

## ***PATENTOLOGICAL PROSPECTS OF STUDYING THE TECHNOLOGIES OF FOREST FIRE EXTINGUISHING***

*Evstropov V.M., Adamyan V.L., Zolotarev A.V., Udovenko I. N.  
Don State Technical University, Rostov-on-Don, Russia*

*The total area of forests in the Russian Federation is 1179 million hectares, or about 31% of the forest area of the globe [1]. Forest fires in a short time can negatively change the environment, the state of the forest biogeocenosis. Decreases from forest area, emissions of carbon dioxide and products of pyrolysis occur in the atmosphere. The problem of fighting forest fires, as well as their prediction, is one of the most pressing.*

*A feature of global trends in the development of forest fire forecasting is the use of technologies that allow the most accurate and efficient processing of analytical information [2]. The basis of the proposed monitoring technology for large-scale natural fires is the decision support system. The system allows you to integrate the capabilities of modern means of collecting, processing and visual presentation of information, as well as support for collective decision-making procedures [3].*

*The well-known classification of areas for creating technologies and techniques for extinguishing forest fires [4,5] is as follows: creation of technical means for detecting, tracking and monitoring the processes of occurrence and localization of forest fires; the creation of specialized equipment for the delivery of equipment and people in the zone of extinguishing forest fires; the creation of fundamentally new technical means for extinguishing forest fires (unmanned vehicles); creation of technical means for the organization of work and protection of members of fire brigades.*

*As a result of a brief patent search for technical solutions for extinguishing forest fires. N.S. Kovalek and M.V. Ivashnev [6] considered the promising possibilities of using the method of throwing soil for these purposes. Revealed solutions: preventing the release of the upper forest litter in the zone of the fire edge; increase in working speed and productivity; ensuring more effective fire extinguishing by moving the soil with milling-throwers and shields guides at an angle to the fire edge line and concentrating the soil directly in the area of a moving fire, adjusting the angle of attack of the soil thrower. In their studies, the authors used the original methodology for the synthesis of patentable intellectual property [7].*

*New patent research based on the patentological approach [8] can optimize the creation of modern patent technical solutions for extinguishing forest fires. Patentological approach is used in the development of new production technologies [9], in the implementation of design developments [10], as well as in the study and solution of practical problems of labor protection [11].*

## **Bibliography**

1. L.N. Berdnikova. *The Definition of ecological damage from natural fires* // *Vestnik KrasGAU*. - 2018. - №2. - p. 189-195.
2. Surovegin A.V. *INFORMATION TECHNOLOGY OF COGNITIVE INTEREST FORMATION OF CADETS OF THE RUSSIAN EDUCATIONAL INSTITUTIONS OF THE MINISTRY OF EMERGENCY SITUATIONS* // *Pedagogical education in Russia*. - 2016. - №4. - p. 104–108.
3. Surovegin A.V., Smirnov V.A. *Features of monitoring technologies and forecasting of large-scale natural fires* // *Innovative Technologies in Education and Science: Collection of materials of the II International Scientific and Practical Conference: Cheboksary, 2017*. - p.311-312.
4. Shegelman I.R., Vasilyev A.S., Schegoleva L.V. *Classification of directions of technic and technology for extinguishing forest fires* // *Priority directions of development of science and education*. - 2015. - № 2. - p. 298-299.
5. Shegelman I.R., Klyuev G.V., Shchegoleva L.V. *New technical solutions for protection against forest fires* // *Science and Business*. - 2015. - №4. - p. 55–57.
6. Kovalek N. S., Ivashnev M. V. *A brief patent search for technical solutions for extinguishing forest fires by throwing ground* // *Innovations in industry and the social sphere: Proceedings of the 3rd traditional republican scientific and practical conference. Petrozavodsk, 2016*. - p.12.
7. Shegelman, I.R. *Methodology for the Synthesis of Patentable Objects of Intellectual Property: A Monograph* / I. R. Shegelman, A.S. Vasilyev, P.V. Budnik. - Petrozavodsk, 2015. - 131 p.
8. Evstropov V.M. *General characteristics of the concept of patentology* // *International Journal of Experimental Education*. - 2017. - № 4-2. - P. 162-162; URL: <http://expeducation.ru/ru/article/view?id=11477>.
9. Evstropov V.M. *PATENTOLGY AND PRODUCTION TECHNOLOGY*. *International Journal Of Applied And Fundamental Research*. - 2017. - No. 3 - URL: [www.science-sd.com/471-25229](http://www.science-sd.com/471-25229).
10. Evstropov V.M., Pushenko S.L., Nikhaeva A.V. *Patentological Aspects Of Engineering* // *International Journal Of Applied And Fundamental Research*. - 2017. - № 3 -URL: [www.science-sd.com/471-25360](http://www.science-sd.com/471-25360).
11. Evstropov V.M., Pushenko S.L., Nikhaeva A.V. *Prospects For The Safety And Security* // *International Journal Of Applied And Fundamental Research*. - 2017. - No. 3 - URL: [www.science-sd.com/471-25225](http://www.science-sd.com/471-25225).

---

The work is submitted to the International Scientific Conference «Modern problems of science and education», Moscow, February 26-27, 2019, came to the editorial office on 02.02.2019

