Inference at $*$ 1
of proof for Lemma less-fast-fib:

. . . . .assertion. . . . . NILNIL

$\vdash \forall n, a, b{:}\mathbb{N}.$
$\{m{:}\mathbb{N} \mid$
$\forall k{:}\mathbb{N}.$
$(a = \text{fib}(k))$
$\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
$\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
$\Rightarrow (m = \text{fib}(n{+}k))\}$
by (InductionOnNat)
CollapseTHEN (Auto')·

1:

1. $a : \mathbb{N}$
2. $b : \mathbb{N}$
$\vdash \{m{:}\mathbb{N} \mid$
$\forall k{:}\mathbb{N}.$
$(a = \text{fib}(k))$
$\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
$\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
$\Rightarrow (m = \text{fib}(0{+}k))\}$

2:

1. $n : \mathbb{Z}$
2. $0 < n$
3. $\forall a, b{:}\mathbb{N}.$
$\{m{:}\mathbb{N} \mid$
$\forall k{:}\mathbb{N}.$
$(a = \text{fib}(k))$
$\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
$\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
$\Rightarrow (m = \text{fib}((n - 1){+}k))\}$
4. $a : \mathbb{N}$
5. $b : \mathbb{N}$
$\vdash \{m{:}\mathbb{N} \mid$
$\forall k{:}\mathbb{N}.$
$(a = \text{fib}(k))$
$\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
$\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
$\Rightarrow (m = \text{fib}(n{+}k))\}$

.

---

http://www.nuprl.org/FDLcontent/p0_963683_/p25_528941_{less-fast-fib}1.html