

Technical and Artistic Typology of Tehran Blacksmithing (Chelengari) of Qajar and Pahlavi Eras

Alireza Sheikhi

Associate Professor, Department of Handicrafts, Faculty of Applied Arts, University of Arts, Tehran, Iran (Corresponding Author)/ a.sheikhi@art.ac.ir

Amir Hossein AbbasiShokat Abad

MA of Handicrafts, Faculty of Applied Arts, University of Arts, Tehran, Iran/ amir.abbasi2698@gmail.com

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Introduction

Since its discovery, iron has been considered one of the most valuable and chief factors in changing life and starting the industrial revolution. Since the Median period, covering large wooden doors with tinsmith was common. In the Islamic period, metal connections were only used to increase the strength of the wooden parts of doors and windows; however, nowadays these pieces, with the use of iron doors and windows, are used to decorate the entrance of certain places. Blacksmithing(chelengari), as one of the branches of metalworking art that is called KhordeAhangari, was of great importance in the past. Today, this art has been forgotten due to industrialization of a large part of metal constructions.. Blacksmiths were a group of artisans who turned iron and metal parts in the roasting furnace into various tools by the hammering process.

Research Method

The method of using iron in buildings is a cultural manifestation and represents a part of Iranian identity. The Qajar era can be seen as the beginning of the substitution of wood with metal in the construction of fences and windows, known as "Gol Nardeh". The purpose of the article is to review the design, the construction, and the techniques used in Tehran's blacksmithing(chelengari)-(fences-windows, doors, and balconies). The questions of this research are as follows: a) what were the methods of designing, constructing and blacksmithing(chelengari) (fences - windows, doors and balconies) in Tehran? b) What types of motifs were used in Tehran's blacksmithing(chelengari) (fences, windows, doors and balconies)? The research method is descriptive and analytical; the purposeful sampling was of the convenient type and obvious cases. Data were collected through field and library studies. For this purpose, one hundred fences-windows, doors, and balconies in houses of Tehran built in the Qajar and Pahlavi periods in the 11th and the 12th districts were identified,

Research Findings analyzed.

In the Qajar period, with the influence of western architectural culture and the beginning of in Iranian architecture, guards with different designs were built on the windows of the exterior buildings in Tehran. On the other hand, the influence of the Qajar period and European culture architecture drew attention to urban facades. This caused the simple wooden windows of the Qajar period to be made with new types of metal fences on the exteriors. Metal fences with a were revealed, while preserving sanctity and creating a veil, which was also common to Iranian architecture -. In the buildings made in Qajar and Pahlavi periods in Tehran, there are various fences, which show the taste of Tehran fence-making artists. The mentioned cases were factors known as the new developments in the West in various fields such as: the expansion of migration of craftsmen and workers to neighboring countries, especially the Caucasus, after the constitutional movement and the change of existing social structure; the familiarity with social

and privileges; the formation of unions and guilds, the movement of businessmen and Farang (overseas), the dispatch of students to European countries to study, the translation of magazines, and new social and cultural contents conveyed through foreign newspapers and Mohammad Shah sent a group of five people to Paris to learn weapon making and sent another artisans and apprentices in 1268 AH to learn new industries such as carpentry, blacksmithing, foundry. In terms of iron-making and blacksmithing (chelengari), Amirkabir dispatched a group to Moscow under the supervision of Haj Mirza Mohammad Tajer of Tabrizi. He also sent the flint-maker, under the supervision of Major Darcy to England to learn lock and key-making techniques. Amirkabir planned for Iran's industries by establishing iron-casting, metalwork, cloth factories while hiring technical masters from England and sending Iranian artisans to Russia. Investigation done on Tehran's railings (fence-window, door, and balcony guard), it was found they had an identity root. In terms of usage, they were considered an element of traditional architecture.

Conclusion

As a result, The findings showed that the design method with the basic form of S with a ratio of 2 units for width and 6 units for length is formed under a pattern with 12 equal squares and spirals with 4 squares divided into 2 units and 6 parts. The applied techniques were divided into four categories of rectangular forms, rectangle with crescent, rectangle with crescent inscription, and rectangle-square. Also, the motifs used in Tehran's chalangri during the Qajar and Pahlavi periods were traditional motifs divided into two categories: one motif and two or more motifs achieved various beautiful shapes with different dimensions by analogy, combination, and multiplication. And each was examined in three types. The common motifs between these two groups were the creations of masters, six long, six Devati, lozenge, sharp drum, five open and eight. The single motif group included motifs such as Sormeh-dan bag and Seli motifs, Giveh and two or more motifs included Sormeh-dan bag motifs, Seli, Torang Kond, Panj Kond, Hexagonal, Torang Tond, Pabarik, Sormh-dan, Tabal, Shesh bandi and Pa bozi motifs. Also, the variety of designs and patterns used in Tehran's changaris in Tasi gave it an identity taken from the motifs of Iranian knots on bricks and wood, especially tile works. According to the experiences gained by master craftsmen, blacksmithing(chelengari) had an evolutionary process and the designs, roles, and forms followed the dimensions and shapes of

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