The new patents usage in the republic of Armenia during the ethnographic parks creation

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Abstract. A concept for creating an ethnographic park “Armenia of All Times” with the “Research Centre of Armenology” in the Republic of Armenia (RA) has been developed, where the achievements of Armenian architects from the ancient world to our days will be presented. The potential usage of a number of new RA patents in the design, construction and operation of Armenian ethnographic parks both in Armenia and in countries with an Armenian diaspora is considered. A conceptual model - a system, which provides an overall view of the subject is proposed. A brief description of a number of new RA patents obtained in 2016, 2017 and 2018 is given. The patents feature a movable rod - corrugated bulk structure for covering the archaeological objects found in excavations, a single-storey linear structure with a complex relief for the movement of visitors in the ethnographic park and pavilion coverings with fixed and adjustable structures for the presentation of various exhibits.

Introduction
The creation of ethnographic parks in the RA is dictated by the wide variety of cultural, historical and architectural monuments as well as the need to preserve unique landscape features and ecological diversity in various regions of Armenia, creating great opportunities to perform various archaeological events and to develop special types of tourism inherent to the climatic conditions of the republic [1, 2].

The effectiveness of design and construction works has historically been subjected to close attention. One of the ways to ensure the effectiveness of the mentioned works from the initial stage is the proposed model of using the patents in the identified areas. The use of patents can to a certain extent serve as a guarantee of quality. It should be noted however that the final quality of the object depends on many other factors including the professional qualities of the creators (architect, constructor).

Materials and Methods
A number of RA patents that can be used during the creation of ethnographic parks both in Armenia and in countries with an Armenian diaspora have been selected [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12].

The proposed conceptual model (system) made it possible to summarize the available materials on all RA patents (Figure 1) [3, 4, 6, 9, 11]. They are grouped by the identified areas of their use in creating ethnographic parks - all united in the first subsystem for the near future. The second subsystem provides the possibility to open new directions in the future with the replenishment of the package of RA patents for the formation of ethnographic parks. For a more complete presentation of
the problem in question RA patents obtained until 2016 are presented: N 406U, N 418U, N 426U, N 429U [3].

From 2016 to 2018 four new patents of RA were developed: N 487U, N 502U, N 503U, N 520U. The following is a brief description of each [4, 6, 9, 11].

*Patent of RA 487U. The movable rod - corrugated bulk structure* - the essence of the utility model is that the movable rod - corrugated structure has assembly elements that are made in the form of a gable roof with side surfaces. The side surfaces of the rod - corrugated structure are placed on arcuate tubes mounted on portable trolleys. On each portable trolley a spatial structure of metal rods is attached, which contains blocks to guide the ropes (Figure 2) [4, 5].

*Patent of RA 502U. A single-storey linear structure for terrains with complex relief* - the task of the utility model is that with minimal (relatively balanced) construction costs, at a constant (predetermined) angle from top to bottom (by gravity) to organize a continuous, smooth technological, human flows in a single-storey linear structure located on the slope of a terrain with complex relief. It will have extreme length, therefore, the largest inner surface - within the space with the smallest area (Fig. 3) [6, 7].

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**Figure 1.** Inventions (patents of the RA) used in creating ethnographic parks: A-near future; B-forecast search; I - subsystem, contributing to the formation of the park in the identified areas; II - subsystem of replenishment of RA patent package in the future; 1,2,3,4,5,6,7 – the identified areas for forming ethnographic parks based on existing package of RA patents
The utility model on RA patent 487U. Facades: a) frontal, b) side

The utility model on RA patent 502U: a) general view, b) diagrammatic representation, c, d) viewing paths, interior

The structure on patent 502U will allow to carry out inspection of exhibits closed from the external environment, since visitors will be on the inspection paths. In Figure 3.c. the possible use of the utility model which is based on the aquarium of the zoo in Omaha (United States) is shown [8].

Patent of RA 503U. The structure of the pavilion cover - the essence of this utility model is that the structure of the pavilion cover has at least two triangular elements of the same type connected to each other. They have the ability to rotate, the connection is made with the help of a hermetic elastic seal
and the elements in the inner part of the angle formed by their connection are fixed with regulating rotary-screw lanyards (Figure 4) [9, 10].

*Patent of RA 520U. The movable structure of the pavilion cover* - the essence of this utility model is that the structure of the pavilion cover has at least two triangular-shaped elements of the same type, connected to each other, to which the trihedral pyramids are attached, the tops of which are joined by pipes. According to the utility model, the elements have the shape of a rectangular triangle and are welded together so that they can be rotated by 50° in both directions, the fixing jacks and displacement wheels are attached to the lower edge (Figure 5) [11].

The structures on patents 487U and 520U are movable which allows more variable use of constructions based on them. The structures on patents 487U, 503U, 520U have a significant feature - their centric volumetric-spatial solution will allow to seamlessly fit the structures into the landscape.

![Figure 4](image1.png)  
**Figure 4.** Utility model on RA patent 503U:  
a) facade, b) plan

![Figure 5](image2.png)  
**Figure 5.** Utility model on RA patent 520U:  
a) frontal facade, b) plan, c) blocking circuit

**Summary**  
Properly designed new technical solutions allow to form a favorable, comfortable and aesthetically expressive environment. One of the effective ways to achieve this goal is the use of RA patents. Their consistent introduction into design, construction and operation practices, specifically during the creation of ethnographic parks of the Armenian people will also help to save material resources and preserve the environment.
References

[1] Safaryan A 2017 *Concepts of perspective types of ethnographic parks* (Proceedings of NUACA) **2** *(65)* 96-101.

[2] Safaryan A 2018 *Basics of creating an ethnographic park in the Republic of Armenia* (Proceedings of the international scientific conference: “Logistics, transport, ecology-2018”) 159-167.

[3] Safaryan A 2016 *Patents of the Republic of Armenia for use and exploitation in the creation of ethnographic parks* (Bulletin of Builders’ Union of Armenia) **2** 80-84.

[4] Safaryan A and Atanesyan V 2017 R.A. Patent 487 U.

[5] Illustrated catalog of projects and works 1985 (State civil construction, Moscow).

[6] Taslakyan D and Safaryan A 2017 R.A. Patent N 502 U.

[7] Kostov N 1987 *Typology of industrial buildings* (Constr. Publ., Moscow).

[8] Ojegov S 2011 *Landscape Architecture History* (Peace and education, Moscow).

[9] Safaryan A and Atanesyan V 2017 R.A. Patent N 503 U.

[10] Popov S 1969 *Aluminum building structures* (Vysshaya Shkola, Moscow).

[11] Safaryan A and Atanesyan V 2017 R.A. Patent N 520 U.

[12] Safaryan A 2012 *The complex of the International Center of Armenology and the National Ethnographic Park “Armenia of All Times”* (Proceedings of Yerevan State University of Architecture and Construction) **3** *(46)* 53-61.

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