

branch points at each of those three points is 1.
 \Rightarrow The total # of branch points is $2+3=5$,
 which is impossible, since the total # of b.ps
 is 6.

Here l is generic line, and when we mention
 on branch points, they are the branch points of
 the covering map induced by l on C .

\square

A note: The problem of determining the number
 of conics tangent to five conics is of some his-
 torical importance, being one of the first problems
 requiring nontrivial intersection theory; it is
 interesting to see how it may be solved without
 explicit reference to abstract blow-ups or co-
 homology. One argument proceeds as follows: let
 I_p and $I_l \subset W$ be, respectively, the variety of
 conics passing through the point p , and tangent
 to the line l ; let \tilde{I}_p and \tilde{I}_l be their proper
 transforms in the blow-up \tilde{W} of W along W_2 .
 Then it is easy to see that, in the cohomology
 ring of \tilde{W} ,

$$\tilde{I}_p \sim \tilde{w} \quad \text{and} \quad \tilde{I}_l \sim 2\tilde{w} - e,$$

so

$$\tilde{V}_0 \sim 2\tilde{I}_p + 2\tilde{I}_l.$$