District Boards should, at the commencement of each financial year, make an estimate of the expenses of the next twelve months, and would, upon such estimate, levy four rates of equal amount to cover the yearly period, each rate to be collected quarterly, and this one rate to cover the whole amount of local taxation, including all municipal rates, poor rates, general district rates, and county rates, which under those designations would cease to exist. The County Board, having the management of workhouses, hospitals, county bridges, or highways determined to be county roads, etc., would annually address to each district board a precept calling on them to pay, by four quarterly instalments, a sum calculated on the ratable value of the district, against the general ratable value of the whole county, sufficient to pay proportionately, without reference to the numbers of paupers, lunatics, quantum of roads, etc., but equalising the levy over the whole county. In this way a check would be given to the County Board over district boards as to administration of the Poor Law, and especially an impetus would be given to the right use of the workhouse as a test in all cases of pauperism; while, on the other hand, if greater charges were thrown on the county management by inordinate burdens being cast on the county authority by any one district board, this would at once lead the way to an inquiry on the part of the County Board as to the cause of excessive pauperism, sickness, etc., and a certain test of effective administration would be always at hand, and the earliest opportunity afforded of seeking an effective remedy. In the districts themselves, works for sewerage, or water-supply, or gas-supply, should only be charged over those portions of the district receiving their benefits; all other exemptions should be removed. This principle was formerly adopted in Improvement Acts by limiting the full improvement rate to those portions of the district to which gas lighting was extended and paid for by the Improvement Commissioners. Beyond this there is the important question of contributions out of Imperial funds for local purposes; and this is right in principle for two reasons—

1. Because there are many functions exercised by local authorities, and by their officers, which are much more than local; and
2. Because there should be an attempt to equalise as far as possible the burdens to be borne by real and personal property.

To carry out this purpose, it is proposed to exclude from a contribution in aid all expenses of sewerage works, water-supply, and gas-lighting, which are entirely local, and which are to be paid for immediately by persons receiving the benefit. It is suggested that one-fourth of the total remainder of local taxation, after the exclusion of these works, should be paid for out of funds levied by Parliament. This would include the expenses of police, relief of the poor, education, salaries of officers, and general expenses, and would be paid upon the certificate of the County Board, to whom would be referred the whole of the accounts annually of every District Board. It is intended that the administration of justice, the maintenance of a county police (which means a police for every district in which there was no town containing 25,000 inhabitants), the expenses incident to prisons and reformatories, should be in the hands of the Court of Quarter Sessions, who should in the same manner as the County Board address yearly a precept to each District Board; but in this case the calculation should proceed on the basis, not of ratable value, but of actual cost incurred on the part of the district, with a ratable proportion added to cover expenses of management in the case of prisons, police, and reformatories. The Central Board or Local Government Board in London should be reconstituted, and consist as at present of a member of the Cabinet, a president with three other members, one an engineer, the second a barrister of at least twelve years' standing, and having been ten years in actual practice as a barrister, and the third a member of the medical profession. This Board would be the final Board of Appeal, should give advice to the County Boards or District Boards, should regulate and direct all matters referred to it by the various boards, by orders should appoint inspectors to visit and advise with Local Boards, and should have sent to it an annual report of all work done and money expended within the district of each County Board.

Finally, all sanitary law should be digested into one statute, and the restrictions which now impede action, such as the Borough Funds Act, should be removed, the County Board in all such cases being substituted, as in all cases where any application was contemplated to Parliament affecting existing water or gas companies, and their consent should be substituted for that of a meeting of ratepayers; in all other cases, for the acquirement of land for sewerage, gas, or water purposes, or for the expenditure of money for permanent works, either within or without its district, the consent of the County Board should be essential before such expenditure should be incurred, while ample powers should be lodged in them as the authority to compel, and, if necessary, upon default of the District Boards, to carry out works deemed necessary for the protection of the health of the district.

Any alterations in the law should be met by a repeal of the existing statute in its entirety, and a re-enactment of the amended law, so that there should always be in existence one code, and one only, embracing the whole subject of sanitary organisation and control.

TELEGRAPH-WIRE EXTEMPORISED FOR FIELD SURGERY.

By SURGEON-MAJOR J. H. PORTER, Assistant Professor of Military Surgery, Army Medical School, Netley.

WHILE serving in France with the British Ambulance during the Franco-German war of 1870-71, I was much struck with the enormous amount of telegraph-wire which lay in disordered masses along the roads traversed by the contending armies, in consequence of the posts having been destroyed and lines cut.

The surgeon serving with an army in the field is apt to turn in his mind what use he may make of apparently useless articles, or, indeed, of everything he can lay his hands upon, in constructing extemporaneous contrivances for the aid of the wounded; and, on the above occasion it occurred to me, that splints for the temporary "putting up" of fractures might be formed from telegraph-wire.

Having no occasion while serving with the ambulance to extemporise splints, I did not make use of the wire; but, since then, I obtained some of the telegraph-wire used in England, which consists of galvanised iron, and from the thinner gauges I constructed the splints represented in the illustrations, which, from the wire being interlaced, or otherwise secured, form supports sufficiently strong to put up fractures in a temporary manner, the sleeve of a coat or a shirt, the skirt of a tunic or other material being stuffed, or arranged with leaves, grass, or anything procurable to form pads or cushions. In attempting to make these splints, the first difficulty experienced was to cut the wire, which, from being very pliable, bent in all directions before giving way at the exact point required. I had in consequence a file constructed by Messrs. Weiss and Son on the outer edge of one of the blades of the straight scissors (Fig. 1) in an ordinary pocket-case,

which is capable of cutting a notch in the wire, and so weakening it, that it may be broken with ease at the exact point required.

There are many other things, such as straw, thin boards, laths, twigs, rushes, and thick leather straps, so much better adapted for making extemporaneous splints than wire, that the surgeon would natu-

rally select them if present; but it is possible that telegraph-wire may be the only article available, I have therefore thought it worth while making known how it can be utilised.

The illustrations kindly drawn by Dr. J. D. Macdonald, R.N., F.R.S., speak for themselves as regards the formation of the splints, and have been taken from splints put together without any other aid than the file or scissors and ligature-silk, which should be always available in the surgeon's pocket-case. Fig. 2 represents a splint for the leg or forearm; the latter being considerably shorter and narrower. Fig. 3 represents a splint for the outer side of the upper arm, one end being bent over the acromion, and the other under the olecranon, as might be done with a piece of leather strap. Fig. 4 represents an inner or back splint for the upper arm. Fig. 5 represents an angular splint for fractures of the lower end of the humerus, or injury of the elbow.

It greatly facilitates the construction of these splints if the surgeon be aware of the amount of wire required for each, which should be detached before the splint has been commenced. The following will be sufficient for a man of average size: upper arm (outside), 42 inches; upper arm (inside or back), 24 inches; angular for elbow, 34 inches; forearm and hand, 60 inches; leg, 78 inches. The file will be found most useful for many purposes of active service, and it does not interfere with the utility of the scissors.

IS ENTERIC FEVER EVER SPONTANEOUSLY GENERATED?

By R. BRUCE LOW, M.D.,

Medical Officer of Health, Helmsley Rural Sanitary District.

IN answer to this query, and acting on the advice given by Sir William Jenner, quoted by Dr. Fox in the JOURNAL of March 25th, that "the best mode of settling this question is to thoroughly scrutinise every isolated case that occurs in out-of-the-way country places", I submit two groups of isolated cases which occurred in my out-of-the-way country district. The first group consisted of four cases, all occurring in the same house about the same time. The house itself was a moderately large one for a cottager, consisting of four fair-sized rooms. The family consisted of four persons, three adults and a boy of four years. The situation of the house was most peculiar. It was built on a hill-side, facing the junction of four wide valleys; a more exposed situation could hardly be imagined. Above the house were miles of moorland; the house was some distance from any high road, and altogether so out-of-the-way, that it was impossible that any tramp infected with enteric fever could have found out the house, far less the privy which turned out to be the source of the mischief. The father of the family was the first victim; within a week his wife was taken ill; in another week the daughter; and, finally, a married daughter, who had come to nurse them, also took the disease. All the four persons were ill in the house at the same time; the little boy escaped (not having used the privy). Two sons came to help to nurse their relatives, and, by my advice, did not go near the privy; also a trained nurse, who ultimately took care of them. The father and the married daughter died. The other two recovered. The water-supply was examined and found pure; the house was clean and commodious. The privy was found running over, and so full of filth that the seat could not be used. The fact that all the sufferers had used this privy, and that those who were afterwards exposed to the same conditions (with the exception of the foul privy), as well as the double danger of the typhoid stools from the four individuals, never took the disease—all this points to some local exciting cause, viz., the privy. In addition to this, when we consider the exposed situation of the house, its isolated position, to which a person (a tramp, for instance, who is the vehicle for carrying about the disease, according to the belief of some) suffering from enteric fever could not have climbed, the road being both steep and difficult to find; when we consider the pureness and abundance of the water-supply, and the entire absence of enteric fever from the district, which is very thinly populated; combining these facts with the circumstance that neither the father nor any of the others had been out of the district for a very long time, nor had they had any visitors, we are driven to the conclusion that the disease was generated *de novo*, and that there could have been no exposure to a specific contagion. I may state that the privy was disinfected and cleaned out, and, although a new family has occupied the house since the outbreak, no fresh cases have occurred.

The second group also consisted of four cases. Two little boys, attending a day school, had an attack of diarrhoea. One of the boys passed his evacuations in bed during the night, but was able to go to school next morning. The mother of the boys employed a charwoman

to assist her in washing the soiled bedclothes. An aunt of the boys resident in the house also assisted. Within a week these three persons were seized with symptoms of enteric fever, which developed rapidly, and proved fatal to the mother and to the aunt. All three, when engaged in the cleaning of the soiled linen, were nauseated by the foul smell of the evacuations. The house was a fairly built one, and contained twelve inmates (six adults and six children). The drainage was perfect, the water-supply pure and constant. No cases of enteric fever existed in the district. None of the family had been from home; they had had no visitors. The privy was clean, and as wholesome as could be expected. The two boys attended school all the time they were ill (a few days); their appetite and general health were not affected. The school was airy and well ventilated; none of the other scholars were ill. No source of contagion could be traced. Was the diarrhoea of the boys the manifestation of enteric fever in a mild form? If so, then the infection of the three persons is at once accounted for; but it is open to doubt if this diarrhoea was that of enteric fever, for in no way could any source of infection be found which would account for their having taken the disease. In the absence of any proof to the contrary, we must admit that the disease began from the inhalation of the foetid stools of the boys; that the emanations from these stools poisoned the systems of the three individuals who inhaled them, and the "filth-fever" was thus generated. I have omitted to mention that one of the children, who remained in the sick room with its mother during her long illness, also took the disease and died from it, the mother clearly infecting the child; but none of the other children or the other inmates of the house suffered from the disease. In conclusion, I may state that the privy in the garden of the house was quite inaccessible to any tramps, who might have left in it their infected stools, so that this theory, which meets many of the obscure cases, is not tenable in this instance.

SARCOMA OF KIDNEY AND LUNGS.*

By A. W. MAYO ROBSON, L.R.C.P.Lond., M.R.C.S.Eng.

MRS. W., aged 52, gave a good family history, and told me that her health had been all that could be desired up to five years ago, when she was attended by Mr. Hey for gastritis, followed after a month by phlegmasia dolens of the left leg, which detained her in bed for several weeks. From this attack she perfectly recovered, and continued well up to the latter part of last year, when she frequently complained of slight pain in the left side of the abdomen and in the left hip, and was unable to sleep on that side; but beyond these symptoms nothing of importance was noticed till Christmas, when her appetite began to fail and her strength to flag. She lost flesh, became low-spirited, and fell generally ill. At the beginning of January 1875, she sought advice, and received medicine, but became gradually worse, and vomited and retched violently and frequently.

About the middle of January, I saw her, when she was thinner than usual, rather pale, had a very red tongue, and a slight dry cough; pulse 85, and bowels constipated. She complained of severe pain shooting down the back of the left hip and thigh, which recurred every night about the same hour, and of frequent vomiting, quite independent of food. The abdomen was tympanitic, but neither painful nor tender. The urine was normal in every respect. Despite the use of various medicines, with careful nursing and dieting, she gradually grew worse, and only received benefit from morphia.

On February 5th, Mr. Hey met me in consultation; and as the only evidence of disease seemed to be in the mucous membrane of the stomach, muco-gastritis was given as the diagnosis, and the case treated by the different stomach sedatives, but without any effect, as the vomiting continued and the weakness increased, so that on February 15th it was considered advisable to give nutrient enemata, especially as the mouth had become aphthous. For a short time, the wasting seemed to be checked; but when the injections were temporarily left off, on account of inflamed piles, she again failed rapidly, until the renewal of the treatment. The intense tympanites was relieved from time to time by turpentine stupes.

On March 10th, the pain was diminishing in the hip and thigh, and increasing in the left loin. The tympanites was much diminished. On pressing my hand deeply in the left lumbar region, I discovered a hard smooth enlargement, resonant in front, more distinctly felt when the patient was placed on her right side, when it seemed to move with each respiration. I pointed it out to Mr. Hey at our next meeting a few days afterwards. As there were absolutely no subjective kidney-symptoms, we thought the tumour could not be renal, although our first impression, on feeling it, led us to think it such.

* Read before the Leeds and West Riding Medico-Chirurgical Society.