

TEMPORARY ARTIFICIAL LEGS

As Made at the Pavilion General Hospital, Brighton.

The Editor of THE HOSPITAL has complimented me by an invitation to contribute on the subject that heads this article, and has made flattering references in his letter to the work that is done at the Pavilion. All concerned thank him for the courtesy done to us.

There is no claim made that any of this work is an original invention of the Pavilion Hospital, though many modifications of design and method have been evolved in the course of practice.

The history of the department is: Dr. D. F. Martin, Ambulance de l'Océan, La Panne, who has written in French a book on the subject of temporary limbs which was published by Masson

et Cie., 120 Boulevard St. Germain, came to Brighton at the instance of Mrs. Bromley-Davenport and taught his method to workers of the Hove War Hospital Supply Depot. Of these workers one, Lady Shiffner, an American by birth, developed great aptitude. Lady Shiffner came to the Pavilion Hospital buildings, and there organised the Plaister Room, which, from a small beginning under the fostering care of Col. R. E. S.

Davis, I.M.S., who was then commanding the hospital, and Major W. A. Chapple, M.P., R.A.M.C., senior operating surgeon, has in the course of a few months grown to its present state of large activity and usefulness. Formerly the output was about a leg a day; now eight and nine legs are finished on many days.

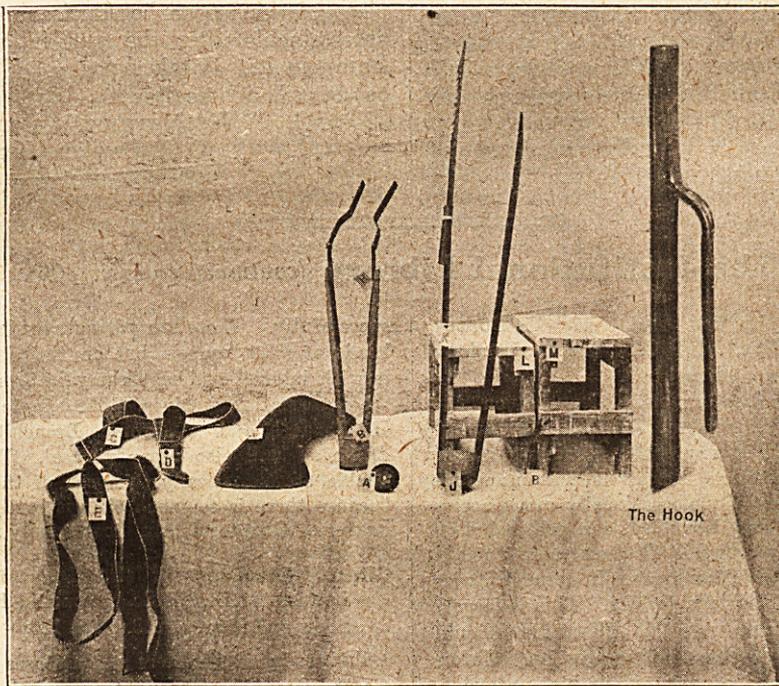
The Plaister Room is a spacious apartment of the Prince Regent's Palace. It is said that at one time it was a queen's chamber, but now it is a workshop fitted with two lathes, a large carpenter's bench and a smaller one, and an assortment of tools for working wood and iron, all supplied free of charge by the generous lender, who has asked me to obliterate her name. The other furnishings are a few tables, chairs, cupboards, plaister-bins,

and utensils for liquid plaister and water and a medley of miscellaneous material for the work.

The idea is to supply a very cheap and comfortable temporary artificial limb which shall enable a man to get about without a crutch before he is ready for a permanent and elaborate artificial leg, and which, by its pressure and the effects of use, shall cause that shrinkage and moulding of the stump which always takes place, and continues for some time, after an amputation and the use of an artificial leg.

The amount of shrinkage and the time during which it continues varies vastly in different cases, but is inevitable in all. If an artificial limb is

supplied and fitted only a few weeks after recovery and healing the costly apparatus soon ceases to fit, and alterations or renewals more satisfactory to the instrument-maker than to the patient or the taxpayer are required. We believe here that if every man wore a cheap temporary artificial limb for the first six months or so after his stump was fit to bear one, that the taxpayers would be saved hundreds of



A, Indiarubber pad; B, Hook (shown also, on a large scale, at the right of the illustration); J, Base block; K, Splint—a strut is tied on the splint halfway up (note grooving at top); L, M, the unequal stools; C, D, E, the harness; F, the collar; H, Below-knee frame with ironwork fitted. (B, C, D, E, F, H, L, and M will be described in a subsequent article.)

thousands of pounds, and, even more important, thousands of men who now go into civil life with a costly leg and are deeply chagrined to find after a few weeks that they have to return it and get another fitted, with consequent interruption of their work and ways, would be saved the disappointment.

The making is a simple matter, but it requires practice, some ingenuity, and the knack of using the fingers deftly. The legs are divisible into two main classes—those for above-the-knee stumps and those for below-the-knee stumps, but, as will be seen, there are no standard patterns. Each leg is a separate work of art; each leg is a fit for its owner, and not a fit for any other person.

Since it is simpler to make and fix a leg to a

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high stump than to a leg stump, that making and fitting shall be firstly described.

ABOVE-THE-KNEE LEGS.

The man applying for a leg comes to the Plaster Room and has his name and the day and time appointed for the making of the cast entered in a book. He then goes to the mechanic. This man is a wounded soldier, a patient in the hospital, and the mechanic finds by measurement the length of the wooden part of the leg.

The frame on to which the plaster bucket will be fitted consists of five pieces (see illustration, p. 353)—a circular indiarubber pad (A) such as is often worn on the heels of boots, a base block (G), two splints (K), and a strut. The indiarubber pad needs no description. The base block is a piece of wood, circular in horizontal section, about $2\frac{1}{2}$ inches high, about $3\frac{1}{2}$ inches across the bottom. Any measurement may be varied to suit any particular case. This applies to all measurements given hereafter. The outer side and the inner side of the base block are grooved by two slots, into which the end of the splines are fixed and screwed. The slots and the ends of the splines are

shaped with a chisel till they fit one another neatly and accurately. The splines are straight pieces of ashwood. They come from broken crutches, all of which are carefully saved for this work. The length of the inside spline is equal to the length of from a point one inch below the ischial tuberosity to the ground. The measurement is taken on the leg which remains and whilst the patient is standing up. In cases of double amputation no exact measurement is required, but the two legs must, of course, be of equal length. The length of the outer spline is from four to six inches greater than the length of the inner. It should be just short of the great trochanter. The strut is a piece of wood of indeterminate length which is fixed between the splines and fastened to each by a screw which goes through the spline and into the end of the strut. Its position is about two inches below the end of the stump. It is the last piece of the leg to be fixed, as its place is only ascertainable after the cast is complete and the stump in it. It takes part of "the harness" to be described hereafter.

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(To be continued.)

The Institutional Library (continued from p. 306).

The Road to a Healthy Old Age. By T. BODLEY SCOTT, M.R.C.S. (Eng.), L.R.C.P. (Ed.). London: T. Fisher Unwin. 4s. 6d. net.)

SOME books, perhaps the majority, leave upon the reader's mind a definite impression, which may be favourable or the reverse; but at any rate he knows what he thinks of them, and can express his opinion without undue trouble. On the other hand, one occasionally comes across books that elude one. They leave but a vague, nebulous feeling of dissatisfaction which baffles analysis. Such is the volume before us. We have read it through twice with some care, but still it fails to bite. This is largely due to the first chapter, and were this different we should have avoided the unfavourable first impression. Unfortunately, first impressions, be they favourable, unfavourable, emphatic, or vague, are not easily overcome. Our advice would be that the reader who takes this book in hand should read the first chapter last, otherwise the fear expressed by the author, that "some of my readers may get no further than this first chapter," may prove to be not groundless. It is lacking in cohesion, and some of the attempts at theological disquisition are deplorable. It might well be re-written and amalgamated with Chapter III. in any subsequent edition. This said, we can heartily recommend the other chapters, which deal with the subject arteriosclerosis, upon which the book was really written. The best chapter, in our judgment, is that on "The Treatment and Prevention of Premature Senility," in which the author discusses at length and with considerable ability both the treatment of the presclerotic and the definitely atheromatous stages of arteriosclerosis by means of the various gland extracts, and the means whereby the condition may be delayed, if not altogether avoided. The book is written both for medical and lay readers, and this is not an easy thing to do

successfully. There are passages which will be above the heads of most laymen, but on the whole they may read it with interest and may carry into practice with benefit the information it gives. The chapters on "The Value of Foods" and "Chronic Bronchitis and Bronchial Asthma" will also repay perusal. We are sorry to be unable enthusiastically to speak of the book as a whole, because there is so much that is really valuable. In the matter of Chapter I. Mr. Scott really must try again.

Clinical Disorders of the Heart Beat. By THOMAS LEWIS, M.D., D.Sc. Fourth Edition. (London: Shaw and Sons. 1918. Pp. 120 + xii. Price 6s. net.)

THE study of disorders and diseases of the heart has of recent years been brought under the sway of graphic methods, and undoubtedly with very great advantage. There is just the danger that this development may seem to the practitioner to be wholly detached from practical ends, and he may thus rule it out of the chapter of his daily work. The apparatus required is somewhat elaborate and needs practice in its application; the records obtained demand skill in their interpretation; and, as was to be expected, with new conceptions a new vocabulary has arisen. Hence there is a possibility of the establishment of a gap between the new truths and the ordinary practice of medicine. Such a result would be an unfortunate one alike for practitioners and for patients. Dr. Lewis has written his book with the object of bridging this gap. He endeavours to show that to a very large extent the conclusions established by the graphic method can be reached apart from apparatus and by the ordinary procedures of clinical examination. In doing this he has rendered a considerable service to practical medicine, and the appreciation of his effort is shown by the appearance of his book in a fourth edition.