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Our Quotation—11

“To example well, and show to the world by our honest and peaceable lives that we are the followers of Christ, will be more convincing than many arguments.”

WILLIAM BLAKEY (c. 1738-1822), of Middletown,
Bucks Co., Pa.

Leading the Way

LEADING a Series of brief Sketches of Quaker Inventions and Discoveries, and of Friends who have led the Way in various directions.¹

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XXXIX

JOSEPH JACKSON LISTER, F.R.S. (1786-1869), “discovered principle of construction of modern microscope, 1830; the first to ascertain the true form of the red corpuscle of mammalian blood, 1834.” (D.N.B.)

Lord Lister, 1917, pp. 11, 12.

¹ The Editor would be glad to receive information regarding other inventions, discoveries, etc., or regarding other claimants to any of the inventions or positions introduced. The length of the Sketch bears no proportion to the importance of the subject.

XL

CHARLES FRANCIS JENKINS, of Washington, D.C., son of Amasa Jenkins, of Richmond, Ind., is the inventor of a "high-speed moving picture machine, able to slow down the subject one hundred times, even showing projection from a high-power gun. He has perfected a device for transmitting motion pictures by radio." (*American Friend*, 1922, pp. 341, 440.) C. F. Jenkins is a member of West Richmond Meeting, Ind.

XLI

GEORGE BRADSHAW (1801-1853). "It has often been said that Bradshaw was the originator of Time Tables, but by the term 'originator of Time Tables' must obviously be understood the originator of collecting the time tables of various companies and publishing them together in a portable form." (E. H. Dring, on "Early Railway Time Tables" in *The Library*, 4th ser. vol. ii. no. 3, Dec. 1921.)

XLII

ROGER TREFFRY (c. 1746-1818) discovered "both the Cause and the Remedy for Smut-balls amongst wheat and Smut of both kinds amongst Barley and Oats." (*Jnl.* xix. 37.)

XLIII

E. LLOYD PEASE. "In December, 1888, E. Ll. Pease patented an arrangement whereby wire rope takes the place of rigid framing in gas-holder construction." (*Gas Engineers' Mag.*, July, 1890.)

XLIV

WILLIAM CURTIS (1746-1799), founder, in 1787, of "The Botanical Magazine," was "the first botanist of note in this country who applied botany to the purposes of agriculture." We are indebted to him for that useful vegetable, sea-kale. (*Miscellanea Genealogica*, 5th series, vol. iv. p. 149.)

XLV

JAMES VARLEY () "was a member of a good Yorkshire family of Quaker descent, a man of mark as a traveller, a linguist, a scientific chemist and the discoverer of chloride of lime for bleaching. He also discovered in England the fine clay for biscuit china, previously obtained

from Germany." (*North Country Poets*, edited by William Andrews, Hull, 1888, in an article on Mrs. George Linnæus Banks (1821-1897), a grand-daughter of James Varley, prefaced to a selection of her poems.²)

XLVI

JAMES BEALE (c. 1798-1879) was the immediate cause of sending across the Atlantic the first vessel to steam the whole distance, 1838. The vessel was the *Sirius*. Several Friends were part owners of the vessel. When she was under repair at Hull part of the work was done by GEORGE WORSDELL (xxxvii.).

Jnl. xvii. 108.

XLVII

PHILIP SYNG PHYSICK, M.D. (1768-1837), has been styled "The Father of American Surgery." He was a non-Friend, but of Quaker descent; he, however, received his early education under Friend Robert Proud, whilst lodging at the house of Quaker Todd, and he married, in 1800, the daughter of Samuel Emlen.

Memoir, by J. Randolph, M.D., 1839; etc.

XLVIII

DANIEL QUARE (1648-1724) "invented repeating watches; made a fine clock for William III, which only required winding once a year; and improved the construction of barometers." (*D.N.B.*)

Jnl. xiv. 44; *Friends' Quarterly Examiner*, 1900.

XLIX

GEORGE GRAHAM (1673-1751), watchmaker, "was responsible for the 'dead-beat' escapement, invented as an improvement upon Clement's anchor escapement, but perhaps his greatest invention was the mercurial pendulum in which he compensated for the expansion of the steel by the expansion of the mercury in a jar connected with it, and so preserved constant the vibrating length of the pendulum." (Williamson, on "Old Quaker Watchmakers" in *Behind My Library Door*, 1921.)

² In the same volume there is a memoir of G. L. Banks which states that his father, John Banks, had an elder brother, William, "who was placed at Ackworth School by Sir Joseph Banks, to whom the brothers were collaterally related." There is, however, no Banks in the list of Ackworth scholars.

L

BENJAMIN HUNTSMAN (1704-1776), of Doncaster, and later of Attercliffe, Sheffield, was the inventor of cast steel.

Sheffield, 1919, chap. vii.; *D.N.B.*; *Jnl.* xvii. 118; Smiles's *Industrial Biography*.

LI

HENRY TAYLOR (1737-1823), of North Shields, was called "the Sailors' Friend" because he set in train the circumstances which led to the fixing of the lights in Hasbro' Gatt, and the Lights at the Goodwin, and proposed a Light near the Sunk Sands. He also wrote pamphlets with instructions to young sailors, etc. (in **D**). He joined Friends in 1778. Taylor's youngest son, Joseph, was grandfather of Mrs. George Cadbury, *née* Taylor.

Letters of Mary Jane Taylor, 1914, pp. 10ff; *Memoirs of Henry Taylor*, 1811, 1821; pamphlets, etc., as above; news-cuttings in **D**.

LII

MORRALL FAMILY. In the *History and Description of Needle Making*, by Michael T. Morrall, F.S.A. (c. 1818-1891), of Newcastle and later of Matlock, fifth edition, 1866, we are informed that "this useful branch of manufacture has been the staple trade of Studley, Warwickshire, my native village, from time immemorial, and my family are engaged in the business and have been for at least six generations; and have introduced most of the improvements that have been effected in the modern needle." About 1785, Michael Morrall removed from Alcester to Washford Mill, Studley. The firm of Morrall, Archer and Morrall made many improvements in the art of needle making, and others of the family added to them.

LIII

THOMAS EDMONDSON (1792-1851), of Manchester, was the inventor of printed railway tickets. The idea came suddenly to him in completed form at the age of forty-six, and the profits which accrued were used to pay off all the creditors of a previous bankruptcy.

D.N.B.; *Jnl.* xvi. 110.

LIV

JAMES HOLDEN (of Wanstead, Essex) was the first to build locomotives that could run by either oil or coal, being

the inventor of the "Holden injector" by means of which trains could be run with liquid fuel.

Jnl. xviii. 113.

LV

CYRUS CHAMBERS, Jr., of Philadelphia, invented various sorts of book-folding machines; the first successful machine was one that folded Comly's "Spelling Book," a sheet of 32 pages, and the last and greatest invention was a machine made expressly to fold the "Ladies' Home Journal." He also produced a machine to make bricks.

Autobiographic account in *Friends' Intelligencer* (Phila.), 1910, p. 50.

LVI

WILLIAM DYNE (c. 1817-1896). There are, preserved in **D**, some printed and illustrated notices of inventions by William Dyne.

On show at the Great Exhibition of 1851 were six objects, "the invention of Mr. William Dyne, an *employé* of the London and South Coast Railway at their London Station. Mr. Dyne is, we understand, the first person in the kingdom who applied gutta percha in the construction of life boats, rafts, etc., he having taken out a patent for that purpose in 1847" (*Sussex Advertiser*, March 18, 1851). The paper then proceeds to give a description of the Eclipse, or Standard Life Boat,³ a Gutta Percha Life Buoy, an Emigration Life Raft, a Life Launch, the Gutta Percha Emigration Life Boat, and a Gutta Percha Life Vest.

"William Dyne also patented a Pathway Cleanser [of which there is a diagram in **D**], intended to be a ready way of cleansing the public streets opposite shops and private houses, but the Water Company charged an impossible rate for the water used and prevented its sale" (letter from Thomas R. Dyne, 1921).

Thomas R. Dyne writes:

"My father's Patent Collapsible Life Boat invention was afterwards taken up by Rev. Berthon, who formed a company, and the Collapsible Life Boat is now in general use. It is now manufactured by the Berthon Boat Company, Lyminster, Hants."

³ This is probably the boat described as "Messrs. Dyne & Vickery's Improved Life Boat," of which there is a lithograph in **D**.

LVII

AMOS CRUICKSHANK⁴ (c. 1808-1895), of Sittyton, Aberdeen, had a leading part in developing the breed of Short-horn cattle and was the "owner of the largest herd of short-horns in the world." (*A Walk from London to John O'Groats*, by Elihu Burritt, 1864, p. 342.) "A.C. was more than an ordinary breeder, as to-day one rarely sees a sale catalogue of shorthorns without Cruickshank blood being mentioned" (letter from George Burtt, of Redgrave, Diss, Norfolk, 1922).

History of Shorthorns, 1907, with portrait; *Live Stock Journal*, 1915.

LVIII

SAMUEL HILL, of Seattle, Wash., originated the idea of the great concrete road linking Canada and the United States. He is President of the Pacific Highway Association. There is a picture of S. Hill in *The American Friend*, 1908, 651.

The Friend (Lond.), 1922, p. 257.

LIX

ELIHU EMBREE (-) "was a Quaker, and has the honour of having started the first newspaper devoted exclusively to the destruction of slavery. This was the 'Emancipator,' which was begun in 1819, and which came to an untimely end because its founder and editor died." (R. M. Jones, *Later Periods of Quakerism*, 1921, p. 562.)

LX

THOMAS TOMPION (1638-1713) was "one of the greatest of the English watchmakers, and has, in fact, been called the father of English watchmaking." (Williamson, on "Old Quaker Watchmakers," in *Behind My Library Door*, 1921.)

D.N.B.; Britten, *Old Clocks and Watches*, 1911.

LXI

JOSEPH MALCOMSON (c. 1798-1858) was said to be the first person to bring a steam vessel to Petrograd.

Jnl. xvii. 109.

⁴ For *Anthony*, probably read *Amos* (*Jnl.* xix. 48), the latter had a brother Anthony.

LXII

JAMES MARRIAGE (1796-1863) was the principal founder of the Ultine (Essex) factory for the production of sugar from beetroot, the first in England. James Marriage's elder brother, Robert, was a partner in the sugar venture.

Friends' Quarterly Magazine and Review, 1832, p. 275 ;
International Sugar Journal, 1914, pp. 510-515.

LXIII

PRIESTMAN BROTHERS, Holderness Foundry, Hull, were the inventors of the petroleum engine, 1888. W. Dent Priestman writes : " From the point of view of inventions, I look upon our firm's connection with the use of petroleum oils as a means of power in internal combustion engines, as much the most interesting. The late Lord Kelvin (then Sir William Thomson), whom we asked to report on our engines, said he could not leave home to see inventions in general, but that if we could show him an engine driven by ordinary petroleum oil he would go to see that."

The invention is dealt with in a lecture by William Cawthorne Unwin, F.R.S., before the Society of Civil Engineers in 1892 (pamphlet in **D**).

Prior to the introduction of the Oil Engine, this firm took out patents in connection with the operation of Grabs. The firm is now largely engaged in the manufacture of these appliances for dredging, excavating, and lifting coal, etc., etc., and they are in use in many parts of the world. A book of illustrations of Grabs and Grab Dredgers, etc., at work is in **D**.

NOTE

No. III. Abraham Darby—" the first iron bridge ever constructed—1779." John L. Nickalls draws attention to the following, extracted from Elizabeth Kendall's *Wayfarer in China*, 1913 :

" The one connecting link between China and Tibet is the bridge of the suspension sort built in 1701, three-hundred and eleven feet long. On the nine cables of charcoal-smelted iron that compose it are laid loose planks to serve as a footway, while the only guard is a shaky chain on either hand."

To be continued