the remaining Alcohol, added in 10 equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures 20. =(1 in 2).

Dose.—½ to 1 fl. drm.

TINCTURA KRAMERIÆ. Tincture of Krameria. *B.P.Syn.*—Tincture of Rhatany. (Altered.)

Krameria Root, in No. 40 powder, 4; Alcohol (60 p.c.), a sufficient quantity. Moisten the powder with 2 of the Alcohol, and complete the percolation process. The resulting Tincture should measure 20. =(1 in 5).

Now 1 in 5 instead of 1 in 8, and Alcohol (60 p.c.) used in place of Rectified Spirit.

Dose.—½ to 1 fl. drm.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Mex., Norw., Port., Russ., Swed., Swiss and U.S., 1 in 5; all by weight except U.S. Not in Ital., Jap. or Span.

TROCHISCUS KRAMERIÆ. Krameria Lozenge. *B.P.Syn.*—Rhatany Lozenge. (New)

Extract of Krameria, 1 grain. Mix with the Fruit Basis to form a Lozenge.

Foreign Pharmacopœias.—Official in U.S.; not in the others.

TROCHISCUS KRAMERIÆ ET COCAINÆ. Krameria and Cocaine Lozenge. *B.P.Syn.*—Rhatany and Cocaine Lozenge. (New.)

Extract of Krameria, 1 grain; Cocaine Hydrochloride, $\frac{1}{20}$ grain. Mix with the Fruit Basis to form a Lozenge.

Not Official.

EXTRACTUM KRAMERIÆ FLUIDUM (U.S.).—Rhatany Root, 1; exhausted with Diluted Alcohol and Glycerin, to produce 1 of fluid extract.

GOSSYPIUM KRAMERIÆ (*T.H.*)—Tincture of Rhatany, ½ fl. oz.; Glycerin, 10 minims; mix and saturate evenly with it Cotton Wool, 60 grains, and dry.

SUPPOSITORIUM KRAMERIÆ.—Extract of Rhatany, 8 grains; Morphine Hydrochloride, $\frac{1}{10}$th grain; Stearin, 10 grains.

Foreign Pharmacopœias.—Official in Fr. and Span., 1 gramme in each.

SYRUPUS KRAMERIÆ (*U.S.*).—Fluid Extract of Krameria, 45; Syrup, 55.

Foreign Pharmacopœias.—Official in Swiss, Extract of Rhatany, 2; Water, 5; Syrup, 98; concentrate to 100 by weight.

TROCHISCUS KRAMERIÆ ET BORACIS.—Useful for relaxed throat.

Not Official.

LACTUCA.

Lettuce is the flowering herb of the wild indigenous plant, *Lactuca virosa*.

Has been found to contain a minute quantity of a mydriatic alkaloid recognised as Hyoscyamine, but in commercial Lactucarium not a trace could be detected. *P.J.* (3) xxii. 449.

Medicinal Properties.—Sedative and slightly hypnotic; said also to be

gently laxative, diuretic, and somewhat diaphoretic; allays irritative cough. Employed in dropsy combined with Squill, Digitalis, or other diuretics. The extract makes a suitable pill excipient for purgatives such as Calomel.

Foreign Pharmacopœias.—Official in Belg., Dutch, Fr. (Laitue vireuse), Ital. (Lattuga virosa), Mex. (Lechuga), Port. (Alface virosa), Span. (Lachuga) (L. Sativa); not in the others.

Preparations.

EXTRACTUM LACTUCÆ.—The inspissated juice evaporated to a pill consistence, according to the directions given for Extractum Belladonnæ Viride.

100 lbs. of the plant yield 50 to 70 lbs. juice = 60 to 80 oz. of Extract.

Dose.—5 to 15 grains.

Foreign Pharmacopœias.—Official in Belg., with weak Alcohol; Dutch, aqueous extract and alcoholic extract; Fr. and Ital., purified expressed juice evaporated; Mex., aqueous; Port., alcoholic; Span., expressed juice evaporated; not in the others.

The extract from the **root** is stronger than that made from the **leaves.**

LACTUCARIUM.—The juice from the incised flower-stalk of *Lactuca virosa* and other species, collected and dried.

Dose.—2 to 6 grains.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Hung., Jap., Mex., Port., Swed. and U.S.; Belg., Fr. and Swed. use other species also; not in Ger., Ital., Norw., Russ., Span. or Swiss.

SYRUPUS LACTUCARII.—Macerate Lactucarium 1, with Petroleum Spirit 4, for twenty-four hours, decant the Petroleum Spirit solution, dry the residue, mix it with an equal bulk of clean dry sand, and exhaust with Alcohol (60 p.c.) to 8; evaporate this Tincture to 6, add Water enough to regain the measure of 8, then dissolve in it Sugar 14, and add Water to make 20.

Dose.—30 to 120 minims.

Foreign Pharmacopœias.—Official in U.S., 1 of Tincture in 10; not in the others.

TINCTURA LACTUCARII.—Lactucarium, 1; Alcohol (60 p.c.), 10: digest seven days, and filter.

Dose.—20 to 60 minims.

Foreign Pharmacopœias.—Official in U.S., Lactucarium, 1 part, treated with Petroleum Spirit, and then exhausted with a mixture of Alcohol, Glycerin, and Water to produce 2 parts.

LANOLIN. *See* ADEPS LANÆ.

Not Official.

LARICIS CORTEX.

LARCH BARK.

The bark of *Larix Europæa;* collected in spring, deprived of its outer portion and dried. It contains a volatile crystallisable acid, **Larixinic Acid,** which sublimes in vapour of water.

Medicinal Properties.—Similar to those of Oil of Turpentine. Astringent, gently stimulant, useful in chronic bronchitis to diminish excessive secretion.

(Not in the other Pharmacopœias.)

Preparations.

TINCTURA LARICIS.—Larch Bark, in No. 40 powder, 1; Alcohol (90 p.c), 8; macerate forty-eight hours in 6 of the Alcohol, agitating occasionally; pack in a percolator, and when it ceases to drop, pour on the remaining Alcohol; press the marc, filter, mix the liquids, and add sufficient Alcohol to make 8. =(1 in 8).

Dose.—20 to 30 minims.

TEREBINTHINA VENETA or **T. LARICIS.**—A viscid liquid of a yellowish or greenish-yellow colour, obtained from *Larix Europæa*. It does not readily harden on exposure to air, or when mixed with $\frac{1}{16}$ of Magnesia. Soluble in Absolute Alcohol. It is much used on the Continent, and in veterinary practice in this country.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Ital. (Trementina di Venezia), Norw., Port., Russ., Span. (Trementina de Alerce), Swed. and Swiss; not in the others.

LAUROCERASI FOLIA.

CHERRY-LAUREL LEAVES.

The fresh leaves of *Prunus Laurocerasus*.

Official Preparation.—Aqua Laurocerasi.

Foreign Pharmacopœias.—Official in Belg., Dutch, Fr. (Laurier Cerise), Ital. (Lauroceraso), Port. (Loureiro-Cerejeira) and Span.; not in the others.

Description.—Thick, coriaceous, on short strong petioles, oblong or somewhat obovate, from five to seven inches (twelve and a half to seventeen centimetres) in length, tapering towards each end, recurved at the apex, distantly but sharply serrate and slightly revolute at the margins, dark green, smooth, and shining above, much paler beneath, and with a prominent midrib, on either side of which, near the base, are one or two glandular depressions. Inodorous, but emitting when bruised an odour resembling that of bitter almonds.

Preparation.

AQUA LAUROCERASI. CHERRY-LAUREL WATER.

Fresh Cherry-Laurel Leaves, 16; Water, 50. Place the crushed Cherry-Laurel Leaves with the Water in a retort: distil 20 of liquid, shake the product; filter, if necessary; adjust the strength of the finished product, either by adding Hydrocyanic Acid or by diluting the distillate with Distilled Water, so that, when tested as described under 'Acidum Hydrocyanicum Dilutum,' it shall contain $\frac{1}{10}$ p.c. of Hydrocyanic Acid, HCN.

NOTE.—To ascertain if it lost much of its strength by keeping, a sample was taken, which contained ·104 p.c., and placed in a pint bottle about three-quarters full for a month, it then gave ·094 p.c.; the bottle was then kept for a week with only 3 oz. in it, and then gave ·093 p.c.; the same was then kept three days with the cork out, and then gave ·038 p.c.

Notwithstanding the adoption of an Official standard, the strength of this preparation is still very variable, commercial samples of half the official strength being sometimes met with.

The p.c. of Hydrocyanic Acid may be determined by the process described under 'Acidum Hydrocyanicum Dilutum,' using 50 c.c. of the Water.

Medicinal Properties.—Nervine sedative. Similar to Hydrocyanic Acid, but without the nauseous odour of the Acid. Used also as a lotion to allay itching in cutaneous diseases.

Dose.—½ to 2 fl. drms.

20 minims = 1 minim Diluted Hydrocyanic Acid.

Incompatibles.—Same as Hydrocyanic Acid.

Antidotes.—In case of overdose, the antidotes should be as directed under 'Acidum Hydrocyanicum Dilutum.'

Foreign Pharmacopœias.—Official in Austr., Dutch, and Swiss, 1·0 HCN per 1000; Belg., ·5 per 1000; Fr., ·55—·7 per 1000; Span., ·833 per 1000; Port., Leaves, 1 in 2, not standardised; not in the others.

LAVANDULÆ OLEUM.

OIL OF LAVENDER.

The oil distilled from the flowers of *Lavandula vera*.

Solubility.—In all proportions of Alcohol (90 p.c.) and Absolute Alcohol; sparingly soluble in Alcohol (60 p.c.).

Medicinal Properties.—An aromatic stimulant and carminative. Useful in hysteria, hypochondriasis, and allied nervous affections, also in flatulence and colic.

Dose.—½ to 3 minims.

Prescribing Notes.—The **oil** is rarely given alone, it is used as an adjuvant to other medicines. Small doses of the **spirit** are given on sugar. The **Compound Tincture** is a popular colouring for mixtures.

Official Preparations.—Of the **Oil**, Spiritus Lavandulæ, and Tinctura Lavandulæ Composita. Contained in Linimentum Camphoræ Ammoniatum. The Compound Tincture is contained in Liquor Arsenicalis.

Foreign Pharmacopœias.—Official in Austr., Dutch, Ger., Norw. (Ætheroleum Lavandulæ) and Russ., sp. gr. ·885—·895; Belg., sp. gr. ·872—·948; Dan., sp. gr. ·875—·895; Fr.; Hung., sp. gr. ·885—·900; Ital. (Essenza di Lavanda), sp. gr. ·876—·880; Jap., sp. gr. ·870—·900; Port. (Essencia de Alfazema), sp. gr. ·875—·940; Span. (Esencia de Espliego); Swed.; Swiss, sp. gr. ·880—·890; U.S., sp. gr. ·885—·897.)

Description.—Pale yellow or nearly colourless, with the fragrant odour of the flowers, and a pungent bitter taste.

Test.—Sp. gr. not below ·885. It should dissolve in 3 times its volume of Alcohol (70 p.c.).

It is sometimes adulterated with foreign oil from *L. vera*, and the foreign oil is frequently adulterated with Oil of Spike from *L. Spica*. The flavour is stated to be improved by keeping for a year after distillation, and then mixing with an equal volume of Absolute Alcohol.

Oil of Lavender distinguished from Oil of Spike by its optical rotation.—*J.S.C.I.* '96, 919.

This Oil has till lately been looked upon as a mixture of a stearoptene, supposed to be **Borneol**, with 25 p.c. of a lævo-rotatory terpene and some Resin (*Y.B.P.* '80, 83), but later results show the principal constituent to be an alcohol **Linalool**, $C_{10}H_{18}O$, identical with that obtained from Lignum Aloes, and its Acetic ester

(Linalool Acetate) which forms the principal constituent of Oil of Bergamot.—*P.J.* (3) xxii. 894; (3) xxiii. 867.

Samples of English oil examined by us had sp. gr. ·884—·892; samples of Foreign oil, ·881—·897. Rotation—4° to —10°.

Messrs. Schimmel state that genuine oil distilled by them had sp. gr. ·895.

Adulteration with Ethyl Succinate and process for recognition of this substance.—*J.S.C.I.* '97, 563.

The value of the oil depends on its ester contents: a good oil should contain 30 p.c.; very good samples contain 40 p.c.; a process is given for its determination.—*J.S.C.I.* '96, 925; *P.J.* '96, ii. 358.

Preparations.

SPIRITUS LAVANDULÆ. Spirit of Lavender. (Altered.)

Oil of Lavender, 1; Alcohol (90 p.c.), a sufficient quantity. To the Oil of Lavender add enough of the Alcohol to form 10 of the Spirit of Lavender. =(1 in 10).

Now 1 in 10 instead of 1 in 50, and made with Alcohol (90 p.c.) in place of Rectified Spirit.

Dose.—5 to 20 minims.

This Spirit of Lavender contains five times the proportion of Oil of Lavender present in the Spirit of Lavender of the British Pharmacopœia of 1885.

Foreign Pharmacopœias.—Official in Belg., Dutch and Russ., 1 in 100; Dan. and Norw., 2 in 100; Jap., 3 in 100; U.S., 5 in 100; all with the oil, and all by weight except U.S.; Austr., Ger., Port., Swed. and Swiss, from the flowers; not in the others.

TINCTURA LAVANDULÆ COMPOSITA. Compound Tincture of Lavender. (Modified.)

Oil of Lavender, 45 minims; Oil of Rosemary, 5 minims; Cinnamon Bark, bruised, 75 grains: Nutmeg, bruised, 75 grains; Red Sanders Wood, 150 grains; Alcohol (90 p.c.), 20 fl. oz. Prepare by the maceration process, adding the Oils at the completion of the process.

Now made with Alcohol (90 p.c.) in place of Rectified Spirit.

Dose.—½ to 1 fl. drm.

Foreign Pharmacopœias.—Official in Jap. and Swed., similar to Brit.; U.S., similar to Brit. but stronger; Dan. (Tinct. Lavand. Rubr.) and Norw. differ considerably from Brit.; not in the others.

Not Official.

LEPTANDRA.

CULVERS ROOT.

The rhizome and rootlets of *Veronica Virginica*.

A cathartic, and stimulates the secretion of bile.

An Alcoholic **Extract**, dose 2 to 4 grains, and **Fluid Extract** (1 in 1), dose 20 to 60 minims, are both official in U.S.

Leptandrin.—An eclectic remedy, used as an alterative, ¼ to ½ grain; as a purgative, 2 to 4 grains.

LIMONIS CORTEX.

LEMON PEEL.

The fresh outer part of the pericarp of the fruit of *Citrus Medica* var. *Limonum*.

Medicinal Properties.—Bitter stomachic and tonic. Added to stomachic medicines. The **Oil** is stimulant and carminative. Chiefly used, however, to impart flavour to other medicines. Externally, stimulant and rubefacient.

Official Preparations.—Of the **peel**, Oleum Limonis, Syrupus Limonis and Tinctura Limonis. Used in the preparation of Infusum Aurantii Compositum and Infusum Gentianæ Compositum. The **oil** is contained in Linimentum Potassii Iodidi cum Sapone, Spiritus Ammoniæ Aromaticus, Tinctura Guaiaci Ammoniata and Tinctura Valerianæ Ammoniata.

Not Official.—Citral.

Foreign Pharmacopœias.—Official in Austr., Belg., Fr. (Citron), Ger., Hung., Ital. (Cedro), Port. (Limao), Russ., Span., Swed., Swiss and U.S.; not in the others.

Description.—Pale yellow and more or less rough on the outer surface from the presence of glands containing volatile oil, which are embedded in the tissue beneath. On its inner surface there should be only a small amount of the white spongy portion of the rind. Odour strong, characteristic, and fragrant; taste warm, aromatic, and bitter.

Preparations.

OLEUM LIMONIS. Oil of Lemon.

The Oil obtained from fresh Lemon Peel.

Contains about 90 p.c. of terpenes (mostly Limonene). The flavour is chiefly due to an aldehyde, present to the extent of 4 to 8 p.c., and known commercially as **Citral.** *See* p. 400.

Solubility.—In all proportions of Glacial Acetic Acid and Absolute Alcohol; 1 in 12 of Alcohol (90 p.c.).

Its flavour and aroma suffer much from keeping; it keeps the aroma much better if mixed (when fresh) with 10 p.c. (by measure) of Absolute Alcohol.

The presence of Ethylic Alcohol can readily be detected by the diminution in volume of the Oil on shaking with Water.

The Oil should evaporate from paper without leaving a stain.

Dose.—½ to 3 minims.

Foreign Pharmacopœias.—Official in Austr. (sp. gr. ·850); Belg., Essentia Citri (sp. gr. ·847—·868); Dan. (sp. gr. ·84—·86), and Norw. (sp. gr. ·850—·865), Aetheroleum Citri; Swed., Aetheroleum Cedro; Dutch (sp. gr. ·840—·855), Ger., Hung. (sp. gr. ·840—·870), Jap. (sp. gr. ·840—·860), Russ. (sp. gr. ·840—·847), and Swiss (sp. gr. ·85—·86), all Oleum Citri; Fr., Huile volatile de Citron; Ital., Essenza di Corteccia di Cedro (sp. gr. ·850); Mex., Aceite Volatil de Limon (sp. gr. .849); Port., Essencia de Limao (sp. gr. ·846—·856); Span., Esencia de Limon; U.S., Oleum Limonis (sp. gr. ·858—·859).

Description.—Pale yellow, with the fragrant odour of the Lemon, and a warm, bitterish, aromatic taste.

Tests.—Sp. gr. ·857 to ·860. It should rotate the plane of a ray of polarised light not less than 59° to the right in a tube 100 millimetres long; and if 100 volumes be fractionally distilled, the 10 volumes first collected should not produce a rotation differing by more than 2° from that produced by the original Oil.

As the value of Oil of Lemon depends largely on the proportion of Citral, a process has been suggested for its estimation by reducing the Citral to the Alcohol Geraniol and determination of the same by acetylisation. (*P.J.* '96, i. 323; *C.D.* '96, i. 599.) But experiments carried out by Messrs. Schimmel on that process, with mixtures of definite composition, lead them to the conclusion that 'there is no hope of a useful application of this method.'—*P.J.* '96, ii. 358.

The proportion of Citral in Lemon Oil may be approximately estimated by its conversion into a Bisulphite and measuring non-aldehydic portion.—*C.D.* '97, i. 25.

Concentrated Lemon Oil (Terpeneless).—*P.J.* '98, ii. 161; *C.D.* '98, ii. 292.

A new constituent of Lemon Oil (Geraniol ester).—*P.J.* '98, ii. 196; *C.D.* '98, ii. 291.

An ester of Geraniol is stated to be present in Messina Oil, and a Linalyl ester in the Palermo variety.—*P.J.* '98, ii. 370.

Messrs. Schimmel consider that the existence of an ester of Geraniol as a constituent of Lemon Oil, though possible, to be still doubtful.—*P.J.* '98, ii. 459.

SYRUPUS LIMONIS. Syrup of Lemon. (Altered.)

Fresh Lemon Peel, in thin slices or grated, 1; Alcohol (90 p.c.), a sufficient quantity; Lemon Juice, 25; Refined Sugar, 38. Macerate the Lemon Peel in 1½ of the Alcohol for seven days; press; filter; add sufficient of the Alcohol to produce 2. In the Lemon Juice, clarified by subsidence, dissolve the Refined Sugar by the aid of gentle heat. When the resulting syrup is cold, mix with it the 2 of Alcoholic liquid. The product should weigh 65.

=(1 Peel and 25 Juice in 65).

Entirely new process.

Dose.—½ to 1 fl. drm.

Foreign Pharmacopœias.—Official in Austr., Syrupus Citri, fresh Lemon Juice filtered 10, Sugar 16; Ital., Bruised Peel 2, Sugar 19, Distilled Lemon Water 12; Mex., Jarabe de Limon, Lemon Juice 10, Syrup 100; Port., Xarope de Casca de Limao, fresh Lemon Peel 1, Boiling Water 35, Sugar 65; Span., Jarabe de Limon, Lemon Juice 5, Sugar 9. For other Pharmacopœias *see* Acidum Citricum.

TINCTURA LIMONIS. Tincture of Lemon. (Altered.)

Fresh Lemon Peel, cut small, 5; Alcohol (90 p.c.) 20. Prepare by the maceration process. =(1 in 4).

Now 1 in 4 instead of 1 in 8, and Alcohol (90 p.c.) used in place of Proof Spirit.

Dose.—½ to 1 fl. drm.

Foreign Pharmacopœias.—Official in Belg. and Dutch (Spiritus Citri), 1 Oil in 100; Fr. (Alcoolature de Citron), 1 fresh Peel to 2 of Alcohol; and (Teinture d'essence de Citron), 1 Oil in 50; Jap. (Spiritus Citri), 1 Oil in 10; Mex. (Alcoholato de Cortezas de Limon), Fresh Peel, 2; Alcohol (80°), 10; Water, 2; distil; Span. (Alcohol de Corteza de Limon), Peel 1, and Alcohol (80 p.c.) 6, distil; Swiss (Spiritus Citri), fresh Peel, with Alcohol, and Water; all by weight: U.S. (Spiritus Limonis), Oil of Lemon 5, Lemon Peel 5, Deodorized Alcohol to measure 100; not in the others.

Not Official.

CITRAL.—Consists of the high boiling point fractions from the distillation of Lemon Oil, having a flavouring power about 15 times as great as the original Oil.

Sp. gr. ·895—·899; boiling point, 224° to 228° C.

It has the formula $C_{10}H_{16}O$, gives the aldehyde reactions with Bisulphites, and on reduction yields the alcohol **Geraniol**.

It may be used to increase the flavour of Oil of Lemon, by mixing it with the latter, in the proportion of 1 to 14.

LIMONIS CORTEX SICCATUS.—*See* Appendix.

LIMONIS SUCCUS.

LEMON JUICE.

The freshly expressed juice of the ripe fruit of *Citrus Medica*, var. *Limonum*.

Medicinal Properties.—Refrigerant; when diluted, a particularly useful beverage in prevention and treatment of scurvy; relieves thirst in febrile and inflammatory affections. In acute Rheumatism, ½ to 1 pint daily.

Dose.—Not given in B.P.; 1 to 2 fl. oz.

Official Preparation.—Syrupus Limonis. Used in the preparation of Acidum Citricum.

Foreign Pharmacopœias.—Official in Fr.; Mex., Jugo de Limones; Span., Zumo de Limon; U.S., about 7 p.c. of Citric Acid, ·5 p.c. of ash; Swiss, Succus Citri facticius, Citric Acid 10, Water 89, Spirit of Lemon 1.

Description.—A slightly turbid yellowish liquid, with a sharply acid taste. One fluid ounce contains 30 to 40 grains or 100 c.c. contain 7 to 9 grammes of Citric Acid.

Lemon Juice is extremely liable to fermentation, and requires the addition of 30 p.c. of Proof Spirit (or its equivalent) to keep it.—*P.J.* (3) xiii. 607.

Lemon Juice is rather a variable quantity, but it is generally understood that the Official standard is too high for an average by about 5 grains per fluid ounce.

The more recent analyses, *P.J.* (3) xxi. 611, show a maximum of acidity (42 grains) in December, gradually diminishing to 32 grains in August, with a more rapid rise to the next maximum.

It not unfrequently happens that during summer the acidity falls much below the average figures.

Tests.—Sp. gr. 1·030 to 1·040. When Lemon Juice is evaporated to dryness, and the residue is incinerated, it should yield not more than 3 p.c. of ash.

110 minims (or 100 c.c.) of Lemon Juice are neutralised by about 11½ grains (or 11·4 grammes) of Potassium Bicarbonate, by about 9½ grains (or 9·5 grammes) of Sodium Bicarbonate, and by about 16½ grains (or 16·5 grammes) of Sodium Carbonate.

ACIDUM CITRICUM.—*See* ACIDUM CITRICUM.

LINIMENTA.

LINIMENTS.

Under this heading are placed external applications which are usually applied by rubbing or painting, or on piline, to produce local stimulation or to relieve pain.

The following are the Liniments of the British Pharmacopœia, the formulas of which will be found under the names of the substances from which they are prepared :—

		Proportion of the active ingredient to the whole.
LINIMENTUM ACONITI		1 in 1½.
LINIMENTUM AMMONIÆ	Solution of Ammonia.	1 in 4.
LINIMENTUM BELLADONNÆ		1 in 2.
LINIMENTUM CALCIS	Solution of Lime.	1 in 2.
LINIMENTUM CAMPHORÆ		about 1 in 5.
LINIMENTUM CAMPHORÆ AMMONIATUM	Strong Ammonia	1 in 4.
LINIMENTUM CHLOROFORMI		1 in 2.
LINIMENTUM CROTONIS		1 in 8.
LINIMENTUM HYDRARGYRI	Mercury	1 in 6.
LINIMENTUM OPII	Tincture of Opium	1 in 2.
LINIMENTUM POTASSII IODIDI CUM SAPONE		about 1 in 9.
LINIMENTUM SAPONIS		about 1 in 10½.
LINIMENTUM SINAPIS	Oil of Mustard	about 1 in 27.
LINIMENTUM TEREBINTHINÆ		about 1 in 1½.
LINIMENTUM TEREBINTHINÆ ACETICUM		1 in 2¼.

LINUM.

LINSEED.

The dried ripe seeds of *Linum usitatissimum*.

The envelope or testa abounds in a peculiar gummy matter or mucilage, readily imparted to hot Water.

Medicinal Properties.—Demulcent. Employed in faucial, pharyngeal and bronchial catarrh, dysentery, diarrhœa, and inflammatory affections of the urinary passages.

Official Preparations.—Linum Contusum and Oleum Lini.

Not Official.—Carron Oil.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr. (Lin), Ger., Hung., Ital., Jap. (Lini), Mex (Linaza), Norw., Port. (Linho), Russ., Span. (Lino), Swed., Swiss and U.S.

Description.—Small, brown, glossy, nearly flat seeds varying in length from about one-sixth to one-fourth of an inch (four to six millimetres). They are ovate in outline and somewhat obliquely pointed; the surface is glabrous and minutely pitted. Internally they are yellowish-white and contain a narrow oily endosperm and two large oily cotyledons. They are inodorous but have a mucilaginous oily taste.

Preparation.

OLEUM LINI.—Linseed Oil.

The Oil expressed from Linseed at ordinary temperatures.

Solubility.—Of a freshly expressed sample, 1 in 40 of Absolute Alcohol; 1 in 1¼ of Ether.

Foreign Pharmacopœias.—Official in (Belg. sp. gr. ·930; Dan., Dutch, and U.S. (sp. gr. ·930—·940); Fr., Ger., Hung., and Russ. (sp. gr. ·936—·940); Jap. (sp. gr. ·935—·940); Ital. (sp. gr. ·935); Norw.; Port., Oleo de Linhaça (sp. gr. ·930); Span., Aceite de Linaza; Swed.; Swiss; Hung. also Oleum Lini Lotum; not in Austr. or Mex.

As an **enema** a pint of Linseed Oil removes impacted fæces with less pain and spasm than gruel or other aqueous enemata.

Description.—Viscid, yellow, with a faint but distinct odour, and bland taste. Sp. gr. ·930 to ·940. It is soluble in 10 parts of Alcohol (90 p.c.), and in Oil of Turpentine. It gradually thickens by exposure to the air, forming, when spread in a thin layer on glass, a hard, transparent varnish. It does not congeal above —4° F. (—20° C.)

Linseed Oil, when issuing from the seed whilst pressing, has scarcely any of the odour or taste of the Linseed Oil of the shops, but acquires it in a very short time by exposure to the air. For medicinal purposes it should be procured as fresh as possible.

Boiled Linseed Oil is used in the Arts as a drying oil, and for certain purposes Litharge is added during the boiling. The *boiled* oil may, therefore, contain Lead.

Dutch Oil should be avoided, as it is optically active, this being due to presence of Rosin Oil.—*C.D.* '95, i, 797.

Not Official.

CARRON OIL.—Equal parts of Linseed Oil and Lime Water, shaken to form a cream.

One of the best **applications** to burns or scalds.

LINUM CONTUSUM.

CRUSHED LINSEED.

Linseed reduced to a coarse powder.

Not Official.—Cataplasma Lini.

Foreign Pharmacopœias.—Official in Belg., Fr. and Ital. should contain 30 p.c. of oil; Port., U.S. not less than 25 p.c. of oil; not in the others.

Description.—It should be recently prepared, and have a bland, not pungent or rancid odour when mixed with warm Water.

Tests.—It should yield not less than 30 p.c. of oil when exhausted by Carbon Bisulphide, and should not yield the characteristic reactions with the tests for Starch; when incinerated with free access of air it should leave not more than 5 p.c. of Ash.

Not Official.

CATAPLASMA LINI.—Linseed Meal, 4; boiling Water, 10: mix the Linseed Meal with the Water gradually, with constant stirring.

Applied to inflamed parts.

Foreign Pharmacopœias.—Official in Belg., Fr., Port. and Span.; not in the others.

LIQUORES.

SOLUTIONS.

The following are the Solutions of the British Pharmacopœia, the formulas of which will be found under the names of the substances from which they are prepared:—

		Proportions of active ingredient to the whole.
LIQUOR ACIDI CHROMICI	Chromic Anhydride about	1 in 4.
LIQUOR AMMONIÆ	Liquor Fort.	1 in 3.
LIQUOR AMMONIÆ FORTIS	Ammonia about	1 in 3.
LIQUOR AMMONII ACETATIS.		
LIQUOR AMMONII CITRATIS	Ammon. Cit. about	1 in 6·9.
LIQUOR ARSENICALIS	Arsenious Anhydride.	1 in 100.
LIQUOR ARSENICI HYDROCHLORICUS	Arsenious Anhyd.	1 in 100.
LIQUOR ARSENII ET HYDRARGYRI IODIDI	Arsenious and Mercuric Iodide each	1 in 100.
LIQUOR ATROPINÆ SULPHATIS	Atrop. Sulph.	1 in 100.
LIQUOR BISMUTHI ET AMMON. CITRATIS	Bism. Oxide about	1 in 18.
LIQUOR CALCIS	Lime about	1 in 900.
LIQUOR CALCIS CHLORINATÆ	Calx Chlorinat.	1 in 10.
LIQUOR CALCIS SACCHARATUS	Lime.	1 in 50.
LIQUOR CALUMBÆ CONCENTRATUS	Calumba Root.	1 in 2.
LIQUOR CAOUTCHOUC	India Rubber about	1 in 20.
LIQUOR CHIRATÆ CONCENTRATUS	Chiretta.	1 in 2.
LIQUOR CUSPARIÆ CONCENTRATUS	Cusparia Bark.	1 in 2.
LIQUOR EPISPASTICUS	Cantharides.	1 in 2.
LIQUOR ETHYL NITRITIS	Ethyl Nitrite about	1 in 35.
LIQUOR FERRI ACETATIS	Ferric Oxide.	1 in 38·4.
LIQUOR FERRI PERCHLORIDI	Liquor Fort.	1 in 4.
LIQUOR FERRI PERCHLORIDI FORTIS	Iron.	1 in 4·4.
LIQUOR FERRI PERNITRATIS	Iron.	1 in 30·3.
LIQUOR FERRI PERSULPHATIS	Ferric Oxide.	1 in 4·8.
LIQUOR HAMAMELIDIS	Leaves about	1 in 1.
LIQUOR HYDRARGYRI NITRATIS ACIDUS	Mercury, by weight, about	1 in 3.
LIQUOR HYDRARGYRI PERCHLORIDI	Hyd. Perchlor.	1 in 875.
LIQUOR HYDROGENII PEROXIDI	Oxygen.	9 to 11 volumes.
LIQUOR IODI FORTIS	Iodine about	1 in 8½.
LIQUOR KRAMERIÆ CONCENTRATUS	Krameria Root.	1 in 2.
LIQUOR MAGNESII CARBONATIS	Mag. Carb. about	1 in 48.
LIQUOR MORPHINÆ ACETATIS	Morph. Acet.	1 in 100.
LIQUOR MORPHINÆ HYDROCHLORIDI	Morph. Hydrochl.	1 in 100.
LIQUOR MORPHINÆ TARTRATIS	Morph. Tart.	1 in 100.
LIQUOR PANCREATIS	Pancreas about	1 in 4.
LIQUOR PICIS CARBONIS	Coal Tar.	1 in 5.
LIQUOR PLUMBI SUBACETATIS DILUTUS	Liquor	1 in 80.
LIQUOR PLUMBI SUBACETATIS FORTIS	Plumbi Subacet.	1 in 4.
LIQUOR POTASSÆ	Potassium Hydroxide	1 in 17·7.
LIQUOR POTASSII PERMANGANATIS	Pot. Permang.	1 in 100.
LIQUOR QUASSIÆ CONCENTRATUS	Quassia Wood.	1 in 10.

		Proportions of active ingredient to the whole.
LIQUOR RHEI CONCENTRATUS	Rhubarb Root.	1 in 2.
LIQUOR SARSÆ COMPOSITUS CONCENTRATUS	Sarsaparilla.	1 in 1.
LIQUOR SENEGÆ CONCENTRATUS	Senega Root.	1 in 2.
LIQUOR SENNÆ CONCENTRATUS	Senna.	1 in 1.
LIQUOR SERPENTARIÆ CONCENTRATUS	Serpentary Rhizome.	1 in 2.
LIQUOR SODÆ CHLORINATÆ	Chlorine.	1 in 40.
LIQUOR SODII ARSENATIS	Sod. Arsen. Anhyd.	1 in 100.
LIQUOR SODII ETHYLATIS	Sodium.	1 in 20.
LIQUOR STRYCHNINÆ HYDROCHLORIDI	Strych. Hydrochl.	1 in 100.
LIQUOR THYROIDEI	1 Thyroid Gland	in 100 minims.
LIQUOR TRINITRINI	Trinitroglycerin.	1 in 100.
LIQUOR ZINCI CHLORIDI	Zinci Chlorid.	1 in 1·2.

Liquors not official will be found in the Index.

Not Official.

LITHIUM.

Li, eq. 6·97.

A silver-white, brilliant, ductile metal, having the density of ·59, being therefore the lightest metal if not the lightest solid known.

It is obtained from several minerals — Petalite, Lepidolite, Triphane, and formerly from Triphylline.

The Carbonate and Citrate are the official preparations.

Lithium salts are characterized by communicating a crimson colour to a Bunsen flame, or, with the addition of Hydrochloric Acid, to a spirit flame.

Not Official.

LITHII BENZOAS.

Li $C_7H_5O_2$, eq. 127·10.

A white powder or small shining scales, with a faintly acid reaction; the taste is sweet and somewhat saline.

It can be prepared by boiling in Water, 3 of Lithium Carbonate with 9 of Benzoic Acid, and evaporating.

Solubility.—1 in 2½ of Water; 1 in 15 of Alcohol (90 p.c.).

Medicinal Properties.—Antilithic. A remedy for gout.

Dose.—15 to 30 grains.

Foreign Pharmacopœias.– Official in Fr., Russ. and U.S., Mex., Benzoato de Litio; not in the others.

Not Official.

LITHII BROMIDUM.

Li Br, eq. 86·32.

A white granular deliquescent salt.

Solubility.—1 in 1 of Water; 1 in 4 of Alcohol (90 p.c.).

Medicinal Properties.—Owing to the low atomic weight of Lithium, this salt contains more Bromide than either Potassium or Sodium Bromide, and consequently has been recommended as a hypnotic for gouty patients.—*M.P.* '88, i. 606.

In gouty cases of aural vertigo, especially when preceded by a mercurial purge.—*M.A.* '95, 221.

In the insomnia of neurasthenia (30 grains 3 times a day).—*Pr.*, li. 351.

In Bright's disease.—*L.* '95, ii. 685.

Has been used in epilepsy.

Dose.—5 to 15 grains.

Foreign Pharmacopœias.—Official in Fr., Russ. and U.S.; Mex., Bromuro de Litio; not in the others.

LITHII CARBONAS.

LITHIUM CARBONATE.

Li_2CO_3, eq. 73·49.

It is obtained from native Silicates of Lithium.

Solubility.—About 1 in 70 at 60° F.; in hot Water it is only soluble to about half this extent, a solution saturated in the cold becoming quite turbid on boiling. It should be noticed that using 1 part of Lithium Carbonate to 70 parts of Water solution is very slow, and using these proportions in ounces it requires several weeks' digestion, with frequent shaking, before complete solution is effected.

Medicinal Properties.—Lithium, combined with Carbonic Acid, in a diluted solution, as in Lithia Water, has been given in cases of gout with the view of increasing the alkalinity of the blood, and acting as a solvent of the Sodium Biurate deposits. Luff, however, has shown that the Lithium salts do not exercise any special solvent effect on Sodium Biurate and that their administration to gouty subjects with the object of removing uratic deposits in the joints and tissues appears to be useless.—*L.* '98, i. 1609.

1 grain of Lithium Carbonate and 1 grain Sodium Arsenate given in aërated Water has been recommended by Martineau in the treatment of diabetes.—*L.* '87, i. 650.

Dose.—2 to 5 grains.

Prescribing Notes.—Given in Aërated Water, **cachets**, or Compressed Tablets.

Official Preparation.—Used in the preparation of Lithii Citras.

Not Official.—Liquor Lithiæ Effervescens.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Ital., Jap., Mex., Norw., Port., Russ., Span., Swed., Swiss and U.S.

Description.—It occurs in white powder or in minute crystalline grains, soluble in about 70 parts of cold Water, insoluble in Alcohol (90 p.c.).

Tests.—Its aqueous solution turns Red Litmus Paper blue. It is dissolved with effervescence by Hydrochloric Acid; the solution evaporated to dryness leaves a residue, which communicates a crimson colour to flame. This residue redissolved in Water yields a precipitate with Solution of Sodium Phosphate. One gramme

of the salt neutralised with Sulphuric Acid and afterwards heated to redness leaves 1·479 grammes of dry Lithium Sulphate, corresponding to 98·5 p.c. of the pure Carbonate. It should yield no characteristic reaction with the tests for Lead, Copper, Arsenium, Iron, Aluminium, Zinc, Magnesium, Sodium, Potassium, Ammonium, or Chlorides, and only the slightest reactions with the tests for Calcium and for Sulphates.

Not Official.

LIQUOR LITHII CARBONATIS (Lithia Water).—Ten fluid ounces of aërated water contain 5 grains of Lithium Carbonate.

LITHII CITRAS.

LITHIUM CITRATE.

$C_3H_4 \cdot OH \cdot (COOLi)_3, 4H_2O$, eq. 280·05.

It is prepared by saturating Citric Acid with Lithium Carbonate.

Solubility.—1 in 2 of Water; almost insoluble in Alcohol (90 p.c.).

The solubility in Water is variously given as 1 in 5 to 1 in 25.

Medicinal Properties.—Similar to those of the Carbonate, but the Citrate being more soluble, it is better adapted for fluid administration.

Dose.—5 to 10 grains.

Prescribing Notes.—Generally given in **solution**, or in the form of Lithii Citras Effervescens.

Official Preparation.—Lithii Citras Effervescens.

Foreign Pharmacopœias.—Official in Fr. and U.S., Mex. Citrato de Litio: not in the others.

Description.—A white crystalline deliquescent salt, entirely soluble in twice its weight of cold Water.

Tests.—It yields the reactions characteristic of Lithium and of Citrates. Heated to redness it blackens, evolving inflammable gases: and the residue neutralised with Hydrochloric Acid, yields with Alcohol (90 p.c.) a solution which burns with a crimson flame. 2 grammes of the salt dried at 212° F. (100° C.) should lose about ·38 gramme, at 240° F. (115·5° C.) an additional ·13 gramme; and, when burned at a low red heat with free access of air, should leave ·77 gramme of white residue, corresponding to 98·5 p.c. of the pure Citrate. It should be free from the impurities mentioned under 'Lithii Carbonas.'

To ensure the whole of the residue being Carbonate, it is better, before weighing, to drench it with solution of Ammonium Carbonate and gently re-ignite.

Preparation.

LITHII CITRAS EFFERVESCENS. Effervescent Lithium Citrate. (New.)

Sodium Bicarbonate, in powder, 58; Tartaric Acid, in powder, 31; Citric Acid, in powder, 21; Lithium Citrate, 5: Mix the Lithium Citrate with the Citric Acid, then add the Tartaric Acid, and, lastly, the Sodium Bicarbonate, triturating thoroughly. Place the

whole in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by the aid of careful manipulation, has assumed a granular character, separate it by means of suitable sieves, into granules of uniform and convenient size. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100.

Dose.—60 to 120 grains.

Foreign Pharmacopœias.—Official in U.S.; not in the others.

Not Official.

LITHII GUAIACAS.

Is prepared by digesting pure Guaiacum Resin in an aqueous solution of Lithium Oxide, decanting the clear solution, evaporating and scaling it.

Composed of Lithium Oxide, 1; Guaiacum Resin, 3.

This salt, introduced by Sir Alfred Garrod, is given for chronic gout and some forms of rheumatism.

Dose.—5 grains twice a day.

Not Official.

LITHII SALICYLAS.

A deliquescent white or greyish-white powder with a faintly acid reaction.

Solubility.—4 in 3 of Water; 1 in 2 of Alcohol (90 p.c.).

Medicinal Properties.—A remedy for gout and rheumatism.

Is much better than Sodium Salicylate in chronic articular rheumatism.—*B.M.J.* '86, i. 38; '87, i. 695.

Dose.—10 to 30 grains.

Foreign Pharmacopœias.—Official in Fr., Ger., Mex. Salicilato de Litio, Swiss and U.S.; not in the others.

Tests.—Its aqueous solution should not effervesce on the addition of an acid (absence of Carbonate). When agitated with 15 parts of concentrated Sulphuric Acid, the salt should not impart any colour to the acid in fifteen minutes (absence of foreign organic matter). Hydrochloric or Sulphuric Acid produces in the aqueous solution a voluminous precipitate of Salicylic Acid, which when separated and washed, should conform to the reactions and tests given under Acidum Salicylicum.

LOBELIA.

LOBELIA.

The dried flowering herb of *Lobelia inflata.*

Imported from North America.

It contains about ·3 p.c. of a non-volatile alkaloid, **Lobeline,** a volatile oil, a fixed oil, and a stearoptene called 'Inflatine'; the alkaloid is a powerful emetic.

Medicinal Properties.—In small doses it is depressant, antispasmodic, diaphoretic, diuretic and expectorant. More freely used, it is cathartic and emetic; but as an emetic it is too distressing as well as too hazardous for general use, as it has a powerful effect on the respiration, and may cause death. It is chiefly used in spasmodic asthma,

also in laryngeal and bronchial catarrh with thick and scanty secretion, severe croup, and for the paroxysmal dyspnœa of chronic bronchitis and of whooping-cough. In some cases a useful adjunct to diuretics. Its action in asthma is promoted by the addition of Bromide or Iodide.

Official Preparation.—Tinctura Lobeliæ Ætherea.

Not Official.—Tinctura Lobeliæ.

Antidotes.—In case of poisoning by Lobelia, the most active stimulants should be employed, as well as the stomach-pump. Recumbent position imperative.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Ital., Jap., Mex., Norw., Port., Russ., Swed., Swiss and U.S.; not in Span.

Description.—The stems are angular, channelled and furnished with narrow wings. They are often of a purplish tint, and bear one-celled hairs and the scars of alternate leaves. The leaves are irregularly toothed and hairy. The capsules are inflated, two-celled, and, when mature, contain minute, oblong, reticulated brown seeds. The transverse section of the stem exhibits laticiferous vessels in the bast. Odour somewhat irritating; taste at first not marked, but, after chewing, burning and acrid.

In the Tincture or an aqueous solution of the drug, the alkaloid is destroyed by heat. When evaporation is required the solution must be acidified (*P.J.* (3) xvii. 1037; (3) xviii. 135); but Wright and Farr repeatedly exposed their pure alkaloidal residue to 100° C. without loss of weight, and it continued to give the usual alkaloidal reactions.—*C.D.* '93, i. 454.

Preparation.

TINCTURA LOBELIÆ ÆTHEREA. Ethereal Tincture of Lobelia. (Altered.)

Lobelia, in No. 40 powder, 4; Spirit of Ether, a sufficient quantity. Moisten the powder with 2 of Spirit of Ether, and complete the percolation process. The resulting Tincture should measure 20.

=(1 in 5).

Now 1 in 5 instead of 1 in 8.

Dose.—5 to 15 minims.

This preparation is made with rather more than one and a half times the proportion of Lobelia ordered for the corresponding preparation in the British Pharmacopœia of 1885.

Foreign Pharmacopœias.—Official in Mex., 1 and 5; not in the others.

Not Official.

TINCTURA LOBELIÆ.—Lobelia, in No. 40 powder, 1; Alcohol (60 p.c.), a sufficient quantity. Moisten the powder with the requisite quantity of the Alcohol, and complete the percolation process. The resulting Tincture should measure 8.

=(1 in 8).

Dose.—10 to 30 minims; but 1 fl. drm. may be given for asthmatic dyspnœa; repeated every 15 minutes until nausea is produced.

Wright and Farr (*C.D.* '93, i. 454) conclude that extraction of alkaloid depends very little upon strength of Alcohol, and reckon 50 p.c. (by volume) Alcohol to be the least objectionable. Details of estimation process are given, and the figures

show the tincture to vary between ·027 and ·044 (average ·038) p.c. of alkaloid = ·3 p.c. for average drug.

It has been pointed out that on the small scale only 40 p.c. of the drug can be made to pass through a No. 40 sieve, and that a tincture prepared from the portion passing through the sieve is much stronger in extractive and alkaloid than that of the residual stalks.—*P.J.* '95, ii. 141.

Foreign Pharmacopœias.—Official in Austr., Dan., Dutch, Ger., Ital., Jap., Norw., Russ., Swed. and Swiss, 1 in 10; Belg., Fr., Hung., Mex., Port. and U.S., 1 in 5; all by weight except U.S.; not in Span.

LUPULINUM.

LUPULIN.

Glands obtained from the strobiles of *Humulus Lupulus*.

Medicinal Properties.—Aromatic, tonic, sedative, feebly hypnotic, and anaphrodisiac. It allays irritability of the bladder.

Dose.—2 to 5 grains.

Prescribing Notes.—Given in **cachets** or **pills**. A good pill can be made by means of Alcohol (90 p.c.) *q.s.*

Not Official.—Extractum Lupulini, Extractum Lupulini Fluidum, Oleoresina Lupulini and Tinctura Lupulini.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Hung., Ital., Jap., Port., Russ., Span., Swed., Swiss and U.S.; not in the others.

Description.—A granular brownish-yellow powder composed of minute glands, each consisting of a single hemispherical layer of cells, the cuticle of which has been raised by the secretion of the oil or oleoresin contained in the gland. It has a strong hop-like odour and a bitter aromatic taste.

Tests.—It should contain not more than 40 p.c. of matter insoluble in Ether, and yield not more than 12 p.c. of ash when incinerated.

Should not leave more than 10 p.c. of ash.—*U.S.*

The ash of eight samples, as determined by us, gave 28·2, 33·8, 29·9, 27·9, 20·6, 12·1, 18·7, 25·4 p.c.

Not Official.

EXTRACTUM LUPULINI.—Exhaust Lupulin with Alcohol (90 p.c.) and evaporate the strained liquor to a proper consistence. The extract produced is about half the original weight of the Lupulin employed.

Dose.—1 to 5 grains.

EXTRACTUM LUPULINI FLUIDUM (*U.S.*).—Prepared with Alcohol (sp. gr. ·820), so that 1 fl. oz. represents 1 oz. of Lupulin.

OLEORESINA LUPULINI (*U.S.*).—Exhaust Lupulin with Stronger Ether; distil off most of the Ether on a water-bath, and complete by exposure to the air.

Dose.—1 to 5 grains.

TINCTURA LUPULINI.—Lupulin, 1; Alcohol (90 p.c.), 6; macerate till exhausted, pour on a filter, and when drained wash with Alcohol (90 p.c.) to make 8.

Dose.—15 to 60 minims.

LUPULUS.

HOPS.

B.P.Syn.—HUMULUS.

The dried strobiles of *Humulus Lupulus*, collected from cultivated plants.

The ethereal extract obtained from Hop varies from 9 to 15 p.c., and consists of oil, resin, and bitter principle.

Medicinal Properties.—Tonic, stomachic, sedative, and moderately narcotic. It allays irritation of the genito-urinary organs. Has been recommended in the treatment of alcoholism. It sometimes produces sleep when opiates are objectionable. Hops may be used topically as fomentation or poultice, as a resolvent or discutient in painful inflammatory swellings; and for colic and other internal pains. Hop (which has been carefully dried and preserved) is made into a pillow, to induce sleep.

Incompatibles.—Mineral acids, metallic salts.

Official Preparations.—Infusum Lupuli and Tinctura Lupuli. *See also* Lupulinum.

Not Official.—Extractum Lupuli.

Foreign Pharmacopœias.—Official in Belg., Fr. (Houblon), Mex. (Lupulo), Norw., Port., Span., Swed., Swiss and U.S.; not in the others.

Description.—The strobiles are about one inch and a-quarter (three centimetres) long, oblong-ovoid or rounded in form, and consist of a number of imbricated greenish-yellow membranous stipules and bracts, attached to a hairy zigzag axis. Each of the bracts enfolds at its base a small rounded achene which, like the base of the bract, is sprinkled with yellow glands. The odour is aromatic and characteristic, the taste bitter, aromatic, and somewhat astringent.

Preparations.

INFUSUM LUPULI.—INFUSION OF HOPS.

Hops, freshly broken, 1; Distilled Water, boiling, 20. Infuse in a covered vessel for 15 minutes; strain. =(1 in 20).

Time reduced to 15 minutes.

Dose.—1 to 2 fl. oz.

Foreign Pharmacopœias.—Official in Fr., and Mex., 1 in 100; not in the others.

TINCTURA LUPULI.—TINCTURE OF HOPS. *N.O.Syn.*—TINCTURA HUMULI. (ALTERED.)

Hops, 4; Alcohol (60 p.c.) 20. Prepare by the maceration process. =(1 in 5).

Now 1 in 5 instead of 1 in 8, and Alcohol (60 p.c.) used in place of Proof Spirit.

Dose.—½ to 1 fl. drm.

Foreign Pharmacopœias.—Official in Belg., Mex., Swed. and U.S. 1 in 5; not in the others.

Not Official.

EXTRACTUM LUPULI.—Hop, 8; Alcohol (90 p.c.), 15; Distilled Water, 80; macerate the Hop in the Alcohol for seven days, press out the tincture, filter, and distil off the Alcohol, leaving a soft extract; boil the residual Hop with the Water for one hour, then press out the liquor, strain, and evaporate by a water-bath to the consistence of a soft extract; mix the two extracts, and evaporate at a temperature not exceeding 140° F. (60° C), to a pill consistence.

16 oz. Hops yield 4 to 5 oz. Extract.

Dose.—5 to 15 grains.

Foreign Pharmacopœias.—Belg., Fr., Mex., Port. and Span. have alcoholic Extracts, but not made the same way; U.S. has a **Fluid Extract** from Lupulin.

Not Official.

LYCOPODIUM.

The spores of *Lycopodium clavatum* and other species of *Lycopodium;* a fine powder, pale yellowish, very mobile, inodorous, tasteless, floating upon Water and not wetted by it, but sinking on being boiled with it, and burning quickly when thrown into a flame.

It has been used in dispensing chiefly as powder to envelop hygroscopic pills.

Recommended in this country for incontinence of urine, and irritability of bladder, in the form of **Tincture.** Dose, 15 to 60 minims.—*L.* '87 ii. 605; *B.M.J.*, '90, ii. 1246; and '95, i. 1019. As a dusting powder for eczema, and to prevent chafing of skin.

Foreign Pharmacopœias.—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Ital., Jap., Mex. (Licopodio), Norw., Port., Russ., Span., Swed. Swiss and U.S.

Lycopodium should be free from pollen, starch, sand, and other impurities, any of which are easily detected by the microscope.

When ignited with free access of air, it should not leave more than 5 p.c. of ash.

Not Official.

LYSIDINE.

ETHYLENE-ETHENYL-DIAMINE.

A reddish-white crystalline substance, very hygroscopic, with a peculiar odour. Commercially it is sold in the form of a 50 p.c. solution.

A diuretic recommended in the treatment of gout and as a solvent of Uric Acid deposits.—*B.M.J.* '96, ii. 901.

It has an influence in increasing the solvent power of serum for Sodium Biurate and of urine for uratic deposit.—*L.* '98, ii. 203.

Dose (of the liquid).—30 to 60 minims, well diluted with Water or Aërated Water.

Lysidine Acid Tartrate, a white powder soluble in Water.

Not Official.

MAGNESIUM.

MAGNESIUM.

Mg, eq. 24·18.

Magnesium, the metallic base of Magnesian salts, does not exist native. It may be obtained artificially. When set on fire it produces a powerful actinic light, and is used by photographers on this account.