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Jing Long Hoelscher* (jlong@math.uic.edu), 851 S. Morgan Str, Department of Math (M/C 249), University of Illinois at Chicago, Chicago, IL 60607-7045. *Infinite class field towers.*

For a number field ramified only at one finite prime over \mathbb{Q} , Schmithals gave an example of $\mathbb{Q}(\sqrt{-3321607})$, where the only finite prime ramified is 3321607. It has an infinite 3-class field tower. Later Rene Schoof extended this result and showed that $K = \mathbb{Q}(\zeta_{877})$, $\mathbb{Q}(\sqrt{39345017})$ and $\mathbb{Q}(\sqrt{-222637549223})$ each have an infinite class field tower where the only finite primes ramified in K/\mathbb{Q} are respectively 877, 39345017 and 222637549223. I will give examples of number fields ramified only at one small finite prime p , e.g. $p = 2, 3$ and 5, which have infinite class field towers. (Received February 09, 2011)