

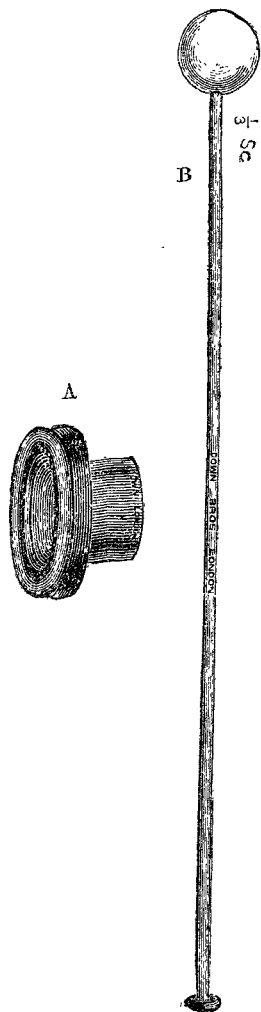
the "Portable" are also useful forms, and for noting engagements, when not more than two or three a day, nothing can be better than the "Concise" for vest pocket or purse; cloth or morocco, gilt edges, 6*d.* or 1*s.* The "Eclipse," size 5½ in. by 2½ in., price 6*d.* or 1*s.* 6*d.*, according to binding, is also a very useful and handy form of diary with a week to an opening. Space is also provided in the form of a calendar for noting forthcoming events.

New Inventions.

A NEW PLEXIMETER.

EVER since 1761, when percussion as a means of physical diagnosis was first suggested by Avenbrugger of Vienna, it has been generally recognised that deep percussion of the thorax is not free from uncertainties arising—(1) from the vibrations of the chest-wall veiling the note really given out by the structure underlying the plessor, and (2) from the fact that percussion, when sufficiently hard to produce a true note, is apt to hurt the patient. I have devised a pleximeter which overcomes all these difficulties. It consists of a wooden cone (A), made with a shoulder to which a thick indiarubber ring is attached in such a manner that when the instrument is firmly pressed against the chest the apex of the cone touches a definite point on the skin in the centre of the ring. If the other end of the cone be now struck smartly with a hammer having a flexible handle (B) the true note of the underlying structure is elicited. My results have been

verified experimentally on recently killed sheep, pigeon-breasted animals, which are by no means easy subjects for percussion. The lungs not being artificially inflated I percussed the heart boundaries in the usual manner, using the finger as a plessor and marking out the boundaries in ink. Long skewers following the ink lines were then thrust right through the thorax, and on opening the chest they were found to be surrounding and touching the pericardium. On this experiment being repeated with my pleximeter a similar result was obtained. Another similar experiment was then made, the difference being that the lungs were artificially inflated, when it was found that the skewers pushed through the boundaries marked by the ordinary method of percussion penetrated the heart muscle one inch from the ultimate margin on the left side and a quarter of an inch on the right side of the heart; but with the boundaries marked by my pleximeter the skewers pierced the overlapping lung substance for a distance of about one and a half inches on the left side and half an inch on the right side, and were found just grazing the actual cardiac boundaries. It was thus proved conclusively that the anatomical dimensions of the heart had been correctly percussed out, even although overlapped by a considerable amount of lung substance. In this case even the kidneys were percussed out with the pleximeter from the back and the skewers again showed that the percussion had been accurate. A fresh sheep's heart was then suspended by means of string in a cardboard box eighteen inches long and eight inches deep, such as is used by milliners, the direction of the cardiac diameters being unknown to the percussor. The least distance of the heart's



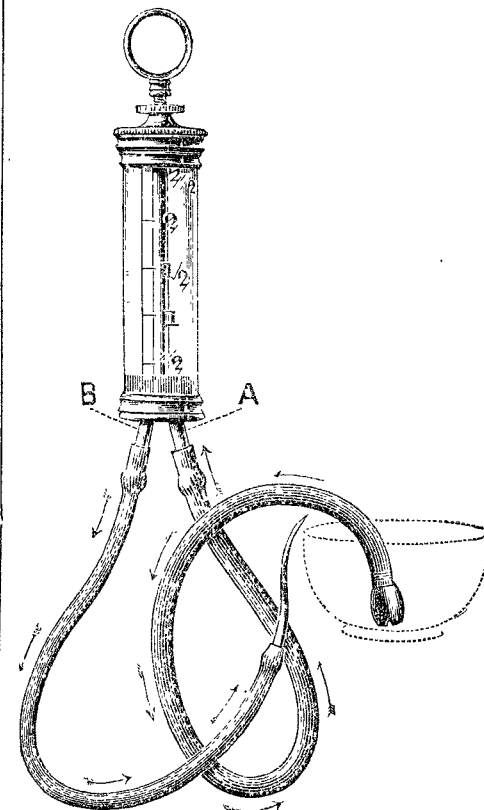
surface from the lid of the box was about an eighth of an inch. By the ordinary method it was impossible to percuss out the heart boundaries, but by using my pleximeter their positions were exactly defined. In this case the heart was of course entirely surrounded by air, and the ordinary percussion method only gave a duller note when that position was reached where the heart almost touched the box. The fact that all these experiments have been repeated many times with invariably uniform results proves the possibility of obtaining an accurate definition of the boundaries of the heart even when it is overlapped by lung tissue. The dulness shown by the pleximeter is always somewhat external to that elicited by finger percussion. A special form of hammer is used with the pleximeter, its head being made of lamb's wool so compressed that it cannot be beaten out of shape—a necessary condition for the production of an absolutely true note, and it is of such a weight that the required note is obtained without the absorptive power of the surrounding ring being overcome. The finger may, however, be employed as a hammer with equally good results when the wrist is very flexible. In using the pleximeter it must be applied firmly to the region to be percussed and there must be no alteration in its position when it is struck with the hammer. The manufacturers are Messrs. Down Brothers, St. Thomas-street, Borough.

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IMPROVED SYRINGE FOR TRANSFUSION OF SALINE FLUID INTO THE CELLULAR TISSUE.

IN an article published in THE LANCET of June 27th, 1896, Mr. A. H. Dodd described a case in which a patient apparently moribund from hæmorrhage due to placenta prævia was successfully treated by injection of about a pint of saline fluid into the cellular tissue of the axilla. Sir James Sawyer wrote on the same subject in our correspondence columns on July 4th, and at his suggestion Messrs. Salt and Son, of Corporation-street, Birmingham,



have manufactured an improved syringe for the operation in question. It is of about 3 oz. capacity, and, as shown in the engraving, it has two nozzles. The fluid is drawn into it by the nozzle at A, and is expelled through the other one, B, entering the tissue by means of a sharp-pointed cannula at the end of a rubber tube. A carefully constructed valve at A allows ingress, but not egress, of the fluid, the valve at B being of similar construction, but with the action reversed. The upward stroke of the piston fills the syringe from the receptacle, and the downward stroke drives the fluid into the cellular tissues, the action being continued until sufficient has been injected. The quantity and pressure of the fluid can be regulated with great precision, the syringe is very easy to use, and the necessity for frequently removing it from the tube for the purpose of refilling it is obviated. The syringe combines several qualities which are highly desirable in an instrument liable to be required on a sudden emergency, and practitioners who have had experience of transfusion operations will no doubt appreciate the merits of the construction which Sir James Sawyer has suggested. The parts of the syringe may be rendered aseptic by boiling.