

Ferdinand Edelbert Junker

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Ferdinand Adelbert Junker von Langeegg* is an enigmatic figure. He was born in Vienna on 7 July 1828. He graduated MD at the University of Vienna in 1854 and soon afterwards came to London, where, in 1860, he became MRCS and was appointed physician to the Samaritan Free Hospital for Women, his address being given as 70 Mount Street, W.1.

Junker's apparatus

In 1867 there appeared an account of an apparatus for the administration of chloroform which was to make the name of F. E. Junker well known to the medical profession. This inhaler was the first to use the 'blow-over' principle for the delivery of anaesthetic impregnated air, a hand-bellows being employed (Fig. 1).¹

'Bichloride of methylene' was the anaesthetic first used in the inhaler. This was the name given to the physical mixture of chloroform and methyl alcohol which enjoyed a vogue for some years and was, in particular, preferred by the famous London surgeon, Spencer Wells, who continued for 20 years to give it with success, using Junker's inhaler. A plate in Spencer Wells' book on the ovaries² shows an ovariectomy about to be performed, under somewhat primitive conditions (Fig. 2). The anaesthetist is preparing to go into action with Junker's apparatus hooked to his button-hole. This figure may be that of Junker himself, since both Spencer Wells and he worked at the Samaritan Hospital; if so, it is the only likeness to be found.

Junker's apparatus was popular for many years, and its early drawbacks and dangers were eliminated in modifications by Frederick Hewitt,³ Dudley Buxton,⁴ Carter Braine⁵ and others. The chief danger had been that it was possible so to connect the bellows that liquid chloroform was driven over to the mask (Fig. 1). A death from this cause occurred as late as 1927, when an RAMC corporal misconnected the tubing before handing the apparatus to the anaesthetist. The verdict was misadventure.⁶

The Junker inhaler was of great value to the anaesthetists of the period 1870–1900 for work inside the mouth; a tube or hollow gag being connected for this purpose.

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* In England he was known as Ferdinand Edelbert (or Ethelbert) Junker.

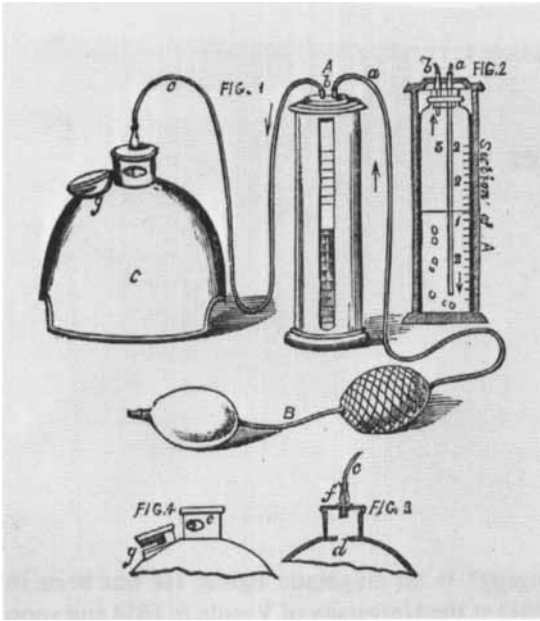


Fig. 1. Junker's chloroform inhaler, from the original paper in the *Medical Times and Gazette* (1867), ii, 590. The danger of wrong connection may be inferred from the sectioned bottle.¹

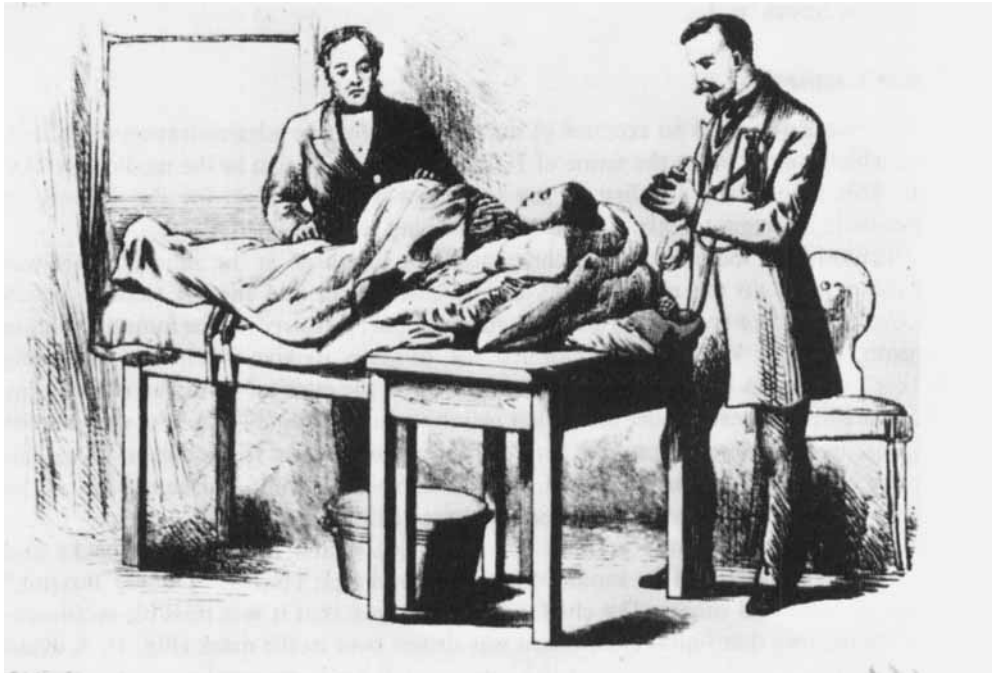


Fig. 2. Junker's apparatus in use.²

The Franco-Prussian War

In 1870 Junker returned to Germany to serve in the Franco-Prussian War, becoming Assistant Surgeon to the First Dragoons. Later, he was promoted to the post of

Surgeon in Chief, German Hospital, Saarbrücken, but we have no other record of his activities in those stirring times.

The tracheal tampon

Junker has a second claim to the particular interest of the anaesthetist. In 1872, he wrote an important paper on the use of the tracheal tampon,⁷ having witnessed the use of a cuffed tracheostomy tube by Friedrich Trendelenburg in Berlin. One case involved a maxillary tumour of 'gigantic proportions', which was excised by Professor von Langenbeck. Trendelenburg had evolved the technique of tracheostomy under chloroform, with the subsequent introduction of his cannula and tampon—'a delicate double-walled india-rubber tube of about 3·4 centimetres in length,'—which was then inflated to provide a seal 'though a small tube opening into the external wall,' by means of a small india-rubber balloon with pilot balloon attached.

Langenbeck commented that 'he would not in future perform any operation on the face, in which inspiration or deglutition of blood may be apprehended, without using Trendelenburg's instrument.' This was an important step on the long journey to endotracheal safety, and Junker's paper discussed the physiology and application of Trendelenburg's technique in an interesting essay.

Junker and Japan

In 1872 there appeared in the *Medical Times and Gazette* an editorial note entitled *The Medicine of the Future in Japan*.⁸ This explained that the Japanese Government 'with a sagacity and foresight which promise well for her future position . . . has determined to lay the foundations of a great scientific medical school in the city of Kyoto.' For the purpose of directing their new school and hospital on Western lines, they advertised for a European doctor, preferably German, but English speaking 'in as much as English interpreters are more readily procured.' 'He must learn the Japanese language and be prepared to teach in it.' 'He must be well versed in the theory and practice of medicine and not be a mere theorist or bookworm . . . a man of good general education, good manners, and kind-hearted: must love children and be just such a man as children would take to readily. He must not be pedantic, or like a drill-sergeant, and of temperate habits. He must be in good health, sound in wind and limb and eyesight.'

The Japanese also instructed their agent in Leipzig to choose out of two candidates (all other things being equal) the shorter, because 'as they are not a tall people, they would expect more sympathy from a man who was not tall himself.'

Junker was presumably such a paragon, for he went to Kyoto in 1873 as chief physician and Director of the Hospital and Medical School; unfortunately we have no evidence of his activities there, but as he remained for 9 years the appointed task must have been accomplished and perhaps the details might be found among Japanese archives, if such have survived.*

In 1872, the Japanese had been in close contact with the outside world for only 7 years, so it is interesting that they had already found German medical ways to their liking in their effort to modernise (or at any rate Westernise) their own medicine.

* It is to be regretted that the writer, on a recent visit to Kyoto, was at that time unaware of the coincidence of Junker's association with the city.

The hospital planned for Kyoto was stated to have been modelled on that of Leipsig, on the separate pavilion principle.

The duties of the new director included the instruction of a 'body of assistants who begin with some knowledge which they have acquired under the Dutch at Nagasaki'. The small trading post at Nagasaki had been the only point of contact between the Japanese and the outside world for several centuries, and a few medical books had crept into Japanese awareness through the activities of Dutch missionaries. A small group of Japanese medical men and students had in fact attempted to widen their knowledge outside Eastern practice by studying these books even before the American contact of 1865.

Junker's death

Junker returned in 1882 to London, where he appears to have practised till about 1901, when his name disappears from the Medical Directory. The exact date of his death is not known and no obituary notices have yet been found.

The stories of Junker's adventures in the Franco-Prussian War and in Japan are quite unknown: he no doubt missed a chance of some sort of immortality by leaving us no account of his military career and his adventures among the medical students and hospital planners of the East.

Acknowledgment

The author is indebted to Professor Olë Secher of Copenhagen for his help in elucidating the complicated life-story.

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