Zbl 235.10006
Erdős, Paul; Graham, Ronald L.
On sums of Fibonacci numbers. (In English)
Fibonacci Q. 10, 249-254 (1972). [0015-0517]

A sequence of integers $1 \leq a_1 \leq a_2 \leq \dots$ is called complete if every sufficiently large integer n can be written in the form (1) $n = \sum \epsilon_i a_i$, $\epsilon_i = 0$ or 1. The sequence is called strongly complete if it remains complete after omitting any finite number of terms. Let $M = (m_1, m_2, \dots)$ be a sequence of non-negative integers. S_M is a sequence which contains precisely m_k entries equal to F_k where F_k is the k-th term of the Fibonacci sequence. Put $\tau = (1 + \sqrt{5})/2$. The authors prove that if (2) $\sum_{k=1}^{\infty} m_k \tau^{-k} < \infty$ then S_M is not strongly complete but if the series (2) diverges and $m_k \tau^{-k}$ is monotone then it is strongly complete.

Classification:
11B39 Special numbers, etc.