

## Analytical Records.

### COMPRESSED PELLETS OF CASCARA SAGRADA AND OF PEPSINE.

(WYLEY'S, LIMITED, COVENTRY.)

AN examination of both these preparations proved very satisfactory. The contents of the compressed pellets of pepsine were, on experiment, shown to be remarkably active on coagulated albumen, rapid digestion ensuing, the liquid subsequently exhibiting the reactions for peptones. We regard the pepsine pellets, therefore, as a suitable and elegant form of digestive. On examining the cascara pellets they were found to dissolve gradually in cold water until a brown mass of extract was exposed which was not entirely soluble in water, but almost completely in spirit. Seeing that the pellets contain all the desirable ingredients of the "sacred bark" they are calculated to serve a useful purpose, and are especially adapted for the administration of this drug to those who in other forms find it unpleasant to take. Both pellets are coated with pure cane sugar.

### TRITICUMINA FOOD AND BREAD.

(MEABY'S TRITICUMINA COMPANY, READING.)

The preparation of these farinaceous foods is evidently based on sound scientific reasoning. Triticumina is described as a wheaten food malted under conditions specially ascertained for the purpose of rendering the product most suitable for use as a digestible food. This statement is borne out by our analyses, which elicited that the food contains twice as much soluble carbohydrate as ordinary wheaten flour, while it was particularly rich in valuable phosphatic constituents, the total mineral matter amounting to 1.32 per cent. This proportion of valuable mineral constituents is doubtless secured by the use of the entire wheat in its preparation. The specimen of bread made from this flour is an excellent brown loaf of uniform texture, having a sweet nutty smell on fracture and keeping moist and fresh several days. The microscope showed the presence of branny particles, but so small in size as to be hardly distinguishable by the unaided eye. We have not examined a better specimen of bread or one that approaches more closely to the ideal.

### DORINA BISCUITS.

(H. B. CHIBNALL, 77 AND 79, KING-STREET, W.)

These biscuits, which more nearly resemble cakes, are suitable for invalids because they contain a high percentage of soluble carbohydrates, a suitable proportion of fat and a corresponding quantity of mineral salts, including soluble phosphates. They make an excellent sop when prepared with milk in the manner directed, and being largely soluble little effort is required to masticate them. They contain more phosphate than ordinary bread and an increased amount of dextrin and maltose. The microscope shows wheaten starch cells, which have undergone certain changes consequent on well-regulated cooking. The biscuits, no doubt, possess distinct nutritive value.

### LIQUOR PAPAIN ET ACID GLYCERINE: PAPAIN TABLETS AND LOZENGES, &c. (DR. FINCKLER AND CO.)

(B. KÜHN, 36, ST. MARY-AT-HILL, E.C.)

The action of papain, or, as it may be called, vegetable pepsine, very closely resembles that of ordinary pepsine, inasmuch as it not only dissolves fibrin but converts it into true peptone. Moreover, papain possesses a distinct advantage over pepsine in that it is equally active in acid, neutral, or alkaline menstrua, so that there is every probability that it is effective as a digestive agent throughout the whole alimentary tract. True papain is obtained from the juice of the trunk and fruit of the carica papaya by treating it with alcohol, which precipitates the ferment. So obtained it is quite uniform in its action. The papain forming the basis of the above

excellent preparations is evidently prepared in this way. The digestive action of this curious substance is admirably demonstrated when the above glycerine extract is used for experiment. It is seen to rapidly digest white of egg when warmed to blood heat with a little water in a test tube. The lozenges, tablets and pilules afford very convenient forms for the administration of this valuable digestive, and in view of the important advantages papain possesses it is deserving of more extended trial.

### SUN-CURED VIRGINIA CIGARETTES, ALL TOBACCO.

(T. P. & R. GOODBODY, LONDON AND DUBLIN.)

In a report of THE LANCET Analytical Commission,<sup>1</sup> which was instituted in consequence of prevailing rumours that the tobacco in cigarettes contained opium, and other injurious substances, the analytical evidence showed that there was no foundation for such suspicions, the only possible thing that could be objected to being the copper lettering used on the paper wrapper to indicate the brand. As was then pointed out, if the lettering containing copper were objected to, no doubt manufacturers could be induced to adopt some other means of indicating or distinguishing their own particular wares. Recently<sup>2</sup> it was reported from America that deaths had actually occurred from the excessive smoking of cigarettes, the paper wrappers of which were stated to contain arsenic and phosphorus. We are inclined to doubt whether either phosphorus or arsenic has ever been found in the paper used for cigarette making, unless in exceedingly minute and therefore negligible quantity. None of these charges, at any rate, can be brought against cigarettes when the tobacco contained in them is wrapped in nothing but pure tobacco leaf. Cigarettes have been submitted to us by the above firm made in this way. We have not obtained a tittle of evidence that they contained anything but pure tobacco. The only alkaloid detected in the cigarettes when they were suitably treated was the one normal to tobacco—viz., nicotine; search for substances of an injurious nature procured only negative results. When smoked they compare very favourably with the ordinary cigarette; they were cool and sweet and appeared to burn more slowly.

### CANADIAN CLUB WHISKY.

(WALKER AND SONS, ONTARIO, CANADA; LONDON OFFICE, 18, COCKSPUR-STREET, TRAFALGAR-SQUARE, S.W.)

This whisky will not suit all palates, inasmuch as it is strongly impregnated with the peculiar and somewhat aromatic flavour of the wood in which probably it has been stored. It is very dark in colour, but in spite of this it is particularly soft to the palate, having been allowed to mature, according to Excise guarantee, for a period of five years. It blends well with aerated waters. Analysis showed the presence of a slight excess of tannin and extractive matters, but in other respects the results were quite normal. Absolute alcohol 42.50 per cent. by weight, 50 per cent. by volume, equal to 87.60 per cent. proof spirit; extractives, 0.21 per cent. The sample was quite free from all raw and injurious products.

## New Invention.

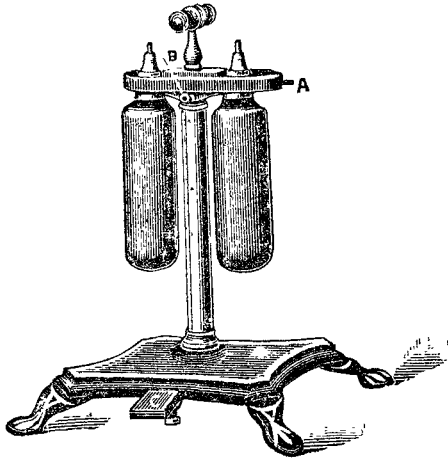
### THE PEDAL LEVER GAS STAND.

THE various forms of apparatus in ordinary use for the administration of nitrous oxide gas possess some disadvantages, which become especially apparent when it is desired to give the gas for an operation lasting some minutes. Until recently the choice of apparatus has been restricted to the gasometer arrangement or some form of metal bottle with a screw foot-

<sup>1</sup> Vide THE LANCET, Oct. 20th, 1888, p. 785.

<sup>2</sup> Vide THE LANCET, April 2nd, 1892, p. 769.

key. In the former the holder is generally too small and requires refilling from the metal bottle during the operation, while in the latter the screw arrangement invariably in use is not the mechanism best adapted for easy manipulation by the foot. It is often difficult to turn on and off, and the bottles are held in the horizontal position. To do away with these disadvantages Mr. Walter Smithard, L.D.S., has invented the apparatus figured below. The stand consists of a hori-



A, Screw for clamping bottles to valves. B, Aperture for indiarubber tube conveying gas to bag. C, Pedal.

zontal base 12 in. in diameter, raised by four feet 2 in. from the ground. In the centre of the base is fixed an iron tube cased with brass. In the upper end of this pillar and in the pillar itself are arrayed the valves and springs, and projecting from the side of the base is the pedal (C). The bottles are fixed to the valves in the upper end of the pillar and held in position by a powerful screw clamp, and the gas is turned on at each bottle. The apparatus is then ready for use, and requires only the slightest pressure of the foot on the pedal to liberate the gas into the bag as it may be required. It possesses the following advantages. The stand will carry any sized bottle from a fifty gallon steel to a hundred gallon iron. The bottles are held in the upright position, which facilitates the easy and regular escape of the gas. When the bottles are once fixed and turned on, the slightest pressure of the foot on the pedal liberates the gas into the bag. There is no turning the foot round or slipping of the key, the supply of gas is under perfect control with a minimum of trouble, leaving both hands and the whole attention of the administrator to be devoted to the patient. This apparatus has been in use at the hospital for some months, and has been found most convenient, compact and easy to work.

ALEXANDER WILSON, F.R.C.S.,  
Administrator of Anæsthetics, Victoria Dental  
Hospital, Manchester.

## GRAVES' OR BASEDOW'S DISEASE IN ANIMALS.

THE morbid condition with which the names of Graves and Basedow are associated is not very rare in mankind, but it is only recently that an affection closely allied to, if not identical with, it has been observed in animals. In man, as is well known, goitre is frequently accompanied by exophthalmos and cardiac disturbance, and indeed it is these three symptoms which constitute the characteristics of Graves' disease. In later years we find mention now and again in veterinary literature of cases of goitre in different species of the domesticated animals, but until 1888 the malady under consideration was not reported as having been observed in them. In the *Archives of Veterinary Medicine*, published at St. Petersburg in that year, Jeswejenko describes the case of a four-years old thoroughbred horse which, after a long gallop, exhibited abnormally strong and frequent arterial pulsations, cardiac palpitations, and progressive weakness; it had tumefaction of the thyroid body, and in sixteen days there was very marked double exophthalmos, the ocular globes being so protruded that the eyelids could no longer cover them. The animal died in about a month. The same observer had witnessed a somewhat similar case in a small pet bitch aged seven years, but it was cured in three months on being treated with iodine. In the annual veterinary report for the kingdom of Saxony for 1890 Roder alludes to a cow which had severe

palpitation of the heart, frequent and violent arterial pulsations, a thyroid body hypertrophied to the size of a man's fist and very intense double exophthalmos. This condition had been in existence for four years. Another instance—the best hitherto described—was brought before a meeting of the Paris Central Society of Veterinary Medicine not long ago by Professor Cadiot of the Alfort Veterinary School. This case was that of a horse (gelding) about fifteen years old, which had been taken to the school as a patient. The owner had been in possession of it for only six weeks and knew nothing of its history, but he had noticed that it was gradually becoming feebler. On examination the animal was found to be emaciated, very weak and apparently exhausted, with a swollen and painful fore-limb and cedematous infiltration into the dependent parts of the body, as well as several small tumours in various regions. At the upper and front part of the neck, on the trachea, was a hard and indolent hemispherical tumour adhering to the inner surface of the skin, which appeared to be constituted by hypertrophy of the left thyroid body; situated on the left side of the trachea, it advanced to the middle line. On the right side there was only slight enlargement. A very striking symptom was noted on the course of the superficial arteries; this consisted of very strong and perfectly rhythmical movements of the skin over these vessels, similar to those occurring in certain cases of aortic insufficiency; when the hand was placed over these arteries, bounding pulsations could be felt. These phenomena were more especially observed over the course of the glosso-facial, temporo-maxillary, posterior auricular, occipito-muscular, carotid and gluteal arteries. On each side of the croup and over the course of the latter vessel sudden jerkings of the skin and subjacent muscular layer were remarked at equal intervals—powerful pulsations synchronous with the cardiac systole. At the glosso-facial artery the pulse numbered from seventy to eighty beats per minute, and on compressing the superficial veins they assumed large dimensions. When the hand was applied to the præcordial region violent, precipitous and palpitating shocks were perceived, which, as it were, shook the thoracic wall. Auscultation also revealed serious cardiac disturbance, mainly marked by violent contractions of the heart which appeared to cause the animal pain. Rectal exploration of the posterior aorta and its terminal vessels gave evidence of their increased dimensions and abnormal pulsations. Inspiration was normal, but expiration was interrupted. The temperature was 38.4°C. The urine did not contain either albumen or sugar. The visible mucous membranes were slightly infiltrated, and an examination of the blood gave no reason for suspecting the existence of leukæmia. The symptoms increased in intensity and the thyroid body augmented in size until death ensued in three days after admission to the hospital. A necropsy showed the heart to be hypertrophied; it weighed seven kilogrammes; there were insignificant valvular alterations; the large arteries had an enormous calibre—they were about double their ordinary diameter—but their walls were thin; all the viscera were congested; the left thyroid body was more than ten times its natural size, measuring twenty-three centimetres in circumference and nine in diameter, and had a very vascular and fibrous aspect; it was surrounded by a thick capsule of connective tissue; there was only slight hypertrophy of the right thyroid body. In this case, related by Cadiot, one of the characteristic signs of Graves' disease—exophthalmos—was absent; but the others—cardiac palpitations, bounding pulse and hypertrophy of the thyroid—were certainly present. The absence of abnormal prominence of the eyeballs in this horse rather militates against the supposition that it was the malady in question; but then, as Cadiot pointed out, even in mankind all the symptoms enumerated are not equally conspicuous in every case, the goitre or the exophthalmos may at first be trifling and only become noticeable at a late period and successively, or be altogether absent. What predominate in this syndrome are the circulatory troubles, which appear to be dependent on an obscure lesion of the sympathetic nervous system or of the vaso-motor centres; and if it generally assumes a typical form easy to recognise, it also appears in masked or abortive forms which render diagnosis difficult. In this case it was admitted that there was something more than a mere coincidence between the cardio-vascular disturbance and the hypertrophy of the thyroid body, and that it had at least a close relationship to Graves' or Basedow's disease, of the existence of which in animals the instances recorded leave scarcely any room for doubt.