A maximum independent set of vertices in a graph is a set of pair-wise non-adjacent vertices of lagest cardinality α. Plummer defined a graph to be *well-covered*, if every independent set is contained in a maximum independent set of G. One of the most challenging problems in this area, posed in the survey of Plummer, is to find a good characterization of well-covered graphs of girth 4. We examine several subclasses of well-covered graphs of girth ≥ 4 with respect to the *odd girth* of the graph. We prove that every isolate-vertex-free well-covered graph G containing neither C_3, C_5 nor C_7 as a subgraph is even very well-covered. Here, a isolate-vertex-free well-covered graph G is called *very well-covered*, if G satisfies $\alpha(G) = n/2$. A vertex set D of G is dominating if every vertex not in D is adjacent to some vertex in D. The domination number $\gamma(G)$ is the minimum order of a dominating set of G. Obviously, the inequality $\gamma(G) \leq \alpha(G)$ holds. The family $\mathcal{G}_{\gamma=\alpha}$ of graphs G with $\gamma(G) = \alpha(G)$ forms a subclass of well-covered graphs. We prove that every connected member of G of $\mathcal{G}_{\gamma=\alpha}$ containing neither C_3 nor C_5 as a subgraph is a K_1, C_4, C_7 or a corona graph.