This thesis deals with collecting facts and making the complete analysis of SQUFOF algorithm. In the beginning you can find a short historical review and then it continues with describing 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.