```
concat_append  THM

⊢  ∀ll1,ll2:(Top List) List.
|  concat(ll1 @ ll2) ~ (concat(ll1) @ concat(ll2))
| by InductionOnList THEN Unfold `concat` 0 THEN Reduce 0
|    THEN
|    Fold `concat` 0
|    THEN
|    UnivCD
|
|\
| 1. (Top List) List
| 2. ll2 : (Top List) List
| ⊢  concat(ll2) ~ concat(ll2)  by Auto
|
.\
. 1. (Top List) List
. 2. u : Top List
. 3. v : (Top List) List
. 4. ∀ll2:(Top List) List. concat(v @ ll2) ~ (concat(v) @ concat(ll2))
. 5. ll2 : (Top List) List
. ⊢  (u @ concat(v @ ll2)) ~ ((u @ concat(v)) @ concat(ll2))
.   by RWO
.      Thm* ∀as,bs,cs:Top List. ((as @ bs) @ cs) ~ (as @ bs @ cs)
.      {append_assoc_sq}
.      0
.      THEN
.      Analyze
.      THEN
.      Try BackThruSomeHyp
END
```