ordinary spinal instruments, with two lateral, and (in cases of Pott's disease) two posterior upright bars of steel, to allow space between them for the spinous processes, and jointed for extension; to these are rivetted above two thin pieces of truss-spring about three inches apart, encircling the body, hinged anteriorly six inches from the centre, and fastening in front with a small spring button at intervals of a quarter of an inch. To these lateral hoops is attached, by rivets, a band of India-rubber, graduating from half a line in thickness above to three-quarters of an inch below, as seen in the engraving, the whole being padded with washleather or other soft material, and perforated for lightness (in upper dorsal disease, a large perforation can be made corresponding to the prominent vertebra). This instrument has been made, under my direction, by Messrs. Mappin and Co., of New Street, Birmingham: and in the one case for which I have applied it I have been perfectly satisfied with the result obtained. It allows fairly free movement of the body below the point at which it grasps the thorax, and in no way interferes with the respiration. I may add that, since reading Dr. Roberts's paper, I have directed Messrs. Mappin to make a similar instrument, with a spiral spring placed in a socket in each of the uprights for the reception of the upper part of the instrument in lieu of the screw-joints, and which I have reason to hope will still further carry out the principle of "elastic tension and articular motion." The instrument engraved will be seen to have only one posterior upright, having been just completed for a case of lateral curvature (for which the principle is equally applicable); and, as it is for an adult, I considered, on account of its larger size, it would better explain the principles of mechanism; with this exception, it is the same as the one used for angular curvature.

ON TWO CASES OF SEVERE INJURY TO THE EYE.*

By W. J. CANT, L.R.C.P., M.R.C.S.

THE first case is where a man, sixteen years ago, when chipping brass, felt a piece strike his right eye. One of the fellow workmen examined it and thought he could see the piece deeply situated, but would not attempt its removal; he went home and applied cold water; his mother advising him to have nothing done to it, as if he did he would be sure to lose the other. He says the eye became intensely painful, followed by redness and swelling. He remained at home for about a month, at the end of which the pain and redness had diminished, but never completely left it; if he took the slightest cold all the old symptoms returned, and with each attack the sight became more impaired, and at last it became quite blind. On one occasion the left eye also became affected, but recovered. About a month ago I saw him for the first time, suffering, as he said, from one of his old attacks of inflammation of the eye; on examination, there were marked ciliary congestion, commencing iritis, cataract and great tenderness on the slightest touch. By focal illumination I imagined I could see a minute foreign body entangled in the iris at the upper part, and a slight scar just above the centre of the corneas tended to make it more probable. After keeping him in a dark room for four days, and the application of leeches and cold lotion, it was thought safe to attempt the removal of the foreign body. I made an iridectomy in the upper segment and put in the forceps to remove the piece of brass, but found it impossible to do so, without force. Having taken hold of it crossways, then removing the forceps and applying them in a different direction, a large piece of brass three-sixteenths of an inch long was drawn out; the lens and its capsule were then extracted, when the anterior chamber became filled with floating glistening particles of cholesterolin. Slight iritis followed, but gradually all inflammatory symptoms cleared up, and he is now with the injured eye able to see his way about easily. There is no pain on touching the eye at any part.

The points of interest in the case are:—

1. The length of time a large piece of irritating substance like brass can remain in the lens and iris without destroying the eye or producing sympathetic ophthalmia:

2. The fair amount of vision that is maintained, although the eye was more or less inflamed for over sixteen years.

The second case was where a man, between sixteen and seventeen months ago, received a splash of molten metal in his eye, passing principally under the upper lid, and causing severe damage to the cornea and conjunctiva. When first seen, it was a question whether the eye could be saved; however, under prolonged antiphlogistic treatment, the inflammation subsided, leaving nearly the whole

cornea covered with a dense leucoma, and the upper lid, for about the middle third, closely united to the eyeball.

The eye in that condition being useless, it became necessary to do something to relieve the symblepharon. Some months after the injury, all irritation having subsided, the eyelid was freely separated from the eyeball, and the conjunctiva dissected up for some distance on either side, and brought together by means of fine black silk sutures, as high under the lid as possible. A cold-water pad was applied for three days, when the conjunctiva was found to have united, and the stitches were removed.

A small piece of skin was taken from the upper lid to counteract the drooping that had been caused by the constant dragging. Afterwards, an iridectomy was performed downwards and inwards, so as to utilise the small amount of transparent cornea that remained. The patient has now perfectly free movement of the upper lid, and can see to read with the injured eye.

ILLUMINATION OF INTERNAL CAVITIES BY MEANS OF THE ELECTRIC LIGHT.

By THOMAS OLIVER, M.D., M.R.C.P.

Physician to the Infirmary, Newcastle-upon-Tyne, and

J. B. PAYNE, F.R.M.S.,

Newcastle-upon-Tyne.

AT the last meeting of the Northumberland and Durham Medical Society I exhibited Mr. Payne's improved electric light appliances, and showed how some of them might be utilised for microscopical and clinical purposes. For the past few months I have been engaged with Mr. Payne in suggesting adaptations of these instruments to the purposes just alluded to. Remembering that Sir Henry Thompson, more than a year ago, explored the bladder by means of the electric light, and that Leitz, of Vienna, is devising instruments for illuminating the throat, posterior nares, bladder, uterus, etc., Mr. Payne made an instrument by means of which the throat could be examined. Having at the present time a patient in the infirmary who is suffering from hydatid disease of the liver—on whom the operation of abdominal section with incision of the liver had been performed—giving exit to about seven pints and a half of pus, I took advantage of the opportunity, and succeeded in lighting up the interior of the cyst by means of the electric light. For this purpose Mr. Payne devised and constructed a brass tube, electro-plated, nine and a half inches in length, and eleven-sixteenths of an inch in diameter externally. One end of this tube was funnel-shaped, and the other was closed by a piece of glass; down this tube was inserted a narrow cylinder, which carried a Swan's lamp and the electric wires. This tube, with its glazed extremity, was smeared with carbollised-oil, although, in future, I shall use carbollised glycerine for the window of the tube, and, with gentle pressure, I succeeded in passing it through the abdominal incision into the interior of the liver. The lamp was at once lit, and I had the pleasure of observing a greyish red condition of the wall of the cyst, studded across which were numerous yellow-white spots, evidently pus; a slight oozing, or sweating, was also noticed on the wall of the cavity. The illumination of the interior of the liver by means of the electric light was in every way satisfactory and successful; and, although it is of little aid in the treatment of the case in question, it has shown us that the lighting up of internal cavities is not only a possibility, but a matter of comparative ease. With the extremely small size of the Swan's lamp required (it is not much larger than an ordinary bean), and which gives a light equivalent to that from three candles, and with the improved instruments which Mr. Payne is devising, I see how the electric light might become useful in operations for vesico-vaginal, or recto-vaginal, fistula, and in certain diseases of the bladder. Before making use of this illuminating endoscope on the human subject, I tried its effects in a dark chamber; I read, with ease, a piece of print placed therein.

MR. PAYNE'S REPORT.—Leiter's arrangement contains an electric lamp in which platinum wire is heated by means of battery power, and rendered incandescent. The arrangement I made is of much simpler construction, gives a perfectly pure light, and develops less heat. It consists of an electro-plated outer tube nine inches and a half long, by eleven-sixteenths inch external diameter; glazed at one end with a stout piece of plate glass made perfectly secure and tight.

A Swan's electric lamp is used—the filament of which is carbon, and rendered incandescent by means of battery power. It is hermetically sealed in a glass shade; and water, conveyed to and fro through very small brass tubes, is made to circulate round the lamp. The light from this lamp is perfectly pure, and exhibits the conditions of things in their true and natural colour. For prolonged

* Read before the Midland Branch.

observation I should prefer to use either a Grove's or Bunsen's battery, but in the demonstration just referred to, four cells of a modified Léclanche battery were employed and answered admirably. It is advisable to have as great a pressure as possible for the water supply, so as to ensure perfect circulation, and for this I suspended from a hook fixed near the ceiling of the room a tin can containing water, connecting it with the brass tubes by means of lengths of India-rubber tubing.

A CASE OF EFFUSION INTO THE SEROUS CAVITIES.

By A. R. BARNES, M.B.Ed.

THE following is an interesting, and, as far as my experience goes, an unique case. Mrs. L., aged 30, a delicate looking woman, married, with two children, consulted me on the 8th July last. She complained of abdominal enlargement, which she had noticed for some weeks past, and which she stated had sometimes disappeared, and then returned. This enlargement proved to be a considerable effusion into the peritoneal sac. There was at this time, too, a slight cough and expectoration; a not very strong family history of consumption; and a personal history of an effusion into the right pleura two years previously, which had been aspirated by her then medical attendant, and two and a half pints of fluid withdrawn. About the end of July, I became aware that the left pleural cavity was gradually filling, the abdominal effusion having, as well, increased in quantity.

On August 11th, the condition having become very grave, with urgent dyspnoea, constant sickness, and great emaciation and weakness, I determined to aspirate the pleural cavity. This I did with a Dieulafoy's aspirator, drawing off five pints of serous fluid. At this point I had to desist, owing to the fainting condition of the patient. The operation was followed by a distressing attack of dyspnoea, which was very alarming. On the following morning, however, all the symptoms were considerably relieved; and on measuring the girth of the abdomen, to my surprise and pleasure there was a decrease of three inches on the measurement previous to the aspiration of the pleura.

On August 18th, as physical signs still demonstrated the presence of fluid, both in the peritoneal and pleural sacs, I again aspirated the pleural cavity; but after drawing off just a pint, the aspirator broke down, and I had again to desist. The drawing off of this second quantity was again followed by a diminution in the girth of the abdomen.

On August 28th, I aspirated for the third and last time, taking away rather more than three pints, making, in all, a total of rather more than nine pints, and a total diminution in the girth of the abdomen of seven inches and a half. After this last aspirating, physical signs gave no indication of fluid in either peritoneal or pleural sacs; and convalescence proceeded slowly until October 28th, when I paid my last visit; the patient by that time having gained considerable flesh, and sufficient strength to get about again.

There are many points of interest in this case. I will enumerate them briefly.

1. The fact of effusion into the three large serous cavities in one individual is, I should say, decidedly uncommon.
2. The presence of so considerable a quantity of fluid in the peritoneal sac, and subsequently in the left pleural, without any very assignable cause.
3. The rapid lowering of the quantity of fluid in the peritoneal sac after the aspirations of the pleural sac; in a few hours, possibly sooner. I regret I did not measure the abdomen directly after operation. This rapid alteration can only be accounted for by the fact of some direct means of communication between the two cavities, such as is mentioned under the head of Pleurisy in Quain's *Dictionary of Medicine*. "The origin of the pleurisy which may accompany puerperal and other diffuse peritonitis is explained by von Recklinghausen's demonstration of lymph-canals between the diaphragm and pleura; and its supervention in cases of abscess of the liver may receive a like explanation. Reversely, septic pleuritis spread themselves sometimes from the pleural to the peritoneal cavity."
4. Aspirating the chest is not always a successful operation. I have assisted in three cases prior to this one; two, both middle-aged women, died soon after the operation. The other, a young man, recovered after two aspiratings. In neither of these three cases was the fluid in nearly so considerable a quantity as in the present instance.
5. In the second and third aspiratings of this case, I adopted

the recumbent position for the patient, she lying on the side where the fluid was. Previously, I had practised, and seen practised, the sitting posture for the patient. The former I consider more convenient for both operator and patient, and safer for the latter.

6. I have always found Dieulafoy's aspirator very wearisome to work, when the quantity of fluid to be removed was considerable, and very liable to be broken. The third time of aspirating this patient, I used an aspirator of Maw's, which fits any receiving bottle, costs less than half the price of the other, is very much less labour to the operator, and obviates considerably any movement to the needle while the operation is going on, a movement which causes considerable pain to the sufferer.

THERAPEUTIC MEMORANDA.

TREATMENT OF DYSENTERY.

AT the present time, when dysentery is very prevalent, especially amongst those who have returned from the Egyptian war, any suggestion that may mitigate the suffering of so fatal a malady will be hailed with gratitude. The plan I have used with most success is the following. First, having placed the patient between warm blankets, I proceed to inject a pint and a half of warm water, at a temperature of 90° Fahr. This is seldom retained longer than a few minutes, but is pronounced very grateful to the patient. When the water has soothed the mucous membrane of the colon and rectum, and brought away any *effete* matter, I then proceed to administer a small injection of two ounces, by measure, with a gum-elastic bottle. The form I administer is the following: B Quinine disulphate ten grains; compound tincture of camphor four drachms; decoctum amyli to two ounces. Mix, and when about milk-warm, inject. It is generally retained; but, if ejected, it may be repeated after an hour or two. This I have found of great service, and very grateful to the patient. I do not stop to inquire how it acts, but the effect is like magic. If griping pains be felt over the region of the epigastrium, I administer half-drachm doses of chlorodyne, in some aromatic water, mint, caraway, or aniseed. The diet, of course, should be of the most soothing kind: jellies, isinglass, linseed, toast and barley water, *ad libitum*. Ipecacuanha I have found of little service, and have discarded it from my treatment. If any of my medical brethren will try these measures, he will not often be disappointed. Have used with advantage warm turpentine stupes on warm flannels, over the hypogastrium.

F. RAWLE, M.R.C.S., etc.

OBSTETRIC MEMORANDA.

HYDATIDIFORM DISEASE OF THE CHORION.

ON September 7th, I was sent for by the midwife to attend Mrs. C., who was flooding. On my arrival, the hæmorrhage had stopped. On making an examination, the uterine sheath was not sufficiently dilated to be able to ascertain its contents. On passing my hand over the abdomen, I remarked to the midwife, how unusually circular it was. On the following afternoon, I was again hastily summoned, and found the woman had lost much blood. On making an examination, I found, by a little manoeuvring, that I could insert my hand into the uterus; and I vividly remember how astonished the midwife and Mrs. C. looked, when I informed them that it contained no child. In fact, Mrs. C. stoutly declared she had felt the child many times; and said that, being the mother of thirteen children, all living, she ought not to have been mistaken. After administering a full dose of ergot, some sharp uterine pains followed—soon expelling a mass, which, when collected, filled three ordinary-sized chamber utensils. After this jelly-like mass had been expelled, she rapidly recovered, and made an uninterrupted recovery.

EDWARD STEPHENS, L.R.C.P., M.R.C.S., etc.,
Ilminster, Somerset.

THE VACCINATION ACTS.—The Leicester Guardians have adopted a resolution which will go far to exclude Leicester from the operation of the Compulsory Vaccination Acts. Hitherto distress has been levied upon those neglecting to comply with the Acts; but in consequence of the disturbances attending these proceedings, the magistrates threw the onus of applying for distress upon the Guardians. The latter have now declined to do so, instructing their officer in future not to apply for distress warrants for unpaid fines.