key is to be turned. Muzeul etnografic al Transilvaniei, no. 6851, Cluj; 10 – Bistrița-Năsăud, $41.5 \times 13 \times 9$ cm. Made of oak, the key is to be turned. Muzeul etnografic al Transilvaniei, no. A 3734, Cluj; 11 - Caraș-Severin, Sichevița, lock of a mill, $178 \times 15 \times 15$ cm. Key placed into the bolt. Museum of Folk Technics, Sibiu; 12 - Cluj, Apahida, door-lock, $51 \times 9 \times 7$ cm, the key is to be turned. Muzeul etnografic al Transilvaniei, no. 5059, Cluj; 13 - Cluj, Bicalat, $13 \times 8 \times 7$ cm, of oak, inner parts of beech, key is to be turned. Muzeul etnografic al Transilvaniei, no. 3888, Cluj; 14 – Cluj, Jebucu, door-lock, $37.5 \times 10 \times 12$ cm, made of oak, key placed into the bolt and is to be raised up. Muzeul etnografic al Transilvaniei, no. 1628, Cluj; 15 - Cluj, Poşaga-de-Jos, $45 \times 6.5 \times 6$ cm, made of oak, key is to be turned. Muzeul etnografic al Transilvaniei, no. 8269, Cluj; 16 - Cluj, Ocoliș, door-lock, $63 \times 12 \times 12$ cm, made of oak or beech. The stock is made of two halves, profiled on the ends, key is placed into the bolt. Muzeul entografic al Transilvaniei, no. A 2797, Cluj; 17 - Cluj, $42 \times 14.5 \times 8$ cm, made of oak, key is placed into the bolt and is to be raised when to open. The ends of the stock are profiled. Muzeul etnografic al Transilvaniei, no. 2674, Cluj; 18 – Gorj, Bălănești, $145 \times 16 \times 16$ cm. Lock of a wineshed, placed inside the wall, opened through the hole on the wall. Museum of Folk Technics. Sibiu; 19 – Harghita, Ciucsîngeorgiu, Bancu, lock of a shed, $60 \times$ \times 9 \times 12 cm, placed on the outside of the wall, made of oak, from the year 1873. Muzeul Satului, Bucharest; 20 - Harghita, Ciucsîngeorgiu, Bancu, lock of a shed, made of oak, $123 \times 18 \times 16$ cm, profiled on the upper end, decorated with carving, from the year 1873. The key is to be turned. Muzeul Satului, Bucharest; 21 -Harghita, Ciucsîngeorgiu, Bancu, lock of a dwelling-house, 39 \times 8.5×10 cm, placed inside the wall, opened through the hole on the wall. Made of oak, decorated with carvings, profiled ends. Key is to be turned. Muzeul Satului, Bucharest; 21a – Harghita, Dealu, $28 \times 7 \times 7.5$ cm, stock made of beech, the parts of oak. Key is to be turned. Muzeul etnografic al Transilvaniei, no. 3886, Cluj; 22 — Maramureş, Berbeşti, lock of a dwelling-house from 1775, 153 ×

Maramures, Berbeşti, lock of a shed, $145 \times 13 \times 18$ cm, made of oak, key is to be turned. Muzeul Satului, Bucharest; 24 - Maramureş, Lock of a stable, $130 \times 16 \times 20$ cm, made of oak, key is to be turned, from the year 1775. Muzeul Satului, Bucharest; 25 - Maramureş, $32 \times 9 \times 6$ cm, decorated with carvings. Muzeul etnografic, Alba Iulia; 26 – Mureș, Eremitul, $46 \times 8 \times 7.5$ cm, made of redbeech. Key is placed into the bolt and is to be raised when opening, from the year 1902. Muzeul etnografic al Transilvaniei, no. 3889, Cluj; 27 - Suceava, Voitinel, lock of a granary, $40 \times 12.5 \times 10$ cm, key is to be turned, first half of the 19th century. Muzeul Satului, Bucharest; 28 - Gorj, Bălănești, lock of a store-house, 50×7 cm, Museum of Folk Technics, Sibiu; 29 - Gorj, Ceauru, lock of a meat store-house, length 50 cm. The Viticulture Museum, Golești, Argeș; 30 - Gorj, Curtișoara, lock of a gate, length 70 cm. The Viticulture Museum, Golești, Argeș; 31 - Gorj, Drăgoeni, lock of a wine store-house, the year 1821. The Viticulture Museum, Golești, Argeș; 32 - Harghita, Ozun, $42 \times 11 \times 6$ cm, made of oak. Muzeul etnografic al Transilvaniei, Cluj; 33 - Maramureș, Săcel, length 68 cm. Museum of Folk Technics, Sibiu; 34. - Maramureş, Muzeul Satului, Bucharest; 35 - Sălaj, Chiralej, lock of a church. The Open-Air-Museum in Cluj. 36 - Sălaj, Cizer, lock of a church, the year 1784. The Open-Air-Museum in Cluj; 37 - Satu Mare, Certeze, Moișeni, lock of a dwelling-house; 38 - Suceava, Straja, lock of a wineshed, 18th century. Muzeul Satului, Bucharest; 39 -Suceava, Voitinel, Muzeul Satului, Bucharest; 40 - Vaslui, Zăpodeni, lock of a store-house. Muzeul Satului, Bucharest; 41 - Vilcea, Drăgășani, lock of a dwelling-house; 42 - Vrancea, Paltin, lock of a boat-house. Muezul Satului, Bucharest; 43 - Kärnten, The East-Alps. The Lock-Museum, Velbert; 44 - Kärnten, The East-Alps. The Lock-Museum, Velbert; 45 - Models of Roman woodenlocks; 46 - Wooden-lock from Moravia, Lock-Museum, Velbert; 47 - Wooden-lock from Upper-Westerwald, Lock-Museum, Velbert; 48 - Old Roman wooden-locks with a key of metal; 49 -Wooden-lock from Syria.



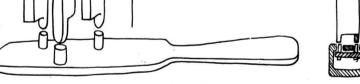


PLATE III

PLATE IV

on the doors of external buildings as for ex. sheds, storehouses, granaries, mills, etc. I have investigated wooden-locks in Romania as exactly as it was possible and especially on the territory of old Roman culture, where they are still preserved and used because of the high mountains.

At the beginning of my writing I mentioned an Egyptian wooden-lock (plate I, pictures 5 and 6). This kind of lock is placed inside the wall (contrary to the Finnish system) and the lock is opened through the hole on the wall. In other words, you can take the key with one hand, put it through the hole then put the key into the lock, you turn or raise up the key — and get the bolt out with one hand only. This system is unknown in Finland and in other Northern countries, in Estland, Latvia, Lethuan, North-Poland, North-Ger-

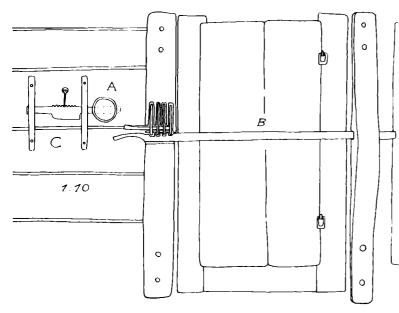


PLATE V

many, by Cheremissen and other places where *both* hands are used to open the wooden lock. This kind of system is more primitive than that opened with one hand only.

In the Carpathian Mountains the woodenlock was mostly placed inside the wall on dwelling-houses and the stock of the lock was beautifully decorated with carvings, the subjects of which were possibly taken from the decoration of Mountains churches. To make clear the inside-lock I have sketched a picture of the whole system. On the point A one can see the hole through which the hand is put in. The bolt is long enough to extend over the door. The bolt is marked with B. As one can see the hole is closed by a bar-lock C, which is to be opened with a joint-key. One can also see that the hole with a wooden-lock which is equipped with pins is of Egyptian system, but the bar-lock with a joint-key is of another and later one, based on a Greek system.

The wooden-lock with a very long bolt is known also in Austria, in the mountains, for ex. in Heiligebrunn village 7 .

Stephan Aumüller, an Austrian scientist, investigated in 1964 wooden-locks of winesheds and cellars, and one can say that those are corresponding to the locks from the Carpathian Mountains. It is however to be noticed that the keys of woodenlocks in Austria are mostly iron-made. In the East-Alps territories the woodenlocks are already Finnish-like, with two pins (plate I, pictures 43 and 44). One needs both hands to open the lock. About more Finnish-like locks has written Delachaux in his writing.

By inquires at the Musée National des Arts et Traditions Populaires (Paris), I got to know that there have still been wooden locks in France, at least in the Middle Ages and those were used in farm-houses. Later on an iron mechanism was placed in these locks.

The scientists of Spain say also that wooden-locks in their country are based on Egyptians': "Las cerraduras eran conocidas de los egipcios qui las usaban madera". These locks have been used in the mountains.

So we can say that in the Carpathian Mountains and from those to the West of the old Roman culture one can see wooden-locks and that on this territory have appeared both types of woodenlocks:

With the key placed into the bolt;
With the key and the bolt separated.

About the same subject has written also Albert Neuburger in his book⁸. Locks are reconstructed by L. Jacobi, picture 45.

As it results from my personal investigations one can say that the extreme areas of wooden-locks with the key placed into a bolt are on the North slopes of the Carpathian Mountains and the Transylvanian Alps (see map). North of this line there are wooden-locks with separated key and bolt and one has to use both hands to open the lock, just like in Finland. Locks similar to these are also to be found in Czechoslovakia and Germany (plate I, pictures 46 and 47).

Side by side with wooden-locks and keys in Old-Rome there were also iron

keys in different locks, as L. Jacobi tells us in his book⁹. The discoveries mentioned by Jacobi are dated to 50-70 A.D. (plate I, picture 48).

And still it is a fact that the Egyptian type of wooden-lock was not widespread only in Old-Rome but also in the countries East of Egypt — even today. Encyclopedia Britannica ¹⁰ mentions that the oldest wooden-lock is from Egypt but it is also said that all civilized primitive peoples in South-America, Africa, Arabia, India, China and Japan knew this system ¹¹ and for ex. in Japan they were making such locks long ago of metal, with the system of the key in the bolt and also with the lock opened with one hand only. Therefore it is possible that at the time when in Egypt were used wooden-locks, in the Far-East, for ex. in Japan, were used locks of metal and it is also possible that the oldest wooden-locks can be found outside Egypt; it is a question of more investigating.

All pictures and maps sketched by Alfred Kolehmainen 1971 -- 72.

¹ Encyclopedia Britannica, Vol. 14, A New Survey of Universal Knowledge, p. 187.

² Charles Curtil-Boyer, L'Histoire de la clef de l'époque romaine au XVIII^e siècle, Paris, p. 19.

³ F. W. SCHLEGEL, Kulturgeschichte der Türschlösser, Duisburg, 1963, p. 25.

⁴ Centralblatt der Bauernvaltung, Berlin, 19. April 1902, p. 186, 187.

⁵ THÉODORF DELACHAUX, Divers types de serrures de bois des Alpes, 1912–1914.

⁶ Everyman's Atlas of Ancient and Classical Geography, London, 1952.

⁷ STEPHAN AUMÜLLER, Hölzerne Fallriegelschlösser im südlichen Burgenland (Österreich), in Burgenländische Heimatblätter, 31. Jg., Heft 4, Eisenstadt, 1969.

⁸ ALBERT NEUBURGER, Die Technik des Altertums, Leipzig, 1921, p. 338, 339.

⁹ L. JACOBI, Das Römerkastell Saalburg bei Homburg von Höhe, 11, Die Schlösser und ihr Zubehör, Pfingsten 1897, p. 462 - 480.

¹⁰ A New Survey of Universal Knowledge, Vol. 14, p. 187.

¹¹ The Jewish Encyclopedia, p. 280, picture 49.

Footnotes