This thesis deals with collecting facts and making the complete analysis of SQUFOF algorithm. In the beginning you can find a short hystorical review and then it continues with desribing how the binary quadratic forms, which represents the number N, continued fractions of $\sqrt{N}$, ideals in the ring $\mathbb{Z}(\sqrt{N})$ and lattices in $\mathbb{Q}(\sqrt{N})$ are related. This thesis offers the tools usable to switch between these structures and finally it uses these tools to show, how the algorithm SQUFOF works.