Let $k$ be a field of characteristic zero, $D = D(\alpha, \beta)$ be a noetherian down-up algebra that is graded by a finite group $G$, and $H = \text{Hom}_k(kG, k)$ be the $k$-linear dual of the group algebra $kG$. The fixed subring $D^H$ under the Hopf algebra $H$ can be identified with the identity component $D_e$ under the $G$-grading. We prove that $D$ is rigid in the sense that $D^H$ is never AS regular (so $D^H$ is not isomorphic to $D$), and hence each $D$ has no dual reflection group. Further, we prove that when the homological determinant of the $H$-action on $D$ is trivial and $H$ acts homogeneously on $D$, Auslander’s Theorem holds: the smash product $D \# H$ is naturally isomorphic to $\text{End}_{D^H}(D)$, as $k$-algebras. (Received February 27, 2017)