The least fixed point of

$$h : (\mathbb{N}_\perp \to \mathbb{Z}_\perp) \to (\mathbb{N}_\perp \to \mathbb{Z}_\perp)$$

$$h(F)(n) = \begin{cases} 1 & n = 1 \\ \left(\varphi^{n/2} + (-\varphi)^{-n/2}\right) F_{n/2} & n \text{ is even} \\ \sqrt[3]{\frac{\varphi^{3n+1} - \varphi F_{3n+1}}{10} + \frac{\sqrt{25\varphi^{3n+1} - 25\varphi F_{3n+1} - 20}}{50}} + \sqrt[3]{\frac{\varphi^{3n+1} - \varphi F_{3n+1}}{10} - \frac{\sqrt{25\varphi^{3n+1} - 25\varphi F_{3n+1} - 20}}{50}} & \text{otherwise} \end{cases}$$

is the Fibonacci sequence if and only if the Collatz conjecture is true.