

Subculoid (hypodermic) Lobelia; dose, from two to sixty minims; usually from ten or thirty minims repeated as occasion demands.

The preparation of *lobelia* which is to be used hypodermically, must be selected with great care. If the agent be given internally, any good fluid preparation is effective, but in its hypodermic use, local irritation, nausea, severe vomiting, even general prostration occur more frequently from the ordinary fluid preparations. If depression with the above complications can be properly antagonized, and is not objectional in a sthenic patient. and the case immediately demands the remedy when only these are at hand, much the same results will occur as from the perfected preparations.

Extended and persistent experimentation has been made nearly as possible a perfect fluid preparation for hypodermic use. The nearest to this at the present time is the so-called **Subculoid lobelia**. This is devoid to a very large extent of the objectionable features of the other preparations, and so nearly devoid of emetic properties that this is now considered a negligible quality. It is always best however to use any preparation hypodermically warmed, the parts aseptic, and to apply a hot compress over the seat of the application immediately for a few minutes. Except for its local effects, there is but little difference between the *Subculoid lobelia* and the specific medicine *lobelia*.

Administration—Given by mouth for the various purposes for which it has long been used, the dosage of the specific medicine should be small, and frequently repeated. As an emetic or antispasmodic, the dose is from fifteen to thirty minims. Given hypodermically, from five to fifteen drops is usually sufficient in all children's cases, and from ten to thirty drops in adult cases. If no untoward results occur after the first dose, and the condition demands it, a more or less frequent dose and an increase in the size of the dose is justified by the severity of the symptoms, and by the demand for its influence.

Every prescriber will soon learn to make these adjustments correctly. In an occasional case a very small dose is sufficient.

Physiological Action—*Lobelia* relieves pain due to spasm of any character. But in its antispasmodic and relaxing influence it is not narcotic in the same sense as *opium*. It exercises a soothing influence over nerve irritability, and a distinct anodyne result ensues. General

relief from pain often follows when other measures have failed. The pain from renal or hepatic stone is more quickly relieved by it and more permanently, often, than by morphine because of the general relaxation.

As used by the mouth, prior to our knowledge of its peculiar action hypodermically, it was determined that *lobelia* in toxic doses causes extreme prostration, burning pain in the esophagus, rapid, feeble pulse, fall of temperature, collapse, coma or convulsions and death from respiratory failure. Moderate doses cause dizziness, nausea, vomiting, headache and general tremors. In doses of twenty grains it is a prompt emetic, but emesis is accompanied by excessive prostration, relaxation and a feeble pulse. In small doses it causes increased expectoration and diaphoresis. Like other narcotics, a small dose stimulates, while a large dose depresses the nervous system.

Although usually classed among emetics, *lobelia* is a nerve sedative of great power, and in this influence as an antispasmodic it is exceeded by but few remedies.

Death has occurred in a very few cases from excessive doses of the remedy, but toxic effects are not apparent where the medicinal dose is prescribed. Where death has occurred, its influence as a nerve depressant has been plainly shown in the profound, general muscular relaxation, with greatly impaired muscular power, general trembling, shallow respiration, cold, clammy skin, feeble and depressed heart action. It acts like *tobacco* and *physostigma* upon the respiration, the heart's action continuing after the respiration has ceased. Paralysis of the respiratory nerves is its prominent influence.

The observations made of its physiological action when the remedy is used hypodermically are, that so used, the direct local influence of the agent upon the stomach is avoided and if the remedy is properly prepared, emesis, violent vomiting, profound relaxation, with prostration and depression, which were found present from that local influence are all absent. A total of less than five per cent of the cases will show emesis or even nausea.

Used in a medicinal dose, it softens the pulse, slows the respiration, quiets the nervous system, and produces a freedom of the respiration and circulation. One of our writers claims that he believes that the

agent introduced by the stomach acts upon the pneumogastric nerve, while, when introduced hypodermically and absorbed, it acts more directly upon the sympathetic nervous system.

Lobelia acts directly upon the regulating centers of the system; those of heat, of the circulation, of nerve influences, both motor and sensory. It supports the heart; it overcomes excessive blood pressure, and restores normal tension. It is directly indicated in depression as well as in over-stimulation. It also controls **hyperemia**. Whatever the cause of any great depression, we cannot yet define the marvelous improvement observed from this agent. We hardly call it stimulation, and yet the improved condition is such as would ultimately follow the action of the very best, most natural stimulants or tonics.

It is hard indeed to express the apparently contradictory influence exercised on the above named **depression**, which has been overcome in its most extreme form—(in fact, in some cases where the skin was so cold and the process of life so feeble as to cause one to think that death had occurred and yet the reaction appears very promptly)—between this condition and its influence in **profound heat stroke**, as one doctor reports, where the temperature was 110 degrees, and others have reported from 106 degrees and up. Dr. Jentzsch who is enthusiastic about the action of this remedy in heat stroke, hesitates in claiming that *lobelia* is a stimulant, pure and simple, as we understand the action of stimulants. Unlike brandy or strychnine or *digitalis*, the immediate and sharp, stimulating, or whipping-up effects do not appear in the same way to be lost when the effect of the medicine is gone.

The improvement on all conditions is plainly marked, but the restoration is nearly that of a full normal condition obtained in a smooth and satisfactory manner. It is more like an increase of vital force, which remains to a large extent, in the improved condition of all the functions after the remedy has had time to be fully eliminated.

From my own personal observations and from the conclusions I have drawn from the observations of others, I would say that *lobelia* seems at once to supply a subtle but wholly sufficient force, power, or renewed vital influence, by which the nervous system and the essential vital force within the system again reassert themselves and obtain complete control of the functional action of every organ. From this influence, in a natural and sufficient manner, a complete harmonious operation of

the whole combined forces is at once resumed, in some cases in an almost startling manner. Other agents stimulate, prop up, whip up or temporarily increase the force and power of one or another function, while this remedy with this peculiar power at once assumes control of the whole, and succeeds against all the opposing influences.

Specific Symptomatology—This remedy is specific given in irritable, spasmodic and **oppressed breathing**, and in respiratory disorders from exalted nerve force and nerve irritation.

It is contraindicated in general relaxation and in dyspnea from enlarged or fatty heart, or from hydropericardium, or enfeebled heart, with valvular incompetence. It is specific in threatened **spasm** with exalted nerve action—a high degree of nerve tension with great restlessness and excitability, flushed face and contracted pupils. It is a prompt emetic in full doses. The following observations are made almost entirely from its hypodermic use.

Therapy—In **spasmodic asthma**, if given in a dose of from thirty minims to one dram during the paroxysm, the benefit is apparent almost immediately. Small doses are of but little or no benefit in such a case. This full dose may be once repeated, but this is seldom necessary, and a single dose seldom produces vomiting. It is useful in asthmatic breathing. When continued with other agents it must be given in doses not to exceed ten minims three or four times a day.

Lobelia is of value in **whooping-cough**. It is a reliable expectorant, and either alone or in combination with other indicated remedies, is useful in all cases of dry, hard, barking cough, or where the expectoration is difficult to raise, in **spasmodic croup**, and in **membranous croup** without depression.

Children are less liable to be unpleasantly affected with **Lobelia** than adults.

Its action as an **emetic** is most profound. It is not so commonly used at the present time for that purpose as **ippecac**, as the irritation, nausea and general depression are usually greater than is necessary.

It resembles tobacco in this and in many other particulars, producing a burning sensation in the fauces which is persistent and unpleasant.

Either alone or combined with tincture of *capsicum*, it has long been used to overcome **spasms** of all characters, from **infantile convulsions** to **puerperal eclampsia** and **epilepsy**.

It has been given in **tetanus** with benefit, and with success in the spasm of **hydrophobia** and of strychnia poisoning.

Because of the great importance placed upon this remedy by Thompson, and the violent opposition which followed his endorsement, it has been openly decried by the profession at large, and denounced because of its inactivity in small doses, and declared to be a profound poison in full doses. If it had been given fearlessly in full, large, single doses, the best of results would have occurred.

As a remedy for hysteria, **hysterical paroxysms** and **hysterical convulsions**, the combined tinctures of this remedy and *capsicum* have no superior. It will immediately terminate many paroxysms and quickly control convulsive attacks.

This agent has in the past been exceedingly popular as a relaxant in **rigid os uteri**. Very many cases are on record of almost immediate relaxation and rapid termination of labor.

Ten years ago Dr. Ernst Jentsch, sitting one night at the bedside of his only son in the throes of death, from fulminating diphtheria, after antitoxin to the extreme limit had been used, and all other available measures, claims that in answer to prayer, with a peculiar confidence that he could not account for, gave the boy, without any precedent, a hypodermic injection of one-half dram of specific medicine, *lobelia*. He made the following statement as to results:

“All the fatal symptoms gave way to those of returning health, the patient passing from a death struggle into a peaceful slumber, from which he awoke after three hours, somewhat weak. Another dose was given, which was followed by a still more pronounced reaction for the better. The patient from that time continued to convalesce, and, with the exception of a post-diphtheritic pharyngeal paralysis, he made a rapid recovery. Later, the paralysis yielded to smaller doses of the same remedy.”

“In any case where there is the least suspicion of diphtheria not always waiting for a test, I give a half dram dose of the specific medicine *lobelia* hypodermically, and repeat it from two to twelve hours once or oftener, as indicated, until reaction sets in, which means a return to health.”

In **Diphtheria**, *lobelia* has now been tested in several thousand cases. At first there was some doubt from the reports received, but later and more recently reports are quite uniformly favorable in encouraging the belief that it will be found to be fully as useful a remedy as the serum antitoxin. It has several advantages. It not only removes the membranes, but it destroys the germs of disease, and at once puts the patient in the best possible physical condition to resist its inroads. It preserves intact the functions of the body, and preserves or restores the functions of the nervous system. It is nontoxic, has not only no anaphylaxis following, but a single dose restores a patient suffering from anaphylaxis from the serum antitoxin. The latest report at this writing received found nine children in a hovel with no care, all with diphtheria and only one with the disease mildly. Using nothing whatever except *lobelia*, the physician lost one case out of the nine, putting them, however, into as good condition as possible in their surroundings from the beginning of his treatment.

The dose for diphtheria varies from ten minims to forty, and is administered according to the demands of the patient from one hour at first to six hour intervals, with one or two injections a day for any subsequent paralysis.

Lobelia has long been used in **asthma**. Taken by the mouth severe spasmodic cases are relieved. Hypodermically the same results are obtained. An occasional case however will show unfavorable results, and in some cases where there are serious heart lesions, there has been prostration, depression, and threatened death which were combated only by vigorous measures. The smaller dose should be used in these cases until no evidence of idiosyncrasy or susceptibility are known to occur. In the absence of these indications then the agent can be used fearlessly and in increasing doses if necessary.

This agent is equally satisfactorily in the treatment of **diphtheritic-membranous—croup**. The observations have been universally favorable. **Simple spasmodic croup** yields to it promptly. As yet no undesirable results are reported. The dose is from five to fifteen minims, repeated as

needed.

In the treatment of **tonsillitis**, it will not be needed except in the severer forms, in which it will promote satisfactory results.

In the treatment of **coughs**, those due to pneumogastric irritation, are quickly relieved as well as the pain accompanying. It promotes normal expectoration and respiratory freedom.

In the treatment of **whooping cough**, but few cases are reported at this time, but the suggestion is that it be given just preceding the attack of cough and repeated if possible on two or three consecutive attacks.

In the treatment of **bronchialcoughs** and **acutebronchitis**, especially if the bronchial tubes are loaded with mucus and there is a sense of tightness with some difficulty in breathing, the agent is directly indicated.

If with **pneumonia** or **broncho-pneumonia** there should be rapid shallow breathing with anxious expression of the countenance and a tendency to cyanosis, this agent is clearly indicated. It improves the heart's action; relieves the capillary circulation, and dissipates cyanosis, more quickly than any other remedy.

It is well known that in the treatment of **pneumonia** in the later stages, symptoms occur frequently which seem to threaten an almost immediate fatal termination. This group of symptoms is promptly met with a single hypodermic dose of **lobelia**. This is especially true with children. I have many reports where the agent snatched the little patient as it were, from the grave, just as death's door seemed to be closing upon it.

When from any cause, usually from heart complications, the patient complains of **shortness of breath**, especially if there be any sense of oppression in the chest, or tightness around the chest, a medium dose of **lobelia** hypodermically will give full freedom and in many cases a careful properly timed repetition of the injection will give permanent relief.

In the treatment of **nausea**, **persistent vomiting**, and a generally disturbed condition of the stomach, if ten drops of **lobelia** be added to

half a glass of water and a teaspoonful be given by the mouth every ten or fifteen minutes, it will often give prompt relief.

It is also useful adjusted in the same manner as the above for **sick headaches** and given over a period of time with reference to the conditions that induce the disease and also to any possible periodical recurrence of the disease, it will be found curative.

It was used successfully in one case of persistent **hiccough**. One-half dram repeated in half an hour cured the case.

In the treatment of **acute spasm** in the stomach, in the pylorus or cardiospasm, this agent is of immediate benefit. It is exceedingly beneficial in spasms of any kind within the abdomen. Some obstinate cases having been cured with it. It quickly relieves certain cases of chronic constipation, and is positively indicated in obstipation and where the obstruction of the bowels seem certain. It thoroughly relaxes **muscular spasm** and encourages peristalsis.

Used in **acute heart failure** with imminent danger, a full injection is demanded. Many lives have been saved by its peculiar sustaining influence. No depression is observed, no erratic action, even when what would seem to be unnecessarily large doses have been given. One to two drams have been frequently given and repeated with only good results. In these cases indications for other remedies should be looked for and met.

Heart conditions depending upon feebleness or lack of tone or of muscular power should have occasional regular doses of this agent. It can be given with more freedom than any other heart stimulant. A case of **tachycardia** is reported where it was used with temporary benefit only.

In **chronic heart** disease with dilatation—hypertrophy—the consequent valvular deficiency and other structural defects, the agent must be given with caution as in a few cases untoward results have been seen.

The prompt and satisfactory effect of **lobelia** upon **angina pectoris** has been known for fifty years or more, the old prescribers giving it by the mouth freely and with positiveness for this disorder. Hypodermically the agent is given in about thirty drop doses but in many cases fifteen

drops have been sufficient. Usually the larger the dose the more satisfactory the result.

In **precordial oppression**, where the patient complains of a sensation of tightness over the chest with sighing respiration—a sensation of weight, heaviness and tightness, often accompanied with considerable pain, it is indicated.

In the treatment of any form of **hysteria**, especially if there be violent hysterical excitement or convulsions, this agent will be found of immediate benefit.

Its natural antispasmodic properties make it a most reliable remedy for **convulsions** of any form and by proper adjustment, it is the safest probably of our agents for the **convulsions of childhood**. In babes, a small dose only is required and there is little danger of nausea or other unpleasant effects. The dose should be repeated as needed.

Spasm of the glottis has been controlled in several cases promptly with ten drop doses, though a larger dose may be needed.

A case of **tonic spasm** with deep coma following a fifth laparotomy was most satisfactorily cured by dram doses every fifteen or twenty minutes until two ounces were used.

The convulsions of **cerebrospinal meningitis** have no more active antidote than hypodermic *lobelia*. Given with **echinacea**, calcium sulphide or hexymethylenamine, it will prove curative, although some doctors will prefer to combine it, for sedative influence with **gelsemium**.

Dr. Wilkenloh has observed that she gets best results in this disease when the face is ashy pale, when the muscular pains are extremely severe, and where there is some paralysis following the convulsive attack. Even in children with these conditions she gives full doses in most cases though usually smaller doses will accomplish the same result.

Five cases of **epidemic spinal meningitis** were treated with recovery in every case with ten drop doses given every hour.

Epilepsy should be treated with this remedy and careful observations made. If given during the aura in sufficiently large doses and the dose repeated as indicated, it will probably be found to exercise an efficient control. It was satisfactory in a few cases that are reported, but observations are insufficient.

In the treatment of **tetanus**, it has controlled the convulsions in a number of cases, especially if an anti-toxic agent was injected at the same time.

In the treatment of **eclampsia**, while our present anti-spasmodics are efficient their influence is enforced by hypodermics of *lobelia*. It is the most active of this class in promoting dilatation of a rigid os, which is often immediately essential, permitting the completion of the labor. It can be used in conjunction or alternation with *veratrum* or *gelsemium*, and dram doses of *echinacea* should be given by the mouth every two hours to antagonize the toxins. One extreme case is reported with every condition aggravated and these complicated with *placenta previae*. The child was removed by Caesarian section. After *veratrine*, pilocarpine, *elaterium*, and magnesium sulphate were given fully for the dropsy, the convulsions persisted even in spite of prolonged anesthesia until thirty drop doses of *lobelia* were repeated, frequently, when the whole was controlled, and the patient saved. *Echinacea* was given for the extreme infection.

For **rigidity** of the **os uteri** at any time, it may be used. It promotes normal uterine contraction after the os is dilated. A case of persistent absolute rigidity for thirty-six hours was dilated fully in four hours with this agent.

A child thoroughly poisoned with **strychnine** was saved by thirty drop doses repeated every half hour. He had eaten one-third of a grain. Another case is reported where the agent successfully antagonized over-doses of strychnine.

In every case of **ptomaine poisoning**, in which the agent has been used, it has covered all the indications and has proved fully successful. It has been used in many instances.

In one case where **toad stools** were eaten instead of mushrooms seven individuals were thoroughly poisoned. One woman was very near

death when the first injection was given. All were saved very promptly by the persistent and repeated use of full doses of this remedy. In many instances when the dose was given, the immediate effect was plainly apparent.

Three or four cases of **cerebral concussion** have been reported where the patients were unconscious. In one case consciousness was restored three consecutive times, the patient and friends refusing an operation which was plainly demanded for the compression made by the broken skull.

A number of cases of **syncope** from apoplexy were satisfactorily relieved and the paralysis when present was benefited, to an extent, by the use of this remedy.

Asphyxia from any cause indicates *Subculoid Lobelia*. It should prove of excellent benefit in restoring patients **from drowning**. Those who have used it to restore patients from the dangerous effects of anesthetics keep it constantly at hand for this purpose.

Favorable results are reported in two cases where patients were threatened with **hydrophobia**. There was one test case in which the patient bitten treated as above, showed no signs of hydrophobia while all the animals bitten by the same dog, developed the disease in fatal form.

A remarkable case is reported where a patient would indulge in an occasional **alcoholic debauch**. At such a time he became unconscious and remained so for four hours. This case was threatened with heart complications of a serious character. The condition was relieved in half an hour by an injection of *lobelia*. In another case consciousness was restored by this agent.

In all forms of **calculi** where the pain is extreme, *lobelia* must be given in full free doses. One or two repetitions will be all that are necessary.

In strangulated hernia, it is used with superior results. One case of umbilical hernia yielded to it quickly.

In the treatment of **malaria**, it can be adjusted to assist the antiperiodics if given before the expected paroxysm. Several cases of

pernicious **congestive chill** have been restored by its prompt and sufficient use.

In general **uremic poisoning**, it should be given. In scarlet fever, especially severe cases, it acts promptly and in line with its indications will meet the expectation of the prescriber.

In cases of **obstinate constipation** or **obstipation**, it has produced such relaxation that the obstacles were quickly removed.

It has been given where there was **extreme albuminaria** in which it supported the strength of the patient until other measures could be used.

Lobelia has been given in full doses in cases of **profound anuria** three doses of from twenty to forty minim having been sufficient.

SANGUINARIA. *Sanguinaria canadensis.*

Synonym—Bloodroot.

CONSTITUENTS—

Sanguinarine, chelerythrine, protopine, citric and malic acids.
Dose: Its best medicinal influence is obtained from small doses; from ten to twenty drops in a four ounce mixture, a teaspoonful every hour or two.

Physiological Action—In excessive doses *bloodroot* is a gastric irritant, and a depressant; it produces burning and racking pains in the digestive canal from the mouth to the stomach; insatiable thirst, dilated pupils, nausea, an anxious countenance, coldness of the extremities, cold sweats more or less diminution of the pulse, with irregularity.

Specific Symptomatology—The influence of *sanguinaria* is restricted to rather narrow lines. In harsh, dry cough with relaxed tissues of the pharynx, larynx and bronchi, with a sense of constriction and constant irritation and uneasiness or tickling in the throat, this agent is useful.

Therapy—It is a tonic and stimulant to the bronchial membranes. It

stimulates the capillaries and overcomes **congestion** of the **lung** structure, after a severe cold in the chest from exposure. An improvised syrup made from adding a dram of the tincture of *sanguinaria* and two drams of vinegar to two ounces of simple syrup will relieve the chest sensations quickly if taken in teaspoonful doses every half hour or hour.

It is not as useful a remedy in diseases of children as *ippecac* or *lobelia*, as the harshness of its action in full doses is not well borne. If combined with either of these agents, and given in small doses for exactly the same purposes for which they are suggested, it will furnish the tonic and stimulant influence of the combination. There will be less nausea from the *ippecac* and less general relaxation from *lobelia*. Given with the syrup of *ippecac* in hoarse **bronchial coughs**, or **stridulous laryngitis**, or in the early stage of croup, it will enhance the expectorant influence of *ippecac*, and prevent, in part, the cold skin and depressing influence of that agent. It equalizes the circulation of the entire system, inducing warmth in the skin and in the extremities.

In **membranous croup** its use is an excellent auxiliary to the treatment, but it is not to be depended upon alone. It may be given in small doses, not sufficient, to produce emesis, until the membrane is separated, then the dose may be increased until the membrane is removed.

It is a good remedy in **atonic conditions** of the lungs or bronchi with imperfect circulation and relaxed mucous membranes, with general inactivity of the nervous system and lack of nerve force. It should not be prescribed during active inflammation, but will be of service when the more acute symptoms have abated.

It will assist in overcoming **hepatization** of lung structure and restoring normal tone and normal functional action. The powdered drug in small doses in a capsule, may be combined with *hydrastis* or quinine with excellent effect when those agents are indicated as restoratives.

It is said to act upon the stomach, liver and portal circulation, as a stimulant, and to the glandular organs and structures of the intestinal canal, and to exercise an alterative influence within the blood.

The tincture in full doses, is an **emmenagogue**, restoring the menses when suppressed from cold. It is not to be given if menstrual deficiency is due to anemia, although it is tonic and stimulant in its influence upon the reproductive organs.

The powdered *sanguinaria* is applicable to suppurative conditions. It is useful in **otitis media** and in **ozoena**.

The nitrate of *sanguinaria* is a soluble salt, as useful and less irritating than any other form of *sanguinaria*. It is valuable as a local application to **indolent ulcerative conditions**. It should be used in small quantity in ointments, or in solution as a lotion. It is serviceable in chronic **nasal catarrh**, in chronic ulcerations of the throat, and in **fissures** and ulcerations of the **anus**. It will act in this concentrated form as an escharotic and is of much service as an application to **epithelioma**, **lupus** and to other growths of a similar nature.

IPECAC.

Cephaelis ipecacuanha.

Synonym—Ipecacuanha.

CONSTITUENTS—

Emetine., the emetic principle existing in the stem, leaves and root, cholin and cephaeline in the root, ipecacuanhic acid, and a nauseating ethereal oil.

PREPARATIONS—

Extractum Ipecac Fluidum, Fluid Extract of Ipecac; dose, from one to forty minims.

Syrupus Ipecac, Syrup of Ipecac; dose, from ten to sixty minims.

Pulv. Ipecac et Opii, Powder of Ipecac and Opium, composed of Ipecac and opium of each ten parts, Sugar of Milk, eighty parts; dose, from three to ten grains.

Specific Medicine Ipecac; dose, for gastric, intestinal or bronchial irritation, five drops in four ounces of water; a tablespoonful every hour. As an emetic, from five to twenty minims in hot water.

Alcresta Ipecac is prepared by the action of Lloyd's reagent on the solution of the alkaloids of *ipecac*. It represents the medicinal

properties of the *ipecac*, but will not produce nausea or emesis. It is superior to emetine in its general use because it is not hypodermic. One tablet represents ten grains of the powdered *ipecac*. It may be given in doses of one, two or three tablets three times per day, before meals,

Physiological Action of Ipecac, (J. U. Lloyd, Ph.D., LL.D., Ph. M., Western Druggist).—*Ipecacuanha root*, from its first appearance in our materia medica, has been prized as an emetic and anti-dysenteric remedy.

The peculiar effect that the dust of *ipecacuanha* powder exerts upon the respiratory organs of some persons has been noted by early observers. Lewis, in 1761, makes the following statement: “Geoffroy observed that in pulverizing considerable quantities, the finer powder that flies off, unless great care be taken to avoid it, is apt to afflict the operator with difficulty of breathing, spitting of blood and bleeding at the nose, or swelling and inflammation of the eyes and face, and sometimes of the throat, adding that these symptoms disappear in a few days, usually spontaneously. Poisoning in this manner may be treated by blood-letting and the taking of a decoction of *uva ursi* and extract of *rhatany*; in another more recent instance, relief was afforded by a dose of extract of *quebracho*.”

Powdered *ipecac* applied to the skin produces irritation and redness, followed finally by small isolated pustules, which increase in size to small ulcers.

The powdered *ipecac* in one-sixth of a grain doses is a stomachic tonic, stimulating the salivary and gastric secretions. In doses of ten grains it will act as a nauseating, emetic, but the emesis occurs slowly and is not extreme, persistent nor prostrating like that of *lobelia* or tartar emetic.

In some cases continued repetition of the emetic dose produces a toleration, when the emetic effect ceases, but there is diarrhea—an active cathartic influence, with stools characteristic of this agent. In some children the persistent use of the syrup of *ipecac* will invariably produce diarrhea often persistent and difficult to cure.

The agent is also diaphoretic and actively expectorant.

Emetine was first isolated as the emetic principle of *ipecac* in 1867. In 1894 the other alkaloid cephaeline was discovered. In 1912 it was determined that emetine destroyed the ameba which has been known to be the cause of **epidemic amebic dysentery**, of a form of **hepatitis**, and also as the cause of **pyorrhoea**, commonly called Rigg's disease, and other conditions of less importance. This important discovery has placed this alkaloid (like the hypodermic use of *lobelia* has placed that important remedy) in a most conspicuous position, making it at once a specific for the conditions named. *Alcresta ipecac* is exercising the same specific influence.

Dr. H. Barlow, Chief Surgeon to the Hospital at Cuyamel, Honduras, now using these preparations, says: "My impressions are that while *Alcresta ipecac* cannot replace emetine in cases which can be seen daily, or in severe cases, it has certain uses in which it is superior to emetine. These are: 1. Cases in which there is an insuperable objection to hypodermic injections; 2. Cases living at such a distance or too poor to make daily visits to a physician; 3. In the after treatment of cases which have been relieved by the treatment of emetine; 4. In the treatment of carriers; and 5. In the treatment of cases of Craigiasis, which indeed cannot be treated so well with emetine alone as with emetine combined with some preparation of *ipecac* which can be administered orally."

The endameba which is the specific cause of **Pyorrhoea Alveolaris** is almost invariably destroyed by *Alcresta Ipecac*. Bass and Johns found that the germ would disappear from all lesions in from one to three days in ninety per cent of the cases, and in six days from ninety-nine per cent of the cases. They found it as efficient in most cases as emetine. The peculiar combination involved in this substance prevents the alkaloids from being dissolved in acid or neutral solutions. Thus it passes unchanged through the stomach without inducing nausea in any form. The alkaloids are permitted full activity in the intestinal tract. The local influence of this agent upon the endameba in the mouth is very prompt and satisfactory.

In extreme inactive conditions of the stomach and bowels, with or without pain—the inactivity shown by a broad, pallid tongue, covered very thickly with a dirty white coat, which finally becomes sleek on the top, increasing from tip to base in dirtiness, to a brown color—full emetic doses of the common forms of *ipecac* persisted in for a short time

will quickly correct almost the entire train of symptoms.

Specific Symptomatology—Persistent irritation in mucous membranes, with deficient secretion, demand *ippecac* in small closes.

Persistent nausea and vomiting, with pale, relaxed membranes, whitecoated, broad tongue, will often yield most readily to minute doses ($1/10$ of a drop) frequently repeated.

Bronchial gastric or **intestinal irritations** are benefited by its use. It is indicated also in **croup**, with **sudden dyspnea** and threatening suffocation, extreme secretion, without ability to dislodge. Half teaspoonful may be given.

Therapy—For its emetic influence *ippecac* is one of the most satisfactory of the emetics. When there is **undigested** food in the stomach, causing irritation, when mild poisons are taken, when emesis is demanded to relieve **sick headache**, this agent is used in preference to others. If promptness of action be demanded the full dose should be given in a bowl of warm water—not hot—or a single full dose of *lobelia* may be given with it. This produces immediate emesis without prostration. If powerful **poisons** are taken, and active emesis is demanded, the sulphate of zinc or *lobelia* in persistent doses, or some other emetic more immediate in its influence, is usually used, although the writer has always been able to adjust *ippecac* with such adjuvants as warm water, mustard, or tickling of the throat, to every case. In cases where **foreign bodies** are **lodged** in the **esophagus**, and in the threatened suffocation of **mucous croup**, or in membranous croup, *ippecac* is the remedy, especially in childhood. No emetic more harsh should be used with children. In the developing stage of **malarial fevers** it was once the practice to produce active diaphoresis by a hot pediluvium and hot drinks, the patient being wrapped in warm blankets, and to produce profound emesis with *ippecac*. Often the most desirable results were obtained, and in some cases where an acute cold had been contracted or where there was a severe chill, in strong, previously healthy patients, the disease, was suddenly terminated by this course. The author has had this experience. In the **bronchitis** of childhood occurring often suddenly, with a dry, hoarse, stridulous or croupal cough, without secretion, ten drops of the syrup of *ippecac* given every half hour, hour, or two hours until nausea is induced, will

sometimes abort the condition in a few hours, the influence of the agent dissipating the conditions essential to the progress of the disease. This form of bronchitis is common in furnace-heated houses, and in close, hot, unventilated apartments, in the beginning of the winter when the furnace fire is first started, and in the spring.

Ipecac in small doses given in conjunction or in alternation with *aconite* or *bryonia* or *belladonna*, is of great service in **pneumonia**, especially that of childhood. Five drops in a half glass of water, a teaspoonful every hour, may be given with the best of results. In **acute bronchitis** it may be prescribed in the same manner.

Ipecac is of value also in the after stages of **pneumonia**. In the stage of active inflammation it is useful as stated, but is not given in the same form as in the later stages. It is an excellent remedy to assist in clearing up **hepatization** and in restoring normal conditions in the lung cells. The author, when the temperature has subsided, gives one-fourth to one-half a grain of powdered *ipecac* to an adult, every two or three hours in a capsule, with two grains of the bisulphate of quinine. The tonic influence of the quinine assists the influence of the *ipecac*.

Ipecac is of value in **coughs** when there is a deficient secretion, whatever the cause. Emetic doses are not desirable if the agent is to be continued for a length of time.

It has been beneficial in spasmodic **asthma**, whooping cough and in **laryngismus stridulus**.

This agent is advised in irritation of the bowels resulting in acute inflammation. In small doses it is given with good results in cholera infantum and in diarrheas, but is of no benefit beyond the acute stage.

While *ipecac* has been known as a cure for certain forms of **dysentery** for more than a century, the use of its active principle emetine as a cure for **amebic dysentery** is just now coming into prominence. Our writers have always advised *ipecac* for this disease, but not all have given it in sufficiently large doses. Administered now in the form of *alcresta ipecac* or emetine hypodermically, the cures are prompt and highly satisfactory. In fact, the remedy is already being classed with quinine for malaria, and antitoxin for diphtheria, as one of the great specifics.

If the **dysenteric tenesmus** is relieved with prompt doses of *gelsemium*—and we have no more efficient remedy in the materia medica for this condition than that agent—the beneficial effects of the *ippecac* upon the local inflammatory processes will be more plainly marked.

Recent observers in the general hospital in Calcutta, India, have found that large doses of *ippecac* have most beneficial effects in **amebic hepatitis** and **hepatic abscess**. If the diagnosis be made before the formation of pus, this is prevented by the agent. It should be given when the patient suffers with a general feeling of lassitude, foul tongue, pain in the right shoulder and in the right hypochondrium. The liver is enlarged and tender on pressure. There is marked leukocytosis but the polynuclear increase is not great. *Ipecac* is given in these cases in single large doses, usually from twenty to thirty grains, given at least two hours after eating and best taken at bedtime. Occasionally this dose is given twice daily in capsules.

Frazier claims that *ippecac* in large doses is an excellent addition to the treatment of **typhoid fever**. In five cases where he used it, the temperature dropped suddenly so that within four days it was normal. In the earlier stages he gave thirty grains on the first day; twenty-five the next; twenty the next and so on down until ten. He gave small doses of *opium* to keep the patient from vomiting. The results were pronounced. This course is worth trying.

The successful use of this common remedy, in the treatment of **epilepsy** has been reported, since our first edition. Persistent cases have been treated, with ten minim doses of a strong fluid extract, increased to forty minims. This has been persisted in according to the susceptibility of the patient. The action of emetine or *alcresta ippecac* should be at once determined for the above conditions.

In **hemorrhages** *Ipecac* has exercised a satisfactory influence. Its action upon the circulation is quite prompt. It is given by some physicians in small doses for this purpose, and by others in full doses to prompt emesis. It has controlled postpartum hemorrhage, menorrhagia, metrorrhagia, epistaxis and hemoptysis, and will exercise a beneficial influence in hematuria.

SCILLA

Scilla maritima.

Synonym—Squill

CONSTITUENTS—

Scillitin, skalein, calcium oxalate, sinestrin, scillipicrin, scillitoxin, scillin.

PREPARATIONS—

Acetum Scillae, Vinegar of Squills. Dose, from five to thirty minims.

Extractum Scillae Fluidum, Fluid Extract of Squills. Dose, from one to five minims.

Syrupus Scillae, Syrup of Squills. Dose, from half an ounce to two ounces.

Therapy—This agent is best known for its action upon the mucous membrane of the respiratory tract. It increases expectoration and is actively nauseating.

For this effect it is given in severe **bronchial coughs** without secretion, in dry, harsh **irritating coughs**, the sputum scanty and tenacious. It has a soothing influence over bronchial irritation.

Squill is an active **diuretic**. Given in non-inflammatory conditions where there is lack of tone, reflection of the mucous membrane, with debility, it stimulates the entire urinary structures. It has long been given in dropsy for the removal of the fluid, its action being prompt and efficient, partly because it stimulates the action of the heart, improves the circulation and strengthens the pulse.

It may be given in conjunction with *apocynum*, *digitalis* or *crataegus*, with all of which it acts harmoniously.

Grindelia robusta.

Synonyms—Wild Sunflower, Gum plant.

PREPARATIONS—

Fluid Extract of the leaves and flowering tops. Dose one-half to one fluid dram.

Solid Extract. Dose, 5 to 15 grains.

Specific Medicine Grindelia—Dose, from two to ten drops.

Physiological Action—The influence of the agent is exhibited on the heart, at first by a quickened pulse, subsequently by retarding it. It elevates the blood pressure at first, subsequently lowering it. In overdoses it is toxic, the specific influence of the agent on the respiratory nerves being shown by paralysis of the muscles of respiration.

Specific Symptomatology—The agent is specific to **asthmatic breathing**. It must be given in full and frequent doses, and the effects, although not striking from a single dose, are soon evident and are more or less permanent. It soon relieves the effort of breathing and produces expectoration, but on continued use the entire train of symptom slowly abate, and if persisted in the paroxysms do not soon recur.

Therapy—In spasmodic asthma, pure and simple, with complete relief between attacks, it is not the remedy. It is an excellent antispasmodic expectorant in all chronic spasmodic bronchial coughs, and in chronic bronchitis, Asthmatic bronchitis is often benefited, from the first dose, by its use. In whooping cough it is of value in combination with other more specific agents.

It will relieve the **irregular heart** action often accompanying chronic coughs, and improve the strength and general character of that organ.

Grindelia has relieved many cases of **hay fever** and has cured some few, for the time being. In the chronic cough following pneumonia the agent has been used with good results.

As an application to the skin when poisoned by *rhus toxicodendron*, this agent is valuable. It acts promptly and satisfactorily.

It is curative also in the bites of insects, quickly antidoting the poisoning.

As applied to old indolent ulcers it has given unusual satisfaction in a

few cases, although not often used.

Co-operatives—It may be combined with good results with *lobelia*, *stramonium*, *drosera*, or *ippecac*, and in some cases for continued use, small doses of the iodide of potassium will act nicely with it.

QUEBRACHO. *Aspidosperma quebracho.*

Synonym—Quebracho Blanco.

CONSTITUENTS—

The bark of *Quebracho* contains at least six alkaloids. Aspidospermine, which is thought to be one of these, is not a single alkaloid, but represents the full activity of the drug; dose, $\frac{1}{4}$ to $\frac{1}{2}$ grain.

PREPARATIONS—

Fluid Extract Quebracho, not miscible with water; dose, fifteen minims to one fluid drachm.

Solid Extract Quebracho; one part equals ten of drug; dose, one to three grains.

Physiological Action—In investigating the physiological action of this agent, Penzoldt determined that its influence was exerted upon the heart and respiratory functions. He found in different forms of dyspnea—from emphysema severe **bronchitis, phthisis, chronic pneumonic processes, with periodic asthma and pleuritis**, that after giving one to two teaspoonful doses of a solution sometimes two or three times a day, the frequency of breathing generally diminished, the respirations were less deep, and that the cyanosis especially, in phthisis and emphysema, was almost invariably diminished or removed. The effects lasted for hours and were followed, without exception, by improvement of the patient. It is now prescribed for the above conditions. In one case of inherited **pulmonary stenosis**, and in another of **thrombosis** of the left main branch of the pulmonary artery, the effect was remarkable, though but temporary.

Mariasi y Larrion, of Madrid, employed *quebracho* in a number of diseases of the respiratory and circulatory organs. The following

conclusions are a short resume of his observations from a paper translated for the Therapeutic Gazette in 1880:

“The principal action of this drug is to cause a diminution of the number of pulse beats per minute, and lessen the frequency of the respiratory act.

“Its principal and direct action is on the circulatory center, giving tone and regularity to the contractions of the heart, with an intermediate effect on the nervous system.”

Specific Symptomatology—*Quebracho* acts specifically in restricted, **difficult breathing**—dyspnea, as occurring in many forms of heart disease and mildly in asthma of whatever character.

It is not employed with such good effects in nervous dyspnea.

Its action is rapid, and is manifested almost immediately after the administration of the medicament.

Its administration in the doses indicated is not dangerous, and its continuation will not have any undesirable influence on other organs.

Therapy—Hale calls it the digitalis of the lungs and lauds it for its influence on difficult breathing without much distinction as to the cause.

The agent has quite a positive influence in malarial fevers.

In **thrombosis** of the pulmonary artery, in some cases of **apoplexy**, and in **uremic dyspnea**, it has been of great service. Those of our own physicians who have used it wherever there is difficulty in breathing, are enthusiastic in praise of the relief it gives. It overcomes some severe cases of cyanosis, and although its influence is not always permanent, it often prolongs life and the relief is most grateful to the patient.

It undoubtedly removes temporary obstruction to the **oxidation of the blood** and by stimulating the respiratory centers it increases oxidation, and facilitates the excretion of carbonic acid.

The agent has quite a positive influence in **malarial fevers** with or
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without lung complications, acting as a sedative, antiperiodic and febrifuge. It is not widely used for this purpose and it does not influence other fevers.

GROUP III.
Agents Acting Upon the Respiratory Tract.

CHAPTER II.

**Agents Acting Upon the Mucous and Serous
Structures of the Respiratory Tract.**

STICTA
ASCLEPIAS
DROSER
EUPHRASIA
POTASSIUM BICHROMATE

STICTA

Sticta pulmonaria

Synonym—Lungwort.

CONSTITUENTS—Not analyzed.

PREPARATIONS—

Specific Medicine Sticta; dose, from one-tenth to ten minims.

Specific Symptomatology—This agent acts directly upon irritation in the chest, especially when complicated with irritation of the nerve centers.

Pain beneath the scapulae extending to the occiput, sharp pain with soreness above the scapulae, or in the shoulders, especially indicate *Sticta*.

As given by Felter and Lloyd in the American Dispensatory, the indications are as follows: Pain in the shoulders or in the back of the neck extending to the occiput, soreness or dull pain in the chest, or in the extrinsic respiratory muscles, which is increased by deep breathing. Irritation at the base of the brain, or in those organs or parts supplied by the pneumogastric nerve. **Irritative cough**; cough persistent and dry, of a rasping or wheezing character; short, sharp,

hacking cough, with quick darting pains in the chest walls. They also advise it in the treatment of **rheumatism**, which involves the muscles and smaller joints. It may be given in **hay fever**, where the headache is severe, and in catarrhal disorders, where there is frontal tension, with sneezing, **coryza** and **conjunctivitis**.

It is given in the exhaustive cough of phthisis, bronchitis, and laryngitis. It relieves the cough and irritation in these cases and controls hectic fever, chills and night sweats.

Therapy—In coughs of acute **bronchitis**, with the indications named, it is useful; in **cough**, with wheezing and tightness—**asthmatic cough**, with the characteristic quick, sharp pains, it is indicated. It also influences directly the post-nasal mucosa.

It is valuable in some forms of **catarrh**, especially if there is reflex irritation. It has been used in **whooping-cough** and in **croupal coughs**.

Sticta has been suggested in **rheumatism** where the muscles of the chest are involved, where there is sharp, quick pain on respiration or where the muscles of the shoulder are sore and tender, where the muscles of the neck are involved.

The remedy has been used in **scarlet fever** to good advantage, but we have no specific directions for its administration in these cases beyond those named.

It has a specific influence in the treatment of those forms of **hay fever** and in those attacks of **influenza** characterized by the discharge of a hot, irritating, watery mucous, which afterwards becomes thick, bloody, greenish or yellow.

The catarrhal disorders to which this remedy is applicable are characterized by headache, with tearing pains through the side of the face and lower jaw, with pressure in the forehead, at the root of the nose, coryza, conjunctivitis, soreness and dull pains in the chest.

ASCLEPIAS

Asclepias tuberosa

Synonym—Pleurisy Root.

CONSTITUENTS—

Glucoside, tannic and gallic acids, resin, fixed oil, volatile oil, fat, gum, starch.

PREPARATIONS—

Extractum Asclepiadis Fluidum, Fluid Extract of *Asclepias*. Dose, from one to five grains.

Specific Asclepias. Dose, from one to sixty minims.

Action—Diaphoretic, expectorant, cathartic, tonic.

Physiological Action—In regard to the influence of *asclepias*, Grover Coe, M. D., writing in 1858, gives the following wide range of action. He says: “No other remedy with which we are acquainted is so universally admissible in the treatment of disease, either alone or in combination. In fact we think of no pathological condition that would be aggravated by its employment. It expels wind, relieves pain, relaxes spasm, induces and promotes perspiration, equalizes the circulation, harmonizes the action of the nervous system, and accomplishes its work without excitement; neither increasing the force or frequency of the pulse, nor raising the temperature of the body. It is of special service in the treatment of affections involving the serous membranes, as pleuritis, peritonitis, etc.” In this it resembles *bryonia* closely.

The most active apparent influence of this agent is upon the sudoriparous glands. It is distinctively an eliminative agent of general utility. It is mild in its influence, but if given with confidence it will produce good results.

Specific Symptomatology—Its first direct effect is upon the serous membranes within the thorax. It is specific in **pleuritic pains**, both of the acute and subacute variety, in doses of fifteen drops every two or three hours. For these I have long prescribed this agent with positiveness, and have yet to be disappointed. If effusion be present, its rapid removal is facilitated. The pain and distress abate, the cough disappears, the respiration becomes free and natural, the inspiration being especially pleasant; the heart takes on increased tone, and the entire contents of the thoracic cavity seemed benefited. I have treated with this remedy the “stitch in the side,” which had been present for many months after pleurisy, and have removed it satisfactorily.

This agent will cure **pains** in the **chest** unaccompanied by prominent symptoms, acute, sharp and cutting, recurrent or persistent in their character, if given in doses of half a dram every two or three hours and persisted in for a few days.

Therapy—It is beneficial in acute **pleuritis** specifically, also in **bronchitis**, **pneumonitis** and **peritonitis**. It has distinct expectorant properties. In tight and painful coughs with difficult respiration, especially where there is a general suspension of secretion, with dry skin and mucous membranes, and in soreness of the chest from coughing, it is a most excellent remedy. In all these conditions if there is the least elevation of temperature its influence will be greatly enhanced if given in conjunction with *aconite*.

It was in great repute among the older Eclectic physicians in the treatment of **acute pleuritis**, as suggested above. They also used it in acute inflammations of serous membranes, especially if there were acute, quick pains, and a tendency to serous effusion. Its eliminative action upon the skin greatly enhances its influence in these cases.

If the powdered *asclepias* be combined with *ipecac* and *camphor*, a powder is produced with diaphoretic properties of an **Improved Dover's Powder**.

To obtain active diaphoresis, *asclepias* should be given in strong, hot infusion. Its influence in **acuterheumatism** should not be overlooked. It may be combined with such agents as *cimicifuga* and *colchicum*, and will markedly intensify their action, especially if *aconite* be indicated.

DROSERA

Drosera rotundifolia

Synonyms—Sundew, Youthwort, Lustwort.

PREPARATIONS—

Fluid Extract Sundew; not miscible with water; dose, five to twenty minims.

Specific Medicine Drosera, two to five minims. An excellent and potent preparation.

German Tincture Sundew; an imported preparation, from the
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green plant; dose, fifteen to sixty minims.

Specific Symptomatology—The field of the influence of this remedy is narrow. It is specific to dry, irritable, persistent cough; also cough of a hoarse, resonant, explosive, or spasmodic character, without secretion.

Therapy—It is an antispasmodic, expectorant, and sedative as applied to such coughs. It will also relieve coughs of sympathetic origin, and so-called nervous coughs. It will cure the **cough** of **measles** more quickly than other remedies, and it will cure the after-cough of **whooping-cough**. It will terminate a whooping-cough and leave the patient free from cough, when the active stage of the disease has passed. If there is a deficiency of bronchial secretion it will be found of service during the progress of whooping-cough, modifying the paroxysms of the disease; they, occurring less frequently.

It is serviceable in all chronic coughs of a dry, irritating character, especially if the central nervous system be irritated. It is of service in **chronic bronchitis** and in **phthisis pulmonalis**.

It has also relieved **asthmatic coughs**, with nervous irritability. It has been used in a few cases as a sedative and tonic in irritable conditions of the **stomach**, relieving **flatulence** and curing mild cases of **gastric ulcer**.

EUPHRASIA

Euphrasia officinalis.

Synonym—Eyebright.

PREPARATIONS—

Specific Medicine Euphrasia; dose from one to sixty

Specific Symptomatology—The sphere of action of this agent is upon irritating and catarrhal disease; first, of the upper portion of the respiratory tract, and afterward of the mucous structures of the throat, and bronchial tubes. It is more immediately beneficial if the discharge is thin and wateryfluent. "**Snuffles**" in infants demands this remedy.

It is specific to acute disorders of the **nasal mucous membranes**. It is especially applicable in children's cases, but is curative also in adults.

Where there is **watery discharge** from these membranes, where there is **earache**, or **headache**, and especially if the distress be across the eyes, in acute catarrhal affections, it has a direct influence upon the lachrymal apparatus.

Therapy—In **cough** and **hoarseness**, where there is a thin bronchial discharge, it is applicable especially to the **catarrhal manifestations** following **measles**. It will prevent other sequelae of measles, as **catarrhal conjunctivitis**, **catarrhal deafness**, and **chronic nasal catarrh**. It is indicated where there is abundant secretion of thin acrid mucus, from the eyes and nose, with pain and heat in the frontal sinus.

It is especially indicated in that form of recent colds that spend their force on the mucous surfaces of the nose and throat with fullness of the frontal sinus.

In **acute coryza** the agent exercises a specific action. It should be given in ten drop doses of the tincture every hour or two. In “snuffles,” so called in very young infants, five or ten drops of the tincture may be dropped into a half of a glass of water, and a teaspoonful given every ten, fifteen or thirty minutes. Relief is often immediate. In the **coryza** of **measles** it is of much benefit, and the bronchial and pulmonary irritation caused by this disease is ameliorated also by its use.

A reliable indication is a red and watery condition of the eyes—irritation of the lachrymal structures. Any unpleasant after influence of measles upon the eyes is relieved by the use of *Euphrasia*. Its internal use will benefit many cases of conjunctivitis, especially those of recent origin in children. The specific indications for this agent, plainly suggest its use in certain well marked cases of **epidemic influenza**. It should be given a careful, thorough trial in this, often most serious disorder.

A writer reports a chronic case of **catarrh**, in which the patient for many months had seemed to be persistently renewing an acute cold in the head. There was persistent sneezing, a constant inclination to blow the nose, and a profuse watery secretion which, when lying down, continually ran from the posterior nares. Five drops of specific *euphrasia* every two hours, cured this patient within a couple of weeks. In children the smaller dose is preferable, and a dose of ten drops will cure most of the acute cases. But some of the chronic cases will not be

benefited until they are given large, full doses. It is claimed also that it has cured chronic **catarrh** of the **intestinal tract**.

It is excellent also as a collyrium in **blepharitis**, and **conjunctivitis**, twenty drops in four ounces of water applied freely. It is given internally at the same time. It is a tonic, improves the appetite, and conduces to a general sense of well being.

It is asserted that **epilepsy** has been successfully cured by giving four ounces of an infusion of this remedy, upon an empty stomach, every night at bed time.

POTASSIUM BICHROMATE.

Formula— K_2Cr_2O .

Synonym—Bichromate of Potassium.

Therapy—Triturated with sugar of milk this agent is of much service in some cases of bronchitis. One one-hundredth of a grain of the salt so triturated will relieve dry, irritable bronchial coughs and produce amelioration of symptoms in some stubborn cases.

It is useful in **hoarseness** from a cold, with the accompanying dry, hard irritating cough. Harsh, rasping **cough** in the **upper air tubes** is influenced by its persistent use.

This is the remedy with which to influence congestion of the larynx.

It will cure hoarseness after a cold. It should be given where there is **dry catarrh**, with dry exudation from the nose, or greenish discharge, the disease advancing until there is deep ulceration. Any discharge from mucous membranes that is tough and stringy that can be drawn out in long strings, will be cured by very small doses of this salt.

Bichromate of Potassium is beneficial in cases of **aphonia** from congestion. One grain in four ounces of water, a teaspoonful every two, three or four hours, is about the proper dosage. It is also given where there is chronic, spasmodic, **bronchial cough**, accompanied with

hoarseness or with a sense of dryness in the naso-pharynx. Dr. Cole uses it in the **dyspepsia of beer drinkers** with good results, but he thinks that the 2x trituration in a one grain tablet is the best form to give it. One doctor gives it in diphtheria about one-sixtieth of a grain at a dose. He finds that it clears off the exudate and promotes a cure in some cases especially if used in combination with *echinacea* or *phytolacca*.

GROUP III.
Agents Acting Upon the Respiratory Tract.

CHAPTER III.

**Agents Acting Upon the Mucous and Serous
Structures of the Respiratory Tract.**

TURPENTINE

TEREBENE

BENZOIN

AMMONIUM CHLORIDE

ACETIC ACID

TURPENTINE.

OLEUM TEREBINTHINAE.

Synonyms—Long-leaved Georgia, Swamp, or Pitch Pine.

Occurrence—Turpentine is obtained from the *Pinus palustris* and from other species of the pine in the form. of an **oleoresin**.

The oleoresin is distilled, and the product is the **Oil of Turpentine** or the Spirits of Turpentine. The residue is **Resin** (colophony) .

Description—The oil is a thin, neutral, colorless liquid, with a specific gravity of 0.87, soluble in three volumes of alcohol. It boils at about 330 degrees Fahrenheit.

PREPARATIONS—

The oil distilled with six volumes of lime water, produces the **Rectified oil of Turpentine** (*Oleum Terebinthinae Rectificatum*). This is the form which should always be used in medicine. Dose, from one to ten minims. It should be given in an emulsion for gastric and intestinal disorders. For respiratory disorders, drop from two to five drops on a square of loaf sugar to be dissolved slowly on the tongue, and swallowed with the saliva.

Terpene hydrate is formed by the action of nitric acid upon the

rectified oil of turpentine, and alcohol. The product is distilled; it is crystalline, colorless, nearly odorless; slightly soluble in water, soluble in alcohol. Dose, from one to three grains.

Terebene is obtained by the action of sulphuric acid on the rectified oil. The product is distilled. A colorless, thin, aromatic liquid is the result. It is soluble in alcohol, only slightly so in water. Dose, from three to fifteen minims.

Physiological Action—The *oil of turpentine* is an irritant when applied to the skin or mucous membranes in any considerable quantity. It causes burning, a vesicular eruption, and deep, stubborn ulcerations. In the stomach it produces warmth, increased from an overdose to a burning pain, nausea, vomiting, purging, eructations of the oil, great gastro-intestinal irritation, amounting to gastro-enteritis. In toxic doses it causes renal hyperemia, great irritation of the urinary tract, violent hematuria and strangury, with suppression of urine and albuminuria.

It stimulates the heart, increases the arterial tension for a time, increases the temperature and exalts the mental faculties. Ultimately there is a reduction of physical strength, muscular insecurity, tremblings, incoordination, great nervous irritation, wandering of the mind, incoherence, insensibility and coma, breathing stertorous and labored, from paralysis of respiration; face cyanosed or flushed, pupils dilated. All exudations contain its odor.

While violent symptoms have often been produced by full medicinal doses of turpentine, fatal results have seldom occurred. Five ounces have been taken by adults with recovery. Children have died from overdoses in a few instances. The agent is eliminated through the kidneys and mucous membrane, and this fact explains its immediate influence upon these organs and structures.

Specific Symptomatology—In two marked conditions apparently diametrically opposite in their character, this agent is specific.

First. In **excessive secretion of mucus**—catarrhal discharges from whatever cause, especially if there be relaxed, enfeebled, atonic mucous membranes. It may be given with confidence.

Second; in **gastric** or **intestinal inflammation**, or in persistent fevers, with dry, red, glazed tongue, dry mucous membranes—**tympanites**, with **suppression of the secretions** of all gastric and of intestinal glands.

It is also indicated by a steady distress or dull grinding pain in the abdomen, a sensation of hardness across the abdomen, with tendency to constipation, with general inactivity of the entire glandular structure of the gastrointestinal tract.

It increases the tone and capillary circulation of all the mucous structures, and in the abdomen of the muscular structures of the intestines also. Its antiseptic powers are great, destroying parasites and germs of disease, and inhibiting putrefaction and fermentation.

In intestinal disorders of childhood it prevents the formation of lactic and butyric acids, and the irritation caused by their presence.

Therapy—The specific indications suggest the use of *turpentine* in **acute** and **chronic bronchitis** when there is an excessive discharge of mucus. Its influence may be observed from the first.

It controls the cough, allays the excessive bronchial secretion, soothes the irritation throughout the chest, relieves the diffused soreness and promotes the cure. In **pharyngitis** and **laryngitis** it is of value also.

In acute inflammations within the chest its external application is of much value, especially in pneumonitis or capillary bronchitis with diffused soreness. Soreness and tenderness in acute fevers and inflammations are relieved by the external use of *turpentine*, while quick, sharp, acute pain is best combated by the external use of mustard and anodyne counter-irritants.

In *croup* its influence is direct. In both the mucous and membranous forms it has accomplished excellent results. It is given internally, applied externally, and its vapors are inhaled in these cases for a short time, careful watch being kept for evidences of its irritating influence upon the kidneys. In some extreme cases where it has not been previously used, a single large dose of ten or fifteen drops to a child of five years or above, will apparently exercise a prompt influence.

In **diphtheria** with occlusion of the larynx, throat or nasal passages, from the membrane, it should be dropped on the surface of hot water in a close-mouthed vessel, and the vapor inhaled for a few minutes every two or three hours. It may be used in this manner with excellent results with an equal amount of the oil of *eucalyptus*. It may be also used in an atomizer for this purpose. In all throat difficulties its external application is beneficial.

It is a remedy for **acute** and **chronic nasal catarrh** and if given persistently it will prove most serviceable, even in stubborn, chronic cases. In **gastric** or **intestinal catarrh** it is a remedy of much value given in proper doses in palatable emulsion. **Pain** due to this condition is quickly relieved by *turpentine*, and atonic, relaxed and enfeebled mucous or muscular structures quickly restored, and normal function attained.

Turpentine is a most excellent remedy in the treatment of **typhoid typhus** and low forms of **fever**, and in typhoid complications of **acute inflammations**. In these conditions, when the tongue is dry, glazed and dark red, the temperature persistently high, the pulse small, wiry, rapid and feeble, with distention of the abdomen from tympanites, the urine scanty and dark, the intestinal glands ulcerated and intestinal hemorrhage present, *turpentine* is certainly a most efficient remedy. Its antiseptic influence is exercised in conjunction with its restorative power over the mucous and intestinal glands. It is given in doses of from two to five drops every two or three hours.

In **peritonitis** or **appendicitis** with any of the above phenomena with tympanites the agent is prescribed with only good results.

In all conditions within the abdomen where its internal use is demanded, especially if there is distention of the abdominal parieties from the accumulation of gases, the external use of *turpentine* is important. A stupe may be prepared by wringing a piece of flannel out of hot water and sprinkling a few drops of *turpentine* over its surface as it is applied. This should be kept hot by being properly covered. A popular domestic method is to melt a quantity of lard and add to it an equal quantity of turpentine and apply this freely to the surface. *Olive oil* is a good menstruum, but an increased proportion of this oil is required because of less density than the lard.

In all cases pain must not be caused by the *turpentine* applications. Its influence also upon the kidneys must be watched, and if difficult, painful or burning urination, or scanty urination occurs, or the least blood appears in the urine, it must be stopped at once, at least for a time. In large doses it produces nephritis, strangury and priapism. Inhaled constantly it will produce these symptoms in those otherwise healthy.

Turpentine has been used in passive hemorrhages. It prevents the **hemorrhage of typhoid** and controls hemorrhage in **gastric ulceration**. It controls hematuria given in small doses, in some cases, and also the hemorrhage of scurvy and purpura hemorrhagica. In extreme persistent postpartum. hemorrhage, after complete evacuation of the womb, it has been painted over the inner lining of the womb with immediate control of the hemorrhage. The conditions demanding its use in passive hemorrhage are great relaxation of tissue, lack of tone, dilated and atonic blood vessels, with constitutional depression-conditions permitting a passive transudation of blood.

In **catarrh of the bladder** it is an excellent remedy. It may be given in conjunction with other measures or suggested remedies. In all these cases the indications for other remedies should be promptly met to facilitate the action of this remedy.

Turpentine internally is a serviceable remedy for **leucorrhoea**, either of a specific or non-specific character. It has long been used in the treatment of **gonorrhoea**, but is not the best of our remedies. In pyelitis with excessive mucous discharges, in gleet, in subacute gonorrhoea, it will allay the discharge occasionally when other agents have been inefficient.

Incontinence of urine from relaxation and feebleness of structure has been benefited by *turpentine*.

In the treatment of **dysentery** when the violent phenomena have been controlled, and in some exhausting diarrheas, *turpentine* will be found of much service. It is best given in small doses in such cases. It has been used in yellow fever and in cholera also.

Turpentine is applied to swellings from **chronic rheumatism** of the joints, to **plethoric swellings**, and slow forming abscesses.

It is of much value in **chilblains**, and, although painful, has been painted over small burned areas. It has been used in gangrene also with good results.

Erysipelas has been treated with *turpentine*, but we cannot commend its influence.

Turpentine is an efficient **anthelmintic** for the removal of taenia. It is given in a single full dose of from thirty to sixty minims upon rising in the morning. It may be followed shortly by a tablespoonful of castor oil in a teaspoonful of hot milk. The patient should fast, until the oil operates. All nervous phenomena dependent upon the irritation caused by the presence of the worms will abate with the destruction of the worms. This is not due to any nerve sedative influence of the *turpentine*, however.

Whitford treated thirty cases of **trichina spiralis** at one time with the persistent use of *turpentine*. Five drops every three hours was sufficient. The diagnosis in the larger number of the cases was confirmed by the microscope. As every case recovered which was so treated, his confidence was naturally confirmed in this use of *turpentine*. At another time two parties were known to have eaten of a certain lot of pork which on examination was found teeming with trichina. Both were affected in the same manner and death seemed imminent. One was treated with *turpentine* and recovered; the other died. In nearly all of the cases, the beneficial results were plainly traceable to this remedy.

BENZOIN

The **Tincture of Benzoin** has been a popular remedy in the past. It is given in doses of from one-half to one dram. The **compound tincture**, composed of *benzoin*, *storax*, *balsam of tolu*, and purified *aloes* with alcohol is advised for its influence in laryngeal and bronchial difficulties. The dose is from one-half to two fluid drams of the official U. S. P. preparation.

The **Compound Tincture** is vaporized in hot water, and the vapor is inhaled in chronic and acute laryngitis. It is useful in many forms of

bronchial irritation without secretion. Its antiseptic properties are not great, but are apparent where there is a scanty, fetid expectoration.

AMMONIUM CHLORIDE.

Formula— NH_4Cl .

Synonyms—Ammonium Muriate, Chloride or Muriate of Ammonium.

Dose, from three to ten grains.

The taste should be obscured in an aromatic syrup.

Physiological Action—In its influence it exhibits the peculiarities of ammonia. It is not widely different in its action from the carbonate, but does not act powerfully upon the heart and is less transient in its effects.

During the last five years much has been learned concerning the specific action of this remedy upon mucous surfaces. The author has observed that while it influences the mucous membranes of the bronchial tubes, in a satisfactory manner, curing alone many cases of dry, harsh, irritable cough, and relieving many cases of chronic cough, it is equally beneficial in its influence upon the mucous membranes of the stomach and gastro-intestinal tract. It can also be used in **purulent inflammation** of the lining of the pelvis of the kidney and bladder.

Administration—It is not necessary that large doses be given, as it often produces excellent results in doses of less than a grain. One-half grain doses will materially benefit bronchial coughs which have been persistent and which are dry in character and recur with every change of the weather. Many stubborn cases are reported as cured by small doses of this remedy.

Specific Symptomatology—The following indications are suggestive in the administration of this chloride: Deficient capillary circulation, evidenced by dusky redness of the skin, the redness disappearing on pressure and returning slowly; **ecchymosis** of the surface of the body, especially of the eyelids. A hot solution of the muriate of ammonia will quickly overcome the discoloration of a violent contusion. **Cough** of a rasping, irritating, tight and harsh character, with deficient or scanty secretion, is allayed by it; also cough depending upon hepatic, gastric

or intestinal irritation.

A German writer advises ammonium chloride for the same conditions of the **glandular structures** of the body for which we advise *phytolacca*, but believes in giving it in small doses. It certainly exercises an alternative influence, and it would be well to give these two agents together and observe their action. One grain or even less of this agent at a dose will be sufficient.

Therapy—Its common use is in the treatment of **bronchitis**. In the conditions where a stimulant expectorant is needed, as mentioned of the ammonium carbonate, its administration being more easily rendered pleasant, it is more commonly used than the carbonate. It is a common ingredient of many extemporized cough syrups. It is especially useful in **catarrh** of the **bronchi** with relaxed and debilitated mucous membranes.

Catarrhs of all kinds are promptly influenced by its use, whether they be nasal, gastric, intestinal, or gastro-intestinal, or catarrh of the bladder, or leucorrhoea, wherever there is an abundant thick secretion from the mucous membrane.

In **catarrh** of the **stomach**, with excessive acid secretion and constant pain during digestion, ten grains of this salt before meals is often productive of complete relief and subsequent cure. It should also be used in **intestinal catarrh**. It will be found of great service in **colitis** or **ileocolitis** and will relieve the irritation and pain present. In **chronic diarrhea** due to chronic catarrhal irritation of these intestinal mucous membranes we have seen some striking results. One case suffered from intense, acute intestinal pain and chronic diarrhea, with a persistent temperature of from one hundred to one hundred and one and a half degrees. The condition had been present two years and a half, and a tubercular condition was diagnosed. The only marked effects, from any remedy in this case, were observed from the action of this chloride. It relieved the irritation and pain, controlled the diarrhoea, and there was slow abatement of the temperature. The patient attributed all the beneficial results to this remedy, although there were other indicated remedies given, which assisted in the total result.

Another case of **intestinal indigestion**, with frequent attacks of diarrhoea, accompanied with sharp, colicky pains, was cured with this

remedy.

Whitford for many years has advised this agent as a specific in **neuralgias**. It is indicated in those of a rheumatic character, and those of a distinctly malarial type, with a tendency to periodicity, especially if occurring in the face or head. In those cases where *belladonna* is not contraindicated, he gives the two agents in conjunction in full doses. It is a serviceable remedy and his experience is confirmed by that of such men as Watson, Anstie and Ringer. To give relief it must be given in doses of from ten to thirty grains. Small doses are of but little benefit.

This agent is recommended highly in **chronicinflammation** of the liver with torpor and engorgement. In **catarrhal jaundice** it stimulates the liver, working actively in harmony with many of our organic remedies. In other glandular affections it is of much value, especially where there is chronic enlargement. This applies to **mastitis**, **ovaritis** and **prostatitis**. A solution of the salt applied to enlarged glands is very efficacious, promoting removal of the enlargement. It is also applicable to contusions and indolent tumors and is applied to senile gangrene.

This agent should be used in the treatment of **chronic prostatitis**. It may be given for a short time in large doses, and then continued in small doses, the large dose to be repeated as the occasion demands. Many physicians claim that it is a positive cure in the treatment of prostatic enlargement. It soothes **vesical irritation**, relieves tenesmus, overcomes the mucopurulent discharge, and adds tone and vitality to the parts.

The drug is a stimulant to the capillary circulation and will be found of benefit in exanthematous fevers, favoring the eruptive process, especially if there has been a recession. Externally, the solutions of chloride of ammonium are applied to **chilblains**, parts threatened with **gangrene**, **indolent tumors** and **plethoric abscesses**. It is also advantageous in **erysipelas**, and in some forms of articular **rheumatism**. Mild solutions in the latter case will effect satisfactory results. Applied in hot solution over an inflamed gland, with soreness present, it has a beneficial influence, much as the chloride of sodium would have under similar circumstances.

ACIDUM ACETICUM.

Formula— $C_2H_4O_2$.

Synonyms—Acetic Acid, Pyroligneous Acid, Acetyl Hydrate or the Hydrogen Acetate.

The pure, free, absolute acid is known as the **Glacial Acetic Acid**. It contains ninety-nine per cent of the acid.

Vinegar is a liquid made from the juice of apples, acidulated with Acetic Acid, which is produced therein by the ferment **mycoderma aceti** in the natural process of **acetous fermentation**. Alcoholic fermentation first takes place in the fermenting substance, and this is followed by the acetous fermentation, produced artificially by the introduction of the characteristic ferment, or **mother of vinegar**.

Therapy—In spasmodic croup a few drops quickly volatilized on a hot surface, or on the surface of boiling water, will often give quick relief in breathing. Its vapor is often diffused in the room from hot water in cases of dry **bronchialcough**, in bronchitis, with excellent results. It is useful also in **diphtheria** and **membranous croup**, both internally and externally. It is of service in syrups forming an acetous syrup of many well known expectorants, such as *sanguinaria*, *ippecac*, *lobelia* and *squills*. The influence of the other constituents is often enhanced by this combination.

Dr. Vassar advocates the use of acetic acid in nose bleed. He makes a fifty per cent solution of vinegar and water, saturates cotton and passes it back along the floor of the bleeding nostril. In extreme cases he uses full strength vinegar. Sometimes he tampons posteriorly also.

Glacial acetic acid mixed with one part of chloroform and applied lightly once a day to the bare spot will cure some cases of alopecia.

There is good authority for the use of acetic acid dilute, or strong vinegar in twenty-five per cent solution as an external application in many forms of infectious disease. One so-called crank claimed to cure all chronic disease with the use of vinegar baths. A case resembling general bubo, apparently malignant infection of the glands, was rapidly

relieved by the action of this remedy externally.

There is a tradition that some nurses in the London Bubonic Plague of the fourteenth century saved their lives and those of some patients by vinegar baths.

This agent is specific in **carbolic acid** poisoning. If Acetic Acid or plain vinegar is at once diluted to a safe strength-one that can be swallowed without strangulation, and given to the patient immediately after taking a dose of carbolic acid, its influences are neutralized immediately, and no appearance of the destructive poisonous effects of the latter acid are apparent. Henning took a teaspoonful of 95 per cent carbolic acid into his mouth for a minute or more, then ejecting it, he held dilute acetic acid in the mouth for a short time, when all evidences of the carbolic acid disappeared, and no unpleasant symptoms whatever were experienced. Many cases are reported of its prompt action in carbolic acid poisoning.

If acetic acid be poured on to a compress and inhaled by a patient after the patient has taken chloroform, Lewis says it will relieve **nausea** and **vomiting** from the **chloroform**, or prevent it, most effectually.

Many **alcoholic** habitues are in the habit of drinking vinegar diluted with water to cut short a debauch, claiming that it produces steadiness of action and overcomes the intoxicating effects of alcohol.

This acid is used as a reagent in the laboratory. It is used also in the preservation of food stuffs, as it is actively antiseptic. Its vapor has been used as a stimulant, inhaled in asphyxia, and syncope.

It has been used in the treatment of **venereal sores** and other specific ulcers and in cancers, and it has been applied to gangrenous degeneration.

The syrup may be used persistently in **phthisis**, for the administration of many other agents which seem to be indicated during the course of the disease. *Wild cherry* is popular in the treatment of mild cases of **palpitation**, especially those of a functional character, or from reflex causes. Palpitation from disturbed conditions of the stomach is directly relieved by it. It is said to have a direct tonic influence upon the **heart** when the **muscularstructure** of that organ is greatly weakened, where there is dilatation or valvular insufficiency, especially if induced by prolonged gastric or pulmonary disease.

As a remedy for **dyspepsia** it has many advocates. It is a tonic to the stomach improving digestion by stimulating the action of the gastric glands. It soothes irritability of the stomach from whatever cause. Although the properties of a nerve sedative are not ascribed to this agent, general nervous irritation is soothed by its administration, nervous irritability of the stomach and of the respiratory organs is allayed, and a tonic influence is imparted to the central nervous system.

TOLU.

Balsam tolu.

PREPARATIONS—

Syrupus Tolutani, Syrup of Tolu; dose, from two to six drams.

Tincture Tolutani, Tincture of Tolu; dose, from one-half dram to two drams.

Physiological Action—The remedy is disinfectant-antiseptic, and when applied to the skin and to raw surfaces it is stimulant. It promotes healing of wounds and restores impaired and abnormal conditions of the skin. It is direct in its action upon mucous membranes, exercising a tonic and healing influence and restoring deficient secretion. It is eliminated freely through these membranes and through the kidneys, hence its beneficial action upon these structures.

Therapy—The agent is used in all forms of **bronchial irritation**. Its influence is not so readily observed in the acute forms as in the subacute and chronic forms. It is not sufficiently active to be depended upon to the exclusion of other more direct remedies, but it is serviceable in facilitating the action of these remedies and in

modifying the action of stimulating or irritating expectorants.

In the treatment of the various forms of **cough**, induced by disease of the bronchi, the direct remedies may be often administered to excellent advantage in the *syrup of tolu*. Short, sharp, hacking, dry coughs are directly benefited by its use. On the other hand coughs accompanied with an extreme outpour of thick mucus, with an atonic, relaxed condition of the mucous membranes, are relieved by this agent.

It is serviceable in **pharyngitis** and in **laryngitis**. In **whooping-cough** it is an excellent menstruum for the administration of the direct remedies.

In diseases of the gastro-intestinal tract, or of the kidneys where *turpentine* is indicated, that agent may be administered to an excellent advantage in the *syrup of tolu*.

ALLIUM.

Allium sativum

Synonyms—Garlic, Onion.

CONSTITUENTS—

It contains an essential volatile oil, mucilage, sugar and albumen.

Administration—The fresh juice is used in medicine, the crushed bulbs are used externally, and a tincture is prepared, of which from five to thirty drops is the dose.

Physiological Action—There is positive proof of the antiseptic properties of this agent.

One writer claims that diphtheria does not occur in families that are free partakers of the *onion* in any way. With many it produces flatulency. If used moderately for a while the quantity can be increased without unpleasantness. The odor is no more unpleasant than that of carbolic acid, creolin, *asafetida* and some others.

Covert gave the following facts concerning the common *onion*: “The
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volatile oil is the essential part of the *onion*, and has not only gastronomic but therapeutic merit. The *onion* is expectorant, stimulant, diuretic, rubefacient and discutient, and as a domestic remedy is well remembered by the oldest inhabitants in the form of *onion* syrup, *onion* draughts, *onion* poultices and the like. As a domestic remedy always at hand and of varied virtues it stands unrivaled.

“The *onion* poultice stands in high favor with me for all **swellings**, such as that of the throat in scarlet fever and diphtheria. It was long declared of much importance in the treatment of **croup** and as an application to the chest in all inflammations of the lungs and bronchi.

“An *onion* may be roasted and the cut surface applied hot to glandular inflammations and suppurating tumors.”

Bloyer advises the tincture of the *Red Onion* in gravel. The specific indications are extreme **urinary irritation**, with a constant desire to urinate and the passage of calcareous concretions. **Hemorrhage** and pus and mucus are often present from **inflammation of the bladder**. The cystoscope shows the bladder walls greatly thickened, nodulated and imbedded with concretions of various sizes. This persistent and almost incurable condition has been quickly cured by a tincture of the *red onion* and the tincture of *cocklebur* in equal parts, from fifteen to twenty drops given every three hours. The cure of this condition alone by the agent will give it a place in therapeutics.

ERIODICTYON. *Eriodictyon californicum*

Synonym—*E. glutinosum*, Yerba Santa.

CONSTITUENTS—

Volatile oil, fixed oil, ericolin, eriodictyonic acid, resin, gum, tannin.

PREPARATIONS—

Extractum Eriodictyi Fluidum, Fluid Extract of Eriodictyon; dose, from a half to one dram.

Specific Yerba Santa; dose, from five to twenty minims.

Therapy—*Yerba Santa* has a soothing influence upon irritating, dry, hacking, persistent cough.

It is of value in **chronic bronchitis**, **chronic pneumonitis** and in **phthisis pulmonalis**, in allaying the cough which seems to increase the patient's feebleness and advance the development of the disease. It is an excellent remedy combined with *grindelia robusta*. It acts well in all forms of cough where there is dryness of the mucous membranes, in conjunction with other directly indicated remedies. It is prepared in the form of a syrup, and like *prunus virginiana*, can be made a basis or vehicle for other agents. The syrup conceals the bitter taste of quinine admirably.

GLYCYRRHIZA.

Glycyrrhiza glabra.

Synonym—Liquorice.

CONSTITUENTS—

Glycyrrhizin, glycyramarin, asparagin, resin, sugar, starch.

PREPARATIONS—

Extractum Glycyrrhizae, Extract of Glycyrrhiza, (Extract of Liquorice). Dose, *ad libitum*.

Extractum Glycyrrhizae Fluidum, Fluid Extract of Glycyrrhiza. Dose, *ad libitum*; of the powdered root from 15 to 60 grains.

Therapy—The agreeable taste of *liquorice* in any form covers to a practical extent the taste of very many disagreeable remedies. Acrid and bitter tastes are well disguised by it. A syrup made by adding two parts of the fluid extract to fourteen parts of simple syrup, will disguise the bitter or otherwise unpleasant taste of a large proportion of the fluid extracts. The taste of quinine can be concealed by it to a considerable extent.

Its demulcent properties render it useful in inflammation, or irritation of the mucous membranes of the lungs and bronchi. In combination with *ippecac*, *lobelia*, *squill*, *sanguinaria*, or ammonium chloride, an excellent expectorant mixture or cough syrup may be extemporized, as this agent modifies any acrid or irritating influence the other agents

may exhibit.

The virtue of the **Compound Liquorice Powder** of the dispensatory does not depend upon the properties of the liquorice, only as it imparts to the whole a pleasant taste.

GROUP III.
Agents Acting Upon the Respiratory Tract.

CHAPTER V.

Respiratory Sedatives and Tonics.

CASTANEA
LIPPIA MEX
TRILLIUM
PENTHORUM

CASTANEA.

Castanea vesca.

Synonym—Chestnut.

Therapy—This agent is lauded as a specific for **whooping-cough**. The evidence adduced would lead to the conclusion that certain conditions not yet determined, must be present if it exercises curative powers. In certain experiments it has apparently ameliorated the symptoms promptly. In some cases there was a prompt arrest of the disease. In other cases no results have been apparent. It should receive thorough investigation to determine the specific conditions in which it will exercise a curative influence.

It should be given in full doses every two or three hours. If it proves curative in whooping-cough it should be found of service in other bronchial coughs with free secretion.

LIPPIA.

Lippia mexicana.

Synonym—*Lippia Dulcis*.

PREPARATIONS—

Concentrated tincture, miscible with water without material precipitation. Four parts of the tincture equal one of the drug; dose, one-half to one dram.

Fluid Extract Lippia; dose, ten to twenty minims.

Specific Symptomatology—Persistent, dry, hard, ringing or resonant bronchial cough, hoarse, barking or metallic cough. The use of this agent is limited to the air passages.

Therapy—It is useful in **asthma** and **chronic bronchitis**. It is peculiarly sedative to the entire mucous surfaces of the post-nasal region and bronchial tubes. It is soothing, expectorant, and relieves irritability of these surfaces. It quiets hacking cough and chronic bronchial cough of any character. The experience of the writer has proven it specific in the peculiar, deep, resonant, barking, winter cough, without secretion, common to many ladies in the northern States, usually absent in the summer, very persistent, stubborn and difficult to cure. This cough, *lippia* has cured for the writer in several cases. In every case the cough failed to recur in the following winter, as it had recurred before in several preceding winters.

PENTHORUM.

Penthorum sedoides.

Synonym—Virginia Stonecrop.

PREPARATIONS—

Specific Medicine Penthorum. Dose, from one to twenty minims.

Specific Symptomatology—It is suggested in cases of chronic disease of the fauces, larynx, or pharynx, where the mucous membranes are relaxed and of purple color, irritable, sore and dry. This condition sometimes, resists all ordinary throat remedies. Five drops of specific *penthorum* every two hours with a gargle of *capsicum*, quite strong, used three times daily, will quickly relieve the troublesome condition. The gargle alone is of benefit.

Therapy—It influences the functional activity of the stomach through the direct action on the glandular structure of the mucous membranes. It will impart tone to the stomach and increase the appetite and power of the digestion. It regulates the function also of the entire intestinal tract in a mild, but sometimes very desirable manner.

The remedy has been employed in the treatment of **cholera infantum**, where a mild tonic astringent was needed, and in many forms of

diarrhea. In **piles** it may be given in conjunction with *collinsonia* or *hamamelis*. It has been lauded in the treatment of **intestinal dyspepsia**, and other forms of atonic indigestion, especially where nervous exhaustion is present. Scudder remarked that mucous membranes in any locality, which had suffered from acute inflammation, were markedly susceptible to the action of this remedy in its direct restorative influence. It will remove irritation, restore the functional activities of the glands, and conduce to the return of the normal condition. He gave it also for chronic **catarrh, pharyngitis, bronchitis, vaginitis** and other catarrhal disorders. The fluid extract of *penthorum* may be given in doses of from one-fourth to one dram, every three hours.

Additional specific symptoms, are catarrhal inflammation, with profuse secretion, catarrhal gastritis, colitis, or iliocolitis, with mucous discharges and a spongy condition of the gums.

TRILLIUM

Trillium pendulum

Synonym—Bethroot.

CONSTITUENTS—

An acrid principle, a resin, tannic acid.

Therapy—*Trillium* influences mildly the nerve supply of the organs of the thorax. It assists **heart** remedies in relieving ample functional irritation. It cures **catarrhal bronchitis** when there is very profuse expectoration. It soothes the cough of incipient **phthisis**, especially where there is a tendency to hemorrhage, over which it has a marked controlling influence. It restrains excessive action of the kidneys. At one time it had an excellent reputation in the control of **diabetes insipidus**.

It controls **uterine hemorrhage** of a passive character to an excellent advantage, especially **menorrhagia** and **metrorrhagia**. Excessive vaginal catarrh is restrained by it.