```
curry_uncurry_inverse  THM

⊢  ∀T:Type{i}, U:Type{j}, V:Type{k}, f:(T×U→V). f = uncurry curry f
| by Unfolds [‘curry‘;‘uncurry‘] 0
|
1. T : Type
2. U : Type
3. V : Type
4. f : T×U→V
⊢  f = (λx.x/l,r. (λx,y. f(<x,y>))(l,r))  by Reduce 0
|
⊢  f = (λx.x/l,r. f(<l,r>))  by Ext
|
|\
| 5. x : T×U
| ⊢  f(x) = (λx.x/l,r. f(<l,r>))(x)  by Analyze 5 THEN Reduce 0
|
|\
| .....wf .....
| ⊢  T×U = T×U  by Auto
|
|\
| .....wf .....
| ⊢  f = f  by ExtWith [‘b’] [T×U→V]
| |
| 5. b : T×U
| ⊢  f(b) = f(b)  by Auto
|
.\
. .....wf .....
. ⊢  (λx.x/l,r. f(<l,r>)) = (λx.x/l,r. f(<l,r>))  by Auto
END
```