

all in the room. We found the tumbler shattered into fragments, the body of the glass ripped up, as it were, into several large, irregular-curved pieces, and the bottom of the tumbler broken into small pieces more resembling thick rough ice than anything else. Query: Was the explosion caused by the inherent properties of the toughened glass, or by the contact of potash, soda, the silver spoon, and proximity to a lamp, the heat from which was very slight, indeed scarcely perceptible to the hand at the spot where the tumbler stood?

The accident might have been very serious, for pieces of the glass flew to within a very few inches of the lady's face. A solution of the cause of the explosion is therefore of considerable importance to all who may have occasion to use vessels of this peculiar glass.

NOBLE TAYLOR

Sunninghill, July 7

Great Meteor

A METEOR of extraordinary brilliancy was seen on Friday, July 9, about 8:20 p.m.—almost in full daylight, the sun having only just set—by the Rev. Mr. Lloyd-Jones, who kindly took me to the place of observation and gave me the following particulars:—

The meteor was quite half as large as the full moon, of dazzling light-blue colour. It moved slowly in a path inclined about 10° to the horizon, from left to right, and emitted a train of ruddy sparks. Mr. Lloyd-Jones was looking in the opposite direction, and had time, after his attention was called to it by a friend, to turn round and see the last 10° of the path. The total duration may have been ten seconds, and could not have been less than five, the meteor dying out slowly. The point of disappearance was carefully noted and referred to some trees about 200 yards distant. I afterwards found it to be in true azimuth N. 69½° E., altitude 9°. No detonation was heard. The place of observation was about two-thirds of a mile east of the Royal Observatory, Greenwich.

G. L. TUPMAN

Iron and Hydrogen

MAY I be allowed to point out that the question of the occlusion of hydrogen in steel, and its influence in hardening, has been discussed by Mr. Wm. Anderson in his report to the Committee of this Institution on the Hardening, &c., of steel.

At the last meeting of this Institution Prof. Hughes stated that his experiments did not support the hydrogen theory, but rather the view that hardened steel was an actual alloy of carbon and iron, unhardened steel a mixture only. I may add that experiments are now in progress, designed to test the truth of this latter view.

WALTER R. BROWNE

Secretary

Institution of Mechanical Engineers, July 12

The Stone in the Nest of the Swallow

THE swallow stone is the agate pebble, called in French *chélédoine*—the name given to the chalcedony (NATURE, vol. xxi. p. 494), but the same virtue is attributed to the swallow herb. This is the *Chelidonium majus*, about which Britten and Holland, in their "English Plant Names," give the following quotation from Lyte:—"Chelidonium, that is to say, swallow-herb, because (as Plinie writeth) it was first found out by swallows and hath healed the eyes and restored sight to their young ones that had harme in their eyes or have bene blinde."

Littre, in his great *Dictionnaire*, gives two quotations, in which *Chélédoine* is used in a botanical sense:—

"Se vus avez as oïls manjue
Dunc prenez celedoine et rue."

MS. St. Jean, 13th century.

"Aussi les guerit le jus de cheledoine, le lait de tithymal."

Paré, v. 21, 16th century.

He also gives its meaning as the name of a precious stone, and adds: "Petits cailloux appartenant aux agates, on dit aussi pierres d'hirondelle." With respect to its etymology he says he derives it from "χελιδόνιον, de χελιδών, hirondelle, à cause qu'on disoit que l'hirondelle se servoit de cette plante pour rendre la vue à ses petits."

WILLIAM E. A. AXON

Fern Bank, Higher Broughton, Manchester

THE CARIBBEAN SEA

THE Coast Survey steamer *Blake*, Commander J. R. Bartlett, U.S.N., Assistant Coast Survey, recently returned from a cruise taking soundings, serial temperatures, &c., in the course of the Gulf Stream, under instructions from C. P. Patterson, Superintendent Coast and Geodetic Survey, has brought very interesting data in regard to the depths of the western portion of the Caribbean Sea.

The depths and temperatures obtained last year in the "Windward Passage" between Cuba and San Domingo were verified, and a few hauls of the dredge taken directly on the ridge in this passage. The data obtained render it very probable that a large portion of the supply for the Gulf Stream passes through this passage, and that the current extends in it to the depth of 800 fathoms. A few lines of soundings with serial temperatures were run from Jamaica to Honduras Bank, *via* Pedro and Rosalind Banks, and it was found that the temperature of 39½°, obtained at all depths below 700 fathoms in the Gulf of Mexico and the Western Caribbean, could not enter through this portion of the sea. But the temperature at the depth of 800 fathoms on the ridge in the "Windward Passage" between Cuba and Hayti was found to agree with the normal temperature of the Caribbean and Gulf of Mexico, viz., 39½°. Soundings were taken between Hayti and Jamaica, developing a general depth between these islands not exceeding 800 fathoms, except where broken by a remarkably deep channel connecting the waters of the main Caribbean south of San Domingo with those north of Jamaica. This channel runs close to Hayti with a greatest depth of 1,200 fathoms, and a general depth of 1,000 fathoms. Its course is northerly along the western end of Hayti, where it does not exceed a width of 5 or 6 miles; thence westerly, south of Navassa Island, with a tongue to the northward between Navassa and Foxmigas Bank, and another to the westward between Foxmigas Bank and Jamaica.

A line of soundings was run from San Iago de Cuba to the east end of Jamaica, where a depth of 3,000 fathoms was found 25 miles south of Cuba. This deep place was found by subsequent soundings to be the eastern end of an immense deep valley extending from between Cuba and Jamaica, to the westward, south of the Cayman Islands, well up into the Bay of Honduras. The Cayman and the Misteriosa Bank were found to be summits of mountains belonging to a submarine extension (exceedingly steep on its southern slope) of the range running along the south-eastern side of Cuba. This deep valley is quite narrow at its eastern end, but widens between the western end of Jamaica and Cape Cruz, where the soundings were 3,000 fathoms within 15 miles of Cuba, and 2,800 fathoms within 25 miles of Jamaica. Near Grand Cayman the valley narrows again, but within 20 miles of this island a depth was found of 3,428 fathoms. The deep water was carried as far as a line between Misteriosa Bank and Swan Islands, with 3,010 fathoms within 15 miles of the latter. On a line between Misteriosa Bank and Bonacca Island there was a general depth of 2,700 fathoms, and a depth of over 2,000 fathoms extended well into the Gulf of Honduras. Between Misteriosa Bank and Chinchorro Bank the soundings were regular at 2,500 fathoms. North of Misteriosa and Grand Cayman, to the Isle of Pines and Cape San Antonio, the soundings were generally 2,500 fathoms. The serial temperatures agree, in relation to depth, with those obtained in the Gulf of Mexico, by Lieut. Commander Sigsbee, and in the Eastern Caribbean by Commander Bartlett; decreasing from the surface to 39½° at 700 fathoms, or less, and constant at that temperature for all depths below 700 fathoms. At greater depths than 600 or 700 fathoms the bottom was always found to be calcareous ooze composed of Pteropod shells with small