Inference at $*$ 1 1
 of proof for Lemma bij_imp_exists_inv:

1. A : Type
2. B : Type
3. f : $A \rightarrow B$
4. $\forall a_1, a_2{:}A.\ (f(a_1) = f(a_2)) \Rightarrow (a_1 = a_2)$
5. $\forall b{:}B.\ \exists a{:}A.\ (f(a) = b)$

$\vdash \exists g{:}B \rightarrow A.$ InvFuns(A;B;f;g)
 by ((((FwdThruLemma ‘ax_choice‘ [5])
 CollapseTHENM (Thin 5))·)
 CollapseTHENA (
  (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)))·

  1:

    5. $\exists f_1{:}B \rightarrow A.\ (\forall b{:}B.\ f(f_1(b)) = b)$
    $\vdash \exists g{:}B \rightarrow A.$ InvFuns(A;B;f;g)
  .