This paper questions the positive development (or the reduction) of the gender wage gap during the Second Industrial Revolution. Methodologically, it aims to overcome the limitations of the aggregated data on wages for this period and centres its analysis on a case study (the Catalan cotton industry from 1891-1935), on the basis of company data that made it possible to produce wage series for homogenous occupations. It concludes that the extension of the industrial base did not offer the same opportunities to both genders and that women were concentrated in traditional jobs in the more labour-intensive sectors. Within the textile industry, the horizontal and vertical segregation of jobs by gender conditioned the way that, although the development of wages was similar for both genders, the levels of inequality were maintained even in the best-case scenarios. The feminisation of weaving was a lost opportunity to turn this situation around, as the value of this profession in terms of wages worsened within the wage structure of the cotton textile industry as a whole.