

determine the absence or presence of a secondary infection.

GOVERNMENT LYMPH ESTABLISHMENT.

There is a short description of the Government Lymph Establishment from the pen of the director, Dr. F. R. Blaxall.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

MEDICINES FOR COUGH, CATARRH, ETC.

REPORTS on the analysis of several of the nostrums most widely advertised for the cure of coughs, colds, and catarrh were published in the JOURNAL of August 22nd, 1908, p. 505, and December 5th, 1908, p. 1697. We now give a further report on some much-advertised preparations which were not then dealt with.

FENNINGS' LUNG-HEALERS.

The article advertised under this name is in the form of small pills, and is supplied by Alfred Fennings, Cowes, I.W. at 1s. 1½d. a box, containing thirty pills.

The pills are advertised as "The Best Remedy to Cure all Coughs, Colds, Asthma, etc." The following quotations are from a circular enclosed in the package:

Directions for taking Fennings' Lung-Healers. The Certain Remedy to cure all Colds, Coughs, Bronchitis, Influenza, Incipient Consumption, The Coughs of Measles and Scarlet Fever, Asthma, and other complaints of the Lungs.

The Dose is the same for all ages.

These Lung-Healers, although so beneficial in curing Inflammation, quelling Fevers, and eradicating the virus of disease, are perfectly harmless and innocent, and can with equal safety be given to the most tender infant as well as to the fullgrown person.

To Cure Colds, Coughs, or Asthma.—One of these Lung-Healers should be given to the infant, or person, in jam, or by itself, every morning or evening.

For Bronchitis, Influenza, Incipient Consumption, the Cough of Measles, of Scarlatina, or Scarlet Fever, give one of the Lung-Healers, in jam, or by itself, three times a day. . . . If, when freely taking of these Lung-Healers, the child or person should perchance become sick, it need not be heeded, or reckoned as a bad symptom, for sickness often proves of great benefit in a complaint, and advantageously assists in lessening all Fevers and Inflammations.

The average weight of one pill was 0.22 grain. Chemical analysis and microscopical examination showed that practically the whole of the material consisted of ipecacuanha; the amount of alkaloid present was 1.8 per cent., which is a little below the average for ipecacuanha, and the alkaloid extracted possessed the characters of ipecacuanha alkaloid. Careful search for other ingredients, and comparison with powdered ipecacuanha, showed nothing else to be present but the trace of excipient used to bind the powder into pills. Estimated cost of ingredients for thirty pills is ½d.

PEPS.

These much-advertised lozenges are supplied by the Peps Pastille Co., Leeds, in boxes at 1s. 1½d. and 2s. 9d. a box. A 2s. 9d. box was found to contain ninety-eight lozenges. The name of the article appears to be derived from the initial letters of "Pine extract pastilles." The nature of the claims made is shown by the following extracts from a booklet issued by the makers:

In the course of scientific research singular freedom from bronchial disease was noticed among the dwellers amidst the rich pine forests of Europe. The great healing power of the odours and balsams of the pine tree was also observed; and at last a striking connection between the two facts made itself apparent. . . .

A study of the peculiar property of pine balsams led to their great medicinal value becoming more fully recognised, and the idea was evolved of capturing and storing up these rich essences in some form convenient for the great masses who are not able to spend winter in the far-famed forest resorts. It was practically a matter of finding how to transfer to our crowded homes all the real benefits of the pine woods, so that those victims of bronchitis, consumption, asthma, colds and other throat and chest affections, who could not go to pine woods, should have

the pine woods and the rich pine air brought to them—into the very rooms in which they dwell.

A novel tablet, containing the richest pine extracts—that is, with all the best pine essences and odours held captive in them—was eventually perfected; and these tablets, or Peps, as they are called, undoubtedly supply a long-felt want in the family medicine cupboard. The need is one that has never yet been properly met by any of the cough mixtures, lozenges, jujubes, and gums, which no medical attendant can conscientiously recommend, chiefly through the pernicious drug habits they encourage and their sheer inability to grant real, lasting relief. "A Pine Forest in every Home" aptly and pithily describes this new remedy. . . .

As a Household Medicine they are of unequalled service in cases of Colds, Coughs, Bronchitis, Sore or Relaxed Throat, Huskiness, Loss of Voice, Asthma, Influenza, Pneumonia, Pleurisy, the Hacking Cough of Consumption, Lung Weakness, Children's Colds, Whooping Cough, Croup, Chill or Tightness of the Chest, that old Breathing Difficulty, as well as for many cases of Headache, Flatulence and Indigestion. For Clergymen, Lawyers, Teachers, and all Public Speakers, they are an invaluable boon.

The lozenges had an average weight of 21 grains. The taste and odour did not suggest pine oil, but peppermint with a trace of anise, and on distilling out the oils it was evident that the principal one present was oil of peppermint, but the quantity was far too small to be determined quantitatively. Resinous matter was only present to the extent of 0.7 per cent., and this did not show the characters of pine resin. No alkaloid was found, showing the absence of preparations of both opium and ipecacuanha. Extract of liquorice was present in rather considerable quantity, as was proved by extraction of the glycyrrhizin. Sugars constituted about 75 per cent. of the tablet, but a little of this would be derived from the extract of liquorice; probably 70 per cent. would about represent the sugar added as such. Talc was present to the extent of about 4 per cent., and was doubtless added as a lubricant to aid in making the lozenges by compression. No other ingredient was found beyond those named; some sort of pine extract might have been present if it were free from resin or oil, but in that case it could not be expected to possess much medicinal value.

The results of the analysis may be thus summarized:

Sugar	...	...	about 70 per cent.
Extract of liquorice	...	...	about 25 "
Resinous matter	...	...	0.7 "
Oil of peppermint	...	...	trace "
Oil of anise	...	...	...
Talc	...	...	about 4 "

BROWN'S BRONCHIAL TROCHES.

These are supplied by John I. Brown and Son, Boston, Mass., U.S.A. A 1s. 1½d. box was found to contain forty-eight lozenges.

In a circular enclosed in the package it is stated that:

"Brown's Bronchial Troches," or Cough Lozenges, allay irritation which induces coughing, giving instant relief in Consumptive, Bronchial, and Asthmatic complaints.

"BROWN'S BRONCHIAL TROCHES" were first introduced in the year 1830. It has been proved that they are the best article before the public for Coughs, Colds, Bronchitis, Asthma, Catarrh, the Hacking Cough in Consumption, and numerous affections of the Throat, giving immediate relief. . . .

The Troches are efficacious for children with Whooping Cough, or other affections of the chest, having a soothing influence, assisting expectoration, and preventing the accumulation of phlegm, which causes the sense of suffocation so common with this disorder.

There are no particular directions to be observed in the use of the Bronchial Troches. One or two should be allowed to dissolve slowly in the mouth, repeating when necessary. We have seen instances of their good effects in cases of inflammation of the Bronchial Tubes and the hoarseness of children.

The lozenges had an average weight of 11.3 grains. Chemical analysis and microscopical examination showed the presence of powdered cubeb (about 6 per cent.), extract of liquorice in small quantity, gum, and sugar (about 70 per cent.). No other substance was found; if a little extract of cubeb were present as well as the powdered drug, it could not have been detected with certainty.

DR. WHITE'S KOMPO.

This is supplied by J. F. White and Co., Leeds, in bottles at 1s. 1½d. and 2s. 9d. A 2s. 9d. bottle was found to contain 11½ fluid ounces.

It is stated in an advertisement that:

Dr. White's "Kompo" is the best-known remedy for Colds, Influenza, Sore Throat, etc..

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1123; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 382, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, pp. 32, 77, 456, 767, 854. Analyses are also to be found in *Secret Remedies* (chapters i and ii). London: British Medical Association, 423, Strand. Price 1s., post free 1s. 3d.

with other similar statements. But a wider application is claimed on the label, in the following words:

A Valuable Remedy for Colds, Influenza, Diarrhoea, Pains in the Stomach and Bowels, Disordered Stomach, Headache, Cold Feet, Cold Sweats, Bad Circulation of the Blood, Sore Throat, Quinsy, &c.

As a Pure Stimulant it is far better than Brandy, or any other Intoxicating Drink.

The dose is given as

One or two teaspoonfuls in a cupful of warm water, well sweetened, several times a day.

The bottle contained a brown, somewhat turbid liquid, smelling of cloves and cinnamon. Analysis showed it to contain 6.42 per cent. by volume of alcohol, and only 2.4 per cent. of solid matter; this consisted largely of a tannic acid resembling that of red gum. No alkaloid was present, but constituents of capsicum, cinnamon, and cloves were recognized, and a small proportion (0.07 per cent.) of salicylic acid was found. The following formula gave a mixture scarcely distinguishable from the original by either physical or chemical means:

Eucalyptus gum (red gum) ...	...	1.5 part
Caustic soda ...	...	0.08 "
Oil of cinnamon (or cassia) ...	...	0.25 "
Oil of cloves ...	...	0.25 "
Tincture of capsicum ...	...	7.5 parts
Salicylic acid ...	...	0.07 part
Rectified spirit ...	...	15 "
Decoction of cinnamon and cloves to 100 parts		
by measure.		

The decoction was made by boiling 5 parts each of cloves and cinnamon with 200 of water until the volume was reduced by half, straining and adjusting the volume to 100 by measure.

The caustic soda in the above formula was used to darken the colour of the red gum. A similar result may be obtained by adding a very little burnt sugar, and there were some indications of the presence of this in the original.

The estimated cost of the ingredients for 11½ fluid ounces is about 6d.

GLYKALINE.

This is a liquid supplied by Leath and Ross, Homoeopathic Chemists, London. A ls. 1½d. bottle was found to contain about 1½ fluid drachms. It is described in an advertisement as:

A Sure Cure for all Coughs, Colds, Catarrhs, Hay Fever, Influenza, Asthma, Bronchitis, etc. Rapid and reliable in its effects. Checks a slight cold with one dose. Cures a severe cold in 24 hours.

And in a circular enclosed in the package it is stated that:

There is no medicine to equal it for promptly relieving those distressing colds where there is a constant flow of a thin watery discharge from the nose, accompanied by continual sneezing, throbbing of the head, and smarting pains in the eyes, etc.—a few hours sufficing to overcome all these unpleasant systems.

The dose is given on the label as

Three drops every hour in a tablespoonful of water until relieved, then every two or three hours until quite well. Children under five years, a third of the above quantity.

Analysis showed the liquid to contain 35 per cent. by volume of alcohol, but only 0.15 per cent. of solid matter. This consisted partly of potassium iodide and partly of organic matter. Not the slightest trace of any alkaloid could be found.

Each dose would contain approximately $\frac{3}{100}$ grain of potassium iodide, with a trace of organic matter, which may be derived from some drug.

The cost of the preparation is practically that of the alcohol which it contains, or about ½d. for the contents of the bottle.

HYOMEI.

The preparation sold under the name Hyomei is supplied by the R. T. Booth Company, London. The price of an "outfit" is 2s. 6d., and this consists of an inhaler (consisting of a vulcanite tube), ½ fluid ounce of inhalant, with pieces of gauze and a dropper; a 3s. 9d. "refill" of the inhalant alone was found to contain 2 fluid ounces.

Hyomei has been widely advertised in the press for some time past, advertisements in the daily newspapers usually occupying a column or so. The following is the first paragraph of one of these:

Mr. R. T. Booth, who issues the following announcement, is the world-famous temperance orator who some years ago, in co-operation with such friends and co-workers as the late Rev. C. H. Spurgeon, Rev. F. B. Meyer, and the late Rev. Newman Hall, Archdeacon Wilberforce, Lord Mount Temple, and others, founded the Blue Ribbon Army, which ultimately led a million to temperance. This glorious work was cut short by acute catarrh and threatened consumption, which sent him, by the order of the late Sir Andrew Clark, health-seeking to Australia. There he made his great discovery of Hyomei (pronounced Hi-o-me), which not only cured him, but has since cured multitudes of other sufferers. Hyomei is an inhalant which, being a powerful germicide, cures by just breathing it.

In a booklet enclosed in the package it is thus described:

Hyomei, the new Australian Dry-Air Treatment for the Cure of Asthma, Bronchitis, Catarrh, Catarrhal Deafness, Coughs, Rose Colds, Whooping Cough, Colds, Croup, and Consumption.

The only Natural Method of Cure.

The First and only Treatment for all Diseases of the Air Passages and Lungs ever Endorsed by the Medical Profession. . . .

What "Hyomei" Is.

Hyomei is a vegetable compound, the result of recent scientific research. It is a powerful germicide and absolute destroyer of the germs which cause diseases of the respiratory organs.

Hyomei is a cure given by a new method—the only treatment through which the diseased parts of the head, throat, and lungs can be reached.

What "Hyomei" Does.

Hyomei cures all diseases of the air passages. Cures them by just breathing; cures them through the air you breathe, impregnated with nature's own antiseptic. No douches, sprays, atomizers, or stomach medicines are used. It at once kills the bacilli of catarrh, bronchitis, consumption, asthma, and hay fever, bringing a complete cure that can be obtained in no other way.

Another circular enclosed in the package is in the form of a letter, beginning "Dear Friend." From the heading of the paper it appears that the company are the proprietors of "Hyomei," "Hyomei Balm, the wonderful ointment," "Hyomei Skin Soap, a medicated toilet soap," and "Hyomei Catarmel, for catarrh and catarrhal deafness." The letter invites correspondence, as follows:

. . . if you are a sufferer from any breathing trouble or from any form of skin trouble I can help you. That is why I here invite you to write me personally a letter telling me of your ailment, how long you have had it, and what you have done so far to cure it. Then I will consider your case from the particulars you give me, and if suitable for my treatment, will, without charging you any fee, send you a letter telling you what you must do to get your cure, and at the same time will send you sufficient of what I recommend to give you a trial treatment, free.

"Hyomei" is a liquid smelling strongly of eucalyptus oil. Analysis showed the presence of eucalyptol, which is the chief constituent of this oil, together with alcohol and liquid paraffin. Since many essential oils possess common constituents, and for the separation of the constituents of one oil, and still more of a mixture, it is necessary to work on a large quantity of the material, a full and precise analysis of the mixture in question was not practicable. It was submitted to fractional distillation *in vacuo*, and the various fractions were tested and compared with the corresponding fractions of various mixtures made up to imitate the original. It was concluded that the alcohol and liquid paraffin formed each about 10 per cent. of the whole, and a determination of the amount of eucalyptol showed nearly all the remaining 80 per cent. to be oil of eucalyptus. A small quantity (under 0.2 per cent.) of solid matter, not resinous, was obtained on distilling the Hyomei, and this could not be identified, but agreed in some respects with the solid obtained in a corresponding way from a mixture containing a little wood tar. A small proportion of creosote was also indicated.

THE RHYCOL TREATMENT.

This is supplied by the Rhycol Company (Principal, John Rhycol Lindsay), London. The price of an "outfit" is 17s. 6d. The advertisements of the preparations sold under this name are mostly very lengthy, and application to the address given led to the receipt of several circular letters and a good deal of printed matter. A few extracts will sufficiently indicate the nature of the statements made:

Free Information how to cure Catarrh and Nose-Breathing Difficulty. Patient and Physician tell of how they found a cure. It is the hearty desire of the discoverers of the new cure that all who suffer from the above complaints should write for a gratis copy of the book they have just published, under the title

of "Rhycol Respiratory Re-Education: The Physiological Cure for Catarrh, Adenoids, Polypi and other Nose-Breathing Difficulties, Catarrhal Deafness and Head Noises, Loss of Sense of Smell or Taste, Coated Tongue, Bad Breath, Asthma, Bronchitis, and Weak Chest and Lungs."

The cure is remarkable inasmuch as it calls for no sprays or injections, no powders to be snuffed—no lozenges or tablets to suck—no operations, and no painful canterising (burning) of the inflamed mucous membrane. . . .

The joint authors of the discovery—as the result of a fruitless quest for relief and cure—were led to experiment along the line of the "First Cause"—the nose and its respiratory functions.

The layman it was who made the first enlightening discovery. A singer, he discovered how the nose could be freed. . . .

Upon this first-step discovery has been built the new "Rhycol" cure, the details of which are given fully (and illustrated) in the book. . . .

In the book is explained how to stop

Nasty Dropping in the Throat,
Head Stuffiness,
Nose Stuffiness,
Throat Dryness,
Loss of Smell,
Spitting of Thick Phlegm,
Discharge from the Nose,
Loss of Taste, or Offensive
Taste in Mouth,
Catarrhal (Coated) Tongue,

Catarrhal Deafness,
Gurgling in Ears,
Bad Breath,
Snapping Noise in Ears,
Voice Troubles,
Hay-Fever,
Physical and Mental Dullness
arising from Respiratory
Inefficiency.

. . . all who wish to quickly cure Catarrh, Asthma, Adenoids, Polypi, or other Nose-Breathing, Chest or Lung, and Voice or Hearing, or Throat Bronchial Trouble should send for a copy.

The "outfit" consisted of two "inspirators," 56 tampons, a collapsible tube of lubricant, and a bottle of "Rhycol Antiseptic Solution."

The "inspirators" were small celluloid shells, open at both ends and along one side, to be placed in the nostrils to form a lining. They were marked "R" and "L" respectively, and the sides intended to lie against the septum and the outer wall respectively were shaped rather differently; it was not easy, however, to feel quite such enthusiasm about their beauty as is shown in the description which accompanied the outfit:

The Inspirators . . . are hand-modelled and made by one of the most skilful Anatomical Instrument Makers in the world. They are constructed on perfect anatomical principles, and from a material that is not only completely Aseptic in itself, but which cannot be in any way contaminated or infected by noxious or morbid matters, and is entirely unaffected by oxidation. The inner side—that part inclined to the middle septum of the nose—is exquisitely modelled, so as to adapt itself perfectly to all the sinuosities and flexuities of the central cartilages; and, by a most skilful conformation, the current of air on each inspiration is most favourably directed through the spongy nasal passages to the air-openings (nares) at the upper and back of the pharynx.

Since the "inspirators" are supplied to fit (or otherwise), a strange pair of nostrils, the "equisite hand-modelling" of one of the most skilful anatomical instrument makers in the world appears to be rather wasted. Possibly it is referred to as some justification of the price of 7s. 6d., which is charged for these without the remainder of the outfit, but to a disinterested eye they appear likely to have cost at most a few pence per pair. It may be remarked that each of the articles constituting the outfit, even including the box, is elaborately described in a similar laudatory strain.

The tampons were small cylinders of cotton-wool, medicated with a substance having a fragrant and rather terebinthinate odour. The instructions are to place an "inspirator" in each nostril and a tampon in each "inspirator," so that air is drawn into the nose through the tampons. They are to be kept in position for about a quarter of an hour the first time, gradually increasing the time until they can be worn all night. On extraction with a suitable solvent the tampons yielded a small quantity of a volatile oil, the average quantity being $\frac{1}{2}$ minim. This had the odour of a mixture of oil of eucalyptus and essential oil of camphor with a little terebene and a trace of oil of wintergreen, but the total quantity was far too small for analysis. The price of the tampons alone is 8s.

The tube of Rhycol lubricant, which is priced 1s., contained one-third of an ounce of soft paraffin with the addition of a very small quantity of carbolic acid. It is directed to be applied to the inspirators to facilitate their introduction into the nostrils.

The Rhycol Antiseptic is to be added in small quantity to water, to make a liquid in which the inspirators are to

be laid, after washing, when not in use. The bottle contained $1\frac{1}{2}$ fluid drachms of the antiseptic, which was a solution of formaldehyde.

THE COLMAN METHOD.

Under the name "The Colman Method" various medicaments and apparatus are supplied by Erasmus Colman, London.

The following are extracts from an advertisement headed:

Dangerous Catarrh! or, Chronic Cold in the Head.

It is a fearful mistake to neglect catarrh. It is quite certain to develop into something worse. It will not cure itself.

I, Erasmus Colman, declare that I have a perfect and speedy cure for nasal and throat catarrh. It is a system of vapourised medication, complemented by other highly effective therapeutic aids. It is a home treatment, occupying but a moment or two of one's time daily. The benefit becomes obvious from the first hour. The healing of the diseased condition is gradual, yet speedy and certain. There is nothing complex about it. Anybody can easily understand it. It is a pleasant form of cure. It is permanent.

I offer a perfectly genuine system of treatment. You cannot obtain it anywhere else, because it is the result of years of study and active experience, coupled with extraordinary ability in this particular line of ailment.

Any sufferer, regardless of his or her position, can obtain my treatment upon simple and easy terms by confiding in me. I know that I have the complete cure for catarrh and its consequent ills, including asthma, deafness, etc. I want to cure every man, woman, and child that suffers.

In a booklet which is sent to inquirers, entitled *Book of Information concerning My System*, etc., many statements are made in which the modesty of the above claims of "extraordinary ability" and "the complete cure" are quite equalled:

I assert, without fear of contradiction, that mine is the only apparatus which sends the medicated vapour over every membrane that air can reach, and I also assert with equal firmness that there are no preparations for similar object, which can compare in effectiveness with those supplied by me. . . . It is seldom that a sufferer who applies to me for treatment does not mention that he has paid out a considerable sum to doctors, and has never succeeded in getting more than temporary relief. After treating a sufferer until a patient's patience (excuse pun) is exhausted, he, the medical man, usually advises a change of climate or method of living. This is sometimes practically impossible, and can only be adopted at serious and, perhaps, total sacrifice of one's opportunity for supporting his family. He is, therefore, a true martyr—remains where he is, and bears the distress of his asthmatic attacks. I want all such persons to come or write to me. I assert, upon my word of honour, that I have the true cure, and being the genuine—it is the most inexpensive that money can buy.

Such statements about the medical profession are, of course, commonly met with in the utterances of nostrum vendors. It is not always, however, that contempt for "ethics" is so plainly expressed as in the following:

Because of a narrow-minded custom, which, like other relics of barbarism, will ultimately be swept away by modern ideas, the practitioners of medicine are bound together by a sort of mysterious girdle, outside of which they dare not step. If they do—they are boycotted by their fellows. One of the rules of the medical fraternity is that they may not advertise in the newspapers. They must keep their light hidden under a bushel, and, no matter how skilful they are, they are almost hopelessly smothered by that large, heavy blanket called "ethics." . . . It is a cruel and erstwhile stupid form of "protection"—medical ethics. If a registered medical man dares to advertise, his name is soon struck from the register. My nature is independent—I am frank, straightforward, outspoken, and honest. I may be considered as outclassed by medical men, who choose to remain fettered by the barbaric bonds of so-called etiquette; but I know that I am near to the hearts of my patients, whose shower of letters by every post represents an unparalleled outpouring of sincere gratitude. This is the reason why I stand aloof from medical societies and their old-fashioned rules of etiquette. I advertise—I cure—and the world is the better for it.

"Patient's Report Forms," with a long list of questions to be answered, were sent to be filled up and returned. One of these has a space headed:

Particulars of Previous Treatment.

(Patient should here state what doctors have said about case, and give particulars of treatment previously followed.)

However, on applying for a "treatment" and sending the money, without any particulars of any case, the articles described below were supplied. The price charged was 14s. 6d., but it appears that a larger amount is usually asked at first.

The "outfit" sent comprised:

An atomizer, for producing a spray, with indiarubber ball.

A "nasal irrigator," consisting of a bent glass cylinder for pouring liquid into the nostrils.

Two boxes of "Nebular Tablets," together containing 41.

A box of "Gargle Tablets," containing 21.

A bottle of "Atomizing Fluid," containing 1 fluid ounce.

A box of pearl-coated pills, containing 21.

Lengthy directions were enclosed, which may be summarized as follows:—Every morning: One Nebular Tablet is to be dissolved in two tablespoonfuls of warm water and the liquid passed into the nose through one nostril by means of the nasal irrigator until the nasal cavity is full, retained for two minutes, and run out; this is then repeated through the other nostril; then, after gently blowing the nose, the atomizing fluid is applied through each nostril by means of the atomizer. Every evening: Repeat the above treatment, then dissolve one Gargle Tablet in two tablespoonfuls of cold water and gargle the throat with the solution. Take one of the pills daily, after the midday meal.

The nebular tablets had an average weight of 20 grains. Analysis showed them to consist of

	Per Cent.
Sodium chloride	28.3
Borax, slightly dehydrated, equivalent to crystalline borax	28.7
Sodium bicarbonate	29.5
Sugar	12.3
Talc	3.1
Oil of wintergreen—sufficient to impart a fairly strong smell.	

The atomizing liquid was shown by analysis to consist of liquid paraffin, with small quantities of menthol and oil of cinnamon (far too small to be determined quantitatively). Traces of other essential oils may have been present.

The gargle tablets had an average weight of 20 grains. Analysis showed them to contain

	Per Cent.
Borax, equivalent to crystalline borax	4.6
Sodium bicarbonate	87.0
Sugar	4.0
Talc	2.1
Powdered vegetable drug	about 1.5

They had a faint terebinthinate odour, such as might be given by a trace of turpentine. The histological characters of the powdered drug, and the properties and behaviour of the trace of alkaloid extracted from it, agreed with those of powdered hydrastis rhizome.

The pills, being only subsidiary to the other articles, were not fully analysed. They had an average weight of about $\frac{3}{4}$ grain, and contained aloin; indications of the presence of jalap resin and podophyllin were also obtained.

A NOVEL method of obtaining funds for charitable purposes has been devised by Sir William Treloar, the founder of the Cripples' Hospital and College at Alton, in Hampshire. Realizing the difficulty of arousing the interest of the people in an enterprise of which it cannot see the results, Sir William has arranged a series of cinematograph pictures showing the work of the hospital. These were exhibited at Pyke's Picture Palace in Charing Cross Road last week, and are to be on view at several other cinematograph theatres. The excellent work accomplished by the Alton Hospital and College was displayed to great advantage on the film, which enabled the audience to examine the beautifully appointed wards, schoolrooms, and workshops, and to watch the daily life of the little patients from the moment of their arrival until their departure. Some interesting statistics were also given which proved that out of 451 children admitted to the hospital since its foundation in 1908, 175 have been discharged as "practically cured," whilst those who still remain there under treatment give promise of equally good results. At the close of the performance a short speech was made by Sir William Treloar, who read letters from Queen Alexandra and Princess Henry of Battenberg (in which both the royal ladies expressed their good wishes for his undertaking), and concluded with an earnest appeal for contributions towards the £15,000 needed for the yearly expenses of so large and complicated an establishment. Luncheon was provided for a large audience, which included the Lady Mayoress, Countess HOLLANDER, Lord ERROLL, Lord KINNARD, General R. BADEN-POWELL, and several other well-known people.

SCIENCE NOTES.

FOLLOWING an address by Professor Becquerel in the earlier part of this year M. Matout has published an excellent short article in *La Nature* (October 28th) on the cycle of evolution of matter, in which he gives an interesting summary of the most recent facts and hypotheses. These deal principally with the phenomena of radio-activity in their relation to the conservation of matter and energy. Radio-activity, as we know it, forms one phase of this cycle of evolution; it is a distinctive phase wherein elements of high atomic weight are reduced to elements, such as helium, of the lowest atomic weight. The remainder of the cycle, the constructive phase, is an infinitely slower process, and to appreciate its existence recourse must be had to a study of astro-physics. The changes which presumably are taking place on the earth are quite inappreciable. The radio-active phase may be regarded as the culmination of the long constructive phase during which atomic complexity has increased to such an extent that it eventually leads to instability. The helium which is evolved is not present in the terrestrial atmosphere to the extent which may be expected from the amount of radiation taking place; and the explanation of this is that, being extremely light, it rises into the upper strata, where it is found along with hydrogen in an excessively rarefied state. Now it is known that the molecules of a gas in such a state, if suitably oriented and possessed of a sufficiently high thermo-dynamic velocity, may escape the action of gravity. Helium tends, therefore, to leave the terrestrial atmosphere and to pass into interplanetary space. M. Matout remarks on two of the most striking physical peculiarities of helium—namely, the fact that it forms no compounds, being always in a free state, and that its temperature of condensation is practically at absolute zero. These two properties suggest the possibility that helium may remain the only constituent of the atmosphere of a long dead planet on which the temperature is so low that even hydrogen is solidified. The manner in which helium is reorganized and increased in complexity has already been admirably indicated in Lockyer's *Inorganic Evolution*. By spectroscopy it is possible to determine that many of the hottest stars are composed almost entirely of helium, and that a decrease in temperature is accompanied by an increase in atomic complexity. This regradation or reorganization of matter may be traced throughout the stellar system, and in the sun, which is comparatively cold, we find practically the same elements as are met with on earth. This, then, is the constructive phase which takes place at temperatures and under conditions altogether unknown on earth. These facts introduce new conceptions into physics, and they invalidate to some extent the principles of Carnot and Clausius. According to Carnot's principle, energy cannot pass from a cold to a hot body, but the behaviour of helium demonstrates an exception to this.

Frandsen has reported (*Ugeskrift for Læger*, August 24th, 1911) a case which clearly shows that an ovum may escape from the ovary on one side and pass through the Fallopian tube on the opposite side, with normal uterine pregnancy as the sequel. His patient, who was 24 years old, and a nullipara, was operated on for extrauterine pregnancy, which had led to haemorrhage into the abdominal cavity. This was found to be full of coagulated and fluid blood, and blood was oozing from the abdominal ostium of the Fallopian tube, but the tube was not ruptured. There was thickening and hyperaemia of the tube, the middle of which presented a club-like swelling. The tube was extirpated and the swelling, on dissection, was found to contain placenta-like tissue. There was also a small cavity in the swelling, but no fetus. The stump of the tube was covered with peritoneum, and the left ovary, which appeared to be normal, was left *in situ*. The right ovary was found to form a thin-walled unilocular cyst. It was, therefore, removed and its pedicle covered by peritoneum. The right Fallopian tube was left intact. Although accessory ovaries were sought for, none were found. A year later the patient was found to be four months pregnant, and she had a normal confinement at full term.