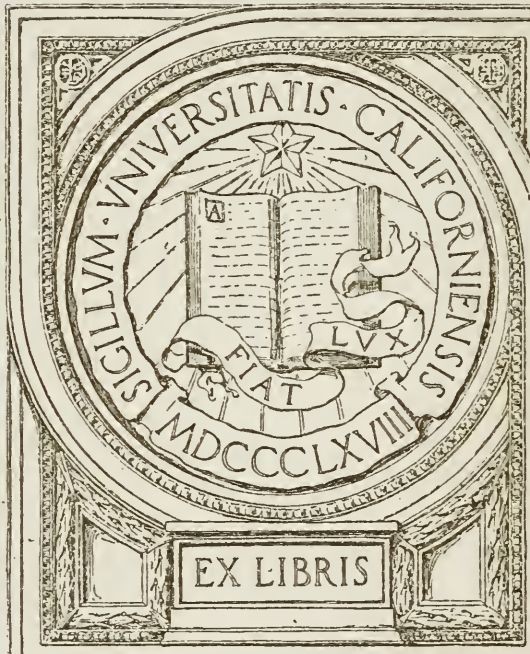
The Evolution of Urine Analysis

Lecture Memoranda
A. M. A. Meeting
Los Angeles
1911



An Early Map of California

The cross shows the present site of Los Angeles

BIOCHEMISTRY DEPT.

SS. Cosmos and Damian

The Patron Saints of Medicine and Pharmacy

From an MS. of the XV century

SECTIONAL INDEX

General Trade Mark

A JUDGMENT FROM URINE

From an oil painting by Jan Steen
(1638—1689)

The Evolution of Urine Analysis

An Historical Sketch
of the
Clinical Examination of Urine

Lecture Memoranda

American Medical Association

Los Angeles

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Gift of Mr. E. L. Martinelli
Feb. 9 - 1925

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FOREWORD

HISTORICAL EXHIBITION OF RARE AND CURIOUS OBJECTS RELATING TO MEDICINE, CHEMISTRY, PHARMACY AND THE ALLIED SCIENCES, LONDON, 1913

FOR many years I have been engaged in researches respecting the early methods employed in the healing art, both among civilised and uncivilised peoples; and with the object of stimulating the study of the great past, I have had in my mind for some time past, the organisation of an exhibition in connection with the history of medicine, chemistry, pharmacy and the allied sciences, my aim being to bring together a collection of historical objects illustrating the development of the art and science of healing, etc., throughout the ages.

I have been strongly urged and have decided to hold the Historical Medical Exhibition, which has been in process of organisation for some years past, at the same time as the International Medical Congress, which is due to take place in London, in the year 1913.

This decision will, I have no doubt, suit the convenience of the many medical practitioners from all parts of the world, who will be visiting England on the occasion of the Congress.

The success of the Historical Medical Exhibition will depend largely upon the co-operation of those interested in the subject with which it deals, and I again appeal, therefore, to all who possess objects of historical medical interest, to render their kind assistance by loaning them to me, so that the Exhibition may be thoroughly representative. A syllabus containing full particulars will be forwarded on request.

HENRY S. WELLCOME

A Bedside Diagnosis from Urine

From a woodcut of the XVI century

The Evolution and Development of Urine Analysis

An Historical Sketch of the Clinical Examination of Urine

Synopsis of Chapters

Chapter I

Uroscopy in Antiquity

There is perhaps no excretion of the human body which possesses more interest to the medical practitioner, and probably none which throws so strong a light on the organic processes of the diseased as well as the healthy body, as the urine.

Antiquity of uroscopy

The origin of uroscopy, or the art of diagnosing disease from the inspection and examination of the urine, is practically co-eval with the genesis of the art of healing itself, and, after a careful investigation of the subject, one must conclude

that from time immemorial, the changes and variations which urine undergoes in health and disease have been observed by man.

Beginning with the first written records of the earliest civilisation, it is difficult to ascertain, with certainty, whether the Sumerian and Babylonian physicians were in the habit of examining the urine of those that were sick in order to diagnose the nature of the disease from which they were suffering. There is, however, strong evidence that they had studied the physical appearance of the urine. As far as our knowledge extends, they did not experiment upon human beings, and most of their physiological knowledge was probably derived from the examination of animals, usually the sacrificial victims. This was especially the case with regard to the nature and functions of the component parts of the liver, in regard to which they attained a remarkable degree of accuracy, considering that all their knowledge was obtained from the examination of the livers of sheep and lambs offered in the temples.

Divination from the liver

Among the many antient Babylonian tablets known, there are none relating to divination from urine of either animals or human beings, although the urine of animals—asses, sheep and dogs—is mentioned as a constituent of some of their strange magical medicines, in a similar way to which it was used so extensively in Egypt.

There are, however, in the British Museum some fragments of a Syllabarium, or dictionary of words and signs, relating to parts of the human body. Among the parts treated of, are the heart, lungs, liver, kidneys and phallus. Following the latter are some signs and words relating to the urine which show that the Sumerian and Babylonian physicians, at a period of about 4000 B.C., had noticed the various changes in colour and in constitution that the urine undergoes.

Babylonian knowledge of urine

The sign for urine is a compound one, composed of  US. Phallus  "water" and written , the Semitic name being *sinatu*. This corresponds with the Egyptian hieroglyphic, which is  "water of the phallus."

One reason why so little information as to urine is to be found in the tablets has been attributed to the fact that the Babylonians, like most of the Orientals of to-day, did not perform the operation of micturition in a vessel, but on the ground or down a drain, and so there was little opportunity of observing the colour and constitution of the urine.

Still, from the above-mentioned fragments a number of interesting idiographic groups can be obtained, which show that the keenly observant Sumerians and Babylonians had not passed over unnoticed the various changes in colour and consistency of the urine.

Babylonians observe the colours of urine

I.  explained as *sinatu pizu*, "white or pure urine."

II.  explained as *sinatu zalmi*, "black or dark urine."

III. or  explained as *urpati sinatu*, "clouds of the urine."

IV.  (lost). Explained as *tidu sa sinatu*, "mud or sediment of the urine."

V.  explained as *sinatu bursi*.

This is a very interesting group, as the second square means "bright, very bright red," and evidently indicates blood-coloured urine.

VI. Another group, which is badly mutilated, is explained as *kalmat sinatu*, "the worm of the urine." This may allude to casts, the small secretions from the vessels of the kidneys. Another expression that occurs in the tablets is worthy of note, and that is "knot of threads," which probably refers to the long albuminous threads which often appear in urine.

"The worm of the urine"

From these fragmentary observations it would appear that the Babylonians were greatly in advance of other nations of their time in the pathological examination of the bodily secretions.

It is stated by some authorities that the Persians were the earliest known people to use the inspection of urine as an aid to the diagnosis of disease. We cannot confirm this statement, and have been unable to trace the history of uroscopy in Persian medicine to an earlier period than the eleventh century. This, together with the fact that the religious principles of that nation forbade contact with unclean objects, foremost among which were excreta, renders it very improbable that uroscopy was originated by the Persians.

From the earliest records known of Hindu medicine, it would appear that the physical examination of the urine was employed by their physicians from a period of great antiquity. According to their earliest code, they were taught to diagnose disease from the appearance of the patient's eyes, skin, voice, pulse and urine, and the latter especially was regarded as of great importance as an indicator of disease.

In the antient Sanskrit works on medicine, elaborate descriptions of the appearance of urine in different diseases are given. All morbid conditions were termed *prameha*, and were divided into twenty varieties. Ten of these were believed to originate from deranged phlegm; six from deranged bile, and the remaining four from wind.

The phlegmatic varieties were known as follows:—

1. *Udakameha*, water-like urine. The urine is clear, white, cold, copious, and has no smell.

2. *Iksumeha*, cane-sugar juice urine. The urine is very sweet, cold, sticky, opaque, like the juice of cane sugar.

3. *Sandrameha*, thick, fluid urine. The urine becomes thick after standing some time.

4. *Surameha*, urine like brandy. The urine is clear above and turbid below.

5. *Pistameha*, floury white urine. When the patient is passing this variety of urine, the hair over the body becomes erect, and the urine looks as though mixed with flour. Urination is painful.

6. *Sukrameha*, semen urine. The urine either looks like semen, or is mixed with it.

7. *Situmeha*, cold urine. The urine is very cold, sweet and copious.

8. *Sanainmeha*, slow urine. The urine in this variety is passed very slowly.

9. *Sikantameha*, sandy urine. The urine is very muddy and urination very painful.

10. *Lalameha*, frothy urine. The urine has threads and is passed in small quantities (albuminous urine).

All the diseases indicated by this variety were believed to be curable.

Deranged bile was said to produce the following conditions:—

1. *Ksurmeha*, potash urine. The urine has the taste, smell, touch and colour of potash.

2. *Kalameha*, black urine. The urine is like ink.

3. *Nilameha*, blue urine. The urine is clear and acid.

4. *Sonitameha*, urine containing blood. The urine is of bad odour, hot, and tastes of salt, like blood.

5. *Manjisthumeha*, madder urine. The urine is like the colour of the water of madder, and has a strong smell.

6. *Haridrameha*, turmeric urine. The urine is yellow like the turmeric water, and smells very bad.

Deranged wind was believed to produce the following conditions :—

1. *Vasameha*, fatty urine. The urine is either mixed with fat or looks like it.

2. *Majjameha*, bone marrow urine. The urine either looks like, or is mixed with, marrow of the bone.

3. *Hastimeha*, elephant urine. The patient continuously passes turbid urine like a mad elephant.

4. *Madhumeha*, honey urine. The urine is astringent, sweet, white and sharp.

The last description described is the urine of diabetes mellitus, a disease with which the Hindus were apparently acquainted. There is evidence from the works of Charaka and Susurata, who flourished several years before the Christian era, that they recognised and observed the sweet taste of diabetic urine. These antient authors noticed that long trains of large black ants were attracted by sweet (honey) urine, and thus these insects became recognised as a means of diagnosis.

Madhumeha (diabetes mellitus) is also mentioned in the Bower Manuscript, which dates from about A.D. 500, in which Susurata is quoted. It is worthy of note also that the Hindus knew the association of carbuncle and other skin troubles with diabetes, and also its danger, and commented upon the hereditary and congenital forms of this disease.

It may be here remarked that the Hindu physicians recognised the enlargement of the prostate gland, with its attendant evils, as early as 100 B.C. Charaka describes it as follows: "Deranged wind between the bladder and the rectum produces a large hard ball like a stone, which is the cause of suppression of urine. There is much pain and swelling in the bladder. The disease is called *Asthila*."

Uroscopy in antient Egypt

Although no definite mention of inspection of the urine is made in the Papyrus Ebers or any other of the antient Egyptian medical papyri, it is very probable that the Egyptian physicians practised the art of uroscopy as an aid to diagnosis, although there is no written evidence of it.

In the early Greek era, we find that Hippocrates (400 B.C.), the Greek father of medicine, in his works, frequently urges the importance of the examination of urine in prognosis, and his allusions show that the art of uroscopy was frequently practised in his time.

Hippocrates' observations on urine

He pointed out the effect of food and drink on the secretion, its variation in colour, odour and transparency, and taught the symptomatic and prognostic signification of these changes. "Urine is best," he states, "when the sediment is white, smooth and consistent, during the whole time until the disease comes to a crisis, for it indicates freedom from danger and an illness of short duration; but if deficient, and if it be sometimes passed clear and sometimes with a white and smooth sediment, the disease will be more protracted and not so void of danger. If the urine be reddish and the sediment consistent and smooth, the affection in this case will be more protracted than the former, but still not fatal. Farmacious sediments in the urine are bad, and still worse are the leafy; the white and thin are very bad; but the furfuraceous are still worse than these. Clouds carried about in the urine are good when white, but bad if black. When the urine is yellow and thin, it indicates that the disease is unconcocted. The most deadly of all kinds of urine are the fetid, watery, black and thick; in adult men and women the black is of all kinds of urine the worst, but in children, the watery.

"One should consider respecting the kinds of urine which have clouds, whether they tend upwards or downwards, and the colours which they have; and such as fall downwards with the colours as described are to be reckoned good and commended; but such as are carried upwards with the colours as described are to be held as bad and are to be distrusted."

In cases of fever Hippocrates laid great stress on the examination of the urine, and states: "One may judge from the urine what is to take place, for if it is

HIPPOCRATES INSTRUCTING STUDENTS IN THE "JUDGMENT" OF DISEASE FROM THE URINE

From a woodcut of the XV century

thicker and more yellowish so much the better, but if it be thinner and blacker so much the worse."

Galen (A.D. 130) followed largely the teaching of Hippocrates, and in his "Commentary" praises him for the acuteness of his prognosis of the urine. Like other antient physicians, this master paid great attention to the characters of urine in disease, and his knowledge of the subject was remarkable considering the state of learning at the time.

Galen's attention to uroscopy

Paulus Ægineta, another famous physician who flourished probably in the latter half of the seventh century, wrote very fully in his works on the value of inspection of the urine in diagnosing disease.

He states that, "from the inspection of the urine of healthy persons, as a rule we may form our judgment of that of persons in disease. That urine, therefore, is best, which is nearest to that of healthy persons. Such is that which is at the same time of a faintish golden, or faintish saffron colour, and which, moreover, is moderate as to consistence. There are three varieties of turbid urine; for, either straightway after being voided it deposits a sediment; or it always remains the same; or it is voided pure, but afterwards becomes turbid; of these, the third is bad, the first favourable, the second intermediate between them. That which is wholly unconcocted, being altogether watery, is symptomatic of digestion being entirely gone in the venous system; and when it is passed frequently, the disease is called diabetes, which is the worst of unconcocted urines. Next to these is the thin and white urine, which resembles water. Nearly allied to these, is another kind of urine, appearing in many diseases, and which is very like to the thin and white. The palish is next to this. The pale may also be of a faintish golden colour, and is concocted in proportion as it partakes of this colour. It ought, however, to be as much different from water in thickness as in colour, if it is to be properly

Ægineta remarks on the value of uroscopy in diagnosis

concocted. But if it preserve exactly its natural colour, and have a white, smooth, equable and copious sediment, it is indicative of perfect digestion. A greater quantity than natural indicates that a crude humour is purged off; but if it is somewhat thicker than natural, and has a certain sediment, it is not then altogether unconcocted. But if it have gritty, scaly, furfuraceous, black, livid, green, or fetid sediments, such urine is altogether unconcocted and particularly mortal. But urine of a proper colour, and which at the same time has white, smooth, and equable sediments, or certain cloud-like appearances, or substances swimming in the middle of a like kind, is of all others the best. Of these characters, the sediment is of the most importance; next, the substances swimming in it; and third, the cloud-like appearances on its surface; and, on the whole, of the substances which float in the urine, the more they sink downwards, so much the better."

Theophilus and his observations on uroscopy

Theophilus, who lived under Heraclius (A.D. 610–641), was one of the most popular physicians of his time and made many important observations on the urine in disease. He observed that "the urine of persons leading a sedentary life had more sediment than that of those who followed an active vocation; the urine of women from this cause has generally more sediment than that of men; that of children more than that of adults; and that of persons who live grossly than the urine of temperate persons." Theophilus thus describes the characters of oily urine: "When in fevers the urine assumes the colour of oil it indicates that the fat of the body is melting down. When the appearances of the urine resemble oil still more, it indicates an increase of the melting of the fat; and when the urine in consistence and colour appears exactly like oil of a dark colour, it prognosticates a collapse and death."

This accords with what is stated in one of the aphorisms of Hippocrates: "When in ardent fevers the

urine has an oily sediment it prognosticates death." Tare-like urine, as it is called from the resemblance of the sediment to the colour of the tare *(ervum ervilia)* (but which might be better called the grumous, since. as Actuarius explains, the deposit bears a close resemblance to clots of blood), is said by Theophilus to be indicative of the melting of the flesh. The scaly urine derived its name from small substances resembling husks or hulls of grain in the urine, and in febrile diseases was supposed to indicate great disorder of the general system, but otherwise to be connected with an affection of the bladder. The furfuraceous. which derived its name from the resemblance of the sediments to bran, was also held to be symptomatic of local disease of the bladder, or of constitutional disorder in fever.

Theophilus is the first to mention the application of external heat as a test of the character of the urine, which may be inferred from the following paragraph extracted from his work, "De Urinus": "What does the Crass Rara signify? In truth, such, if it remains undisturbed, shows the body to be badly indisposed. It is clear that such urine may be shaken up or allowed to set whilst subjected to external heat." The writer here probably alludes to the cloudiness caused by heating albuminous urine.

Theophilus records the first test in urine analysis

The gritty, so called from the resemblance of the substances in the water of the urine to large particles of ground grain, was regarded by all the authorities, from Hippocrates onwards, to be of very serious significance in fevers. Fetid urine was supposed to indicate melting or putrefaction of the body.

Johannes Actuarius, who died about 1283, was ordinary physician at the court of the Palaeologi, and held the post of uroscopist at the Byzantine Court. He wrote a treatise on urine, which shows an advance on any former work on the subject. Like Theophilus, he described the various

Actuarius on urine

A Greek Physician examining the Urine
and
a Diagram showing the Various
Colours of Morbid Urine
From an illuminated MS. of the XIV century

kinds of sediment, which he named in accordance with their colours, and was the first to recommend the use of the graduated urine glass for measuring the depth of these deposits. His glass, or urinal, he graduated into eleven divisions, of which he stated that the deposit should occupy the four lowest, the cloud the sixth, seventh and eighth, and the scum the tenth and eleventh. The differences in appearance of these portions included every imaginable shade of colour, and are described with surprising minuteness as also are the connections of the morbid conditions of the system which gave rise to them.

Actuarius gives a curious account of urine without sediment, which he ascribes to its being attracted to some part of the system which is the seat of inflammation or erysipelas.

The substances in the middle of the urine, according to Actuarius' division, "sometimes resemble spiders' webs, sometimes specks of oil such as appear in fat broth when it cools, and at other times, hairs."

The famous physicians of the Arabian School made little advance in the art of uroscopy, and the allusions which are to be found in their writings referring to the subject are mainly borrowed from the Greeks.

The Arabian School

Avicenna (A.D. 980–1037) pointed out the difference between urine passed in the morning and that passed at night, and remarked on the influence of age, food and drugs on its colour.

According to Haly Abbas (*ca.* A.D. 980), thinness of the urine indicates deficient digestion. Thickness, on the other hand, he states, is the product of excessive digestion, or arises from the presence of pituitous humours in the body. "When the sediment is white," it is a favourable symptom; when yellow, it is from yellow bile; when red, it is from a sanguineous plethora and imperfect digestion, and if of long continuance, it must proceed from inflammation of the liver. If, after

Haly Abbas on the characters of urine

intense redness," he states, "the urine become black, it is a most fatal symptom. When the urine is moderately fetid, it is connected with indigestion; but when very fetid, with putrefaction."

Alsaharavius (*ca.* 1085) describes the characters of the different kinds of urine, nearly in the same terms. He properly cautions the physician not to allow himself to be imposed upon by the colour of the urine, which may sometimes acquire a tinge from the patient's having taken saffron, cassiafistula, or other drugs. "Such tricks," he says, "are often practised upon water-doctors."

Alsaharavius' observations

Rhases, who flourished between A.D. 850 and A.D. 923, states: "It is an unfavourable symptom when the urine does not become turbid in the course of fever. Yellow urine without sediment is said to be unfavourable."

Rhases on urine in fevers

Ismail of Jurjani, a Persian physician, who flourished towards the end of the eleventh century, gives the following interesting account of uroscopy as practised in his country at that time.

"The urine which is for the physician to examine," he states, "must be collected in a bottle, which must be large, transparent and clean, and if possible should be in the shape of a bladder. It should be of a large size, so as to contain the whole of the urine (24 hours), for the reason, if there be something (sediment) in it, it should be detected at once. The shape of the bottle is devised like a bladder for the reason that the urine should be in natural position as in that viscus. Urine should be well guarded against heat, cold and the sun, because extremes of temperature change its natural state, and heat makes it burn, and its thin sediments are consumed thereby. Cold makes urine congealed.

Uroscopy as practised by the early Persians

"Urine sent for examination should be that of the early morning after a good sleep. It should be passed before eating or drinking anything, because partaking of certain foods changes the colour of the urine. One should not rely upon urine that has been passed during

starvation, sorrow, weakness or sleeplessness, or after coition, because above conditions change its colour. After food and wine the natural heat of the body increases for the purpose of digestion, the urine becomes colourless. Often in hot diseases it becomes white and puts the physician off his guard. After hunger, sleeplessness, sorrow and trouble, urine changes its colour, because heat (bodily) in such conditions moves about (in the body) and makes the urine appear coloured. Often one passes colourless urine after sleeplessness, because heat (bodily) is dissipated through insomnia, the urine passed is rather turbid and not clear and light, because food cannot be well digested in sleeplessness; food remains kham (uncooked, unasssimilated); that is also the reason why one gets darkish and muddy water from uncooked food.

"Urine should be examined in daylight. Let the sun's rays not fall upon the bottle, otherwise the urine in it will appear like a cloud. The bottle therefore should be kept away from the sunshine, and placed on the ground, so as not to stir it in case the sediments get mixed and make it too turbid. The physician is considered too sacred to touch a bottle containing urine with his own hands. Taking the bottle in the left hand, it should be shown to the physician. It should also be kept away from one's own shadow and dress, as images (on the bottle) are liable to give erroneous ideas and make the colour look different.

The sacredness of the physician

"In examining urine," he continues, "seven objects should be kept in view: 1, colour; 2, consistency; 3, transparency; 4, quantity; 5, sediments; 6, odour; 7, froth. Colours appear distinctly. When urine is thick or watery it is termed Qawam (consistency). The state of its transparency or turbidity is not counted upon, the only difference is this, that there are many thick objects which let the rays of light pass through, and objects near it look as though they were like the white of egg or molten wax. There are many objects which are thin (fluid) which do not let light pass

through them, and the things placed by their side appear like dark water. It should be observed that muddy water is that which holds in its solution matter which takes away its original colour, and transparency, so that the light cannot penetrate it.

The characters of urine

"There are four colours of the human urine—the white, yellow, red and black, as they correspond to the four humours found in the body—phlegm (white), blood (red), bile (yellow), sanda melancholi or black bile (black). All these colours have different varieties. White is of four kinds: 1, white like clear water; 2, like fagah (a drink made of barley and water); 3, like semen; 4, like milk. In the same way," concludes the author, "other colours of urine have different shades."

It will be noted from these extracts from the manuscript work of Ismail of Jurjani, that the art of uroscopy in Persia had advanced to a considerable degree in the eleventh century.

CHAPTER II

Uroscopy in the Middle Ages

The School of Salerno, which was the chief centre of the medical art during the early Middle Ages, numbered among its graduates many physicians whose names were perpetuated for centuries afterwards by their works. A good idea of their knowledge may be gathered from the accounts which have come down to us of the methods they employed in diagnosing disease, and among these it will be noticed that the examination of the urine played an important part.

The School of Salerno, and the art of uroscopy

On visiting a patient, the Salernan physician of the eleventh century, after paying the formal salutations and compliments, would probably proceed to carefully examine the patient's pulse, after which it was customary to ask for an inspection of the urine. In this he would note the colour, the consistence, the quantity and any sediment that had deposited. After concluding his examination and before retiring, the physician usually promised that with God's help the patient would recover, but "he would take care to inform the friends of the patient that his illness is a serious one," says the chronicler, "so that, should the patient get well the merit may be due to him, or, should the result of the illness be fatal, the friends of the deceased are there to witness that he had noted the serious nature of the disease from his first visit."

How a Salernan physician visited a patient

In an epoch when all clinical methods and investigations of modern science were unknown, it is natural that the urine should be expected to indicate the disease and its nature, and so, as time went on, it is not surprising to find that inspection of the urine gradually became more popular in mediæval diagnosis, as doubtless it appealed, from the spectacular point of view, as strongly to the patient as to the physician.

PHYSICIANS JUDGING SPECIMENS OF URINE

From a woodcut of the XV century

Constantine Africanus (1018–1085), one of the founders of the School of Salerno, in his work "De instructione medici," states that "urine is better than the pulse to discover the disease from which the patient suffers." The doctrine taught at the School of Salerno, and which was accepted also by other mediæval medical schools, was that the indications drawn from the urine, although relating to the whole of the

Constantine Africanus on the value of uroscopy in diagnosis

PHYSICIANS IN CONSULTATION
From a woodcut of the XV century

body, referred more especially to the liver and the urinary ducts.

Bernard Gordon, of Montpellier (1285–1318), who studied at Salerno also, and was the author of "The

PHYSICIAN EXAMINING URINE IN A HOSPITAL

From a woodcut of the XV century

Lily of Medicine," states that the examination of urine for the purposes of diagnosis is without a rival, and recommends it to the medical man as the first proceeding. "The science of judging the urine," he declares, "is so easy that all can learn what they wish to know."

Bernard Gordon on uroscopy

Gilles de Corbeil, who graduated at the School of Salerno at the beginning of the twelfth century, and was first physician to Phillipe Auguste, wrote an elaborate poem on the urine, entitled "Liber de urinis," which gives a good idea of the state of medical knowledge at the period in which he lived. He begins by studying the etymology of the word urine, and then, referring to the composition of this excretion, remarks that "urine is composed of the residue left in the blood and other humours in the kidneys." Next, he proceeds to lay down in detail, rules for its examination, placing, for the guidance of the uroscopist, special emphasis on the aspects, the consistence, the quantity, the nature, and the things contained therein. He enjoins the physician to take into consideration, also, the circumstances of place, the number, the time, the age, the sex, the exercises indulged in, as well as the temperament and diet of his patient.

Gilles de Corbeil and his poetical treatise on urine

One need not follow out in detail this curious treatise on practical uroscopy of the past, but it will be sufficient to state that de Corbeil distinguished no less than twenty different colours in the urine, from which he drew his conclusions. He gives specific instructions as to the kind of urine glass to be used, stating that it is to be of glass that is very transparent and to be in the form of a bladder. The place also where the examination is to be undertaken, he observed, must neither be exposed to the sun nor the darkness, and if it be necessary to make the inspection against the shining sun the hand should be interposed so that the various colours of the residue may be seen more distinctly. Should the inspection be made by candle light, care is to be taken that the rays

fall not directly on the glass. Special note must be made of the space occupied by the deposit, or whether it floats in the liquid, rests half-way, or falls to the bottom of the vessel.

A thirteenth century satire on the uroscopist

A curious and not less interesting picture of the important part which uroscopy played in the medical practice of this period is related in the form of a fable written in the thirteenth century, called "Roman du Renart." In the poem, which is evidently a satire on the medical practice of the time, a lion is sick and calls for the fox (the physician) to attend him.

"Come soon to my rescue," said the lion to the fox:—

"I abandon myself entirely to you.
And thou, fox, think of me,
Lest thou shouldst take hasty care.
What thou wouldst have done, shall be done.
Nor will I speak more or less,
I am entirely in your hands."

Then the lion gives a vivid description of the ills from which he is suffering, and describes the symptoms of gastric-febrile disturbances, head-ache, trouble with his sight, a bitter taste in his mouth, general lassitude, and difficulty in breathing:—

"In my head I feel a great pain,
Such that it seems to me (so God love me).
That it is being broken to pieces.
And my sight is troubled,
That I often see nothing.
My mouth is so bitter
That nothing has for me a taste.
I feel much pain all over the body.
The worst is that only with great pain
Can I draw my breath.
I can tell you but half the ills,
On account of the pains which make me shiver."

Fox, the physician, then proceeds:—

"So, said Fox, you shall be cured,
When the third day has passed
Bring me a urinal,
And we shall see therein the ill."

Thus, without loss of time, fox asks to be allowed to examine the urine, and affirms that he will discover the

PHYSICIAN EXAMINING A SAMPLE OF URINE BROUGHT BY A PATIENT

From a woodcut of the XVI century

cause of the disease. The lion yields most graciously to the fox's requests.

"The urinal was brought.
Noble is sitting upright,
And urined more than half.
And Fox said, 'Just so.'
Took it and went into the sunlight;

Lifted high the urinal,
Looks at it externally,
Turns it over and over again
To see whether it will alter."

Here the fox describes the usual practice of the physician of the period. Taking the urine glass he goes out into the full light, so that the sun's rays, reflecting in the amber liquid, show the slightest alteration, and, after a conscientious examination:—

"Sire, he says, by God's help
I see you have ague
Yet I have the potion which kills it.
Sir King, I shall have to administer it to you."

He continues his examination, feels the pulse, touches the sides, the chest, the hips, and raises the head.

"A little longer and I should have been too late."

And he ends with the following reassuring assertion:

"The sickness of your body I will cure.
The quartane fever will go off,
Which takes away your breath so much."

During the fifteenth century quack uroscopists abounded in every land. These charlatans, who travelled the country on a pony or nag, with the urine basket slung on the arm, preyed on the credulity and ignorance of the people. With a glib tongue they made them believe that they could diagnose every disease known under the sun, as well as prognosticate all kinds of events, from a glance at the urine.

A characteristic allusion to the uroscopist appears in the works of Von Hutten, a German knight of the fifteenth century, who details a supposed dialogue between himself and a being whom he personifies as "Fever," which attacks his body. Fever persists in staying in his bodily habitation, and Von Hutten then threatens to call for his physician, Dr. Stroemer, "whom," he says, "will check you, for in him I have faith." "Yes," replies Fever, sarcastically, "the physicians. Quite so, call Stroemer; as if I knew not your ways. You would prefer being ill for a whole

year, than partake even of two scruples of rhubarb, hellebore or any other purgative. You had better call against me the physician who saw an oat-grain in a urinal and stated the patient had eaten a horse."

Montagnana's chart

Montagnana, the famous Italian physician, in 1487, published a treatise on the signs furnished by the urine, and reproduced a chart by means of which the physician might compare the deductions to be drawn from the various colours, as observed by him. In this chart, twenty-one urine glasses are shown, partly filled with a liquid coloured in various shades, from bright yellow to brown, pink and red, and from blue to black.

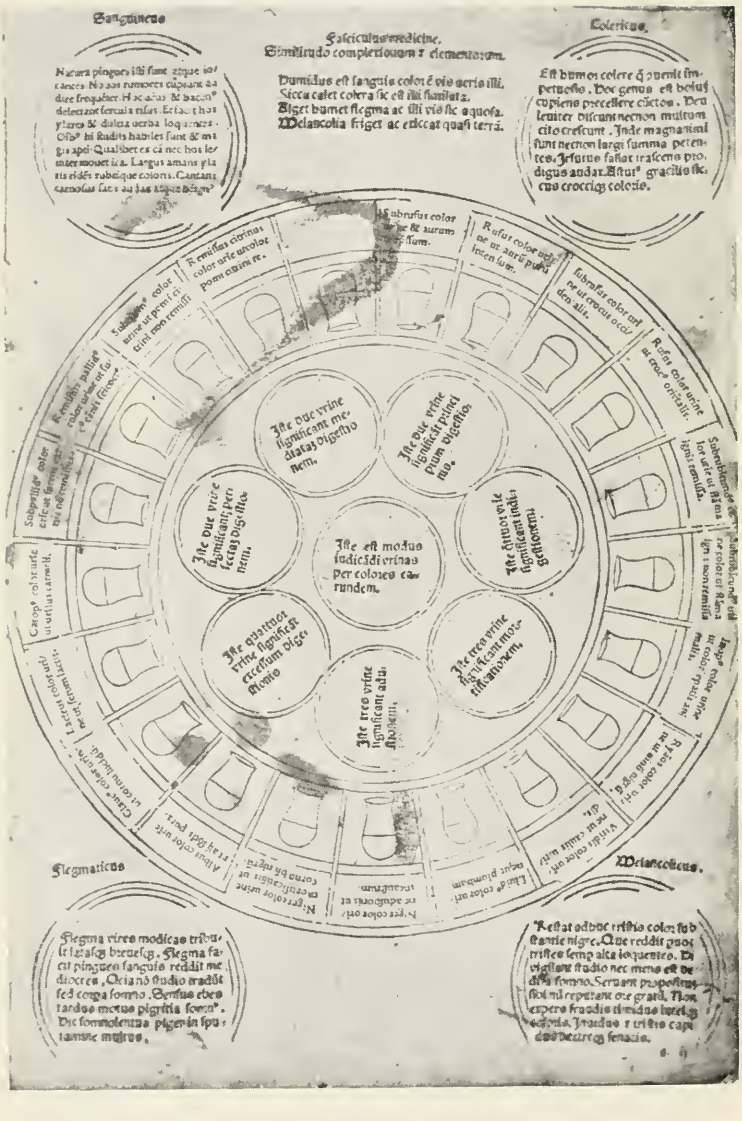
The earliest book printed in English on uroscopy

Probably the earliest book published in the English language on examination of the urine is entitled, "The Judycyall of Uryns," which is said to have been printed by Wynken de Worde in 1512. According to Bale, this work is a translation of a manuscript written by Henry Daniel, a monk, in 1379. The title-page bears a woodcut of the physician holding a urine glass, and the text is mainly a repetition of that found in earlier works giving the signs which may be judged from the various colours of the urine.

Another early work on the subject which was printed, probably about 1540, is entitled:—

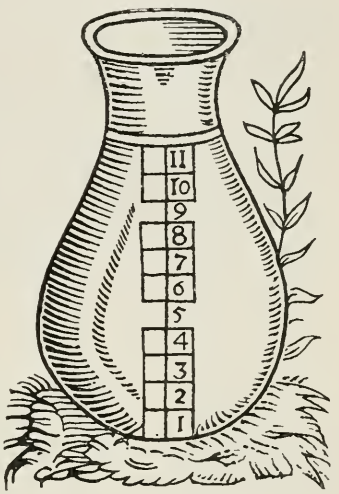
"HERE BEGYN | NETH THE SEYNGE OF URYNES | OF ALL THE COLOURES THAT | URYNES BE OF WITH THE ME | DYCINES ANNEXED TO EVERY | URYNE | EVERY URY | NE HIS URYNALL MUCHE | PROFITABLE FOR EVERY | MAN TO KNOWE"

This work is mainly an epitome of "The Judycyall of Uryns." Every paragraph is preceded by a crude woodcut of a urine glass, and the colophon informs us that the work was "Imprynted at London in Foster Lane by John Waley."



MONTAGNANA'S CHART FOR EXAMINING URINE

Mayster Robert Recorde, who published his "Urinal of Physick," in 1548, gives very elaborate particulars for "making the judgment," which are here given in his own words:—



Recorde's urine glass

"The urine should be kept to see which is first made after midnight, and should be made in the urinall in which it is to be examined."

Recorde is particular as to the requirements of the urinal. "Touching the Urinall," he says, "it shoulde be of clere glasse, not thyck nor greene in colour, without blottes or spottes in it, not flat in the bottom, nor to wyde in the necke, but widest in the myddell and narrow styll toward bothe the endes, lyke the facyon commenly of an egg, or of a very bladder beyng measurably blowen (for the urinall should represent the bladder of a man) and so shall every thyng be sene in his dew place and coloure.

"Besydes this also must ye marke the tyme dew to behold urines. Fyrst, when the urine is made, whyle it yet is somewhat hotte, you shall consyder the coloure of it and lykewayes the thyckness of the substance of it. All other thynges, as the bubles and the contentes shall be best judged somewhat after when the urine is somewhat cooled, and they be duly settled in their proper places."

Recorde goes into the judgment with much elaboration, and divides his urinal into twelve parts, as follow:—

"The ring at the top is called the crown, and above are the bubbles.

¶ The Judycyall of vryns:

¶ Conſyderynge that it is expedyent for euery man to know the operation and qualites of his body/and to know in what ſtate and condicyon his body ſtandeth in/whiche can not be knowen ſo well as by the vryne In conſyderation wherof this worke is collected and gadered out of ꝑ ſentẽcyals ſayngis of al Auctours of Philike/to the entent that euery man myght brefly come to the knolage of ꝑ mẽnes/whiche ſayd worke is diuided into. iii. ſeuerall bokes/where of the fyrſt boke declareth prynceypaly howe vryn is gendered in mans body/& of his qualites withall ꝑ hole worknyng of nature in mãnes body. The ſecond boke treateth of colours in vryn/& what they ſignifye. The thyrde boke treateth of cõtens in vryn & what they ſignifye/& ſuche ſekenelles as they ſignifye is there declared/& alſo ther cauſes & qualites w̃ many thynges moo/touchyng the ſeyens of Philike/as brefly doth apere in a tabull/in the latter ende of this boke. ¶

TITLE PAGE OF "THE JUDYCYALL OF URYNS"

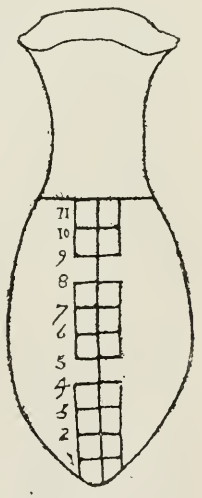
Printed about 1512

"The colours are diverse, but the principal are white, pale, flaxen, yellow, red and black."

Fletcher's work on uroscopy

Fletcher, in his work "The Differences, Causes and Judgments of Urine," which was published in 1541, says: "Amongst all signs of sickness or health whereby the skilfull physician is led into the knowledge of the states of the body, two are of most general and certain signification which are taken from the pulse and urine, without which all knowledge of physicke besides is obscure, doubtful and uncertain."

Fletcher pictures a urinal which he describes as being of perfect form.



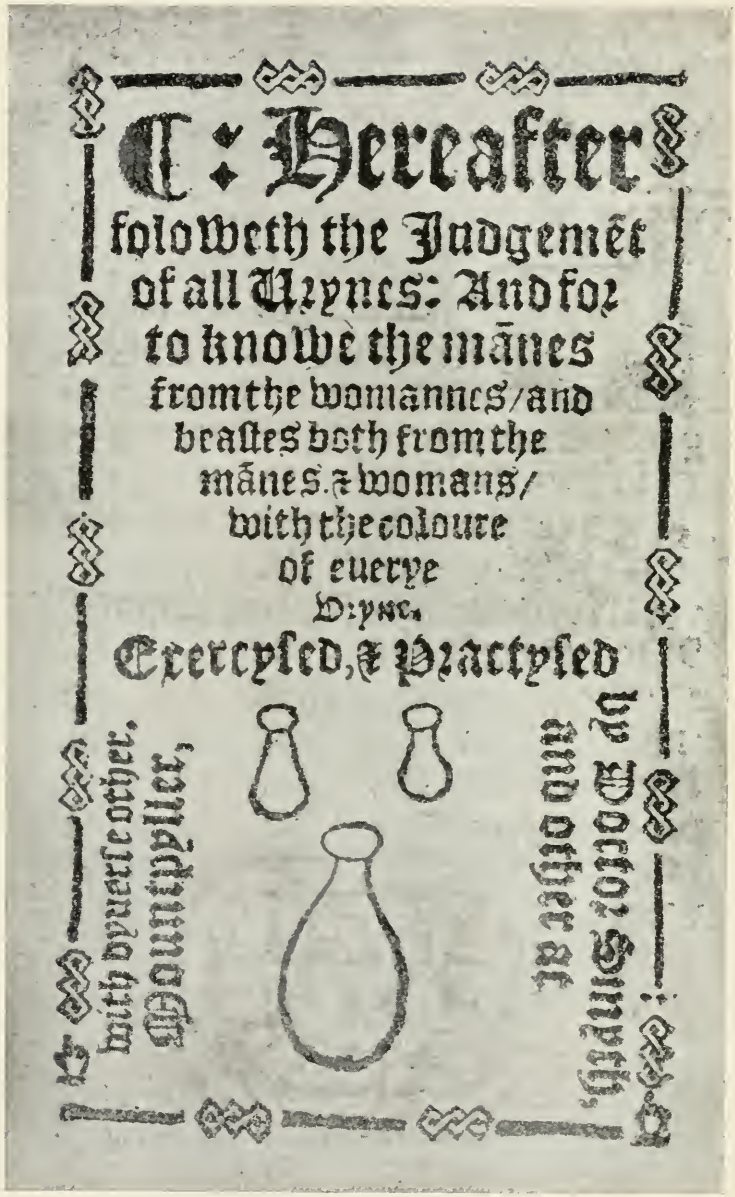
Fletcher's urine glass

"A perfite forme of the urinall, wherein the urine according to its height is divided into three regions for the distinction of the three contents mentioned. 1, 2, 3, 4, the lowest region for the sediment. 5, 6, 7, 8, the middle region for the swimme. 9, 10, 11, 12, the uppermost region for the cloud.

"In the top whereof the black line going through the thickness of the urinall is the circle or crown."

He directs that the urinal shall be stopped at the top with leather, paper, etc., "that nothing fall in, nor ayre easily get in.

"The physician should not view the urine in a place either too light or too darke, or by candle light, for so the colour will appear altered. Or else too light, or the sunne beams make the colour more remisse. Therefor put your hand or a blacke cloth betwixt the light and the urinall on the opposite part of the urinall that the colour and the contents be better discerned and your eyes be not dazzled with the light."



TITLE PAGE OF "JUDGEMÊT OF ALL URYNES"

Printed about 1540

The sixteenth century physicians were aware of the advantage of using the mixed urine that had been passed during the day. Fletcher states, "Take the whole urine and not the part so much as is made at one time, but mingle not the urines made at severall times, but keep them severall both for quantity, colour and contents."

Fletcher notes that rhubarb, saffron, cinnamon, broth of cherries, make the urine yellow; cassia, blackish; oil of bay, henbane, or *Unguentum Martiatum* anointed and applied to any part of the body, reddish.

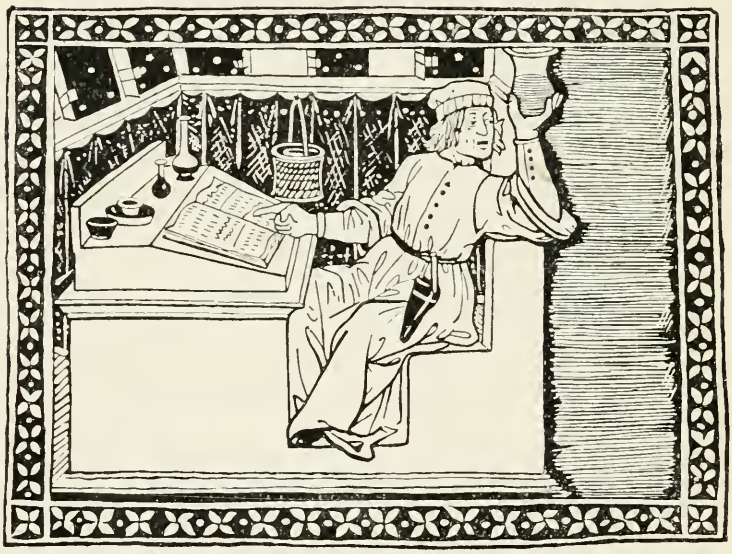
Fletcher's description of the colours of urine

He also enumerates the colours of urine as sixteen, which he quaintly describes as follows:—

"1. White, dark or white as milke.
2. Glaucus, as the cleare part of a lanterne horne.
3. Grey, like the white part of a man's nail next the joint, but Galen says is like the colour of lyon's eyes.
4. Chrystalline, snowie, light, white.
5. Perfect and absolute best, partly saffron, lighter than crowne gold, yellow as pure gold.
6. Light saffron.
7. Saffron.
8. Claret, like to bole armoniake.
9. Red, as red blood, cherries, red apples.
10. Crimson, like blackish red wine.
11. Purple, of the colour of raisins of the sunne.
12. Blew, halfe white and halfe black mixed.
13. Green as leeke leaves, emeraude.
14. Oylie greene, popinjay greene.
15. Ash colour, colour of lead.
16. Black."

He enjoins that the substance and the colour, however, should always be judged together.

From these and other works, printed about the middle of the sixteenth century, it will be seen that the art of uroscopy had made little or no progress for three or four hundred years, and its practice about this time had drifted largely into the hands of the quack doctors and charlatans, who travelled the country and preyed on the credulity of the ignorant.



THE PHYSICIAN EXAMINING URINE

From a woodcut, 1493

CHAPTER III

Uroscopy in the Sixteenth and Seventeenth Centuries

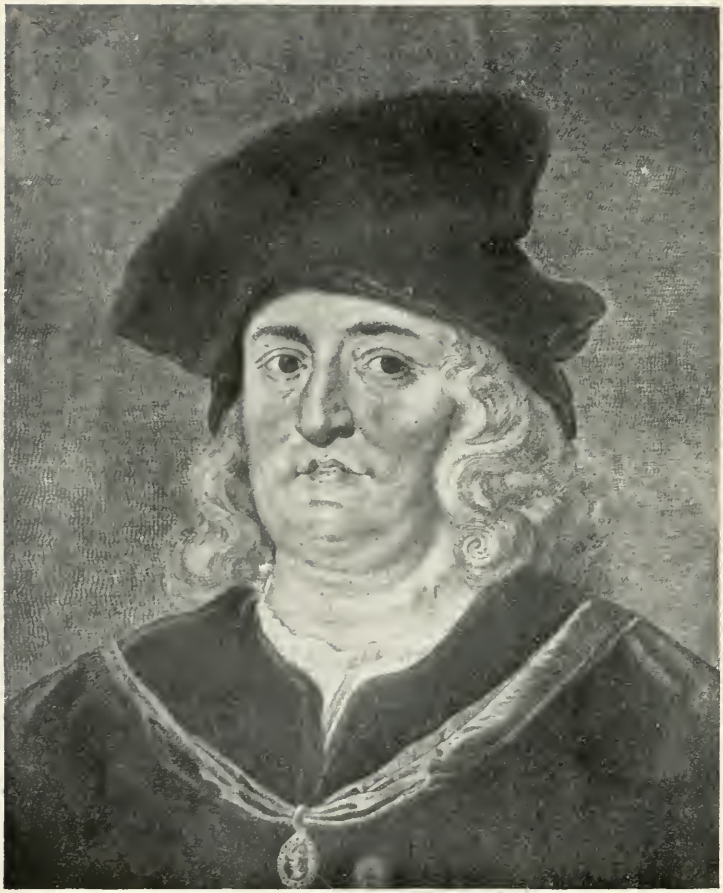
Until the beginning of the sixteenth century, the doctrines laid down by the earlier masters of medicine concerning the diagnosis of disease from the urine, were still in practice, and it was left for Paracelsus, that remarkable man whose practice was a mixture of quackery and science, to introduce a new era in uroscopy. His observations show the influence of alchemy, which at that period was practised so largely, upon the medical art, and although the so-called spagyric analysis of Paracelsus evidenced little advance on the doctrines of earlier centuries, it nevertheless paved the way towards the scientific analysis of our time.

Paracelsus introduces a new era

According to his theory, disease originated from the chemicals of which man's body was formed, which were said to be mercury, sulphur and salt. Mercury, he declared, referred to the lower limbs. To discover the cause of a disease it was necessary then to resolve or divide each of these elements by a mysterious chemical process and to endeavour to find out which degree was in excess of the others in quantity. For this purpose, the urine was taken as the diagnostic agent, and was distilled and weighed. The distillate was said to correspond to the portion of the body where the disease was located, and thus its nature was indicated.

"Spagyric analysis"

As an example, it may be stated that mercury or sulphur diseases were indicated by the vapour as it rose in the upper part of the alembic, which indicated dizziness, ear troubles and delirium, while the vapour which was deposited in the alembic was thought to be less harmful than that which escaped, especially if it came forth from the left-hand side of the cucurbite, which indicated dire events, such as apoplexy and death.



PARACELSUS

THEOPHRASTUS BOMBASTUS VON HOHENHEIM

Physician and Alchymist. 1493-1541

But while Paracelsus and his disciple, Thurneysser, evolved these doctrines, others, such as Bassaeus, continued on the old lines. Writing in 1553, the latter states, "The urine should be judged by, first, the substance or consistence; second, the quantity; third, the clearness or perspicuity; fourth, the colour; fifth, the odoure; sixth, the maner of passyng; seventh, the contents. From these, the physician should draw his deductions of the disease."

De Peiresc describes uric acid

In 1620, De Peiresc described a deposit he had noticed in the urine which, he stated, resembled a heap of "rhomboidal bricks." Van Swieten, over a hundred years later, described these as "crystals having a figure of a rhombus." This afterwards proved to be uric acid.

Hamand's work on urine

Hamand, in a popular work on the urine, which he wrote in 1656, still clung to the old doctrines. He enumerated the colours, the quantities and qualities of the urine, from which the learned and expert physician might better judge of the diseases signified. He states that: "To the view of urines which are drawn and put into colours, you are chiefly to note such as are concoct, crude or lethall. First, concoct urines such as signifie health, if substance and contents are answerable, are either paler or partly saffron or light saffron. Second, crude urines, which show inclination to thickness, are white, pale, the colour of saffron itself, and claret. Third, lethall, such as are made when the patient is in great danger of death, are green, ash colour, and black." Each of these divisions Hamand again subdivides, as follows:—

"Urine running like silver, of women betokeneth she is with child, if she cast often and have no appetite. Water colour with a dark sky betokeneth death. Urine watery and thin in the aged signifies gout in the feet and joynts, proceeding from same. Greenish signifies abduction of blood, inducing yellow jaundice. Red or bloody urine may come from the liver or from a vein or the bladder, which signifies the stone."

PHYSICIAN
GIVING HIS JUDGMENT
ON URINE

From a woodcut of the
XVII century

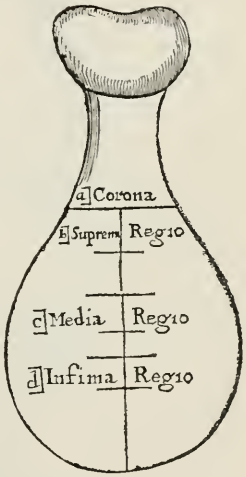
The sediments were noted as well as the colour. Cloudy urines were said to indicate "evill digestion," as well as "the bubbles and frothing."

Hamand's urine glass was divided into several parts, as follows:—

"The corona is the top line for the circle or crown, Supremio Regio, the uppermost for the cloud. Media Regio, the middle region for the sublation or swimm. Infima Regio, the lowest region for the sediment or residence.

"The urine appearing in the Suprema Regio, or cloud, signifies, diseases of the highest parts of man's body. The urine portion appearing in the sublation or swimm indicates diseases in the middle parts of the body, such as the spleen, liver, heart, lungs, bowels and stomach. The portion appearing in the infima or sediment signifies disease in the lowest parts.

"Motes signify putrefaction or rheum."



Hamand's urine glass

In viewing of the crown or circle the position of the urinal was important, and Actuarius counselled physicians to look into the crown with one eye.

Hamand alludes to "a thick urine and dark coloured urine that both stain the crown and top of the urinall with a certain white clammy humour which being chased at the fire returneth to itself again."

Until nearly the end of the seventeenth century the diagnosis of disease from the urine had always been based on its appearance alone, and it was not until 1655 that the first enquiry into its composition was made by Van Helmont who was the first also to devise a method of examining the urine by weight. He upset the spagyric theories

Van Helmont's researches

JAN BAPTISTA VAN HELMONT

1578-1644

put forward by Paracelsus and Thurneysser, and worked out minutely the weight of various urines. He endeavoured also to fix the data of Thurneysser, thus being the first to apply the physical principle, which later became such an important test in urine analysis.

Van Helmont gives the result of his researches as follows: "One ounce of urine weigheth 600 grains, but I had a glassen vessel of a narrow neck weighing 1,354 grains, but it was filled with rain-water weighing besides 4.670 grains. The urine of an old man was found to weigh in the same vessel 4.729 grains, or to exceed the weight of the rain-water 50 grains. But the urine of a healthy woman 55 years old weighed 4.745 grains. The urine of a healthy man of 19 years old weighed 4,766 grains. But that of another young man of a like age being abstemious from drink weighed 4,800 grains. The urine of a young man 36 years old, undergoing a tertian ague with a cough weighed 4.763 grains. But the aforesaid youth of 19 years old with a double tertian had drunk little in the night aforegoing, but his urine weighed 4,848 grains, which was 82 grains more than while he was healthy.

Van Helmont urges the importance of weight in the judgment of urine

"A maid having suffered the beating or passion of the heart made a water like unto rain-water, and the which therefore was of equal weight with rain-water. A lukewarm urine is always a few grains lighter and also more extended than itself, being cold. And therefore let the vessel be of a short neck and sharp pointed that it may measure the urine almost to a poynt."

In 1674, Thomas Willis made an important investigation on the urine, which he embodied in a Dissertation. He endeavoured, according to the learning of his time, to analyse its constituents by distillation, from which he states he obtained the following results:—

Willis's important discoveries

"1. Small particles of alcohol scarcely perceptible to the taste and tempered in water.

2. Large quantity of watery liquid, mixed particles of sulphur and salt.

THOMAS WILLIS, M.D.

1622-1675

3. A very penetrating water usually called spirit of urine.
4. Another part of salt.
5. Some earth."

The most important of all of Willis's observations, however, was that the urine in diabetes possessed a sweet taste, although curiously enough the cause of the sweetness was not determined until a century later. There is little doubt, however, that through Willis's observations there eventually followed the establishment of the distinction between diabetes insipidus and glycosuria.

Willis observes that urine in diabetes possesses a sweet taste

Considering how the imagination of the ignorant would be impressed by the importance which was given by their medical attendants to the condition of the urine, it is not to be wondered that uroscopy in the seventeenth century was still the favourite hunting ground for every quack and wisewoman. James Hart, writing in 1623, states "Hence it comes to pass that any idle old trot cobbler, or costard-monger, will seem to pronounce some Delphian oracle by the urine."

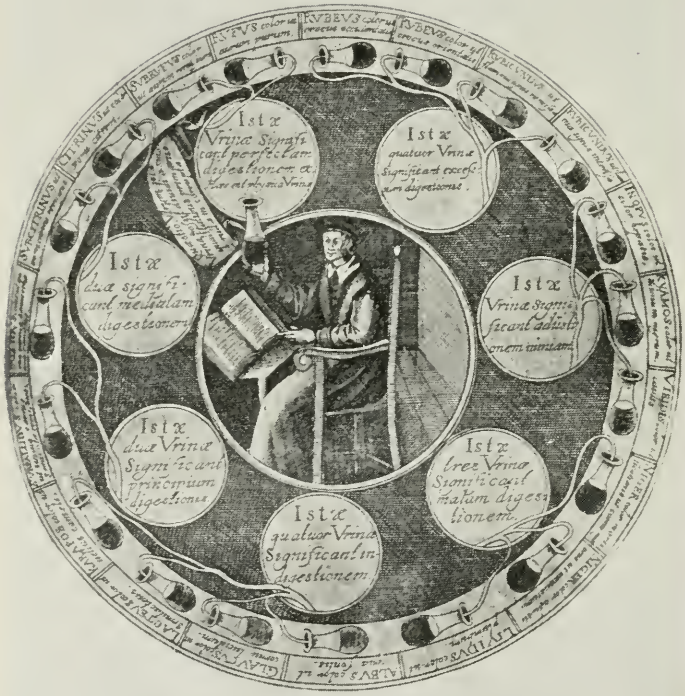
The boldest of these quacks did not hesitate to extend their divinatory powers from the observation of the urine to all kinds of predictions beyond the range of medicine, and in their hands uroscopy became uromancy, lost all scientific value, and threw discredit on the observations of the sincere and earnest workers in the medical art.

Quack uroscopists

In this connection the following story is told of the celebrated Dr. Radcliffe, who founded the Radcliffe Library in Oxford:—

"One day a woman entered his consulting room bearing a flask of urine which she handed for the doctor's inspection. Dropping a curtsey, she explained that having heard of his great fame she made bold to bring him a fee, by which she hoped his worship would be prevailed upon to

A story of Dr. Radcliffe



A Urine Chart of the XVII Century

tell her the distemper her husband lay sick of, and to prescribe some medicine for his relief.

"Where is he?" cried the doctor.

"Sick in bed, four miles off," replied the woman.

"Give me the vessel," said Radcliffe, and looking at it he inquired what was the patient's trade. "A boot-maker," replied the woman. "Very well," replied Radcliffe, as he retired for a moment. Emptying the contents of the woman's flask away, and substituting another more recent sample, he returned it to the woman, saying, "Here, take this home with you, and if your husband will undertake to fit me with a pair of boots by its inspection, I will make no question of prescribing for his distemper by a similar examination."

At Frankfort, in 1424, it is recorded that twelve pfennig was the average fee charged by the uroscopist for a prediction from a sample of urine. In Würzburg, in 1502, the usual fee charged for such an examination was ten pfennig, and the urine glass was often used as a sign by the practitioners of uroscopy.

The fees for uroscopy

Shakespeare alludes to the practice of urine casting, as the practice was commonly termed, in "Twelfth Night," when Fabian speaks of "carrying his water to the wise woman," and in "King Henry IV," when the doughty Sir John Falstaff asks, "Sirrah, you giant, what says the doctor to my water?" His page replies: "He said, sir, the water itself was a good healthy water; but for the party that owned it he might have more diseases than he knows for."

Shakespeare's allusions to uroscopy

To such an extent was the unqualified practice of uroscopy carried on in England in the sixteenth century that Thomas Linacre, the founder of the College of Physicians, formulated a statute to restrain apothecaries from carrying the water of their patients to the doctor and afterwards giving medicine in consequence of the opinions they received concerning it. This

Unqualified practitioners of uroscopy

statute was soon after followed by another, which forbade the doctors themselves to pronounce on any disorder from such an uncertain diagnostic.

The quack uroscopist in Germany

In Germany especially we learn from chroniclers that the quack uroscopists spread throughout the land. One writer states, the business was mainly carried on by Jews, who, although banished from the country, had nevertheless no hesitation in travelling about, their urinalia in hand or carried upon the pommel of their saddles. They professed and boasted that when anyone was sick they could, from a simple examination of the urine, diagnose and make known the disease and its causes, whatever length of time it might have existed. In this way many of them reaped a rich harvest, not only from the nobles and the higher classes who lived in castles, but also from the poorer people and peasants who inhabited the country.

A writer, in 1545, thus describes a French uroscopist of the period: "In these last days we have seen a urologist in this town of Tours, who boasts and prides himself that he is able, by inspection of urines, to judge, although I speak like the vulgar and divine (for he is also called the Divine) not only illnesses, but the future. Which many loungers, fops, fools and simpletons by nature, by natural and by flat have believed and added in faith. We see, thus, that some wishing to cure themselves of the dry smallpox, others of the scurvy, others of secret illnesses, they address themselves to this master Divine, or to wine. But, by the good order which the physicians of Tours, who are as learned, diligent and experienced as any in France, have made with the provision, aid and support in justice of the Magistrate of Touraine, his lieutenants, and the officers of the Crown, such detestable and insupportable abuses have been restrained and chastised. Such degenerate vermin are mockers; for they mock the arts and the good sciences, and abuse them to the great harm and danger of simple people who believe too easily."

The quack uroscopist in France

CHAPTER IV

Animalcula in Uroscopy

The earliest record of living animals voided with urine is that mentioned by Plutarch, who observes that a friend of his, an Athenian *ephebus*, passed by way of the urethra "a pilous and many legged beast." The medical works of the Middle Ages abound with curious allusions to animalcula, fabulous and otherwise, that were observed in the urinary excretion. Bartolinus relates that a Pole passed "with gravelly urine many small, blackish, scorpion-like worms." Scalliger also mentions the voiding of "smooth, white worms, with sharp beaks, and eyes of fire," while Rondelet describes what he calls "a small dragon the size of the middle finger, provided with tail and wings," which Argentarius saw *per urinam excretum*, in 1535, at Lyons. Levin gives a description of a terrible dragon, which was passed by a woman, "with long, curved, and sharp beak, vibrating eyes, and a pointed tail." It moved very rapidly on its feet, and filled the room with its rage and hissings. Fortunately, according to the author, the patient succeeded in smothering it with her pillow.

Living animals in urine

A terrible dragon passed in urine

Notwithstanding the absurdity of many of these descriptions, which have been in most cases handed down from one author to another, the careful investigator will find much information of value in antient works of medicine, which has often been found to be correct, and corroborated by recent observers. It is obvious that many of the so-called "serpents," "dragons" and "worms" described by the authors of antiquity were nothing more or less than long vermiform coagula excreted from the ureter. Others, however, may have been actual worms. Thus, a rare but interesting parasite which may attack man, namely, the Giant Strongyle, or canine kidney worm, *Dioctophyme renalie*, was first described by Jean de Clamorgan, in his book, "La Chasse du Loup," published at Lyons

Serpents and dragons of antiquity

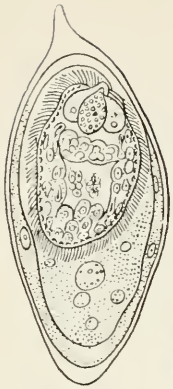


Fig. 1

Fig. 2

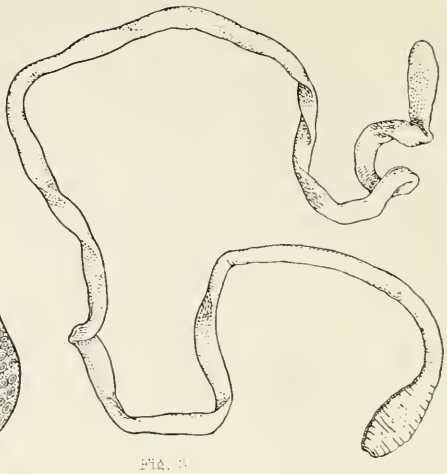


Fig. 3

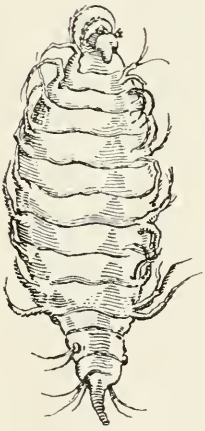
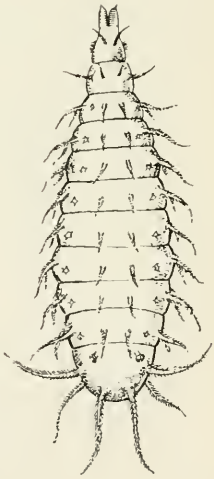


Fig. 4

Fig. 5

Fig. 7



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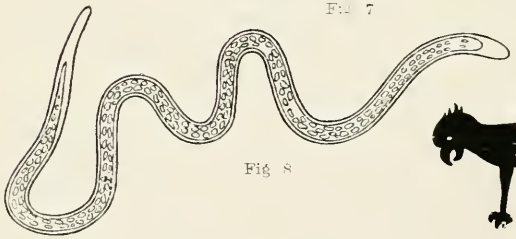


Fig. 8

Fig. 9

Fig 1. Egg of *Schistosoma hæmatobium*, cause of endemic hæmaturia (after Looss). Fig. 2. Egg of Giant Strongyle *(Dioctophyme renale)* (after Ward). Fig. 3. *Sparganum mansoni*, a parasite occasionally voided through the urethra (after Sambon). Fig. 4. Larva of *Anthomyia canicularis* (after Tulpius. 1641). Fig. 5. Larva of *Anthomyia canicularis (?)* (after Paré, 1582). Fig. 6. Larva of *Anthomyia canicularis* (after Chevrel, 1909). Fig. 7. Andry's reproduction of Paré's drawing (fig. 9), note the transformation into a locust-like organism, 1730. Fig. 8. Larva of *Filaria bancrofti* (after Manson). Fig 9. Drawing of animal-like body, probably a coagulum, voided with urine (after Paré, 1582).

in 1583. Clamorgan states that more than once he discovered "these snakes" in the kidneys of wolves.

The first undoubted observation of the occurrence of the Giant Strongyle in man, was made by Gerhard Blasis, in 1674. So far, only about a dozen authentic cases have been recorded where this parasite has been found in man; when it is present the urine is usually blood-tinged or purulent, and the characteristic eggs of the worm with mosaic-like shell are found in it.

The Giant Strongyle

There is little doubt that many of the animalcula, described as urinary by the early writers, were not actually passed in the urine, but came from outside sources. Thus, Morgagni records the case of Valsalva, who discovered small beetles in the urine of a patient of his, who was troubled with gravel. The subsequent finding of other specimens of the same insect in the patient's room settled the matter. Mainly on account of the frequency of such errors, and the exaggerated way in which many of their observations are related by the early medical authors, very little reliance has been placed on their records.

It is interesting to find, however, that some of the observations of the early investigators have proved to be quite accurate in the light of modern science. In 1852, Ambroise Paré states that Duret, a Professor of the Royal College, and Physician to Charles XIV and Henry III, assured him that after a long illness he had voided through the urethra a living animal of red colour and similar in appearance to a sow-bug (*Oniscus*). Paré gives a very crude drawing of this parasite.

Early observers proved correct

In 1641, Tulpius described and figured a similar insect which he states was likewise passed in the urine. The drawing given in the work of Tulpius is far more accurate than that of Paré. These observations had long been regarded as fabulous by the most eminent parasitologists, such as Davian, yet it has lately been proved that they doubtless refer to the elimination of the larvæ of *Anthomyia canicularis*

A Roman Votive Medical Tablet

This tablet throws an interesting light on the treatment of urinary diseases by the Romans.

On the left is represented a patient standing by a Nymphaeum or head of a medicinal spring, in an attitude of thanksgiving to the deities associated with it, represented on his right.

The female nymph is seen in the act of getting a cup of healing water from the spring, and next to her stands Hercules, with a lion skin over his shoulders. He is in the act of micturition, showing probably the diuretic effect of the spring.

Hercules was the patron or tutelary genius of medicinal springs, and was especially besought in regard to diseases of the urino-genital system.

The tablet was discovered by Sambon in 1895, in the neighbourhood of an antient medicinal spring in Italy.

through the urethra. A form of myiasis which has been observed in recent times by Hagen in 1879, Chevrel in 1909, and others. Comparisons of Chevrel's drawing with those of Paré and Tulpius will prove their relationship at a glance.

Mention must also be made of two important parasitic diseases affecting the urinary system which owe their diagnosis to an examination of the urine, viz., endemic hæmaturia and chyluria. The history of these diseases goes back to a period of considerable antiquity, and the former was recognised by the early Egyptians. Von Ofele has called attention to the figure of an Egyptian deity represented with the spurious feminine characters caused by the disease. The reference in the Pentateuch to the turning of water into blood may also have found its suggestion in this source. That the disease was common in Egypt in the early seventeenth century may be gathered from the fact that Prosper Alpinus states that gravel and ulcers of kidneys were frequent, and many other authors refer to the sanguineous urine and calculosis which are characteristic of this affection. The real cause of the disease however, remained obscure until 1851, when Bilharz discovered the blood worm which causes it. The diagnosis of this disease is now made by microscopic examination of the urine, and the cause may be detected even before the inception of any recognisable clinical symptoms. The ova of this parasite were shown by Sambon, in 1907, to be always terminal-spined.

Important diseases diagnosed from urine

The milky urine of filariasis was observed and noted by uroscopists in early times. Some of them rightly ascribe to chyle the appearance of the urine, and Peter Franck, in 1794, uses the actual term "chyluria." In 1821, Prout described some urine so closely resembling chyle in all respects, that, had it been brought before him as a specimen of that urine, it would have been difficult to detect the difference. It was not, however, until 1863 that the cause of this condition was discovered by Demarquay, who found the larval forms of *Filaria bancrofti* in the milky fluid from a chylous hydrocele.

Recent parasites discovered in urine

THE PHYSICIAN'S EXAMINATION
From the Majolica Frieze by Della Robbia at Pistoia

CHAPTER V

Uroscopy in Art

It was doubtless owing to the fact that uroscopy was so common a feature in everyday life that we find its practitioners so frequently depicted by famous artists from the fifteenth to the end of the seventeenth century. The physician, in the act of examining the urine, is depicted in many manuscripts, dating as far back as the early fourteenth century, and the subject becomes still more common among the wood-cuts of the fifteenth and sixteenth centuries, from which period it became a popular subject among artists of repute. Pictures representing the physician, the apothecary or the charlatan in the act of diagnosing the disease of a patient from his urine glass are apparently innumerable.

Uroscopy a feature in everyday life

Probably nowhere in mediæval art is the uroscopist more characteristically represented than in the frieze in majolica by the famous master Della Robbia (1400–1482) which adorns the antient hospital at Pistoja. On a pallet bed in the hospital lies the patient, with face drawn and wasted by disease. By the side stands a monk-physician, his fingers on the patient's pulse. At the foot of the bed another physician stands, with urine glass in one hand, while in the other he holds a bleeding staff. The whole bas-relief is modelled with great fidelity and characteristic skill, and gives a faithful and touching picture of hospital practice in the fifteenth century.

Della Robbia's uroscopist in majolica

This subject was especially a favourite one with many of the great masters such as Teniers, Jan Steen and others of the Dutch, Flemish and German Schools of the sixteenth and seventeenth centuries.

A characteristic picture is reproduced on the opposite page, in which the physician is seen dressed in his doctor's robe and cap; in one hand he holds the urine glass, from which he is about to form his diagnosis,

PHYSICIAN EXAMINING THE URINE BROUGHT BY A PATIENT

From a woodcut of the XVI century

and near him stands the patient, awaiting with anxiety the result of the examination. In his hand he carries an osier basket, of cylindrical shape, with a cover, which was used for carrying the urine glass to and from the physician's house. A basket of this kind was very necessary, as the urinal, being made with a spherical base, could not stand alone. The basket served also the purpose of a safe carrier.

The uroscopist a favourite subject

This basket is a common object in the pictures of uroscopists and will be noticed in the following interesting illustration, reproduced from a woodcut of the fifteenth century. It depicts the interior of a physician's consulting room, in which samples of urine of varied colours are ranged along two shelves. Below, two physicians are commenting on the quality and the meaning of the colours, one of whom is indicating the same with a stick which he holds in his hand. Below is another physician inspecting a sample of urine in a glass, while in the foreground stands a woman. Two boys, probably apothecaries' messengers, who have brought other samples for examination, are, in the meantime, engaged in a bout of fisticuffs, while the urine baskets repose on the floor—a typical scene that has its counterpart in the life of to-day, when a couple of chemist's boys are seen fighting in the street, while the bottles of medicine, marked for urgent delivery, are reposing on the footpath.

The urinal basket

A characteristic woodcut

The importance which the physicians of the Middle Ages attached to the examination of the urine is evidenced from the fact that the urine glass was frequently chosen as one of the symbols held by St. Damien, the patron saint of medicine. He is thus depicted in a picture we reproduce from a painting of the fifteenth century.

In Holland, Teniers and Adrian Van Ostade found in the physician with the urine glass a favourite subject, and their example was followed by Rokes, Schalken, and Horeymanns.

PHYSICIANS CONDUCTING AN EXAMINATION OF URINE

From a woodcut of the XV century

The famous master, Gerard Dow, also painted many scenes of urine examination, and to these names, Ter Borch, Netscher, Van Mieris, and many others might be added. Physicians, patients, apothecaries and charlatans are represented by these masters of the brush with accuracy and care, and to them we thus owe many scenes of interest in connection with the history of medicine.

The Dutch painters and uroscopy

Of the Dutch School, probably the elder Teniers painted more pictures depicting the uroscopist than any other master of his time. His physicians are depicted as men of grave demeanour, generally old and venerable, with grey or white hair and beards. On their heads they wear a cap or bonnet trimmed with fur, and are sometimes garbed in a gown or in the ordinary costume worn by the middle classes of the period.

Teniers' uroscopists

The interiors that form the background of his pictures vary very little, and are mostly bare walls furnished with a few shelves on which stand some bottles, and pots of ointment. a table bearing a stack of books, and a few surgical instruments; a stuffed crocodile or curious fish hanging from the ceiling, some animal's skulls, and a packet of herbs, generally complete the interior accessories.

Teniers was one who treated the subject of uroscopy seriously, and from his pictures one would judge that he was a believer in the art.

Ostade (1610–1685), who was a native of that typical Dutch city Haarlem, vied with Teniers in depicting those characteristic interiors representing common scenes in the domestic life of his country. The physician, the surgeon, and the chiropodist, form frequent subjects for his pictures. One of his best-known works represents the physician, depicted by the artist as a man about middle age, wearing a velvet bonnet bordered with white, and garbed in a dressing gown. Seated alone in his private sanctum he is carefully examining the

Ostade's picture of the uroscopist

From an Oil Painting by Teniers

contents of a urine glass, which he holds in his right hand, while he leans his left on the table. Papers, pen, a large botanical book, opened at a page on which some plants are represented, and a pharmacy vase in blue and white delft, bearing the inscription "Ad Scabiam," are standing on the table. On the left is seen his library, divided from the study by a curtain, and at the back a door, half-opened, reveals a room lighted by a stained glass window. Here we have a portrait, probably a real one, of the scientific practitioner of his time, a man who was a great reader, a profound thinker, and a master of his craft.

Gerard Dow (1613–1675), who ranks among the finest painters of the Dutch School, surpasses even his famous contemporaries in his partiality for the physician with the urine glass as a model for his pictures. His famous picture called "The Doctor" is well-known from the original, which hangs in the Imperial Collection at Vienna, and the many reproductions made from it. The physician is represented as a young man with fair curly hair, wearing a velvet cap and garbed in a long brown robe, belted round the waist. He stands in the full light of an arched window, holding the urinal upraised in his left hand, while he makes an explanatory gesture with the right. Behind him stands an old woman, apparently in trouble, who is weeping and drying her eyes. On the window-ledge a richly-coloured cloth falls on a bas-relief representing the passions, and on it rests a barber's dish of copper, an ornamental bottle, an open book bearing an anatomical drawing and the name of André Vésale.

Gerard Dow's picture of "The Doctor"

Another fine picture by the same artist, called "The Water Doctor," depicts a young man richly dressed, wearing a velvet cap, seated before a table on which lies an open book; he is carefully scrutinising the contents of a urine glass and uttering his impressions of the same. On his right, behind him, stands a woman with a basket on her arm, and from her sad expression one would judge that

Gerard Dow's "Water Doctor"

"THE UROLOGIST"

From an Oil Painting by Ostade

the verdict of the uroscopist was unsatisfactory. The room is lighted by a curved bay-window, draped with a curtain, and the accessories include a violoncello, an hour-glass, and a globe, evidencing the cultured tastes and pursuits of the occupant. On a shelf on the wall stand some pots and bottles, a skull, and a stuffed animal, while from the ceiling hangs a crocodile, one of the usual accessories of the doctor's study of the seventeenth century.

"La Femme Hydrophique," by Gerard Dow, which is considered a masterpiece, now hangs in the Louvre, and is a work of great technical skill, as well as of medical interest. In a fine apartment, furnished with solid luxury, and evidently that of a wealthy burgher, a woman of middle age reclines in a chair. From her puffed eyelids, distended stomach and swollen feet, she is evidently suffering from dropsy. By her side a young girl, probably her daughter, is kneeling and sobbing, and looking up with an expression of anxiety into the face of her mother. Leaning over her shoulder is an elderly woman, the servant or nurse, who is administering a stimulant from a spoon, while the piteous expression on the face of the patient herself is one to excite sympathy even from the onlooker. While nothing but sadness and silent suffering is depicted by the artist in the group, in striking contrast, the bright sunlight shines through the window, and even the green leaves of a spray of creeper have crept through into the room, giving a subtle effect as of Nature's smile. From this background, the figure of the physician, on which the artist has concentrated his greatest skill, stands out almost in relief in the foreground. He is tall and dignified, graciously posed, and clad in a rich and sumptuous robe. In his right hand he holds the urine glass between the light and his eye, while with serious expression he examines the colour of its contents. The balance of the picture is kept by a rich oriental curtain which is draped back to the right side, on which the light falls, and the whole

Gerard Dow's "La Femme Hydrophique"

"La Femme Hydrophique"

From an Oil Painting by Gerard Dow

work is a masterpiece of composition and technical execution.

Still one more picture by Gerard Dow must be mentioned, which depicts with pathological reality the ailment known in earlier times as "Mal d'Amour." This predecessor of chlorosis has been depicted by many painters, especially the Dutch School, who were fond of representing these languorous young women, with sunken eyes and waxen complexions, who appear to be oppressed by an insupportable lassitude and wear an expression of the deepest melancholy. For this common trouble the uroscopists were often consulted. What the latter expected to find in the patient's urine is difficult to conceive, but by soothing words they probably assured the fair patient that there was nothing wrong more than time could remedy. To feel the pulse and glance at the urine were the limits of their clinical examination.

"Mal d'Amour" in art

A patient of this type consulting her physician is represented by Gerard Dow in the picture. The doctor, grave and dignified, fashionably attired in a long robe and velvet bonnet trimmed with fur, with one hand holds the urine glass to the light, while the fingers of his other are resting on the pulse of the fair patient, whose pale face and languorous look betray the symptoms of her distress. Gaspard Netscher and Van Hoogstraatan depict similar scenes.

Of a different character is the young and fashionable doctor represented in a painting by Metzu. Attractive in face, and handsomely dressed in black velvet, trimmed with fine lace, he handles the urine glass with an air of grace. He appears to be mingling compliments with the scientific phrases in which he is describing the complaint to his pretty client, while she, in an audacious negligée, abandons herself to the listless reverie which was a characteristic feature of "Mal d'Amour." In the background are a young man and an old woman, who are evidently exchanging confidential opinions on the case, and who could no doubt afford more truthful evidence

Metzu's uroscopist

"THE UROLOGIST" ("Mal d'Amour")

From a Painting by Gerard Dow

of its cause than the liquid which the physician is so carefully examining in his glass.

Jan Steen's humorous pictures

Jan Steen (1636–1679), unlike his confrères and predecessors, generally treated the urologist in his characteristic style, from a humorous point of view. Sometimes he pours ridicule upon the patients, and at others on the physician. His physicians are rarely examining the urine glass with grave attention, and are generally depicted as if employing that method of diagnosis more as a matter of form than as a necessity. An exception, however, is illustrated in the picture reproduced as our frontispiece. Here the physician is depicted as a man of bulky proportions examining a specimen of urine with due gravity. The patient, evidently ill, with emaciated and pallid face, is seated in a chair awaiting the doctor's verdict.

Ryckaert's uroscopist

About the same period, Ryckaert (1612–1661) painted several pictures with the urologist as his model. One of these is worthy of description, as it shows some original detail in the accessories. The artist depicts the physician as an old man with a long beard. He is wrapped in a fur-trimmed robe, and is seated at a table, on which lie many books and papers, an inkstand, a vase, and a skull, the whole being lighted by a smoky candle. In his left hand he holds the urine glass, and in the liquid can be seen floating a little figure of a fœtus, at which the urologist is gazing with astonishment. Behind sits an old woman, who has evidently been the carrier of the specimen, patiently awaiting the verdict with her hands clasped. The charlatans claimed that they could tell from an inspection of the urine if a woman was enceinte or not.

Such are some of the better-known pictures of the uroscopist as represented by artists of the sixteenth and seventeenth centuries.

Beyond their artistic interest we are indebted to the men who painted them for the light they have thrown on the medical history of the period, which they have depicted for us with such fidelity and skill.

"THE UROLOGIST" ("La Consultation Indiscrete")

From a Dutch Engraving of the XVII century, after Schalken

CHAPTER VI

The Advent of Scientific Urine Analysis

The early years of the eighteenth century saw the advent of the scientific epoch in the examination of urine, when Lorenzo Bellini (1643–1704), by first evaporating urine, discovered the important fact that the change in the colour, taste and odour were due to variations in the relative proportions of water and solids present. Bellini's primitive experiments are recorded in his work "De Urinis," in which he describes the evaporation of urine in an earthenware pot, with no cover, and placed on an ordinary fire. He noted that the more it darkened in colour so it lost its transparency, and by continual evaporation it passed through various degrees of tint from red and brown to almost black. By taking the weight after each of these changes of colour, he endeavoured to determine the quantity of water evaporated, and states that he found, that if an equivalent volume was added to the residue, its colour, characters, and properties, would be restored. According to his analysis, urine was composed of water, salt, and tasteless earth or tartar, and the consistence, taste and colour depended on the quantity of water which held these constituents in solution.

Bellini's investigations on urine

Bellini's researches were followed by those of Boerhaave (1668–1738), the famous Dutch physician, who attributed special importance to the measurement and not the quantity of the urine. His method of ascertaining the weight or specific gravity was to place a barometer in the urine of a healthy person, and pour into the cistern as much mercury as necessary to make it level with the same point. He deduced from this that the difference in the weight of the mercury would give that of the specific gravity of the urine. In 1720, he discovered urea, but little importance was attached to it until

Boerhaave discovers urea

HERMANNUS BOERHAAVE

1668-1738

Rouelle the Younger, in 1771, re-discovered and isolated it by extracting with spirit of wine the "syrup" obtained by the evaporation of urine. This extract he found to be crystallisable, and conceived that it contained hydrochloric acid as an essential ingredient. He also isolated a number of salts contained in the urine.

Rouelle isolates urea

In the following year, Matthew Dobson, of Liverpool, published the results of his epoch-making experiments which he had carried out with the urine of diabetic patients. He noted that the urine of such was very transparent, of pale straw colour and sweet, and, upon placing it on one side in an open vessel, separation began to take place, and woolly clouds appeared which gradually subsided and covered the bottom of the vessel with a loose white precipitate. He observed that with longer keeping, the urine underwent vinous and then acetous fermentation. He experimented also by heating the urine to boiling point, and noted that he got no coagulation. He further tried, although without result, the addition of the mineral acids, thereby inaugurating the era of the chemical testing of urine.

Dobson's important investigations

His final experiment was that of evaporating two quarts of the diabetic urine to dryness, from which he observed that the residue he obtained was in the form of a white cake, which weighed four ounces, two drachms and two scruples. This, he states, could not be distinguished from ordinary sugar, by the taste or smell. On the addition of acid elixir of vitriol no effervescence was caused, but on the addition of a more concentrated vitriolic acid an effervescence ensued, and some pungent fumes were given off.

He introduces chemical tests

Judging from Dobson's original experiments, and especially of his use of the mineral acids as tests, he may be regarded as one of the most important pioneers in the scientific era of urine analysis.

William Cruickshank, M.D.

From an Engraving by Cowen, 1787

Cowley was the first to separate sugar in a free state from diabetic urine, and thus led the way towards the quantitative estimation of urine.

In 1798, Cruickshank made an investigation and experimented with some urine that was submitted to him from a diabetic patient, and, by noting the action of nitrous acid on sugar of milk and comparing it with an extract from the diabetic urine, he observed the difference in the sugar. The latter he termed nothing more than a vegetable sugar mixed with animal mucilage.

Cruick-shank's researches

On extending his experiments to the effects produced by nitrous acid and other reagents on healthy urine, he observed that ammonia and fixed alkalies produced a cloudiness, which he believed was due to phosphate of lime, and that lime water produced a still more copious precipitate. From nitrous acid he observed no precipitate in healthy urine, but in the urine from a dropsical patient, it produced coagulation or cloudiness, and he thereby discovered the first chemical test for albumen, and also established the connection of albumen with dropsy.

He applies several new chemical tests

He noticed that on the addition of muriatic acid, the urine in which bile was present was turned green in colour. Corrosive sublimate, he found, had no action on healthy urine, but on the urine of a dropsical patient it produced coagulation. He also observed that muriate of baryta precipitated phosphoric salts, and he employed infusion of oak bark to detect mucilaginous matter.

In a further series of experiments which he carried out, he concluded that the sugar of urine was different in its constituents from that of milk sugar.

The importance of Cruickshank's discoveries cannot be over-estimated, and they first drew the attention of medical men to the importance of the chemical examination of urine as an aid to diagnosis.

"The Urologist" ("La Consultation Appréhendée")
From a Painting by Bilcoq

Cruickshank also obtained urea in the form of crystals, and discovered its property of crystallising on the addition of nitric acid, but it was not until 1799 that Fourcroy and Vauquelin isolated it in a pure state, and recognised it as the crystallised substance mentioned by Rouelle.

Jarrold was the next to apply a chemical test to urine, and, in 1801, described a method of testing for albumen. He placed an ounce of the patient's urine in a glass vessel and added a few drops of solution of acetate of lead to precipitate phosphoric and muriatic acids. To this he added a few drops of Goulard's extract of lead, which he claimed would precipitate albumen, gelatine and mucilage.

Jarrold's test for albumen

In 1811, Henry drew attention to the high specific gravity of the urine of diabetic patients, and stated it had been left unnoticed by the best writers on its chemical history. He was the first to use nitric acid as a test for urea.

In the following year, Vauquelin made a comparative analysis of the urine of different animals, which did much to create a fresh interest in the subject. Wells, in 1812, used the nitrous acid test for albumen when the heat test failed, and Blackall in his observations "On dropsies" in 1813, noted the effect of heat regarding albumen in urine. He says, "Writers have spoken of the colour of the secretion, its quantity and sediment, and it is a circumstance hardly credible that amidst so much minute labour bestowed on these topics the effects produced upon it by the application of heat have been so greatly overlooked."

Vauquelin's investigations

Wells and Blackall on albumen

"Every practitioner," he continues, "may shortly convince himself beyond the possibility of doubt that in a considerable number of dropsical cases the urine evaporates like diluted serum of blood." Blackall regularly used the heat test in many dropsical cases.

In 1815, a further important discovery was made by Chevreul, who observed that the sugar in diabetic urine was different from cane sugar, and that it resembled that of the grape. This discovery proved of the greatest value, especially in the future treatment of the disease.

Chevreul discovers grape sugar

To Steele and Wollaston is due the earliest knowledge of the composition of urinary calculi. Steele attributed all calculi to uric acid. Wollaston, however, found phosphate and oxalate of lime, triple phosphate and cystin in the concretion he examined.

Steele and Wollaston's investigations of calculi

The next epoch-making step in connection with urine analysis was due to Prout in 1820, who, by his investigations, placed the examination of urine on a more scientific basis, and proved its great value in diagnosing disease.

He was the first to use litmus paper in testing urine, and he regarded dilute acetic acid and prussiate of potash as the most delicate testing agents for albumen. He confirmed Cruickshank's observation that the sugar found in diabetic urine was not the same as common sugar, but more nearly approached that to be found in grapes. For the detection of bile he employed a piece of white linen, which he dipped in the urine, and, on the addition of a few drops of muriatic acid, if bile was present, he observed it turned green in colour. He also investigated the deposits found in urine, made an analysis of the same, and arranged them according to their colours, as follows:—

Prout marks a new epoch in urine analysis

"Yellowish or nut-brown sediment	Lithate of ammonia. Colouring matter of urine. Earth phosphates and lithate of soda.
"Reddish-brown or lateritious sediment	Alkaline lithate. Colouring matter of urine. Alkaline purpurate. Occasionally earthy phosphates.

"Pink sediment ... { Lithate of ammonia. Purpurate of ammonia."

"These consist," he states, "for the most part, of lithic acid, in combination with a base. There exists, however, the free lithic acid; as—

"Red crystalline sediment ... { Lithic acid. Colouring matter of urine."

We have but to add two more varieties of sediment, in order to complete the list of deposits mentioned by Prout. These are the phosphatic sediments; viz.—

"Amorphous sediment ... ... { Triple phosphate. Phosphate of lime, in variable proportion.

"Crystallised sediment ... ... { Triple, or ammoniaco-magnesian phosphate."

His investigations attracted much attention to the subject, and many investigators in Great Britain and on the Continent took the matter up for further experimentation.

In 1825, Tiedmann and Gemail, as the result of their investigations, pointed out that starchy matter during its passage along the alimentary canal was transformed into sugar.

One of the earliest text books devoted to scientific urine analysis was that written by Rees in 1836, on the analysis of the blood and urine in health and disease. In this he recorded the constituents of the urine as determined from his own researches, together with analyses of urinary deposits and several tests for its examination. He recommends Prout's nitric acid test as the most useful for albumen and also for the detection of excessive urea. He employed a solution of caustic ammonia to precipitate earthy phosphates, and as a further test for albumen recommended that of Prout, namely, acidifying with acetic acid if alkaline, and adding a solution of ferrocyanate of potash to precipitate the albumen. For the same purpose he also recommended a solution of alum as

Rees on analysis of urine

"The Urologist"

From a Dutch Engraving of the XVII century

a reagent, or solution of bichloride of mercury, which he believed to be more delicate, and concluded his work with a crude method of estimating the sugar from diabetic urine by evaporation and incineration.

Osborne's tests for albumen

Osborne, in his work on "The Nature and Treatment of Dropsical Diseases," writing in 1837, describes his method of testing the urine for albumen by heat. He recommends heating the urine in a spoon over the flame of a candle, when a white coagulate will be formed in those portions of the fluid next to the metal, long before the heat has advanced to boiling point. As the heat is continued, the coagulate will become more firm and distinct.

In 1839, Rayer first called attention to the value of the microscope in the examination of urinary deposits, and so demonstrated uric acid, urates and urea.

Liebig's investigations

The famous Liebig carried out his important investigations on animal physiology, in 1840, and added much to the knowledge of his time by determining the composition of the urine. He believed that the action of oxygen on uric acid produced urea, and Simon, a little later, carried on a very elaborate investigation of the urine of animals as compared with that of man.

Bird on the importance of urine analysis

In 1843, Bird remarked that the examination of the urine in disease must be regarded as one of the most important aids to diagnosis, and also drew attention to the value of the microscope in the examination of urinary sediments. He recommended a solution of sulphate of copper and liquor potassæ, with the addition of heat as a trustworthy test for sugar.

Berzelius makes the first quantitative analysis

In Sweden, Berzelius, about 1843, published the first quantitative analysis of the urine, and as a test for albumen he recommended a strong solution of galls, nitric acid, or bichloride of mercury. He was the first to apply the term "Hallophyle" to the yellow colouring matter of urine,

"The Urologist"

From an Engraving after Tenier the Younger

to which, later, the name of "Uroxanthin" was given by Heller. He also extracted urea in a colourless form by means of oxalic acid, and Prout ultimately established its composition.

Mention must be made also of the work of Becquerel, whose investigations in urinary pathology added much to the existing knowledge of the urine. He carefully recorded his observations in a large number of cases and determined with accuracy the quantity of uric acid and urea that was present in the urine in various diseases.

Becquerel's observations

Curiously enough, most of these early investigators, probably owing to the imperfect methods of procedure, differed in their conclusions as to the specific gravity of the urine. Thus Becquerel gives 1·018 as the mean in men and 1·015 in women; Simon, 1·012; Lecanu, 1·020; Aldridge. 1·015; Dumas, 1·015; 1·030; Prout, 1·020; as the mean in men.

Differences in specific gravity as stated by observers

In 1847, Markwick wrote a guide to the examination of the urine which was practically the first handbook to its scientific analysis. He mentions the use of blue and red litmus paper, and calls attention to the importance of taking the specific gravity of the liquid. He estimates albumen by boiling a given quantity and weighing the residue, bile, by the addition of hydrochloric acid, and sugar, by the yeast test, or the copper test of Trommer, in which a solution of copper was added to the urine, followed by an excess of liquor potassæ, the whole of the liquid being then boiled. From this time the copper test for grape sugar became universally employed.

Markwick on examination of urine

The origin of this test is one of peculiar interest in connection with the history of urine analysis. It may be traced back to a period of great antiquity, and the reaction on which it is based may be said, indeed, to date from the early Egyptian era. It was probably observed by the Egyptian priest-physician who originated the formula of that famous compound known

The history and antiquity of the copper test

as Unguentum Aegyptiacum. This preparation, which was used very largely in early times as an application to wounds, tumours, etc., was prepared by boiling together a mixture of verdigris, honey and vinegar. During the boiling process the colour of the mass changes, owing to the interaction between the copper acetate and the glucose.

For centuries this medicament was thus prepared and the formula for its manufacture is included in the Pharmacopœia Universalis as late as 1833.

Baumé and the colour change

The first attempt at elucidation of this change of colour was made by Baumé, the celebrated chemist of the eighteenth century, who attributed it to the phlogiston of the acetic acid, which united with the verdigris to form metallic copper. This theory, however, was contradicted by Lavoisier, and shown to be erroneous.

In 1815, Vogel, of Paris, read a paper before the French Academy of Science on a research concerning the decomposition of salts and metallic oxides by sugars. He endeavoured to prove by his investigation that the reddish or brown-coloured precipitate produced in this reaction was not metallic copper bi-cuprous oxide, or, as it was then known, copper protoxide. He declared that the colour depended upon the length of time the mixture was heated, and that the precipitate was only to be obtained from cane, starch and grape sugar, sugar of milk, molasses, manna and honey.

Vogel's theory

Buchner was the first to confirm Vogel's theory, and later on further investigations were made on the subject by Buchholtz, Peschier and Busch. It was not, however, until 1841, when Trommer published his paper on the differentiation between dexterin, cane sugar and grape sugar, that a material advance was made on this subject, and a real distinction could be established between the various forms of sugar. He showed that by making the copper salt solution alkaline, it became a valuable

Trommer publishes his test

reagent in distributing between the various sugars and sugar-giving substances, and that it gave a distinctive precipitate of cuprous oxide when boiled with solutions of grape sugar, containing only one in a hundred thousand, and the reaction could be observed by reflective light even when this solution was ten times more diluted. To Trommer, then, belongs the credit of having first introduced the alkaline copper sulphate test into chemical analysis.

Trommer the first to introduce the alkaline copper test

In 1844, Barriswill suggested an improvement on Trommer's method, by adding potassium tartrate to the solution to prevent decomposition on heating. This was the first step towards a quantitative application of Trommer's test. Barriswill's method being a volumetric one, involved the necessity of inverting the cane sugar to glucose and making two determinations before and after inversion.

Barriswill's method

Fehling, whose name has been popularly associated with the copper test for sugar, did not publish his first paper on the matter until 1848. His procedure consisted merely in working out with greater care the details of Trommer's methods, while Soxhlet established the exact conditions under which the determinations must be carried out in order to get satisfactory results.

Fehling perfects Trommer's method

In 1854, another step towards the quantitative analysis of urine was made by Davy, who published a method of estimating the quantity of urea in a given solution. This depended upon the decomposition that occurred from the combinations of the hypochlorides of soda, potash, or lime with urea, the urea giving off its nitrogen, which was collected and measured, and so estimated.

Davy's method of estimating urea

Bence Jones, in 1861, made an important investigation into the relative merits of the principal tests then known for grape sugar, and claimed that he got the best results from Brucke's method, which consisted in

"THE CONSULTATION"

"My child, observe, from this I see
(So sure as I physician be)
Your swelling, pains and fretting, too,
Are signs of something wrong I trow;
But be assured you'll soon recover,
I promise, ere' nine months are over."

From a Mezzotint of the XVIII century

precipitating the urine with neutral acetate of lead, and, after filtering off the precipitate, adding ammonia. In the last precipitate, he remarks, the chief part of the sugar will be found present, the ammonia precipitate being treated with a solution of oxalic acid or sulphuretted hydrogen to separate the lead. The filtrate then will be colourless and contain the sugar ready for estimation by the copper test.

Bence Jones' investigations

In the same year, Lionel Beale published his well-known work on the urine, which contains over sixty analyses of the urine in disease. He drew attention to the importance of microscopic examination, and by his investigations placed the analysis of urine on a more scientific basis. He devised a complete systematic qualitative and quantitative analysis of urine and urinary deposits, and drew attention to the necessity of its examination in the diagnosis of disease.

Beale's work on urine analysis

Pavy, by his important investigations in 1862, on the nature of diabetes, did much to advance the knowledge of urine analysis. He suggested the modification of the copper test for sugar, and pointed out that the albumen should first be removed before the test is applied.

Pavy's observations

Fowler, in 1872, suggested an improvement on Davy's method of estimating urea, and introduced a more accurate process based upon it.

Owing to the investigations of Sir William Johnson, in 1884, the picric acid test was re-introduced into urine analysis. This test was first introduced by Braun in 1865, but had fallen into disuse until advocated by Johnson, who discerned its great utility.

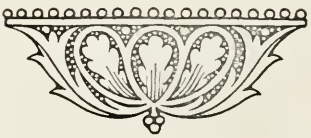
Johnson's researches

In 1891, Hopkins described his method of estimating uric acid by saturating the urine with ammonium chloride, whereby the acid was precipitated in the form of ammonium urate, and, in 1892, Gerrard described the process for his cyano-cupric test, which was based on the

Hopkin's method of estimating uric acid

fact that when a solution of potassium cyanide is added to one of cupric salt, double cyanide of potassium and copper are formed.

In this brief sketch of the evolution of urine examination from antient to modern times, it has only been possible to mention the more important tests employed in analysis, as, since its elevation to a science during the last century, the tests introduced by investigators have become almost too numerous to mention, and no attempt has been made to make a complete summary.



A Field of Datura Metel

This handsome plant is interesting, as recent investigation has shown that it contains Hyoscine, Hyoscyamine and Atropine in proportions differing from those occurring in other solanaceous plants.

Gathering Hyoscyamus

Hyoscyamus niger, one of the most difficult plants with which the herb farmer has to deal, is grown from seed sown about March or April. The young plants show above ground at the end of May or beginning of June. In the autumn they are separated if too close together. In the following May an aerial stem is developed which rapidly grows until it reaches the height of three or four feet. The flowering takes place in June or July, when the crop is harvested.

Reproduced from direct colour photographs taken on the 'Wellcome' Materia Medica Farm, and developed with 'Tabloid' Photographic Chemicals. *(See page 183)*

Datura Metel

This handsome plant is interesting, as recent investigation has shown that it contains Hyoscine, Hyoscyamine and Atropine in proportions differing from those present in other solanaceous plants

Hyoscyamus Niger

One of the most difficult plants with which the herb farmer has to deal. The flowering takes place in June or July.

THE 'WELLCOME' MATERIA MEDICA FARM

The posology of vegetable substances was regarded, until recent years, as necessarily inexact.

The properties present in the roots, leaves or bark of a medicinal plant are undoubtedly affected by soil, climate and the other circumstances of its environment during growth, and vary, according to the season, from year to year.

It is obvious that the accuracy and care exercised by the pharmacist in weighing and measuring drugs for use in medicine are nullified if the active principles are variable.

The vital importance of standardisation has always been recognised by Burroughs Wellcome & Co., and the steady advance in the chemistry of organic substances has opened up new possibilities with regard to this subject. Standardisation.

The alkaloids, glucosides, resins, essential oils and other active principles and ingredients of medicinal plants have been carefully studied, and it has become possible to determine the suitability of drugs for use in medicine, not merely by their appearance or form, but by the far more exact and penetrating methods of chemical analysis and physiological tests.

The necessity of the standardisation of medicinal preparations of vegetable origin was forcibly demonstrated in a paper by Carr and Reynolds, published in the *Chemist and Druggist*, which shows, in tabular form, the very considerable range of variation in the proportion of active principles existing in samples of drugs bought on the market. Amongst the examples given are the following :—

A Field of Belladonna

Atropa belladonna is grown from genuine wild seed. The best crops of leaves are obtained in the second, third or fourth year of the plant's growth, and it is at this period that the alkaloidal content is greatest.

Loading Belladonna

The yield ranges from 1-1/2 to 5 tons per acre. The freshly-cut herb is weighed in bundles and carried straight to the laboratories in a motor trolley. A portion of the leaves is dried in a few hours in specially-ventilated chambers. The roots, which are collected in the autumn, are sliced in order to accelerate the drying, and so prevent any undesirable change taking place.

Drug	Lowest percentage	Highest percentage	Active principle determined
Belladonna (dried herb)	0·23	1·08	Total alkaloids
Broom tops	0·07	1·06	Sparteine Sulphate
Cinchona Succirubra	1·06	4·64	Quinine and Cinchonidine
Hydrastis Root	2·3	5·8	Berberine Sulphate
Ipecacuanha Root (Rio)	0·18	1·83	Emetine

With the introduction of the 'Wellcome' Brand standardised galenicals, Burroughs Wellcome & Co. found it necessary, in order to obtain a constant supply of herbs of sufficiently high standard of quality, to grow them under their own immediate supervision. The benefits of conducting a herb farm in conjunction with the preparation of pharmaceutical products are many. For instance:—

Expert supervision of growth

(1) A drug may be expressed or worked up immediately it has been collected.

(2) Herbs may be dried, if necessary, directly they are cut, before fermentation and other deteriorative changes have set in.

(3) Freedom from caprice on the part of collectors, who, in gathering wild herbs, are very difficult to control in the matter of adulteration, both accidental and intentional.

(4) The ability to select and cultivate that particular strain of a plant which has been found by chemical and physiological tests to be the most active, and which gives the most satisfactory preparations. Notable instances of these are to be found in connection with Digitalis and Belladonna.

Fortunately, suitable land was available near the 'Wellcome' Chemical Works at Dartford, and there the 'Wellcome' Materia Medica Farm has been established. Although the greater part of the farm is devoted to staple crops, a certain section is set aside for experimental purposes, and here some

GOLDEN SEAL *(Hydrastis canadensis)*

A crop of Hydrastis grown under a specially-designed lattice structure, which ensures the requisite amount of shade.

DIGITALIS IN FLOWER

Digitalis purpurea is obtained from carefully-selected wild seed, and any variations from the wild type are struck out. Great care is taken in collecting and drying the leaves, otherwise the medicinal activity would be adversely affected. Blighted, faded or defective leaves are rejected, and only the finest preserved for use. The chemistry of the active principles of Digitalis is still obscure, and physiological tests are employed in standardising B. W. & Co. preparations of this important drug.

interesting and important results have already been observed. For instance, in connection with the cultivation of Belladonna, an extended series of experiments has been carried out, such as treating it with different manures and shading it during growth with coloured fabrics. These experiments have shown that the yield of alkaloid is affected to a greater extent by climatic conditions than by other alterations in environment of the plant, and serve to confirm that the acknowledged superiority of English leaves in alkaloidal content is due to the climate of the country. Experiments made upon Broom Tops have conclusively proved that the amount of sparteine contained in them varies according to the time of the year, the amount of alkaloid contained being low during the flowering and growing period, and increasing during the autumn and winter.

The 'Wellcome' Materia Medica Farm

Digitalis is an exceedingly important crop, the whole of the herb required for the preparation of 'Wellcome' Brand Concentrated Tincture of Digitalis and Extract of Digitalis being grown on the farm. By this means such slight variations in character, as occur in the Digitalis leaves used for these preparations, have been reduced to what is necessarily due to the variations of season from year to year.

Errors due to the inclusion of faulty or untrue specimens which, according to recent writers on Digitalis, are always to be found in the collections made by both amateur and professional herb gatherers among wild plants, are completely eliminated.

In this way it has been possible to effect a certain standardisation of the raw material itself, to be afterwards checked and corrected by the standardisation of its galenical products, both by chemical analysis and physiological tests. The following extracts from a descriptive article which appeared in the *Chemist and Druggist* of January 29, 1910, will give some further idea of the nature and scope of this enterprise:—

"A suitable piece of land for 'a physicke garden' (had been chosen) on an undulating slope, with here

and there a clump of trees and a strip of wild woodland, between the river and the North Downs, hard by the little village of Darenth. No more ideal spot for a herb farm could have been chosen. It has shade, sunshine and moisture, and a fine loamy soil, varied by sandier uplands. Here the firm have for the last six years been cultivating medicinal plants under the immediate superintendence of pharmaceutical and botanical experts. The farm was established, firstly, to provide opportunities and materials for research and experiment, and, secondly, to supply the manufacturing departments with medicinal herbs of proper quality.

Research and experiment

"A visit to the farm shows that the greater part is devoted to the cultivation of staples; but a number of plots are used for experimental crops. Among such are meadow saffron (*Colchicum autumnale*), with its pale-purple flower. Lavender, peppermint, and French roses grow side by side. Senega and the unpretentious taraxacum, with its bright yellow petals, occupy other spaces. Ginseng, the root that plays so important a part in Chinese medicine, is also grown. Podophyllum peltatum, Scopolia atropoides, Datura meteloides, sea poppy (*Glaucum lutcum*), and Grindelia robusta, are other plants that one does not usually find growing on a scale greater than the experimental; but the plots of Hydrastis canadensis are botanically and commercially the most interesting on the farm, in view of the fact that we are coming within measurable distance of the end of the natural supply from North America.

"The purpose which Burroughs Wellcome & Co. had immediately in view when they established this farm, *i.e.* supplying the products of the field direct to their Works, has been fulfilled, and the farm has in that respect passed the experimental stage, since they have experienced the benefits of conducting a farm in conjunction with the production of pharmaceutical preparations. On the research side, experiment goes on, especially in regard to selection and cultivation of strains which have been found by chemical and physiological tests to be the most active."

HISTORICAL MEDICAL EQUIPMENTS

THE birth of the art of healing goes back to a period of great antiquity, and the beginnings are almost lost in the obscurity of bygone centuries. It is extremely uncertain whether medicine, as an art, was first practised in Egypt or in China, but recent research seems to suggest the former, as at the time of the writing of the Ebers Papyrus, 1550 B.C., the Egyptians had a considerable knowledge of the use of herbs and other bodies for medicinal purposes. The Ebers Papyrus was discovered reposing between the legs of a mummy, and its 110 pages are covered with strange prescriptions for all manner of diseases, some of the recipes being of incalculable antiquity. The most antient record of medicine and pharmacy known was discovered at Kahun, near the pyramid of Illahun, in 1889. It dates from the twelfth dynasty, 2700 to 2500 B.C., more than a thousand years before the Exodus.

The birth of pharmacy

Apart from the evidence of the Papyri, we have ample proof that pharmacy was practised among the antient Egyptians, from the discoveries of medicine chests and large goatskin pouches in which roots, barks and herbs were stored and carried.

One of these antient equipments was discovered at Thebes. The inner case is composed of plaited papyrus reeds, and divided into six compartments, each containing an elegant alabaster medicine jar, the whole being enclosed in an outer wooden case of massive proportions and

An antient Egyptian equipment

beautiful workmanship. Yet, despite the size of this unique chest, the medical supplies it contained were of the most meagre description.

In Elizabethan times

The enormous size and clumsy proportions assumed by the medicine chest in the sixteenth century may be imagined when the fact be considered that Fabricius, a noted Swiss physician of that period, recommended that the military chest should be furnished with no less than 362 varieties of medicine, some of which contained as many as 64 ingredients.

Cromwell's Army

That the military medical equipments of the seventeenth century were not only cumbersome, but expensive to transport, is evident from an entry in the Exchequer MSS., which records that in 1650 each surgeon in the Cromwellian Army was provided with a medicine chest, a horse to draw it, and a man to look after the horse, at a cost equivalent in present-day money to forty-five pounds for the chest, thirty pounds for the horse, and two guineas weekly for the keep of the animal and its attendant.

At the time of the Crimean War, owing to the large doses of liquid medicines employed, medicine chests were still of enormous size and unwieldy form, or, if

Medical Stores for the Crimea
From a contemporary drawing

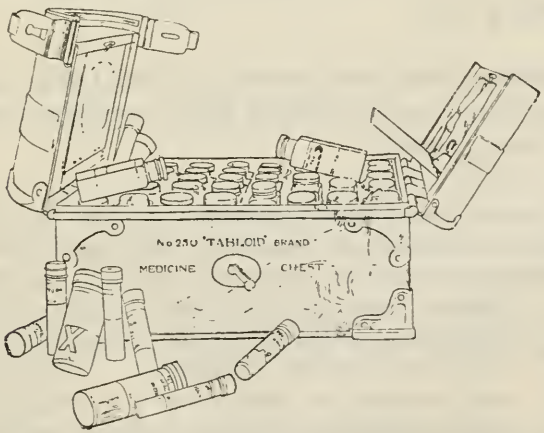
small, they were furnished with the most meagre supplies. The difficulties presented by transport and by the susceptibility to climatic influences of the

medicines then available, were practically insuperable, and the horrors of disease and death which resulted from inadequate medical supplies were almost beyond description. Equally terrible were the experiences of the Wolseley Ashanti Expedition of 1873, the medical equipments of which were fitted out according to old-time methods.

With the advent of 'Tabloid' Chests and Cases it was recognised that the dangers and inconveniences associated with inadequate and cumbersome medical equipments could be for ever relegated to the past.

'Tabloid' Medical Equipments in Military Campaigns

Without exception, 'Tabloid' Medical Equipments have been used in all the campaigns of the last twenty-five years, and have played an important part in combating the diseases which seem inseparable from an army in the field.



One of the 'Tabloid' Brand Medicine Chests used in the Greek Hospitals during the Turco-Grecian War

During and immediately after the Turco-Grecian War, in 1897, many accounts appeared of the 'Tabloid' Equipments used by the British and foreign medical

men who had volunteered their services in the cause of humanity. The following report was made by one of the medical officers in charge:—

"I had with me during the campaign one of the cases containing 'Tabloid' Drugs, and also one of the Emergency Dispensing Belts supplied by this same firm (Burroughs Wellcome & Co.). The Emergency Dispensing Belt was slung round my dragoman, George.

"When I landed at Nolo to receive and attend the wounded soldiers as they came down from the battlefield of Nelestrino, I found it of inestimable value. The 'Tabloid' Case was the only dispensary I had. All medicines were dispensed by means of the case to the soldiers on the hospital ship, as well as to those afterwards in the English hospital organised at the Piræus. I would mention that I found the 'Soloid' Corrosive Sublimate for making antiseptic solutions especially useful when dressing wounds. In fact, I consider no expedition would be complete without a supply of 'Tabloid' Medicines, whether it be in the 'Tabloid' Cases or Emergency Dispensing Belts."

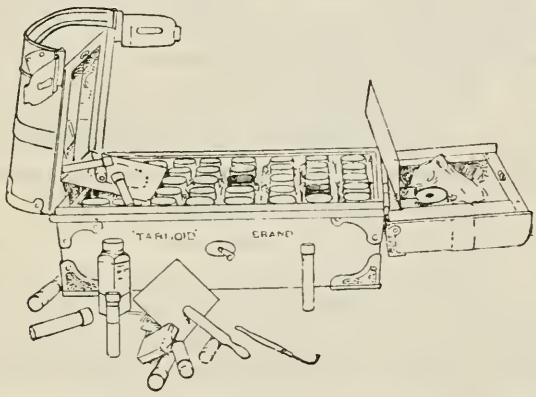
'Tabloid' Case the only dispensary

A medical officer who served as Special War Correspondent to the *Lancet* through many campaigns, makes the following report:—

"It affords me infinite satisfaction to state that I have myself for some years dispensed, and have also seen administered by medical officers of both Naval and Military Services, Burroughs Wellcome & Co.'s 'Tabloid' preparations during the Sudan, Ashanti, Benin, and recent South African Campaigns. I cannot refrain from expressing my opinions as to their distinct and marked superiority over the medicinal preparations of former days. They are far more portable, very acceptable so far as the palate is concerned, far less liable to absorb damp on service during rapid changes of climate, are always found exact as to their dose-weight, and, what is of far more importance, retain their efficiency much longer than any other medicinal products I know of.

Sudan, Ashanti, Benin, South Africa

"Scales and weights can be dispensed with, and much valuable time is saved both to patient and doctor, as the dispensary—*multum in parvo*, in fact—can be carried by the prescriber in his hand, or in front of him on cycle or horse. During my recent experience amongst the goldfields of Ashanti, W. A., under conditions the most severe and trying, these 'Tabloid' Medicines could always be depended upon. The firm of Burroughs Wellcome & Co. are deservedly to be congratulated upon the marked scientific advance they have made in pharmaceutical reform."



One of the 'Tabloid' Brand Medicine Chests used during the Ashanti Campaign, 1895-6

During the Chitral and Indian frontier campaigns, the utility of 'Tabloid' Medical Equipments was further demonstrated, and the following extract from the Official Government Report made by the Chief Medical Officer of the last British Military Expedition to Ashanti, West Africa, is a striking testimony to their value for military purposes.

"The supply of medicines, both as to quality and quantity, left nothing to be desired. There was no scarcity of anything. The 'Tabloid' medicines were found to be most convenient and of excellent quality. To be able to take out at once the required dose of any medicine without having to weigh or measure it, is a convenience that cannot be expressed in words. Time is saved to an extent that can

hardly be realised, and so is space, for a fitted dispensary, or even a dispensary table, is unnecessary. The quality of medicines was so good that no other should be taken into the field. The cases supplied are almost ideal ones for the Government. They are light yet strong, and the arrangement of the materials and medicines is as nearly perfect as possible."

West Africa

Burroughs Wellcome & Co. also supplied the medical equipment for the Niger-Sudan Campaign of 1896–7. Reports by an expeditionary officer to the Royal Niger Company, which were published in the *Lancet* of February, 1898, speak unreservedly of the immense advantages of 'Tabloid' Equipments.

During the war with Spain, in Cuba and subsequently in the Philippines, the utility of 'Tabloid' Medical Equipments was again tested and confirmed. In the Anglo-Egyptian campaign in the Sudan, which culminated in the complete overthrow of Dervish rule, and the death of the Mahdi, 'Tabloid' Equipments were largely employed, and they were highly appreciated in the triumphant march "with Kitchener to Khartoum."

Cuba, Philippines, Sudan

'Tabloid' Medicine Cases were extremely popular also with the war correspondents who accompanied the armies on the various campaigns. The list of journalists who have carried 'Tabloid' Cases includes such world-famous names as Bennett Burleigh, L. C. R. Duncombe-Jewell, Frederick Villiers, William Maxwell, and the late G. W. Steevens.

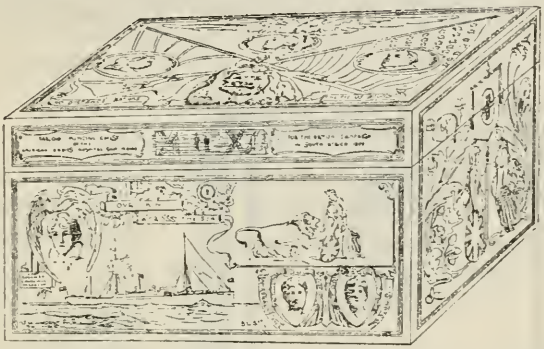
Hospital Ships and Army Hospitals

'Tabloid' Cases and products were carried by H.R.H. The Princess of Wales' Hospital Ship, by H.R.H. Princess Christian's Hospital Train, and by the Hospital Ships *Trojan* and *Spartan*, whilst the *entire* medical equipment of the American Ladies' Hospital Ship *Maine* was supplied by Burroughs Wellcome & Co.

Equipment of the Hospital Ship "Maine"

Referring to this equipment, the *Lancet* (London, Eng.) reported:—

"The whole of the medical outfit has been supplied by Messrs. Burroughs Wellcome & Co.



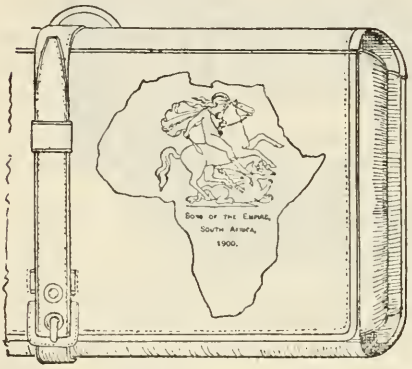
One of the 'TABLOID' BRAND MEDICINE CHESTS specially designed for, and supplied to, the Hospital Ship "Maine"

"One of the medicine chests supplied by this firm is in tooled leather, designed by Mr. Henry S. Wellcome. On the top panel appear the Union Jack and the Stars and Stripes entwined, portraits of Queen Victoria, George Washington, and President McKinley, and representations of the American Eagle and British Lion. The front and other panels bear symbolic designs indicating the bond of union between the English and American peoples. Prominently inscribed on the chest are Keble's line, 'No distance breaks the tie of blood,' and Ambassador Bayard's notable phrase, 'Our Kin across the Sea.'"

This beautiful cabinet contains a number of smaller cases fitted with 'Tabloid' and 'Soloid' products and 'Tabloid' Hypodermic Outfits, and is in itself a compact and complete dispensary.

In addition to the 'Tabloid' outfits supplied to the hospital ships, army hospitals and regular field service, saddle-cases fitted with 'Tabloid' and 'Soloid' products were supplied to the medical officers of the Yeomanry Battalions and to those attached to the Colonial contingents during the campaign in South Africa.

These few of the many instances of the employment of 'Tabloid' equipments during the Boer War bring the history of medical equipment down to recent times. Yet the subject has been outlined only, and these examples are but links in the association of modern medical equipments with 'Tabloid' outfits. In



One of the 'Tabloid' Brand Medicine Cases specially designed for, and supplied to, the troops from the various British Colonies, for use in the South African Campaign

frontier campaigns and punitive expeditions against savage and half-civilised tribes, and in the great wars of modern times—in fact, whenever it has been recognised that the success of the expedition and the lives and health of its members must depend on the portability, accuracy of dosage and keeping qualities of the drugs to be used, 'Tabloid' equipments have been chosen, and have invariably been found to fulfil every requirement.

'Tabloid' Medical Equipments in Exploring Expeditions

Having briefly outlined the history of medical supplies in military campaigns, it may be of interest to review the methods adopted by the leading explorers in their fight against the terrors of disease. Furnished with old-time equipments, the early explorers of Africa were doomed to undergo the usual heartrending experiences.

"When I think [said the late Sir H. M. STANLEY in the course of one of his lectures] of the dreadful mortality of Capt. TUCKEY's Expedition in 1816, of the NIGER Expedition in 1841, of the sufferings of BURTON and SPEKE, and of my own first two expeditions, I am amazed to find that much of the mortality and sickness was due to the crude way in which medicines were supplied to travellers. The very recollection causes me to shudder."

Tuckey, Burton, and Speke

But a new power was placed in the hands of the explorer. Scientific knowledge, skill and ingenuity had forged a new and potent weapon to fight the ravages of disease. The marked improvement which occurred is seen when we turn to a later speech by the same great explorer, in which he said:—

"In my early expeditions into Africa, there was one secret wish which endured with me always, and that was to ameliorate the miseries of African explorers. How it was to be done, I knew not; who was to do it, I did not know. But I made the acquaintance of Messrs. BURROUGHS WELLCOME & Co. As soon as I came in sight of their preparations and their works, I found the consummation of my secret wish. On my later expeditions I had all the medicines that were required for my black men, as well as my white men, beautifully prepared, and in most elegant fashion arranged in the smallest medicine chest it was ever my lot to carry into Africa."

Stanley's experiences

In his books, *Founding the Congo Free State* and *In Darkest Africa*, the late Sir H. M. STANLEY wrote in the very highest terms of 'Tabloid' Medical Equipments.

The late Surgeon-Major PARKE, Stanley's Medical Officer, in his *Guide to Health in Africa*, writes:—

"The medicinal preparations which I have throughout recommended are those of BURROUGHS WELLCOME & Co., as I have found, after a varied experience of the different forms in which drugs are prepared for foreign use, that there are none which can compare with them ['Tabloid' products] for convenience of

"None can compare"

portability in transit, and for unfailing reliability in strength of dose after prolonged exposure."

One of the 'TABLOID' BRAND MEDICINE CHESTS carried by the late Sir H. M. STANLEY throughout the Emin Relief Expedition, and brought back as a souvenir, with the remaining contents unimpaired

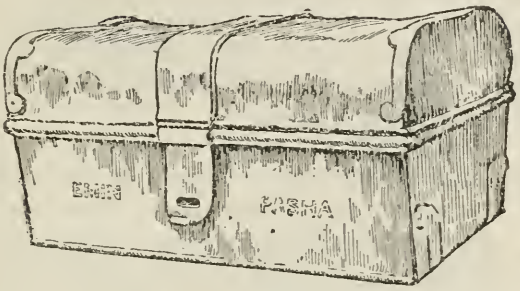
Amongst other cases used during STANLEY's travels, is the famous "Rear Guard" 'Tabloid' Medicine Case, which remained in the swampy forest regions of the Aruwhimi for nearly four years, and was more than once actually submerged in the river. When it was brought back to London, the remaining contents were tested by the official analyst of the *Lancet*, who reported that the 'Tabloid' medicaments had perfectly preserved their efficacy.

Contents tested by the 'Lancet'

At this point it is of interest to turn to the 'Tabloid' Medicine Chest *(illustrated on next page)* which was discovered near Kenia, in the Aruwhimi Dwarf Country. It was the last chest supplied to EMIN PASHA, GORDON'S Governor of the Equatorial Sudan. This chest was taken by Arabs when EMIN PASHA was massacred in 1892, and was recaptured by BARON DHANIS, Commandant of the Congo Free State troops, after the battle of Kasongo. It was subsequently stolen by natives, and finally recovered

Emin Pasha

by an officer of the Congo Free State, and returned to Burroughs Wellcome & Co.



Emin Pasha's 'Tabloid' Brand Medicine Chest

The following acknowledgment of its receipt was sent by Emin Pasha before setting out on his final expedition to Central Africa:—

"Gentlemen,—I found the medicine chest you forwarded me fully stocked. I need not tell you that its very completeness made bound my heart. Articles like those could not be made but at the hand of the greatest artists in their own department. If any one relieved from intense pain pours out his blessings, they will come home to you.

"I should like to expatiate somewhat longer on the intrinsical value, but sickness preventing me to do so. I wish you to believe me,

Yours very faithfully

Dr Emin Pasha

Messrs. Burroughs Wellcome & Co."

Sir Sven Hedin's medicine chest

Sir Sven Hedin, whose recent remarkable achievement in the exploration of Central Asia, when he set foot in one of the sacred forbidden cities of Tibet, is well known, took with him on his journey across the Himalayas a 'Tabloid' Medicine Chest, and in his fascinating book,

"Trans-Himalaya," he speaks in the highest terms of the utility and completeness of the equipment.

To this enterprising explorer his 'Tabloid' Medicine Chest was of great use, not only in providing medical treatment for his followers and himself on their long and perilous march, but also in his diplomatic relations with the great Tashi-Lama.

We are indebted to the courtesy of his publishers, Messrs. Macmillan, for permission to quote the following interesting description by Sir Sven Hedin of the presentation of his 'Tabloid' Medicine Chest as an offering of friendship, in accordance with Oriental custom, to the venerated chief of the Buddhist religious community at Tashi-Lunpo :—

An offering of friendship

> "'Bombo Chimbo' (the name by which Dr. Sven Hedin was known), we know that you are a friend of the Tashi-Lama, and we are at your service."
>
> . . . . . .
>
> "When we had conversed for two hours I made a move to leave him, but the Tashi-Lama pushed me back on to the chair and said, 'No, stay a little longer.' Now was the time to present my offering. The elegant English medicine chest was taken out of its silk cloth, opened and exhibited, and excited his great admiration and lively interest ; everything must be explained to him. The hypodermic syringe in its tasteful case, with all its belongings, especially delighted him. Two monks of the medical faculty were sent for several days running to write down in Tibetan the contents of the various 'Tabloid' boxes and the use of the medicines."

For Travellers and Tourists

'Tabloid' Equipments, however, are not intended exclusively for military and exploring expeditions, but have a far wider range of usefulness. Their utility extends to the traveller and tourist who, for knowledge or pleasure, may be going "far from the busy haunts of

men." That 'Tabloid' outfits are regarded as being an indispensable adjunct to the equipment is proved by the large number of world-famous travellers who have provided themselves with 'Tabloid' Chests and Cases.

For the Egypt and India Tour in 1902, H.R.H. The Duke of Connaught was provided with a 'Tabloid' Equipment. The medical equipment was also supplied by Burroughs Wellcome & Co. for the journey to Japan, in 1905, of Prince Arthur of Connaught.

Duke of Connaught

Another world-wide traveller, Mr. Harry de Windt, the story of whose wanderings forms an interesting record of modern travel, carried a 'Tabloid' outfit upon his great journey across Siberia. In the account of his travels, Mr. de Windt emphasises the great help and value the equipment has been to him.

Coming down to a quite recent date, still more testimony is forthcoming of the esteem in which the 'Tabloid' Products are universally held. For his hunting expedition in Africa, Ex-President Roosevelt was supplied with a 'Tabloid' Congo Medicine Chest. Upon Mr. Roosevelt's return to the United States of America, the Medical Officer in charge of the expedition, Lieutenant-Colonel E. A. Mearns, writing from the National Museum, Washington, to Burroughs Wellcome & Co. respecting the chest, states:—

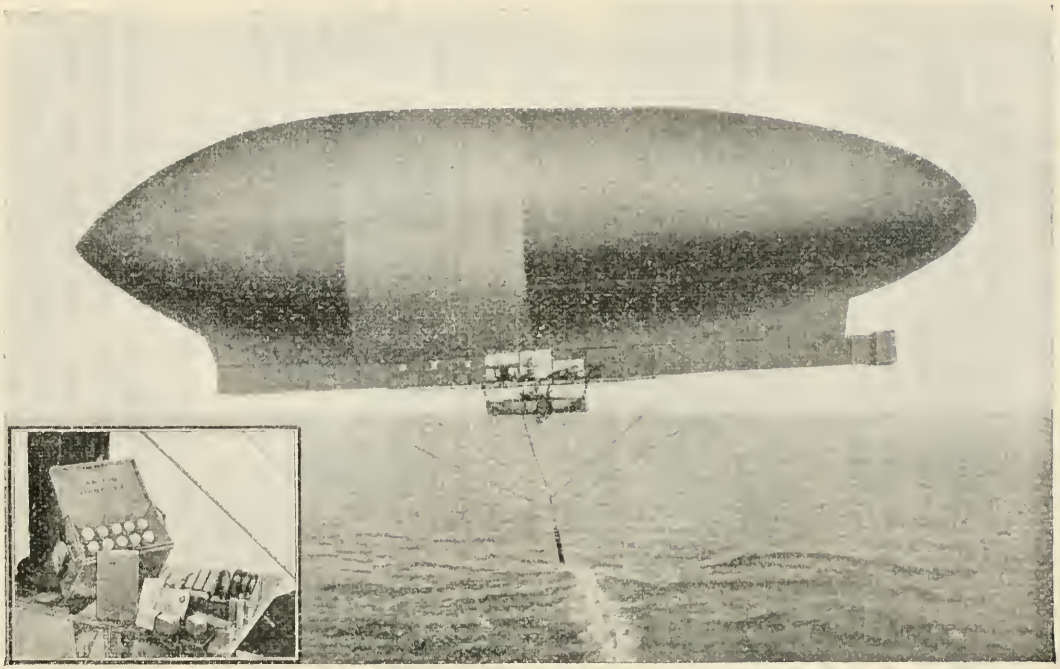
Mr. Roosevelt's satisfaction

"We found it very satisfactory and useful."

These commendations of 'Tabloid' Chests and Cases, expressed after the outfits have successfully withstood the rough usage inseparable from travel, sufficiently attests to the excellence of the products of Burroughs Wellcome & Co.

'Tabloid' Outfits for Aviators

From the early days of aerial navigation when Andree, in his historic attempt to reach the North



WELLMAN'S ATTEMPT TO CROSS THE ATLANTIC OCEAN

Inset is a photograph of the 'Tabloid' First-Aid, carried on the voyage. This case was saved by Wellman before leaving the ship *(see page 116)*

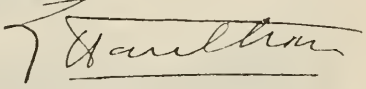
Pole, took with him a 'Tabloid' Brand Medicine Chest as his sole medical equipment, the products of Burroughs Wellcome & Co., have occupied an important position in the outfit of the airman.

On his brilliant flight from London to Manchester, Paulhan carried a 'Tabloid' Brand First-Aid

TABLOID' POCKET FIRST-AID carried by Paulhan on his London to Manchester flight

and had occasion to make use of the contents during his journey. M. Paulhan subsequently wrote to Burroughs Wellcome & Co., and in his letter, says :—

> "Je profite de cette occasion pour vous exprimer le plaisir que j'ai eu de porter avec moi durant le vol que j'ai fait de Londres à Manchester une trousse Premiers-Secours 'Tabloid.'"



Chavez, the intrepid conqueror of the Alps, was also provided with a 'Tabloid' First-Aid on his flight from Brieg, in Switzerland, to Domo d'Ossola, in Italy.

It is probable that to fly across the Atlantic is the crowning ambition of almost every airman of note, and is regarded by them as the blue riband of the aerial world. Although this much-coveted honour has yet to be won, recent developments furnish abundant

evidence that the task is by no means to be relegated to the realms of the impossible. The surprising result of Wellman's determined effort to be the first airman to cross the Atlantic, clearly indicates that it is only a matter of time to when this object will be an accomplished fact. When preparing for his flight, no efforts were spared by Wellman to make the attempt a successful one. His outfit—which included a 'Tabloid' medical equipment—had of necessity to be extremely restricted and compact, and was selected with great discrimination and judgment.

The Atlantic flight

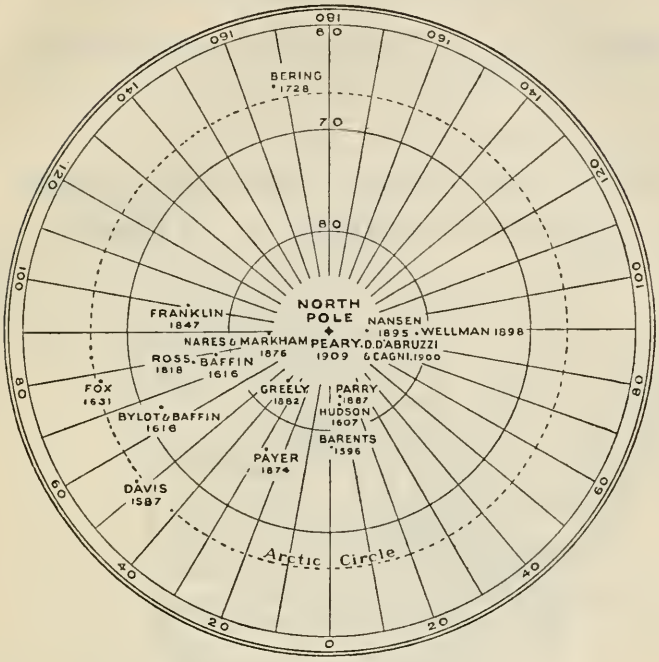
In expressing his keen appreciation of the equipment Mr. Wellman states:—

> "Dear Sirs,—We are glad to inform you that your 'Tabloid' Medical Equipment was the only one carried in the airship "America" during one thousand miles flight over the Atlantic Ocean. We had several occasions to use its contents for minor troubles, and found it complete and wholly satisfactory, which was but repeating the experience I have had with your equipments in my expeditions to the Arctic regions.
>
> "Sincerely yours,"
>
> (*Signed*)
>
> Walter Wellman

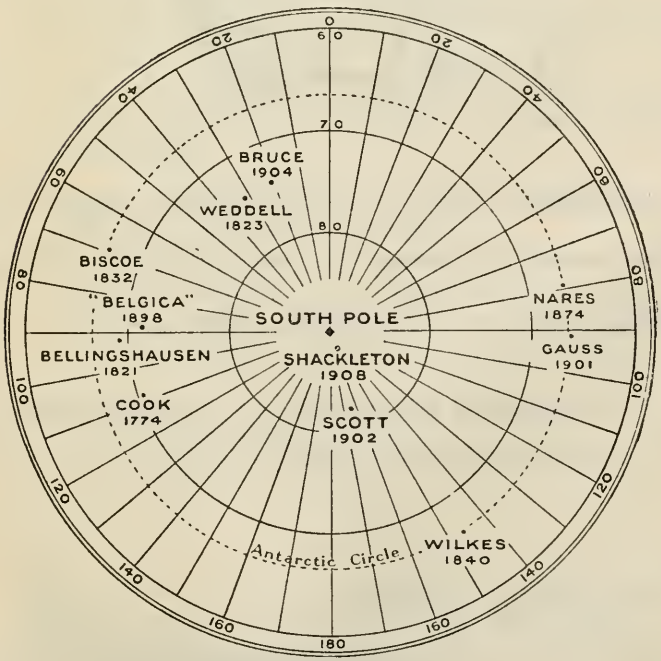
In the long-distance balloon voyage from London to Siberia, organised by the *Daily Graphic*, the aeronauts who accomplished the journey were supplied with 'Tabloid' Cases. Count Zeppelin, also, has spoken most appreciatively of the utility of 'Tabloid' Outfits.

It is thus evident that 'Tabloid' products have, by their lightness, compactness and portability, fulfilled in every particular the essential requirements of this method of locomotion.

Latitudes Reached by Pioneers in Arctic and Antarctic Exploration

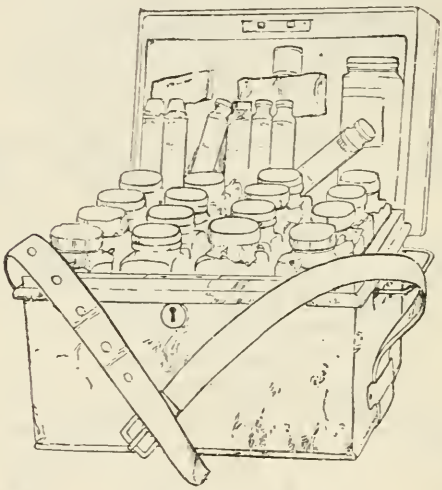


North Polar Regions



South Polar Regions

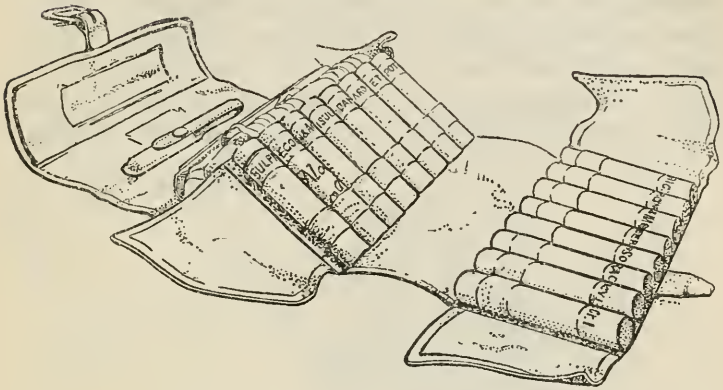
ONE OF THE 'TABLOID' MEDICINE CHESTS
USED BY COMMANDER R. E. PEARY



Commander PEARY, to whose record stands the achievement of having reached the North Pole, writing from Etah, Greenland, reports :—

"BURROUGHS WELLCOME & Co. 'Tabloid' Medicine Cases and Supplies have proven invaluable."

THE 'TABLOID' MEDICINE CASE CARRIED "FARTHEST SOUTH" BY SIR ERNEST H. SHACKLETON



The full record of this case, as given in the report of the Surgeon to the Expedition, is printed below

Copy of Report dated Sept. 17, 1909 :—

The B. W. & Co. Brown Leather 'Tabloid' Case herewith was :

Taken with party of six that made the ascent and reached summit of Mount Erebus, 13,350 ft., March 5th–11th, 1908.

Used on Southern Journey under Lieut. Shackleton *Oct. 28th, 1908–March 4th, 1909.
Latitude 88° 23′ S. Longitude 162° E.
Distance covered in this journey, 1728 statute miles.

Used on S. Depot Laying Party, from Sept. 20th to Oct. 15th, 1908. Distance covered, 311 miles.

Taken on Depot journeys to Hut Point.
Aggregating 150 statute miles.

Medicines quite satisfactory.

Signed

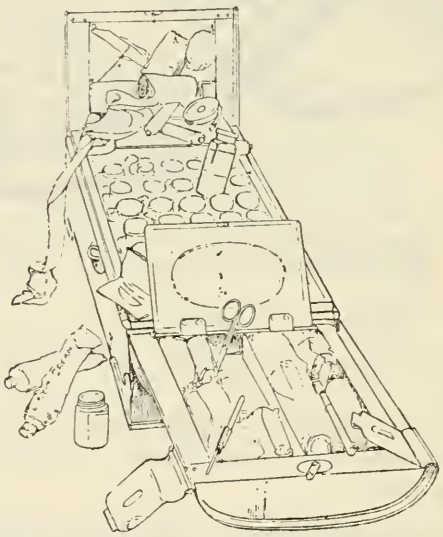
E. P. MARSHALL, M.R.C.S., L.R.C.P.

Surgeon to the British Antarctic Expedition, 1907-9

* Reached "Farthest South," Jan. 9, 1909

'Tabloid' Medical Equipments in Arctic and Antarctic Exploration

'Tabloid' Medical Equipments have been used with remarkable success in the Arctic and Antarctic expeditions associated with the names of Nansen, Peary, Jackson-Harmsworth, the Duke of the Abruzzi, Scott, and Shackleton. The belts and other 'Tabloid' Equipments supplied to Nansen for his journey



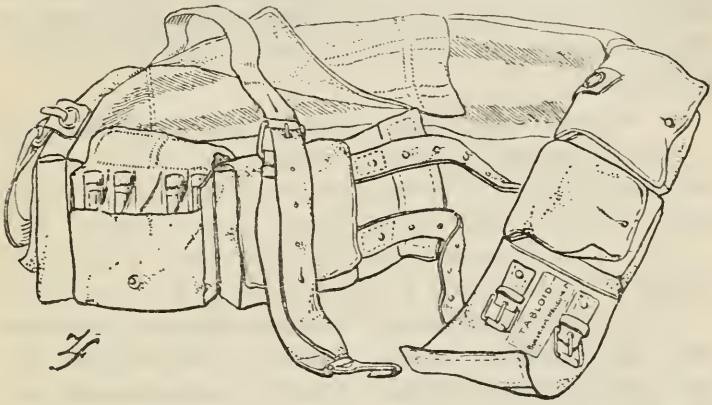
One of the 'Tabloid' Brand Chests used by the Jackson-Harmsworth Polar Expedition

"Farthest North," and those used by the Jackson-Harmsworth Arctic Expedition, are now added to Burroughs Wellcome & Co.'s collection of historic outfits. In his report, the surgeon to the latter expedition says:—

> "I find that the 'Tabloid' drugs are most convenient, especially in circumstances such as we are placed in."

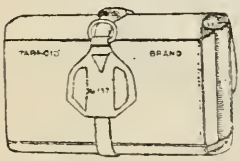
Another 'Tabloid' Medical Equipment of exceptional interest was that supplied to Commander R. E. Peary for use with his former Arctic Expedition.

The belt illustrated below formed part of the *Fram's* medical equipment, which was supplied by Burroughs Wellcome & Co.



One of the 'Tabloid' Brand Medicine Belts carried by Nansen on his Arctic Expedition

The Canadian Government exploration vessel *Arctic* which sailed last year for the Far North, was provided with 'Tabloid' Medicines. Before sailing, Captain Bernier, who is in command, expressed himself as being very pleased with his equipment.



One of the 'Tabloid' Brand Medicine Cases carried by the Duke of the Abruzzi's Polar Expedition

The Italian Arctic Expedition, commanded by the Duke of the Abruzzi, found that, despite the fact that the northern latitude of 86° 33′ 49″ was reached, the 'Tabloid' Medicine Chests and Cases with which the Expedition was equipped were brought back with their remaining contents quite unaffected by the rigour of the climate.

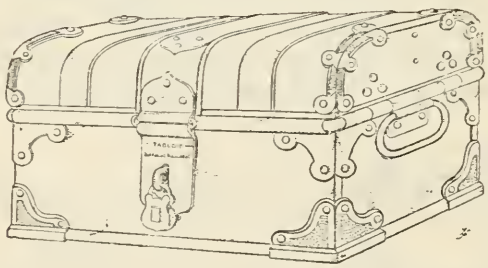
Unaffected by climate

The National Antarctic Expedition

The entire medical outfit of the National Antarctic Expedition was furnished by Burroughs Wellcome & Co., and on the return of the *Discovery*, with the members of the Expedition on board, the medical officer made a highly satisfactory report on the 'Tabloid' Medical Equipment.

"Discovery" Expedition

In August, 1901, the *Discovery* left England, and in the following January crossed the limit of the Antarctic Circle. Having passed the farthest eastward point attained by Ross sixty years before, the explorers discovered a new land, which they named King Edward VII. Land. One of the most noteworthy features of the Expedition was the arduous sledge journey undertaken by the commander, Captain Scott, accompanied by Lieutenant Shackleton and Dr. Wilson. This journey over the ice occupied three months, and the record latitude of 82° 17′ South was reached. On sledge journeys the question of weight is of great



One of the 'Tabloid' Brand Medicine Chests carried by the National Antarctic Expedition

moment. The traveller, on such occasions, must carry but the barest necessaries, and of these the lightest procurable. The medicine chest is an important item, for upon the efficiency of its contents the lives of the explorers may depend. Every drug carried must be of the utmost reliability, in the most compact state, and capable of withstanding an extremely low temperature.

To the enthusiasm of Sir CLEMENTS MARKHAM, K.C.B., then President of the Royal Geographical Society, the successful organisation of the Expedition is largely due. Referring to the 'Tabloid' Medical Equipment of the *Discovery*, he reports:—

National Antarctic Expedition,
1, Savile Row,
Burlington Gardens, W.

The Medical Equipment of the Exploring Ship of the National Antarctic Expedition was entirely supplied by Messrs Burroughs Wellcome & Co., and, proved in every way most satisfactory.
The few other drugs and preparations which were taken with the Expedition were only supplied for purposes of experiment, and, can in no way be regarded as part of the medical equipment.

Clements R Markham

27. April 1905

Dr. Kœttlitz, the Senior Medical Officer to the Expedition, reports:—

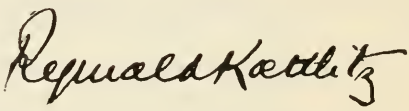
"*Discovery* Antarctic Expedition

"The Medical Equipment of the *Discovery* Exploring Ship, of the National Antarctic Expedition, was entirely supplied by Messrs. Burroughs Wellcome & Co., mostly in the form of 'Tabloid,' 'Soloid' and 'Enule' preparations.

"The preparations proved, in every way, most satisfactory, and there was no deterioration of any of them, in spite of the conditions of climate and temperature to which they were exposed. The few other drugs and preparations which were taken with the Expedition were only taken for purposes of experiment.

"The cases supplied by Burroughs Wellcome & Co. to us have also been found satisfactory; the small leather one was very useful upon sledge journeys, being light and compact. The No. 251 'Tabloid' Case was used for some weeks at the camp eleven miles north of the ship, when the whole ship's company was engaged in sawing and blasting the ice, and it was found very convenient.

"The other cases were useful in our cabins, etc., for a handy supply."



The relief ship *Morning* was also provided with a 'Tabloid' Medical Equipment, and the Medical Officer, Dr. George Davidson, sends the following report:—

"Antarctic Relief Ship *Morning*

"I wish very heartily to express my perfect satisfaction with the medical equipment which was supplied to the Antarctic Relief Ship *Morning* by Burroughs Wellcome & Co. When I say that it was compact, yet complete, that everything was just to hand, that during a period of two years and three months I was never at a loss to find just the medicine I wanted, and that without delay, I need say no more to emphasise the extraordinary convenience which a 'Tabloid' and 'Soloid' outfit is to a ship such as ours, whether at

sea or in the ice. I found the 'Tabloid' and 'Soloid' products to remain unchanged throughout the whole period of my commission, and to equal in efficacy the best medical preparations I have yet had occasion to use. It is impossible to realise without experience how much can be condensed by this mode of exhibition in a very small space. I strongly advise all intending explorers to betake themselves to Burroughs Wellcome & Co. for their medical equipment, and they will not be disappointed."

George A. Davidson

From Dr. EDWARD WILSON, who was in charge of some of the sledge journeys from the *Discovery*, the following report has been received :—

"*Discovery* ANTARCTIC EXPEDITION

"Though there was but little serious illness on the *Discovery* during the recent Antarctic Expedition, the 'Tabloid' preparations and the cases were put to a fairly rigorous test, not only in the ship, but on the various sledge journeys that were undertaken, during which they experienced temperatures as low as 68° below zero, and much rough handling, without any loss in efficiency and usefulness. Certain of the 'Tabloid' Ophthalmics were freely used for snow blindness, and were found to be most convenient."

Edward A. Wilson

The Scottish National Antarctic Expedition, covering a period of nearly two years, and comprising two separate voyages of the *Scotia*, was brought to a very satisfactory termination. To the *Scotia* belongs the distinction of having attained the latitude of 74° 1′ South. BURROUGHS WELLCOME & Co. supplied the entire medical equipment, which gave the utmost satisfaction, and were very favourably reported on by Dr. J. H. HARVEY PIRIE, the Medical Officer of the *Scotia*.

In each instance the medicine chests were brought back, and the remaining contents were found to have retained their therapeutic activity, notwithstanding the rigour of the climate to which they had been subjected.

Sir Ernest H. Shackleton, on his memorable voyage with the *Nimrod*, when he penetrated to within ninety-seven miles of the South Pole, took with him, as his sole medical equipment, 'Tabloid' Medicine Chests and Cases, and the subjoined report shows that under the trying and difficult conditions of Antarctic exploration, 'Tabloid' medicines maintained their reputation for efficiency and stability.

Copy of Report dated Sept. 17, 1909 :—

The British Antarctic Expedition, 1907–9, was equipped with a very complete Medical Equipment contracted for solely by Messrs. Burroughs Wellcome & Co., and consisting of 'Soloid' and 'Tabloid' Preparations, which are the only forms that can be conveniently carried and preserved under such conditions.

The packets of Compressed Dressings are an extremely convenient form.

The Congo Cases (No. 251, 'Tabloid' Brand) were always used when at our base, and both the party of three who reached the South Magnetic Pole, and the party under Lieut. Shackleton, who attained a point 97 miles from the Geographical South Pole, carried a brown leather 'Tabloid' Case, and all the 'Tabloid' products that remain are now in as good condition as when first handed over to my care two years ago.

The *Nimrod* was also supplied with 'Tabloid' Cases and Equipment.

The 'Tabloid' Photographic Outfit supplied by Burroughs Wellcome & Co. proved entirely satisfactory.

Signed

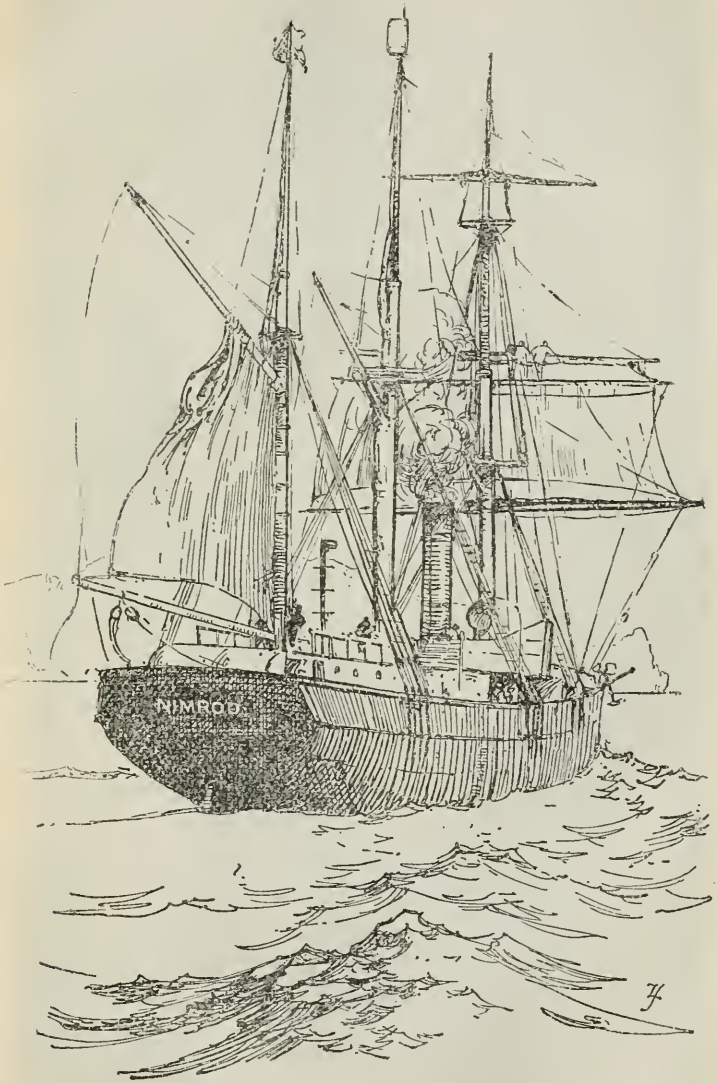
British Antarctic Expedition, 1907–9

Ernest H. Shackleton

Commander

Eric P. Marshall, M.R.C.S., L.R.C.P.

Surgeon to the Expedition



S.S. "NIMROD"

BRITISH ANTARCTIC EXPEDITION, 1907-9

The entire medical equipment of this Expedition was furnished by Burroughs Wellcome & Co.

THE SMALLEST MEDICINE CHEST IN THE WORLD

This tiny gold medicine chest is fitted with twelve square medicine chest bottles containing 300 doses of 'Tabloid' Brand Medicaments, equivalent to 15 pints of fluid medicine.

HYPODERMIC POCKET-CASES

'TABLOID' BRAND

[℞ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

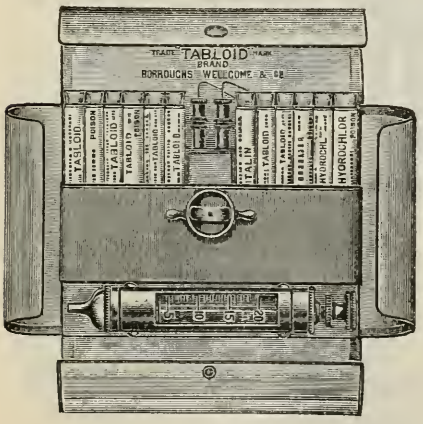
The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'TABLOID' Hypodermic Pocket-Cases provide complete armamentaria for hypodermic work. Primarily intended for emergency purposes, such essentials as compactness and convenience in use have received the fullest attention, and with unique result. A full equipment of hypodermic drugs of utmost reliability and accuracy of dosage, together with syringe and needles, may, by means of a 'Tabloid' Hypodermic Outfit, be carried easily in the waistcoat-pocket.

For the waistcoat-pocket

Hypodermic 'Tabloid' Brand Pocket-Cases are issued in gold, silver, gun-metal, nickel-plated metal, or aluminium, and in a great variety of plain and fancy leathers. Each contains a B. W. & Co. Hypodermic Syringe with needles, and from five to fifteen tubes of 'Tabloid' Brand Hypodermic products, etc.

NO. 3. HYPODERMIC 'TABLOID' BRAND POCKET-CASE

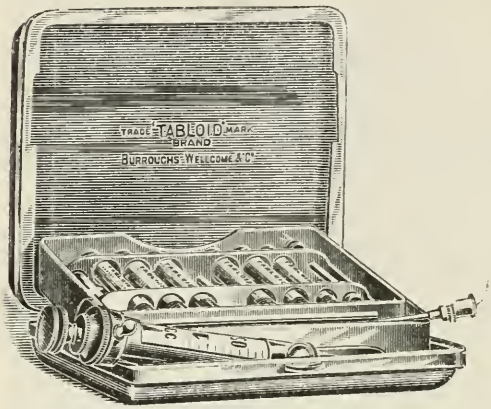


No. 3. HYPODERMIC 'TABLOID' BRAND POCKET-CASE

Measurements: $3\frac{1}{4} \times 2\frac{3}{4} \times \frac{5}{8}$ in

In Cowhide, Pigskin, Crocodile, Morocco, Seal and other fine leathers. Fitted with twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe, two regular steel needles, etc.

No. 7. Hypodermic 'Tabloid' brand Pocket-Case

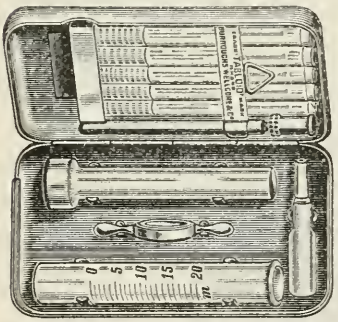


No. 7. Hypodermic 'Tabloid' Brand Pocket-Case
Measurements: $3\frac{1}{2} \times 3\frac{1}{8} \times \frac{7}{8}$ in.

With special detachable aseptic frame of novel design, and revolving rack (nickel-plated). Fitted with twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Syringe, one exploring and two regular steel needles, etc. This Case, after the removal of the tubes of Hypodermic products, may be sterilised with ease. In Gun-metal, Aluminium, or Silver.

No. 10. Aseptic Hypodermic 'Tabloid' brand Pocket-Case

This Case is a model of compact completeness. It is made of nickel-plated metal, each edge and corner being smoothly rounded. It contains a B. W. & Co. All-Glass Aseptic Hypodermic Syringe, with detachable nickel-plated finger-grip, and two regular steel needles enclosed in a protective tube. Each part of the syringe is separately held in a holdfast clip.



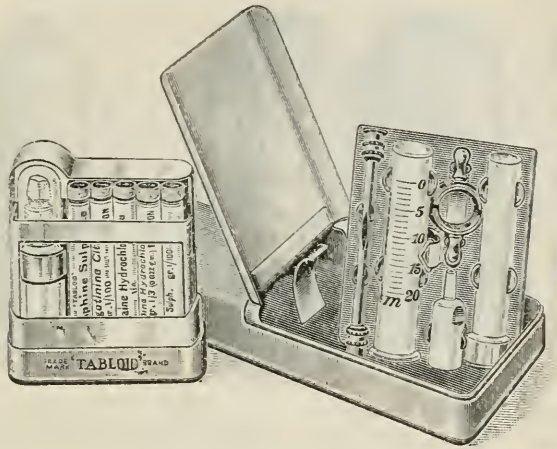
No. 10. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements: $2\frac{1}{2} \times 1\frac{3}{8} \times \frac{1}{8}$ in.

The tubes of 'Tabloid' Hypodermic products, five in number, are carried in a hinged rack, which securely holds them when the case is closed, and which, when swung outwards, allows of the easy withdrawal of the desired tube. Complete with doeskin cover.

No. 20. Aseptic Hypodermic 'Tabloid' brand Pocket-Case

Fitted with ten tubes of 'Tabloid' Hypodermic products, a small glass phial, stoppered and capped, for ether or distilled water, a B. W. & Co.

All-Glass Hypodermic Syringe (each part securely held by a separate clip), two steel needles in a protective tube, finger-grip, etc. In nickel-plated metal, complete with doeskin cover.

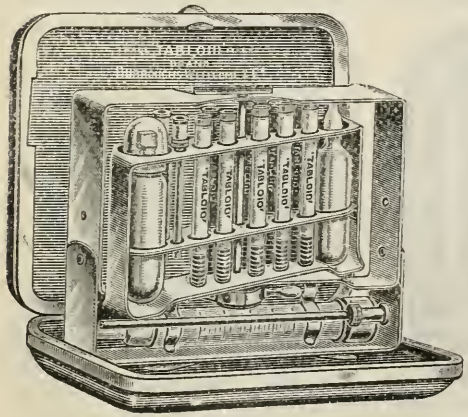


No. 20. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements: $4\frac{1}{2} \times 1\frac{3}{4} \times \frac{3}{4}$ in.

No. 21. Hypodermic 'Tabloid' brand Pocket-Case

Measurements: $4 \times 3\frac{1}{8} \times 1\frac{1}{4}$ in. Fitted with nine tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe, with two steel needles, a small phial, glass-stoppered and capped, for sterilised water, capsule of ether, etc. In Morocco and other fine leathers.

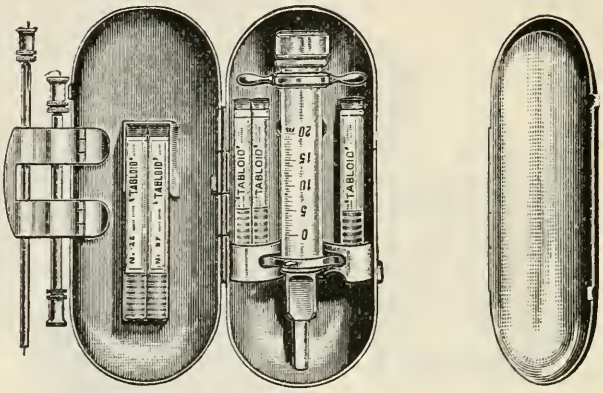
No. 23. Aseptic Hypodermic 'Tabloid' brand Pocket-Case



No. 23. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements: $3\frac{1}{2} \times 3\frac{1}{8} \times \frac{7}{8}$ in.

In Aluminium, Gun-metal or Solid Silver, with special detachable nickel-plated aseptic frame and revolving rack. Contents same as those of No. 21 Case, with the addition of a steel exploring needle. This Case, after the removal of the tubes of 'Tabloid' Hypodermic products, may readily be sterilised.

No. 32. Aseptic Hypodermic 'Tabloid' brand Pocket-Case *(The Mussel Shell)*

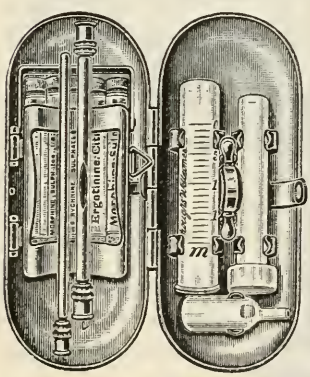


OPEN CLOSED

No. 32. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
(The Mussel Shell)
Measurements: $3\frac{1}{2} \times 1\frac{3}{8} \times \frac{3}{4}$ in.

In nickel-plated metal, occupies very little space, and is conveniently shaped for the pocket. Fitted with a B. W. & Co. Nickel-Plated Hypodermic Syringe, one exploring and two regular steel needles, and five tubes of 'Tabloid' Hypodermic products. The Case is also supplied fitted with a B. W. & Co. All-Glass Aseptic Hypodermic Syringe, etc. *(as illustrated)*, but *without* 'Tabloid' Hypodermic products. Complete with leather or doeskin cover.

No. 40. Aseptic Hypodermic 'Tabloid' brand Pocket-Case (*The Mussel Shell*)

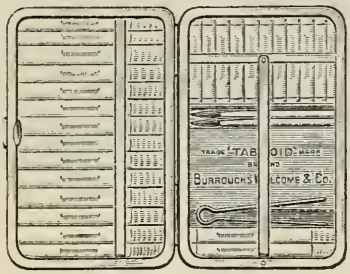


No. 40. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
(The Mussel Shell)
Measurements: $3\frac{1}{2} \times 1\frac{3}{8} \times \frac{3}{4}$ in.

A particularly efficient and convenient pocket-case. The component parts are held securely in clips and rack. The spring catch, of improved design, is most effective in use, whereby maximum security is attained. The case contains a B. W. & Co. All-Glass Hypodermic Syringe, with detachable finger-grip, two regular steel needles, one exploring needle, and five tubes of 'Tabloid' Hypodermic products, etc. In nickel-plated metal, complete with doeskin cover.

HYPODERMIC AND OPHTHALMIC POCKET-CASES 'TABLOID' BRAND [See B. W. & Co.]

NO. 80. HYPODERMIC AND OPHTHALMIC 'TABLOID' BRAND POCKET-CASE *(The "British Army Regulation")*



No. 80. HYPODERMIC AND OPHTHALMIC 'TABLOID' BRAND POCKET-CASE *(The "British Army Regulation")*
Measurements: $3\frac{1}{4} \times 2\frac{1}{4} \times \frac{3}{4}$ in.

In Aluminium. Contains thirteen tubes of 'Tabloid' Hypodermic products, ten tubes of 'Tabloid' Ophthalmic products, two camel-hair brushes, a pair of minute forceps, and a card giving a summary of the chief uses of the products. Being easily carried in the waistcoat-pocket, this Case is extremely well adapted for emergency use.

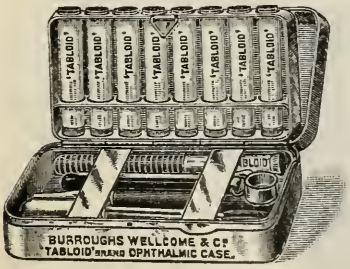
OPHTHALMIC POCKET-CASES 'TABLOID' BRAND [See B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co.

'TABLOID' Ophthalmic Pocket-Cases are the most compact and complete equipments for ophthalmic work. In a space of two or three cubic inches they contain supplies of active and accurately-divided ophthalmic products, solution-dropper, camel-hair brushes, etc.. etc.

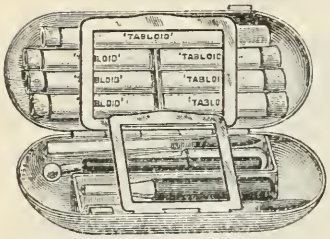
NO. 91. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE



No. 91. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE
Measurements: $2\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ in.

In nickel-plated metal. Fitted with nine tubes of 'Tabloid' and 'Soloid' Ophthalmic products in nickel-plated rack, vulcanite rod, solution-dropper, mortar, pestle, and two camel-hair brushes. The Case, after the removal of the contents, may be readily sterilised. Complete with doeskin cover.

No. 92. Aseptic Ophthalmic 'Tabloid' Brand Pocket-Case *(The Mussel Shell)*



No. 92. Aseptic Ophthalmic 'Tabloid' Brand Pocket-Case *(The Mussel Shell)*
Measurements: $2\frac{1}{2} \times 1\frac{1}{8} \times \frac{5}{8}$ in.

In nickel-plated metal. Fitted with seven tubes of 'Tabloid' Ophthalmic products, mortar, pestle, vulcanite rod, solution-dropper and two camel-hair brushes. The shape and size of this Case make it specially suitable for carrying in the waistcoat-pocket. After removal of the contents, the Case can readily be sterilised. Complete with doeskin cover.

Medicine Pocket-Cases, 'Tabloid' Brand [℠ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

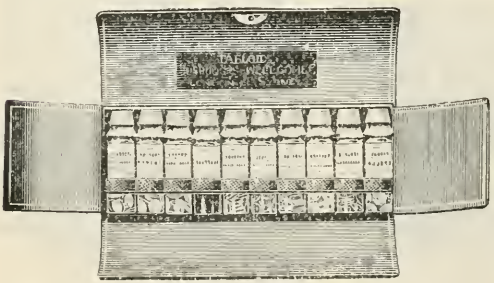
The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co.

'Tabloid' Medicine Pocket-Cases are compact equipments of pure, active drugs, divided, ready for administration, into accurate doses. They enable practitioners to have always with them an equipment of reliable medicines specially for emergency use. 'Tabloid' Pocket-Cases are recognised as an essential in the equipment of physicians practising in country districts.

For emergencies

When weighing and measuring are impossible, and when the carriage of liquids is impracticable, the convenience and the extreme portability of 'Tabloid' Medicine Pocket-Cases, which enable the physician to dispense emergency medicines at the time of his visit, will be fully appreciated.

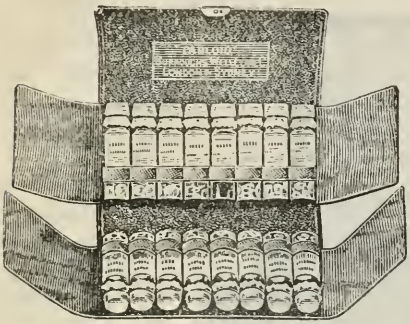
No. 115. 'Tabloid' Brand Medicine Pocket-Case



No. 115. 'Tabloid' Brand Medicine Pocket-Case
Measurements: $8\frac{3}{4} \times 3\frac{3}{4} \times 1\frac{1}{2}$ in.

Contains ten ½ oz. phials filled with 'Tabloid' Brand products, etc. In Seal, Pigskin, Cowhide, Morocco and other fine leathers.

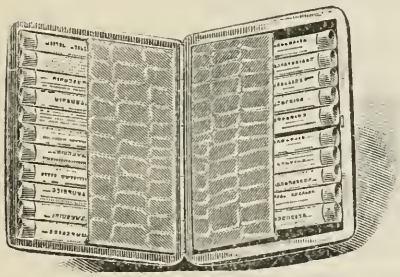
No. 117. 'Tabloid' brand Medicine Pocket-Case



No. 117. 'Tabloid' Brand Medicine Pocket-Case. Measurements: 7½ × 4 × 3 in.

This Case, which is somewhat larger and more comprehensive than the No. 115 Case, contains sixteen ½ oz. phials of 'Tabloid' Brand products, etc. In Cowhide, Pigskin, Crocodile, Morocco and other fine leathers.

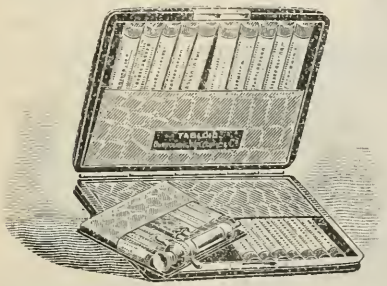
No. 124. 'Tabloid' brand Medicine Pocket-Case



No. 124. 'Tabloid' Brand Medicine Pocket-Case
Measurements: 5½ × 4 × 1½ in.

Fitted with from sixteen to twenty-four tubes of 'Tabloid' Brand products, according to size of products. In Seal, Crocodile, Morocco and other fine leathers. This Case was specially designed for conveniently carrying in the breast pocket, on ordinary occasions, a stock of medicines sufficient to combat a variety of contingencies.

No. 125. 'Tabloid' brand Medicine Pocket-Case



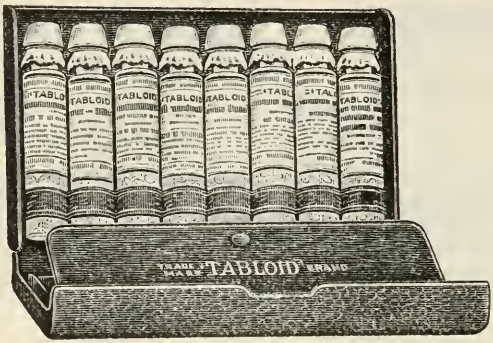
No. 125. 'Tabloid' Brand Medicine Pocket-Case
Measurements: 5½ × 4 × 1½ in.

Specially fitted for emergency purposes with fourteen tubes of 'Tabloid' Brand products, and a removable tray containing an equipment of twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe and two regular steel needles. In Cowhide and other fine leathers.

No. 126. 'Tabloid' brand Medicine Pocket-Case

With the exception that it contains a No. 3 'Tabloid' Brand Hypodermic Case instead of the removable tray, this Case is the same as No. 125.

No. 133. 'Tabloid' brand Medicine Pocket-Case



No. 133. 'Tabloid' Brand Medicine Pocket-Case

Measurements: $6\frac{3}{4} \times 4\frac{1}{2} \times 1\frac{1}{4}$ in.

An ideal pocket-case, which closes without straps or other external fastening. Metal body, covered with black Morocco or Cowhide. Contains eight $\frac{1}{2}$ oz. phials of 'Tabloid' Brand products, etc., and wallet for papers.

No. 141. 'Tabloid' brand Medicine Pocket-Case

In Morocco leather. Measurements, $7\frac{1}{2} \times 4 \times 2\frac{1}{2}$ in. Fitted with fifteen $\frac{1}{2}$ oz. phials of 'Tabloid Brand products, and a compartment containing small boxes for the physician's use in distributing requisite medicaments. Design similar to No. 117 Case.

No. 232. 'Tabloid' brand Medicine Case

(Physician's Emergency Case)

In Cowhide, containing 'Vaporole' Brand products, 'Ernutin' products, 'Wellcome' Brand Chloroform, B. W. & Co. All-Glass Hypodermic Syringe, 'Tabloid' Hypodermic products, stomach tube, and other emergency appliances.

No. 232. 'Tabloid' Brand Medicine Case *(Physician's Emergency Case)*

Measurements: $8\frac{1}{2} \times 5\frac{1}{2} \times 3\frac{1}{4}$ in.

CYCLE, CARRIAGE AND MOTOR-CAR CASES MEDICAL EQUIPMENT CHESTS, ETC.

'TABLOID' BRAND

[B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'TABLOID' Cycle, Carriage and Motor-Car Cases and Medical Equipment Chests contain 'Tabloid,' 'Soloid' and other fine products of B. W. & Co., minor surgical instruments and sundry emergency dressings. A great variety is prepared to meet the requirements of professional men in home practice, according to the extent and the special character of their particular requirements.

For general practitioners

'Tabloid' Medical Equipment Chests and Cases provide complete portable dispensaries for practitioners in distant stations, missionaries, explorers and expeditions of all kinds. For such purposes they are the only really satisfactory form of medical equipment, and have been universally adopted. In addition to full supplies of accurately-dosed, permanent and reliable products, these equipments contain minor surgical instruments and dressings.

For travellers, explorers, expeditions, missions, etc.

NO. 137. 'TABLOID' BRAND MEDICINE SADDLE-CASE

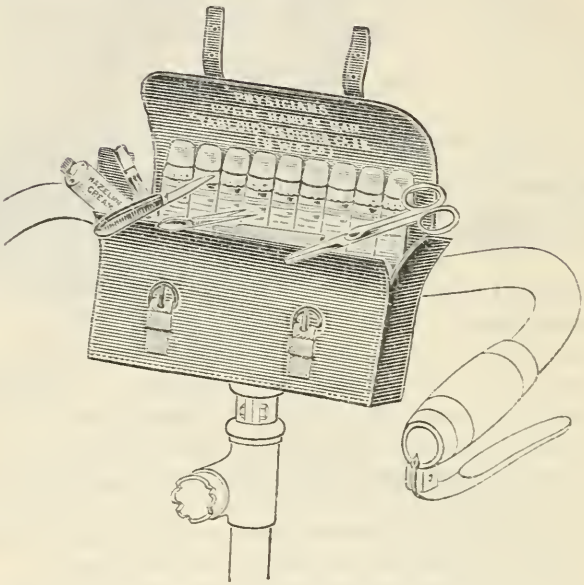
NO. 137. 'TABLOID' BRAND MEDICINE SADDLE-CASE

In Cowhide or Pigskin. Measurements: $7\frac{1}{4} \times 4\frac{1}{4} \times 2\frac{3}{4}$ in. Fitted in a similar manner to No. 117 Case (*see page* 135), with sixteen $\frac{1}{2}$ oz. phials of 'Tabloid' Brand products, etc.

NO. 139. 'TABLOID' BRAND MEDICINE SADDLE-CASE

Similar to No. 137 Case, but fitted with feather-weight tubes. Measurements: $7\frac{1}{4} \times 4\frac{1}{2} \times 2\frac{3}{4}$ in. In Cowhide or Pigskin.

No. 200. Physician's Cycle Handle-Bar 'Tabloid' brand Medicine Case



No. 200. Physician's Cycle Handle-Bar 'Tabloid' Brand Medicine Case

In black enamelled Cowhide. Measurements: $8\frac{1}{4} \times 2\frac{1}{2} \times 4\frac{1}{4}$ in. Fitted complete with nine $\frac{1}{2}$ oz. phials of 'Tabloid' Brand products, etc., minor surgical instruments, and sundry emergency dressings. Weight, about $1\frac{1}{2}$ lb.

No. 202. Physician's Cycle Stay-Bar 'Tabloid' brand Medicine Case

In black enamelled Cowhide. Measurements: 10 × $2\frac{3}{4}$ × 5 in. Fitted complete with twelve $\frac{1}{2}$ oz. phials of 'Tabloid' Brand products, etc., minor surgical instruments and dressings. Similar in design to No. 200 Case.

No. 206. 'Tabloid' brand Medicine Chest

(As carried by Mr. Thos. Stevens)

A reduced facsimile of No. 208 Chest (*see page* 139). Measurements: $14\frac{1}{2} \times 4\frac{1}{2} \times 7\frac{1}{4}$ in. Made of dressed and varnished Raw-hide. Fitted with twelve $2\frac{1}{2}$ oz. stoppered bottles of 'Tabloid' and 'Soloid' Brand products, minor instruments, dressings, etc.

No. 208. 'Tabloid' brand Medicine Chest

No. 208. 'Tabloid' Brand Medicine Chest

Made of dressed and varnished Raw-hide; very light, portable and durable. Measurements: 15½ × 5¼ × 9 in. Fitted with twelve 4 oz. stoppered bottles of 'Tabloid' and 'Soloid' Brand products, instruments, dressings, etc.

No. 209. 'Tabloid' brand Medicine Case

In Morocco leather, Cowhide or Pigskin. Measurements: 10 × 5 × 6½ in. Contains nine 1 oz., twenty-four ½ oz. and thirteen 2 dr. phials of 'Tabloid' and 'Soloid' Brand products; medicine measure, extra pockets, and loops for instruments; twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe, two regular steel needles, etc.

No. 219. 'Tabloid' brand Medicine Case

In Morocco leather. Measurements: 13½ × 6 × 6¼ in. Metal frame. Contains eight 2 oz. stoppered, ten 1 oz., twelve 6 dr., eight 4 dr. and ten 2 dr. corked phials. The rows of phials are arranged to fall so as to show the labels. Fitted with 'Tabloid' and 'Soloid' Brand products, twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe, with two regular steel needles, etc.

No. 220. 'Tabloid' brand Medicine Case

In Morocco leather or Cowhide. Measurements: 14 × 5½ × 9½ in. Phials arranged in tiers to display labels. Contains eight 2 oz. stoppered, twelve 1 oz., fourteen 6 dr. and sixteen 4 dr. corked phials of 'Tabloid' and 'Soloid' Brand products, twelve tubes of 'Tabloid' Hypodermic products, a B. W. & Co. Nickel-Plated Hypodermic Syringe, two regular steel needles, space and loops for instruments, etc. Similar in design to No. 221 Case.

No. 221. 'Tabloid' brand Medicine Case

No. 221. 'Tabloid' Brand Medicine Case

In *extra finish* Cowhide, Morocco, Crocodile or Pigskin. Measurements: 14 × 5½ × 9½ in. Fitted in the same way as No. 220 Case, with the addition of nine 2 dr. phials of 'Tabloid' and 'Soloid' Brand products, and a glass-stoppered and capped ether bottle.

No. 227. 'Tabloid' brand Medicine Case

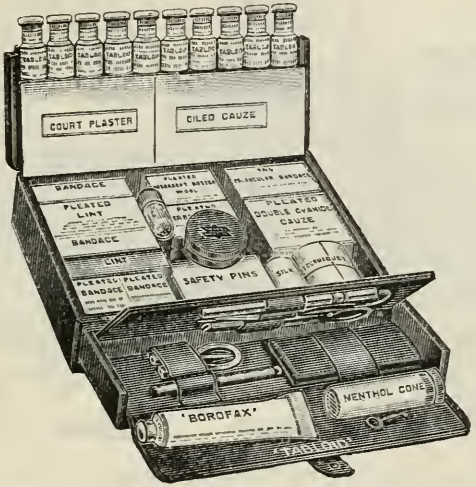
In Cowhide or Pigskin. Measurements: 6½ × 3¾ × 3 in. Made of two metal cups and frames covered with leather. Arranged to contain twenty 1½ dr., twelve 1 dr. and fourteen ½ dr. tubes of 'Tabloid' and 'Soloid' Brand products. Weight, about 2 lb. 6 oz.

No. 229. 'Tabloid' brand Medicine Case

This case is conveniently shaped for packing in trunk, kit-bag or suit case. Its rounded corners prevent injury to adjacent articles. Measurements: 8½ × 5¼ × 3¾ in. Made of two metal cups and frames covered with Cowhide. Arranged to hold forty 4 dr. phials of 'Tabloid' and 'Soloid' Brand products. Weight, about 4 lb. 13 oz.

No. 230. 'Tabloid' brand Medicine Case

A Morocco leather or Cowhide case, which, when closed, measures 8 × 5½ × 2½ in. Fitted with ten phials of 'Tabloid' and 'Soloid' Brand products, minor surgical instruments, and emergency dressings.



No. 230. 'Tabloid' Brand Medicine Case

Conveniently shaped for packing in trunk or bag. This case provides a remarkably compact and satisfactory outfit of emergency drugs, instruments and dressings, and will be found of particular utility when the practitioner is working at some distance.

No. 231. 'Tabloid' brand Medicine Case

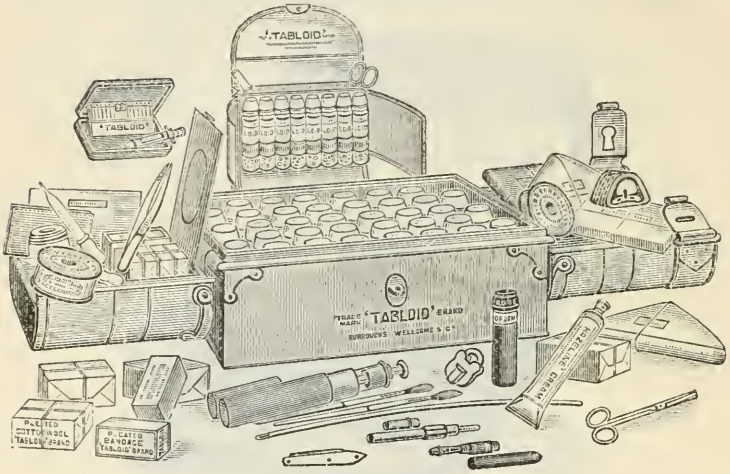
(As suggested by Sir W. Moore)

No. 231. 'Tabloid' Brand Medicine Case

In black japanned metal. Measurements: 10¾ × 7½ × 3 in. Contains fifteen 1 oz. corked phials, and one 4 oz. corked bottle; minor surgical instruments and dressings. Complete with 'Tabloid' Brand products, etc., as recommended in Sir W. Moore's *Manual of Family Medicine for India*. Weight, about 6 lb. 14 oz.

No. 250. 'Tabloid' brand Medicine Chest

(As supplied to the late Sir H. M. Stanley, Emin Pasha, Military Expeditions, Missionaries, etc.)



No. 250. 'Tabloid' Brand Medicine Chest

In japanned sheet-steel. Measurements: $15\frac{3}{4} \times 10\frac{1}{2} \times 8\frac{1}{4}$ in. Weight, about 40 lb. Contains six 5 oz. and thirty $3\frac{1}{2}$ oz. glass-stoppered bottles of 'Tabloid,' 'Soloid' and other fine products, in movable teak-wood tray. The lid holds supplies of 'Tabloid' Bandages and Dressings, minor surgical instruments and other accessories.

No. 251. 'Tabloid' brand Medicine Chest

(As supplied to the Jackson-Harmsworth Polar, the National Antarctic the British Antarctic and other expeditions.)

No. 251. 'Tabloid' Brand Medicine Chest

In Aluminium. Measurements: $15\frac{3}{4} \times 10\frac{1}{2} \times 8\frac{1}{4}$ in. Weight, about 27 lb. Contains forty $3\frac{1}{2}$ oz. feather-weight bottles of 'Tabloid,' 'Soloid' and other fine products. In other respects the fitting is the same as No. 250. The ideal expeditionary chest when lightness and completeness are essential.

No. 254. 'Tabloid' brand Medicine Chest *(The Indian)*

In japanned metal. Measurements: 9¼ × 7 × 6½ in. Contains sixteen 1¾ oz. glass-stoppered bottles, and six 4 dr. phials of 'Tabloid' and 'Soloid' Brand products, instruments and tray carrying sundry dressings, etc. Weight, about 12 lb. As carried by the late G. W. Steevens, the war correspondent.

No. 254. 'Tabloid' Brand Medicine Chest *(The Indian)*

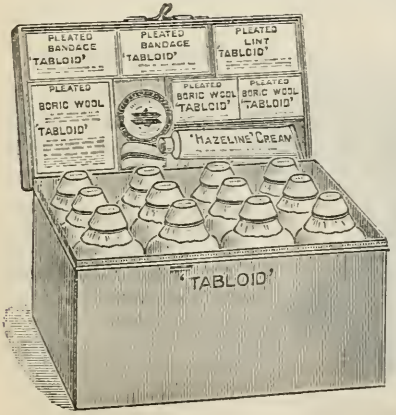
No. 256. 'Tabloid' brand Medicine Chest

(As supplied to the Duke of the Abruzzi's Polar Expedition)

In Aluminium. Measurements: 10½ × 6 × 7½ in. Fitted with eighteen 3½ oz. feather-weight tubes of 'Tabloid' and 'Soloid' Brand products, and a tray containing minor dressings and sundries.

A similar chest is supplied in black japanned metal, and is known as No. 255 Chest. The contents are the same as No. 256 Chest, with the exception that the 'Tabloid' and 'Soloid' Brand products are in glass-stoppered bottles.

No. 258. 'Tabloid' brand Medicine Case *(The Settler's)*



In black japanned metal. Measurements: 8¼ × 4¼ × 5¾ in. Contains twelve 1½ oz. bottles of 'Tabloid' and 'Soloid' Brand products, 'Hazeline' Cream, 'Tabloid' Bandages and Dressings, adhesive plaster and other accessories. A very compact and useful case, adapted for settlers' or planters' use, and for stations, farms or camps in outlying districts.

No. 258. 'Tabloid' Brand Medicine Case *(The Settler's)*

No. 603. 'Tabloid' brand Medicine Case

Measurements: $6\frac{1}{2} \times 3\frac{1}{4} \times 2$ in. Fitted with five oval bottles of 'Tabloid' Brand products: Cascara Sagrada, gr. 2: Phenacetin Compound; Potassium Chlorate and Borax: Quinine Bisulphate, gr. 2. and Soda-Mint, also one bottle of 'Soloid' Boric Acid, gr. 6 *(perfumed)*.

In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in Aluminised Metal.

No. 700. 'Tabloid' brand Emergency Belt

Measurements: $43 \times 4\frac{3}{4}$ in., with buckles and shoulder straps; seven waterproof pouches, fitted as follows: Aluminium case of surgical instruments; aluminium case containing Hypodermic Syringe and 'Tabloid' Hypodermic products; twenty-three feather-weight tubes of 'Tabloid' and 'Soloid' Brand products; combined mortar and medicine cup, emergency dressings, etc.

Antidote Case, 'Tabloid' brand

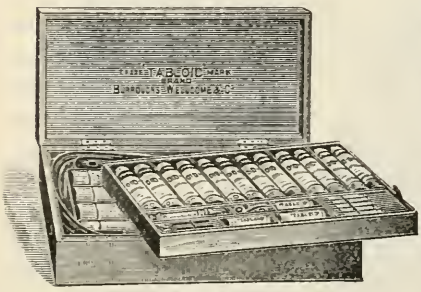
[B. W. & Co.]

Special Design, the property of Burroughs Wellcome & Co.

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

A compact equipment, containing apparatus and drugs ready for immediate use in the treatment of poisoning.

No. 300. 'Tabloid' Brand Antidote Case



No. 300. 'Tabloid' Brand Antidote Case

Measurements: $12 \times 6 \times 3$ in. Fitted with stomach syphon-tube, catheter, a B. W. & Co. Nickel-Plated Hypodermic Syringe, two needles, 'Tabloid' Hypodermic products, 'Vaporole' Amyl Nitrite, and toxicological chart; also eighteen $\frac{1}{2}$ oz. phials and three tubes of 'Tabloid' Brand antidotes, etc., etc.

ANALYSIS CASES, 'SOLOID' BRAND

[℠ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

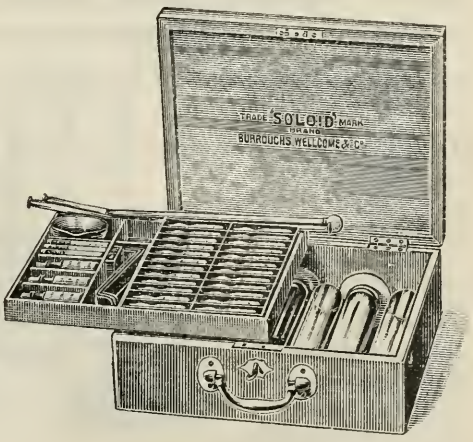
NO. 500. 'SOLOID' BRAND WATER ANALYSIS CASE

This convenient hand-case supplies the apparatus, reagents, etc., necessary for examining samples of drinking-water at the source of supply, and for drawing up the usual reports concerning the suitability of the water for domestic purposes.

Analysis at source

Measurements: $12\frac{1}{2} \times 10\frac{1}{2} \times 4\frac{3}{4}$ in. It contains a nickel evaporating basin, Erlenmeyer flask, tripod, spirit lamp, 100 c.c. and other graduated cylinders, capsules of 'Soloid' Brand Nessler's Solution, 'Soloid' Brand products of Metaphenylene-diamine Sulphate, Potassium Chromate, Potassium Ferrocyanide, Potassium Permanganate, Silver Nitrate, Soap, Sodium Acid Sulphate, Zinc Dust, etc.

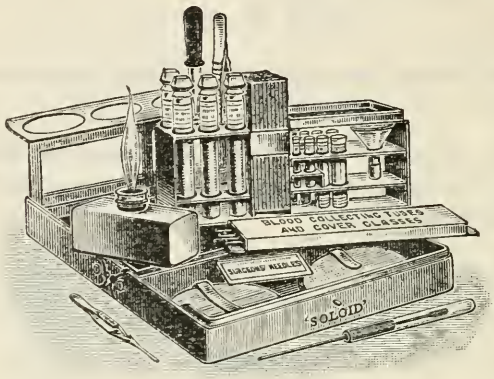
In case of breakage, *the whole or any single piece* of the apparatus may be obtained separately. The supply of 'Soloid' reagents may be renewed.



NO. 500. 'SOLOID' BRAND WATER ANALYSIS CASE

Fuller particulars of these and other examples sent on request

No. 505. 'Soloid' brand Bacteriological Case



No. 505. 'Soloid' Brand Bacteriological Case

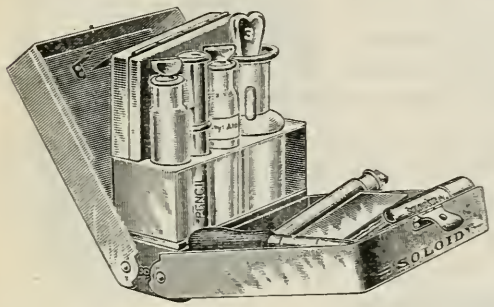
Measurements: $5 \times 3\frac{1}{2} \times 1\frac{5}{8}$ in.

This case enables medical men to carry out examinations which formerly were usually submitted to laboratory workers. Owing to its small size and light weight it can readily be carried in the pocket to the patient's bedside, to obtain a blood specimen or a throat swab. In nickel-plated metal with doeskin cover, easily rendered aseptic, and containing :—

- Three stoppered bottles, containing:—
  - Methyl alcohol, dr. $1\frac{1}{2}$
  - Absolute alcohol, dr. $1\frac{1}{2}$
  - Distilled water, dr. $1\frac{1}{2}$
- Rod-stoppered bottle of Canada balsam
- Graduated pipette
- Cover-glass forceps
- Dissection forceps
- Twelve microscopic slides
- Spirit lamp
- Glass funnel
- Two watch-glasses
- Packet of filter papers
- Metal case of needles (straight No. 9)
- Supply of blood-collecting pipettes
- Fifty cover-slips
- Glass rod for powdering microscopic stains, etc.
- Sterile swab
- One tube each of the following 'Soloid' stains:—
  - Eosin, Methyl Violet, Fuchsine, Romanowsky Stain, Eosin-Methylene Blue, Methylene Blue, Hæmatoxylin (Delafield), Toison Blood Fluid.

No. 506 'Soloid' brand Blood Test Case

Containing 'Soloid' Brand Romanowsky Microscopic Stain (Leishman's Powder), one 20 c.c. drop bottle, one 10 c.c. stoppered phial, 10 c.c. Methyl Alcohol in stoppered phial, 1 c.c. pipette, grease pencil, and case containing six microscopic slides and Hagedorn needle in alcohol. The Hagedorn needle and microscopic slides are in a separate box which may, if separately required, be carried in the vest pocket. In nickel-plated metal, with doeskin cover.



No. 506. 'Soloid' Brand Blood Test Case

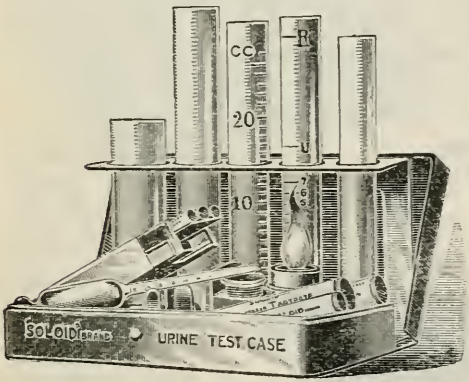
Measurements: 4 × 3½ × 1½ in.

No. 510. 'Soloid' brand Urine Test Case

The clinical importance of urine analysis is fully recognised. This case provides, in a most compact and convenient form, the requirements for making an examination of urine at the bedside. Owing to their purity and accuracy, the 'Soloid' Brand products contained in this case provide reliable test solutions without any weighing whatever being necessitated.

Urine analysis made at the bedside

In nickel-plated metal, which is easily rendered aseptic. It contains a complete set of materials for making an examination of urine, both qualitative and quantitative, for albumin, sugar, etc. The outfit includes a urinometer, Esbach's albuminometer, a graduated measure, pipette, test-tubes and stand, test-papers, spirit lamp, analysis charts, and a good supply of 'Soloid' reagents, including Fehling's Test, Indigo Test, Picric Acid, Potassium Ferrocyanide and Citric Acid. Each portion of the apparatus can also be obtained separately Complete with doeskin cover.



No. 510. 'Soloid' Brand Urine Test Case

Measurements: 5¾ × 2¾ × 1¼ in.

TRADE MARK 'TABLOID' BRAND FIRST-AID

FOR AUTOMOBILISTS, AVIATORS, AERONAUTS, YACHTSMEN, SPORTSMEN, TRAVELLERS, TOURISTS, ETC.

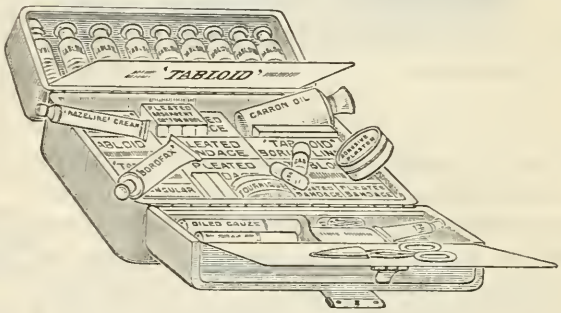
[SEE LIST B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co.

These equipments provide compact, complete outfits of emergency medicines, dressings and first-aid accessories. Portable and convenient, they comprise ideal outfits for motorists, cyclists, aviators, aeronauts, yachtsmen and explorers.

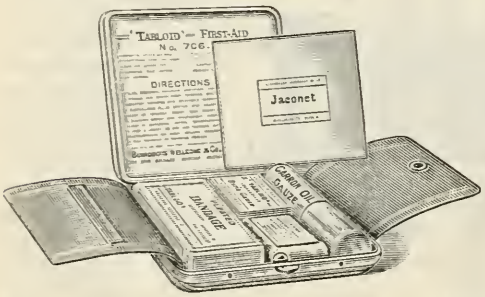
NO. 702. 'TABLOID' BRAND FIRST-AID



No. 702. 'TABLOID' BRAND FIRST-AID

In Rex Red, Royal Blue or Brewster Green Enamelled Leather. Measurements: $7 \times 5\frac{1}{4} \times 2\frac{3}{4}$ in. Contains eight tubes of 'Tabloid' and 'Soloid' Brand products, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' 'Hazeline' Cream, sal volatile, Carron oil (solidified), 'Tabloid' Bandages and Dressings, tourniquet, jaconet, plaster, protective skin, scissors, pins, etc., etc.

NO. 706. 'TABLOID' BRAND POCKET FIRST-AID



No. 706. 'TABLOID' BRAND POCKET FIRST-AID

Measurements: $3\frac{1}{2} \times 3 \times \frac{3}{4}$ in. Contains 'Tabloid' Bandage, boric gauze. Carron oil (solidified). 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," adhesive plaster, court plaster, jaconet, pins, a card of contents, etc. In Aluminium.

As carried by M. Louis Paulhan in his aeroplane flight from London to Manchester, April 27-28, 1910.

No. 707. 'Tabloid' brand First-Aid

No. 707. 'Tabloid' Brand First-Aid

In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in Aluminised Metal. Measurements: $6\frac{1}{2} \times 3\frac{1}{4} \times 2$ in. Contains seven tubes of 'Tabloid' and 'Soloid' Brand products, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' Carron oil (solidified) and jaconet, castor oil, 'Tabloid' Bandages and Dressings, plaster, protective skin, scissors, pins, etc., etc.

No. 708. 'Tabloid' brand First-Aid

(The Nurse's)

No. 708. 'Tabloid' Brand First-Aid

In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in Aluminised Metal. Measurements: $6\frac{1}{2} \times 3\frac{1}{4} \times 2$ in. Contains 'Tabloid' Bandages and Dressings. 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' Carron oil (solidified) jaconet, plaster, protective skin, camel-hair brush, pins, etc., and two tubes of 'Tabloid' and 'Soloid' Brand products. With webbing strap for attaching to belt or cycle.

No. 709. 'Tabloid' brand First-Aid

(The Boy Scout's)

In Rex Red or Royal Blue Enamelled Metal. Measurements: $6\frac{1}{2} \times 3\frac{1}{4} \times 2$ in. Contains 'Tabloid' Bandages and Dressings, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' Carron oil (solidified), jaconet, plaster, protective skin, camel-hair brush, pins, etc. With webbing strap for attaching to belt or cycle.

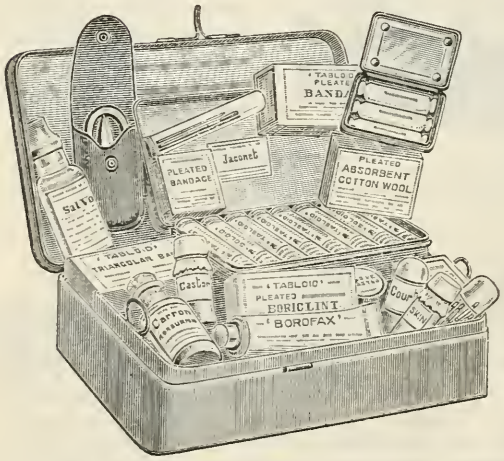
No. 712. 'Tabloid' brand First-Aid

No. 712. 'Tabloid' Brand First-Aid

In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in aluminised Metal. Measurements: $6\frac{1}{2} \times 4\frac{1}{4} \times 2$ in. Contains seven tubes of 'Tabloid' and 'Soloid' Brand products, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' Carron oil (solidified) and jaconet, castor oil, 'Tabloid' Bandages and Dressings, plaster, protective skin, scissors, pins, etc., etc.

No. 715. 'Tabloid' brand First-Aid

In Rex Red, Royal Blue or Brewster Green Enamelled Metal, or in Aluminised or Black Japanned Metal.

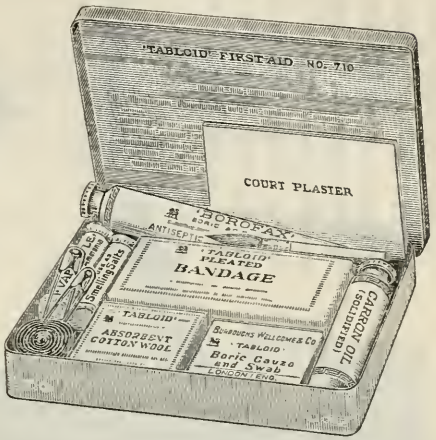


No. 715. 'Tabloid' Brand First-Aid

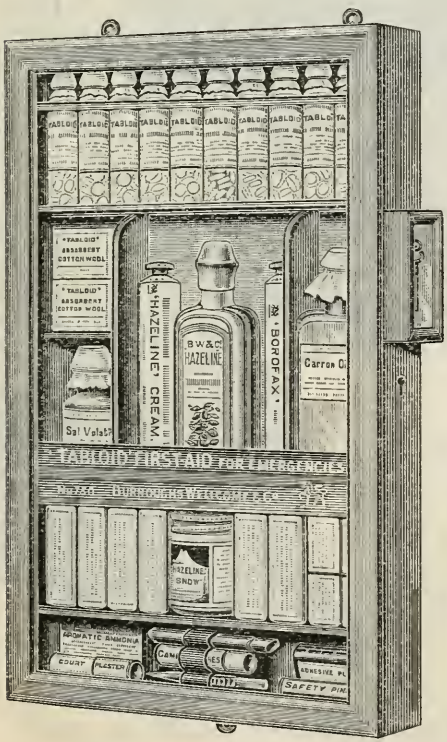
Measurements: $7\frac{1}{2} \times 4\frac{1}{4} \times 2$ in. Contains eight tubes of 'Tabloid' and 'Soloid' Brand products, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax,' sal volatile, Carron oil (solidified), Castor Oil, 'Tabloid' Bandages and Dressings, jaconet, plaster, protective skin, scissors, pins, etc.

No. 710. 'Tabloid' brand First-Aid

Measurements: $4 \times 3\frac{1}{16} \times \frac{5}{8}$ in. Contains 'Tabloid' Bandage, 'Tabloid' Cotton Wool, 'Tabloid' Boric Gauze and Swab, 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," 'Borofax' Boric Acid Ointment, Carron oil (solidified), adhesive plaster, court plaster, etc. In Scarlet Enamelled Metal.



No. 710. 'Tabloid' Brand First-Aid



No. 730. 'Tabloid' Brand First-Aid

No. 730. 'Tabloid' brand First-Aid

(Wall-case for Offices, Theatres, Assembly Halls, etc.)

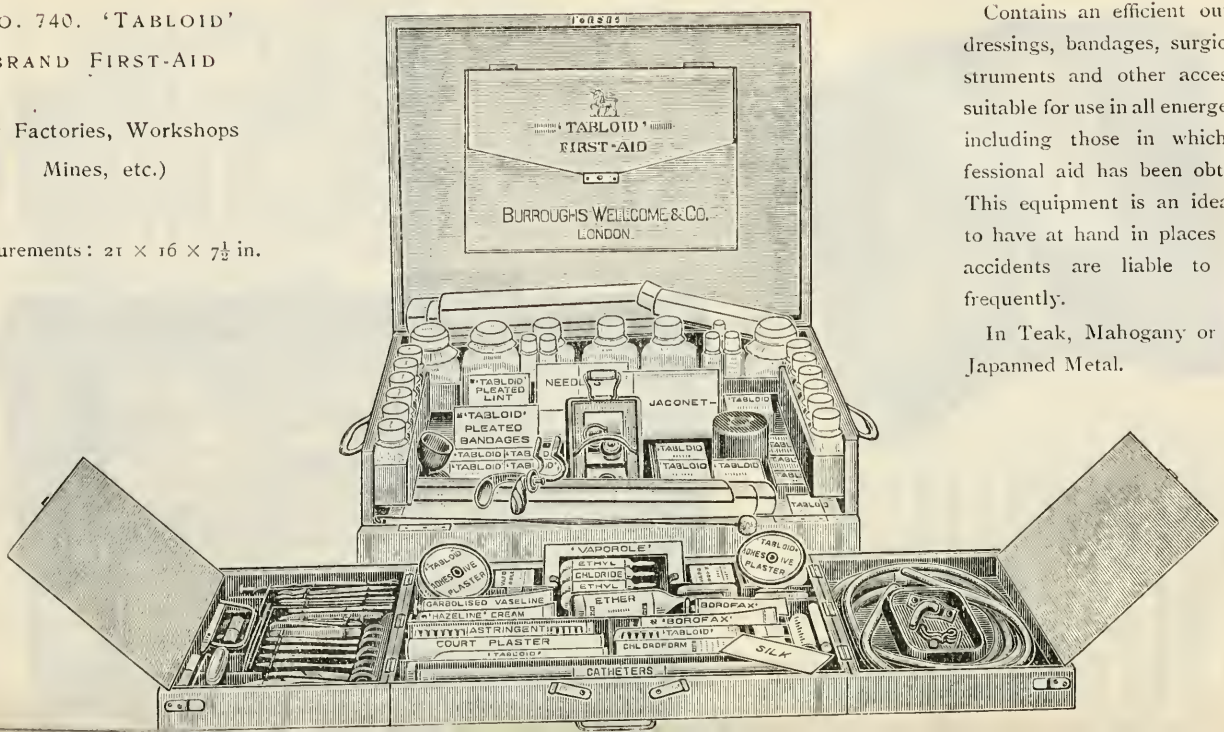
Measurements: $16\frac{1}{2} \times 10\frac{1}{2} \times 2\frac{1}{4}$ in. Contains 'Tabloid' Bandages and Dressings, 'Borofax' Boric Acid Ointment, Carron oil, sal volatile, 'Hazeline,' 'Hazeline' Cream, "'Hazeline' Snow," 'Vaporole' Aromatic Ammonia, for use as "Smelling Salts," adhesive plaster, court plaster, scissors, forceps, camel-hair brushes, safety-pins, etc., and ten phials of 'Tabloid' and 'Soloid' Brand products.

In Mahogany, with glass front.

NO. 740. 'TABLOID' BRAND FIRST-AID

(For Factories, Workshops Mines, etc.)

Measurements: 21 × 16 × 7½ in.



Contains an efficient outfit of dressings, bandages, surgical instruments and other accessories suitable for use in all emergencies, including those in which professional aid has been obtained. This equipment is an ideal one to have at hand in places where accidents are liable to occur frequently.

In Teak, Mahogany or Black Japanned Metal.

Some Characteristic 'Tabloid' and 'Soloid' Cases

For Hypodermic, Dispensing, Analytical and First-Aid use

On these four pages facsimile reproductions in natural colours of some characteristic 'Tabloid' and 'Soloid' Equipments are presented. Further particulars of these Cases will be found on the pages indicated under the illustrations.

No. 20 'Tabloid' brand Aseptic Hypodermic Pocket-Case

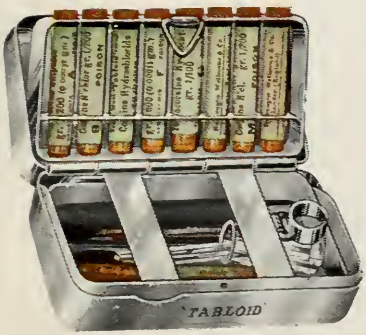
The ideal Pocket Hypodermic Equipment for the Physician

No. 20 'Tabloid' Aseptic Hypodermic Pocket-Case

Measurements: $4\frac{1}{2} \times 1\frac{3}{4} \times \frac{3}{4}$ in.

For full details, see "Modern Medical Equipments," page 130

No. 91 Aseptic Ophthalmic 'Tabloid' brand Pocket-Case



Fitted with 'Tabloid' and 'Soloid' Ophthalmic products, Camel-Hair Brushes, Mortar and Pestle, etc.

Measurements: $2\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ in.

No. 91 'Tabloid' Ophthalmic Pocket-Case (Nickel-plated Metal)

For full details, see "Modern Medical Equipments," page 133

No. 125 'Tabloid' brand Medicine Pocket-Case

A convenient, handsome case for the breast-pocket. Contains 14 tubes of 'Tabloid' Brand products and a removable tray, carrying 12 tubes of 'Tabloid' Hypodermic products, a B. W. & Co. nickel-plated Hypodermic syringe and two regular steel needles.

No. 125 'Tabloid' Medicine Pocket-Case (Green Crocodile Leather)

Measurements: $5\frac{1}{2} \times 4 \times 1\frac{1}{2}$ in.

For full details, see "Modern Medical Equipments," page 135

No. 133 'Tabloid' brand Medicine Pocket-Case

A unique case for the pocket. The outside is perfectly flush. Body of metal, covered with Cowhide or Black Morocco Leather.

No. 133 'Tabloid' Medicine Pocket-Case (Cowhide)

Measurements: $6\frac{3}{4} \times 4\frac{1}{2} \times 1\frac{1}{4}$ in.

For full details, see "Modern Medical Equipments," page 136

No. 232 'Tabloid' brand Medicine Case

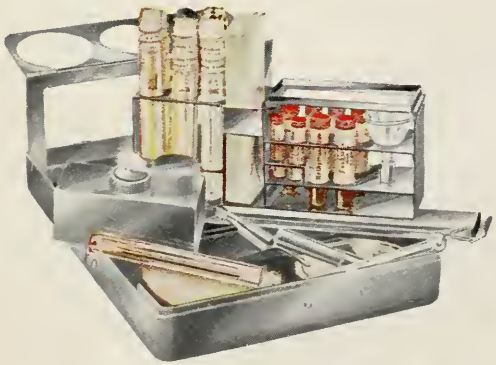
(Physician's Emergency)

Measurements:
$8\frac{1}{2} \times 5\frac{1}{2} \times 3\frac{1}{4}$ in.

No. 232 'Tabloid' Medicine Case (Cowhide)

For full details, see "Modern Medical Equipments," page 136

No. 505 'Soloid' brand Bacteriological Case



Easily rendered aseptic

Complete with Doeskin Cover

No. 505 'Soloid' Bacteriological Case (Nickel-plated Metal)

Measurements: $5 \times 3\frac{1}{2} \times 1\frac{5}{8}$ in.

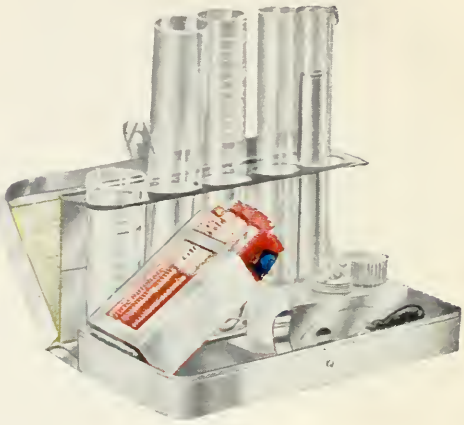
For full details, see "Modern Medical Equipments," page 146

No. 510 'Soloid' brand Urine Test Case

No. 510 'Soloid' Urine
Test Case
(Nickel-plated Metal)

Measurements:
$5\frac{3}{4} \times 2\frac{3}{4} \times 1\frac{1}{4}$ in.

Complete with
Doeskin Cover

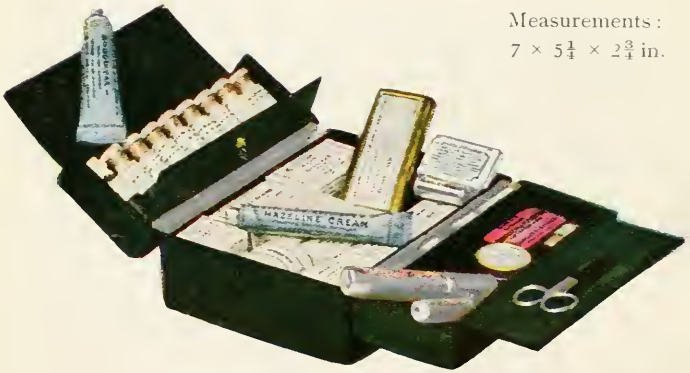


For full details, see "Modern Medical Equipments," page 117

No. 702 'Tabloid' brand First-Aid

In Rex Red, Royal Blue, or Brewster Green
Enamelled Leather

Measurements:
$7 \times 5\frac{1}{4} \times 2\frac{3}{4}$ in.



No. 702 'Tabloid' First-Aid (Brewster Green Enamelled Leather)—Open

For full details, see "Modern Medical Equipments," page 118

TRADE MARK 'SOLOID' BRAND

URINE TEST CASE

NO. 510

The early pages of this book trace the development of the art of urine-testing from the mists of antiquity.

'SOLOID' URINE TEST CASE, No. 510, embodies the modern ideal of urine-testing apparatus.

Every appliance contained in this unique equipment is of the finest quality, and each reagent is scientifically exact and always dependable.

The whole outfit will go easily into the pocket and can be carried and used as conveniently at the patient's bedside as in the consulting room.

When this equipment is used the examination of urine becomes a simple matter.

It facilitates accuracy, thus adding to the importance of urine-testing as a means of diagnosis.

See also pages 147 *and* 156

Dangerous Abbreviation

The words 'Tabloid' and 'Soloid' should always be written in full to ensure the supply of genuine B. W. & Co. products.

When ordering a certain product an abbreviation may bring you what you do not want, and thereby cause serious disappointment.

To write any contraction of 'Tabloid' or 'Soloid,' when these brands are intended, introduces an element of doubt. Why take the risk?

Behind the brands 'Tabloid' and 'Soloid' are years of research, experience and endeavour—the whole foundation of Burroughs Wellcome & Co.'s reputation.

When 'Tabloid'— — — or 'Soloid' — — — is written, in whatever part of the world the prescription is dispensed, the patient will receive the same genuine products of uniform strength and unvarying activity compounded with exceptional accuracy from ingredients of the highest standard of purity.

It is best and safest, therefore, to write the word in full, thus—

℞ 'Tabloid' — — —

FORMULARY
OF
FINE PRODUCTS
ISSUED BY
BURROUGHS WELLCOME & CO.

The Products of Burroughs Wellcome & Co. are guaranteed by them under the Food and Drugs Act, June 30, 1906.—Serial No. 3394

'Alaxa' Aromatic Liqueur of Cascara Sagrada (*Trade Mark*) DOSE

An aromatic liqueur which presents the tonic laxative properties of cascara sagrada in a pleasant and acceptable condition. One-half to two teaspoonfuls.

Alkaloids, 'Wellcome' Brand *(see pages* 237-247*)*

Ammonium Chloride Inhaler, 'Vaporole' Brand *(see page* 235*)*

Analysis Cases, 'Soloid' Brand *(see pages* 145-147*)*

Analysis Charts, packets of 25.

Anæsthetics, Local *(see* 'Tabloid' Hypodermic Anæsthetic Compounds, *page* 170*)*

Antidote Case, 'Tabloid' Brand *(see page* 144*)*

'Aol,' a derivative of *Santalum album (see* 'Tabloid' (*Trade Mark*) Brand products, *page* 199*)*

Arylarsonates *(see* 'Soamin,' *page* 225*)*

Bacteriological Case, 'Soloid' Brand *(see page* 146*)*

Bandages, Pleated Compressed, 'Tabloid' Brand *(see page* 162*)*

'Bivo' Beef and Iron Wine (*Trade Mark*)

Restorative and stimulant. Possesses exceptional properties which distinguish it from ordinary beef-wines.

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Borofax' BRAND BORIC ACID OINTMENT
(*Trade Mark*)

An emollient, possessing antiseptic and sedative properties.

'Brockedon' Products

Burroughs Wellcome & Co. are the successors to, and sole proprietors of, the business of BROCKEDON, who, in 1842, ORIGINATED COMPRESSED MEDICINES in the shape of bi-convex discs—issued under the designation of COMPRESSED PILLS.

'Brockedon' Brand Bicarbonate of Soda, in boxes of three sizes
,, ,, .. ,, Potass .. ..
,, ,, Chlorate ,, ,, ,, ..

Chemicals, 'Wellcome' Brand *(see pages 237-247)*

CHESTS AND CASES (B. W. & Co.)

A comprehensive selection of chests and cases is prepared and issued under the 'TABLOID' and 'SOLOID' Brands, fitted with medicines for every variety of climate, and varying in size and contents, from the fully-equipped chests containing supplies sufficient for medical officers to expeditions, etc., down to the compact pocket-cases suited to the needs of the private practitioner.

Analysis Cases, 'Soloid' Brand (*see page* 145)

Antidote Case, 'Tabloid' Brand (*see page* 144)

Antiseptic Cases, 'Soloid' Brand

Fitted with from four to eighteen containers of 'Soloid' Brand antiseptics.

Bacteriological Case, 'Soloid' Brand (*see page* 146)

Blood Test Case, 'Soloid' Brand (*see page* 147)

First-Aid, 'Tabloid' Brand (*see pages* 148-152)

Hypodermic Pocket-Cases, 'Tabloid' Brand (*see pages* 129-133)

Medicine Chests and Cases, 'Tabloid' Brand (*see pages* 134-144)

Urine Test Case, 'Soloid' Brand (*see page* 147)

Compound Menthol Snuff (B. W. & Co.) *(see page 176)*

Dental Hypodermic Syringe, The B. W. & Co. *(see page 168)*

DRESSINGS, SURGICAL

TRADE MARK 'TABLOID' BRAND

Pleated Compressed Dressings were originated and introduced by Burroughs Wellcome & Co.

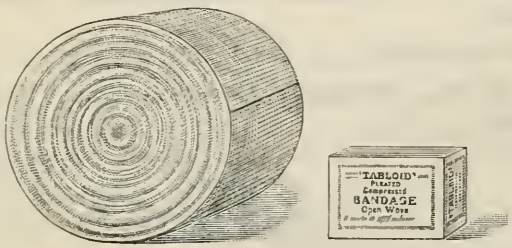
The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

The introduction of 'Tabloid' Pleated Compressed Bandages and Dressings marks an important advance in the preparation of surgical accessories. These bandages and dressings are made of materials of the best quality, and are subjected to great pressure under which each assumes a rectangular shape. After compression, each is automatically wrapped in an impervious covering of parchment paper.

Important advance

The superiority of 'Tabloid' Dressings over the ordinary variety is very marked, not only in convenience and compactness, but also in quality of materials. Their more important advantages may be thus summarised :—

1. Only materials of exceptional quality are used in their preparation, and their general excellence commends them to critical users.



Graphic representation (one-half actual size), showing the relative bulk of an ordinary and a 'Tabloid' Bandage Each 6 yards × 2½ in.

Dressings, 'Tabloid' Brand—*continued*

2. They occupy the smallest possible space and yet can be unfolded as easily as those previously in use.

3. They are kept free from all risk of contamination.

4. The antiseptic dressings are evenly charged with medicament.

5. By reason of their extreme compactness they are by far the best for the hand-bag, cycle- or saddle-case.

The illustration above graphically demonstrates the saving in space which is effected when 'Tabloid' Pleated Compressed Bandages and Dressings are carried. The relative sizes of an ordinary and a Pleated Bandage are striking. The flat sides of Pleated Bandages enable them to be packed in a fraction of the space required by those previously in use.

These dressings are also issued *sterilised* in special impervious coverings. The requirements of modern surgical treatment, so imperfectly fulfilled by many of the ordinary cheap dressings, are ideally met by these sterilised pleated products.

The following are issued in packages of 1 dozen :—

Absorbent Wool between Gauze, Pleated Compressed, 'Tabloid' Brand—

In 2 ounce packets.

Bandages, Pleated Compressed, 'Tabloid' Brand—

Open Wove, 1 in. × 6 yards
,, ,, 2½ in. × 6 yards
Flannel, 2½ in. × 5 yards
Triangular (Esmarch's Pictorial) in packets of 2 bandages

Carbolised Tow, Pleated Compressed, 'Tabloid' Brand—

In 2 ounce packets.

Cotton Wool, Pleated Compressed, 'Tabloid' Brand—

Absorbent,	¼ ounce, in packets of 4 *(not supplied sterilised)*
,,	1 and 2 ounce packets
Boric,	1 and 2 ,, ,,
Double Cyanide, 3%,	1 and 2 ,, ,,
Iodoform,	1 and 2 ,, ,,

Dressings, 'Tabloid' Brand—*continued*

Gauze, 'Tabloid' Brand—

Absorbent, in packets of 3 yards (compressed)
Bismuth, in cartons of 6, 1 yd. × 1 in., *sterilised only*
,, ,, ,, 1 yd. × 2 in., ,, ,,
,, ,, ,, 1 yd. × 3 in., ,, ,,
,, in packets of 3 yds. × 36 in. (compressed)
Boric, in packets of 3 yards (compressed)
Double Cyanide, 3%, ,, ,, 3 ,, ,,
Iodoform, ,, ,, 1 yard ,,
,, ,, ,, 3 yards ,,
,, ,, ,, 6 yds. × 1 in. ,,
Sal Alembroth, 1%, ,, ,, 3 yards ,,

Lint, Pleated Compressed, 'Tabloid' Brand—

Plain, 1 and 2 ounce packets
Boric, 1 and 2 ,, ,,
Carbolised, 1 ,, ,,

Effervescent Medicinal Substances, 'Tabloid' Brand—

In the preparation of 'Tabloid' Effervescent products only ingredients of exceptional purity are employed, and special methods are adopted to retain their effervescent properties. On account of their relatively small surface, the 'Tabloid' products are much less liable to deterioration than the ordinary granular preparations. Mixed with water they promptly render draughts of a refreshingly effervescent nature and accurate posology. (*See* 'Tabloid' Brand Effervescent Products, *page* 207)

TRADE MARK 'ELIXOID' BRAND PRODUCTS

The word 'ELIXOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'ELIXOID' Brand Products are elegant and acceptable fluid preparations of important medicaments to which agreeable flavours have been imparted without in any degree diminishing their physiological activity.

'Elixoid' Brand Products—*continued*

'ELIXOID' BRAND—

„ **Ammonium Valerate**, in bottles of 8 Imperial fl. oz.—
Each fluid drachm contains Ammonium Valerate, gr. 2.

„ **Formates Compound**, in bottles of 4 Imperial fl. oz.—
Each fluid ounce contains: Calcium Formate, gr. 12; Sodium Formate, gr. 6; and Magnesium Formate, gr. 6.

„ **Glycerophosphates**, in bottles of 4 Imperial fl. oz.—
Each fluid ounce contains: Calcium Glycerophosphate, gr. 4; Sodium Glycerophosphate, gr. 2; Potassium Glycerophosphate, gr. 2; and Magnesium Glycerophosphate, gr. 1.

„ **Mucin**, in bottles of 4 Imperial fl. oz.—
Each fluid drachm contains Mucin, in suspension, gr. $2\frac{1}{2}$.

„ **Pine Tar Compound**, in bottles of 4 Imperial fl. oz.—
A pleasantly-flavoured preparation containing Tar, 'Pinol,' Terpin Hydrate, Wild Black Cherry, Tolu and Ipecac in a convenient and acceptable form.

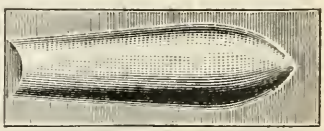
Also various other preparations issued under the 'Elixoid' Brand

TRADE MARK 'ENULE' BRAND RECTAL SUPPOSITORIES

The word 'ENULE' is a brand which designates fine products issued by Burroughs Wellcome & Co.

The 'ENULE' Rectal Suppository possesses conspicuous advantages over those of the ordinary conical shape, which are

'Enule' Brand Rectal Suppository after removal of sheath.



'Enule' Brand Rectal Suppository showing sheath of pure tinfoil.

This shape originated by Burroughs Wellcome & Co.

'Enule' Brand Rectal Suppositories—*continued*

difficult to introduce. and may even be expelled. 'Enule' Suppositories are encased in sheaths of pure tinfoil, easily stripped off at the moment of using. They contain accurate doses of pure drugs, the active principles of which are evenly diffused throughout the mass, and they retain the full activity of the medicament for long periods of time.

PROF. CASPARI, in his *Treatise on Pharmacy*, says:—

"The usual shape of rectal suppositories is that of a cone with a rounded apex, but the difficulty of readily introducing them into the rectum has led to the designing of a new shape by H. S. Wellcome, of London, the great advantages of which become apparent when it is remembered that the bulbous end is inserted into the rectum, and that, as soon as the greatest diameter has been passed, expulsion of the suppository is impossible, by reason of the very contractile force of the sphincter muscle, which renders retention of the ordinary conical shape often so difficult." Expert opinion

Each kind is issued in boxes of one dozen (of one strength)

'ENULE' BRAND—		DIRECTION
No.		
,, 26.	Belladonna Extract gr. 1/4 ...	As required
,, 27.	,, ,, gr. 1/2 ...	As required
,, 9.	Bismuth Subgallate gr. 10 ...	As required
,, 14.	Cocaine Hydrochloride gr. 1/2 ...	As required
,, 25.	Gall and Opium	As required
	℞ Acidi Tannici ... ... gr. 3 Ext. Opii ... ... gr. 1/4	
,, 1.	Glycerin (Anhyd.), 95 % Children's size	As required
,, 2.	Glycerin (Anhyd.), 95 % Adults' size	As required
,, 5.	'Hazeline' Compound	As required
	Containing 'Hazeline,' Extract of Hamamelis and Zinc Oxide. (*See also* 'Hazeline' Suppositories)	
,, 28.	Lead and Opium	As required
	℞ Plumbi Acetatis ... ... gr. 3 Pulv. Opii ... ... gr. 1	
,, 3.	Meat, Predigested Children's size	As required
,, 4.	,, ,, Adults' size	
	Containing gr. 8½ and gr. 15, respectively, of concentrated peptone from choice fresh beef.	

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Enule' Brand Rectal Suppositories—*continued*

'ENULE' BRAND—*continued*		DIRECTION
No.		
,, 6. Milk, Predigested	Children's size	As required
,, 7. ,, ,,	Adults' size	
Containing gr. 10 and gr. 18, respectively, of concentrated peptone from new milk.		
,, 29. Morphine and Belladonna		As required
℞ Morphinæ Hydrochloridi ... gr. 1/4 Ext. Belladonnæ ... ... gr. 1/2		
,, 16. Morphine Hydrochloride	gr. 1/4 ...	As required
,, 17. ,, ,,	gr. 1/2 ...	As required
,, 18. ,, ,,	gr. 1 ...	As required
,, 20. Opium Extract ...	gr. 1 ...	As required
,, 13. Quassin, Amorphous	gr. 1/2 ...	One on each of at least twelve successive nights
The bitter principle of quassia wood, used in the treatment of thread-worms, especially in children.		
,, 8. Quinine Bisulphate ...	gr. 5 ...	As required
,, 21. Santonin	gr. 3 ...	As required
,, 23. Soap Compound		As required
℞ Saponis Animalis ... ... gr. 7 Sodii Sulphatis Exsiccati ... gr. 7		

Also other products issued under the 'Enule' Brand

'Enule' Brand Rectal Suppositories must be stored in a cool and dry place.

'Epinine' (3 : 4-dihydroxyphenylethylmethylamine), 1 in 100 (*Trade Mark*)

In amber-coloured stoppered bottles containing 10 c.c. and 25 c.c.

A supply of 'Soloid' Sodium Chloride, 0·23 gm., for preparing normal saline solution, is included with each bottle.

'Vaporole' 'Epinine,' *see page* 234

TRADE MARK 'ERNUTIN' BRAND PRODUCTS

The characteristic effects on the uterus and blood-pressure, for the induction of which ergot is exhibited, are due to certain active principles, which have been isolated at the Wellcome Physiological Research Laboratories. Many ergot preparations contain little or none of these principles, and give negative or even harmful results.

'ERNUTIN' products present the active therapeutic principles of ergot, in a state of purity which hitherto has never been

'Ernutin' Brand Products—*continued*

approached. They are free from undesirable concomitants, and produce exact therapeutic effects. Physiologically standardised by observation of effects on the vaso-motor function of the sympathetic nervous system, 'Ernutin' products represent a uniform degree of activity.

'Ernutin' (Oral) In 1 oz., 4 oz. and 16 oz. amber-coloured stoppered bottles. DOSE 30 to 60 minims

'Ernutin' (for Hypodermic use) (*see* 'Vaporole' 'Ernutin,' *page* 234)

For full particulars of the pharmacology and therapeutics of 'Ernutin' products, see special booklet.

Ether, in hermetically-sealed glass capsules, each containing min. 60.

'Eucalyptia,' pure oil of *Eucalyptus globulus*— *(Trade Mark)* Respiratory disinfectant and deodorant. Bottles containing 2 Imperial fl. oz.

First-Aid, 'Tabloid' Brand *(see pages* 148-152*)*

Gauze, 'Tabloid' Brand *(see page* 163*)*

Glycerin 'Enule' Suppositories *(see page* 165*)*

TRADE MARK 'HAZELINE' BRAND PREPARATIONS

		DOSE
'Hazeline' Brand *Hamamelis virginiana*, in 4 and 16 Imperial fl. oz. bottles.	An anodyne and styptic fluid obtained by distillation from the fresh young twigs.	dr. 1 to dr. 3
'Hazeline' Cream, in collapsible tubes and glass pots.	Combines anodyne astringent and emollient properties.	—
'Hazeline' Soap, in boxes of 3 tablets.	Contains pure 'Hazeline.'	—
"'Hazeline' Snow," *(Trade Mark)* in glass pots.	A non-greasy preparation, owing its astringent, soothing and healing properties to the presence of a high percentage of 'Hazeline.'	—

'Hazeline' Brand Preparations—*continued*

			DOSE
'Hazeline' Suppositories, in boxes of 12.		Contain pure 'Hazeline'	One as required

(*See also* 'Enule' 'Hazeline' Compound, *page* 165)

Also other preparations issued under the 'Hazeline' Brand

HYPODERMIC APPARATUS

Syringes

All-Glass Aseptic Hypodermic Syringe, The B. W. & Co.

Barrel, piston and nozzle consist entirely of glass. The solid piston obviates any necessity for packing. May be instantly taken apart and sterilised. Five sizes. min. 15, min. 20. min. 40, min. 60, and 1 c.c., with two steel needles. A detachable finger-grip (nickel-plated) entirely distinct from the working parts of the syringe, can be supplied. A 'Tabloid' Detachable Sheath-Grip is also issued for use with this syringe.

(If desired, platino-iridium needles can be fitted)

All-Glass Aseptic Hypodermic Syringe (H Pattern), The B. W. & Co.

Constructed specially for intramuscular injection. Min. 20 or min. 40, each with two intramuscular steel needles.

Dental Hypodermic Syringe, The B. W. & Co.

Made of solid metal throughout ; therefore durable and easily rendered aseptic. Min. 30, with adjustable finger-grip. three needle-attachments, and three steel needles : complete in nickel-plated metal case, with doeskin cover.

Hypodermic Syringe, The B. W. & Co.

Solid Silver. Nozzle detachable, so that the solution of a 'Tabloid' Hypodermic product may be effected in the barrel. With two platino-iridium needles, in case. Capacity, min. 20.

Hypodermic Syringe, The B. W. & Co.

Nickel-plated. With two regular steel needles and finger-grip. Capacity, min. 15 or min. 20.

(If desired, platino-iridium needles can be fitted)

Hypodermic Apparatus—*continued*

SYRINGES—*continued*

Mercury Succinimide Outfit, The B. W. & Co.

For treatment with Mercuric Succinimide.

CONTENTS—

The B. W. & Co. All-Glass Aseptic Syringe (H pattern), min. 20.

Two Platino-Iridium Needles.

Two tubes 'Tabloid' Hypodermic No. 98, Mercuric Succinimide, gr. 1/5. Complete in metal case.

Serum Syringe, The B. W. & Co. All-Glass Aseptic

The working parts are composed entirely of glass, the needle being attached to the nozzle by a flexible rubber joint which guards against fracture. In five sizes, 2 c.c., 3 c.c., 5 c.c., 10 c.c. or 25 c.c., with two steel needles, in metal case.

(If desired, platino-iridium needles can be fitted)

Serum Syringe, The B. W. & Co. Nickel-plated

In nickel-plated metal case, complete, with two special platino-iridium needles, capacity 5 c.c. or 10 c.c.

Needles for B. W. & Co. Syringes

(Full list, etc., sent on request)

HYPODERMIC PRODUCTS

TRADE MARK **'TABLOID'** BRAND

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

"They are quite free from objectionable and irritative salts" —*British Medical Journal.*

"They are very soluble and not at all irritating."—*Lancet.*

'Tabloid' Hypodermic products accurately contain the stated weight of pure medicament. They are rapidly soluble, of uniform activity, and they keep perfectly.

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND— (Hypodermic)—		
No.		
,, 36 Aconitine Nitrate	... gr. 1/640	One

Hypodermic Products, 'Tabloid' Brand—*continued*

No.	PREPARATION	STRENGTH	DOSE
	'TABLOID' BRAND (Hypodermic)—		
,, 71.	*Anæsthetic Compound, A ℞ Cocainæ Hydrochloridi... Morphinæ Hydrochloridi Sodii Chloridi	 gr. 1/10 gr. 1/50 gr. 9/10	As required
,, 70.	*Anæsthetic Compound, B ℞ Cocainæ Hydrochloridi... Morphinæ Hydrochloridi Sodii Chloridi	 gr. 1/5 gr. 1/50 gr. 9/10	As required
,, 80.	*Anæsthetic Compound, C ℞ Eucainæ Lactatis ... Sodii Chloridi	 gr. 7/16 gr. 3-15/16	As required
,, 87.	Apomorphine Hydrochloride	gr. 1/20	gr. 1/20 to gr. 1/10
,, 51.	,, ,,	gr. 1/15	
,, 19.	,, ,,	gr. 1/10	
,, 93.	* Apomorphine Hydrochloride Strychnine Hydrochloride	gr. 1/10 gr. 1/60	One
,, 15.	Atropine Sulphate ...	gr. 1/150	gr. 1/200 to gr. 1/100 (increased)
,, 14.	,, ,, ...	gr. 1/100	
,, 13.	,, ,, ...	gr. 1/60	
,, 121.	Atropine Sulphate ... Strychnine Sulphate ...	gr. 1/200 gr. 1/100	One
,, 122.	Atropine Sulphate .. Strychnine Sulphate ...	gr. 1/150 gr. 1/80	One
,, 43.	*Caffeine Sodio-salicylate	gr. 1/2	gr. 1/2 to gr. 4
,, 23.	Cocaine Hydrochloride ...	gr. 1/10	gr. 1/10 to gr. 1/2
,, 22.	,, ,, ...	gr. 1/6	
,, 54.	* ,, ,, ..	gr. 1/4	
,, 40.	* ,, ,, ...	gr. 1/2	
	Cocaine Compounds (*see* Anæsthetic Compounds A and B, *above*)		
,, 44.	Codeine Phosphate ...	gr. 1/4	gr. 1/4 to gr. 2
,, 77.	*Cotarnine Hydrochloride	gr. 1/4	gr. 1/4 to gr. 1/2
,, 46.	Curara	gr. 1/12	gr. 1/12 to gr. 1/2
,, 30.	Digitalin (Amorphous) ...	gr. 1/100	gr. 1/500 to gr. 1/30

* *In tubes of* 12 *(others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—		
No.		
,, 86. Digitalin (Amorphous) / Strychnine Sulphate āā	gr. 1/100	One to two
,, 125. Digitalin (Amorphous) / Strychnine Sulphate / Trinitin ... āā	gr. 1/100	One to two
,, 38. Ergotinine Citrate ...	gr. 1/200	gr. 1/200 to
,, 37. ,, ,, ...	gr. 1/100	gr. 1/50
,, 92. * Ergotinine Citrate ... / Morphine Sulphate ...	gr. 1/100 / gr. 1/6	One
,, 81. * Ergotinine Citrate ... / Strychnine Sulphate ...	gr. 1/100 / gr. 1/20	One
,, 116. *Ergotoxine	gr. 1/100	One to two
,, 119. * Ergotoxine ... ... / Morphine Sulphate ...	gr. 1/100 / gr. 1/6	One
,, 120. * Ergotoxine ... ... / Strychnine Sulphate ...	gr. 1/100 / gr. 1/20	One
Eserine (*see* Physostigmine)		
,, 79. *Eucaine Hydrochloride	gr. 1/3	gr. 1/3 to gr. 2
,, 78. * ,, ,, ...	gr. 1	
,, 112. *Eucaine Lactate... ...	gr. 1/3	gr. 1/3 to gr. 2
,, 113. * ,, ,, ...	gr. 1	
,, 102. Heroin Hydrochloride ...	gr. 1/25	gr. 1/25 to
,, 101. ,, ,, ...	gr. 1/12	gr. 1/12
,, 47. Homatropine Hydrochloride	gr. 1/250	gr. 1/250 to gr. 1/20
Hydrarg. Chlor. Corros.		(*see* Mercuric Chloride)
Hydrargyri Succinimidi (*see* Mercuric Succinimide)		
,, 49. Hyoscine Hydrobromide	gr. 1/200	gr. 1/200 to
,, 100. ,, ,,	gr. 1/100	gr. 1/100 (in-
,, 48. * ,, ,,	gr. 1/75	creased)
,, 95. *Hyoscine Compound, A ...		One
R Hyoscinæ Hydrobromidi ...	gr. 1/100	
Morphinæ Sulphatis ...	gr. 1/6	
Atropinæ Sulphatis ...	gr. 1/180	
,, 96. *Hyoscine Compound, B ...		One
R Hyoscinæ Hydrobromidi ...	gr. 1/100	
Morphinæ Sulphatis... ...	gr. 1/4	
Atropinæ Sulphatis	gr. 1/150	

* *In tubes of* 12 *(others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

No.	PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—			
,, 31.	*Hyoscyamine Sulphate	gr. 1/80	gr. 1/200 to gr. 1/100 (increased)
,, 41.	* ,, ,,	gr. 1/20	
,, 29.	Mercuric Chloride ...	gr. 1/60	gr. 1/60 to gr. 1/30
,, 28.	,, ,, ...	gr. 1/30	
,, 124.	Mercuric Succinimide ...	gr. 1/10	gr. 1/10 to gr. 1/5
,, 98.	,, ,, ...	gr. 1/5	
,, 66.	Morphine Hydrochloride	gr. 1/6	gr. 1/8 to gr. 1/4 (increased)
,, 55.	,, ,,	gr. 1/4	
,, 90.	,, ,,	gr. 1/3	
,, 91.	* ,, ,,	gr. 1/2	
,, 74.	* Morphine Hydrochlor. / Atropine Sulphate ...	gr. 1/6 / gr. 1/70	One
,, 27.	Morphine Meconate ...	gr. 1/8	gr. 1/8 to gr. 1/4 (increased)
,, 26.	,, ,, ...	gr. 1/6	
,, 25.	,, ,, ...	gr. 1/4	
,, 24.	,, ,, ...	gr. 1/3	
,, 6.	Morphine Sulphate ...	gr. 1/12	gr. 1/8 to gr. 1/4 (increased)
,, 5.	,, ,, ..	gr. 1/8	
,, 4.	,, ,, ...	gr. 1/6	
,, 3.	,, ,, ...	gr. 1/4	
,, 2.	,, ,, ...	gr. 1/3	
,, 1.	* ,, ,, ...	gr. 1/2	
,, 76.	* ,, ,, ...	gr. 1	
,, 12.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/12 / gr. 1/250	One of required strength
,, 11.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/8 / gr. 1/200	
,, 10.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/6 / gr. 1/180	One of required strength
,, 9.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/4 / gr. 1/150	
,, 8.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/3 / gr. 1/120	
,, 85.	Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/3 / gr. 1/60	
,, 7.	* Morphine Sulphate ... / Atropine Sulphate ...	gr. 1/2 / gr. 1/100	

**In tubes of 12 (others contain 20)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products. 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—		
No.		
,, 89. Morphine Sulphate ... gr. 1/4 / Strychnine Sulphate ... gr. 1/60		One
,, 88. Morphine Tartrate ...	gr. 1/4	gr. 1/8 to gr. 1/4 (increased)
Nitroglycerin (*see* Trinitrin)		
,, 39. Physostigmine Salicylate	gr. 1/100	gr. 1/100 to gr. 1/25
,, 84. Picrotoxin	gr. 1/60	gr. 1/100 to gr. 1/25
,, 34. Pilocarpine Nitrate ...	gr. 1/10	gr. 1/20 to gr. 1/2
,, 64. ,, ,, ...	gr. 1/6	
,, 33. * ,, ,, ...	gr. 1/3	
,, 32. * ,, ,, ...	gr. 1/2	
,, 82. *Potassium Permanganate	gr. 2	gr. 1 to gr. 5
,, 83. *Quinine Bihydrochloride	gr. 1	gr. 1 to gr. 5
,, 73. * ,, ,, ...	gr. 3	
,, 97. * ,, ,, ...	gr. 5	
,, 103. *Quinine Bisulphate ...	gr. 5	gr. 1 to gr. 5
,, 42. *Quinine Hydrobromide ...	gr. 1/2	gr. 1/2 to gr. 2
,, 56. *Sparteine Sulphate ...	gr. 1/2	gr. 1/2 to gr. 1
,, 52. Strophanthin	gr. 1/500	gr. 1/500 to gr. 1/100
,, 109. Strychnine Hydrochloride	gr. 1/200	gr. 1/150 to gr. 1/10
,, 110. ,, ,, ...	gr. 1/100	
,, 111. ,, ,, ...	gr. 1/30	
,, 62. Strychnine Nitrate ...	gr. 1/15	gr. 1/150 to gr 1/10
,, 61. ,, ,, ...	gr. 1/10	
,, 18. Strychnine Sulphate ...	gr. 1/150	gr. 1/150 to gr. 1/10
,, 17. ,, ,, ...	gr. 1/100	
,, 16. ,, ,, ...	gr. 1/60	
,, 104. ,, ,, ...	gr. 1/50	
,, 99. ,, ,, ...	gr. 1/40	
,, 75. ,, ,, ...	gr. 1/30	
,, 123. ,, ,, ...	gr. 1/20	
,, 126. Strychnine Sulphate ... gr. 1/50 / Trinitrin ... ... gr. 1/100		One to two

* *In tubes of* 12 *(others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—		
No. 65. Trinitin (Nitroglycerin)	gr. 1/250	gr. 1/250 to
,, 115. ,, ,, ...	gr. 1/100	gr. 1/50
,, 361. *Tyramine (*Trade Mark*) (Para-hydroxyphenyl-ethylamine)	0·02 gm. [gr. 1/3]	One

* *In tubes of* 12 *(others contain* 20*)*

Also various other Hypodermic products issued under the 'Tabloid' Brand

Hypodermic Veterinary Products, 'Tabloid' Brand

(Full particulars sent on request)

Inhaler

Ammonium Chloride Inhaler, 'Vaporole' Brand

A remarkably compact apparatus which will deliver perfectly neutral vapour of pure Ammonium Chloride.

'Vaporole' Acid } For use in above Inhaler.
'Vaporole' Alkali } In boxes of 12.

TRADE MARK 'KEPLER' MALT EXTRACT AND COMBINATIONS

SPECIAL CAUTION.—Many attempts are made to imitate 'Kepler' Malt Products, hence, as malt preparations vary greatly in dietetic value, it is necessary to take precautions against substitution. Verbal instructions are not safe. To prevent fraud it is best to write prescriptions for original bottles.

DOSE—Of all 'Kepler' preparations, one teaspoonful to two dessertspoonfuls.

PREPARATION AND STRENGTH

'KEPLER' MALT EXTRACT—

A most reliable and highly-concentrated extract, prepared from the finest winter-malted barley. Its dietetic value depends not only on its high diastatic powers, but also on the albuminoids, phosphates, etc., which it contains.

'Kepler' Malt Extract and Combinations—*continued*

'KEPLER' MALT EXTRACT—*continued*

Ditto with BEEF AND IRON
Each fluid drachm contains: Extract of Beef, gr. 1; and Iron and Ammonium Citrate, gr. ½

Ditto with CASCARA SAGRADA
Each fluid ounce contains: Extract of Cascara Sagrada, gr. 6

Ditto with HÆMOGLOBIN
Each fluid ounce contains Hæmoglobin, gr. 8-3/4

Ditto with IRON
Each fluid ounce contains Soluble Iron Pyrophosphate, gr. 4

Ditto with IRON AND QUININE CITRATE
Each fluid ounce contains Iron and Quinine Citrate, gr. 7-1/2

Ditto with IRON IODIDE
Each fluid ounce contains Iron Iodide, gr. 2

Ditto with IRON, QUININE AND STRYCHNINE
Each fluid ounce contains: Iron Phosphate, gr. 1/2; Quinine Phosphate, gr. 3/8; and Strychnine Phosphate, gr. 1/64

Ditto with PEPSIN
Each fluid ounce contains pure Pepsin, gr. 4

Ditto with PHOSPHORUS
Each fluid ounce contains pure Phosphorus, gr. 1/64

'KEPLER' SOLUTION (OF COD LIVER OIL IN MALT EXTRACT)—

Cod Liver Oil is the premier fatty food. It is unequalled for its power of supplying fat to the body, and for the readiness with which it is absorbed. Moreover, it enables the tissues to live and develop, to repair waste, and to effectively resist disease.

The great usefulness of cod liver oil has been largely discounted by the unpleasant nausea, eructation and alimentary disturbance, which often attend the administration of even the purest varieties.

'Kepler' Solution of Cod Liver Oil in Malt Extract is unique in palatability and in the ease and completeness with which it is assimilated. It presents the purest cod liver oil incorporated in the best malt extract. The oil is thoroughly diffused in the 'Kepler' Malt Extract, a molecular incorporation which renders its digestion easy and its assimilation certain. So palatable is 'Kepler' Solution that

'Kepler' Malt Extract and Combinations—*continued*

'KEPLER' SOLUTION (OF COD LIVER OIL IN MALT EXTRACT)—*continued*

children and fastidious patients take it readily, whilst it is absorbed without difficulty by the most debilitated subjects. The high food value of this product is shown by rapid increase in the strength and weight of patients undergoing treatment with it.

Initial doses should be small and increases, gradual.

Ditto with IRON IODIDE

Each fluid ounce contains Iron Iodide, gr. 2

Ditto with PHOSPHORUS

Each fluid ounce contains pure Phosphorus gr. 1/64

Also various other products issued under the 'Kepler' Brand

Lint, Pleated Compressed, 'Tabloid' Brand *(see page 163)*

Malt Extract *(see 'KEPLER,' page 174)*

Medicine Chests and Cases, 'Tabloid' Brand *(see pages 134-144)*

Menthol Snuff, Compound (B. W. & Co.)

An extremely effective and convenient combination of menthol, ammonium chloride, 'Epinine,' etc., issued in enamelled tins, after the manner of old-fashioned black-and-gold snuff boxes.

Mercury Succinimide Outfit, The B. W. & Co.

(see Hypodermic Apparatus, *page 169)*

Methyl Alcohol (Pure)

For use in microscopic staining. In hermetically-sealed glass phials, each containing 15 c.c. (approx. ½ fl. oz.)

Microscopic Stains, 'Soloid' Brand *(see page 195)*

Mucin *(in scales)*—

A compound substance consisting of protein and a carbohydrate given internally in those conditions in which bismuth is usually prescribed. Bottles containing 1 oz.

Nasal Medicaments, 'Soloid' Brand *(see page 192)*

Needles, for Hypodermic and Serum Syringes. *(Full list on application)*

Needles, Urethral, silver-plated, 8-inch, with bulb the size of the point of a No. 12 French bougie.

Nessler's Solution, glass capsules *(see* 'Soloid' Brand Products, *page* 188*)*

'Nizin' *(Trade Mark)*—

A zinc salt of sulphanilic acid. An antiseptic which is readily soluble in water, and which, in the strengths recommended for use, is non-irritating and non-toxic. Bottles containing 1 oz., 4 oz., and 16 oz.

'Opa' LIQUID DENTIFRICE

(Trade Mark) Aromatic, Antiseptic, Refreshing. Bottles containing 2 Imperial fl. oz. and 4 Imperial fl. oz. (with sprinklers).

Ophthalmic and Hypodermic Pocket-Cases, 'Tabloid' Brand *(see page* 133*)*

Ophthalmic Pocket-Cases, 'Tabloid' Brand *(see pages* 133 *and* 134*)*

OPHTHALMIC PRODUCTS

TRADE MARK **'TABLOID'** BRAND

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'TABLOID' Ophthalmic products are minute in size, as thin as notepaper, and contain exact doses of pure drugs, prepared with a perfectly innocuous and rapidly soluble basis.

PREPARATION			STRENGTH
'TABLOID' BRAND (Ophthalmic)—			
,, T	Alum		gr. 1/250
,, EE	Argyrol		gr. 1/24
,, B	Atropine Hydrobromide Cocaine Hydrochloride ...		āā gr. 1/200
,, X	Atropine Sulphate		gr. 1/600
,, A	,, ,, ...		gr. 1/200
,, AA	Cocaine Hydrochloride		gr. 1/50
,, C *	,, ,, ...		gr. 1/20

* *In tubes of* 12 *(others contain* 25*)*

Ophthalmic Products, 'Tabloid' Brand—*continued*

PREPARATION			STRENGTH
'TABLOID' BRAND (Ophthalmic)—			
,,	BB	Dionin	0·0005 gm. [gr. 1/130]
,,	FF	* ,, ...	0·005 gm. [gr. 1/13]
,,	Y	*Euphthalmine Hydrochloride	... gr. 1/40
,,	Z	*Fluoresceïn	... gr. 1/250
,,	H	Homatropine Hydrochloride	... gr. 1/400
,,	E	* ,, ,,	... gr. 1/40
,,	O*	Homatropine Hydrochloride Cocaine Hyrochloride ...	... gr. 1/240 ... gr. 1/24
,,	W*	Homatropine Hydrochloride Cocaine Hydrochloride ...	āā gr. 1/50
,,	U	Hyoscine Hydrobromide ...	... gr. 1/600
,,	GG	Physostigmine Salicylate ...	... gr. 1/2000
,,	F	,, ,, ...	... gr. 1/600
,,	G*	Physostigmine Salicylate ... Tropacocaine Hydrochloride	... gr. 1/500 ... gr. 1/100
,,	K	Pilocarpine Nitrate ...	... gr. 1/400
,,	M	Pilocarpine Nitrate... ... Cocaine Hydrochloride ...	... gr. 1/500 ... gr. 1/200
		Scopolamine (*see* Hyoscine)	
,,	L	*Tropacocaine Hydrochloride	... gr. 1/30
,,	R	Zinc Sulphate	... gr. 1/250
,,	DD*	Zinc Sulphate ... ... Cocaine Hydrochloride ...	... gr. 1/250 ... gr. 1/20

* *In tubes of* 12 *(others contain* 25*)*

Also various other Ophthalmic products issued under the 'Tabloid' Brand

OPHTHALMIC PRODUCTS

TRADE MARK **'SOLOID' BRAND**

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'SOLOID' BRAND (Ophthalmic)—

,, J Corrosive Sublimate *(Hydrarg. Chlor. Corrosiv.)* gr. 1/1000, tubes of 25

For other 'Soloid' Brand products suitable for Ophthalmic use, see pages 188-194

Ophthalmic Veterinary Products, 'Soloid' Brand

(Full particulars sent on request)

'Paroleine'—*(Trade Mark)* A perfectly stable, odourless, colourless and tasteless oil. It is a good solvent of many of the remedies employed in treating diseases of the nose and throat. Bottles containing 4 fl. oz. and 1 lb. (18 fl. oz.).

PASTILLES, TRADE MARK 'TABLOID' BRAND

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co.

'Tabloid' Pastilles ensure the gradual and prolonged application to the throat and mouth, of medicaments, which are presented in a most pleasant condition; they are also employed in certain cases to obtain the general effect of the drug. By their use, astringents, antiseptics, anæsthetics, expectorants and laxatives can be conveniently exhibited. The basis of the pastille is demulcent, increasing the efficacy of the active ingredients.

'TABLOID' BRAND

No.

,, 1. Ammonium Chloride and Licorice
Each contains Ammonium Chloride, gr. 1

,, 3. Cocaine Hydrochloride, gr. 1/10

,, 4. Codeine, gr. 1/8

,, 2. **Codeine and Benzoic Acid Compound**

℞ Acidi Benzoici ... ... gr. 1/2
Codeinæ ... ... gr. 1/10
Mentholis ... ... gr. 1/10
Pulv. Ipecacuanhæ ... ... gr. 1/10
Cocainæ Hydrochloridi ... gr. 1/40
Gummi Rubri ... ... gr. 1/2
Ol. Menthæ Piperitæ ... *q.s.*

,, 22. **Codeine and Benzoic Acid Compound, without Cocaine**
Similar to No. 2, but contains no Cocaine Hydrochloride

,, 5. Glycerin

,, 6. Glycerin and Black Currant

,, 7. Glycerin, Tannin and Black Currant
Each contains Tannin, gr. 1/2

Pastilles, 'Tabloid' Brand—*continued*

'TABLOID' BRAND

No.

,, 8. Glycerin, Tannin, Capsicum and Black Currant

Each contains Tannin, gr. 1/2, and the solid equivalent of Tincture of Capsicum, min. 3/8, equal to Capsicum, gr. 3/80.

,, 18. **Laxative Fruit**

Each contains Extract of Senna Fruit, gr. 5, pleasantly flavoured. The 'Tabloid' Pastille is extremely palatable, and facilitates the administration, to children and fastidious patients, of an efficient laxative.

,, 10. Lemon Juice

,, 11. Linseed, Licorice and Chlorodyne

Each contains Morphine Hydrochloride, gr. 1/120

,, 16. Menthol, gr. 1/8

,, 17. Menthol and Eucalyptus

℞ Mentholis ... . gr. 1/20
Olei Eucalypti... ... ... min. 1/2

,, 12. Morphine and Ipecac

℞ Morphinæ Hydrochloridi ... gr. 1/36
Pulv. Ipecacuanhæ ... ... gr. 1/12

,, 20. **Pectoral**

Containing Licorice, Squill, Tolu, Senega, Ipecac, Wild Black Cherry, etc.

,, 19. Pine Tar Compound

Containing Pine Tar, Terebene, Benzoin, Tolu, Ipecac, etc.

,, 13. 'Pinol,' min. 1

,, 14. Red Gum and Cocaine

℞ Gummi Rubri ... ... gr. 1
Cocainæ Hydrochloridi ... gr. 1/20

,, 15. Rhatany (Krameria), Menthol and Cocaine

℞ Ext. Krameriæ ... ... gr. 2
Mentholis ... ... gr. 1/20
Cocainæ Hydrochloridi ... gr. 1/20

Also various other Pastilles issued under the 'Tabloid' Brand

'Phenofax' BRAND CARBOLIC ACID OINTMENT

(Trade Mark) 'PHENOFAX' is an antiseptic sedative dressing which presents 4 per cent. of pure phenol in a bland basis, and is notable for its sedative effect on the skin and mucous surfaces. It disinfects, allays pain, and encourages granulation. Issued in glass pots.

PHOTOGRAPHIC CHEMICALS

TRADE MARK 'TABLOID' BRAND

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co.

'TABLOID' Photographic Chemicals represent the acme of convenience and reliability, while their superior quality and accuracy in weight and composition ensure the best results. They entirely obviate the trouble of weighing small quantities of chemicals and the disappointments occasioned by the deterioration of stock solutions. They enable the tourist to carry all the requisite materials for developing, fixing, etc., with convenience, comfort and safety. At home they save time and trouble.

Pure and reliable

Developers

The developers are packed in cartons, each containing the 'Tabloid' Reducing Agent, and the 'Tabloid' Accelerator specially prepared for use with that reducing agent.

'TABLOID' BRAND (Photographic)—

- ,, Amidol
- ,, Edinol
- ,, Eikonogen
- ,, Glycin
- ,, Hydroquinone (Quinol)
- ,, Pyro-Metol *(Imperial Standard Formula)*
- ,, *Pyro-Soda *(Ilford Formula)*
- ,, **'Rytol'** *(Trade Mark)* Universal Developer

'TABLOID' BRAND (Photographic)—

- ,, Metol
- ,, Metol-Quinol
- ,, Ortol
- ,, Paramidophenol
- ,, Pyro

* In ordering this special developer it is always necessary to quote "Ilford Formula."

Intensifiers

'TABLOID' BRAND— (Photographic)—

- ,, Chromium Intensifier
- ,, Mercuric Iodide and Sodium Sulphite

Toners

'TABLOID' BRAND— (Photographic)—

- ,, Gold Chloride, gr. $\frac{1}{2}$, with Borax, gr. 15 (B 1)
- ,, ,, ,, ,, Sodium Bicarbonate, gr. 15 (B 2)
- ,, ,, ,, ,, Sodium Phosphate, gr. 15 (B 3)

Pharmacopœial preparations are U.S.P. unless otherwise stated

Photographic Chemicals, 'Tabloid' Brand—*continued*

Toners—*continued*

'TABLOID' BRAND

(Photographic)—

,, Gold Chloride, gr. ½, with Sodium Tungstate, gr. 15 (B 4)
,, ,, ,, ,, Sodium Formate Compound (B 5)
,, ,, ,, ,, Sulphocyanide Compound (B 6)
,, ,, ,, ,, Thiosulphate Compound
(Combined Bath for toning and fixing P.O.P.) (B 10)

The above are supplied in cartons containing sufficient for the preparation of six toning baths of 5 to 10 ounces or more. For convenience they may be ordered by their numbers, thus : 'Tabloid' Gold Toning, B 1, B 2, etc.

,, Bleaching Compound
,, Copper Ferrocyanide Toning Compound *(for toning Bromide Prints and Lantern Slides)*
,, Platinum Toning Compound *(for toning Matt P.O.P.)*
,, Sepia Toner *(for Bromide Prints and Lantern Slides)*
,, Sulphiding Compound

Accessories

'TABLOID' BRAND—

(Photographic)— STRENGTH

,, *Alkali*—
'Tabloid' Sodium Carbonate ... ... gr. 44

,, *Density Reducers*—
'Tabloid' Ammonium Persulphate ... gr. 11
'Tabloid' Potassium Ferricyanide ... gr. 2

,, *Fixer*—
'Tabloid' Sodium Thiosulphate (Hypo), Dried, gr. 28·5 } Equals gr. 44 of crystals

,, *Hardener*—
'Tabloid' Alum ... ... gr. 10

,, *Hardener and Clearer*—
'Tabloid' Alum and Citric Acid Compound
Chrome Alum, gr. 5 ; Citric Acid, gr. 5

,, *Preservatives*—
'Tabloid' Potassium Metabisulphite ... gr. 10
'Tabloid' Sodium Sulphite, Dried, gr. 5 Equals gr. 10 of crystals

Photographic Chemicals, 'Tabloid' Brand—*continued*

'TABLOID' BRAND (Photographic)—	STRENGTH
,, *Restrainers*—	
'Tabloid' Ammonium Bromide ...	gr. 1
'Tabloid' Potassium Bromide	gr. 1
'Tabloid' Sodium Citrate	gr. 1
,, *Sensitiser (for carbon tissue, etc.)*—	
'Tabloid' Potassium Ammonium Chromate	gr. 24

For Ozobrome Process

'TABLOID' BRAND—
(Photographic)—

.. Ozobrome Pigmenting Compound

For Direct Colour Photography

(with Autochrome, Thames, Omnicolore, and other Plates)

'TABLOID' BRAND—
(Photographic)—

.. Reversing Compound
,, Colour Plate Intensifier

(In development, 'Tabloid' 'Rytol' Universal Developer is used, *see page* 181)

Also other Photographic products issued under the 'Tabloid' Brand

For Photographic Staining

'SOLOID' BRAND—
(Photographic)—

,, Photographic Stains (Red, Yellow, Green, Blue or Salmon), tubes of 6

PHOTOGRAPHIC EXPOSURE RECORD AND DIARY, THE 'WELLCOME'

The most useful pocket-book for the photographer. Contains ruled pages for recording exposures, a diary for the year, also numerous technical articles and tables, and an exposure

Photographic Exposure Record and Diary, The 'Wellcome' *—continued*

calculator which tells the correct exposure under any circumstance by ONE turn of ONE scale, etc., etc.

U.S.A. EDITION. Bound in red canvas.

Also issued:

NORTHERN HEMISPHERE AND TROPICAL EDITION, for Canada, Europe, and all countries north of the Tropic of Capricorn except United States of America. Bound in light green canvas.

SOUTHERN HEMISPHERE AND TROPICAL EDITION, for all countries south of the Tropic of Cancer (about 20° N.). Bound in dark green canvas.

Each Edition complete with wallet for proofs, etc., and pencil.

PHOTOGRAPHIC OUTFITS, Nos. 905 & 906

TRADE MARK **'TABLOID' BRAND**

Complete and compact chemical outfits for developing and fixing plates, films, bromide or gaslight papers, and for toning and fixing P.O.P.

STANDARD CONTENTS:—

No. 905

'Tabloid' 'Rytol' Universal Developer, to make 80 ounces of solution; 'Tabloid' Sodium Thiosulphate (Hypo); 'Tabloid' Chromium Intensifier, to make 50 ounces of solution; 'Tabloid Gold Chloride with Thiosulphate Compound (Combined Bath), to make 30 ounces of solution; 'Tabloid' Sepia Toner.

Measurements: $4 \times 4 \times 2\frac{1}{8}$ in. In rex red, royal blue imperial green or bright scarlet enamelled metal, or in black japanned metal.

No. 906

'Tabloid' Alum and Cit. Acid Co.; 'Tabloid' 'Rytol' Developer; 'Tabloid' Metol-Quinol Developer; 'Tabloid' Sodium Thiosulphate (Hypo), dried, gr. 28·5; 'Tabloid' Sepia Toner; 'Tabloid' Chromium Intensifier; 'Tabloid' Copper Ferrocyanide Toning Compound; 'Tabloid' Potassium Bromide, gr. 1.

Photographic Outfits—*continued*

Measurements: $8\frac{3}{4} \times 4\frac{1}{8} \times 2$ in. In black japanned or aluminium bronzed metal outside, enamelled white inside.

(The contents of either case may be varied as desired)

(When ordering, please specify colour required)

'Pinol' (Distilled Essence of *Pinus pumilio*) *(Trade Mark)*

A valuable stimulant, disinfectant and antiseptic in respiratory affections. The 'Tabloid' Pastille *(see page* 180) affords a pleasant means of securing prolonged continuous local action.

In $\frac{1}{2}$ Imperial fl. oz. and 1 Imperial fl. oz. bottles.

Saccharin, 'Tabloid' Brand *(see page* 224*)*

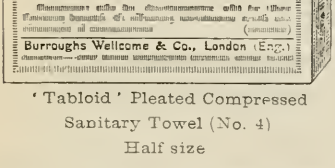
(See also 'Tabloid' 'Saxin,' *page* 225*)*

Saline Solutions for Intravenous Injection *(see page* 193*)*

SANITARY TOWELS, PLEATED COMPRESSED, TRADE MARK 'TABLOID' BRAND

Pleated Compressed Sanitary Towels were originated and introduced by Burroughs Wellcome & Co.

'TABLOID' Pleated Compressed Sanitary Towels possess several points of superiority over ordinary sanitary towels. They are made of materials of exceptional quality specially adapted for the purpose. Their highly absorbent properties are particularly noteworthy. The delicate texture of the surface of these towels ensures perfect freedom from the slightest sense of discomfort in use. Owing to the extremely small space which they occupy, they are particularly convenient when travelling. Extreme compactness is secured by compression, and perfect cleanliness ensured by the method of packing.



'Tabloid' Pleated Compressed Sanitary Towel (No. 4) Half size

Five sizes are issued, each size in packages of 12

'Saxin' (*see* 'Tabloid' 'Saxin,' *page* 225) *(Trade Mark)*

SERA, TRADE MARK 'WELLCOME' BRAND

The word 'WELLCOME' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

Reputation

The high reputation which these sera have with the medical profession is constantly confirmed by the favourable reports received, and the accumulating evidence proves this high reputation to be deserved.

'Wellcome' Brand Sera are prepared under U.S.A. Government Licence, No. 18, in the Wellcome Physiological Research Laboratories, Brockwell Hall, London, England,

Tests

under conditions which fulfil every requirement of modern science and under the immediate supervision of specialists of long and varied experience. The sera are not sent out until they have successfully passed rigorous sterility and toxicity tests; they are then issued in hermetically-sealed phials of convenient sizes.

Burroughs Wellcome & Co. act as distributing agents, and will endeavour to despatch orders for these sera immediately on receipt of letter or telegram.

Sera should be carefully kept in their original packings, in a cool, dark place, avoiding, as much as possible, variations of temperature.

'WELLCOME' BRAND—

„ **Diphtheria Antitoxic Serum**

Phials containing 1000, 2000, 3000 and 4000 (Ehrlich-Behring) units.

The same doses are also supplied in syringe-containers.

„ **Diphtheria Antitoxin, Concentrated**

1000, 2000, 3000, 4000 and 5000 Ehrlich-Behring units in Syringe-containers.

The following Sera are issued in hermetically-sealed phials.

„ ***Anti-colon Bacillus Serum:** from horses immunised against 20 typical members of the Coli group, mostly from cases of peritonitis and puerperal fever :—

In phials containing 25 c.c.

* Phials containing 50 c.c. of Anti-streptococcus Serum, Polyvalent, and 10 c.c. and 50 c.c. of the others are supplied to special order only.

Sera, 'Wellcome' Brand—*continued*

'WELLCOME' BRAND—

„ ***Anti-dysentery Serum:** from horses immunised against cultures of *Bacillus dysenteriæ* obtained from several cases of dysentery :—
In phials containg 25 c.c.

„ ***Anti-gonococcus Serum:** from strains of gonococci obtained from cases of urethritis and gonorrhœal conjunctivitis :—
In phials containing 25 c.c.

„ ***Anti-staphylococcus Serum, Polyvalent:** from horses immunised against various cultures of *Staphylococcus pyogenes aureus*, *albus*, *citreus* and *hæmorrhagicus* :—
In phials containing 25 c.c.

„ ***Anti-streptococcus Serum, Erysipelas:** from horses immunised against cultures from typical cases of erysipelas :—
In phials containing 25 c.c.

„ ***Anti-streptococcus Serum, Polyvalent:** from horses immunised against cultures of streptococci coming in all from 60 sources, in the following diseases :—

ERYSIPELAS, SCARLET FEVER, PUERPERAL FEVER, RHEUMATIC FEVER, SEPTICÆMIA, ANGINA, PNEUMONIA, ULCERATIVE ENDOCARDITIS.

In phials containing 10 c.c. and 25 c.c.

„ ***Anti-streptococcus Serum, Puerperal Fever:** from horses immunised against over 20 cultures of *Streptococcus* from cases of puerperal fever :—
In phials containing 25 c.c.

„ ***Anti-streptococcus Serum, Pyogenes:** from horses immunised against 9 different strains of *Streptococcus pyogenes* :—
In phials containing 25 c.c.

„ ***Anti-streptococcus Serum, Rheumatic Fever:** from horses immunised against cultures from severe cases of acute rheumatism and of rheumatoid arthritis :—
In phials containing 25 c.c.

* Phials containing 50 c.c. of Anti-streptococcus Serum, Polyvalent, and 10 c.c. and 50 c.c. of the others are supplied to special order only

Sera, 'Wellcome' Brand—*continued*

'WELLCOME' BRAND—

„ *__Anti-streptococcus Serum, Scarlatina:__ from horses immunised against cultures from 9 severe (some fatal) cases of scarlet fever :—
In phials containing 25 c.c.

„ *__Anti-typhoid Serum:__ from horses immunised against cultures of *Bacillus typhosus* from several cases of typhoid fever :—
In phials containing 25 c.c.

Also various other Sera issued under the 'Wellcome' Brand

* Phials containing 50 c.c. of Anti-streptococcus Serum, Polyvalent, and 10 c.c. and 50 c.c. of the others are supplied to special order only.

Serum Syringes (B. W. & Co.) *(see page 169)*

'Soamin' (Sodium Para-aminophenylarsonate)
(Trade Mark) DOSE

An organic preparation of low toxicity as compared with arsenous acid or the inorganic salts of arsenic. It contains 22·8 per cent. of arsenium (As), and is soluble in three parts of water at body temperature and in five parts at 60° F. Used in syphilis, malaria, kala-azar, trypanosomiasis and other protozoal diseases. In bottles of 5 gm. and 30 gm. *See special leaflet*

For full particulars, see 'Soamin' booklet

Soap, 'Hazeline' *(see page 167)*

TRADE MARK 'SOLOID' BRAND PRODUCTS

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

'Soloid' Brand Products are also issued in bottles of 500, with the exception of those put up in tubes only.

The series of 'Soloid' Brand Products provides reliable antiseptics, astringents and anæsthetics ; also convenient means

'Soloid' Brand Products—*continued*

of preparing stains for microscopic work, and test solutions for water, sewage or urine analysis. The portability, accuracy in strength, uniform activity and ready solubility which characterise them, present great advantages over stock solutions.

TRADE MARK

'SOLOID' BRAND—	STRENGTH	Issued in bots. of	bots. of
,, Alkaline Compound *(see page 192)*			
,, Alum	gr. 10	—	100
,, Alum and Zinc Sulphate ...		25	—
℞ Aluminis ... ... gr. 15 Zinci Sulphatis ... gr. 15			
,, Alum and Zinc Compound, Strong		25	—
℞ Aluminis ... ... gr. 30 Zinci Sulphatis ... gr. 15			
,, Antiseptic and Alkaline Compound *(see page 192)* ...			
,, Argyrol, tubes of 12	gr. 1	—	—
,, ,, ,, 6	gr. 5·45	—	—
,, Atropine Sulphate, tubes of 6	gr. 0·545	—	—
,, Atropine and Cocaine, tubes of 6		—	—
℞ Atropinæ Sulphatis gr. 0·272 Cocainæ Hydrochloridi gr. 1·09			
,, Black Lotion (Black Wash) (*see* Mercurial Compound, *page* 191)			
,, Boric Acid *(scented with Otto of Rose)*	gr. 6	25	—
,, Boric Acid *(unscented)* ...	gr. 15	50	250
,, Boric Acid and Zinc Sulphate *(scented with Otto of Rose)*		25	—
℞ Acidi Borici... ... gr. 6 Zinci Sulphatis ... gr. 1/2			
,, Carbolic Acid (Phenol), tubes of 25	gr. 5	—	—
,, ,, ,, ,, ,, 12	gr. 20	—	—
,, ,, ,, ,, ,, 6	gr. 60	—	—

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Soloid' — — —

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	STRENGTH		
,, Cocaine Hydrochloride tubes of 25	gr. 1/2	—	100
,, ,, ,, ...	gr. 1	25	100
,, ,, ,, ...	gr. 5	25	—
,, Cocaine and Eucaine, of each	gr. 1/2	25	—
,, Copper Sulphate	gr. 1	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) *(Ophthalmic)* (*see page* 178) ...			
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) ... ... One in 4 fluidounces of water = 1 in 1000 solution. One in one pint (16 fluidounces) of water = 1 in 4000 solution.	gr. 1·825	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) ... ... One in one pint (16 fluidounces) of water = 1 in 1000 solution.	gr. 7·3	25	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) ... ... One in one pint (16 fluidounces) of water = 1 in 500 solution.	gr. 14·6	—	100
,, Eucaine Hydrochloride ...	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, Eucaine Lactate	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, 'Eucalyptia' Compound *(see page* 192*)*			
,, Homatropine and Cocaine, tubes of 6 ... ... ℞ Homatropinæ Hydrobromidi ... ... gr. 0·545 Cocainæ Hydrochloridi ... ... gr. 1·09		—	—
,, Homatropine Hydrobromide, tubes of 6	gr. 0·545	—	—
,, Homatropine Methylbromide and Cocaine, tubes of 6 ... ℞ Homatropinæ Methylbromidi ... ... gr. 0·545 Cocainæ Hydrochloridi ... ... gr. 1·09		—	—

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Soloid' — — —

'Soloid' Brand Products—*continued*

'SOLOID' BRAND—	STRENGTH	Issued in bots. of	bots. of
,, Hydrarg. Chlor. Corrosiv. *(see* Corrosive Sublimate, *page* 190*)*			
,, Iodic-Hydrarg. (*see* Mercuric Potassium Iodide, *below*)			
,, Lead and Opium ... ... One, added to one fluidounce of hot water, yields a lotion of same strength as Lotio Plumbi et Opii N.F.		25	—
,, Lead Subacetate ... ... One in 2½ fluidounces of distilled water yields a 1 per cent. (approx.) solution, corresponding to Liquor Plumbi Subacetatis Dilutus.	gr. 11·5	25	—
,, Mercurial Compound, for the preparation of Black Lotion One in 6 fluidrachms of distilled water yields a solution corresponding to Lotio Nigra N.F.		25	—
,, Mercury Oxycyanide, 0·1 gm.			
,, ,, ,, 0·25 gm.			
,, ,, ,, 0·5 gm.			
,, Mercuric Potassium Iodide *(formerly known as* Iodic-Hydrarg.*)* ... ... One in 4 fluidounces or one in one pint (16 fluidounces) of water yields respectively a solution of 1 in 1000 and 1 in 4000 (frequently known as Mercury Biniodide Solution).	gr. 1·825	—	100
,, Mercuric Potassium Iodide *(formerly known as* Iodic Hydrarg.*)* ... ... One in one pint (16 fluidounces) of water = 1 in 1000 solution (frequently known as Mercury Biniodide Solution).	gr. 7·3	25	100
,, Mucin and Menthol Compound ... ... R Mucini ... ... gr. 4-1/2 Sodii Bicarbonatis gr. 4-1/2 Mentholis ... ... gr. 1/20		25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: *℞ 'Soloid'* — — —

'Soloid' Brand Products—*continued* 'SOLOID' BRAND—	STRENGTH	Issued in bots. of	bots. of
,, (Nasal)			
,, ,, Alkaline Compound ...		—	100
℞ Sodii Boratis ... gr. 5 Sodii Chloridi ... gr. 5			
,, ,, Antiseptic and Alkaline Compound		25	100
℞ Sodii Bicarbonatis gr. 5 Phenolis ... ... gr. 1/2 Sodii Boratis ... gr. 5			
,, ,, 'Eucalyptia' Compound		25	100
℞ Sodii Bicarbonatis gr. 8 Sodii Boratis ... gr. 8 Sodii Benzoatis ... gr. 1/3 Sodii Salicylatis gr. 1/3 Eucalyptolis ... min. 1/6 Thymolis ... ... gr. 1/6 Mentholis ... gr. 1/12 Ol. Gaultheriæ ... min. 1/12			
,, ,, Phenol Compound ...		25	—
℞ Sodii Bicarbonatis gr. 12 Phenolis ... ... gr. 1-1/2 Sodii Chloridi ... gr. 2			
,, ,, Sodium Bicarbonate Compound		25	100
℞ Sodii Bicarbonatis gr. 5 Sodii Boratis ... gr. 5 Sodii Chloridi ... gr. 5			
,, ,, Sodium Bicarbonate Compound, Saccharated		—	100
℞ Sodii Bicarbonatis gr. 5 Sodii Boratis ... gr. 5 Sodii Chloridi ... gr. 5 Sacchari Albi ... gr. 5			
,, Naso-Pharnygeal Compound		25	100
℞ Sodii Chloridi ... gr. 7 Sodii Boratis ... gr. 2-1/2 Sodii Benzoatis ... gr. 1/2 Acidi Borici ... gr. 3/4 Mentholis ... gr. 1/50 Thymolis ... gr. 1/100 Cocainæ Hydrochloridi gr. 1/6 Ol. Gaultheriæ min. 1/20			
,, 'Nizin' *(Trade Mark)* ...	gr. 2	—	100
,, ,, ,, ...	gr. 20	25	—
A zinc salt of sulphanilic acid			
,, Paraform	gr. 5	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Soloid' — — —

'Soloid' Brand Products—*continued* 'SOLOID' BRAND—	STRENGTH	Issued in bots. of	bots. of
,, Phenol *(see* Carbolic Acid, *page* 189*)*			
,, Potassium Permanganate ...	gr. 1	—	100
,, ,, ,, ...	gr. 5	25	100
,, Potassium Permanganate and Alum		—	100
℞ Pot. Permanganatis gr. 3 Aluminis ... ... gr. 5			
,, Saline Compound, tubes of 12		—	—
℞ Calcii Chloridi 0·05 gm. [gr. 3/4] Potassii Chloridi 0·05 gm. [gr. 3/4] Sodii Chloridi 2·25 gm. [gr. 35] Sodii Bicarbonatis 0·025 gm. [gr. 3/8] Dextrosi 0·25 gm. [gr. 3 3/4] One dissolved in 250 c.c. of boiled (sterile) water for intravenous injection at 40° C.			
,, Silver Nitrate	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, Sodium Bicarbonate... ...	gr. 44	25	—
One in 5 fluid ounces of water = 2 per cent. solution (approx.)			
,, Sod. Bicarb. Co. *(see page* 192*)*			
,, Sod. Bicarb. Co., Saccharated *(see page* 192*)*			
,, Sodium Chloride, tubes of 12	gr. 32	—	—
Two dissolved in 16 fluid ounces of boiled (sterile) water, for intravenous injection at 100° F. (37·8° C.), give a solution containing 0·9 per cent of sodium chloride.			
,, Sodium Chloride, tubes of 6	gr. 64	—	—
One in 16 fluid ounces of boiled (sterile) water, for intravenous injection at 100° F. (37·8° C.)			
,, Sodium Citrate and Sodium Chloride		25	100
℞ Sodii Citratis ... ... gr. 3 Sodii Chloridi ... ... gr. 16			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full thus: ℞ 'Soloid' ___ ___ ___

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	STRENGTH		
,, Zinc Chloride...	gr. 5	25	—
,, Zinc Permanganate	gr. 1/8	—	100
,, Zinc Sulphate...	gr. 1	—	100
,, ,, ,, ...	gr. 10	—	100
,, Zinc Sulphocarbolate (Phenol-sulphonate)	gr. 2	—	100
,, ,, ,, ,,	gr. 10	—	100

Also a wide range of other products issued under the 'Soloid' Brand.

'SOLOID' BRAND PRODUCTS FOR TESTING PURPOSES, etc.

For Urine Analysis

'SOLOID' BRAND—	STRENGTH	Issued in tubes of
,, Citric Acid	gr. 1	20
,, Fehling's Test, *for preparing Fehling's Solution*, cartons of 24		
,, Indigo Test for Sugar (Sodium Nitrophenylpropiolate)	gr. 1/4	20
,, Picric Acid	gr. 1	20
,, Potassium Ferrocyanide	gr. 1	20
,, Salicyl-sulphonic Acid...	gr. 2	16

For Water Analysis

'SOLOID' BRAND—	STRENGTH
,, Ammonium Chloride	0·00016 gm.
,, Lead Acetate...	0·0184 gm.
,, Meta-phenylenediamine Sulphate	0·01 gm.
,, Oxalic Acid	0·1 gm.
,, Potassium Chromate...	0·0065 gm.
,, Potassium Ferrocyanide	0·013 gm.
,, Potassium Nitrate	0·00144 gm.
,, Potassium Permanganate	0·00395 gm.
,, Silver Nitrate...	0·0097 gm.

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: *℞ 'Soloid' — — —*

'Soloid' Brand Products for Testing Purposes, etc.—*continued*

For Water Analysis—*continued*

'SOLOID' BRAND—	STRENGTH
,, Soap	
,, Sodium Acid Sulphate	0·324 gm.
,, Zinc Dust	0·13 gm.
,, Zinc Sulphide	0·25 gm.

In packages of 25

,, Nessler's Solution, in hermetically-sealed glass capsules

Boxes of 30 capsules, each containing ... 0·5 c.c.
,, 24 ,, ,, ... 2 c.c.

For Sewage Analysis

'SOLOID' BRAND—	STRENGTH
,, Oxalic Acid	0·0079 gm.
,, Potassium Permanganate	0·00395 gm.
,, Pyrogallic Acid	0·032 gm.
,, Sodium Hydroxide	0·13 gm.

In packages of 25

Test Indicators

'SOLOID' BRAND—	'SOLOID' BRAND—
,, *Indigo-Carmine	,, *Phenolphthalein
,, *Lacmoid	,, *Rosolic Acid
,, *Methyl-Orange	,, Starch, 0·5 gm.

*One dissolved in 10 c.c. of solvent forms the Test Indicator.

In tubes of 10

Microscopic Stains

'SOLOID' BRAND—	STRENGTH
,, Bismarck Brown, pure	0·1 gm.
,, Borax Methylene Blue	
,, Ehrlich Triple Stain	
,, Eosin, pure	0·1 gm.
,, Eosin-Azur (for Giemsa staining with one solution)	0·038 gm.
,, Eosin-Methylene Blue (Louis Jenner's Stain)	0·05 gm.
,, Fuchsine (Basic), pure	0·1 gm.
,, Gentian Violet, pure	0·1 gm.

'Soloid' Brand Products for Testing Purposes, etc.—*continued*

Microscopic Stains—*continued*

'SOLOID' BRAND—	STRENGTH
,, Gram's Iodine Solution	15 c.c.
,, Hæmatoxylin (Delafield)	
,, Hæmatoxylin, pure	0·1 gm.
,, Methyl Violet, pure	0·1 gm.
,, Methylene Blue, pure	0·1 gm.
,, Romanowsky Stain (Leishman's Powder) ...	0·015 gm.
,, Romanowsky Stain (Wright's Modification)	0·05 gm.
,, Sodium Carbonate	0·05 gm.
,, Thionin Blue, pure	0·1 gm.
,, Toison Blood Fluid	

In tubes of 6

Methyl Alcohol, pure *(see page* 176*)*

Culture Media

'SOLOID' BRAND

,, Bile Salt Agar-Agar (MacConkey)
,, Nutrient Agar-Agar
,, Nutrient Broth

} *In tubes of* 6

Also a wide range of other products issued under the 'Soloid' Brand

Strophanthus Tincture (B. W. & Co.)

(Physiologically Standardised in the Wellcome Physiological Research Laboratories.)

Prepared in accordance with the United States Pharmacopœia (Eighth Revision), from carefully-selected strophanthus seeds.

In bottles containing 1, 4, 8 and 16 fluid ounces.

Strophanthus, 'Tabloid' Brand *(see page* 227*)*

Suppositories *(see* 'Enule' Rectal Suppositories, *pages* 164–166; *and* 'Hazeline' Suppositories, *page* 168*)*

Surgical Dressings, 'Tabloid' Brand (*see pages* 161–163)

Syringes, Hypodermic and Serum (*see pages* 168–169)

TRADE MARK 'TABLOID' BRAND PRODUCTS

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

'Tabloid' Brand Products are also issued in bottles of 500, with the exception of those put up in tubes only.

Under the 'Tabloid' Brand is issued an immense variety of drugs and combinations thereof, all prepared from the purest ingredients. When using them the physician has power to administer at any moment the exact dose required, and that without any measuring or weighing. They keep unchanged in any climate. Owing to their extreme portability, supplies may be comfortably carried in the waistcoat-pocket, and doses taken regularly whilst following the usual routine of social, professional or commercial life. 'Tabloid' Brand products of unpleasant drugs are coated with a thin film of white sugar, readily soluble in the stomach, while those intended to act after leaving the stomach are coated with keratin, soluble only in the alkaline secretions of the intestine.

Accurate dosage

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
A			
,, Acetanilide *(see* Antifebrin*)*			
,, Aconite, each containing the solid ingredients of Tincture of Aconite, min. 1/4 ...	1 frequently	100	—
,, Aconite, each containing the solid ingredients of Tincture of Aconite, min. 1	1 frequently	100	—
,, Aconite, each containing the solid ingredients of Tincture of Aconite, min. 5	1 to 3	36	100
,, Aloes and Iron ... ... Each product equals one of the U.S.P. pills.	1 to 2	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' __ __ __

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
.. Aloes and Myrrh ... ... Each product equals one of the U.S.P. pills.	1 to 2	—	100
,, Aloin, gr. 1/10	1 frequently	100	—
,, ,, gr. 1/2	1 to 4	25	100
,, Aloin Compound ... ... ℞ Aloini ... ... gr. 1/5 Strychninæ Sulph. gr. 1/60 Ext. Belladonnæ ... gr. 1/8 Pulv. Ipecacuanhæ gr. 1/16 A stomachic and tonic laxative combination of especial value in chronic constipation.	1 to 2 after meals, or 1 to 3 at bed-time	50	100
,, Ammoniated Quinine ... Each contains Quinine and Ammonium Bicarbonate to correspond with one fluidrachm of the tincture.	1 repeated if necessary	25	100
,, Ammonium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10	1 to 3	—	100
,, Ammonium Carbonate, gr. 3	1 to 3	—	100
,, Ammonium Chloride, gr. 3 ...	1 to 6	25	100
,, ,, ,, gr. 5 ...	1 to 4	—	100
,, ,, ,, gr. 10	1 to 2	—	100
,, Ammonium Chloride and Borax	1 as required	—	100
,, Ammonium Chloride and Licorice ... ... ℞ Ammonii Chloridi... gr. 3 Ext. Glycyrrhizæ ... gr. 2	1 as required	25	100
,, Ammonium Chloride Co. ... ℞ Ammonii Chloridi... gr. 1 Potassii Chloratis ... gr. 2 Pulv. Cubebæ ... gr. 1/4 Ext. Glycyrrhizæ ... gr. 1	1 as required	25	100
.. Ammonium Hippurate, gr. 1	1 or more	—	100
.. Antifebrin (Acetanilide). gr. 2	1 to 2	25	100
,, ,, ,, gr. 5	1 *(in special cases)*	25	100
,, Antifebrin Compound ... ℞ Acetanilidi (Antifebrini) gr. 2 Camphoræ Monobromatæ ... ... gr. 1 Caffeinæ Citratis ... gr. 1	1	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid'— — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
.. Antimony Compound Pill (Plummer Pill) N.F., gr. 4 Each contains approximately: Sulphurated Antimony, gr. 1; Mild Mercurous Chloride, gr. 1; Guaiac, gr. 2.	1 to 2	25	100
.. Antimony and Potassium Tartrate (Tartar Emetic), gr. 1/50 ...	1 to 3	100	—
.. Antipyrine (Phenazone), gr. 2-1/2	1 to 4 or more	25	100
.. ,, ,, gr. 5	1 to 4	25	100
.. Antipyrine Compound ... ℞ Antipyrini (Phenazoni) ... gr. 3 Caffeinæ ... ... gr. 1 Content pure. Dosage accurate. Disintegration rapid.	1 to 4	25	100
.. 'Aol' *(Trade Mark)*, 0·3 gm., [approx. gr. 5] (Capsule), a derivative of *Santalum album*, boxes of 50	2 or more	—	—
.. Apomorphine Compound ... ℞ Apomorphinæ Hydrochloridi gr. 1 50 Ammonii Chloridi gr. 3 Ext. Glycyrrhizæ gr. 1-1/2	1 as required	25	100
.. Apomorphine Hydrochloride, gr. 1/50	1 to 3 *(expectorant)*	50	—
,, Arsenic Trioxide (Arsenous Acid), gr. 1/100 ...	1 to 6	100	—
.. .. .. gr. 1/50 ...	1 to 3	100	—
.. .. .. gr. 1/20 ...	1	100	—
,, Arsenical Compound... ... ℞ Arseni Trioxidi ... gr. 1/100 Ferri Sulph. Exsicc. gr. 1 Calcii Sulphidi ... gr. 1/4 Ext. Gentianæ ... gr. 2	1 to 2	—	100
.. Arsenous Iodide and Mercuric Iodide... ... ... One represents min. 5 of Liq. Arseni et Hydrargyri Iodidi (Donovan Solution) containing Arsenous and Mercuric Iodides, of each gr. 1/21 (approx.)	1 to 4	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	bots. of
'TABLOID' BRAND—			
,, Asafetida and Opium Compound	1 to 2	—	100
℞ Asafœtidæ, Camphoræ, Pulv. Opii, Pulv. Piperis Nigri āā gr. 1			
,, 'Aspirin,' gr. 5	1 to 5	25	100
,, Atropine Sulphate, 0·0005 gm. [gr. 1/130]	1	25	—
B			
,, Belladonna Extract, each containing the solid ingredients of Tincture of Belladonna Leaves... ... min. 1	1 frequently	100	—
,, Belladonna Extract, each containing the solid ingredients of Tincture of Belladonna Leaves... ... min. 5	1 to 3	48	100
,, Benzoic Acid, gr. 5	1 to 3	—	100
,, Benzonaphthol, gr. 5 ...	1 to 2	—	100
,, Betanaphthol, gr. 3	1 to 3	—	100
,, Betanaphthol Compound ...	1 to 4	25	100
℞ Betanaphtholis ... gr. 1 Carbonis Ligni ... gr. 4 Ol. Menthæ Pip.... min. 1/2			
,, Bismuth and Dover Powder	1 to 6	—	100
℞ Bismuthi Subnit.... gr. 2-1/2 Pulv. Ipecacuanhæ et Opii ... gr. 2-1/2			
,, Bismuth and Soda	1 to 4 or more	—	100
℞ Bismuthi Subnit.... gr. 2-1/2 Sodii Bicarbonatis gr. 2-1/2			
,, Bismuth, Rhubarb and Soda...	1 to 4	25	100
℞ Bismuthi Subnit.... gr. 3 Pulv. Rhei ... gr. 1 Sodii Bicarbonatis gr. 2 Pleasant and easy to take. By its use the unpleasantness of the ordinary nauseous mixture is avoided.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Bismuth Subcarbonate, gr. 5	1 to 4	25	100
,, Bismuth Subgallate, gr. 5 ...	1 to 4	25	100
,, Bismuth Subnitrate, gr. 5 ...	1 to 4	25	100
,, ,, ,, gr. 10 ...	1 to 2	—	100
,, Bismuth Subsalicylate (*Physiologically Pure*), gr. 5 ...	1 to 4	—	100
,, Blaud (Pil. Ferrugin.), gr. 5...	1 to 3	—	100
,, ,, ,, gr. 10... Permanently representing 20 per cent. of ferrous carbonate	1 to 2	—	100
,, Blaud Pill and Aloin... ... ℞ Pil. Ferrugin. (Blaud) gr. 5 (= 20 % Ferri Carbonatis) Aloini ... ... gr. 1/20	1 to 4	—	100
,, Blaud Pill and Arsenic ... ℞ Pil. Ferrugin. (Blaud) gr. 5 (= 20 % Ferri Carbonatis) Arseni Trioxidi ... gr. 1/64	1 to 4	—	100
,, Blaud Pill, Arsenic and Strychnine ... ... ℞ Pil. Ferrugin. (Blaud) gr. 5 (= 20 % Ferri Carbonatis) Arseni Trioxidi ... gr. 1/100 Strychninæ ... ... gr. 1/100	1 to 4	—	100
,, Blaud Pill and Cascara ... ℞ Pil. Ferrugin. (Blaud) gr. 5 (= 20 % Ferri Carbonatis) Ext. Cascar. Sagrad. gr. 1/2	1 increased to 4	—	100
,, Blaud Pill Compound ... ℞ Pil. Ferrugin. (Blaud) gr. 10 (= 20 % Ferri Carbonatis) Pulv. Capsici ... gr. 1/4 Aloini ... ... gr. 1/30 Strychninæ ... ... gr. 1/30 Arseni Trioxidi ... gr. 1/30	1	—	100
,, Blaud Pill, Nux Vomica and Cascara ... ... ℞ Pil. Ferrugin. (Blaud) gr. 3 (= 20 % Ferri Carbonatis) Ext. Nucis Vomicæ gr. 1/10 Ext. Cascar. Sagrad. gr. 1	1 to 4	—	100
,, Blue Pill, gr. 4 ... ... Each contains gr. 1-1/3 of pure Metallic Mercury	1 to 2	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Blue Pill and Rhubarb Compound	1 to 2	—	100
℞ Massæ Hydrargyri ... gr. 2-1/2 Pil. Rhei Comp. ... gr. 2-1/2			
,, Blue Pill, Colocynth and Hyoscyamus	1 to 2	25	100
℞ Massæ Hydrargyri ... gr. 2 Pil. Colocynthidis et Hyoscyami ... gr. 4			
,, Blue Pill, Squill and Digitalis	1 to 2	—	100
℞ Massæ Hydrargyri ... gr. 1 Pulv. Scillæ ... gr. 1-1/2 Pulv. Digitalis ... gr. 1			
,, Bone Medulla, gr. 5, (Capsule), boxes of 50	1 or more	—	—
,, Borax (Sodium Borate), gr. 5	1 to 4 or more	25	100
,, Boric Acid, gr. 5	1 to 3	—	100
,, Bromides Compound (*see* Sodium Bromide Compound)			
,, Butyl-Chloral Hydrate and Gelsemine	1	—	100
℞ Butyl-Chloral Hydratis ... gr. 3 Gelseminæ Hydrochloridi ... gr. 1/200			
C			
,, Cachets—In boxes of 6			
,, ,, Antipyrine, gr. 5 ...	1 to 2	—	—
,, ,, Quinine Sulphate, gr. 5	1 to 2	—	—
,, Caffeine, Citrated, gr. 2 ...	1 or more	—	100
,, Caffeine Compound (*see* Antipyrine Compound, *page* 199)			
,, Calcium Carbonate Compound	1 to 4 before meals, or 1 occasionally	25	100
℞ Calcii Carb. Præcip. gr. 3-1/2 Mag. Carb. Pond. gr. 2-1/2 Bismuthi Subcarb. gr. 2			
,, Calcium Iodo-ricinoleate, gr. 3, (Capsule), boxes of 50 ...	1 to 3	—	—
,, Calcium Lactate, gr. 5 ...	1 to 3	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Calcium Sulphide, gr. 1/10 ...	1 or more	100	—
,, ,, ,, gr. 1/4 ...	1 to 4	—	100
,, ,, ,, gr. 1/2 ...	1 to 2	—	100
,, ,, ,, gr. 1 ...	1	—	100
,, Calomel (Hydrarg. Chlor. Mit.), gr. 1/10, gr. 1/6, gr. 1/4 and gr. 1/2 ...	1 repeated	100	—
,, ,, gr. 1	1 to 5	—	100
,, ,, gr. 2	1 to 3	—	100
,, ,, gr. 3	1 to 2	—	100
,, ,, gr. 5 ... ... Prepared with pure sublimed English Mercurous Chloride	1	—	100
,, Calomel and Creosote ... ℞ Hydrarg. Chlor. Mit. gr. 1/6 Creosoti ... ... min. 1	1 to 5	—	100
,, Calomel and Jalap ... ... ℞ Hydrarg. Chlor. Mit. gr. 1 Pulv. Jalapæ ... gr. 2	1 to 4	—	100
,, Calomel and Piperine, of each gr. 1/2	1 repeated	—	100
,, Calomel, gr. 1/4, and Sodium Bicarbonate, gr. 1	1 or more	25	100
,, Calomel, gr. 1/2, and Sodium Bicarbonate, gr. 2-1/2 ...	1 or more	25	100
,, Calomel, gr. 1, and Sodium Bicarbonate, gr. 5	1 or more	25	100
,, Camphorated Opium, each containing the solid ingredients of Camphorated Tincture of Opium (Paregoric), min. 2	1 frequently	100	—
,, Camphorated Opium, each containing the solid ingredients of Camphorated Tincture of Opium (Paregoric), min. 5	1 frequently	48	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Camphorated Opium, each containing the solid ingredients of Camphorated Tincture of Opium (Paregoric), min. 15	1 to 4	36	100
,, Cane Sugar, gr. 3		—	100
,, Cannabis Indica (*see* Indian Cannabis Extract)			
,, Capsicum, each containing the solid ingredients of Tincture of Capsicum, min. 1 ...	1 frequently	100	—
,, Capsicum, each containing the solid ingredients of Tincture of Capsicum, min. 5 ...	1 to 3 or more	—	100
,, Capsules— *See* 'Aol,' Bone Medulla, Calcium Iodo-ricinoleate, Carbolic Acid, Castor Oil, Juniper Oil, Phenol and Menthol Compound, Sandal Wood Oil, Terebene, Turpentine Oil, Rectified.			
,, Carbolic Acid (Phenol), gr. 1/4 and gr. 1/2 (*for the throat*) ..	1 as required	25	100
,, Carbolic Acid (Phenol), gr. 1, (Capsule), boxes of 24 ...	1 to 3	—	—
,, Carbolic Acid, gr. 1/2, with Slippery Elm, bottles of 25	1 occasionally	—	100
,, Carlsbad Salt, Effervescent, Artificial, N.F., tubes of 25	1 or more as desired	—	—
,, Cascara Sagrada (Dry Extract), gr. 1	1 or more	25	100
,, ,, ,, ,, gr. 2	1 to 4	25	100
,, ,, ,, ,, gr. 3	1 to 3	25	100
,, ,, ,, ,, gr. 4	1 to 2	25	100
,, ,, ,, ,, gr. 5	1 as required	25	100
The uniform reliability of 'Tabloid' Cascara Sagrada has established for it the premier position in the estimation of physicians throughout the world.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Cascara Compound	1 to 4	25	100
℞ Ext. Cascar. Sagrad. gr. 1 Ext. Euonymi ... gr. 1/2 Iridini ... .. gr. 1/2 Ext. Nucis Vomicæ gr. 1/16 Ext. Hyoscyami Vir. gr. 1/3			
,, Cascara and Gentian Compound	1 to 3	25	100
℞ Ext. Cascar. Sagrad. gr. 2 Ext. Nucis Vomicæ gr. 1/5 Ext. Belladonnæ ... gr. 1/10 Ext. Gentianæ ... gr. 1 Capsicini ... ... gr. 1/10			
,, Castor Oil, min. 5, (Capsule), boxes of 50	1 or more	—	—
,, Cathartic Compound... ...	1 to 2	25	100
℞ Ext. Colocynth Co. gr. 1-1/3 Hydrarg. Chlor. Mit. gr. 1 Ext. Jalapæ... ... gr. 1 Pulv. Cambogiæ ... gr. 1/4 A cathartic compound of exceptional purity of ingredients and of proved reliability.			
,, Cerebrin, gr. 5	1 or more	—	100
,, Cerium Oxalate, gr. 5 ...	1 to 2	—	100
,, Charcoal (Pure Willow), gr. 5, bottles of 40	1 or more as required	—	100
,, Chloralformamide (Chloralamide), gr. 5	3 to 6	—	100
,, Chloral, Hydrated, gr. 5 ...		—	100
,, ,, ,, gr. 10 ...		—	100
,, Chocolate, gr. 60, boxes of 12		—	—
,, Cinchona, each containing the solid ingredients of Tincture of Cinchona, min. 30	1 to 2	36	100
,, Citric Acid, gr. 5	1 to 4	—	100
Cocaine Hydrochloride (*see* 'Soloid' Brand products)			
,, Cocaine Co. with Potassium Chlorate and Borax (*see* Voice, *page* 230)			

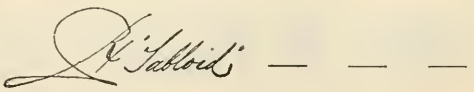
Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid'— — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Cocoa, gr. 60, boxes of 12 ...		—	—
,, Codeine, gr. 1/4	1 to 4 or more	25	100
,, ,, gr. 1/2	1 to 4	25	100
,, Codeine and Benzoic Acid Compound	1 as required	25	100
R Cocainæ Hydrochloridi ... gr. 1/40 Codeinæ ... ... gr. 1/10 Acidi Benzoici ... gr. 1/2 Mentholis ... ... gr. 1/10 Pulv. Ipecacuanhæ gr. 1/10 Ol. Menthæ Piperitæ min. 1/16 Gummi Rubri ... *q.s.* Highly efficient in the irritating cough of pharyngitis, etc.			
,, Codeine and Benzoic Acid Compound, without Cocaine	1 as required	25	100
Differs from foregoing only in that no Cocaine is added.			
,, Codeine and Nux Vomica ...	1 to 2	25	—
R Codeine Phosphatis gr. 1 Ext. Nucis Vomicæ gr. 1/4			
,, 'Coffee-Mint'	1 to 4 or more	25	100
R Sodii Bicarb. ... gr. 3 Ammonii Bicarb.... gr. 1/16 Ext. Coffeæ ... gr. 1/2 Cerii Oxalatis ... gr. 1/4 Ol. Menthæ Piperitæ *q.s.* Diffusible stimulant, especially valuable in flatulence. in the nausea associated with liver disorder, and in the vomiting of pregnancy.			
,, Colchicine Salicylate, gr. 1/32	1 to 2	—	100
,, Colocynth and Hyoscyamus, N.F. Pill	1 to 2	—	100
Each product equals one of the N.F. pills.			
,, Colocynth Compound, N.F.	1 to 2	—	100
Each product equals one of the N.F. pills.			
,, Corrosive Sublimate (*see* Hydrarg. Perchlor., *page* 211)			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: 

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Cotarnine Hydrochloride, gr. 3/4, bottles of 25 ...	1 to 3	—	—
,, Cubeb and Belladonna, *Effervescent* ... ... ℞ Pulv. Cubebæ ... gr. 1/2 Ext. Belladonnæ ... gr. 1/20	1 as required	—	100
,, Cubeb Compound ... ... ℞ Oleo-resinæ Cubebæ gr. 1/4 Ammonii Chloridi... gr. 1/2 Glycyrrhizini ... gr. 1/4	1 as required	25	100
D			
,, Dentifrice		—	100
,, Didymin (Testicular Substance), gr. 5	1 increased to 4	—	100
,, Digitalin (Amorphous), gr. 1/100	1 to 3	50	—
,, Digitalis, each containing the solid ingredients of Tincture of Digitalis, min. 1 ...	1 frequently	100	—
,, Digitalis, each containing the solid ingredients of Tincture of Digitalis, min. 5 ...	1	48	100
,, Donovan Solution (*see* Arsenous and Mercuric Iodide)			
,, Dover Powder (*see* Ipecac and Opium Powder)			
E			
,, Easton Syrup (*see* Phosphates of Iron, Quinine and Strychnine)			
,, Effervescent Products *See* Carlsbad Salt, Cubeb and Belladonna, Kissingen Salt, Lithium Citrate, Lithium Citrate and Urotropine, Magnesium Citrate, Magnesium Sulphate, Magnesium Sulphate Compound, Piperazine, Quinine Bisulphate and Potassium Citrate, Seltzer Salt, Sodium Phosphate, Sodium Sulphate, Sodium Sulphate Compound, Three Bromides, Vichy Salts.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Elaterin, gr. 1/40	1 to 4	25	—
,, Ergot Extract (Ergotin), gr. 1	1 to 4 or more	—	100
,, ,, ,, ,, gr. 2	1 to 4	—	100
,, ,, ,, ,, gr. 3	1 to 3	—	100
,, Ergotin and Strychnine ... R Ext. Ergotæ (Ergotini) gr. 3 Strychninæ Sulphatis gr. 1/30	1 to 2	—	100
,, Erythrol Tetranitrate (Tetranitrin), gr. 1/4, tubes of 25...	1 to 4	—	—
,, Erythrol Tetranitrate (Tetranitrin), gr. 1/2	1 to 2	25	—
,, Erythrol Tetranitrate (Tetranitrin), gr. 1	1	12	—
,, Euonymus Extract (Euonymin), gr. 1/8	1 to 4 or more	50	—
,, Euonymus Extract (Euonymin), gr. 1/2	1 to 4	50	—
,, Exalgine, gr. 2	1 to 2	—	100

F

,, Fellis Bovis Purificati (*see* Ox Bile, *page* 219)			
,, Fellis Porcini Purificati (*see* Pig Bile, *page* 221)			
,, Ferric Chloride, gr. 1-1/4 ... Each represents the amount of Ferric Chloride contained in min. 10 of Tinct. Ferri Chlor. with a small quantity of ammonium chloride as vehicle.	1	—	100
,, Ferric Chloride and Arsenic... R Ferri Chlor. gr. 1-1/4 (=Tinct. Ferri Chlor., min. 10) Arseni Trioxidi ... gr. 1/30	1	—	100
,, Ferri Reducti (*see* Reduced Iron, *page* 223)			
,, Ferri Sulphatis (Exsicc.) (*see* Iron Sulphate, dried, *page* 214)			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Ferruginous (*see* Blaud Pill and combinations, *page* 201)			
,, Ferrum (*see* Iron, *page* 213)			
G			
,, Ginger, each containing the solid ingredients of Essence of Ginger (1 in 2), min. 5 ...	1 to 4	48	100
,, Ginger, each containing the solid ingredients of Essence of Ginger (1 in 2), min. 10	1 to 2	—	100
,, GlycerophosphatesCompound, dr. 1/2	1 to 8	25	100
Each presents the amount of calcium, sodium, potasssium, magnesium and iron glycerophosphates, with strychnine, glycerophosphate, gr. 1/800, pepsin, diastase and kola, contained in 1/2 fluid drachm of Syrup of Glycerophosphates. Presents phosphorus in the organic condition, as it is found in the system.			
,, Glyceryl Trinitrate (*see* Trinitrin, *page* 229)			
,, Granulated Opium (*see* Opium, Granulated, *page* 219) ...			
,, Green Dye, Aniline, gr. 30, tubes of 12		—	—
,, Gregory Powder (*see* Rhubarb Compound Powder, *page* 224)			
,, Grey Powder (Hydrarg. cum Cretâ) gr. 1/4; gr. 1/3; gr. 1/2	1 repeated	100	—
,, ,, ,, gr. 1	1 to 5	100	—
,, ,, ,, gr. 2	1 to 3	—	100
,, ,, ,, gr. 3	1 to 2	—	100
,, ,, ,, gr. 5	1	—	100
The 'Tabloid' products contain 38 per cent. of pure metallic mercury.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloids' — — —

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Grey Powder and Dover Powder, of each gr. 1/2 ...	1 to 5 or more	—	100
,, Grey Powder and Dover Powder, of each gr. 1 ...	1 to 5	—	100
,, Grey Powder and Opium ...	1 to 5	—	100
℞ Hydrarg. cum Cretâ gr. 1 Pulveris Opii ... gr. 1/6			
,, Grey Powder, Opium and Quinine	1 to 3	—	100
℞ Extracti Opii ... gr. 1/6 Hydrarg. cum Cretâ gr. 1-1/2 Quininæ Sulphatis gr. 1-1/2			
,, Grey Powder gr. 1/2, and Sodium Bicarb. gr. 2-1/2 ...	1 repeated	—	100
,, Grey Powder, gr. 1, and Sodium Bicarbonate, gr. 5	1 to 5	25	100
,, Guaiac, gr. 5	1 to 3	25	100
,, Guaiac and Quinine Comp.	1 to 4	—	100
℞ Guaiaci ... ... gr. 2 Sulphuris ... ... gr. 2 Quininæ Salicylatis gr. 1/2			
,, Guaiac and Sulphur	1 to 4	25	100
℞ Guaiaci ... ... gr. 3 Sulphuris Præcip. ... gr. 3			
,, Guaiacol Camphorate, gr. 5	1 to 2	25	100
,, Guaiacol Carbonate, gr. 5 ...	1 to 2	25	100
H			
,, Hæmoglobin, gr. 5	1 or more	—	100
,, Heroin Hydrochloride, gr. 1/25	1 to 4	25	100
,, ,, ,, gr. 1/10	1	—	100
,, Hydrarg. Colocynth et Hyoscy. (*see* Blue Pill, Colocynth and Hyoscyamus, *page* 202)			
,, Hydrargyri Chloridi Mitis and combinations (*see* Calomel and combinations, *page* 203)			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Hydrarg. c. Cretâ and combinations (*see* Grey Powder and combinations, *page* 210)			
,, Hydrarg. Iodid. Flavi, gr. 1/8	1 to 4	25	100
,, Hydrarg. Iodid. Rubri, gr. 1/20	1	50	—
,, ,, ,, ,, gr. 1/16	1	50	—
,, Hydrarg. Iodid. Viridis, gr. 1/8	1 to 4 increased	50	—
,, Hydrargyri Perchloridi (Mercuric Chloride), gr. 1/100 ...	1 to 4 or more	100	—
,, Hydrargyri Perchloridi (Mercuric Chloride), gr. 1/16 ...	1	100	—
,, Hydrarg. Perchloridi, gr. 1/32, et Potassii Iodidi, gr. 2-1/2	1 to 2	—	100
,, Hydrarg. Perchloridi, gr. 1/16, et Potass. Iodidi, gr. 5 ...	1	—	100
,, Hydrastine Compound ... R Hydrastinæ Hydrochloridi gr. 1/4 Cannabinæ Tannatis gr. 1/2 Ext. Ergotæ (Ergotini) gr. 1/2	1 to 3 repeated	25	100
,, Hydrastine Compound and Cotarnine Hydrochloride ... R Hydrastinæ Hydrochloridi gr. 1/4 Cotarninæ Hydrochloridi gr. 1/4 Cannabinæ Tannatis gr. 1/2 Ext. Ergotæ (Ergotini) gr. 1/2	1 to 3 repeated	25	100
,, Hydrastine Hydrochloride, gr. 1/4	1 to 4 repeated	—	100
,, Hydrated Chloral (*see* Chloral, Hydrated, *page* 205)			
,, Hyoscyamus, each containing the solid ingredients of Tincture of Hyoscyamus, min. 10	1 to 4 or more	36	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid' — — —

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Hypodermic Products *(see pages 169-174)*			
,, Hypophosphites Compound, gr. 1-1/2 ... ... Each contains: Calcium, Potassium, Sodium, Manganese, Iron and Quinine Hypophosphites, with gr. 1/128 of Strychnine Hypophosphite.	1 to 2	25	100
,, Hypophosphites Compound, gr. 3 ... ... Containing gr. 1/64 of Strychnine Hypophosphite.	1	25	100
,, Hypophosphites Compound and Creosote ... ... Each contains: Creosote, min. 1, and gr. 3 of the combined Hypophosphites of Calcium, Sodium, Potassium, Manganese, Iron and Quinine, with gr. 1/64 of Strychnine Hypophosphite.	1	—	100
,, Ichthyol, gr. 2-1/2	1 to 4	25	100
,, Indian Cannabis Extract, each containing Extract equivalent to Tincture of Indian Cannabis, min. 5 ...	1 to 3	48	100
,, Ipecac Powder, gr. 1/10 ...	1 frequently	100	—
,, ,, ,, gr. 5 ...	1 every hour	—	100
,, Ipecac deprived of its Emetic Principles, gr. 5 ...	1 to 4 or more	—	100
,, Ipecac with Antimony and Potassium Tartrate, of each gr. 1/100	1 frequently	—	100
,, Ipecac Extract, each containing the solid ingredients of Wine of Ipecac, min. 5 ...	1 to 3 *(expectorant)*	50	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Ipecac and Opium Powder (Dover Powder), gr. 1/4 ... Each contains Opium and Ipecac, of each gr. 1/40	1 frequently	100	—
,, Ipecac and Opium Powder (Dover Powder), gr. 5 ... Each contains Opium and Ipecac, of each gr. 1/2	1 to 3	25	100
,, Ipecac with Squill ... ... Each contains approximately: Ipecac and Opium, of each gr. 1/5, Powdered Squill and Powdered Ammoniacum, of each gr. 2/3	1 to 2	—	100
,, Iridin Compound ... ... ℞ Iridini ... ... gr. 2 Ext. Hyoscyami Vir. gr. 1/2 Pil. Rhei Comp. ... gr. 1-1/2	1 to 2	25	100
,, Iron and Arsenic Compound ℞ Ferri Hypophosphitis gr. 2 Quininæ Sulphatis ... gr. 1 Arseni Trioxidi ... gr. 1/50 Strychninæ Sulphatis gr. 1/50 Tonic, stimulant, hæmatinic and alterative.	1 to 3	—	100
,, Iron, Arsenic and Digitalin... ℞ Ferri Phosphatis Sol. gr. 3 Arseni Trioxidi ... gr. 1/100 Digitalini (Amorph.) gr. 1/100	1 to 3	25	100
,, Iron Carbonate, Saccharated, gr. 5...	1 to 6	—	100
,, Iron Glycerophosphate, gr. 3	1 to 2	25	100
,, Iron Phosphate with Quinine and Strychnine (*see page* 220)			
,, Iron Pill (*see* Blaud, *page* 201)			
,, Iron and Quinine Citrate, gr. 3...	1 to 3	25	100
,, Iron, Reduced (*see* Reduced Iron, *page* 223)			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Iron and Strychnine Phosphates	1	25	100
℞ Ferri Phosphatis Sol. gr. 1 Strychninæ Phosphatis gr. 1/32			
,, Iron Sulphate, Dried, gr. 3...	1	—	100
,, Iron Valerate, gr. 1	1 or more	—	100
J			
,, Jalap, gr. 5	1 to 4	—	100
,, Juniper Oil, min. 3, (Capsule), boxes of 50	1	—	—
K			
,, Kino Compound Powder, N.F., gr. 5...	1 to 4	—	100
Each contains: Kino, gr. 3-3/4; Opium, gr. 1/4; and Cinnamon, gr. 1.			
,, Kissingen Salt, *Effervescent*, Artificial, N.F., tubes of 25	1 or more as required	—	—
,, Krameria and Cocaine ...	1 occasionally	25	100
℞ Ext. Krameriæ ... gr. 1 Cocaine Hydrochlor. gr. 1/20			
L			
,, Laudanum (*see* Opium, Granulated, *page* 219)			
,, Laxative Vegetable	1 to 3	25	100
℞ Ext. Colocynth. Co. gr. 1 Ext. Jalapæ ... ... gr. 1/2 Resinæ Podophylli ... gr. 1/4 Leptandrini ... ... gr. 1/2 Ext. Hyoscyami Vir. gr. 1/4 Ext. Taraxaci ... gr. 1/4 Ol. Menthæ Pip. ... *q.s.* A purely vegetable laxative and cholagogue prepared with drugs of exceptional purity.			
,, Lead with Opium, N.F. Pill Each product equals one of the N.F. pills.	1	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Lithium Benzoate Compound ℞ Lithii Benzoatis ... gr. 3 Sulphuris Præcip. ... gr. 2 Quininæ Salicylatis ... gr. 1/3	1 to 4 or more	—	100
,, Lithium Carbonate, gr. 2 ...	1 to 3	—	100
,, Lithium Citrate, gr. 5, *Effervescent*, bottles of 25 ...	1 to 2	—	100
,, Lithium Citrate, *Effervescent*, gr. 60, tubes of 25 ... ... Each contains about gr. 3 of Lithium Citrate.	1 to 2	—	—
,, Lithium Citrate and Sodium Sulphate, *Effervescent*, tubes of 25 ... ... ℞ Lithii Citratis... ... gr. 5 Sodii Sulphatis ... gr. 30	1 to 2	—	—
,, Lithium Citrate and Urotropine, *Effervescent*, tubes of 25 ... ... ℞ Lithii Citratis ... gr. 5 Urotropinæ .. ... gr. 3 Salis Effervescentis *q.s.*	1 or more	—	
,, Livingstone Rouser (*see* Quinine and Rhubarb Compound, *page* 222)			
,, 'Lodal' *(Trade Mark)* (6 : 7-Dimethoxy-2-methyl-3 : 4-dihydro *iso*quinolinium Chloride), gr. 1	1	25	100
M			
,, Magenta Dye, Aniline, gr. 30, tubes of 12		—	—
,, Magnesium Carbonate Compound ... ... ℞ Magnesii Carbonatis gr. 3 Potass. Bicarbonatis gr. 3 Sodii Bicarbonatis ... gr. 3	1 to 4	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Magnesium Citrate (*True*), Effervescent, gr. 60, tubes of 25...	1 to 3	—	—
,, Magnesium Sulphate, Effervescent, gr. 60, tubes of 25 Each represents gr. 30 of Magnesium Sulphate.	1 to 4	—	—
,, Magnesium Sulphate Compound, Effervescent, tubes of 25... ... ... ℞ Magnesii Sulphatis gr. 15 Sodii Sulphatis ... gr. 15 Magnesii Carbonatis gr. 5 Liq. Zingiberis, N.F. min. 3-1/2	1 to 4	—	—
,, Magnesium Sulphite, gr. 5 ...	1 frequently	—	100
,, 'Mamos' *(Trade Mark)* (*formerly known as* 'Tabloid' Mammary Gland), gr. 5...	1 increased	—	100
,, Manganese Citrate *(soluble)*, gr. 3...	1 to 3	25	—
,, Manganese Citrate *(soluble)*, gr. 5...	1 to 2	25	—
,, Manganese Peroxide, gr. 2 ...	1 to 5	25	100
,, Manganese and Iron Citrate *(soluble)*, gr. 3	1 to 3	25	100
,, Manganese and Iron Citrate *(soluble)*, gr. 5	1 to 2	25	100
,, Manganese and Iron Citrate with Quinine *(soluble)*, gr. 3 Each contains Quinine, approximately gr. 1/2.	1 to 3	25	—
,, Manganese and Iron Citrate with Quinine *(soluble)*, gr. 5 Each contains Quinine, gr. 3/4	1 to 2	25	—
,, Manganese and Iron Citrate with Strychnine *(soluble)*, gr. 1 ... ... Each contains Strychnine, gr. 1/100.	1 to 3	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Manganese and Iron Phosphate *(soluble)*, gr. 3 ...	1 to 3	25	100
,, Manganese and Iron Phosphate *(soluble)*, gr. 5 ...	1 to 2	25	100
,, Medulla Bone (*see page* 202)			
,, Menthol, gr. 1/4, bottles of 40	1 repeated	—	100
,, Menthol Compound	1 to 4	—	100
℞ Mentholis ... ... gr. 1/2 Sodii Bicarbonatis... gr. 3 Saccharini ... ... gr. 1/6 Prepared with Menthol of exceptional quality.			
,, Mercurous Chloride (*see* Calomel, *page* 203)			
,, Mercuric Chloride (*see* Hydrarg. Perchlor., *page* 211)			
,, Mercuric Potassium Iodide, *(formerly known as* Iodic-Hydrarg.*)*, gr. 1/6... ...	1	—	100
,, Mercury preparations, (*see* under Hydrargyrum, Calomel and Grey Powder)			
,, Methylene Blue, gr. 2 ...	1 to 2	—	100
,, Milk Sugar, gr. 3		—	100
,, Mineral Water Salts, *Effervescent*, *Artificial* (*see* Carlsbad, Kissingen, Seltzer and Vichy)			
,, Mistura Alba	1 to 8	—	100
℞ Magnesii Carb. Pond. gr. 2-1/2 Magnesii Sulphatis gr. 15 Ol. Menthæ Pip. min. 1/32 Conveniently presents a most efficient saline combination.			
,, Morphine and Emetine, bottles of 50	1	—	—
℞ Morphinæ Sulphatis gr. 1/40 Emetinæ Hydrobrom. gr. 1/80			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Morphine, Strychnine and Belladonna	1 as required	25	100
R Morphinæ Sulphatis gr. 1/12 Strychninæ Sulphatis gr. 1/60 Ext. Belladonnæ ... gr. 1/20			
,, Morphine Sulphate, gr. 1/20	1 to 4 or more	50	—
,, ,, ,, gr. 1/8	1 to 4	50	—
,, ,, ,, gr. 1/4	1 to 2	50	—
,, Mucin Compound	2 or more	25	100
R Mucini ... ... gr. 5 Sodii Bicarbonatis gr. 5			
N			
,, Nitroglycerin *(see* Trinitrin, *page* 229*)*			
,, Nuclein, gr. 1	1 or more	—	100
,, Nux Vomica, each containing the solid ingredients of Tincture of Nux Vomica, min. 1	1 frequently	100	—
,, Nux Vomica, each containing the solid ingredients of Tincture of Nux Vomica, min. 5	1 to 3	48	100
,, Nux Vomica, each containing the solid ingredients of Tincture of Nux Vomica, min. 10	1	36	100
,, Nux Vomica Compound ...	1 to 3	25	100
R Ext. Nucis Vomicæ, Aloini, Ferri Sulphatis, Pulv. Myrrhæ, Pulv. Saponis āā gr. 1/2			
Stomachic and tonic aperient, of special value in chronic constipation.			
O			
,, Ophthalmic Products *(see pages* 177-178*)*			
,, Opium, gr. 1/2	1 to 4	—	100
,, ,, gr. 1	1 to 2	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Opium, Granulated, each containing the solid ingredients of Tincture of Opium (Laudanum), min. 2 ...	1 to 5	48	100
,, Opium, Granulated, each containing the solid ingredients of Tincture of Opium (Laudanum), min. 5 ...	1 to 3	48	100
,, Opium, Granulated, each containing the solid ingredients of Tincture of Opium (Laudanum), min. 10 ...	1	36	100
,, Ovarian Substance (*see* 'Varium')			
,, Ox Bile (Purified), gr. 4 ...	1 to 4	—	100
P			
,, Pancreatin (*see* 'Pepana')			
,, Papain, gr. 2	1 to 4	25	100
,, Paregoric (*see* Camphorated Opium, *page* 203)			
,, Pastilles *(see pages* 179-180*)*			
,, Pelletierine Tannate, gr. 2 ...	1 to 4	25	—
,, 'Pepana' *(Trade Mark)* ... (Gastro-enteric digestive) ℞ Pepsini... ... ... gr. 1 Pancreatini ... ... gr. 1 Calcii Lactophosphatis gr. 1 Scientifically prepared for the treatment of dyspeptic conditions affecting both stomach and intestine.	1 to 3	25	100
,, Pepsin, Bismuth and Charcoal ℞ Pepsini... ... ... gr. 2 BismuthiSubcarbonatis gr. 2 Carbonis Ligni ... gr. 2 Digestive, sedative and absorbent, of special service in flatulent dyspepsia.	1 to 3	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid'— — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Pepsin and Strychnine ...	1 to 3	25	100
℞ Pepsini ... ... gr. 2 Strychninæ Sulphatis gr. 1/100			
,, Pepsin, Bismuth and Strychnine	1 to 3	25	100
℞ Pepsini ... ... gr. 2 Bismuthi Subcarbonatis gr. 3 Strychninæ Sulphatis ... gr. 1/100			
,, Pepsin, Saccharated, gr. 5 ...	1 to 4 or more	—	100
,, Phenacetin, gr. 5	1 to 2	25	100
,, Phenacetin Compound ...	1 to 3	25	100
℞ Phenacetini ... ... gr. 4 Caffeinæ ... ... gr. 1 Conspicuously safe and effective in the treatment of headache and neuralgia.			
,, Phenacetin and Quinine Compound	1 to 3	—	100
℞ Phenacetini ... ... gr. 3 Quininæ Hydrobromidi gr. 1/2 Caffeinæ ... ... gr. 2/3			
,, Phenacetin and Salol ...	1 to 2	25	100
℞ Phenacetini, Salol ... ... āā gr. 2½			
,, Phenazone (*see* Antipyrine)			
,, Phenol (*see* Carbolic Acid, *page* 204)			
,, Phenol and Menthol Compound, (Capsule), boxes of 25	1 as required	–	—
℞ Phenolis ... ... gr. 1/4 Mentholis ... ... gr. 1/2 Ol. Cajuputi ... .. min. 1			
,, Phenyl Salicylate (*see* Salol, *page* 224)			
,, Phosphates of Iron, Quinine and Strychnine, dr. 1/2 ...	1 to 2	25	100
,, Phosphates of Iron, Quinine and Strychnine, dr. 1 ...	1	25	100
Present, in a soluble condition, the amount of iron (ferric state), quinine and strychnine contained in corresponding doses of Easton Syrup.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Photographic *(see pages 181–185)*			
,, Pig Bile (Purified), gr. 4	1 to 4	—	100
,, Pilocarpine Nitrate, gr. 1/10	1 to 5	25	—
,, ,, ,, gr. 1/4 ...	1 to 2	25	—
,, Piperazine, gr. 5, bottles of 25	1 to 2	—	—
,, Piperazine, gr. 5, *Effervescent*, tubes of 12	1 to 2	—	—
,, Pituitary Gland, gr. 2 ...	1 to 3	—	100
,, Plummer Pill (*see* Antimony Compound Pill)			
,, Podophyllin, gr. 1/4... ...	1 to 4	100	—
,, Podophyllin and Euonymin... ℞ Resinæ Podophylli gr. 1/4 Ext. Euonymi ... gr. 1	1 to 2	—	100
,, Podophyllin Compound ... ℞ Resinæ Podophylli ... gr. 1/6 Pil. Rhei Comp. ... gr. 2-1/2 Ext. Hyoscyami Vir. gr. 1-1/4	1 to 3	—	100
,, Potassium Bicarbonate, gr. 5	1 to 6	40	100
,, Potassium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10 ...	1 to 3	—	100
,, Potassium Chlorate, gr. 5 ... In graven white-metal boxes, each containing 40 or 100 Stimulating expectorant, superior to gargles and sprays.	1 as required	40	100
,, Potassium Chlorate and Borax In graven white-metal boxes, each containing 40 or 100 Presents its constituents in the most efficient and convenient form for the relief of hoarseness, etc.	1 as required	40	100
,, Potassium Chlorate, Borax and Cocaine Co. (*see* Voice)			
,, Potassium Iodide, gr. 1 ...	1 frequently	—	100
,, ,, ,, gr. 3 ...	1 to 6	—	100
,, ,, ,, gr. 5 ...	1 to 4	—	100
,, Potassium Nitrate (Sal Prunella), gr. 5...	1 to 4	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Potassium Permanganate, gr. 1	1 to 3	—	100
,, ,, ,, gr. 2	1	—	100
,, Prostate Gland, gr. 2-1/2 ...	1 to 2	—	100
Q			
,, Quinine, Ammoniated *(see* Ammoniated Quinine*)*			
,, Quinine, Arsenic and Strychnine	1	—	100
R Quininæ Bisulphatis gr. 1 Arseni Trioxidi ... gr. 1/20 Strychninæ ... ... gr. 1/30			
,, Quinine and Camphor ...	1 every hour	25	100
R Quininæ Bisulphatis gr. 1 Camphoræ ... ... gr. 1/5			
,, Quinine, Belladonna and Camphor...	1 to 4	25	100
R Quininæ Sulphatis gr. 1/4 Ext. Belladonnæ .. gr. 1/8 Camphoræ ... ... gr. 1/4			
,, Quinine and Rhubarb Compound (*well known for many years as* 'Tabloid' Livingstone Rouser)	1 to 3	25	100
R Pulv. Jalapæ ... gr. 1-1/2 Hydrarg. Chlor. Mit. gr. 1 Pulv. Rhei ... ... gr. 1-1/2 Quininæ Bisulphatis gr. 1			
,, Quinine and Strychnine ...	1 to 3	25	100
R Quininæ Bisulphatis gr. 1 Strychninæ Sulphatis gr. 1/60			
,, Quinine Bihydrochloride (Acid Quinine Hydrochlor.), gr. 2, gr. 3, gr. 5 and gr. 10 ...	as required	25	100
,, Quinine Bisulphate, gr. 1/2 ...	1 or more	50	100
,, ,, ,, gr. 1 ...	1 or more	36	100
,, ,, ,, gr. 2 ...	1 to 5	25	100
,, ,, ,, gr. 3 ...	1 to 3	25	100
,, ,, ,, gr. 4 ...	1 to 2	25	100
,, ,, ,, gr. 5 ...	1 to 2	25	100
,, ,, ,, gr. 10 ...	1	25	100
Proved by the experience of medical officers to retain its therapeutic activity under the most adverse climatic conditions.			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Quinine Bisulphate and Potassium Citrate, Effervescent, tubes of 25	1 to 2, repeated as necessary	—	—
R Quininæ Bisulphatis gr. 1 Potassii Citratis ... gr. 15			
,, Quinine Compound	1 every hour	25	100
R Acetanilidi (Antifebrini) gr. 1-1/5 Cinchonæ Alkaloid. gr. 1 Camphor. Monobrom. gr. 1/5 Pulv. Ipecacuanhæ gr. 1/8 Ext. Cascar. Sagrad. gr. 1/4			
,, Quinine Hydrobromide, gr. 1, gr. 2, gr. 3, gr. 4, gr. 5, each strength	as required	25	100
,, Quinine Hydrochloride, gr. 1, gr. 2, gr. 3, gr. 4, gr. 5, each strength	as required	25	100
,, Quinine Salicylate *(Physiologically pure)*, gr. 1 ...	1 to 6	25	100
,, Quinine Salicylate *(Physiologically Pure)*, gr. 3 ...	1 to 2	25	100
,, Quinine Sulphate, gr. 1, gr. 2, gr. 3, gr. 4 and gr. 5, each strength	as required	25	100
,, Quinine Valerate, gr. 2 ...	1 to 2	—	100
R			
,, Red Gum	1 occasionally	25	100
,, Reduced Iron, gr. 2	1 to 3	—	100
,, Reduced Iron Compound ...	1 to 2	25	100
R Ferri Reducti ... gr. 2 Ext. Hyoscyami ... gr. 1 Ext. Nucis Vomicæ gr. 1/2 Olei Cari ... ... min. 1/4			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Reduced Iron and Rhubarb Compound	1 to 2	25	100
R Ferri Reducti ... gr. 2 Ext. Hyoscyami ... gr. 1 Ext. Nucis Vomicæ gr. 1/2 Pil. Rhei Comp. ... gr. 1 Olei Cari ... ... min. 1/4 These two preparations are of special value in the treatment of neurasthenia, chlorosis and sequelæ.			
,, Residuum Rubrum, gr. 5 ...	1 to 4	—	100
,, Resina Podophylli (*see* Podophyllin, *page* 221)			
,, Resorcin (Resorcinol), gr. 3...	1 to 2	—	100
,, Rhubarb, gr. 3	1 to 4 or more	25	100
,, Rhubarb and Soda	1 to 5	25	100
R Pulv. Rhei ... ... gr. 3 Sodii Bicarbonatis gr. 1-1/2 Pulv. Zingiberis ... gr. 1/2			
,, Rhubarb Compound Pill ...	1 to 2	25	100
Each product equals one of the U.S.P. Pills.			
,, Rhubarb Compound Powder (Gregory Powder), gr. 5 ...	1 to 4 or more	25	100
Each contains 5 grains of the U.S.P. Powder.			
,, Rhubarb, Soda and Magnesia	1 to 5	25	100
R Pulv. Rhei ... gr. 1 Sodii Bicarbonatis gr. 1-1/2 Magnesii Carb. Pond. gr. 2 Pulv. Zingiberis ... gr. 1/2			
S			
,, Saccharin, gr. 1/2		100 & 200	
,, Salicin, gr. 5	1 to 4	25	100
,, Salicylic Acid (*Physiologically Pure*), gr. 3	1 to 4 or more	—	100
,, Salicylic Acid (*Physiologically Pure*), gr. 5	1 to 4	—	100
,, Salol (Phenyl Salicylate), gr. 5	1 to 3	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Sandal Wood Oil, min. 5, (Capsule), boxes of 25 ...	1 to 3 or more	—	—
,, Sandal Wood Oil, min. 10, (Capsule), boxes of 20 ...	1 to 2	—	—
,, Santonin, gr. 1/2	1 to 4 or more	50	—
,, ,, gr. 1	1 to 4 or more	50	100
,, ,, gr. 2	1 to 3	50	—
,, ,, gr. 3	1 to 2	50	—
,, Santonin and Calomel ...	1 to 3	25	100
℞ Santonini ... ... gr. 1 Hydrarg. Chlor. Mit. gr. 1			
,, 'Saxin' *(Trade Mark)*, gr. 1/4, bottles of 200	1 or more	—	100
More powerful and more delicate in flavour than saccharin, About 600 times sweeter than sugar.			
,, Seltzer Salt, *Effervescent*, Artificial, tubes of 25 ...	1 or more, as desired	—	—
,, Slippery Elm, bottles of 25 ...	1 or more	—	100
Each represents gr. 5 of the mucilage of Slippery Elm Bark.			
,, 'Soamin' (Sodium Para-aminophenyl-arsonate), gr. 1 *(Trade Mark)*	*See special leaflet*	—	100
,, ,, ,, gr. 3			
,, ,, ,, gr. 5 bottles of 25		—	—
,, Soda-Mint *(Neutralising)* ...	1 to 4 or more	30	100
℞ Sodii Bicarbonatis... gr. 4 Ammon. Bicarb. ... gr. 1/12 Ol. Menthæ Pip. ... *q.s.*			
A most effective antacid, aromatic and stimulating compound of exceptional purity. Possesses the advantage over the N.F. product in containing Oil of Peppermint in place of Oil of Spearmint.			
,, Sodium Bicarbonate, gr. 5 ...	1 to 6	40	100
,, ,, ,, gr. 10 ...	1 to 3	40	100
,, Sodium Borate (*see* Borax)			

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Sodium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10 ...	1 to 3	—	100
,, Sodium Bromide Compound ℞ Sodii Bromidi ... gr. 2 Strontii Bromidi ... gr. 2 Ammonii Bromidi ... gr. 1 Sodii Arsenatis ... gr. 1/60	1 to 6	—	100
,, Sodium Citrate, gr. 2 ...	for milk	—	100
,, ,, ,, gr. 5 ...	modification	25	100
,, Sodium Phenolsulphonate (*see* Sodium Sulphocarbolate)			
,, Sodium Phosphate, Effervescent, gr. 60, tubes of 25 Each represents gr. 30 (*approx.*) of Sodium Phosphate.	1 or more	—	—
,, Sodium Salicylate *(natural)* gr. 3	1 to 6 or more	25	—
,, ,, ,, ,, gr. 5	1 to 6	25	—
,, Sodium Salicylate *Physiologically Pure)*, gr. 3 ...	1 to 6 or more	25	100
,, Sodium Salicylate *(Physiologically Pure)*, gr. 5 ...	1 to 6	25	100
,, Sodium Salicylate *(Physiologically Pure)*, gr. 5, *Effervescent*, tubes of 25... ...	1 or more	—	—
,, Sodium Salicylate and Potassium Bicarbonate, of each gr. 5...	1 to 6	25	100
,, Sodium Sulphate Compound, Effervescent, tubes of 20 ... ℞ Sodii Sulph. Exsicc. gr. 30 Potassii Bitartratis gr. 10 Potassii Bicarbonatis gr. 2-1/2 Ess. Zingiberis ... *q.s.* Salis Effervescentis, *q.s.*	1 to 2	—	—
,, Sodium Sulphate, Effervescent, gr. 60, tubes of 25 ... ... Each represents gr. 30 of Sodium Sulphate.	1 or more	—	—
,, Sodium Sulphocarbolate (Phenolsulphonate), gr. 5	1 to 3	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Sparteine Sulphate, gr. 1, bottles of 25	1	—	—
,, Spinal Cord Substance, gr. 2-1/2	1 or more	—	100
,, Spleen Substance, gr. 5 ...	1 or more	—	100
,, Strontium Bromide, gr. 5 ...	1 to 6	—	100
,, Strophanthus, each containing the solid ingredients of Tincture of Strophanthus, min. 5 ... ... Unique in preserving the full therapeutic activity of the true Strophanthus kombé.	1 repeated as necessary	50	100
,, Strychnine Sulphate, gr. 1/60	1 to 4	50	—
,, ,, ,, gr. 1/30	1 to 2	50	—
,, ,, ,, gr. 1/20	1	50	—
,, ,, ,, gr. 1/15	1	50	—
,, Sugar of Milk (*see* Milk Sugar)			
,, Sulphonal (Sulphonmethane), gr. 5	1 to 6	25	100
,, Sulphonethylmethane (*see* Trional)			
,, Sulphur Compound ... ... ℞ Sulphuris Præcipitati gr. 5 Potassii Bitartratis gr. 1	1 to 4 or more	25	100
,, Sumbul Compound ... ... ℞ Ext. Sumbul ... ... gr. 1 Asafœtidæ ... ... gr. 2 Ferri Sulph. Exsicc.... gr. 1 Arseni Trioxidi ... gr. 1/40	1 to 2	—	100
,, Supra-renal Gland, gr. 5 ...	1 to 3	—	100
T			
,, Tannin, gr. 2-1/2	1 to 2	—	100
,, Tar, gr. 1	1 frequently	50	100
,, Tar and Codeine ... ... ℞ Picis Liquidæ ... gr. 1 Codeinæ ... ... gr. 1/8	1 to 4	25	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Tartarated Antimony (*see* Antimony and Potassium Tartrate, *page* 199)			
,, Tea (*see page* 231)			
,, Terebene, min. 5, (Capsule), boxes of 50	1 to 3	—	—
,, Tetranitrin (*see* Erythrol Tetranitrate, *page* 208)			
,, Thirst Quencher ... ... Containing Tartaric Acid, Sodæ Bicarb., lemon and 'Saxin.'	1 to 2 or more as desired	25	100
,, Three Bromides, Effervescent, tubes of 25 ... ... ℞ Potassii Bromidi.. 0·4 gm. Sodii Bromidi ... 0·4 gm. Ammonii Bromidi 0·2 gm. Salis Efferves. ... q.s.	1 to 2	—	—
,, Three Valerates ... ... ℞ Quininæ Valeratis gr. 1 Ferri Valeratis ... gr. 1 Zinci Valeratis ... gr. 1 Retains the full therapeutic activity of the Valerates, whilst concealing their unpleasant odour.	1	—	100
,, Thymol, gr. 1	1 to 2	25	—
,, ,, gr. 2	1	25	—
,, ,, gr. 5	Used in special cases	—	100
,, Thymus Gland, gr. 5 ...	1 to 5	—	100
,, Thyroid Colloid, gr. 1/2 ...	1 increased	—	100
,, Thyroid Gland *(Standardised)*, gr. 1/2	1 or more	—	100
,, ,, ,, ,, gr. 1	1 or more	—	100
,, ,, ,, ,, gr. 1-1/2	1 or more	—	100
,, ,, ,, ,, gr. 2-1/2	1 or more	—	100
,, ,, ,, ,, gr. 5 ... The most successful Thyroid preparation, standardised to Iodine content.	1	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

Tabloid' Brand Products—*continued*

TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Tinctures— *See* Aconite, Belladonna, Camphorated Opium, Indian Cannabis, Capsicum, Cinchona, Digitalis, Ginger, Granulated Opium, Hyoscyamus, Nux Vomica and Strophanthus			
,, Tonic Compound ... ... R Ferri Pyrophos. ... gr. 2 Quinine Bisulphatis gr. 1 Strychninæ Sulph. gr. 1/100	1 to 3	25	100
,, Trinitrin (Nitroglycerin), gr. 1/200	1 or more	25	100
,, ,, ,, gr. 1/100	1 to 2	25	100
,, ,, ,, gr. 1/50 One of the many important therapeutic agents in the introduction of which B. W. & Co. were pioneers.	1	25	100
,, Trinitrin Compound ... ... R Trinitrini ... ... gr. 1/100 Capsicini ... ... gr. 1/200 Mentholis ... ... gr. 1/100	1 to 2	25	100
,, Trional (Sulphonethylmethane), gr. 5	1 to 6	25	100
,, Turpentine Oil, Rectified, min. 10, (Capsule), boxes of 20	1 or more	—	—
U			
,, Urotropine, gr. 3	1 to 5	25	100
,, ,, gr. 5	1 to 3	25	100
V			
,, 'Varium' *(Trade Mark) (formerly known as* 'Tabloid' Ovarian Substance*)*, gr. 5...	1 to 2 or more	—	100
,, Vegetable Laxative (*see* Laxative Vegetable)			
,, Veronal, gr. 5	1 to 2	25	—

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ Tabloid — — —

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Viburnum Prunifolium Extract, gr. 2...	1 to 5	—	100
,, Vichy Salt, *Effervescent*, Artificial, N.F., tubes of 25	1 or more as desired	—	—
,, Vichy Salt, Effervescent, Artificial, with Lithium, N.F., tubes of 25 ... ... In addition to the essential constituents of Vichy Water, each contains Lithium Citrate, gr. 2-1/4.	1 or more as desired	—	—
,, Vinum Ipecacuanhæ (*see* Ipecac Extract, *page* 212)			
,, Violet Dye, Aniline, gr. 30, tubes of 12			
,, Voice (Potass. Chlor., Borax and Cocaine Co.) ... ... Also in graven white-metal boxes, each containing 25 or 80.	1 as required	25	80
Z			
,, Zinc Oxide, gr. 2	1 to 5	—	100
,, Zinc Sulphate, (*see* 'Soloid' Brand Products, *page* 194)			
,, Zinc Valerate, gr. 2	1	—	100
,, Zinc Valerate Compound ... R Zinci Valeratis ... gr. 1 Pulv. Rhei ... gr. 1 Ext. Belladonnæ ... gr. 1/8 Pulv. Zingiberis ... gr. 1	1	—	100
,, Zinc Valerate and Asafetida Compound ... ... R Zinci Valeratis ... gr. 1 Asafœtidæ ... ... gr. 1 Myrrhæ ... ... gr. 1/2	1	—	100

Pharmacopœial preparations are U.S.P. unless otherwise stated

Write the Brand in full, thus: ℞ 'Tabloid' — — —

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Zinc Valerate with Iron and Arsenic	1	—	100

℞ Zinci Valeratis ... gr. 2
Ferri Reducti ... gr. 1
Arseni Trioxidi ... gr. 1/60
Ext. Gentianæ ... gr. 1

,, Zingib. (*see* Ginger, *page* 209)

Also a wide range of other products issued under the 'Tabloid' Brand

'Tabloid' Brand Tea provides the most convenient, portable and effective means of quickly preparing tea of uniform strength. It is the most suitable tea for travellers, sportsmen, cyclists, pleasure parties, etc. A tin of 'Tabloid' Tea and a bottle of 'Tabloid' 'Saxin' for sweetening the infusion may be conveniently carried in the waistcoat-pocket.

In enamelled tins containing 100 and 200.

'Tabloid' Brand Tea, Special Blend, exceptional quality—

In enamelled tins containing 100 and 200.

Terebene, Pure (B. W. & Co.)—	DOSE
1 Imperial fl. oz., 2 Imperial fl. oz. and 16 Imperial fl. oz. bottles	5 to 15 min.

Test Cases, 'Soloid' Brand (*see* Analysis Cases, *pages* 145-147)

Tow, Carbolised, Pleated Compressed, 'Tabloid' Brand (*see* Dressings, *page* 162)

Towels, Sanitary, Pleated Compressed, 'Tabloid' Brand (*see page* 185)

TUBERCULINS, TRADE MARK 'WELLCOME' BRAND

Issued in hermetically-sealed phials

For Diagnosis—

'WELLCOME' BRAND—

,, Old Tuberculin (Human)

(A) 1 c.c. containing 0·0005 c.c. of Old Tuberculin (Koch)
(B) 1 c.c. ,, 0·001 c.c. ,, ,, ,,
(C) 1 c.c. ,, 0·005 c.c. ,, ,, ,,

Tuberculins, 'Wellcome' Brand—*continued*

'WELLCOME' BRAND—

,, Old Tuberculin (Bovine)

(A) 1 c.c. containing 0·0005 c.c. of Old Tuberculin (Koch)
(B) 1 c.c. ,, 0·001 c.c. ,, ,, ,,
(C) 1 c.c. ,, 0·005 c.c. ,, ,, ,,

For Treatment—

'WELLCOME' BRAND—

,, New Tuberculin [W] (Human)

(A) 1 c.c. containing 0·00001 mgm. of dried bacillary substance
(B) 1 c.c. ,, 0·0001 mgm. ,, ,, ,,
(C) 1 c.c. ,, 0·001 mgm. ,, ,, ,,

,, New Tuberculin [W] (Bovine)

(A) 1 c.c. containing 0·00001 mgm. of dried bacillary substance
(B) 1 c.c. ,, 0·0001 mgm. ,, ,, ,,
(C) 1 c.c. ,, 0·001 mgm. ,, ,, ,,

,, Tubercle Vaccine (Human), *Bacillary Emulsion*

(A) 1 c.c. containing 0·0001 mgm. Tubercle baccilli
(B) 1 c.c. ,, 0·0005 mgm. ,, ,,

,, Tubercle Vaccine (Bovine), *Bacillary Emulsion*

(A) 1 c.c. containing 0·0001 mgm. Tubercle bacilli
(B) 1 c.c. ,, 0·0005 mgm. ,, ,,

VACCINES, TRADE MARK 'WELLCOME' BRAND

The word 'WELLCOME' is a brand which designates fine products issued by Burroughs Wellcome & Co.

The 'WELLCOME' Brand VACCINES are prepared under U.S.A. Government Licence, No. 18, at the Wellcome Physiological Research Laboratories, Brockwell Hall, London, England. Every stage of their preparation is carried out under the immediate supervision of a skilled staff of highly-qualified experts. Being exceptionally pure, sterile, and accurately standardised, the 'Wellcome' Brand Vaccines are used with confidence to stimulate that elaboration of antibodies which is the essential feature of successful immunisation.

Vaccines should be kept in a cool dark place, and protected from extremes of temperature.

'Wellcome' Brand Vaccines are issued in hermetically-sealed phials.

Vaccines, 'Wellcome' Brand—*continued*

'WELLCOME' BRAND—

,, Gonococcus Vaccine

(A) 1 c.c. containing 20 million organisms
(B) 1 c.c. ,, 200 ,, ,,
(C) 1 c.c. ,, 1000 ,, ,,

,, Staphylococcus Vaccine, Aureus

(A) 1 c.c. containing 200 million organisms
(B) 1 c.c. ,, 1000 ,, ,,

,, Staphylococcus Vaccine, Mixed

(A) 1 c.c. containing 200 million organisms
(B) 1 c.c. ,, 1000 ,, ,,

,, Streptococcus Vaccine, Polyvalent

(A) 1 c.c. containing 10 million organisms
(B) 1 c.c. ,, 50 ,, ,,

,, Typhoid Vaccine

0·5 c.c. containing 500 million organisms
1 c.c. ,, 1000 ,, ,,

TRADE MARK 'VALOID' BRAND PRODUCTS

The word 'VALOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

'VALOID' BRAND—

,, Aromatic Cascara Sagrada, 4 Imperial fl. oz. bottles — DOSE 10 to 60 min.

,, Ergot, 4 Imperial fl. oz. bottles ... ... — DOSE 10 to 30 min.

The strength of each 'Valoid' preparation is indicated on the label.

Various other preparations are also issued under this brand.

TRADE MARK 'VALULE' BRAND PRODUCTS

The word 'VALULE' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

'VALULE' BRAND— DOSE

,, Bone Medulla, gr. 5, bottles of 100 ... 1 or more

(See also 'Tabloid' Bone Medulla, *page* 202*)*

Various other products are also issued under this brand.

'VANA' (*Trade Mark*) **Brand Tonic Wine**— DOSE

In bottles of 16 Imperial fl. oz. — Half a wineglassful

TRADE MARK 'VAPOROLE' BRAND PRODUCTS

The word 'VAPOROLE' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

Issued in hermetically-sealed containers

'VAPOROLE' BRAND—	DOSE
For Hypodermic Injection	
.. Calomel, 0·05 gm. Sterile Suspension in a Neutral Fatty Basis (1 c.c.) with Creosote and Camphor, boxes of 10	1 (by injection)
.. 'Epinine' *(Trade Mark)*, 1 in 100, 1 c.c., boxes of 10	1 (by injection)
,, 'Ernutin' *(Trade Mark)*, min. 10, *sterile*, boxes of 6...	1 (by injection)
.. Grey Oil. Sterile Suspension of 0·1 gm. of Mercury in a Neutral Fatty Basis (1 c.c.), boxes of 10	1 (by injection)
,, Iron and Arsenic, Sterilised Solution, boxes of 10	1 to 3 (by injection)
℞ Ferri Citratis Viridis ... 0·05 gm. Sodii Arsenatis Exsicc. ... 0·002 gm. Aquam ... ... ad 1 c.c.	
,, Pituitary (Infundibular) Extract, *sterilised*, 1 c.c. = 0·2 gm. of fresh substance, boxes of 6...	1 (by injection)
For Inhalation	
,, Amyl Nitrite, min. 3 and min. 5 (glass capsules), boxes of 12	1 (by inhalation)
,, Aromatic Ammonia (glass capsules), enclosed in silken sacs, boxes of 12. *For use as "Smelling Salts"*	1 (by inhalation)

Various other products are also issued under the 'Vaporole' Brand

'Vaporole' Brand Ammonium Chloride Inhaler

Delivers perfectly neutral fumes of pure ammonium chloride. A model of compactness, convenience and utility.

'VAPOROLE' ACID AND ALKALI, for use in the above Inhaler, are supplied in boxes of 12 products.

Veterinary Hypodermic Products, 'Tabloid' Brand *(See B. W. & Co.'s Price List)*

Veterinary Ophthalmic Products, 'Tabloid' and 'Soloid' Brands *(See B. W. & Co.'s Price List)*

Vulcanite Nozzles—Curved or Straight.

To screw on to collapsible tubes of 'Hazeline' Cream when it is desired to apply this preparation to the mucous membranes of the nose, ear, urethra or rectum.

Water Analysis, A Simple Method of (6th Edition)

By J. C. THRESH, M.D., D.Sc., etc.

This standard text-book affords all the information necessary to enable those with only a small knowledge of analysis to perform a chemical examination of a sample of drinking-water by means of 'Soloid' Brand Water Analysis Cases. A chapter on the examination of sewage effluents is included.

Water Analysis Cases, 'Soloid' Brand *(see page 145)*

'Wellcome' Brand Products *(see pages 237-247)*

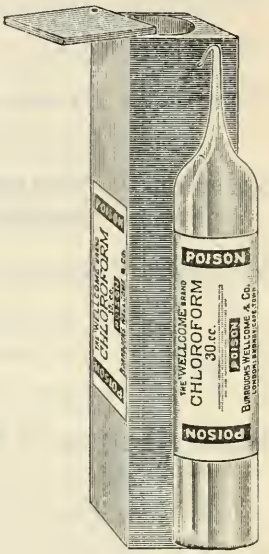
Verbal Instructions are not safe. To prevent fraud, it is best to write prescriptions for original bottles. . .

TRADE MARK 'WELLCOME' BRAND CHLOROFORM

The Ideal Anæsthetic

In 'WELLCOME' Brand CHLOROFORM anæsthetists find a product of unvarying reliability, which is exceptional in purity and uniformity of composition.

It contains precisely that small, yet definite, proportion of ethyl chloride, which clinical experience has shown to be so beneficial in the induction of chloroform anæsthesia.



Greatly reduced

TRADE MARK 'WELLCOME' BRAND ETHER

'WELLCOME' Brand ETHER, specially prepared for anæsthesia, is thoroughly pure and reliable. Specific gravity (at 25° C.), 0·710. The hermetically-sealed tubes in which it is issued prevent the escape of the volatile contents, and are convenient and portable.

(See also page 241)

TRADE MARK 'WELLCOME' BRAND PRODUCTS

The word 'WELLCOME' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of pure and reliable preparations, this brand should always be specified when ordering.

Purity and reliability

The purity and reliability of drugs are matters of the utmost importance to prescriber, dispenser and patient alike, and every opportunity should therefore be taken to ensure the supply of those chemicals which are known to be thoroughly genuine and trustworthy.

In order that products answering to this description in the highest sense may be at the disposal of the profession, Burroughs Wellcome & Co. prepare and issue a series of fine chemicals, alkaloids, etc., under the distinctive title of the 'Wellcome' Brand.

Doses in Apothecaries' and Metric weights

The recognised doses of 'Wellcome' Brand Chemicals are indicated on the labels, and in the body of this handbook, in Metric as well as Apothecaries' weights. The limits of dosage given are approximately the same in each system, but exact equivalence has not been attempted, since no useful object would be served, and awkward and confusing figures would result.

Recent additions

The new soluble Bismuth Salts and the soluble Iron Arsenate are the outcome of investigations conducted in the Wellcome Chemical Research Laboratories, and mark a great advance in the preparation of scale salts. Particular attention has also been devoted to the preparation of fine alkaloids, and the standards of purity adopted are higher in many instances than those of the United States Pharmacopœia.

'Wellcome' Brand Chloroform embodies the results of the most recent researches, and provides an anæsthetic of the highest attainable degree of purity and freedom from irritating products of decomposition.

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Aconitine, U.S.P.

The pure crystallised alkaloid from *Aconitum napellus*, free from pseudaconitine and japaconitine, and from the non-toxic aconine and benzaconine. Owing to its extremely poisonous properties, aconitine should be prescribed and dispensed with the utmost caution.

DOSE—gr. 1/640 to gr. 1/400 (0·0001 gm. to 0·00015 gm.)
U.S.P. AVERAGE DOSE—0·00015 gm. (gr. 1/400)
Tubes of gr. 5 (0·3 *gm.*)

,, Aconitine Hydrobromide

The most suitable salt of aconitine for therapeutic use. It is readily soluble in water, perfectly stable, and of uniform composition. The remarks as to purity and dosage of the alkaloid apply also to this salt.

DOSE—gr. 1/640 to gr. 1/400 (0·0001 gm. to 0·00015 gm.)
Tubes of gr. 5 (0·3 *gm.*)

,, Aloin, U.S.P.

Free from resin. Lighter in colour and affords a clearer solution than the usual commercial article.

DOSE—gr. 1/2 to gr. 2 (0·03 gm. to 0·13 gm.)
U.S.P. AVERAGE DOSE—0·065 gm. (gr. 1)
Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Aloin, Crystal

Well-defined crystals. Free from resin.

DOSE—gr. 1/2 to gr 2 (0·03 gm. to 0·13 gm.)
Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Apomorphine Hydrochloride

The melting point of this pure salt is between 295° and 300° C., not 276° C. as usually stated.

U.S.P. AVERAGE DOSE—{ Expectorant, 0·002 gm. (gr. 1/30)
{ Emetic 0·005 gm. (gr. 1/10)
Tubes of 1 *gramme*. *Bottles of* 5 *grammes.*

,, Bismuth Citrate

Practically free from nitrate (containing less than 0·05 per cent. of N_2O_5). Renders a clear solution with ammonia. Yields by the official test 56–58 per cent. Bi_2O_3.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)
U.S.P. AVERAGE DOSE—0·125 gm. (gr. 2)
Bottles of oz 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16 (454 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Bismuth and Iron Citrate (*Soluble*)

In yellowish-green scales, readily soluble in water. The Bismuth and Iron Citrates are combined in this preparation so as to represent as nearly as possible equal parts by weight of their respective anhydrous salts.

DOSE—gr. 5 to gr. 10 (0·3 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Bismuth and Lithium Citrate *(Soluble)*

In handsome, colourless scales, readily soluble in water. Its exhibition is indicated when the therapeutic effects of lithium in conjunction with those of bismuth are desired. The proportion of lithium, in combination, corresponds to 25–30 per cent., by weight, of anhydrous lithium citrate.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Bismuth Tartrate *(Soluble)*

Readily soluble in water, yielding a bright, permanent solution. Being slightly acid, it is chemically and physiologically compatible with pepsin preparations.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Brucine

Free from strychnine.

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Calcium Glycerophosphate

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Calcium Hypophosphite, U.S.P.

Special attention is invited to this salt and to its property of readily rendering a perfectly clear solution with water. It conforms strictly in all respects to the U.S.P. requirements.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

U.S.P. AVERAGE DOSE—0·5 gm. (gr. 7-1/2)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND

,, Cantharidin

The crystalline active principle of *Cantharis vesicatoria.*

Tubes of gr. 5 (0·3 *gm.*) *and bottles of* 1 *gramme.*

,, Chloroform

Of exceptional purity and reliability. Conforms to requirements of U.S.P. Specially prepared for the use of anæsthetists. Free from all irritating products of decomposition.

U.S.P. AVERAGE DOSE—0·3 c.c. (min. 5)

Amber-coloured stoppered bottles of oz. 2 (57 *gm.*), 1/4 *lb.* (113 *gm.*), 1/2 *lb.* (227 *gm.*), *and* 1 *lb.* (454 *gm.*). *Hermetically-sealed tubes of* 1/4 *lb.* (113 *gm.*), 30 *c.c.* (*approx.* 1 *fl. oz.*) *and* 60 *c.c.* (*approx.* 2 *fl. oz.*)

,, Choline Hydrochloride

The pure, white crystalline salt of choline.

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Coniine Hydrochloride

A pure, white salt of the alkaloid of *Conium maculatum.*

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Emetine *(Pure Alkaloid)*

This is the essential alkaloid of ipecacuanha, and not the mixture of alkaloids formerly known as emetine.

DOSE—Expectorant, gr. 1/200 to gr. 1/50 (0·0003 gm. to 0·0013 gm.)
Emetic, gr. 1/6 to gr. 1/3 (0·01 gm. to 0·02 gm).

Tubes of 1 *gramme. Bottles of gr.* 60 (3·9 *gm.*)

,, Emetine Hydrobromide

The most suitable salt of emetine for therapeutic use.

DOSE—Expectorant, gr. 1/200 to gr. 1/50 (0·0003 gm. to 0·0013 gm.)
Emetic, gr. 1/6 to gr. 1/3 (0·01 gm. to 0·02 gm.)

Tubes of 1 *gramme. Bottles of gr.* 60 (3·9 *gm.*)

,, Ergotinine

A pure crystalline alkaloid, obtained from ergot.

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Ergotoxine Phosphate

A crystalline salt of the alkaloid Ergotoxine, one of the active principles of Ergot.

Tubes of 0·1 *gramme*, 0·5 *gramme and* 1 *gramme.*

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Ether *(Pure)*

Prepared specially for anæsthesia. Its standard exceeds that of the U.S.P. Sp. gr. (at 25° C.) 0·710.

Hermetically-sealed tubes of 30 *c.c. and* 60 *c.c. = approx.* 1 *fl. oz. and* 2 *fl. oz.*

,, Ferric Phosphate, *Soluble*

See Iron Phosphate, *Soluble*, *page* 243

,, Gelsemine Hydrochloride (Gelsemininum hydrochloricum cryst., Ger.)

A salt of the crystallisable alkaloid of *Gelsemium nitidum.*

DOSE—gr. 1/120 to gr. 1/30 (0·0005 gm. to 0·002 gm.)

Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

,, Homatropine *(Pure Alkaloid)*

Tubes of gr. 5 (0·3 *gm.*)

,, Homatropine Hydrobromide, U.S.P.

This salt is presented in an exceptionally pure form, the importance of which is best realised when the minuteness of the dose, as a mydriatic, is considered.

DOSE—gr. 1/80 to gr. 1/20 (0·0008 gm. to 0·003 gm.)

U.S.P. AVERAGE DOSE—0·0005 gm. (gr. 1/128)

Tubes of gr. 5 (0·3 *gm.*)

,, Homatropine Methylbromide

Tubes of gr. 5 (0·3 *gm.*)

,, Hordenine

The alkaloid contained in the germ of malt-grains, presented in a pure form.

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Hydrastine *(Pure Alkaloid)*, U.S.P.

The crystallised white alkaloid from *Hydrastis canadensis.*

DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)

U.S.P. AVERAGE DOSE—0·01 gm. (gr. 1/5)

Tubes of 1 *gramme. Bottles of oz.* 1 (28·3 *gm.*)

,, Hydrastine Hydrochloride

This salt of the pure white alkaloid is readily soluble in water.

DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)

Tubes of 1 *gramme. Bottles of oz.* 1 (28·3 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Hydrastinine Hydrochloride, U.S.P.

An oxidation product of the alkaloid hydrastine, free from those other bases which are generally associated with it in its production.

DOSE—gr. 1/4 to gr. 1/2 (0·015 gm. to 0·03 gm.)
U.S.P. AVERAGE DOSE—0·03 gm. (gr. 1/2)
Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

,, Hyoscyamine *(Pure Alkaloid)*

Pure, lævo-rotatory Hyoscyamine, free from atropine and hyoscine. This product will always be supplied unless dextro-Hyoscyamine is specified.

DOSE—gr. 1/200 to gr. 1/100 (0·0003 gm. to 0·0006 gm.)
Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

,, Hyoscyamine *(dextro-Hyoscyamine)*

The optical isomeride of lævo-Hyoscyamine, to which it is very inferior in physiological activity.

Tubes of gr. 5 (0·3 *gm.*). *Bottles of* 1 *gramme*

,, Hyoscyamine Sulphate

DOSE—gr. 1/200 to gr. 1/100 (0·0003 gm. to 0·0006 gm.)
U.S.P. AVERAGE DOSE—0·0005 gm. (gr. 1/128)
Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

,, Iron Arsenate *(Soluble)*

In handsome green scales, readily soluble in water. Arsenic content is equivalent to 34–35 per cent. of anhydrous ferric arsenate. May be used for preparation of a solution similar to Syrup of Arsenate of Iron, N.F.

DOSE—gr. 1/16 to gr. 1/4 (0·004 gm. to 0·015 gm.)
Bottles of oz. 1 (28·3 *gm.*)

,, Iron Glycerophosphate

Handsome scales, readily soluble in warm water.

DOSE—gr. 3 to gr. 6 (0·2 gm. to 0·4 gm.)
Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Iron Hypophosphite *(Soluble)*

In handsome greenish scales, distinguished from the ordinary iron hypophosphite by being readily soluble in water. Contains about 12 per cent. of iron.

DOSE—gr. 1 to gr. 5 (0·06 gm. to 0·3 gm.)
Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Iron Phosphate *(Soluble)*, U.S.P.

In the form of bright green transparent scales, freely soluble in water. Conforms in every respect to the requirements of the United States Pharmacopœia.

DOSE—gr. 5 to gr. 10 (0·3 gm. to 0·65 gm.)

U.S.P. AVERAGE DOSE—0.25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Iron Pyrophosphate *(Soluble)*, U.S.P.

DOSE—gr. 5 to gr. 10 (0·3 gm. to 0·65 gm.)

U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Magnesium Glycerophosphate

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Manganese and Iron Citrate *(Soluble)*

A scale salt, readily soluble in water, containing about 7 per cent. of manganese and 14 per cent. of iron in organic combination.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16. (454 *gm.*)

,, Manganese and Iron Citrate with Arsenic *(Soluble)*

Contains 0·5 per cent. of arsenic trioxide, but is otherwise identical with Manganese and Iron Citrate *(Soluble)*. *(See above.)*

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0.65 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Manganese and Iron Citrate with Quinine *(Soluble)*

Contains 15 per cent. of quinine, but is otherwise identical with Manganese and Iron Citrate *(Soluble)* *(See above)*.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

.. Manganese and Iron Citrate with Strychnine *(Soluble)*

Contains 1 per cent. of strychnine, but is otherwise identical with Manganese and Iron Citrate *(Soluble)*. *(See previous page).*

DOSE—gr. 1 to gr. 3 (0·06 gm. to 0·2 gm.)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Manganese and Iron Phosphate *(Soluble)*

A scale salt readily soluble in warm water. Contains about 7 per cent. of manganese and 14 per cent. of iron.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16 (454 *gm.*)

,, Manganese Citrate *(Soluble)*

In the form of handsome, nearly colourless scales, which are readily soluble in water. Contains about 12 per cent. of manganese in organic combination.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Bottles of oz 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Mercurous Chloride, U.S.P. (Calomel)

Of uniform physical character, prepared by sublimation. Being free from mercuric chloride and other contaminations, it possesses desirable uniformity of action. Guaranteed English preparation.

DOSE—gr. 1/2 to gr. 5 (0·03 gm. to 0·3 gm.)

U.S.P. AVERAGE DOSE—{ Laxative, 0·125 gm. (gr. 2) / Alterative, 0·065 gm. (gr. 1)

Bottles of oz. 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16 (454 *gm.*)

,, Nicotine

The pure re-distilled alkaloid of *Nicotiana tabacum.*

Tubes of 1 *gramme. Bottles of* 5 *grammes.*

,, Nicotine Tartrate

A definite, well crystallised salt, readily soluble in water.

Tubes of 1 *gramme and* 5 *grammes.*

,, Physostigmine *(Pure Alkaloid)*

Tubes of gr. 2 (0·13 *gm.*) *and gr.* 5 (0·3 *gm.*)

,, Physostigmine Hydrobromide (Eserine Hydrobromide)

DOSE—gr. 1/60 to gr. 1/20 (0·001 gm. to 0.003 gm.)

Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

., Physostigmine Salicylate (Eserine Salicylate), U.S.P.
DOSE—gr. 1/60 to gr. 1/20 (0·001 gm. to 0·003 gm.)
U.S.P. AVERAGE DOSE—0·001 gm. (gr. 1/64)
Tubes of gr. 5 (0·3 *gm.*) *and* 1 *gramme*

., Physostigmine Sulphate (Eserine Sulphate), U.S.P.
DOSE—gr. 1/60 to gr. 1/20 (0·001 gm. to 0·003 gm.)
U.S.P. AVERAGE DOSE—0·001 gm. (gr. 1/64)
Tubes of gr. 2 (0·13 *gm.*) *and gr.* 5 (0·3 *gm.*)

.. Pilocarpine Hydrochloride, U.S.P.
'Wellcome' Brand pilocarpine salts are free from the less active *iso*pilocarpine and the inactive pilocarpidine. Their purity is guaranteed by their respective melting points, which are indicated on each package.
DOSE—gr. 1/20 to gr. 1/2 (0·003 gm. to 0·03 gm.)
U.S.P. AVERAGE DOSE—0·01 gm. (gr. 1/5)
Tubes of 1 *gramme. Bottles of gr.* 60 (3·9 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*)

., Pilocarpine Nitrate, U.S.P.
This salt, which is stable, is the one best adapted for general use.
DOSE—gr. 1/20 to gr. 1/2 (0·003 gm. to 0·03 gm.)
U.S.P. AVERAGE DOSE—0·01 gm. (gr. 1/5)
Tubes of 1 *gramme. Bottles of gr.* 60 (3·9 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*)

,, Podophyllin (Resina Podophylli, U.S.P.)
Prepared strictly in accordance with the official method, from a carefully selected drug.
DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)
U.S.P. AVERAGE DOSE—{ Purgative, 0·015 gm. (gr. 1/4)
Laxative, 0·005 gm. (gr. 1/10)
Bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Potassium Glycerophosphate
A syrupy liquid containing 50 per cent. of anhydrous potassium glycerophosphate.
DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)
Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Bihydrochloride
DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
Bottles of oz. 1 (28·3 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Quinine Bisulphate, U.S.P.

Being readily soluble in water (1 in 10), this salt is more convenient for many purposes than the less soluble sulphate.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hydrobromide, U.S.P.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hydrochloride, U.S.P.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hypophosphite

DOSE—gr. 1 to gr. 3 (0·06 gm. to 0·2 gm.)

Bottles of oz. 1 (28·3 *gm.*)

,, Quinine Lactate

DOSE—gr. 1 to gr. 5 (0·06 gm. to 0·3 gm.)

Bottles of oz. 1 (28·3 *gm.*)

,, Quinine Phosphate

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)

Bottles of oz. 1 (28·3 *gm.*)

,, Quinine Salicylate, U.S.P.

Prepared from physiologically pure salicylic acid.

DOSE—gr. 2 to gr. 9 (0·13 gm. to 0·4 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Sulphate

This salt is presented in a more compact form of crystals than that usually supplied, although identical in composition with the official salt. Its diminished bulk renders it more convenient for storage and dispensing.

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Quinine Sulphate—*continued*

When ordering Quinine Sulphate, please indicate whether "compact" or "large flake" is required.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1 (28.3 *gm.*) *and oz.* 4 (113 *gm.*). *Tins of oz.* 25 (709 *gm.*) *and oz.* 100 (2835 *gm.*)

,, Quinine Sulphate—*(Large Flake)*

This is the official salt in the usual bulky form of light feathery crystals. We recommend in preference the compact crystals, which occupy one-third the space, as being more portable and convenient.

When ordering Quinine Sulphate, please indicate whether "compact" or "large flake" is required.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·25 gm. (gr. 4)

Bottles of oz. 1/4 (7 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*). *Tins of oz.* 4 (113 *gm.*), *oz.* 25 (709 *gm.*) *and oz.* 100 (2835 *gm.*).

,, Strophanthin, U.S.P.

A preparation of uniform activity, controlled by physiological test.

U.S.P. AVERAGE DOSE—0·0003 gm. (gr. 1/200)
Tubes of gr. 5 (0.3 *gm. and* 1 *gramme*)

,, Veratrine

Pure crystalline alkaloid, not a mixture.

Tubes of gr. 5 (0·3 *gm.*). *Bottles of* 1 *gramme, and gr.* 60 (3·9 *gm.*).

For prices, see separate list

TRADE MARK **'WELLCOME' BRAND CHEMICALS**

WERE AWARDED

GRAND PRIZES AT THE FOLLOWING INTERNATIONAL EXHIBITIONS

St. Louis, 1904
Liége, 1905
Milan, 1906
Franco-British, London, 1908
Japan-British, London, 1910
Brussels, 1910

BURROUGHS WELLCOME & CO.

LONDON (ENG.)

NEW YORK MONTREAL SYDNEY CAPE TOWN

MILAN SHANGHAI BUENOS AIRES

U.S.A. Offices and Exhibition Room:

35, 37 & 39, WEST THIRTY-THIRD STREET
(NEAR FIFTH AVENUE), NEW YORK CITY

Cables and Radiotelegrams—"TABLOID, NEW YORK"

Telephone No.—"508 MURRAY HILL" *(two lines)*

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o o o

Canadian Offices and Warehouses:

101-109, CORISTINE BUILDING
ST. NICHOLAS & ST. PAUL STS., MONTREAL

o o o

DEPOTS IN U.S.A.

ATLANTA, GA.—Jacobs' Pharmacy Co., 10, Marietta Street

BALTIMORE, MD.—Muth Bros. & Co., 23, South Charles Street

BOSTON, MASS.—Eastern Drug Co., 8-20, Fulton Street

CHICAGO, ILL.—E. H. Buehler, 134, Lake Street

DALLAS, TEX.—J. W. Crowdus Drug Co.

DULUTH, MINN.—Leithhead Drug Co.

HOUSTON, TEX.—Houston Drug Co., 102, Travis Street

INDIANAPOLIS, IND.—Kiefer Drug Co.

KANSAS CITY, MO.—Faxon & Gallagher

LOS ANGELES, CAL.—Brunswig Drug Co. (late F. W. Braun & Co.), 501, N. Main Street

LOUISVILLE, KY.—Robinson-Pettet Co., 528-532, West Main Street

NEW ORLEANS, LA.—Finlay, Dicks & Co., Magazine and Common Streets

PHILADELPHIA, PA.—Smith, Kline & French Co., 429-435, Arch Street

PHŒNIX, ARIZ.—N. M. Miller

PITTSBURG, PA.—W. J. Gilmore & Co., 426, Seventh Avenue

PORTLAND, OREGON.—The Clarke Woodward Drug Co., 401-407, Hoyt Street

ST. LOUIS, MO.—Meyer Bros. Drug Co., Fourth and Clark Streets

ST. PAUL, MINN.—Noyes Bros. & Cutler, 396-408, Sibley Street

SAN ANTONIO, TEX.—San Antonio Drug Co.

SAN FRANCISCO, CAL.—Langley & Michaels Co., 34-40, First Street

SEATTLE, WASH.—Stewart Holmes Drug Co., 209-211, Third Avenue Street

SPOKANE, WASH.—The Spokane Drug Co.

MEMORANDA

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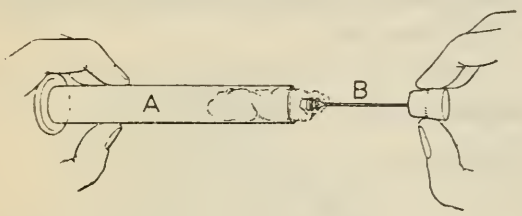
MEMORANDA

TRADE MARK 'WELLCOME' BRAND

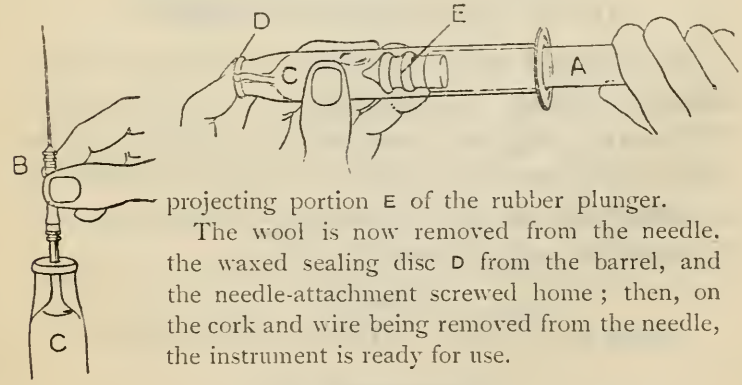
CONCENTRATED DIPHTHERIA ANTITOXIN IN SYRINGE-CONTAINERS

Each container presents an accurate dose of Antitoxin in a thoroughly reliable Syringe.

This container, the acme of convenience, presents only two parts—the partly hollow piston A, containing the needle B, and the barrel C, containing the Serum. When the syringe is required the cork in which the needle B is embedded is withdrawn from A, and placed on a clean surface.



The waxed end D of the barrel is then pressed with the fore-finger of the left hand and the piston screwed on to the projecting portion E of the rubber plunger.



The wool is now removed from the needle, the waxed sealing disc D from the barrel, and the needle-attachment screwed home; then, on the cork and wire being removed from the needle, the instrument is ready for use.

(See also pages 172-174)

TRADE MARK 'ERNUTIN' BRAND PRODUCTS

The Ideal Form of Ergot

'ERNUTIN' presents the active therapeutic principles of Ergot, pure and in a physiologically standardised solution.

In post-partum hæmorrhage, normal confinements, and in all other conditions in which Ergot is indicated, 'ERNUTIN' is successful when less scientifically-made preparations of the drug fail.

'ERNUTIN' (Oral), and 'VAPOROLE' 'ERNUTIN' for hypodermic administration, are issued.

(See also pages 167 and 234)

TRADE 'TYRAMINE' MARK

(Para-hydroxyphenylethylamine)

An important active constituent of aqueous extracts of ergot. Given hypodermically or by the mouth, 'TYRAMINE' produces a marked rise of blood-pressure, with greatly increased vigour of the heart's action. It is indicated in shock or collapse, and is used to produce post-partum contraction of the uterus.

PREPARATION

Issued as 'TABLOID' Hypodermic 'TYRAMINE'

(See also page 174)

TRADE MARK 'TABLOID' BRAND

BISMUTH GAUZE

'TABLOID' BISMUTH GAUZE is a dressing which possesses all the valuable antiseptic and deodorant properties of iodoform gauze, but is entirely free from the disadvantages of that product. Its use

Showing form of packing with one of the lengths of gauze removed from its protective covering. Approx. one-half actual size

is confidently recommended in all cases where iodoform or similar gauzes are indicated.

'TABLOID' BISMUTH GAUZE is non-toxic and inodorous, and may be left in position for at least five days without becoming offensive.

(See also page 163)

TRADE MARK 'VAPOROLE' BRAND

AMMONIUM CHLORIDE INHALER

Perfectly neutral vapour is ensured by means of precisely-adjusted charges of acid and ammonia in 'Vaporole' Brand hermetically-sealed containers. The vapour can be medicated with 'Pinol,' benzoin or other volatile medicament, by impregnating the sponge. The outfit goes into the pocket.

(See also page 235)

TRADE MARK 'VAPOROLE' BRAND

AROMATIC AMMONIA

(For use as "SMELLING SALTS")

The acme of compactness and portability. A useful adjunct to the physician's emergency outfit, and ideal for patients subject to fainting fits. Each dainty product possesses a charming fragrance and is as pungent and refreshing as a freshly-charged bottle of smelling salts.

(See also page 234)

TRADE MARK 'KEPLER' SOLUTION

(Of Cod Liver Oil in Malt Extract)

Ready digestibility and supreme activity as an energiser and body-builder render 'KEPLER' SOLUTION of inestimable value to members of strumous or phthisical families; also in cases of gastric ulcer or gastric catarrh, infantile diarrhœa, and the dyspepsia and diarrhœa of phthisis.

'KEPLER' SOLUTION is characterised by a rich nutty malt flavour, which is irresistible.

Greatly reduced

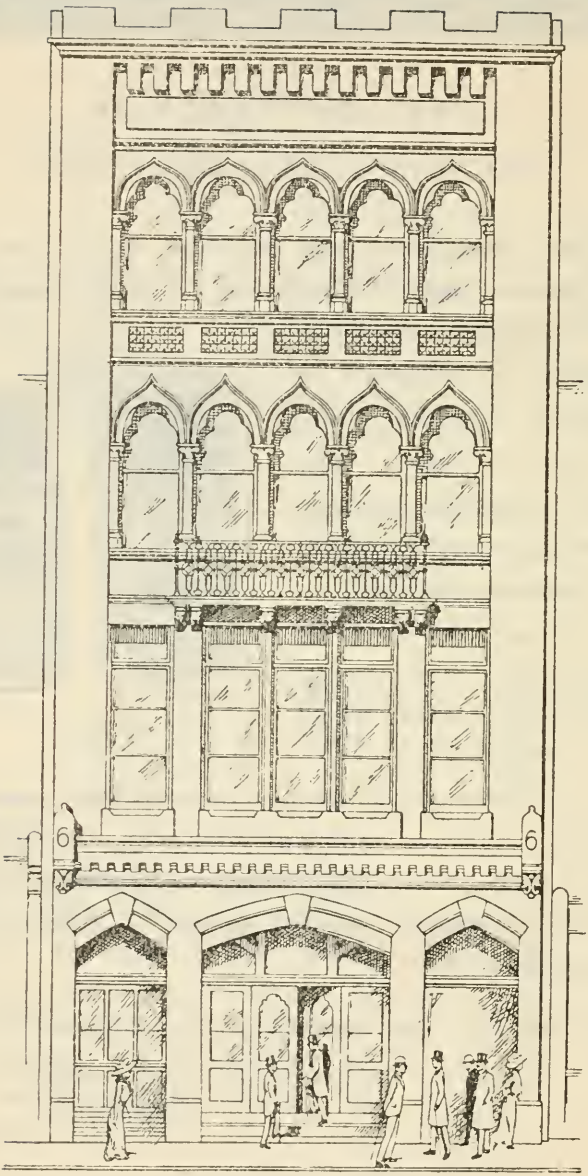
As a galactogogue it takes a foremost place, increasing the supply of milk and improving the quality.

It combines with milk to form a nutritious drink, and can be spread between biscuits and eaten as a sandwich.

The following combinations are also supplied:—

'KEPLER' SOLUTION with Iron Iodide
" " " Phosphorus

(See also pages 174-176)



WELLCOME CHEMICAL RESEARCH LABORATORIES
KING STREET, LONDON (ENGLAND)

This INSTITUTION is conducted separately from the business of BURROUGHS WELLCOME & CO., and is under distinct direction, although in the Laboratories a large amount of important scientific work is carried out for the firm.

AWARDS

CONFERRED UPON THE

WELLCOME CHEMICAL RESEARCH LABORATORIES

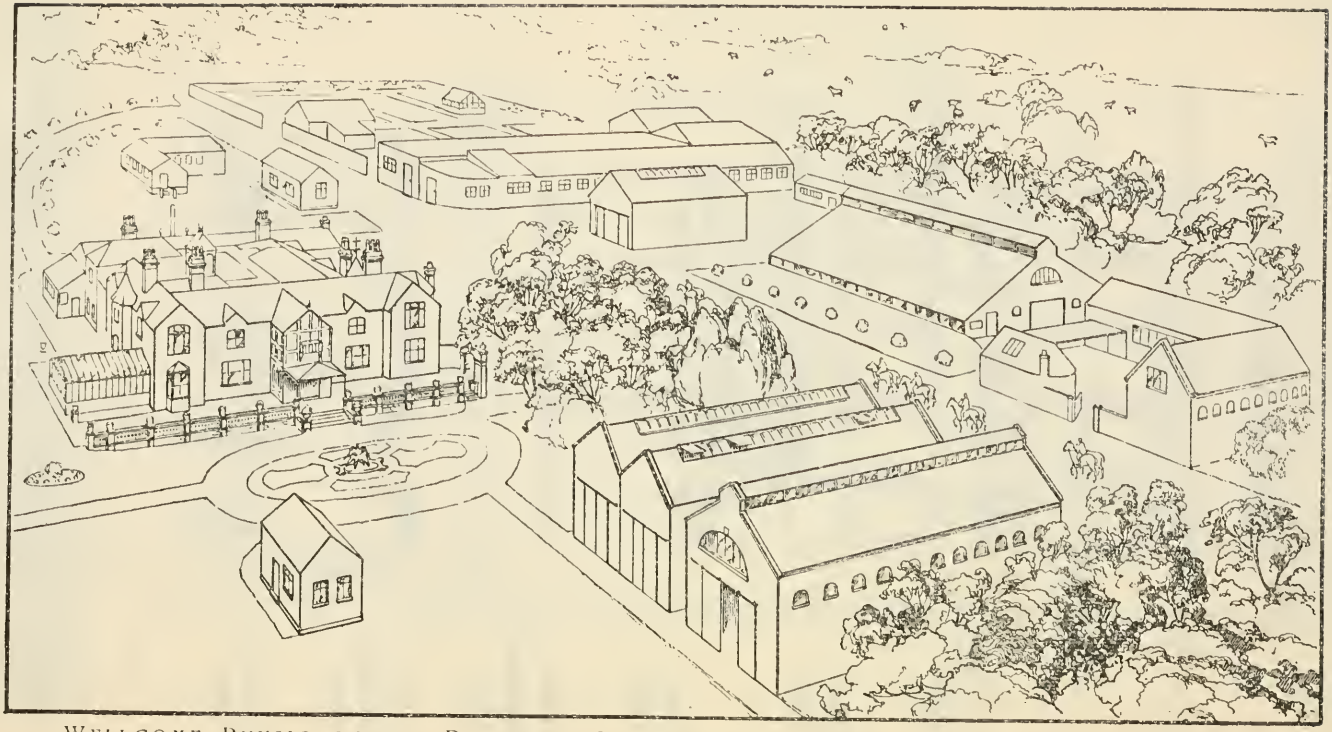
AT INTERNATIONAL EXHIBITIONS

ST. LOUIS 1904	ONE GRAND PRIZE THREE GOLD MEDALS
LIÉGE 1905	ONE GRAND PRIZE ONE DIPLOMA OF HONOUR TWO GOLD MEDALS
MILAN 1906	ONE GRAND PRIZE
LONDON (Franco-British) 1908	TWO GRAND PRIZES
LONDON (Japan-British) 1910	ONE GRAND PRIZE
BRUSSELS 1910	THREE GRAND PRIZES ONE DIPLOMA OF HONOUR

FOR

CHEMICAL AND PHARMACOGNOSTICAL RESEARCH

ETC., ETC.



WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES, HERNE HILL, LONDON (ENGLAND)

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Awards

CONFERRED UPON THE

WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES

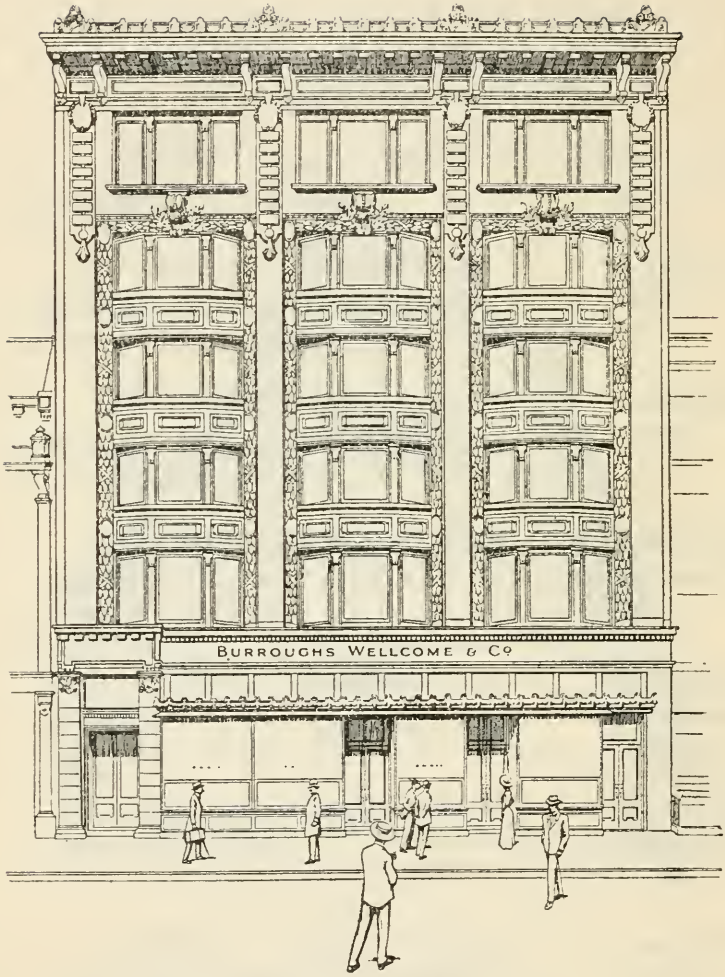
AT INTERNATIONAL EXHIBITIONS

ST. LOUIS 1904	ONE GRAND PRIZE ONE GOLD MEDAL
LIÉGE 1905	ONE GRAND PRIZE TWO GOLD MEDALS
MILAN 1906	ONE GRAND PRIZE
LONDON (Franco-British) 1908	TWO GRAND PRIZES
LONDON (Japan-British) 1910	ONE GRAND PRIZE
BRUSSELS 1910	THREE GRAND PRIZES ONE DIPLOMA OF HONOUR

FOR

PHYSIOLOGICAL RESEARCH AND PREPARATIONS

ETC., ETC.



BURROUGHS WELLCOME & CO.'S
NEW YORK OFFICES AND EXHIBITION ROOM
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THE

Trade Marks

'Tabloid' AND 'Soloid' } Invented by B. W. & Co.

Are B.W.&Co. **Hall Marks**

They *mark* the work of
Burroughs Wellcome & Co.

They *mean* "Issued by
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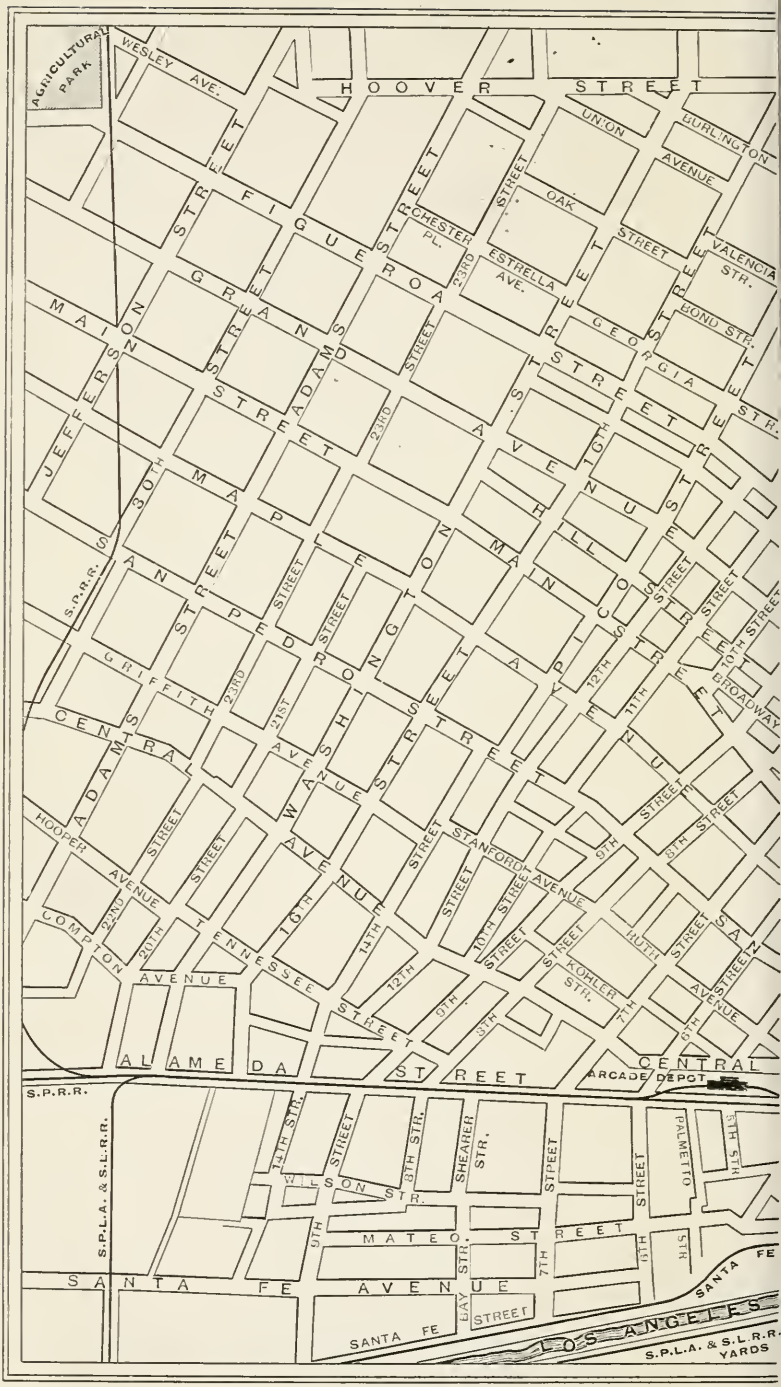
They *stand* for

24 CARAT products



PLAN OF CENTRAL PORTION

Convocation Hall, A. M. A. Meeting, 1911

OF LOS ANGELES, 1911