

**Alexander Hett, 1807-1870**  
by Brian Stevenson, Kentucky, USA

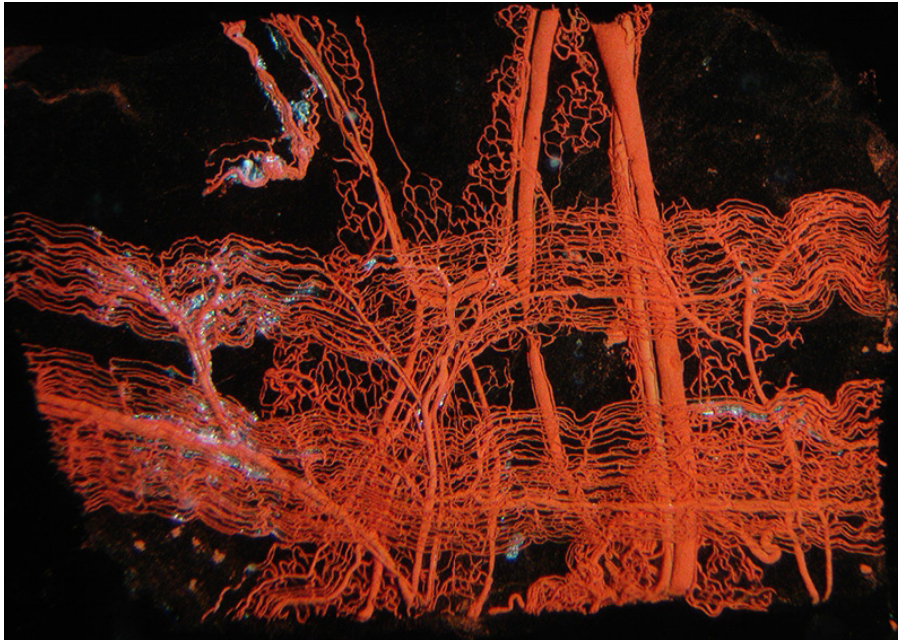
Alexander Hett's microscope slides were highly regarded in his day. His preparations were of human and other animal tissues, generally injected with bright red pigment, in fluid-filled cells. He is known to have been a commercial slide preparer by the late 1840s, and was still active in the trade at the time of the 1862 London Exposition. Today, Hett's slides are sought after by collectors, and often command high prices.



**Figure 1.** Two examples of typical microscope slides prepared by Alexander Hett, scanned using both reflective light (left) and transmitted light (right). Each holds a thick section of animal tissue, injected with a red dye, and held in a deep, fluid-filled cell made of dark glass. Upon the slide, Hett etched his name and a description of the specimen. A magnified view of Hett's signature is shown below the slides.



**Figure 2.** Two unusual Hett slides. The upper slide used a thin (approximately 1mm thick) cell, and the specimen was not injected with dye. This slide was once owned by fellow Microscopical Society of London member, John Furze, who attached his own, characteristic labels. The lower slide is an injected preparation of cat muscle, mounted in what appears to be balsam (not a fluid mount). Also rather unique, Hett dated this slide, 1850.



**Figure 3.** Detail of a Hett slide of cat muscle fibers (Fig. 2). Courtesy of David Walker.

Census and other records suggest that Alexander Hett was the child christened February 9, 1807 at St. Peter's, Leeds, Yorkshire, son of William Hett.

In 1828, *The Lancet* published a disparaging report of a surgery performed by Bransby Cooper at Guy's Hospital, London. Alexander Hett was among the 174 "*Dressers and Pupils*" of the Borough Hospitals who rose to Cooper's defense in a letter that appeared shortly thereafter in *The Lancet*. Bransby Cooper sued *The Lancet*'s editor, Thomas Wakley, for libel, and won a significant judgment. Ironically, Hett wrote another letter to *The Lancet*, in 1829, complaining bitterly about the behavior of Cooper.

Hett became a Fellow of the Royal College of Surgeons of London in 1829. Afterwards, he rarely stayed in the same location for long. He moved to Downham Market, Norfolk by 1833. His younger brother, Edward, was a solicitor in that town. On June 11, 1833, Alexander Hett married Lydie Claudine Francoise Mourcet, "*daughter of the late Baron Mourcet*", in Paris, France. The Hett's first child, Amelia, was born ca. 1836 in Downham Market. Their second, Julia, was born in 1838 in Islington, London. Their 1840 address was Gower St., Bedford Square, St. Giles in the Fields, Middlesex. By 1848, and through at least 1852, Hett was at 24 Bridge St., Southwark. Hett's patent announcement of 1853 placed him in Stoke Newington, Middlesex. In 1855, he was at 8 Eastbourne Terrace, Paddington. During 1861, the family lived on a farm in Surrey. In 1862 and ca. 1865, Hett's address was 4 Albion Grove, Islington. Later in 1865, he again lived in Stoke Newington. He died in 1870, in Lewisham, Kent.

Alexander Hett advertised his microscope slides of injected tissues in John Quekett's 1848, first edition of *A Practical Treatise on the Microscope* (Figure 4). Since he was by then accomplished at the art, it is reasonable to assume that Hett began slide-making some years prior to 1848. Hett also advertised in Quekett's second and third (final) editions. Advertisements in the 1855 edition indicate a business relationship between Hett and the microscope manufacturing firm of Smith and Beck (Figure 4). Selling through Smith and Beck would have greatly increased the number of Hett's customers. An 1849 pamphlet "*On the Structure of the Sudoriparous Glands*" (sweat glands), by George Rainey, recommended Hett as the source for "*microscopic preparations illustrative*" of these glands. Dr. Boon Hayes, writing in 1853 on "*histological anatomy and microscopical manipulation*", and Lionel Smith Beale, in the 1865 *How to Work the Microscope*, also recommended Hett's preparations.

A. 1848

**INJECTED MICROSCOPIC PREPARATIONS.**

**Mr. HETT, M.R.C.S.E.,**

Begs to inform Medical Gentlemen, and others engaged in Microscopic Researches, that he has for Sale a variety of SPECIMENS OF THE MOST BEAUTIFUL AND PERFECT INJECTIONS OF VARIOUS PARTS OF THE HUMAN BODY AND OTHER CLASSES OF ANIMALS.

Mr. HETT also prepares every variety of Microscopic object required to illustrate the more important and interesting facts of Minute Anatomy, Physiology, and Pathology.

Parties residing at a distance from London may have a Box of Preparations sent for inspection, on giving a respectable town reference, and paying carriage *both ways*; by this means they are enabled to examine the objects before purchasing, and to select such specimens only as they may require.

24, BRIDGE STREET, SOUTHWARK.

B. 1852

**HETT'S**

**INJECTED MICROSCOPIC PREPARATIONS**

*For which the PRIZE MEDAL was awarded at the "GREAT EXHIBITION, 1851."*

Mr. HETT, M.R.C.S., begs to inform medical gentlemen and others engaged in microscopical researches, that he has for sale a variety of specimens of the most beautiful and perfect injections of various parts of the human body, and other classes of animals.

Mr. HETT also prepares every variety of microscopic object required to illustrate the more important and interesting facts of minute Anatomy and Physiology, and such Pathological specimens as admit of being mounted as permanent objects.

Parties residing at a distance from London may have a box of preparations sent for inspection, on giving a respectable town reference and paying carriage *both ways*; by this means they are enabled to examine the objects before purchasing, and to select such specimens *only* as they may require; three clear days being allowed for this purpose.

24, BRIDGE STREET, SOUTHWARK.

C. 1855

**SMITH & BECK**

Begs to inform those Medical Gentlemen and others engaged in Microscopic Researches, who are desirous of obtaining

**HETT'S INJECTED MICROSCOPIC PREPARATIONS,**

THAT THEY MAY BE HAD OF THEM AT

**6, COLEMAN STREET, LONDON.**

**HETT'S INJECTED MICROSCOPIC PREPARATIONS,**

*For which the Prize Medal was awarded at the Great Exhibition of 1851.*

**ALEXANDER HETT, M.D., M.R.C.S.,**

Begs to inform Medical Gentlemen, and others engaged in Microscopic Researches, that he has for sale a variety of Specimens of the most beautiful and perfect Injections of the various parts of the human body, and other classes of animals.

Parties residing at a distance from London may have a Box of Preparations sent for inspection, on giving a respectable town reference, and paying carriage *both ways*. By this means they are enabled to examine the objects before purchasing, and to select such Specimens *only* as they may require, *three clear days* being allowed for this purpose.

**8, EASTBOURNE TERRACE, PADDINGTON**

(late BRIDGE STREET, SOUTHWARK, LONDON).

*Figure 4. Paid advertisements that appeared in the three editions of John Quekett's A Practical Treatise on the Microscope. Hett's 1855 advertisement was immediately preceded by an ad from microscope makers Smith and Beck*

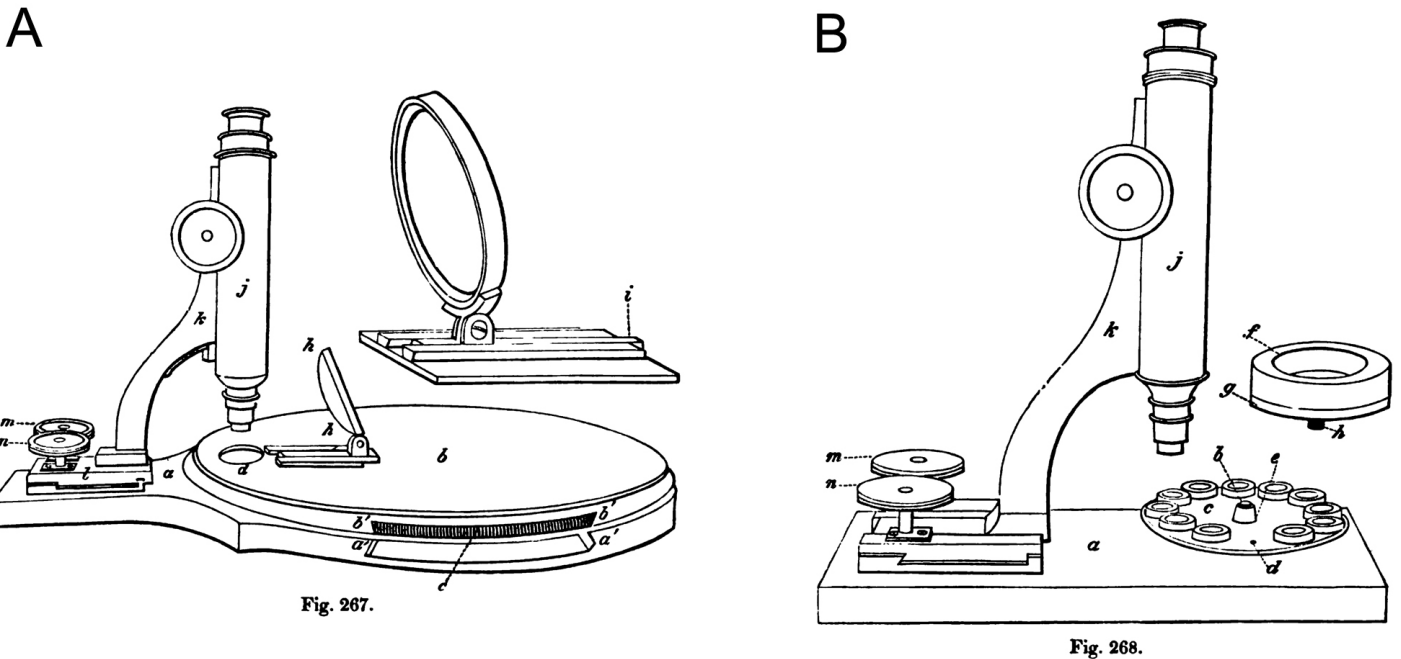
On May 16, 1850, Alexander Hett was elected to be a member of the Microscopical Society of London

Hett made several donations of specimens to the Royal College of Surgeons Museum, noted by John Quekett in the 1850 *Descriptive and Illustrated Catalogue of the Histological Series, Volume 1*. These include "A portion of adipose tissue attached to the skin of the neck of a Rook, *Corvus frugilegus*", "A small portion of the skin from the leg of a Pig only two days old", and "A vertical section of the skin of the arm of a human foetus at full time, exhibiting numerous small lobules of adipose tissue; each one is supplied with a rich network of capillaries, which are arranged in the usual form, but the meshes or spaces between the vessels are finer than they are in the adult, which may readily be accounted for, as the size of the cells is much smaller in the young than in the full-grown individual".

As did so many other participants in the burgeoning profession of microscope slide making, Alexander Hett displayed his work at the 1851 Great Exhibition in London. These were described in the catalogue as a "variety of injected microscopic objects, showing the application of this mode of preparation, for displaying the structure of parts and organs, and also serving to illustrate the utility and importance of the microscope in its application to the sciences of physiology and pathology". Cleverly, Alexander Hett provided a microscope so that visitors could see details of his preparations. Most other slide makers do not appear to have provided microscopes, which may have been a significant reason why Hett won a Prize Medal for his work. The *Medical Times* wrote, "Mr. Hett's collection (Class X. 249) being confined to injected animal preparations, is necessarily less extensive, but by no means inferior in the beauty of the specimens to that of Mr. Topping, and we have the advantage of inspecting them by the microscope. They are mounted on a wheel, so that each object may be brought under a microscope attached at one point of the circle by turning the wheel. They exhibit certain of the most interesting of the tissues in man and animals. Thus, we have the skin of the pig, sheep, monkey, fowl, of the cat, and of the human foetus; the eyes showing the vessels of the iris in the fowl and lamb; the human tongue demonstrating the vessels of the papillae; the lung of the monkey, the rook, and of man in its healthy and emphysematous and tuberculated condition. The last of these demonstrates that

tubercle is nonvascular. The human stomach, and the stomach of the fowl, show the tubular follicles of the mucous membrane, and specimens of intestine, exhibit the villi and their beautiful reticular capillaries. A specimen of injected muscular fibre exhibits the longitudinal direction of the capillaries between the muscular fibres. The tongue of the monkey and the buccal membrane of the lamb also show the peculiar arrangement of the capillary vessels of these parts; and the mucous follicles of the oesophagus are demonstrated in these parts of the lizard and the rook. The whole collection, including forty specimens, has been, and will be, examined with interest by every visitor belonging to the Medical Profession.

The microscope used by Hett at the 1851 Exhibition was made by Smith and Beck, and it was probably not a coincidence that those microscope makers exhibited only 3 stalls away from Hett. Note, however, that this was no ordinary microscope: the *Medical Times* stated that the preparations were “mounted on a wheel, so that each object may be brought under a microscope attached at one point of the circle by turning the wheel”, and that there were “forty specimens”. This instrument was undoubtedly one described by Quekett in the 1852 edition of his *Treatise* as “Mr. Hett’s microscopes for injections, etc.”. Illustrations of this and another Hett invention are reproduced in Figure 5, along with Quekett’s descriptions.



**Figure 5.** Drawings of “Mr. Hett’s microscopes for injections, etc.”, adapted from J. Quekett, ‘A Practical Treatise on the Use of the Microscope’, 1852. Microscope “A” matches descriptions of the instrument used by Hett at the 1851 London Exposition. Both were probably made by modifying stock Smith and Beck microscopes. Quekett described these instruments as follows: “The first of these instruments, represented at fig. 267 (**panel A**), consists of a slab of polished mahogany, of the form shown at a, a’ a’, into which, beneath b, is fixed a metal pin, on which a brass wheel revolves, carrying forty cells with their enclosed objects; these are protected from dust, and the action of light by the cover, b, b’ b’, which is fastened to the slab, a, in such a manner as to admit of being readily removed, a portion of the slab between a and a’ is cut away, as is also part of the cover between b’ and b, so as to admit the finger, for the purpose of moving the wheel, the milled edge of which is shown at c. A circular opening is made through the cover at d, immediately under the object-glass, and through which the preparations may be examined as they alternately present themselves at this point; this opening is covered with a circular piece of thin glass, to protect the cells beneath from dust; A A is a bull’s-eye, mounted on a dove-tailed sliding piece, i, seen on a larger scale at fig. 267, i showing the sliding piece. The body, j, and the limb, k, are made in the usual way, the latter being attached to a stage, l, with right angled rack-work fittings, and so constructed that by means of the milled-head pinions, m n, the object-glass may be made to traverse the entire space formed by the opening, d, and thus to bring the whole of the object beneath it into view. (**panel B**) Fig. 268 shows another form of Mr. Hett’s instrument; the body, j, limb, h, and rack-work fittings, l, m, n, are similarly arranged to those in the instrument previously described; but the mahogany slab, a, is of a different form, having a brass pin fitted into its upper surface, the free end of which is seen at b; on this pin a small brass disc, e, turns, carrying 12 objects. Through the disc, c, near to its margin and at regular distances, twelve small holes are drilled and tapped, one of which is shown at d; a cell having been removed for the purpose, a larger hole is drilled through the boss, e, at its centre, through which the pin, b, passes. The glass cells employed are made in a mould, the bottom and sides being of one piece; each cell is mounted with marine glue on a small disc or button of brass, furnished with a solid shank, which is tapped to form a screw, so as to admit of its being fastened into the small hole, d, in the disc, c. One of these cells,

*mounted as just described, is shown at l, the cell being represented at g, and the brass disc or button, with its shank, at h. This is an exceedingly elegant and most convenient method of mounting injected and other opaque objects, and will be found very useful whenever it is required to demonstrate to classes any particular set of organs, as cells mounted in this way can easily be removed, thus enabling the teacher to arrange the objects on the disc in the order in which he may wish to present them, and the rapidity with which any one of them can be brought under the object-glass, will assist the student in ascertaining the distinctive differences existing between them. When not in use the discs may be kept in drawers, each drawer having a number of pins, similar to that fixed on the slab, screwed on the bottom of it, to receive them. Mr. Hett employs mahogany boxes, about the size of those used to hold twelve slides, but shallower, a brass pin being fixed into the centre of the bottom of each box: this pin is somewhat longer than that fastened to the microscope, so that it projects beyond the boss on the disc, the projecting portion is furnished with a thread, the disc being dropped into the box is secured by means of a nut. These discs may be used with a microscope of the usual form, the only additional apparatus required being a brass clip, furnished with a pin to receive them; this clip should be fitted to the stage in the same manner as an ordinary object-plate, or the object-plate itself may have a pin attached to it for the reception of the discs."*

Hett displayed his injected microscopical objects at the 1855 Paris Universal Exposition and the 1862 International Exposition of London.

The 1861 census recorded Hett and his family as living at Horne House, Surrey, a farm of 133 acres. Hett's occupation was listed as "farmer", in addition to his medical qualifications of M.R.C.S., M.D. and L.S.A. Presumably a gentleman farmer, Hett employed four men and two boys.

Noting the modified microscopes he made (Figure 5), it is no surprise to learn that Alexander Hett was a skilled mechanic and an inventor. On January 23, 1840, a patent was issued to "Alexander Hett, of Gower-street, Bedford-square, in the parish of St. Giles in the Fields, and county of Middlesex, surgeon, for certain improvements in the arrangement and construction of fire-grates, or fireplaces, applicable to various purposes". Thirteen years later, he was awarded another patent for "certain improved means or arrangements for the prevention of smoke and the economizing of fuel in furnaces". During September, 1863, a patent was awarded to "Alexander Hett, of the city of London, Doctor of Medicine, and Frederick William Basset, of Camberwell, in the county of Surrey, Civil Engineer, for the invention of improvements in preserving animal substances, and animal and other substances used for food".

Alexander Hett died at the age of 63, during early 1870. At that time, he and Lydie had lived in Lewisham, Kent. The next year's census recorded Lydie, widow, as being a "professor of French language".

Hett's death escaped the notice of many people. Beale's 1880 edition of *How to Work the Microscope* still recommended Hett as a supplier of slides. The 1888 *Calendar of the Royal College of Surgeons of England* still listed Alexander Hett as a member.

## **Acknowledgements**

Many thanks to David Walker for providing slide images.

This and other biographies of historical microscopists can also be read at the author's web site, <http://microscopist.net>

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