L.

⌈ $\tilde{C}_h \xrightarrow{\pi} C_h \subset \mathbb{P}^2 \Rightarrow$ By the classical Plücker formula, $g(\tilde{C}_h) = \frac{(\deg C_h - 1)(\deg C_h - 2)}{2} - 1 = 2$

By P479, $r$ is given as follows: Given a generic hyperplane $\bar{h}$, for any $p \in S$, consider the line $\overline{p.p_0}$. $\Rightarrow \exists$ an intersection point $p' \in \bar{h} \cap \overline{p.p_0}$. $\Rightarrow r(p) = p'$. $\Rightarrow$ For each point $p \in h \cap S = C_h$, $r(p) = p'$, for some $p' \in \bar{h}$, and conversely, for any generic point $q \in \bar{h} \cap h$, $\overline{p_0 q} \cap S \neq \phi \Rightarrow r(\tilde{C}_h) = h \cap \bar{h} = \mathbb{P}^1$. $\#(\overline{p_0 q} \cap S - \{p_0\}) = 2$, since $p_0$ is a double point and $\deg S = 4$. $\Rightarrow r : \tilde{C}_h \to \mathbb{P}^1$ is a 2-sheeted cover. $\Rightarrow$ By the formula on P255, the number of branch points $b = 2 \cdot 2 + 2 \cdot 2 - 2 = 6$.
See P940 note. ⌋

The branch locus $F \subset \mathbb{P}^2$ of $r$ is thus a sextic plane curve without multiple components.

⌈ For generic hyperplane $H \subset \mathbb{P}^3$, $H \cap F$ is the branch locus of $\tilde{C}_H \longrightarrow H \cap \mathbb{P}^2$. $\Rightarrow$ By the argument above, $\#(H \cdot F) = 6$. Since $r$ is a 2-sheeted cover, there is no multiple branch point. $\Rightarrow F$ is a variety of degree 6 in $\mathbb{P}^2 = \operatorname{Im} r$, see the definition of branch locus on P217. ⌋