

The mode of obtaining this oil, with its qualities and medicinal virtues, have been already noticed. The purer it is, the more soluble it is in alcohol of spec. grav. .820. (See *RICINUS*, Part ii.)

### OLEA DISTILLATA.

#### DISTILLED, or VOLATILE OILS.

VOLATILE OILS, as they are properly denominated by the Edinburgh College, are vegetable products, found in almost every part of the vegetable body, except the cotyledons of the seeds, the part in which almost always the fixed oils are contained. In some plants, the volatile oil exists in distinct vesicles, and is obtained by simple expression, but in general it can only be obtained by distillation; whence the name *Distilled Oils*, given to this class of substances by the London College: and as the odour of plants generally depends on their volatile oils, the Dublin College, following the example of the older chemists, who denominated them *Essences*, have adopted the term *Essential Oils*. The expressed volatile oils are now rejected from all the pharmacopœias; and the whole of those used in pharmacy retained, are procured by distillation.

Volatile oil is obtained from both recent and dried plants. When fresh plants are to be employed, they require no previous treatment; but when the plants are dry, or woods or barks are to be employed, the plants must be macerated in water for some time, and the woods and barks be previously rasped. The distillation is performed in the following manner. The plants, or the parts of them containing the oil, are to be put into a tinned copper still, and closely pressed down; after which, as much water is to be poured in as will be sufficient to cover the materials. The head of the still, which should be low, is then to be luted on; the fire lighted, and so regulated as to keep the contents of the still scarcely up to the boiling point; and the distillation continued, until the condensed vapour comes over nearly insipid and inodorous. During this process the volatile oil rises with the watery vapour, from which however, the greater part of it again separates, after it has remained at rest for some hours in a cool place, and either floats on the surface of the water, or sinks to the bottom, according to its specific gravity. The complete separation of the oil is effected by an instrument called a separatory (see *Part i.*);

and the water is to be again used for a second distillation of fresh materials, by which, as it is already impregnated with as much of the oil as it can dissolve, the product of oil of the second, and every subsequent distillation, will be consequently greater than that of the first; but it is not till "the tenth distillation, in some cases, that the produce of the oil attains its maximum."<sup>1</sup> By the same process, volatile oils are obtained from balsams, resins, gum-resins, and turpentine. They have not their characteristic qualities in perfection immediately after their distillation, but have a disagreeable empyreumatic odour; to dissipate which they must be allowed to stand for some days in vessels loosely covered with paper, before they be put into the bottles in which they are to be preserved, which should be opaque.

Although all volatile oils agree in their chemical properties sufficiently to constitute them members of the same class of substances, yet they differ greatly in their qualities from each other, and in the proportions in which they are obtained.

Volatile oils have a penetrating odour, and hot taste. They are completely evaporated when heated in the open air; a property which is taken advantage of as a test of their purity; for if they be adulterated with fixed oil, which is not unfrequently the case, by heating a small portion of the oil on a piece of clean paper, a greasy spot will remain, whereas if the volatile oil be pure, the paper will be left perfectly clean. In a higher temperature, volatile oils are readily ignited, and burn with a bright white flame, emitting a large quantity of black dense smoke; and with the production of a large proportion of carbonic acid and water.

Volatile oils exposed to the light, are changed in colour, or become colourless; when exposed to the air, they become more viscid, less odorous, redden the tincture of turnsole, and gradually assume the form of resins. These changes, Dr. Priestley ascertained<sup>2</sup>, depend upon the absorption of oxygen; and hence the necessity of preserving volatile oils in small phials, completely full, and well corked. An oil which has become thick and scentless, may be rectified by re-distilling it, with some of the same kind of plant from which it was originally extracted, or with alcohol or sulphuric ether<sup>3</sup>; a limpid odorous oil comes over, and resin remains in the retort.

These oils are very sparingly soluble in water, and render it milky when agitated with it, communicating to it their odour: they are all soluble in alcohol, ether, and the fixed oils in va-

<sup>1</sup> Aikin's Dictionary of Chemistry, Art. Oil.

<sup>2</sup> Priestley on Air, ii. 232.

<sup>3</sup> Nicholson's Journal, 8vo. vii. 68.

rious proportions. From their solubility in alcohol, they are sometimes adulterated with that fluid; but the fraud may be detected by agitating some of the suspected oil with water; when if the oil contain alcohol, an increase of temperature will be indicated by the thermometer, but not if the oil be pure.<sup>1</sup> The more expensive oils are also occasionally adulterated with the cheaper, particularly with oil of turpentine, which however is readily discovered by its peculiar odour, if a piece of paper be dipped in the suspected oil and dried with a gentle heat. They are also sometimes adulterated with castor oil; and as the mixture, when the ingredients are in equal proportions, is soluble in alcohol, the fraud cannot be detected by that test; but it is rendered obvious by the adulterated oil leaving a greasy stain upon paper, which has been touched with it, and held before the fire, whereas no stain is left by the genuine oil.

Volatile oils unite with sulphur, in a temperature sufficient to melt it, and form brown-coloured foetid mixtures, which have been denominated *balsams of sulphur*. The alkalies and earths combine imperfectly with them, and constitute a class of bodies which the French chemists have denominated *sapones*. The action of the acids is much more violent than on the fixed oils: and several of them detonate when rubbed with oxymuriate of potash.

As medical agents, volatile oils are stimulant and aromatic. They are chiefly employed to remove nausea and flatulence, to correct the griping qualities of some purgatives, and the disagreeable taste of other remedies. They may be given, triturated with water and mucilage; or dropped first on a lump of sugar, and through its medium diffused in water, forming a solution of what has been denominated *oleum saccharum*. The quantity of sugar must be more than ten times the weight of the oil; and when they are well triturated together the oil becomes thus completely soluble in water, and may be diluted to any extent.

Some of the more stimulant of these oils are added to embrocations to be used as rubefacients in cases of numbness, pains, and paralytic affections of the joints.

The three British Colleges give the following general rules for the preparation of *volatile oils*.

<sup>1</sup> Marqueron, *Annales de Chimie*, xlviii. 267.

*OLEA DISTILLATA. Lond.**Distilled Oils.*

"THE seeds of Anise and Carraway, the flowers of Chamomile and Lavender, the berries of Juniper and All-spice, the tops of Rosemary, and the entire plants of the other articles, dried, are to be employed.

"Put any one of these into an alembic, then pour in as much water as will cover it, and distil the oil into a large refrigeratory.

"The water which distils over with the oils of carraway, peppermint, spearmint, all-spice, and penny-royal, is to be preserved for use."

*OLEA VOLATILIA. Edin.**Volatile Oils.*

"As much water only is to be employed as will prevent empyreuma during the distillation. The distillation may be immediately commenced after a proper maceration; and the oil afterwards separated from the water.

"It is also necessary to observe, in preparing these oils and the distilled waters, that the quality of the substances, their texture, the season of the year, and similar circumstances, must occasion so many differences, that it is scarcely possible to give any certain and general rules which shall strictly apply to every example. Many things, therefore, which must be regulated by the judgment of the operator, are omitted, and the more general only given."

*OLEA ESSENTIALIA. Dub.**Essential Oils.*

"LET the oil be extracted by distillation, from the substance previously macerated in water, as much water being added during the distillation as may be sufficient to prevent empyreuma.

"In distilling fennel, peppermint, spearmint, penny-royal, and all-spice, the watery fluid which comes over in distillation with the oil is to be preserved for use according to the directions under the head of Distilled Waters."

Few of the volatile oils are prepared by the apothecary. The oils of anise, chamomile, juniper, origanum, rosemary, and pimento are usually imported into this country; while

those of lavender, peppermint, spearmint, and penny-royal, are annually prepared on a large scale.<sup>1</sup>

OLEUM ANISI. Lond. OLEUM VOLATILE PIMPINELLE ANISI. Edin. OLEUM SEMINUM ANISI. Dub. *Oil of Anise-seed.*<sup>2</sup>

This oil is of a whitish or a pale straw-colour, has the odour of the plant, and a slightly pungent, bitter, sweetish taste. It crystallizes at 50° in flat tables. Sixteen pounds of anise-seeds yield about seven ounces of oil.<sup>3</sup>

*Medical properties and uses.*— This oil is used chiefly as a carminative; and as it is less pungent than many of the other volatile oils, it is better adapted for relieving flatulence in children. It is given in doses of from  $\mathfrak{m}\nu$ . to  $\mathfrak{m}\chi$ . triturated with sugar.

OLEUM ANTHEMIDIS. Lond. OLEUM VOLATILE ANTHEMIDIS NOBILIS. Edin. *Oil of Chamomile.*<sup>4</sup>

The odour of this oil is unpleasant, and the taste pungent. When recently distilled the colour is a caerulean blue, but by exposure to light it changes to yellow. Eighty-two pounds of chamomile flowers yield eighteen drachms of oil.<sup>5</sup>

*Medical properties and uses.*— This oil is supposed to possess antispasmodic powers, and is therefore sometimes recommended in cramp of the stomach, and as an adjunct to purgative pills. The dose is from  $\mathfrak{m}\nu$ . to  $\mathfrak{m}\chi$ . but it is seldom used.

OLEUM CARUI. Lond.<sup>6</sup> OLEUM SEMINUM CARUI. Dub. *Oil of Carraway.*

Six pounds of carraway-seeds yield four ounces and a half of oil.<sup>7</sup> It has an aromatic odour, and a sweetish pungent taste; is viscid, and of a yellow colour. Its specific gravity is .946.<sup>8</sup>

*Medical properties and uses.*— Oil of carraway is stimulant and carminative. It is chiefly used as an adjunct to purgative pills, and to cover the disagreeable flavour of other substances. The dose is from  $\mathfrak{m}\mathfrak{j}$ . to  $\mathfrak{m}\chi$ .

OLEUM SEMINUM FENICULI DULCIS.<sup>9</sup> Dub. *Oil of Fennel Seeds.*

Seventy-five pounds of fennel seeds yield thirty ounces of

<sup>1</sup> Lond. Med. Review, April 1810. 156.

<sup>2</sup> Huile d'Anis (F.) Anisölhl (G.) Olio di Anice (I.)

<sup>3</sup> Baumé.

<sup>4</sup> Huile de Camomille Romaine (F.) Kamillenölhl (G.) Olio di Camamilla Romana

(I.) Azeyte de Manganella de Botera (S.)

<sup>5</sup> Baumé.

<sup>6</sup> Huile de Carvi (F.) Kümmelölhl (G.) Olio di Carvi (I.) Azeyte de Alcorovea (S.)

<sup>7</sup> Baumé.

<sup>8</sup> Ibid.

<sup>9</sup> Huile essentielle de Fenouille (F.) Fenchelölhl (G.) Olio di Fenoichio (I.) Azey de l'Eneldo hinojo (S.)

oil, which is colourless, and congeals at 50°. It has the odour of the plant, and a hot sweetish taste. Its specific gravity is .997.<sup>2</sup>

*Medical properties and uses.*—The same as those of the plant. The usual dose is from  $\text{mij.}$  to  $\text{mxx.}$  it is rarely used.

OLEUM JUNIPERI. Lond.<sup>3</sup> OLEUM VOLATILE JUNIPERI COMMUNIS. Edin. OLEUM BACCARUM JUNIPERI. Dub. *Oil of Juniper.*

Forty-eight pounds of bruised juniper berries yield six ounces of oil<sup>4</sup>, of a specific gravity .611.<sup>5</sup> Its odour is similar to that of turpentine, and the taste hot and acrid. It has a greenish yellow colour, is viscid, and deposits a fæculent matter when long kept. When genuine it is soluble in alcohol.

*Medical properties and uses.*—This oil is carminative, diaphoretic, and diuretic. It is sometimes given in dropsy, and may be added to foxglove when it is exhibited in the form of pills. The dose is from  $\text{mij.}$  to  $\text{mx.}$  combined with water by means of sugar or mucilage.

OLEUM LAVANDULÆ. Lond. OLEUM VOLATILE LAVANDULÆ SPICÆ. Edin. OLEUM FLORUM LAVANDULÆ. Dub.<sup>6</sup> *Oil of Lavender.*

One pound nine ounces of this oil are obtained from eighty pounds of lavender flowers. The odour is very fragrant, and the taste warm and agreeable. Its colour is a very pale lemon yellow, and its specific gravity .936.<sup>7</sup>

*Medical properties and uses.*—This oil is stimulant and cordial. It is chiefly used in hysteria and nervous headach, in doses of from  $\text{mj.}$  to  $\text{m v.}$  given on a lump of sugar.

OLEUM VOLATILE LAURI SASSAFRAS. Edin. OLEUM CORTICIS ET LIGNI SASSAFRAS. Dub. *Oil of Sassafras.*

Sixty pounds of bruised sassafras yield twelve ounces<sup>8</sup> of a viscid yellow oil, heavier than water, its specific gravity being 1.094.<sup>9</sup> Its odour is fragrant, and its taste hot and acrid, excoriating the lips when incautiously tasted. The Edinburgh College orders it to be distilled from the bruised root.

*Medical properties and uses.*—This oil is stimulant, and supposed to be also sudorific and diuretic. It has been given in chronic rheumatism, scurvy, and some cutaneous affections. The dose is from  $\text{mij.}$  to  $\text{mx.}$  but it is scarcely ever ordered.

<sup>1</sup> Dehne.

<sup>2</sup> Lewis.

<sup>3</sup> Huile essentielle de Genevrier (F.) Wachholder beeröhl (G.) Olio di Ginepro (I.)

<sup>4</sup> Dehne.

<sup>5</sup> Lewis.

<sup>6</sup> Huile essentielle de Lavendelöhl (G.) Olio di Lavanda (I.) Azeyte del'Espliego (S.)

<sup>7</sup> Lewis.

<sup>8</sup> Baumé.

<sup>9</sup> Ibid.

**OLEUM MENTHÆ PIPERITÆ.** Lond. **OLEUM VOLATILE MENTHÆ PIPERITÆ.** Edin. **OLEUM HERBÆ FLORESCENTIS MENTHÆ PIPERITIDIS.** Dub.<sup>1</sup> *Oil of Peppermint.*

Four pounds of the dried plant yield three drachms of this oil.<sup>2</sup> Its odour is strong, and its taste very pungent, but at the same time impressing a sensation of coldness. Its colour is brownish yellow; but it becomes white when exposed to the light.

*Medical properties and uses.* — Oil of peppermint is stimulant and carminative. It is a common domestic remedy in cramp of the stomach, flatulent colic, and anorexia; and is usually rubbed up with sugar or mucilage. The dose is from ℥ j. to ℥ iij.

**OLEUM MENTHÆ VIRIDIS.** Lond. **OLEUM HERBÆ FLORESCENTIS MENTHÆ SATIVÆ.** Dub.<sup>3</sup> *Oil of Spearmint.*

This oil has a flavour similar to that of peppermint, but less grateful; its taste is warm and less pungent; its specific gravity .975<sup>4</sup>; and its colour greenish.

*Medical properties and uses.* — The same as those of oil of peppermint. The dose is from ℥ ij. to ℥ v. given on a lump of sugar.

Official preparation. *Infusum Menthæ compositum.*

**OLEUM ORIGANI.** Lond. **OLEUM VOLATILE ORIGANI MARJORANÆ.** Edin. **OLEUM HERBÆ FLORESCENTIS ORIGANI.** Dub.<sup>5</sup> *Oil of common Marjoram.*

One hundred and fifty pounds of dried leaves of common marjoram yield fifteen ounces of oil<sup>6</sup>, of a yellow colour, having the odour of the plant, and a hot acrid taste. Its specific gravity is .940.<sup>7</sup>

*Medical properties and uses.* — On account of its acrid quality this oil is never exhibited internally. As a local stimulant it is sometimes used to allay the pain of tooth-ach, two or three drops on a piece of cotton being put into the carious tooth.

**OLEUM PIMENTÆ.** Lond. **OLEUM VOLATILE MYRTI PIMENTÆ.** Edin. **OLEUM BACCARUM PIMENTÆ.** Dub. *Oil of Pimento.*<sup>8</sup>

This oil has the agreeable odour of the pimento, with its pungent taste in an increased degree. It is of a reddish-brown colour, and is heavier than water.

<sup>1</sup> Huile essentielle de Menthe Poivrée (F.) Pfeffermünzöhl (G.) Olio di Menta piperitide (I.)

<sup>3</sup> Huile essentielle de Baume vert (F.)

<sup>4</sup> Lewis.

<sup>5</sup> Huile essentielle d'origan (F.) Dostbl (G.) Olio di Origano (I.) Azeyte de origane Sylvestre (S.)

<sup>6</sup> Baume.

<sup>7</sup> Ibid.

<sup>8</sup> Huile essentielle de Poivre de Jamaïque (F.) Nelherpfefferöhl (G.) Olio di Pimento (I.)

*Medical properties and uses.* — It has the same properties as all-spice in a greater degree; and is given in dyspeptic affections, colic, and tympanitis, in doses of from  $\mathfrak{m}$  iij. to  $\mathfrak{m}$  v. rubbed with sugar, or in any proper vehicle.

**OLEUM PULEGII.** Lond. **OLEUM HERBÆ FLORESCENTIS PULEGII.** Dub. *Oil of Pennyroyal.*<sup>2</sup>

This oil is of a reddish-yellow colour, and resembles in its other qualities the oil of peppermint. Its specific gravity is  $\cdot 978$ .<sup>2</sup>

*Medical properties and uses.* — It is stimulant and antispasmodic, but is scarcely ever used. The dose may be from  $\mathfrak{m}$  j. to  $\mathfrak{m}$  v. given on a lump of sugar.

**OLEUM ROSMARINI.** Lond. **OLEUM VOLATILE ROSMARINI OFFICINALIS.** Edin. **OLEUM HERBÆ FLORESCENTIS ROSMARINI.** Dub.<sup>3</sup> *Oil of Rosemary.*

Twenty-four pounds of the plant yield one ounce of a fluid colourless oil<sup>4</sup>, the odour of which is less agreeable than that of the plant. It deposits crystals of camphor when long kept. Its specific gravity is  $\cdot 934$ .<sup>5</sup>

*Medical properties and uses.* — It is stimulant; and frequently enters into the composition of liniments. The dose, as an internal remedy, may be from  $\mathfrak{m}$  ij. to  $\mathfrak{m}$  vj. but it is scarcely ever ordered.

**OLEUM HERBÆ FLORESCENTIS RUTÆ.** Dub. *Oil of Rue.*

Twenty-one pounds of Rue yield fifty-nine grains of<sup>6</sup> oil, which has the strong ungrateful odour and taste of the plant. When recently drawn the colour is yellow, but it deepens to a brown by age, and deposits a brownish resinous sediment. It congeals at  $40^{\circ}$  Fahrenheit.

*Medical properties and uses.* — Oil of rue is stimulant and antispasmodic. It is sometimes given in hysteria, and the convulsive affections of infants attendant on dentition; and is sometimes used as a rubefacient in palsy. The dose is from  $\mathfrak{m}$  ij. to  $\mathfrak{m}$  v. triturated with sugar or mucilage.

**OLEUM HERBÆ JUNIPERI SABINÆ.** Edin. **OLEUM FOLIORUM SABINÆ.** Dub.<sup>7</sup> *Oil of Savine.*

Two pounds of savine are said to yield five ounces of<sup>8</sup> oil. It is limpid, has the odour of the plant, and is extremely

<sup>1</sup> Huile essentielle de Menthe Peuliot (F.) Polciöhl (G.) Olio di Puleggio (I.)  
Azeyte de Poleo (S.) <sup>2</sup> Lewis.

<sup>3</sup> Huile essentielle de Romarin (F.) Rosmarinöhl (G.) Olio di Rosmarino (I.)

<sup>4</sup> Baumé. <sup>5</sup> Lewis. <sup>6</sup> Baumé.

<sup>7</sup> Huile essentielle de Sabine (F.) Sevenbaumöhl (G.) Olio di Sabina (I.) Azeyte  
de Enebrio Sabina (S.) <sup>8</sup> Murray.

acid to the taste. Its colour is yellow; but it becomes colourless on being kept exposed to light.

*Medical properties and uses.*—This oil is the principle on which the virtues of savine depend; hence it possesses the same properties, and is applicable to the same purposes as the plant. The dose may be from ℥ij. to ℥vj. triturated with sugar.

**ORLEUM CORNU CERVINI RECTIFICATUM.**  
Dub. *Rectified Oil of Hartshorn.*

“Take of the oil which rises in the distillation of the volatile liquor of hartshorn, *three pounds*; water, *six pints*.

“Distil the oil, then remix it with the water, and redistil, repeating the distillations until the oil become limpid. It ought to be preserved in a dark place, in small phials completely filled, and closely stopped.”

This empyreumatic oil is first formed by the decomposition of animal matter by heat; and arises from a new combination of part of the hydrogen and carbon of the substance distilled. As first obtained it is thick, of a dark colour, and has a very offensive odour; but by the rectification above ordered, it is rendered thinner, and less offensive.

*Qualities.*—Rectified oil of hartshorn is nearly colourless and transparent; has a strong, slightly aromatic odour, and a penetrating taste. It is very light and volatile, strikes a green colour with syrup of violets; is partially soluble in water, and unites readily with alcohol, ether, and oils. The acids form with it a thick saponaceous compound; and with the alkalies it forms a true soap. Exposure to light and air destroys its transparency, and gives it a deep brown colour.

*Medical properties and uses.*—This oil is stimulant, antispasmodic, anodyne, and sudorific. It was formerly regarded as a remedy of much efficacy in fever, particularly when given a few hours before the accession of the paroxysm of intermittents; and was also much employed in epilepsy, hysteria, and all convulsive affections. It is now almost discarded from practice, being only occasionally used as an external application to paralytic limbs. The dose may be from ℥x. to ℥xxx. in a sufficient quantity of water.

**OLEUM SUCCINI.** Lond.<sup>1</sup> *Oil of Amber.*

“Put the amber into an alembic, and distil from a sand-bath, with a fire gradually raised, an acid liquor, the oil, and a salt impregnated with the oil. Then redistil the oil twice.”

**OLEUM SUCCINI.** Edin. *Oil of Amber.*

<sup>1</sup> Huile de Succin (F.) Bernsteinöl (G.) Olio di Succino Rettificato (I.)

"Take of amber in powder and of pure sand, *equal parts*. Mix them together in a glass retort, the capacity of which the mixture only half fills: and having adapted to it a large receiver, distil in a sand-bath, with a gradually augmented heat. An aqueous fluid tinged with a little yellow oil will first come over; then a yellow oil with an acid salt, and, lastly, a black and reddish oil. Pour the fluid from the receiver and separate the oil from the water."

OLEUM SUCCINI PURISSIMUM. Edin. *Pure Oil of Amber.*

"Distil the oil of amber mixed with six times its quantity of water, from a glass retort until two-thirds of the water pass over into the receiver. Then separate this purified volatile oil from the water, and keep it in well stopt phials."

OLEUM SUCCINI RECTIFICATUM. Dub. *Rectified Oil of Amber.*

"Take of the oil which comes over in the preparation of succinic acid, *a pound*; water, *six pints*. Distil until two thirds of the water have passed into the receiver: then separate the oil."

The oil of amber, as immediately procured by the distillation of amber, is of a dark colour, a thick consistence, and has a very fetid odour; but by successive distillations it is rendered thinner, of a lighter colour, and at length is obtained nearly limpid.

*Qualities.* — Rectified oil of amber has a strong ungrateful odour, and a hot acrid taste. It is light, volatile, and inflammable, insoluble in water, and only partially soluble in alcohol.

*Medical properties and uses.* — Oil of amber is stimulant, antispasmodic, and rubefacient. It has been found serviceable in deficient menstruation, and in hysteria, epilepsy, and some other convulsive affections; but it is now scarcely ever administered as an internal remedy. The dose may be from  $\mathfrak{m} \text{v}$ . to  $\mathfrak{m} \text{xij}$ . combined with any distilled water by means of mucilage. It is more generally employed externally as a rubefacient in rheumatism and paralysis; and a mixture of  $\mathfrak{f} \mathfrak{ss}$  of this oil with  $\mathfrak{f} \mathfrak{ss}$  of tincture of opium has been found beneficial as a friction to the affected part in tic doloureux; and in hooping-cough, rubbed upon the chest twice or three times a day.

Official preparation. *Spiritus Ammoniae succinatus. L.*

OLEUM TEREBINTHINÆ. Dub.<sup>1</sup> *Oil of Turpentine.*

"Take of common turpentine, *five pounds*; water, *four*

<sup>1</sup> Huile essentielle de Térébenthine (F.) Terbenthinöl (G.) Olio di Trementina (I.) Azeyte de Pino (S.)

*pints.* Distil the oil from a copper alembic. Yellow resin will remain in the retort after the distillation."

**OLEUM TEREBINTHINÆ RECTIFICATUM.**  
Lond. Dub. *Rectified Oil of Turpentine.*

"Take of oil of turpentine, *a pint (two pints, Dub.); water, four pints.* Distil the oil (*a pint and a half of the oil, Dub.*)

**OLEUM VOLATILE PINI PURISSIMUM.** Edin. *Purified Oil of Turpentine.*

"Take of oil of turpentine, *one part; water, four parts.* Distil as long as any oil passes over."

The chemical qualities and medicinal properties of oil of turpentine have been already noticed. (See PINUS, *Part ii.*) The rectification of it is a troublesome process, and on account of the great inflammability of the vapours, much caution is required to prevent them from escaping through the lutings of the vessels, and catching fire. The rectified oil is a little lighter than the common oil, and completely free from any resinous admixture; but in other respects it has no peculiar excellence to recommend it. What remains in the retort is a thick resinous matter, and is denominated balsam of turpentine.

*Medical properties and uses.* — As has been already mentioned (*Part ii.*) I have had several opportunities of ascertaining the efficacy of oil of turpentine as a remedy for tape-worm. In every case in which I have administered it, the worm has been expelled, and the symptoms relieved. In general the animal has been voided of a livid hue, and evidently killed; but in one instance, in which a portion of five feet in length was passed after two fluid ounces of the oil had been taken, it was not livid, and when voided, exhibited evident signs of animation. In no instance have we perceived that the large doses of the oil, which were taken for the above purpose, produced any particular effect on the urinary organs. The more usual sensible effects are temporary intoxication, accompanied with considerable nausea, and sometimes vomiting, which, after two or three alvine evacuations, subside, and leave a degree of languor for ten or twelve hours. The pain of the stomach and side, which is an usual concomitant of the disease, is always removed by the oil. I have also given this oil in combination with cinchona, with evident benefit in rheumatism. In some, persons however, it has affected the kidney, producing pain and bloody urine, and in others its administration has produced a severe erythematic eruption over the body. The dose in rheumatism is  $\text{f}\text{ʒi}$ . repeated every four hours; but in tænia it may be given in doses of  $\text{f}\text{ʒj}$ . combined with  $\text{f}\text{ʒij}$ . of syrup of poppies, repeated every six hours until the worm is expelled.