

tion; it is not yet recognised whether it is vibratory or chemical. By the vibratory hypothesis is understood a displacement or vibration of the nerve molecules, just as atmospheric atoms undergo displacement or oscillations in the transmission of sound; and it has been suggested that sensorial impressions, transmitted to the nervous centres, may be taken and reproduced by those organs in the same manner that the diaphragm of the telephone receives and reproduces the respective motions impressed upon it. By the chemical hypothesis is understood an absolute chemical change in the particles of the nerve-substance when in a state of activity, by virtue of which change nervous impulses are propagated, just as chemical mutations occur in other animal organs during their physical activity. Professor Charles alluded to a third hypothesis, in a paper read at the Cork meeting, which Dr. Meryon called the electrical hypothesis, whom I quote, by which is understood the development of electrical action in every nerve particle by virtue of a dipolar attribute, by which every nervous molecule adds its quota to the evolution of a force closely allied to, if not identical with, electricity; although having regard to the correlation of forces, the possible transmutation of either one of these forces into another must be borne in mind. The efficacy of nerve-stretching seems to me to point rather to the truth of the vibratory hypothesis, and if we believe that pain is the result of an inordinate and disorderly set of vibrations, and that nerve-stretching, like the percussion of Dr. Mortimer Granville, sets up a new set of vibrations, which interrupt or change the morbid set by introducing discord,—this would explain the action of the electric current in arresting pain by altering the number of vibrations; for a galvanometer shows a decrease of deflection if the current be made to pass through a nerve in an opposite direction to that of the natural nerve force, this latter being just so much neutralised by the inverse galvanic current, as if their molecular motion were interchangeable. But, if this be true, we still have this difficulty of which to give an account—viz., Why should the change be permanent for good? Callender thought that the stretching is of use by numbing the nerve for a short time through breaking the transit of the abnormal impressions conveyed along the fibres of the nerve, so that in the interval thus gained the centres may have resumed their natural control. But if that were so, nerve-section would have the same effect; but it is not so. Walsham quotes Vogt in his belief that we must look for the cause of the relief obtained by nerve-stretching in some alteration in the irritability and nutrition of the nerve trunk or of its peripheral terminations, brought about by the stretching of the bloodvessels of the sheath; and that it is not due to any primary effect on the nerve centre or in the conducting power of the nerve, because the traction is not conveyed to the central organ. But though direct mechanical traction may not be transmitted to the central organ, Professor Eulenberg believes, on the other hand, it to be essentially due to centripetal impulses of a dynamic agency, of a nature as yet unknown, of a peripheral traumatic influence on the corresponding smaller or larger territories of circulation and nutrition in the central organ; and we know it must have an effect on the central organ, because it often not only has a favourable influence on the leg operated on in *tubercle dorsalis*, but also on the other. Dr. Müller gives an instance in a case where when the left crural nerve was stretched the sole reflex disappeared; yet at the same time there appeared in the other leg, which was not stretched, hyperæsthesia and hyperalgesia, a clear sign that in man the effects are the same as Brown-Séquard noted them to be in animals; and Dr. Anstie believed all neuralgias to have a central origin, not traumatic. Thus it would appear that nerve-stretching is likely to be of service in neuralgias whether of central or peripheral origin. Uspensky believed neuralgia to be dependent on the retention of acid products of metamorphosis of the nerve tissues, with subsequent weakened function of the vaso-motor nerves, atrophy of sensory nerve cells, and change in the calibre of the vessels, with loss of their tone. It seems that, as there are neuralgias dependent upon diverse causes, some associated with recognised structural changes, others only of a functional character, the action of nerve-stretching may work differently in such cases, in some cases by removing or breaking down a fibrous adhesion, as in neuralgias and epilepsies of traumatic origin, and in some cases of tetanus brought about by peripheral irritation; in some cases by simply interrupting a vicious habit of irregular molecular nerve impulses. That such effect is possible is

shown by the phenomenon of negative variation taking the place of the ordinary nerve current on the application of an electrical or mechanical stimulus; in others, due to imperfection of the local blood-supply, or a vice of development on the part of the tissue elements, by altering the blood-supply through the calibre of the vessels, thus inducing nutritive changes in the nerve cells and increasing their molecular stability. Nerve-stretching may act in all these ways in one case. This is, I believe, only the second time that the supra-orbital nerve has been stretched, and was no exception to the rule that after stretching a single branch pain occurs during convalescence in a different branch of the same nerve, and is another instance that when neuralgia attacks the ophthalmic division of the fifth it usually affects the supra-orbital branch.

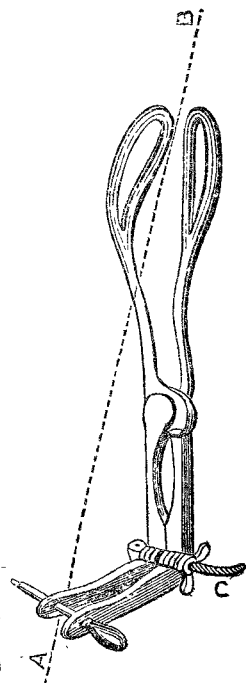
I learn that the patient continued free from pain for nearly three months from the time of the operation, and it returned at intervals during the following winter. I take it, in this case, the mischief was centric. It may turn out that it is only those cases where the nerve storms are set up by peripheral irritation that derive permanent benefit and complete cure is effected by stretching; and that where the origin is centric, the bad habit is only interrupted for a time in most cases. But considering the simplicity of the operation, it should always be resorted to when other treatment fails in this most painful affection.

A NEW INDICATING AXIS - TRACTION FORCEPS.

By A. DRUMMOND MACDONALD, M.B., C.M. EDIN.

THE leading points in the design of this instrument are—(1) axis-traction without the use of intra-vaginal rods; (2) indication of the grasp taken of the foetal head; (3) portability; and (4) minor deviations from the ordinary type of long forceps, partly suited to the three preceding points, partly by way of improvements. How this design is practically carried out is shown in the accompanying woodcut and following description.

Taking the parts *seriatim*: (a) The blades are 6½ in. long, 2½ in. apart at the widest, and 1 in. apart at their extremities, which are not quite so broad as usual. When applied, and traction made, they will “give” half an inch, a point to be observed in all forceps, according to the temper of the steel, and having an important bearing on the question of grasp. The total breadth is 1½ in., the fenestrum being ¾ in., leaving ¾ in. steel, which ensures a good hold. The fenestrated portion has been made nearly straight, and the pelvic curve lies in the lower portion of the blade and upper part of the shank, for the reason that when the blades are in apposition to the head, at or entering the pelvic brim, the natural curve of the genital canal lies below the head, consequently below the blades, and so corresponds to the curve above indicated. What we want is a pair of forceps acting as straight forceps, but without their perineal inconvenience, capable of being applied with facility, and at the same time adapted to the curve of the pelvic passages. (b) The shank measures 2½ in. (with the blade 9½ in.). This should prevent any locking in the vagina. (c) The lock is a kind of hybrid between the British and Continental locks, and allows of a scissors-action of the blades for the purpose of indication mentioned below. The lower blade has, and is easily recognised by, a hooked portion of the lock, on which the upper rounded and shielded segment is slipped in locking. (d) The handles have upper movable halves attached to the lower by a hinge joint which admits of their being folded down from right angles, so as to be easier of manipulation when required, and occupy smaller space when not in use. There are holes for a transverse traction bar through their ends, between which is a space for



the middle finger to be passed through when grasping this bar. (c) The indicator is seen as a scale on the flat convex side of the binding-screw (C), passing through the centre of the hinge, and shows how far the extremities of the blades, when in position, are apart, within a range of one to three inches. This will indicate whether a sufficient grasp has been obtained to avoid risk of slipping; and if the exact presentation and movement be taken into account, will give an idea of the measurement of the diameter of the head we are dealing with. For portability's sake the traction-bar may be screwed into the head of the binding screw. (f) Mode of application: The handle is not to be brought so far back towards the perineum as must be done with long forceps generally. Then having inserted the screw and read off its index number, raised the movable part of the handles, and placed in position the transverse bar, traction is to be commenced (assuming that the head is at the brim) with the bar opposite the tip of the coccyx, so that the line of traction (A B) shall pass through the axis of the brim. The hand is of course to be moved forwards as the head descends. The forceps are dark bronzed, to take away the formidable aspect that bright polished or plated instruments wear in the eyes of outsiders. Messrs. S. Maw, Son, and Thompson have given me a ready assistance in carrying out my endeavour to produce an "instrument of precision."

Dingle-hill, Liverpool.

IDIOPATHIC OR PERNICIOUS ANÆMIA, ASSOCIATED WITH JAUNDICE.

By W. T. PARKER DOUGLAS, B.A., M.B. CANTAB.

THE following is a typical case, so far as its clinical history is concerned; and its connexion with jaundice may probably be accounted for by an excess in the fatty degeneration of the liver (which frequently forms an element in the pathology of cases of pernicious anæmia), due to the habits of the patient.

G. R. H.—, aged seventy. Had been a strong, active, muscular man, of full habit and florid complexion, fond of sport and of good living. He inherited gout, and perhaps helped to incur the same, which first made its appearance at the age of thirty; of late years he had constantly arrested its development by patent medicines containing colchicum. Two years ago he was laid up with phlebitis of the left femoral vein, and since then his strength and health had been failing, though at Christmas last he was able to walk two or three miles. He persevered with his duties as a clergyman till June 5th (the last occasion of his officiating in the church). With increasing weakness slight jaundice supervened, and persisted to the last. Of late there had been not infrequent blood loss from hæmorrhoids and by epistaxis. Such is a short history of the case prior to his coming under my observation on September 3rd, in consultation with Dr. Phillips, of Hurstbourne, when his appearance was as follows: Well built, fairly nourished, no lack of fat, slightly jaundiced, and of a deepish lemon-colour over head, face, and neck, but much paler over rest of body; skin dry and waxy, with a few small ecchymoses on extremities, and light-brown pigmentations, the seats of former petechiæ; lips and mucous membranes pale; slight anasarca over whole body; eyes with wildish, anxious expression; arcus senilis highly developed; tongue furred and dry; breath rather offensive; pulse 96, soft, and very compressible; heart-sounds faint, with systolic (hæmal) bruit at base; some of the veins in both upper and lower extremities easily traceable for some distance, and hard as whipcord. No enlargement of liver, spleen, or any of the glands; breath-sounds faint, but normal; urine tinged with bile, but free from albumen; bowels generally costive, and motions of an ochry colour. Sickness supervened on taking nourishment; and besides the liquids swallowed, the vomit was mixed with darkish, grumous mucus. Temperature just below normal.

Between Sept. 3rd and 6th there was constant sickness, slight epistaxis, and lastly hæmatemesis, to the extent of a pint and a half, followed by extreme exhaustion and death.

A specimen of the blood was taken from the finger on September 4th, secured in a capillary tube, and examined by microscope six hours afterwards, when I noticed as follows:—No tendency on the part of the red corpuscles to collect into rouleaux; about two-thirds were normal in out-

line and size, the rest most irregular in shape, some being of equal dimensions, with healthy red corpuscles but granular, others larger, indefinite in outline, elongated, or forming masses having the appearance of red corpuscular detritus, many of which were twice or three times the size of normal white corpuscles: these latter elements were not increased in numbers beyond the natural proportion, but varied in size, some being barely a third of the dimensions of the larger normal white corpuscles, thus corresponding nearly with observations made by Messrs. Mackern and Davy on the blood in a case of idiopathic anæmia published in THE LANCET for May, 1877.

Newbury.

AN INTERESTING CASE OF BRANDY POISONING.

By J. A. OWLES, M.D. ST. AND.

ON Tuesday, May 16th, I was summoned to see a gentleman in a "fit," and found him lying on the floor of his bedroom in a deep sleep, with evidence of having recently vomited, and with a slight bruise on the right temple and another on the right thumb, which confirmed the supposition of a fall. His breathing was laboured, but not exactly stertorous; his heart's action was very weak and his pulse variable; the pupils were unequal, the left being a good deal contracted. It was difficult to rouse him, and impossible to get any information from him. A lady and gentleman (relatives) and the proprietor of the house in which he was lodging were present, but could throw little light on the history of the case. They said that he had come to Bournemouth for change after a very severe attack of inflammation of the right lung, that he was a little over thirty years of age, that he had been walking about "too much," and that he had been complaining of neuralgia. A friend had given him, a few hours previously, a glass of port wine, and he had also taken a "little" brandy. He had been sleeping a good deal upon the bed during the morning, but was not heard to fall, and no one knew what had happened until he was found upon the floor. Three bottles were upon the mantelpiece: one containing a tonic mixture with steel in it; a second, some creosote for local application; and a third was an ordinary brandy bottle half full. There was no reason to suspect poisoning, either wilful or accidental. The only odour perceptible in the breath was that of brandy, and it seemed unlikely that this was the cause of his illness, as he was an habitual abstainer from alcoholic drinks. We undressed him and used mild measures to keep him from sleep until we could ascertain more accurately his condition. As soon as his clothes were removed, Mr. T. B. Scott, surgeon of this town, who had also been sent for, entered the room. We then gave a little ammonia with belladonna, and some coffee, and put mustard to the legs and strong smelling-salts to the nostrils. The vomit, which had previously been scanty and somewhat like froth and treacle, was now much increased; inequality of the pupils was more marked, and the difficulty of keeping him awake was greater; but with the remedies named we roused him sufficiently to get his own account of what had happened. He admitted, in reply to close questions, that he had taken during the day, in six to eight hours, about half a bottle of brandy for the neuralgia, and added that, though an abstainer, he always took it when suffering pain. It was evident, therefore, that this was the primary cause of his fit, and that the brain pressure resulted from it. Being convinced of this, we allowed him to sleep, watched by a nurse, and left him for two hours; at the expiration of which I returned and found him somewhat better, though still drowsy.

May 17th: The patient had passed a fair night and felt much relieved, but there was still inequality of the pupils and partial loss of sight in the left eye. He also complained of a "creeping" sensation at the "top" of the head near the centre, and occasionally extending to the forehead and eyes. I gave some bromide of potassium and gentian, with a little aconite for the neuralgia, and a dose of calomel with rhubarb for the bowels.—18th: The pupils nearly equal, the sight of left eye normal, and the "creeping" sensation less. He then gradually improved, till one week after the "fit" he was well enough to return to London.

I have recorded the case for two reasons: 1st, be-