Experiment 2.—The largest of the three ordinary fiddle-shaped bags was connected with the apparatus, as in Experiment 1. The highest pressure reached was when the bag still retained its regularity of form; it was a little above 22 lbs. on the square inch. When the bag was further distended by the injection of more water, it lost its form, bulged out at parts, and the pressure decreased. The highest steady pressure with the apparatus at rest was about 18 lbs.

Experiment 3.—The middle-sized bag behaved very nearly as the largest.

Experiment 4.—The smallest bag behaved very nearly as the others.

DESCRIPTION OF INSTRUMENT USED FOR TALIPES EQUINO-VARUS AND VALGUS.

By RICHARD DAVY, F.R.C.S.,
Surgeon to the Surgical Aid Society.

SURGEONS treating the various forms of talipes amongst out-patients, have been much disappointed at results obtained by the use of the ordinary Scarpa's shoes. I find the screw movements irregular, and especially useless at the very time when most required—viz., at the later periods of treatment, because the screws have reached their maximum range of action. The straps used to confine the foot and heel to the sole are complicated, galling, and ineffectual; with infants, quite inoperative, for these little kicking ones cast their shoes as annoyingly as hunters, and frequently ere leaving the surgeon's consulting-room. The sole of the shoe (when retained) wears out speedily by the friction on ground, and so one of the most natural processes of cure is interfered with.

Before entering into detail, I must thank Mr. Annandale, surgeon to the Royal Infirmary, Edinburgh, for his courtesy in allowing me to see his great ingenuity in mechanisms for talipes; and his arrangements for confining the foot have been essentially copied. I must also express my obligations to Mr. Arnold of Smithfield for his great attention to detail in manufacturing these instruments, which he will show to any surgeon interested in such appliances. Fig. 1 shews the instrument applied to the foot and leg. Fig. 2 shews the boot when removed.

The double irons up the leg, and foot-piece joined to them by hinges

Fig. 1.

at the ankle, are as generally made. These irons are fastened by strap in young children below the knee, but in infants above the knee, in order that a better purchase may be gained. The circular joint at the sole of the foot corresponds to the situation of the astragalo-scapoid and calcaneo-cuboid articulations. Two screws (as shown in the plate) cause (1) the dorsum of the foot to be drawn upwards towards the leg; (2) the anterior part of the foot to be everted or inverted at pleasure. By placing these screws on the inner or the outer aspect of the leg, talipes valgus or varus may be respectively treated. Both screws are worked by a triangular notched key. The boot consists of four flaps: one passes directly over the toes, the dorsum of the foot, and the instep, and effectually confines the heel to the special heel-plate; a second and third, on each side of the anterior portion of the foot, and a fourth the heel, overlap the centre one, and are secured by stout lace passing over special hooks. The sole of the boot is firmly riveted to the iron foot-plates; and these rivets, passing through the sole to the earth's surface, protect the leather and circular hinge from friction during progression.

Fig. 2.

A high compliment was paid to this form of shoe by a first-rate instrument-maker, who said that it was old-fashioned, and that the

movements were by no means so complicated as many that he could show me. Old-fashioned and simple though it may be, it is now in constant use, doing its required work well, and not liable to get out of order by fair usage.

RARE CASES OF SYPHILIS.*

By CHARLES R. DRYSDALE, M.D.,

Physician to the Metropolitan Free Hospital, and to the North London Hospital for Consumption and Diseases of the Chest.

Syphilitic Infection from Smoking a Cigar.—There are now but few to be found who deny that secondary syphilis may be communicated by such means as kissing, or using a drinking-glass; but every case that proves this clearly is useful.

Isaac S., aged 74, came to the Farringdon General Dispensary on July 8th, 1872. The patient had a copper-coloured eruption on the forehead, and spots of syphilitic roseola and psoriasis on the right forearm, hands, etc. A portion of the mucous membrane of the right angle of the mouth was denuded of its epithelium, red, and covered with false membrane; the whole greatly like what is seen in so-called "mucous tubercles" of the fauces. A small patch of similar appearance was seen on the mucous membrane of the left upper lip. There were indurated glands below the right jaw. The patient said that five weeks before being seen, he had first noticed a spot at the right angle of the mouth. This commenced with a kind of blister, and lumps came below the jaw, which still continued hard. A fortnight or three weeks before he noticed the sore at the edge of the mouth, he had picked up a lighted stump of a cigar, just thrown away by a gentleman, and smoked it. A careful examination of the genitalia of the patient, as well as the inguinal region, gave only negative results. The patient's age, 74, the enlargement and induration of the submental glands, and the history of the sore at the side of the mouth, being the first lesion, pointed to the diagnosis made by me; i.e., chancre of the lower lip, caused by smoking a cigar thrown away by a patient in all probability suffering from syphilis.

Syphilitic Roseola, Hemiplegia, and Aphasia.—Patrick W., aged 36, married, by occupation a horse-hair curler, was admitted into the Metropolitan Free Hospital under Dr. Drysdale. He had been of pretty temperate habits, taking two pints of beer a day. Three years ago he had a sore on his penis, followed by a "red rash" over his body, which lasted some weeks. The present attack came on three months ago, ten weeks after he had a sore on his penis. He went one morning quite well to his work; but, after being there an hour, he fell on his side unconscious. He did not know how long he was in that state; but, when he recovered consciousness, he had lost the power of speech, also the use of his right leg and arm. He was laid up three months, and had never recovered, but was better than at first.

When admitted, on April 30th, 1872, he seemed a strong healthy man in other respects. There was complete loss of power in the right forearm; he could not flex or extend his fingers or hand on the forearm. He could flex and extend his forearm or the arm with a little difficulty, but could not pronate or supinate it. On lying down, he could raise his leg in bed, but could not flex the leg or thigh, or the foot on the leg. He could stand on the left leg, but not on his right. The tongue was protruded straight; the pupils were equal; he could close his eyelids tightly. He could blow his cheeks out without air escaping. The right angle of the mouth was a little higher than the left. He had no pain. His speech was very defective; he used words which he did not intend, in the place of others. He could say "Yes" and "No" very well; but could not pronounce his own name, but said "Pots." He could not pronounce the following letters: B, C, D, E, H, J, K, Q, U, V, W, X, Y, L, using the letter T chiefly for most of them; but the remainder of the letters he could pronounce very fairly. His sight was good, and there was no loss of memory. The urine was normal. There was no wasting of the muscles of the leg or arm. He was ordered ten grains of the iodide of potassium three times a day; and to have the different groups of muscles of the right forearm and right leg galvanised daily with the interrupted current of Stöhrer's battery; also the muscles connected with the right angle of the mouth, and the muscles of the tongue.

May 7th.—He could flex his forearm on the arm, but extension, pronation, and supination were not good. He had not much use of the wrist, and the fingers were a good deal contracted. He could move his toes a little. He could pronounce the letters of the alphabet better.

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Birmingham, August 1872.

On May 21st, he was in much the same state. The continuous current was ordered to be applied in the form of two of Pulvermacher's chains to the muscles of the arm and leg alternately.

On May 31st, he could flex the foot on the leg better; but movement in the ankle-joint was still very limited, though he could walk better on the right leg since admission. Speech was greatly improved, and he could now pronounce all the letters of the alphabet pretty well, but had some difficulty yet in the pronunciation of B, D, E, K, and H.

On July 1st, he was discharged much in the same condition as above.

NOTE.—This is a very rare case indeed in the history of syphilis, since the syphilis was in its stage of roseola when the hemiplegia suddenly supervened. The treatment followed by the late Dr. James Jones, under whose care in the hospital the patient was during his first attack in 1869, was the administration of a drachm of the liquor hydrargyri perchloridi, with five grains of iodide of potassium in an ounce of water thrice daily. The patient seems not at all likely ever again to recover the use of his arm or leg; and will, in all probability, always be affected with great difficulty in pronouncing words. The use of Pulvermacher's chains was not of much service in this case; there was no other form of continuous current in the hospital.

LONDON DRINKING WATER.

By J. ALFRED WANKLYN, Esq., Corresponding Member of the Royal Bavarian Academy of Sciences.

THE following, which is the first of a series of monthly analyses of the London waters, is intended as a substitute for the analyses published by the Registrar-General.

THAMES COMPANIES.	Parts in a Million (Milligrammes per litre.)	
	Free Ammonia.	Albuminoid Ammonia.
Chelsea Co.—Cab-rank, Horse Guards, Oct. 5	0.00	0.06
West Middlesex Co.—Drinking fountain, Marylebone Road, Oct. 3	0.01	0.07
Southwark and Vauxhall Co.—Red Lion Tap, Kennington, Oct. 2	0.06	0.12
Grand Junction Co.—Cab-rank in Woodstock Street, Oct. 8. ..	0.00	0.07
Lambeth Co.—Main, Newington Butts, Oct. 9	0.01	0.10
New River Co.—House tap from cistern, Oct. 2	0.02	0.08
East London Co.—Drinking fountain, St. John's Church, Bethnal Green, Oct. 10	0.01	0.04

I have often insisted on the fact that the results given by the ammonia-process of water-analysis and those given by Dr. Frankland's combustion-process are totally at variance and irreconcilable; and, as is well known, attribute the difference to the circumstance that, whereas the one process gives results in accordance with the real quality of the sample of water, the other process is affected by errors so large as completely to overshadow the real quantities which water-analysis is required to measure.

The analysis of the London waters during the past month exhibits these differences in a very striking manner. According to the analysis by the ammonia-process, three of the five Thames Companies—viz., Chelsea, West Middlesex, and Grand Junction—were supplying water of good quality and almost indistinguishably alike, whilst the two other Thames Companies—viz., the Lambeth and the Southwark and Vauxhall—were supplying bad water, nearly twice as rich in nitrogenous matter as the water of the first named companies. According, however, to Dr. Frankland's report, the worst of the Thames waters in October were the Lambeth and the Chelsea, whilst the Grand Junction was hardly distinguishable from the Southwark and Vauxhall. West Middlesex, which alone of the five Thames Companies is represented both by the ammonia-process and by Dr. Frankland as being of fair quality, is represented by the ammonia-process as containing seven-twelfths of the impurity contained in the Southwark and Vauxhall, whereas, according to Dr. Frankland, it contains twenty-five thirtieths, or five-sixths, of the impurity contained by the Southwark and Vauxhall.

Fortunately Government confines itself to the publication of Dr. Frankland's analyses and does not take action upon them. The Chelsea Water Company and the Grand Junction Company have, however, just reason for complaint.

OBSTETRIC MEMORANDA.

CHLOROFORM IN OBSTETRIC PRACTICE.

IN the leading article on this subject in the JOURNAL of November 2nd, 1872, it is stated: "We have already alluded to the immunity from accident which chloroform has enjoyed in the lying-in room, and here there seems no reason to supersede it by an agent which is avowedly less convenient; but outside the domain of the accoucheur it has forfeited its claims to be considered a safe anæsthetic." I think this statement is calculated to do harm in more ways than one, by encouraging an overweening confidence in its administration, and tending to diminish the extreme care that should always be employed, more especially when we consider that it is often requisite to give it for a prolonged period.

When called in consultation in difficult cases of labour, I have more than once been compelled to desist from my efforts at assistance, as in the application of forceps or turning, and direct all my attention to the prevention of what threatened to be a fatal issue from chloroform—the natural desire of the practitioner to watch the details of the operation possibly contributing to this result, as well as the exhaustion induced by the prolonged suffering to which the patients had been subjected before assistance had been sought. Apart from the danger of incautious administration of chloroform, I fear we must admit that the tendency to *post partum* hæmorrhage is greater than when no anæsthetic is employed, more especially in those cases where alcohol has been liberally indulged in as a habit, and where, therefore, a larger amount of chloroform than usual is needed to produce the requisite amount of anæsthesia.

I have long been in the habit of employing equal parts of chloroform and ether in all cases of labour, and consider that the risks, both primary and secondary, are less than when the former is given by itself; there are less nausea and depression, and the tendency to hæmorrhage is diminished.

ARTHUR W. EDIS, M.D.,
Physician to the British Lying-in Hospital, etc.

CLINICAL MEMORANDA.

LIME IN DRINKING-WATER.

I FEEL obliged to Dr. Parsons for his information contained in last week's JOURNAL, relative to the geological formation in the neighbourhood of Frome and Beckington—the more so as I am engaging my leisure moments, at present, in the study of English geology, in order to be prepared, as soon as the Registrar-General's report for the census year 1871 is issued, to ascertain, and, if practicable, establish, what appeared in the JOURNAL of September 28th. I have already studied the subject in connection with old Registrar-General's reports sufficiently to render it interesting, which gives me reason to believe that the "theory" will soon be reduced to science. Meanwhile I may remind Dr. Parsons that housewives in rural districts can, and usually do, make their tea and coffee from rain-water; that country air and exercise enable the system better to withstand the influence of excess of lime than the exhausted air of towns; and that copious draughts of cider tend to prevent phosphatic calculi, although favourable to the formation of oxalic. Lastly, I beg to suggest to Dr. Parsons that he should sound for stone in inflammation of the bladder with phosphatic deposits.

The favourite drink in and around Newcastle is beer, and I am informed that it is preferred when brewed with hard water containing oxide of iron. This I believe to be from the hard water dissolving less out of the malt, and also preventing the wort from fermenting too much.

For the requirements of the body, sufficient lime-salts are present in our ordinary food; hence much lime in our drinking-water is unnecessary, and if not eliminated will be apt to induce disease from its insolubility.

JOHN C. MURRAY, Newcastle-upon-Tyne.

FRACTURE OF THE ILIUM BY MUSCULAR FORCE.

A CASE precisely similar to the one reported by Mr. W. Hyde in the JOURNAL of November 2nd, came under my notice on that day. A young gentleman, aged 17, of good muscular development, whilst running vigorously in a foot-ball match, was suddenly brought to a standstill by a snap in his side, followed by a feeling of "coming in two". Being quite unable to take another step, he was carried to the house, and, on my examining him about an hour afterwards, I found considerable tenderness along the upper head of the rectus femoris, and a piece of