Introduced recently, an $n$-crossing is a singular point in a projection of a link at which $n$ strands cross such that each strand travels straight through the crossing. We introduce the notion of an übercrossing projection, a knot projection with a single $n$-crossing. Such a projection is necessarily composed of a collection of loops emanating from the crossing. We prove the surprising fact that all knots have a special type of übercrossing projection, which we call a petal projection, in which no loops contain any others. The rigidity of this form allows all the information about the knot to be concentrated in a permutation corresponding to the levels at which the strands lie within the crossing. These ideas give rise to two new invariants for a knot $K$: the übercrossing number $\bar{u}(K)$, and petal number $p(K)$. These are the least number of loops in any übercrossing or petal projection of $K$, respectively. We relate $\bar{u}(K)$ and $p(K)$ to other knot invariants, and compute $p(K)$ for several classes of knots, including all knots of 9 or fewer crossings. (Received September 24, 2012)