

### The Water Engine

It would be some years before William would call himself an engineer, but he took on a project which required a sound understanding of mechanics almost as soon as he had started up in business. In 1698 the borough had leased to George Sorocold, a highly ingenious engineer, a small island, or Byflatt at the bottom of St. Michael's Lane, at a point where water from the Derwent could be channelled from the back of a weir. Here he set up a small building which housed a 'water engine'. This lifted water from the river and sent it to a cistern at the top of St. Michael's church tower from where it was pumped through four miles of elm pipe to conduits and taps, placed at intervals throughout the town. The pumps were powered by waterwheels which rose and fell according to the level of the river. William Hutton wrote of St. Michael's, '*Perhaps this is the most useful church in Derby, though preached in but once a month*'.<sup>33</sup> The 'water engine' was the first such engine to be constructed outside London and of some age by the time William took it over from 'Mr. Bradley' in 1779.

*Chamberlains Accounts: 1780 5 June Received a Yrs Rent for the Water Engine to Lady Day*  
£3 3 Od.<sup>34</sup> ^

The borough perhaps felt that William lacked sufficient experience as a guide was commissioned from Charles Lakin, Derby surveyor, who produced a small book, '*The Engineer Guide to the Suffs and Pipes in the town of Derby in the Streets and Lanes from the Engine to Different parts of the town*'.<sup>35</sup> The rental of 3 guineas had been fixed by deed of lease for 99 years and took no account of inflation. The income, according to the terms of the lease, was shared between three parties, one being the borough on whose land the engine stood.<sup>36</sup> Between 1807 and 1815 sums amounting to £598 19s 7<sup>3</sup>/<sub>4</sub>d were paid to the Paving and Lighting Committee. What percentage William took from the profits is not known. A typical customer paid only a few pence but industrial concerns paid considerably more. Derby Crown China was a regular user. Their bill in 1788 was £12:

*pd. Mr. Wm. Harrison for 1/2 Yrs. Rent due to the proprietors of Derby*  
*Waterworks at Mich last* ^ £6 Os Od<sup>37</sup>