or of the sacro-iliac articulation, and its very essence is the eliciting of pain.

Now, I will proceed to demonstrate that peculiar flattening of the buttock, the obliteration of the firm natal fold, and the alteration of its level, together with the real (not *apparent*) widening of the hip. To this interesting point my attention was directed by my friend Mr. Herbert Page, who was examining this preparation with me. For this purpose, I remove the syringe from the India-rubber pipe and substitute a vertical glass tube, the joint being full of water which rises to this (indicated) level in the tube. Now, I press the great trochanter inwards, driving the head of the femur into the acetabulum; see how the fluid rises in the tube. Then I remit pressure; the joint fills again, and the great trochanter is forced outwards.

Treatment.—Lastly, we come to the question of treatment of hip-joint disease; but, before discussing it, I would like to demonstrate the effect of extension and counter-extension upon the preparation. When the limb is brought down (no matter by what means), the intra-articular pressure is increased. The anterior part of the capsule being rendered tense, the capacity of the joint is diminished. The more the limb is brought down to the straight, the further the head of the femur is forced up into the acetabulum. This I demonstrate by the rise and fall of the water in the vertical tube corresponding to depression and flexion of the femur.

"But", it may be argued, "when the limb is brought down the patient is easier." This is probably because the apparatus which has been used to bring the limb down is also used to steady the joint against muscular and irregular movements. Moreover, the intra-articular pressure thus induced helps in the absorption of the chronic effusion. Scott's dressing to the distended knee-joint by pressure plays an analogous part. By watching the head of the femur through the bottom of the acetabulum, it may be seen that traction in the straight line does not draw it away from the bottom of the acetabulum. The indication in treatment is absolute and continuous rest in the corrected position. This is only partially obtained by the weight and pulley. Thomas's apparatus insures absolute rest to the diseased parts, while it allows the patient to be carried out of doors and even to walk. It is the only one which answers every demand. The attractive method introduced by Dr. Sayre; and the American and other methods which are supposed to secure rest and yet to allow movement at the joint, are correctly estimated by Giraldès, who remarks:—"L'idée de tous ces appareils est mauvaise."

THE SOLID RUBBER BANDAGE.

By HENRY A. MARTIN, M.D., Boston, U.S.A.

I WISH to say a word or two in regard to the sort of bandage I recommend. In all the papers I have written on the subject, I have directed the use of bandages of a certain thickness, as being, on the whole, the best.* Bandages somewhat thinner would undoubtedly fulfil almost all indications in a large proportion of cases; and *very much thinner* bandages would meet the requirements of certain cases, as of some cutaneous affections, particularly eczema, if uncomplicated with a varicose condition—every requirement, indeed, excepting one, viz., durability. The thinner the bandage, the lower the price at which it can be obtained, even if the materials be the best; but, taking into consideration the fact that very thin rubber bandages are very apt to be torn, to be stretched out of shape, and to be acted on by moisture in a way that renders them irregular and uneven, and on all these accounts that they will often require to be renewed in the treatment of even a single case, while one of the thicker bandages, of proper quality, is not only sufficient for the treatment of a single case through its whole course, but for the cure of many successive cases, I have no hesitation at all in repeating my recommendation of bandages of the thickness indicated in my paper in the JOURNAL of October 26th, as on all accounts the best, and, although they cost somewhat more, in

* The thickness recommended is 19 (Stubbs's wire gauge) for bandages for the knee and ankle; and in some cases, as of oedema, in which firm and considerable pressure is desirable, No. 21 in the very large majority of cases in which the rubber bandages are recommended. Of course, bandages a little thinner would often answer in many cases, but no better than those I advise; and it is very desirable to simplify the matter, and not to have an useless and confusing multiplicity of sizes and thicknesses. The width recommended is three inches and three and a half inches; the latter width for bandages for the knee and ankle, and where it is necessary to apply a bandage from the foot to the groin. The width of three inches and a length of ten feet and a half are proper for bandages for ulcer, eczema, etc., of leg below the knee. Smaller bandages six feet in length, two and a quarter inches wide, and twenty-one inches (Stubbs's gauge) thick, are made for children's legs, and for the wrist, etc., of adults, but are rarely required. The bandage of ten and a half feet long, three inches wide, and No. 21 thick, meets the requirements of ninety per cent. of all the cases to which the pure rubber bandage treatment is peculiarly applicable.

the end the most economical. As it is my hope that this method may be largely introduced into hospital and infirmary practice, and so become a benefit to the vast masses of the suffering poor, I am anxious to be understood on this point clearly. The use of very thin rubber bandages was never recommended by me. A very eminent practitioner of New York, who early after its publication adopted my practice, is their suggestor, on the ground, I believe, that they are cheaper. Bandages of the thickness I recommend certainly fulfil all indications as well as if of any lesser thickness, and some very important indications in large classes of cases very much better. The only objection to them of any force whatever is their slightly greater first cost. If gentlemen, however, see fit to use the thin bandages, I would suggest one thing that they should *not* do, viz., apply them *double*. If this be done, evenly diffused constantly equable pressure in all parts of the limb cannot be obtained, or at any rate so perfectly obtained, as where the bandage is applied of *single* thickness. This may be proved by actual and easy experiment.

Another point to which I wish to allude is that, in applying a pure rubber bandage to the knee-joint, its edges, particularly the lower edge, are apt to chafe and even to cut the skin. I have often met this by applying a strip of sticking plaster to the skin at the point with which the edge of the bandage comes into contact, and this answers pretty well; but I now procure to be made for me knee-caps of pure rubber of the same thickness as used for the bandages. These knee-caps are simply tubes of pure rubber of different diameter and of proper thickness—just, in fact, as if from one leg of a "skin-fitting" pair of rubber tights one should cut out a section including the knee and three or four inches above and below the joint. For about three-quarters of an inch from the top and bottom, these tubes are of a slightly greater diameter, so as to "feare out" like the lips of a trumpet. In practice, I find these caps to fulfil all the purposes of the bandage, and to be quite free from the annoyance I have mentioned.

All that I have said of the durability of the rubber bandage, and its consequent economy as an appliance of hospital treatment, supposes the bandage to be of proper thickness, well made, evenly cut, and of the very best material, viz., Para India-rubber, properly "cured". I mention this, as instrument-makers here, contending to produce bandages at the lowest price, have made an article which *looked* very well, but went to pieces in a week or two of actual use. It may not be generally known that there are many different varieties of rubber, very widely differing in quality and price. Another fact is, that many other gums, of next to no value, may be combined with rubber in almost any proportion. As a result, "India-rubber" bandages may be produced at almost any price, and, as I have stated in one of my former papers, of an *appearance even more* attractive than those made in the most honest way and of the very best materials. The only true test is use. If a "pure rubber" bandage stretch out of shape, become brittle or "gummy", and so worthless, in a short time, it is not what it ought to be. A pure rubber bandage of proper thickness, properly cut, and made of pure well "cured" Para rubber, is almost indestructible, and should at the end of two years' constant and careful use be as good and useful as when first made. I hope, as it seems probable that my bandages may come to be in considerable demand in England, that instrument-makers, while they produce them at the lowest paying price, will not do so at any sacrifice of labour in making or of excellence of material.

BILHARZIA HÆMATOBIA.

By W. K. HATCH, M.B.,
Surgeon Indian Medical Department.

A CASE of this somewhat rare disease was admitted into the European General Hospital, Bombay, in August 1878, under Dr. Puttock.

X. Y., an English gentleman, had been travelling for the last two years, in Arabia, Syria, Palestine, and Egypt; in the latter country, he remained only fifteen days. In the winter of 1877, he was detained near Medina by the Turks, under guard of an Abyssinian soldier, who was suffering from irritation of the bladder, frequent desire to micturate, and scalding; micturition being afterwards followed by severe pain. X. Y. first noticed some pain on passing urine, of which he took no notice. After his release, he resumed his travels in Arabia, and in June 1878 noticed a pimple at an inch above the left patella; this became a shallow ulcer, and at the same time he experienced an irresistible desire to micturate, on alighting from the back of the camel on which he travelled, his urine being pinkish in colour. Some other similar sores appeared on both legs, and for these principally he came into hospital. Milk had been almost his only food for the last year,

and, with the exception of desert water, he drank nothing else; and to the water, which was often of the foulest description, he ascribed his present condition; he stated that both hæmaturia and ulcers were common amongst the Arabs.

On admission, he was a tall, fair, and delicate-looking man, suffering from hæmaturia, micturition being followed often, but not always, by pain in the perinæum. Blood and small clots passed with the last drops of urine, the first portion being perfectly clear. On both legs, he had several unhealthy shallow ulcers, with inflamed margins and purulent discharge.

The urine, on standing, separated into an upper perfectly clear portion and a muddy-looking sediment; the first presented nothing special on examination by the microscope, was acid in reaction, and of a straw colour. On examining the sediment, I found the following appearances:

1. A number of lemon-shaped cells with pointed ends and sharp outline (A and B in Fig. 1), in some cases quite transparent, in others with

a yellowish granular material inside, either free or embedded in a delicately fibrillated structure, but with no definite arrangement; this structure contained also other smaller cells. The transparent cells were smaller than the dark ones, and exhibited a break at some one point, where their contents had escaped, as shown at c.

2. Ciliated bodies, some with a perfectly unbroken outline; others, as in D (Fig. 2), with a kind of nose (which, in one case I observed,

moved slightly), and several projections from the surface: their interiors appeared granular, and with no definite structure beyond a small cavity close to the nose. In E, the embryo has just been born. Pulsation appeared in one of the ova, which suddenly ruptured and allowed its contents to escape; its walls then contracted, but for a short time pulsation in the embryo continued. There was no movement of the cilia, however, and in a few minutes the contraction which took place near the nose ceased entirely.

3. Numerous pus- and epithelium-cells, together with very small cells with dark outline, resembling minute drops of oil.

4. Apparently a fungus (F).

Examination of the discharge from the sores and of the blood of the patient gave no result. In no case did I find an active specimen of the embryo; Dr. Vandyke Carter, however, informs me that, in 1862, he found them in the urine of an African boy who was admitted into the Jamsetjee Jejeebhoy Hospital.

The patient was put on Dr. John Harley's treatment, but at present continues with no diminution in the number of the parasites.

SURGICAL MEMORANDA.

[UNDER this head, we publish from time to time, as materials accumulate, short records of remarkable cases in practice which are sufficiently rare, interesting, or instructive, to deserve record, but do not call for lengthened statement or comment. Brevity and point should be the valuable characteristics of cases forwarded for this column.]

EXCISION OF THE ANKLE.

I HAVE read with interest Surgeon-Major Porter's account of his case of excision of the ankle, in the JOURNAL of November 30th. I would call his attention, and that of those who have opportunities for practising that operation, to the improvement (as I believe) which is effected in it if the astragalus be removed in its entirety, instead of being sawn horizontally. I published, some months ago, a clinical lecture on excision of the ankle, which was necessarily based on a small number of cases (seven) under my own care. The operation, however, is one so rarely indicated, that I doubt whether many surgeons in civil practice have a much larger experience. In this lecture, I gave reasons for the opinion I hold, that the total removal of the astragalus increases the patient's prospects of recovery. Those reasons may be briefly stated as follows. 1. The astragalus, in cases requiring excision, is often softened to a considerable depth, or ulcerated on its lower as well as its upper surface, so that a mere horizontal section would leave behind it some bone actually diseased; 2. In patients low in health or strumous in constitution, the violence done to the bone by the saw may not be repaired, but may prove the starting-point of renewed inflammation and caries. 3. The bones of the leg unite quite as soundly and firmly to the exposed cartilaginous surfaces of the os calcis and scaphoid as they do to the section of the astragalus in the common operation. 4. The resulting shortening is not appreciably increased. 5. The difficulty of the operation is rather lessened than otherwise.

I have performed the operation in both ways, and have always felt much more easy and much more confident that I had really extirpated the disease after removing the whole astragalus and seeing the healthy cartilaginous surfaces of the calcaneum and scaphoid.

T. HOLMES, F.R.C.S, Surgeon to St. George's Hospital.

DR. WALKER'S MODIFICATION OF SAYRE'S APPARATUS.

JUDGING from the late discussion by the Medical Society, the surgeons of this country are willing to adopt the treatment of Dr. Sayre for disease of the spine in its entirety. Many, however, who have become acquainted with Dr. Walker's mode of applying the plaster jacket will think, with me, that it has some merits over that of Dr. Sayre, and I wish briefly to record in the JOURNAL my own experience of this modification, and my reasons for adopting it.

At the Children's Hospital and other institutions, I have had a very great number of cases of diseased spine under my care; and, until August last, when, as secretary to the Surgical Section, at the meeting of the British Medical Association, I had full opportunities of learning Dr. Walker's views, I had always applied the plaster bandage with strict attention to all the rules laid down by Dr. Sayre. After conquering those small technical difficulties which beset the adoption of any new plan of treatment, I found that, apart from the terror, often the pain, and sometimes the danger of Dr. Sayre's method, it was impossible to avoid, in some cases, the occurrence of sores over the prominent spinous processes of more severe cases.

Since August, I have applied, at Great Ormond Street and elsewhere, more than twenty bandages after the method advocated by Dr. Walker, and I confess myself most satisfied with the result in every way. In all slighter cases, the effect has been as satisfactory as Dr. Sayre himself could wish to see; whilst, of the more severe cases, in no instance have I had to remove the jacket. In application it is simple, and it is free from any terrors, pains, or dangers, which undoubtedly