dark patches of ecchymosis near the larger end, and smaller bright red punctate ecchymosis over all its surface. The small intestines were greyish green, and distended with gas. There was limited hyperæmia at various points, but no enteritis or peritonitis. The urinary bladder and gall-bladder were distended with normal contents. The veins of the neck were distended with dark loose clotted blood. The blood was generally thinner than usual, and of dark plum-colour. The five remaining powders were examined, and found to consist wholly of salicylate of soda, giving the characteristic violet colour with a solution of perchloride of iron. The deceased died from comato-asphyxia, and the *post mortem* appearances corresponded with the symptoms observed during life. The condition of the heart, lungs, liver, spleen, and kidneys, was as usual in asphyxia, and the condition of the brain and blood-vessels within the head as in coma. Besides all this, there were marks of irritation along the gastro-intestinal tract; the papillæ at the base of the tongue were swollen; the gullet and larynx were congested; the mucous membrane of the stomach was softened, and ecchymosed. The liver and kidneys had traces of commencing inflammation, as seen in phosphorus-poisoning. One of the weakly irritant poisons seemed to have caused all the symptoms. Salicylate of soda had not been found in the viscera, nor in the blood, and the urine had, unfortunately, been lost. The usual symptoms of poisoning by salicylic acid or salicylate of soda were heat and irritation in the papillæ of the tongue, pain, nausea, colic, and general irritation of the gastro-intestinal tract, when given in too large or too concentrated doses. Disturbances of the circulation were not in this case very well marked, and this was quite consistent with salicylate poisoning. The temperature also was not inconsistent, as experiments had proved that small doses lowered, though large elevated the temperature. Small doses had been found to make the respiration slow; and coma to an extreme degree had been seen in some cases. The administration of salicylate of soda was contra-indicated in cases of disease of the kidneys, and the question suggested itself whether the pain complained of was not due to congestion of the liver, and whether the congestion did not contra-indicate the salicylate. There were, however, no morbid appearances seen in the liver further than commencing granular degeneration of the cells, and this seemed more likely to have been produced by the poison itself, than to have been there before its administration. The cerebral congestion which, along with many other nervous troubles, was a common effect of salicylate, should, perhaps, have been more fully noticed, especially when the unusual state of the heart was taken into consideration; but it was difficult to form any conclusion as to the connection between the two.—Dr. HALL had used salicylate of soda largely, but had never seen any bad effects. In one case, where thirty grains had been given, he had seen some nervous symptoms somewhat analogous to quininism, such as pain in the head, vertigo, affections of vision, etc.—Dr. MACGREGOR doubted if Dr. Ogston's case were really a case of poisoning. Might it not have been a case of acute congestion of the lungs proving quickly fatal?—Dr. MCKENZIE BOOTH also doubted whether the case was one of poisoning at all, and not rather of death from natural causes.—Dr. GARDEN thought that if death had been caused by the dose of salicylate not being sufficiently diluted, then he should have expected more marked appearances of irritation in the mucous membrane of the œsophagus and stomach. Besides, there would have been found traces of the salt in the stomach. In order to the case being made out there had to be excluded (*a*) death from natural causes (*b*), morphia or opiate poisoning; and some positive proof would have been required of salicylate of soda in such a very moderate dose being capable of proving fatal to a young healthy adult. On the whole, it looked to him more like death from natural causes.—The PRESIDENT had seen cases of sudden death from mischief in the lungs, where the patients had complained of little till very shortly before death. Could the powder have been morphia, with a small quantity of salicylate of soda as an impurity? He had found from experiment that a mere trace of salicylate gave a very marked re-action with the iron test. On the whole, he thought Dr. Ogston had not made out his case.—Dr. F. OGSTON replied, and endeavoured to combat the various arguments adduced against the case being one of poisoning.

EXPLOSIVE HYPOPHOSPHITES.—The *New York Medical Record* reports that, as Dr. H. Giffard of Syracuse, was engaged recently in triturating a mixture of hypophosphite of lime, three parts, and hypophosphite of soda, one part, the compound exploded like gunpowder, the fine particles flying into his face and severely burning his eye. His injuries are likely to result in the loss of his left eye.

REVIEWS AND NOTICES.

UEBER DIE MILZBRANDIMPFUNG. KASSEL UND BERLIN. By Dr. R. KOCH. Theodor Fischer. 1883.

IN this pamphlet, Dr. KOCH replies to the attack made on him by Pasteur at the late International Congress of Hygiene at Geneva, showing that the different conclusions at which he and the Frenchman arrived were to be explained by their respective methods of procedure.

His demands are these: proof of the parasitic character of each individual infectious disease; cultivation of the micro-organism, when found, on the pure method (*Reincultur*); and reproduction of the disease by inoculation of the micro-organism. The method is well known, and its practicability has been brilliantly shown in the case of tubercle-erysipelas and anthrax.

Pasteur, on the other hand, is convinced of the parasitic nature of all communicable diseases, and does not consider such proof as necessary. This is well seen in his treatment of what he calls *la nouvelle maladie de la race*. No importance is attached by him to the selection of the animal to be experimented on; it is inoculated with crude material, viz., the saliva of a dead body. He did not find the micro-organisms of rabies, if there be such, but merely a bacterium which he quite gratuitously assumed to be that of a new disease, whereas the phenomena to which it led were none other than the well known septicæmia of the rabbit. He fell into the same error in his researches on the typhoid of the horse. Pasteur's faulty interpretation of the phenomena of disease are explicable only by the fact of his not being a medical man.

Dr. Koch opposes to Pasteur's assertion that he discovered the etiology of anthrax, the fact that his own publication appeared in 1876, while it was not until a year later that Pasteur published anything on the subject.

On the causation of natural infection, the views of the two investigators differ essentially. Pasteur maintains that, in the decomposing carcases of beasts who have died of anthrax and been buried, spores are developed which, brought to the surface by worms with their casts, adhere to fodder and infect the cattle, if the fodder be thorny or their mouths be in any part abraded. This theory Koch has contested in his essay on the "Etiology of Splenic Fever," in the *Mittheilungen aus dem K. Reichsgesundheitsamt*.

The greater part of the work is occupied with a criticism of Pasteur's views on the mitigation of the virus and the means of obtaining immunity thereby.

Pasteur applied the experience he had had of the mitigation of the virus of the so-called fowl-cholera to the *Bacillus anthracis*, and succeeded in so far weakening its activity that cattle survived infection by it, and acquired immunity against the infection of the most virulent anthrax. He then advised, in order to attain this immunity with the least possible risk, a double inoculation, first with a greatly mitigated virus, *premier vaccin*, and later with one less weakened, or *deuxième vaccin*.

Pasteur's design to extend the application of the results achieved by him in the two above-named diseases to all infectious diseases, is proved, by the experience of erysipelas, relapsing fever, and tuberculosis, to be impracticable. Even in the case of anthrax, the law of immunity, in Pasteur's sense, cannot be maintained, for Loeffler, Gotti, Guilebeau, and Klein, have shown that no such immunity is obtained in the case of guinea-pigs, rats, mice, or rabbits; and man himself can he attacked more than once. It is only among sheep and cattle that any immunity is conferred by preventive inoculation; and with these it remains to be proved that the results outweigh the immediate risks, and how long the immunity persists.

To decide these questions, the Imperial Board of Health undertook a series of experiments, the results of which are now, for the first time, made public. The bacilli were, according to Pasteur's own directions, cultivated in neutralised meat-broth, at a temperature of 42° or 43° C. Injections of the "first vaccin" were without any appreciable effect in the sheep experimented on; but a number died of anthrax after the "second". Of six sheep who, having been, according to Pasteur's directions, twice "vaccinated" and protected, were afterwards inoculated with unmitigated virus, one died. Like results were obtained in several other places.

Pasteur's theory as to the entrance of the bacillus by breaches of the oral mucous membrane, produced by coarse fodder, was made the subject of numerous experiments. Soft food, potatoes hollowed out and stuffed with infective matters, were carefully introduced into the mouths of sheep; so long as the infective matter contained

bacilli only without spores, no ill effects followed; but when spores were present, whether the matter were fresh or had been dried for over a year, the animals died invariably in a few days.

Eight sheep, who had been "twice vaccinated," were inoculated with matter of proved activity taken from spontaneous cases of splenic fever. One died in two days. Twelve days after this, the seven survivors, who had thus been thrice inoculated, twice with mitigated, and once with natural, virus, were given food containing spores; and, within two days, two of them had died of splenic fever.

Dr. Koch, therefore, asserts that, from the uncertainty and short duration of such immunity as these inoculations afford, as well as the danger to which not only the animals themselves, but those who have not been inoculated, and human beings in contact with them, are exposed, Pasteur's protective inoculation cannot be looked on as of any practical value.

At the same time, he does not deny the possibility of transforming one description of bacillus into another nearly allied, or even of pathogenic into innocent organisms, and *vice versâ*, but demands that a much more exact demonstration of such change must be given before it can be accepted as a scientific fact.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

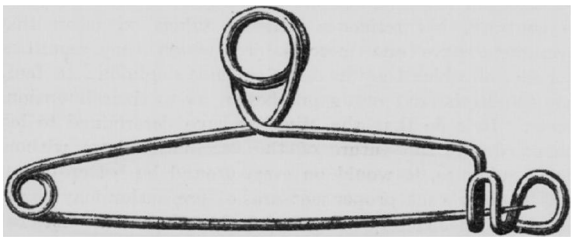
POCKET URINARY TEST-CASE.

MR. HAWKSLEY, of 357, Oxford Street, sends us an urinary test-case, which will be found very convenient for the pocket. Its dimensions are 5 inches by 3½ inches, and 1 inch in depth. It contains the following apparatus: a gravimeter, a small bottle containing powdered picric acid, and another holding solid caustic potash in one-grain pieces; a small bottle containing methylated spirit, which is converted into a lamp by removing the cork and inserting the wick, which is packed in a short glass tube; a test-tube 4½ inches long, which is graduated into half-drachms and drachms, by means of which a quantitative analysis of sugar up to the amount of two grains per ounce may be made with the picric acid and potash test; a small tube containing the ferric acetate standard, indicating the proportion of ½ gr. sugar per ounce; a small brass measure for the picric acid, and a perforated brass plate, which serves as a test-tube stand. A pocket in the lid contains coloured test-papers, and brief printed directions for using the various tests for albumen and sugar.

NEW SURGICAL PIN.

By JOHN WARD COUSINS, M.D.Lond., F.R.C.S.,
Surgeon to the Royal Portsmouth Hospital.

I BEG to introduce to the notice of the profession a new bandage and dressing pin, with the hope that it may prove an useful though humble addition to the common necessaries of every-day practice. During the last few years, safety-pins have been largely used in many hospitals, and some surgeons and nurses carry a supply with them for every emergency. The safety-pin, however, is by no means a perfect contrivance for surgical purposes; for, in its application, it is often troublesome to fasten and unfasten, and it is very liable to slip into the folds of a bandage, and thus to cause delay in its removal. The surgical pin which is represented in the engraving is specially adapted for surgical work, and possesses qualities which



will be appreciated by surgeons, accoucheurs, and nurses. It is handy in introduction, safe in position, and capable of instantaneous removal. This simple contrivance is in the form of a spring-pin, which is converted into a novel instrument by the addition of a special shield and a short handle. It is manufactured in stout pin-wire, and midway between the spring and the shield a convenient handle is produced by giving the metal a loose double twist. The handle is the special feature; it gives complete control over the pin, assists in directing the point, and renders both its introduction and withdrawal easy and instantaneous. When in position, by the aid of the handle, the point can be instantly protected; and then, by raising the shield with the handle, the pin is at once unfastened, and can be readily removed. In this way, ease and rapidity of application are secured; and these qualities render the new surgical pin far more handy than any other kind of bandage and dressing holder. For hospital work, it will be found a valuable little innovation; and it is also well adapted for dressers and surgeons in the field, in all the appliances of immediate surgery. It is manufactured by Messrs. Kirby, Beard, and Co., of London and Birmingham, in several convenient sizes. The largest pins are especially suitable for chest and abdominal rollers; and they will prove also an excellent substitute for the tapes which are fixed to the ends of the India-rubber bandages now so universally employed in practice.

JUNKER'S ANÆSTHETIC APPARATUS.

SIR,—I see in your issue of to-day an account of the above apparatus. I have had some experience with it, and cannot give it the praise Sir Spencer Wells does. Unfortunately for the reputation of this apparatus, we are only blessed with two hands; one hand is required for the compression of the bellows, and the other hand is made use of in holding the face-piece *in situ;* and no hand is left to feel the pulse with; and I must say I should be very sorry to give either chloroform or bichloride of methylene to a patient with this apparatus without maintaining a constant watch over the pulse, notwithstanding what Lister says. A very efficient modification of Junker's apparatus was introduced some years ago by Mr. Mills (senior administrator of anæsthetics at St. Bartholomew's Hospital). The face-piece was replaced by a flexible catheter or soft leaden tube, which is inserted either into the nostril or into the mouth; and in long operations about the mouth, as removal of the lower jaw or tongue, a constant supply of chloroform is given to the patient, with the double good result of keeping the patient thoroughly "under" and not inconveniencing the operator. This apparatus of Mr. Mills's has been in use at St. Bartholomew's for some years, and has met with universal approbation.—I am, sir, yours very truly,

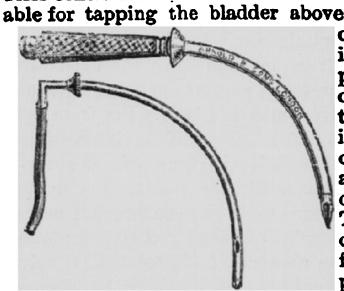
ERNEST CLARKE, M.B., B.S., late House-Surgeon and Assistant Administrator of Anæsthetics to St. Bartholomew's Hospital.

Blackheath, April 28th, 1883.

A NEW INSTRUMENT FOR SUPRAPUBIC PUNCTURE OF THE BLADDER.

By T. FREDERICK PEARSE, M.D., Liphook.

THIS consists of a trocar and cannula made of a size and shape suitable for tapping the bladder above the pubes, and of a specially constructed silver catheter to fit in the cannula. The cannula is provided with rings, so that it can be tied in position like a tracheotomy-tube. The catheter is made to accurately fit the cannula, its point extending about one inch beyond the point of the cannula into the bladder. The external portion of the catheter is bent at a right angle, for the purpose of fitting on a piece of India-rubber tubing, and is provided with a shoulder, to prevent its slipping down the cannula into the bladder.



The object of the instrument is to prevent the patient's clothes and bedding from being soiled, as occurs under ordinary circumstances, from the almost constant discharge of urine through the artificial opening, by providing a sort of artificial urethra, which can be opened or closed when desired. By its means, the patient is enabled to get up and move about soon after the operation, without fear of soiling his linen.

The instrument has been made for me by Messrs. Arnold and Sons of London.