EMPLASTRA.

PLASTERS.

Considerable difficulty is frequently experienced in cleansing the skin, after the removal of a plaster, and soap and water are nearly ineffectual for this purpose. If the skin is gently rubbed for a few seconds with oil of turpentine and a piece of linen, the whole of the adhering plaster is immediately removed, and all the stickiness disappears.

EMPLASTRUM AMMONIACI, *L.D.E.*

Plaster of Ammoniacum.

Take of Ammoniacum, prepared, five ounces.
Diluted acetic acid, eight fluid ounces (proof spirit, ℥v, *D.*).

Dissolve the ammoniacum in the acid (spirit, *D.*); then evaporate the liquor, with a slow fire, constantly stirring, to a proper consistence.

Medicinal uses. — *Stimulant* and *discutient*; applied to scrofulous tumours, chronic swellings of the joints, housemaid's knee, &c. It sometimes causes an eruption, which does no harm in these cases.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO, *L.D.E.*

Plaster of Ammoniacum with Mercury.

Take of Ammoniacum, prepared, a pound.
Mercury, three ounces.
Olive oil, a fluid drachm.
Sulphur, eight grains.

To the heated oil, gradually add the sulphur, stirring constantly with a spatula, until they incorporate; then rub the mercury with them, until globules are no longer visible; lastly, the ammoniacum being melted, and added, by degrees, mix them all.

D. Ammoniac plaster, ℥iv; Mercurial plaster, ℥viij. Melt together.

Medicinal uses. — Similar to the former, but more powerful, especially in venereal nodes and buboes.

EMPLASTRUM ASSAFŒTIDÆ, *E.*

Assafœtida Plaster.

Take of Litharge plaster and assafœtida, of each, two ounces.
Galbanum and bees' wax, of each, one ounce.

Liquefy the gum resins together, and strain them; then add the plaster and wax, also in a fluid state, and mix them all thoroughly.

Uses. — A stimulant discutient plaster to chronic swellings.

EMPLASTRUM BELLADONNÆ, *L. D. E.*

Plaster of Deadly Nightshade.

Take of Soap plaster (resin plaster, ℥ij, *D. E.*).
Extract of deadly nightshade, of each, three ounces (℥j, *D. E.*).

To the plaster, melted with the heat of a water-bath, add the extract, and mix, constantly stirring until they have a proper consistence.

Medicinal uses. — *Anodyne* and *antispasmodic.* Applied to the sacrum, it relieves pain in *dysmenorrhœa.* Dr. Churchill finds it very efficient in soothing the pain of *irritable uterus*, if it is applied above the pubes.* Applied to the region of the heart, it allays the violent palpitation which sometimes occurs, without pericarditis, towards the end of an attack of acute rheumatism; or which may be occasioned by hysteria or other causes.

EMPLASTRUM CALEFACIENS, *D.*

Warming Plaster.

Take of Plaster of Spanish flies, half a pound.
Burgundy pitch, five pounds and a half.
Melt them together.

Uses. — In chronic rheumatic pains.

* Lancet, 1839–40, vol. ii. p. 273.

EMPLASTRUM CANTHARIDIS, *L. D. E.*

CANTHARIDES PLASTER, or PLASTER OF SPANISH FLIES.

Synonyme. Empl. Epispasticum. Empl. Lyttæ. Empl. Vesicatorium.

Take of Cantharides, rubbed to a very fine powder, a pound.
Wax,
Mutton suet, of each, seven ounces and a half.
Resin, three ounces.
Lard, six ounces.

Add the resin, first melted, to the wax, the suet, and the lard, melted together. Then remove them all from the fire, and a little before they become solid, stir in the cantharides and mix them.

D. Spanish flies, ℥vi.; Yellow wax, resin, and lard, of each, ℥iv.
E. Cantharides, resin, bees' wax, and suet, of each, ℥ij. Proceed as above.

EMPLASTRUM CANTHARIDIS COMPOSITUM, *E.*

COMPOUND BLISTERING PLASTER.

Take of Venice turpentine, five ounces and a half.
Burgundy pitch and cantharides, of each, three ounces.
Bees' wax, one ounce.
Verdigris, half an ounce.
White mustard seed and black pepper, of each, two drachms.

Liquefy the wax and Burgundy pitch; add the turpentine, and while the mixture is hot, sprinkle into it the remaining articles, previously in fine powder and mixed together. Stir the whole briskly as it concretes in cooling.

Uses. — The addition of the other substances is supposed to render this plaster more certain in its effects.

Remarks upon the Emplastrum cantharidis. — The oleaginous principles of the plaster combine chemically with the cantharidin, and therefore heat may be beneficially applied; but it should not be great, as this principle is volatile (*Christison, Dispensatory*). Donovan, on the contrary, says that the heat should *not* be moderate, and that the temperature of boiling oil is beneficial rather than injurious, as the active principle is thus more entirely dissolved by the oil. He states that blistering plaster, which he made at a high temperature, was considerably more active and efficient than that made at a moderate heat. I have myself long been con-

vinced, from experience, that a heat much above that usually thought admissible, is not detrimental to the activity of the plaster. There are various active solutions of cantharidin, and thin paper soaked in them and used instead of this plaster, is more elegant and convenient, and less disagreeable. The plaster should not generally be retained more than twelve hours, and for an infant or young child, not above two to six hours, and a poultice should afterwards be applied to the little patient.

CANTHARIDES.

Description and varieties.—Cantharides are characterised by the brilliant green or coppery-green colour of their wing scales. They are sometimes, when entire, adulterated with the golden beetle, which is much broader in proportion than the true Spanish fly; or, when powdered, with euphorbium. This latter fraud is detected with difficulty, and its presence is said to increase the pain of the blistering plaster, without augmenting its efficacy. The insects, whilst alive, become sluggish towards evening, and are then shaken off the trees into a cloth, and killed by exposure to the vapour of acetic acid, or of oil of turpentine. They are commonly called Spanish flies; but are now brought in great numbers from St. Petersburgh, Sicily, and Astracan. They are liable to be attacked by an insect, which eats the greater portion of them; but which does *not* (*Thomson, Lond. Dispensatory*), which *does* (*Christison, Dispensatory*), devour also their active principle. They are best preserved in dry well-stopped bottles; and the addition of a small quantity of carbonate of ammonia is useful for this purpose (*Christison*). They ought not to be kept in the state of powder.

Composition. — Their active ingredient is *cantharidin*, which is a crystalline substance, and volatile at a heat above 212° F. It is probably a solid oil (*Pereira*). It is soluble in hot alcohol, oils, and ether, but especially in the latter, and possesses all the active principles of the insect. Cantharidin, when isolated, is not soluble in water, cold alcohol, or in acetic acid; but whilst in its natural combination in the insect it is dissolved by all these menstrua; each of which is accordingly used in the Pharmacopœia.

Tests. — It is sometimes important to prove the presence of cantharides, for medico-legal purposes. The wing scales may remain long in the stomach without being affected; and they have even been distinguished by their shining green particles, nine months after interment of the body. These are not, however, sufficient to prove its presence. Pereira says that the contents of the stomach, or suspected solid matters are to be digested several times in ether, and the clear solutions being poured off, or separated by filtration, are to be evaporated to dryness. The extract obtained is to be applied to the inside of the lip, and it will raise a blister, if cantharides are present.

Medicinal properties. — *Acro-narcotic; diuretic; vesicant; emmenagogue; aphrodisiac?* When taken in large or poisonous doses,

cantharides excites inflammation of the alimentary canal, and of the urinary organs; ptyalism, excessive abdominal tenderness, bloody stools, horrible griping, strangury, bloody urine, or suppression of this excretion; headache, delirium, convulsions, and coma. Even when applied externally, it sometimes causes severe strangury. This used to be much more common formerly than at present, as a blistering plaster was generally kept on for twenty-four hours, whilst it is now seldom retained more than twelve or eighteen hours. Taken internally in small doses, it excites irritation of the urinary organs, and sometimes copious diuresis. Christison, however, finds this effect generally feeble and uncertain (*Dispensatory*). It stimulates the bladder, and induces frequent micturition. It sometimes checks excessive mucous discharges from the urinary organs. Its aphrodisiac powers are very uncertian, and are not often manifested except in poisonous doses. It has been used to cause abortion; but its effects are very uncertain, and so dangerous that it has occasioned death in several instances. Locally applied, cantharides causes, at first, redness and pain, and, ultimately, vesication; but sometimes the skin seems almost unsusceptible of this effect. In this case, the previous application of a mustard poultice, or fomenting the skin with hot water, enables it to act more effectually. In some irritable skins, and in very low states of the system, as in typhus, severe sloughing sometimes follows the application of a blistering plaster; and this effect is very liable to occur after scarlatina, on which account we should be very guarded in their use after this disease. Occasionally, the mark left after a common blister remains for some weeks: but it ultimately disappears. The strangury which is sometimes occasioned is best relieved by very copious draughts of barley water, or some mucilaginous drink, and a little sweet spirit of nitre. It is a mistake to suppose that camphor is a specific for this painful accompaniment of the blister. The strangury may, however, be often prevented by placing a piece of very thin silver paper, soaked in vinegar, between the plaster and the skin, and by not keeping it on too long. If it can be avoided, a blister should not be applied upon a part which has been newly shaved, as the skin, in such cases, is sometimes very sensitive.

Antidotes.—None specific. Bleeding, emetics, diluents, and the general treatment necessary to subdue inflammation.

Uses.—In *dropsies*, the tincture has sometimes done good. It should be avoided when there is any renal irritation, as in albuminous urine. In *incontinence of urine*, which is not very uncommon in children, and in *paralysis of the bladder*, it has been beneficially taken internally. A blister may be applied to the loins in hysterical retention of urine. In some obstinate *gleets*, Pereira finds the combination of tinctura ferri sesquichloridi and tinctura cantharidis the most efficient form. In *inflammation* of almost every organ, blisters are applied after the more active symptoms are subdued by previous depletion. They seldom do much good if applied before depletion has been employed; but in

the various inflammatory complications of fever in towns, previous bleeding is generally omitted, as the inhabitants frequently cannot bear the loss of blood. In *erysipelas*, blisters are sometimes applied in order to localise the inflammation; and, in *erysipelas of the head*, they are applied to the extremities, on the principles of counter-irritation or revulsion. In *chronic inflammations of the joints, of the eye, or of other parts*, perpetual blisters are often employed; *i. e.* the blistered surface is prevented from healing by being dressed with savine or cantharides ointment. A blister to the perinæum is sometimes useful in gleets. It is not now believed that the efficacy of a blister depends upon the quantity of serum removed, but upon the amount of inflammation induced. Sometimes, after the application of the blistering plaster, a vesicle does not rise until a poultice has been kept upon the skin for a few hours.

EMPLASTRUM CUMINI, *L.*

Cumin Plaster.

Take of Cumin, caraway, laurel berries, wax, of each, three ounces.
Burgundy pitch, prepared, three pounds.
Olive oil, water, of each, a fluid ounce and a half.

To the pitch and wax melted together, add the dry ingredients rubbed to a powder, the oil, and the water; then evaporate to a proper consistence.

This is a stimulant, detergent plaster, and is applied to languid ulcers, which require stimulating.

EMPLASTRUM FERRI, *L. D. E.*

Steel Plaster.

Synonyme. Empl. Thuris. Empl. Roborans.

Take of Sesquioxide of iron, one ounce.
Frankincense, prepared (Burgundy pitch, *D.*), two ounces.
Lead plaster, eight ounces.

E. Lead plaster, ℥iij; Resin, ℥vj; Olive oil, f℥iijss; Bees'wax, ℥iij; Red oxide of iron, ℥j.

Sprinkle the sesquioxide into the plaster and the frankincense melted together over a slow fire, and mix.

EMPLASTRUM GALBANI, *L.*

Plaster of Galbanum.

Take of Galbanum, prepared, eight ounces.
Plaster of lead, three pounds.
Turpentine, one ounce.
Frankincense (resin of the spruce fir), prepared, three ounces.

To the galbanum and turpentine, melted together, first add the frankincense, then the plaster, melted with a slow fire, and mix them all.

Medicinal uses.—Stimulant; discutient. It is serviceable in cases of indolent glandular enlargements of a strumous character, and is also applied to the chest in chronic pulmonary complaints, and to the loins in rickety children, as a support to the lower extremities.

EMPLASTRUM GUMMOSUM, *E.*

Gum Plaster.

Take of Litharge plaster, four ounces.
Ammoniac, galbanum, and bees' wax, of each, half an ounce.

Melt together, and mix.

Medicinal uses.—The same as Emp. Galbani.

EMPLASTRUM HYDRARGYRI, *L. D. E.*

Mercurial Plaster.

Take of Mercury, three ounces.
Plaster of lead, a pound.
Olive oil, a fluid drachm.
Sulphur, eight grains.

To the heated oil add the sulphur gradually, stirring constantly with a spatula until they incorporate; afterwards rub the mercury with them, until globules are no longer visible; then gradually add the plaster melted with a slow fire, and mix them all.

D. Mercury, ℥vi; Resin, ℥ij; Oil of turpentine, f ℥j; Litharge plaster, ℥xii). Dissolve the resin in the turpentine with the aid of

heat, add the mercury, and rub them together until metallic globules cease to be visible, and the mixture assumes a dark grey colour, then add the litharge plaster, previously melted, and stir the mixture constantly until it stiffens on cooling.

E. Mercury, ʒiij ; Olive oil, fʒix ; Resin, ʒj ; Litharge plaster, ʒvi. Liquefy together the oil and resin, rub in the mercury, and proceed as above in the *Ph. D.*

Medicinal uses. — *Alterative ; discutient.* It is less powerful than the emplastrum ammoniaci cum hydrargyro. The addition of the sulphur causes the "extinction of the mercury more quickly than if fatty matters alone are used." The greater part of the mercury is probably only mechanically divided. Some of it is in the state of sulphuret. It is still disputed whether much or any of it becomes oxidised.

EMPL. LYTHARGYRI, *D. E.*, see EMPL. PLUMBI.

EMPLASTRUM OPII, *L. D. E.*

OPIUM PLASTER.

Take of Extract of opium, an ounce.
Frankincense (resin of the spruce fir) prepared, two ounces.
Plaster of lead, eight ounces
Boiling water, one fluid ounce.

To the melted frankincense add the plaster melted with a slow fire, and the extract first mixed with the water: and evaporate with a gentle heat, constantly stirring, to a suitable consistence.

D. Opium in very fine powder, ʒj ; Resin plaster, ʒix.

E. Powdered opium, ʒss ; Burgundy pitch, ʒiij ; Litharge plaster, ʒxii.

Medicinal use. — *Anodyne ;* but it is doubtful whether it really possesses any power beyond that of protecting the skin from friction and irritation.

EMPLASTRUM PICIS, *L. E.*

Pitch Plaster.

Synonyme. Emplastrum Picis Burgundicæ.

Take of Burgundy pitch, prepared, two pounds (℔ jss, *E.*).
Frankincense, prepared, a pound (not in *E.*).
Resin,
Wax, each four ounces (℥ ij, *E.*).
Expressed oil of nutmegs, an ounce (oil of mace, ℥ jss, *E.*).
Olive oil,
Water, each, two fluid ounces (f ℥ j, *E.*).

To the frankincense, pitch, resin, and wax melted together, add the oils and the water. Lastly, evaporate them all, constantly stirring, to a proper consistence.

Description. — Burgundy pitch is obtained by melting common frankincense (Abietis resina; Thus) in hot water and straining it through a coarse cloth, by which means some volatile oil and the impurities are removed. It is a brownish-yellow solid, which has a slight and agreeable odour, and readily takes the form of the vessel in which it is kept.

Frankincense (Thus; Abietis resina), or the resin of the spruce fir, is a spontaneous exudation from the Abies excelsa. It has a yellow colour and an agreeable odour, and generally contains fragments of wood broken from the tree when the resin is scraped off. It is brittle, but yields to the finger when pressed.

Substances for which it may be mistaken. — Frankincense is liable to be confounded with elemi, from which it is not always easy to distinguish it. It is stated that the elemi, which comes from Holland, is nothing but common frankincense. Burgundy pitch is not very likely to be mistaken for anything else.

Adulterations. — The Burgundy pitch of the shops is generally an artificial compound of common resin, water, and palm oil. Sometimes it is made from old American turpentine.

Medicinal properties and uses. — Burgundy pitch forms a very tenacious plaster, which, if long worn, produces great itching, and at length considerable pustular eruption. It is never used internally. Externally, as a counter-irritant, it is applied to the chest in the form of plaster to remove chronic coughs; it is also applied to the loins in lumbago, and to the joints in some chronic articular affections.

EMPLASTRUM PLUMBI, *L. D. E.*

Lead Plaster.

Synonyme. Diachylon Simplex. Emplastrum Lythargyri, *D. E.*

Take of Oxide of lead, rubbed to very fine powder, six pounds (℔ v, *D.*; ℥ v, *E.*).
Olive oil, a gallon (℥ xiii, *E.*).
Water, two pints (f ℥ iij, *E.*).

Boil them together with a slow fire, constantly stirring, until the oil and oxide of lead unite into the consistence of a melted plaster; but it will be proper to add a little boiling water, if nearly the whole of that which was used in the beginning should be evaporated before the end of the boiling.

Remarks. — In this preparation the oxide of lead acts the part of an alkali or base towards the oil, converting it into margaric and oleic acids (see Sapones), which combine with the oxide of lead, and form the emplastrum plumbi, which is, therefore, essentially a *soap*, with a metallic instead of an alkaline basis.

Properties and uses. — It enters largely into the composition of many other plasters, and is a common application to excoriations, and for retaining the edges of fresh-cut wounds in a state of apposition, and defending them from the air. For this latter purpose it is, however, scarcely sufficiently adhesive.

EMPLASTRUM POTASSII IODIDI, *L.*

Plaster of Iodide of Potassium.

Take of Iodide of potassium, an ounce.
Frankincense, prepared, six ounces.
Wax, six drachms.
Olive oil, two fluid drachms.

To the frankincense and wax melted together add the iodide, first rubbed with the oil, and stir diligently until they are cold. This plaster is to be spread on linen rather than leather.

Medicinal uses. — The plaster is to be applied to indolent scrofulous tumours, or chronic enlargements, nodes, &c.

EMPLASTRUM RESINÆ, *L. D. E.*

Resin Plaster.

Synonyme. Emplastrum Resinosum, *E.* Emplastrum Commune Adhæsivum. Emplastrum Saponis compositum, *D.*

Take of Resin, half a pound (℥j, *E.*).
Lead plaster, three pounds (℥v, *E.*).

To the plaster, melted with a slow fire, add the resin first melted, and mix.

D. Resin, ℥iv; Lead plaster, ℔ij; Castile soap, ℥ij.

Medicinal uses. — *Stimulant; adhesive.* It is the most common form of sticking plaster, being more adhesive than the lead plaster. It irritates some peculiarly tender skins.

EMPLASTRUM SAPONIS, *L. D. E.*

Soap Plastrr.

Take of (Castile, *D.*) soap, sliced (in powder, *D.*), half a pound (℥iv, *D.*).
Lead plaster, three pounds (℔ijss, *D.*).
Resin, one ounce.

The plaster being melted over a slow fire, add the soap and resin fresh melted; then boil all down to a proper consistence, constantly stirring.

E. Litharge plaster, ℥iv; Gum plaster, ℥ij; Castile soap, in shavings, ℥j.

Remarks. — The resin is introduced into this formula in the present Pharmacopœia in order to render the plaster somewhat more adhesive, and to diminish its too great brittleness.

Medicinal uses. — Soap plaster is merely used as an unirritating support in cases of fractured limbs, and for other similar purposes.

EMPLASTRUM SAPONIS COMPOSITUM, *D.*, see Empl. Resinæ.

EMPLASTRUM SIMPLEX, *E.*

Simple Plaster.

Take of Bees' wax, suet, and resin, of each, two ounces. Melt them together and stir.