of truss, but rather a good method of covering various trusses, so as to exclude the perspiration and secure durability.

A very excellent instrument is furnished by the United States government to ruptured soldiers. It is made in Chicago by Dr. A. H. Parker, under the trade name of the "Common Sense Truss," and extensively sold to patients. (See Fig. 4.)

Fig. 4.

It consists of a steel spring, covered with a strong woven sheath, which is generally silk. The sheath terminates in the usual leather strap to fasten in front. The pad is of ivory or other smooth material and carried on a short arm, which can be set in different directions so as to fit the patient and change the instrument for use either with a right or a left hernia. The pad is articulated with a ball and socket joint, fixed with a set-screw. The temper of the steel admits of being bent to fit the form without breaking.

Fig. 5.

The length of the spring is somewhat greater than in most trusses as shown in Fig. 5, where the upper one is of the common kind. The increased length of the lower one fixes it more steadily on the hips. It is a very excellent truss.

Sharp & Smith sell largely a truss which pleases many patients. It has a good steel spring like nearly all the trusses now in use, and the pad is attached to it by a revolving ratchet bar to enable the pad to be set in or out at pleasure. The other end of the bar is secured to the pad by a screw and a dowel-pin, which permits of other changes of position. (See Fig. 6.)

Fig. 6.

However, it is useless to try to specify all the good

trusses in the market. It will be more useful to you to sum up briefly the points to be attended to in fitting out a patient who has a common inguinal hernia. It is best either to take him to an establishment where a large number of trusses can be tried, or else to carry a large assortment to his residence. The principles involved in the fitting are these:

1. The hernia must first be reduced. No patient can bear an ordinary truss pressing upon the intestine.

2. If the hernia is oblique, apply the truss squarely upon the internal ring, or a trifle downward and inward from that position.

3. If the hernia be a "straight" one, or if it be a direct one, apply the pad upon the external ring, but do not put it upon the os pubis. No patient will tolerate the instrument if it pinches the skin against the bone.

4. When applied, have the patient test it by coughing, straining, running and jumping. If it holds the gut, under these tests, and does not slip from its position nor hurt him, it will be for him a good truss, whether it fits anybody else or not. The main point is to be comfortable to the patient, and to hold the gut. These ends being secured, the numerous minor modern improvements are of secondary consequence.

5. In fitting peculiar cases, the minor points come to the surface, and are briefly these: A person who sweats copiously destroys woven and leather covers, and rusts steel springs rapidly. Celluloid covers last such cases longer. The pad should be proportioned to the size of the ring, not plunging into it like a plug, nor spreading all around it like a flat wheel. Perineal bands are useful in some cases, especially in femoral hernias.

Cup-shaped pads are useful in some irreducible hernias, and suspensory bags in others. Belt-trusses do well in umbilical hernias; but spring-trusses serve also, if the rupture be not large. Springs, with a hard spring-temper, keep their shape best under long wear; but if they do not fit well, they cannot be altered. A softer temper enables you to modify the shape of the spring to fit the peculiarities of the individual form; but if it be a little too soft, the spring will slowly yield and require to be frequently bent in again to maintain the pressure. Leather or silk-covered pads are pleasing at first, and hold their positions well; but as they become soiled or rotted with sweat, they require repairs. Wood, ivory, celluloid, and other hard substances last very much longer, but are more expensive at the outset.

HISTORY OF A CASE OF NEPHRORAPHY, WITH REMARKS.

BY L. H. DUNNING, M.D., OF SOUTH BEND, IND.

Mrs. G. H., aged 44 years; American; of large build and strong; previous to the present illness had been robust. About seven years ago she lifted hard upon an iron kettle and felt something give away in

the right side. She was ill for some time after this strain, and attributed her illness to some injury done to an internal organ. Commencing six years ago, she was for three years confined to the bed the greater part of the time. Of the nature of her disease, at the commencement, I am unable to say, since she was seen by many physicians, no two of whom agreed in the diagnosis of her case. Four and one-half years ago she came under my observation and treatment. Then there were ascites and anasarca, and pain in the pelvic region. The urine was slightly albuminous. I thought her a subject of chronic Bright's disease, but soon changed my opinion, as the dropsy was readily relieved, and the albumen disappeared from the urine. Later on in the case, I found a tumor in the posterior wall of the body of the uterus, and another in the hypochondriac region. These we concluded, after consultation, to be fibroid tumors, which were treated upon the non-interference plan. Three years ago she began to improve, left the bed, and commenced light hand work. Last February (1884) she had a severe attack, the main symptom of which was an intense pain in hypochondriac and lumbar regions. This pain was at first supposed to be due to neuralgia, from which she suffered much and often. It resisted all forms of treatment for weeks. At times it was agonizing, and could only be relieved by large doses of morphine or by chloroform inhalations. After eight or nine weeks the patient was better, but she was greatly emaciated. The fat had nearly all disappeared from the walls of the abdomen, and I was able to better examine the contents of the abdominal cavity. I now concluded that the abdominal tumor before found, and now easily outlined, was a movable kidney, and that the intense pain she had suffered was due to a stretching or twisting of the nerve supplying the kidney. The range of motion in this tumor was great. It could be moved without undue force two inches to the right of the umbilicus and two or three inches below the same point. From these localities a slight pushing movement would cause it to glide back to its place beneath the right lobe of the liver. By pressing upon the eleventh and twelfth ribs (right side), the patient could shoot it across the abdomen to the left of the umbilicus. The outline of the tumor could be felt, and it was distinctly kidney-shaped. During the summer several physicians saw the patient, and concurred in my diagnosis.

I stated to the patient the possibility of fixing the organ by an operation. She urged one, and I finally consented to undertake it.

Oct. 30, assisted by Drs. Kettring, Kilmer and McAllister, of this city, I proceeded to operate, adopting the plan described by Dr. Robt. F. Weir in a clinical lecture published in the *New York Medical Journal*, Feb. 11, 1883.

The operation consisted in cutting down upon the kidney in the lumbar region, and stitching the fat and capsule to the edges of the wound. Our incision extended from the twelfth rib to the crest of the ileum, was parallel to the spinal column and two and one-half inches to the right. We were able to readily bring the posterior surface of the kidney into the

wound or to push it away from the wound several inches. In this way were we able to confirm our diagnosis. The posterior surface of the kidney was crowded firmly into the bottom of the wound, and the fat and capsule firmly united to the edges by catgut sutures.

Four stitches were used along each border of the incision. Three stitches I thought at the time passed through the renal capsule, and the remainder through the peri-renal adipose tissue. A drainage tube was placed in the bottom of the wound and fastened there. The wound was left open to heal by granulation. The full antiseptic dressing was used, a compress placed upon the right side of the abdomen and the whole held in place by a wide bandage. Full antiseptic precautions were employed, except the spray.

The patient rested well, and at nine o'clock, ten hours after the operation, the temperature was $96\frac{3}{4}$ degrees, and the pulse 78 per minute. She was looking bright and cheerful, and had taken some liquid nourishment with relish. Two-thirds of a pint of urine was drawn with the catheter. The temperature and pulse records in the case are uninteresting, and will not be given in detail. The highest temperature reached was twenty hours after the operation, when it was 99.9, and the pulse seldom reached a higher rate than 80 per minute. The second day the wound was dressed, and found in a healthful condition; but we found, to our surprise and disgust, the knots holding the sutures including the deeper portions of the investments of the kidney had pulled out, and one end of each had drawn into the tissues out of sight. The remaining sutures were intact, and held the kidney firmly against the bottom of the wound. During the dressing an assistant made firm pressure upon the abdomen, in the hypochondriac region, to prevent any displacement of the kidney, and this precaution was observed during each subsequent dressing. All went on well with the patient and wound until recovery had taken place. Not an untoward symptom arose, and at the end of six weeks the wound had entirely healed.

During this time the compress had been held firmly in place by a bandage encircling the abdomen. Now, upon the removal of the bandage with the patient lying upon the left side, it was found the kidney moved slightly away from the position in which it had been anchored, and we were made aware of the fact that our efforts had not been entirely successful.

January 30, I examined the patient in respect to the effects of the operation, and learned that the kidney was movable to the extent of about one inch in a transverse direction, but not in any other direction.

That the patient has been much relieved by the operation is apparent. She is quite well satisfied with the results, though the relief was not so great as she anticipated. I would not have trespassed so long upon the time of the reader of this detailed history, were it not that there are several points of interest connected with it that merit more than a passing notice.

The number of operations performed for the fixation

of a floating kidney are comparatively few since the operation is of recent origin, and the number of cases requiring operative procedure are limited; hence it is that all points connected with the *modus operandi* are not as yet definitely settled. One of these points relates to the investing parts of the kidney to be united by suture to the edges of the wound.

In the first two cases operated upon by ¹Hahn he passed the sutures through the peri-renal fat, and in one of them the result was not entirely satisfactory, so in the third case he included a portion of the renal capsule in the suture. ²Gilmore records one case in which the suture cut its way out of the renal capsule and set the viscus free. The author of the article in Ashurst's Surgery already quoted, states "Experience will have to decide whether there is any necessity of penetrating the envelope of the kidney." That the kidney can be more firmly fixed at the bottom of the incision if the sutures pass through, and include both the peri-renal adipose tissue, and renal capsule, I have no doubt; but I am convinced after a number of experiments made upon the kidney, and its investments soon after the slaughter of the animal (sheep) that if the peri-renal fat and capsule are intact, *i. e.*, if they retain their intimate relations and attachments to the kidney, which may be ascertained when that organ is exposed by the incision, there is no need of attempting to include the nearer investing capsule of the kidney, for I found the attachments of the former to the latter strong enough so that if secured by a single suture it would bear the weight, without tearing, of more than two normal kidneys. Apply now eight or ten sutures, at proper intervals, throughout the length of the posterior surface of the kidney, and I believe it will be so firmly held in position that deeper sutures will not be required. Further, I found during the experiments just referred to, that unless the renal capsule is detached, and lifted up by drawing upon the peri-renal adipose tissue, it is exceedingly difficult of separation from the organ which it envelopes. I made several attempts with my dressing forceps to raise the renal capsule, but failed in every instance, unless sufficient force was exerted to wound the tissues of the cortical structure of the kidney. With small tissue forceps I could do somewhat better, and with small conjunctival forceps, if care were used, the capsule could be readily seized, and quickly separated from the organ. In this way, an area of capsule probably one inch in diameter, could be lifted up without tearing it or wounding the kidney. The dressing forceps were of service in carrying forward the work begun by the more delicate instrument. It was found that by gentle yet firm traction upon the adipose tissue a portion of the capsule would be separated from the viscus. This was not uniformly the case, yet occurred sufficiently often to lead me to think it probable that my three sutures included a portion of that structure. The difficulties in separating the capsule from the kidney of the patient may not be so great as I found them upon the post-mortem kidney. Of this truth I am firmly

convinced, great care should be exercised in attempting to seize and separate the renal capsule so as to include portions of it in the sutures. My unfortunate experience in the use of carbolized catgut would lead me in another and similar instance to use properly prepared silk in at least one-half of the stitches employed.

ON SEPTIC JAUNDICE OF CHILDHOOD, WITH REPORT OF A CASE AND RECOVERY IN CHILD AGED FOUR YEARS.

BY M. P. HATFIELD, M.D., CHICAGO, ILL.

[Read before the Section on Diseases of Children at Washington Meeting, etc.]

Septic jaundice is, fortunately, of rare occurrence among children, for its appearance usually betokens so profound a saturation of the system with septic materials that only the gloomiest prognosis can be given.

It is, therefore, a symptom rather than a distinct disease (though sometimes discussed as such under the title of *malignant* or *pernicious* icterus), and deserves careful study as one of the gravest symptoms of toxæmia, concerning whose exact pathology we really know as yet but little.

Schiff's experiments, unfortunately not concluded, seem to prove conclusively that the liver acts as the great depurating organ of the body, forming a definite chemical antidote, or chemically neutralizing many of the organic poisons, such as conium when taken into the blood. Malarial and septic poisons are doubtless chemically closely allied to these volatile alkaloids and similarly disposed of in the economy; so much so that, as long as the functions of the liver are properly performed, it is very doubtful whether malarial, or septic, intoxication can take place. The icteric here so generally found in both of these, as well as in phosphorus and certain other forms of poisoning, betoken the sympathy of an overtasked liver with these forms of toxæmia.

Just what the hepatic lesion consists in has not yet been settled. The present popular theories would attribute it to small, round, and rod-shaped bacteria filling up the biliary ducts throughout the organ, and thus producing acute yellow atrophy, or something very like it. (Hlava.) Virchow considers it a metastatic pyæmia, with localized foci. Bohn thinks it due to an oedematous condition of the hepatic connective tissue. Andral claims that septic icterus originates in an inflammation of the common membrane lining the duct and duodenum, and, with Davidson, believes that the malignant form begins as the catarrhal variety, as does also Cornil. Others, and with a fair show of reason, attribute pyæmic jaundice to impressions made upon the nervous system, especially the abdominal sympathetic, by toxic agents, as also happens from fright or protracted mental strain.

It is true that division of the splanchnic nerves causes immediate dilatation of the hepatic and other

¹Ashurst's Surgery, Vol. V, p. 1096.

²Ibid.