

Alexander McKenzie and Elizabeth Miller and their interesting grandchildren.

In the book "Sir James McKenzie, M.D. 1853-1925" it is speculated that the family originated in Ross-Shire, came south into Perthshire after the '46 and settled at Stanley about 7 miles north of Scone. Here, the author says, their son Robert, who was to become the father of Sir James, was born at Derrymill Farm. The same source states that Robert's wife, Jean, was born in the Hamlet of Inver at the confluence of the Braan and the Tay near Dunkeld. She was said to be the daughter of Bazil Menzies a farmer in the vicinity of Amulree in Strathbraan.

Even in the 1970's it was still reported by older members of the family that Jean was very ambitious for her family. Her son, William once wrote of her "She was the mainstay of the family. She had a strong, indomitable spirit, and when things were going badly on the farm it was her noble spirit that rose above difficulties and trials. She was also the unostentatious and generous helper of the poor in the village, and all in distress came to her for assistance and comfort". The family owed much to the example of their parents, and their mother's influence endured throughout their lives.



James became a Chemist's apprentice in Perth and after qualifying there he attended Edinburgh University where he qualified in medicine. He worked largely in General Practice but had a strong interest in heart disease. This led to the development of his Polygraph machine, a forerunner of the electrocardiograph. An advert for the commercial version of this machine is included overleaf.

He moved to Harley Street before being appointed lecturer in Cardiac Research to the London Hospital. He was knighted in 1915 and in 1917 moved to St Andrews. Here in 1919 he founded the McKenzie Institute for Medical Research on The Scores. (In 1999 the Institute is still in existence, but based in Ninewells Hospital, Dundee). Both Dundee and Edinburgh Universities have James McKenzie

James and Frances McKenzie with Dorothy and Jean 1900. Chairs.

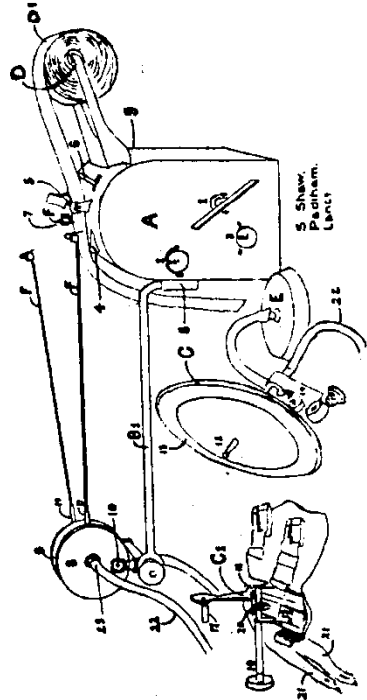


Centre: The McKenzie Institute building on the Scores, St. Andrews. Taken in 1999.

"DR. MACKENZIE'S INK POLYGRAPH."

MAKER - - - MR. B. SHAW, WATCHMAKER, PADHAM, LANCASHIRE.

Description and Management.



OBJECT.

The necessity for obtaining graphic records of the movements of the circulation is now universally recognised, but there has hitherto been a difficulty in obtaining a suitable instrument. Apart from the trouble of blackening and varnishing tracings, the present methods are not convenient, especially when long tracings are required. The ink-polygraph meets the necessary requirements as it enables tracings to be taken of any length, and after a little experience it is very easy to use. In investigating any movement caused by the circulation it is necessary to record at the same time some standard event whose position in the cardiac cycle is fixed and determined. Hence it is necessary that two events should be simultaneously recorded—the one to be investigated and the standard movement. The best and most reliable standard movement is the arterial pulse, radial and carotid, with the Ink Polygraph these movements can be recorded by one lever while the movement to be investigated is recorded by the other lever. Other movements, as those of the respiration, can also be recorded.

DESCRIPTION.

The most important parts of the "Polygraph" may be described as follows:—
The body A, containing the paper-rolling and time-marker movements. The writing tambours BB, with supporting bar BI. Wrist tambour C, with attachment CI, for strapping on to wrist. Paper roll bracket D. Paper roll DI. Cup receivers EE. Pens FFF.

The body A has also a few other details requiring description.—At the end of the machine are three keys. The large one (1) is for winding the paper-rolling movement. The top smaller stud-key (2) for winding the time-marker movement, and the bottom one (3) regulates the speed of the paper passing through the rollers, the direction required being indicated by the letters F and S (fast and slow). On the top are the writing table (4), friction rollers and tension spring (5) for passing along the paper.

Behind these, to the right, is the start-and-stop lever (6), and to the left the fork (7) carrying the time-marker pen F. This fork vibrates at the rate of 300 per minute, an equivalent to 1/4th of a second.

Attached to the case are two sockets.—The square one in front (8) for holding the writing tambours, whilst the other behind (9) supports the paper roll bracket.

The writing tambours with their pen levers (11) are fitted with friction joints (10) enabling the pens to be adjusted to any desired position on the paper or lifted entirely away when not writing.

The pen levers have each a small spring at the end which presses on and holds the pens in the grooves cut out to receive them.

The rubber membrane is held in position by the ring which encircles it. Both tambours have inlets (23) for attaching connecting tubes (22).

The wrist tambour C is in two parts.—1st the splint (16) which is strapped on the wrist, is fitted with spring tongue and button (19), that rises and falls with the action of the pulse. Also an eccentric (20) and regulating screw (18) for increasing the resistance on the artery.

2nd.—The tambour with supporting arm (14), rubber membrane (13), and compression disc and peg (12). This portion is not placed in position until the artery has been correctly located and the maximum movement of the spring and pulse button obtained. The two parts are held together by the clamping screw (15) in the supporting arm binding on to the pillar (17). The tambour itself is also secured by binding screw (17).

The paper roll bracket D has a roller running in slots at the ends of the bracket arms. This roller is kept in position by two springs fixed on the bracket arms having semi-circular notches engaging the rolling pivots. When putting on roll of paper, the roller should be drawn straight away from the brackets; which action causes the springs to be pressed under the pivots, thereby releasing the roller. After placing on the roll, press the roller back into position.

The receivers EE, are shallow, open cups with a nipple passing out of the roof to which an india-rubber tube is attached, the other end of the tube being attached to the tambour with the writing levers. When placed over any pulsating part in such a manner that no communication is made with the outer air, the movement within the receiver is conveyed to the tambour and writing lever.

The pens FFF have each small reservoirs and writing pins. These pins are grooved on each side to conduct writing fluid from reservoir to point of pen. The fluid used is a composition of 1 drachm of methyl blue to 16ozs. of water. Ordinary writing inks are objectionable owing to the corrosive action on the pens. These pens should be kept scrupulously clean, and the ink free from dust.

Each machine is sent out complete in plush-lined box, with two sets of pens, 1 dozen rolls of paper, bottle of writing fluid, brush for charging up pens, and rubber tubes for connections.

Price £10 10s. Od. nett.

William (or Willie as he was always known) completed a law apprenticeship in Perth then attended Glasgow University for a year before transferring to Edinburgh University. His career from this point is summarised in the entry below from Burke's Peerage:

AMULREE



The Baron Amulree (Sir William Warrander Mackenzie, P.C., G.B.E.) of Strathbraan, co. Perth; K.C.; M.A. Edinburgh University 1885; Hon. LL.D. Edinburgh 1930; Barrister-at-Law, Lincoln's Inn, 1886; K.C. 1914; Government Referee under the Electricity (Supply) Acts of 1919 and 1922, and Chairman of Tramway Tribunal for Great Britain; was one of the Chairmen of the Committee on Production 1917-18 and of Interim Board of Arbitration 1918-19, President of the Industrial Court for Great Britain 1919-20, and of the Railway National Wages Board 1920-26; Chairman of the Industrial Delegation to Canada and the United States 1926-27; Chairman of Royal Commission on Liquor Licensing 1929-31, Chairman of Royal Commission on future of Newfoundland 1933, and Chairman of numerous other Government Committees and Commissions, Chairman of Council of Royal Society of Arts 1937, Secretary of State for Air 1930-31, b. 19 Aug. 1860; created C.B.E. 1917, K.B.E. 1918, G.B.E. 1926, raised to the peerage as BARON

AMULREE of Strathbraan, co. Perth, 22 July, 1929, and sworn of the Privy Council of Great Britain 18 Oct. 1930; son of late Robert Mackenzie, m. 1 June, 1897, Lilian (who d. 3 June, 1916), eldest dau. of late W. H. Bradbury, and has issue,

♣ BASIL WILLIAM SHOLTO, M.D. Gonville and Caius Coll. Camb., M.R.C.P., b. 25 July, 1900.

• Angela Lilian, b. 16 Jan. 1905; m. 23 Nov. 1931, Patrick James Eggar (Forest Gate, Bourton, Dorset), eldest son of Robert Eggar, of Bentley.

Creation—Amulree B., 22 July, 1929.

Arms—Az., a stag's head caboshed or, on a chief arm, a rose gu., barbed and seeded ppr., between two millrinds of the second. Crest—A dexter cubit arm charged with a thistle caved and slipped and grasping in the hand a sword point upwards ppr., pommel and hilt or. Supporters.—On either side an eagle regardant ppr., collared or, that on the dexter holding in the beak a sprig of mountain ash fruited ppr., and that on the sinister a sprig of myrtle also fruited ppr. Motto—I to the Hills.

Residences—42, Queen Anne's Gate, Westminster, S.W.1; Northfield House, St. Abbs, Berwickshire. Club—Reform.

A third son, Robert, became a minister, first at the newly formed Livingston Memorial Church in Blantyre and later in Alloa.