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DEVELOPMENT OF FIREARM SILENCERS WITH SPHERICAL BAFFLES

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The aim of this work is to develop promising multi-chamber firearm silencers with spherical baffles. To achieve this objective, the advisability of using spherical baffles in the powder gas energy absorber has been substantiated. It is shown that the sound suppression efficiency can be calculated taking into account the arrangement of the baffles. New designs of high-efficiency silencers for firearms of different calibers have been developed. The novelty of the work performed is confirmed by four Ukrainian patents for an invention and the results of full-scale comparison tests of silencers with conical, spherical, and flat baffles. A comprehensive evaluation of the performance of silencers with spherical baffles with account for the field conditions of their application has shown their high efficiency and competitive ability in comparison with their foreign counterparts. The practical importance of the work performed lies in the feasibility of high-efficiency firearm silencers distinguished from their existing counterparts by their small mass and improved fabrication technique.

Keywords: *firearm silencer, spherical baffle, firing noise reduction.*

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