CIII. A new modification of Nooth's apparatus, and of Welter's tube of safety:—The chrysopraxe submitted to the oxihydrogen blow-pipe

J. Murray Esq.

To cite this article: J. Murray Esq. (1817) CIII. A new modification of Nooth's apparatus, and of Welter's tube of safety:—The chrysopraxe submitted to the oxihydrogen blow-pipe , Philosophical Magazine Series 1, 49:230, 450-451, DOI: [10.1080/14786441708637946](https://doi.org/10.1080/14786441708637946)

To link to this article: <http://dx.doi.org/10.1080/14786441708637946>

Published online: 27 Jul 2009.

Submit your article to this journal [↗](#)

Article views: 4

View related articles [↗](#)

quired. It may also be employed in a great variety of other situations with equal convenience; as it is quite immaterial whether the levers, A B, are suspended from above, as in this instance; below, or even side-ways; and their points of suspension may likewise be varied, when necessary, by a suitable provision in their construction, so as to be placed either nearer to the wheel and axle, in order to act upon them by the handle, G, with greater leverage, to gain power; or further from them, to gain time; as the handle, G, then moving in a circle of lesser diameter, can consequently be turned more swiftly about.

CIII. *A new Modification of NOOTH's Apparatus, and of WELTER's Tube of Safety:—The Chrysopraxe submitted to the Oxihydrogen Blow-pipe. Communicated by J. MURRAY, Esq.*

To Mr. Tillock.

SIR,—H^AVING found the apparatus, of which the drawing accompanying this is a correct portrait, a useful instrument in my own manipulations, and considering it a valuable simplification of Nooth's apparatus, as the safety-tube is an improvement of that of Welter,—Mr. Steele of this place, the projector, has been induced at my request to permit me to submit it to you; which I now do, in the conviction that it will be found an important acquisition to the chemist.

I am respectfully, sir, your most obedient servant,
Greenock, May 31, 1817. J. MURRAY.

P. S. I have submitted the *chrysopraxe* to the flame of the oxihydrogen blow-pipe. This gem, which is silex coloured with oxide of nickel, has been among the most refractory substances which I have yet exposed to its energy. Soon after it became intensely red hot, it lost its colour and became *white* tinged with *yellow*. The edge of the polished crystal seemed *abraded*, and fractures were discoverable in the crystal; but fusion was not evident. J. M.

Description of STEELE's Modification of NOOTH's Apparatus, and of WELTER's Tube of Safety.

A is a globular receiver, to contain the liquid required to be saturated with the gas arising from the retort B.

C is a quilled balloon, the quill of which is accurately ground into the neck of A, and nearly reaches its bottom.

Into the neck of the balloon, C, a safety appendage, D, is fitted; the bulb of which may contain a further portion of the liquid to be saturated (or mercury, if a greater pressure be required).

quired). The gas evolving from the retort presses on the surface of the liquid in A, and causes it to ascend through the quill into C, until the orifice of the tube being left open, it necessarily bubbles through the liquid; and what does not combine with it, passes through the fluid in the bulb of the safety-funnel, D; and raising the liquid into the upper cup, finally escapes. In the event of a vacuum in the retort and lower receiver, it is obvious that the air has free access through the communicating tubes of the safety-funnel and quilled balloon.

The impregnation is very soon effected, as the pressure is great, and as the several parts are fitted by accurate grinding. Much time is saved, and inconvenience, from the usual mode of luting being avoided.

CIV. *Improved Method of working a Capstan.* By Lieut. M. SHULDHAM, R. N. *

SIR, — I BEG leave to present to the Society a very simple contrivance of mine for applying, with much ease and dispatch, an additional power to a capstan when required. The method has been tried on board His Majesty's brig Cordelia, and was found to answer. Many naval officers have also approved it, deeming the contrivance a particularly useful one when applied to a ship's capstan.

I have the honour to be, sir,

Your obedient humble servant,

No. 49, Great Titchfield-street,

MOIYNEAUX SHULDHAM.

April 9, 1816.

To C. Taylor, M.D. Sec.

Copy of a Report of Lieut. George Eyre Powell, First Lieutenant of His Majesty's Brig Cordelia, relative to Lieut. SHULDHAM's Method of applying more Men to the Capstan.

I have had an opportunity of trying your plan on the capstan; it answers in every respect as you stated. Indeed, it is too great a purchase; as, yesterday morning, against a strong gale and tide, I clapped on your swifter, and had the pleasure to carry away a seven-and-a-half-inch messenger: got the messenger removed to a fresh part, and carried it also away; so you may judge there was no foolish wind or tide. I was afterwards obliged to have recourse to a runner and pendant. The mes-

* From the *Transactions of the Society for the Encouragement of Arts, Manufactures and Commerce*, for the year 1816.—The silver medal was voted for this communication, and a model of the capstan is preserved in the Society's repository.