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## Security Papermaking in Russian Empire (1723 – 1917) - A Brief Historical Account

It is recalled that paper as a substrate for the state securities – these artifacts of special printing and graphic art – is their most inimitable feature. In the recent decades different aspects of security papermaking became the subject of paper historians' special interest.

Russian banknote papermaking, being at first a private business (unlike that of timber paper), was later transferred to a state paper mill, that showed some technological innovations. From 1818 it was spatially consolidated with the security printing house in St. Petersburg at the Imperial Russian State Paper Manufactory. Designed and erected under the supervision of major-general Augustine Betancourt, a highly-educated and talented engineer of Spanish origin, the State Paper Manufactory went through total technical re-equipments (including one performed by "Bryan Donkin and C<sup>o</sup>"), ongoing technological transfers and in-house innovations, caused by permanent standing against counterfeiters, developed its papermaking to sophisticated and artistic levels.

This brief account is based mainly on archival records, photographs and samples of secure printing, such as banknotes, bonds, timber paper etc., from the collection of Goznak JSC (modern name for the Imperial Russian State Paper Manufactory) museum, and focuses on the highlights of the security papermaking in Imperial Russia. The authors will consider the following issues: introduction of wove paper as a security feature (1802); early use of light-and-shadow watermarks (c.1820), implementation of electrotype for making dies for pressing the wire for paper moulds and also for metal overlays to be sewn on its surface (1839); adaptation of moulds for double dipping (c.1866); active implementation of portrait and other artistic watermarks made from wax models (from 1870s); using chain-mould machines (from 1880's); incorporation of silk mesh into machine-made paper (1887); and academic approach to paper testing (from 1890s). Besides, some unrealized innovations are reviewed.

*Keywords:* state securities, papermaking, watermarks, Imperial Russian State Paper Manufactory