Although Bourdin sustained massive injuries, he remained alive and able to speak. He did not, however, reveal his name, specific target, or motives. He was carried to the Seamen's Hospital nearby, where he died 30 minutes later.

Later, police investigators discovered that Bourdin had left his room on Fitzroy Street in London and traveled by tram from Westminster to Greenwich Park. The police concluded that "some mischance or miscalculation or some clumsy bungling" had caused the bomb to explode in Bourdin's hand.  Because he was found with a large sum of money, the police speculated that he had planned to leave for France immediately.

The police later raided the Club Autonomie in London -- a popular club for foreign anarchists, including Bourdin.

There is a theory that Bourdin was duped into carrying the bomb or that he was on the way to France and wanted to dump it in the Park.  His brother-in-law was said to be a police informer and anarchist writers in the years following the bombing always claimed that the whole episode had been inspired by this agent provocateur.