

A BIBLIOGRAPHY OF  
TEREBINTHINA CANADENSIS

By  
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SCHOOL OF PHARMACY

A Thesis Submitted for the Degree of  
GRADUATE IN PHARMACY

University of Wisconsin

1928

Lescorbot, M.

1612.

(Canada Balsam).

Histoire de la Nouvelle, France, etc. (Pharm. Jour., 41, p. 544.)

Discusses the use of Canada Balsam in making Canada clay brick.

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Lescorbot, M.

1612.

(Pins et Gomme).

Histoire de la Nouvelle, France, 2 ed., p. 848; new ed. Fross, v. 3, p. 820. (Silva of N. Am., v. 12, p. 110; Proc. Am. Pharm. Assoc., 18, p. 252; *ibid.*, 30, p. 252; Am. Jour. Pharm., 53, p. 593; Pharmakognosie des Pflanzenreiches, 2 ed. p. 81;

The wood of the pine trees is very useful, compares the gum exuding from them with Venice turpentine and says the gum is used as insence in church.

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Boucher, P.

1664.

Des arbies qui croissent dans la Nouvelle, France.

Histoire de la Nouvelle, France, \_\_, p. \_\_. (Proc. Am. Pharm. Assoc., 30, p. 252; Pharm. Jour., 41, p. 544; Silva of N. Am., 12, p. 110.)

Describes the tree yielding Canada balsam and the uses made of the balsam.

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Lemery, N.

1733.

Abies.

Dictionnaire Universel des Drogues simples 3rd ed., p. 2; *ibid.* New Ed. (1759), p. 2; (Pharmakognosie der Pflanzenreiches, 2 ed., p. 81.)

In a description of several species of abies, he describes the tree yielding the oleoresin called "Baume de Canada".

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Lewis, W.

1761.

Abies.

Hist. of Mat. Med., p. 3. (Pharmacographia, 1 ed., p. 553.)

He gives a general description of the tree producing Canada Balsam and the method of obtaining it.

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Miller, P.

1768.

Abies taxifoliis, odora, Balfami Gileadenfis. The Balm of Gilead Fir.

Gardener's Dictionary, 8th ed., p. 2. (U.S. Dispens., 19 ed., p. 1244.)

He gives the habitat of the tree, description of the balsam, and he describes attempts to naturalize the tree and its behavior then.

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Poiret, \_\_. \_\_.

1768.

(Abies balsamea)

Lamarck Diction., v. 6, p. 521. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Muenchhausen, \_\_.

1770.

(Pinus abies balsamea).

Hausv. v. 5, p. 222. (Silva of N. Am. v. 12, p. 107.)

The original was not available.

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DuRoi, J. P.

1771.

(Pinus balsamea).

Obs. Bot., p. 40. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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DuRoi, J. P. 1771.

(*Pinus Balsamea*).

Harbh. Baumz., 2, p. 103. (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

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Evelyn, J. 1776.

*Pinus (Balsamea) foliis salitariis subemarginatis.*

*Silva*, ed. Hunter, 1, p. 279; (*Silva of N. Am.*, v. 12, p. 107.)

Gives a general description of the tree producing Canada Balsam and its habitat.

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Wangenheim, F.A.J. 1777-1780.

(*Pinus balsamea*).

Beschreib. Nordam Holz., \_\_, p. 37; (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

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Marshall, H. 1785.

*Pinus balsamea.* The Balm of Gilead Fir Tree.

*Arbust. Am.*, p. 102; (*Silva of N. Am.*, v. 12, p. 107.)

He gives a general description of the tree producing Canada Balsam, and one scientific name with one common name.

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Moench, K. 1785.

(*Pinus balsamea*).

Baume Weiss., \_\_, p. 71. (*Silva of N. Am.*, v. 12, p. 107).

The original was not available.

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Castiglioni, L. 1790.

*Pinus balsamea, follis solitariis, auplici serie pectinalis, subemarginalis, strobilis oblongis.*

Vag. negli State Unite, v. 2, p. 314. (Silva of N. Am., v. 42, p. 107.)

Gives two other names, two references and two common names for the tree yielding Canada Balsam.

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Burgsdorf, F.A.L.V. 1791.

(Pinus Balsamea).

Anleit. (2 ed.) 2 pt., p. 167. (Silva of N. Am. v. 12, p. 107.)

The original was not available.

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Willdenow, K.L. 1796.

(Pinus balsamea).

Beil. Baumz., \_\_, p. 218. (Silva of N. Am., v. 12, p. 107.)

The original reference was not available.

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Borkhausen, M. B. 1800.

(Pinus Balsamea).

Theoretisch praktisches Handb. Forstbot., pt. 1, p. 380.  
(Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Michaux, A. 1803.

Abies Balsamifera.

Fl. Bor. Am., v. 2, p. 207. (Prodeomus, v. 16, pt. 2, p. 423)

He gives a description of the plant producing Canada Balsam, with one synonym by aiton, with the habitat.

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Willdenow, C. 1805.

(Pinus canadensis, Pinus Balsamea; Hemlock Fir, Hemlock Resin.)

Linne's Species plantarum, \_\_, p. 27. (Am. Dispens., 4 ed.,

p. 426; Journ. Phila. Coll. Pharm., 2, p. 18; U.S. Dispens., 19 ed., p. 1244; Linne, Specie Plant., v. 4, p. 504.)

Gives the general characteristics and habitat of the tree producing the balsam and method of collecting Canada Balsam.

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Willdenow, C.

1805.

*Abies* (Balsamea) folliis fubtus argentees apice fubmarginatis bifariam verfis.

Linne Species Plant., v. 4, p. 505; U.S. Dispens., 15, p. 1123; U.S. Dispens., 19, p. 1244; U.S. Dispens., 17, p. 1355.)

Describes the tree and gives the habitat of the tree producing Canada Balsam.

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Persoon., C.H.

1807.

*Pinus Canadensis*.

Syn. Plant. V. 2, p. 579; (Silva of N. Am., v. 12, p. 107).

A general description of the tree producing Canada Balsam and its habitat.

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Com.

1808.

*Pinus balsamea*.

Pharm. Mass. Med. Soc., p. 25.

"Balsam fir, The Liquid resin, called balsam of Canada".

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Desfontaines, L.

1808.

(*Abies Balsamea*)

Hist. arb., v. 2, p. 579. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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DuMont de Courset, G.L.M.

1811.

(*Abies Balsamea*).

Bot. Cult., 2 ed., p. 474. (Silva of N. Am., v. 12, p. 107).

The original was not available.

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Michaux, F.A.

1812.

(*Abies balsamea*).

Histoire des arbres forestiers de l'Amérique septentrionale, v. 2, p. 280; Sylva Am., 3, p. 150; (Proc. Am. Pharm. Assoc., 18, p. 135; Natl. Dispens., 5, p. 1584; U.S. Dispens., 15 ed. p. 1123; *ibid.*, 17 ed., p. 1355; *ibid.*, 19 ed., p. 1244; Prodrômus, v. 16, pt. 2, p. 423.)

Gives the habitat, and use of the wood of the tree producing Canada Balsam.

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Com.

1816.

*Pinus balsamea*.

Pharm. N.Y. Hospital, p. 24.

"Hemlock fir; Canada balsam."

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Pursh, F.

1816.

Foliis solitariis, basi distinctis abies.

Fl. Am. Sept., v. 2, p. 639. (Silva of N. Am., v. 12, p. 107.)

This reference gives a systematic arrangement and description of the plants of North America.

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Brotero, F. A.

1817.

(*Pinus Balsamea*).

Hist. Nat. Pinheiros, Lovies abetos, p. 31. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Richardson, J.

1857.

List of Trees and Shrubs.

Arctic searching exped., v. 2, p. 316; *ibid.*, Am. ed., v. \_\_, p. 441; (*Silva of N. Am.* v. 12, p. 109.)

He discusses the extent to which *Abies balsamea* was traced in the North, in regard to its northern, eastern, western and southern boundaries.

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Nuttall, T.

1818.

*Pinus abies*. Balsam Fir.

*Genera N. Am. Plants*, v. 2, p. 223. (*Silva of N. Am.*, v. 12, p. 107.)

Gives a brief description of the leaves and cones of the tree producing Canada Balsam, its habitat and one other name and common name.

—

Thacher, J.

1821.

*Pinus Balsamea*. Balsam of Canada.

*Am. New Dispens.*, 2 ed., p. 303; *Am. News Dispens.*, 4 ed., p. 323.

Gives general characteristics, popular description, and medicinal properties of Balsam of Canada.

—

Hayne, F.G.

1822.

(*Pinus Balsamea*).

*Dendr. Fl.*, \_\_, p. 176. (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

—

Richardson, J.

1823.

*Pinus balsamea*.

Capt. Franklin's Journey etc. app. no. 7, p. 764. (*Silva of N. Am.*, v. 12, p. 107.)

Lists the plant with 2 cross references.

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Dietrich, D.N.F. 1826.

*Pinus Balsamea.*

Syn., 5, p. 394. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Richard, L.C.M. 1826.

(*Abies balsamea*).

Comm. Bot. Conif., p. 74, t. 16. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Sprengel, K. 1826.

*Pinus balsamea.*

Septema vegetabilium 3, p. 884. (Silva of N. Am., v. 12, p. 107.)

He gives a description of the tree producing Canada Balsam, with a synonym and habitat.

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Coxe, J.P. 1827.

*Pinus Balsamea.* Balm of Gilead Fir, Hemlock Fir, Canada Balsam.

Am. Dispens., 1 ed., p. 514; Am. Dispens., 4 ed., p. 426;  
Am. Dispens., 7 ed., p. 480; Am. Dispens., 6 ed., p. 65.

Gives general characteristics, popular description, and habitat of the tree producing Balsam Canada, and scientific name with three common names.

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Lambert, A.B. 1829.

*Pinus abies.* *Pinus Balsamea.*

*Pinus*, 1, p. 48, t. 31; *ibid.*, 2, p. 52, t. 33; *ibid.*, 3 ed.,

p. 72, t. 41; (Prodomus, v. 16, pt. 2, p. 423.)

Gives directions for the cultivation, and description of the tree producing Canada Balsam.

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Caillot, A. 1830.

Essai chimique sur la terebenthine des sapins a cone redresse.

Dissertation, Strasbourg, p. \_\_. (Jour. de pharm. et de chim. 16, p. 440; Pharmakognosie d. Pflanzenreiches, 3 ed., p. 81; Archiv der Pharm., 238, p. 488.)

Discusses the source of Canada turpentine and compares it with the oleoresins from abies pectinata and Abies excelsa. Also gives the density of the volatile oils obtained from each.

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Edes, T.R. 1830.

Terebinthine Canadensis, Canada Turpentine (Balsam of Fir).

Therapeut. Handbook of U.S.P. X. p. 317.

Discusses the medicinal use, dose etc. of Canada Balsam and gives four other common names.

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Ellis, C. 1831.

Pinus canadensis, Willd.; abies canadensis, Mich. Sylv. Hemlock Resin.

Journ. Phila. Coll. Pharm., v. 2, p. 18; (U.S. Dispens., 15 ed., p. 1123; ibid., 18 ed., p. 1).

Gives U.S.P. description, general characteristics and habitat of Pinus Canadensis, the physical characteristics and method of purifying the resin.

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Martins, T.W.C. 1832.

(Balsamum Canadense).

Grundriss der Pharmacognosie s. 340. (Archiv. der Pharm.,

238, p. 488.)

The original was not available.

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Ledeban, K.F.

1833.

(*Abies balsamea*).

Fl. alt., 4, p. 202. (Silva of N. Am., v. 12, p. 107).

The original was not available.

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(Lindley, J.)

1833.

*Abies balsamea*.

Penny Cyclopedia, v. 1, p. 30. (Silva of N. Am. v. 12, p. 107.)

A popular description of the tree, its chief product, and its habitat.

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Woode, G.B. & Bache, F.

1834.

*Terebinthina Canadensis*, Canada Turpentine, Balsam of Fir.

U.S. Dispens., 2 ed., p. 658; U.S. Dispens., 3 ed., p. 643;  
U.S. Dispens., 4 ed., p. 676; U.S. Dispens., 5 ed., p. 708;  
U.S. Dispens., 10 ed., p. 727; U.S. Dispens., 12 ed., p.  
828; U.S. Dispens., 13 ed., p. 861; U.S. Dispens., 14 ed.,  
p. 900; U.S. Dispens., 15 ed., p. 1123; U.S. Dispens., 17  
ed., p. 1353; U.S. Dispens., 19 ed., p. 1353; U.S. Dispens.,  
20 ed., p. 1118; U.S. Dispens., 21 ed., p. 1080.

Gives U.S.P. description, general characteristics, popular description and habitat of Canada Balsam.

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Lawson, P. & Son (C.)

1836.

(*Abies balsamea*).

The Agriculturist's Manual, p. 373. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Lindley, J. 1838.

*Abies balsamea*, Balm of Gilead Fir.

Flor. Med. p. 554. (U.S. Dispens., 17, p. 1355; U.S. Dispens. 19, 1244.)

Gives the habitat, general characteristics of the tree producing Canada Balsam, and three scientific names.

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London, J.C. 1838.

(*Abies balsamea*).

Arboretum et Fruticetum britannicum v. 4, 2339 f. 2240-2241; (Prodromus, v. 16, pt. 2, p. 423.)

The original was not available.

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Aiton, W. 1839.

*Pinus Canadensis*.

Hort. Kew., v. 3, p. 370. (Silva of N. Am., v. 12, p. 107.)

Gives a technical description, name, English name, habitat, and history of *Pinus Canadensis*.

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Forbes, J. 1839.

(*Rinus Balsamea*)

Pinetum Woburn, 109, t. 37. (Silva of N. Am., v. 12, p. 107).

The original was not available.

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Guibourt, M. 1839.

Memoire sur l'origine et les caracteres distinctifs des terebenthines.

(Am. Jour. Pharm., 12, p. 132.)

Gives general characteristics and habitat of the tree producing Canada Balsam.

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Antoine, F.

1840-1846.

*Abies Balsamae*.

Die Coniferen nach Sambert, Sowdon & Anderen 66, t. 26, f. 3. (*Silva of N. Am.*, v. 12, p. 107).

The original was not available.

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Bigelow, J.

1840.

*Pinus Balsamea*, *Silva Fir*.

*Flora Boston.*, 1, p. 235; *Flora Boston*, 2, p. 360; *Flora Boston*, 3 ed., p. 385; (*Silva of N. Am.*, 12, p. 107).

A general description of the tree producing Canada Balsam and its habitat.

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Hooker, W.J.

1840.

(*Pinus Balsamea*).

*Fl. Bor. Am.*, v. 2, p. 163; (*Silva of N. Am.*, 12, p. 107).

The original was not available.

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Link, H.F.

(1841).

(*Pinus Balsamea*).

*Linnaea* 15, p. 530; (*Prodremus*, v. 16, pt. 2, p. 423.)

The original was not available.

---

Spach, E.

1842.

(*Abies Balsamea*).

*Hist. Veg.*, v. 11, p. 421. (*Silva of N. Am.*, v. 12, p. 107).

The original was not available.

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Torrey, J.

1843.

*Pinus balsamea*. Balm of Gilead Fir. Balsam Fir.

Flora N.Y., v. 2, p. 229. (Silva of N. Am., v. 12, p. 107).

He gives a general description of the tree producing Balsam Fir, and its habitat.

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Endlicher, S.L. 1847.

(Pinus Balsamea).

Synopsis Coniferarum etc., \_\_, p. 103. (Silva of N. Am., v. 12, p. 107).

The original was not available.

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Wirzen, \_\_. 1849.

De balsamis et praesertim de Balsamo canadense.

Helsingford, p. 47. (Archiv. der Pharm., 238, p. 489).

A thesis on Canada Balsam.

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Lawson, P. & Son (C.) 1851.

List of plants of the Fir Tribe.

No. \_\_, Conifers, p. 11. (Silva of N. Am., v. 12, p. 107).

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Darlington, W. 1853.

Abies Balsamea, Balsam Fir.

Fl. cestr., 1 ed., p. 548; Fl. cestr., 2, p. 291; Fl. cestr. 3 ed., p. 291. (Silva of N. Am., v. 12, p. 107.)

The author gives a generally description of the tree producing Canada Balsam, its habitat, and also another name with common names.

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Carriere, E.A. 1855.

(Pinus Balsamea).

Traite generale der coniferer etc., p. 217; (Silva of N. Am., v. 12, p. 110).

The original was not available.

Gray, A.

1857.

Coniferae (Pine Family).

Bot. of North. U.S., 2, p. 422; Pharmacographia 1 ed., p. 553.

He gives a general description of the plant producing Balsam Fir, and its habitat with one scientific name, and three common names.

1857.

(Canada Balsam).

Dublin Hospital Gazette, \_\_, p. \_\_. Drugg. Circ., 1, p. 6.

Discusses the use of Canada Balsam in toothaches.

Gordon, G. & Glendinning

1858.

(Abies Balsamea).

Pinetum, \_\_, p. 144. (Silva of N. Am., v. 12, p. 110; Prodromus, v. 16, pt. 2, p. 423.)

The original was not available.

Stearns, F.

1858.

Extracts from a Report of the Medicinal Plants of Michigan.

Am. Drugg., 3, p. 55; Am. Jour. Pharm., 31, p. 29; (U.S. Dispens., 15, p. 1124).

Here he gives the method of collection of Canada pitch and its habitat.

Stearns, F.

1859.

(Abies Balsamea, abies canadensis, Balsam of Fir, Hemlock Spruce.)

Am. Journ. Pharm., 31, p. 28.

Gives popular description, general characteristics, habitat, and medicinal properties of abies balsamea.

Provancher, L.A.

1862.

*Abies balsamiae*.

Flore Canodienne, v. 2, p. 555; (Silva of N. Am., v. 12, p. 109.)

A general description of the tree producing Canada Balsam, its habitat and two other scientific names and one common name.

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Parlatore, F.

1864.

*Pinus balsamea*.

De Candolle Prodrumus v. 16, pt. 2, p. 423; (Silva of N. Am. v. 12, p. 107.)

Gives a lengthy technical description of the plant, habitat and bibliography.

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Henkel, J.B. & Hochstetter, W.

1865.

(*Abies Balsamea*).

Synopsis Nodelholzer etc., \_\_, p. 176; (Silva of N. Am., v. 12, p. 107; Prodrumus, 16, pt. 2, p. 423.)

The original was not available.

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Thomas, N.S.

1866.

*Abies Balsamea*.

Am. Jour. Pharm., 38, p. 214. (Proc. Am. Pharm. Assoc., 18, p. 136.)

Describes the similarity between Ext. of Hemlock Bark and Ext. of

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Brunet, O.

1867.

(*Abies Balsamea*).

Catalogue des Vegetaux Ligneux du Canada, p. 57. (Silva of N. Am., v. 12, p. 109.)

Committee on Drug Market.

1868.

Canada Balsam.

Proc. Am. Pharm. Assoc., 20, p. 119.

Gives an account of the supply and value of Canada Balsam.

Hoopes, J.

1868.

Abies Balsamea, Balsam Fir.

Evergreens, \_\_, p. 197. (Silva of N. Am., v. 12, p. 107.)

He gives a general description of the tree producing Canada Balsam and its habitat.

Seneclouze, G.

1868.

(Abies Balsame).

Les Coniferes Monograph, p. 6; (Silva of N. Am., v. 12, p. 107).

The original was not available.

Wood, G.B.

1868.

Turpentine. Terebinthina U.S.

Therap. & Pharmacol., 2, p. 625. (Med. Plants., 4, p. 264).

He gives the habitat of the tree producing Canada Balsam, method of collection and general characteristics of the balsam with three scientific names and four common names.

Koch, K.

1869.

(Abies balsamea).

Dendr., v. 2, pt. 2, p. 214; (Silva of N. Am., v. 12, p. 107).

The original was not available.

(Committee on Drug Market)

1870.

Canada Balsam.

Proc. Am. Pharm. Assoc., 21, p. 433.

Gives the yearly market price of Canada Balsam.

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Lindey, J. & Gordon, \_\_.

1870.

(Abies balsamea).

Journ. Hort. Soc. Lond., 5, p. 210. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Procter, W. Jr.

1870.

(Abies Canadensis).

Proc. Am. Pharm. Assoc., 18, p. 134.

Gives habitat, use of bark, timber, and method of obtaining Pix Canadensis.

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Procter, \_\_.

1870.

(Abies Canadensis).

Proc. Am. Pharm. Assoc., 18, p. 82.

No report given. Paper referred to executive committee.

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Bertrand, J.

1871.

Abies Balsamea.

Bull. Soc. Bot. France, 18, p. 379; (Silva of N. Am., 12, p. 107.)

Gives the habitat of abies balsamea.

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King, J.

1872.

Abies Balsamea. (Balsam Edeltanne). Fir Balsam.

Am. Dispens., 6 ed., p. 14; *ibid.*, 8 ed., p. 14; *ibid.*, 10 ed., p. 14; *ibid.*, 18 ed., v. 1, p. 1.

Gives U.S.P. description, general characteristics, popular description, habitat, and medicinal properties of Canada Balsam.

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Bertrand, J.

1874.

*Abies Balsamea*.

Ann. Sci. Nat., 20, p. 95; (*Silva of N. Am.*, v. 12, p. 107).

Gives the habitat and two other names for *abies balsamea*.

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Nordlinger, H.

1874-6.

(*Abies balsame*).

Deutsche Forstbotanik, \_\_, p. 456; (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

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Willkomm, M.

(after 1875)

(*Abies balsamea*).

Forstliche Flora von Deutschland or Oesteneich, 2 ed., p. 111. (*Silva of N. Am.*, v. 12, p. 107).

The original was not available.

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Flueckiger, F.A.

1876.

*Balsamus Canadense*.

"Documente zur Geschichte der Pharmacie, p. 92; *Archiv.d. Pharm.*, 208, p. 140; (*Am. Jour. Pharm.*, 48, p. 362; *New Rem.*, 5, p. 228.)

Canada Balsam was listed in a catalog and tax list of medicaments at Strassburg in 1759 giving the price. Records the early history of Canada Balsam in Europe.

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Flueckiger, F.A. & Hanbury, A.

1876.

Balsamum Canadense.

Pharmacographia, ed., p. 553; *ibid.*, 2 ed., p. 612;  
New Rem., 5, p. 228.

Says Balsamum Canadense was sold at Strassburg as early as 1759.

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M'Nab, W.R.

1876.

A Revision of the Species of Abies.

Proc. Roy. Irish Acad., S.2, v. 2, p. 684, t. 47 f. 11;  
(Silva of N. Am., v. 12, p. 107).

He gives a description of the leaves and a description of the transverse section of the leaf of *Abies balsamea*, and he comments on the amount of hypoderm on five different samples of the leaves.

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Brunet, W.E.

1877.

Collection of Canada Balsam.

Pharmakognosie des Pflanzenreiches, 2 ed., p. 81; (Proc. Am. Pharm. Assoc., 25, p. 337.)

Here he describes the collection of Canada Balsam by the family, most of which is collected in the Laurentine Mountains.

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Downey, M.

1877.

(Canada Balsam).

L'Union Pharmaceutique, 18, p. 168; (Yrbk. Brit. Pharm. Conf., 14, p. 259.)

Describes the use of Canada Balsam as a pill excipient.

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Hirschsohn, E.

1877.

(Balsam).

Pharm. Zeitung fuer Russland, No. 1 & 2, p. \_\_\_; New Rem., 6, p. 114.

Discusses chemistry of the more important balsams.

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Saunders, W. (Chrm.) 1877.

Report of the Committee on the Drug Market.

Proc. Am. Pharm. Assoc., 25, p. 337.

They describe the collection of Canada Balsam, and also gives one scientific name.

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Brunet, W.E. 1878.

Collection of Canada Balsam.

Pharm. Journ., 37, p. 813. (Pharmakognosie des Pflanzenreiches, 2 ed., p. 81).

Here he describes the collection of Canada Balsam by the family, most of which is called in the Laurentine Mountains.

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Engelmann, G. 1878.

A Synopsis of the American Firs.

Trans. St. Louis Acad., 3, p. 597; (Silva of N. Am., v. 12, p. 107.)

Gives the habitat, general characteristics of the tree producing Canada balsam, and also several references.

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Morel, J. 1878.

Abies Balsamea, Canada Balsam, Canada Turpentine.

Proc. Am. Pharm. Assoc., 26, p. 314.

Gives synonyms, botanical origin, analysis, habitat, collection and characters of Canada Balsam.

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Flueckiger, F.A. & Hanbury, D.

1879.

*Terebinthina Canadensis.*

Pharmacographia, 1 ed., p. 553; *ibid.*, 3 ed., p. 612; (*Am. Journ. Pharm.*, 53, p. 593; *U.S. Dispens.*, 20 ed., p. 1118).

Gives the botanical origin, general description, habitat of the tree producing Canada Balsam, and a description of the balsam itself, with the method of commercial production.

Hansen, \_\_.

1879.

(*Abies Balsamea*).

*Journ. Roy. Hort. Soc.*, 14, p. 458; (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

Masters, M.T.

1879.

(*Abies Balsamea*).

*Journ. Roy. Hort. Soc.*, v. 14, p. 189; (*Silva of N. Am.*, v. 12, p. 107.)

The original was not available.

Peck, C.H.

1879.

Balsam fir, *abies balsamea*.

31st ann. Rept. N.Y. State Nat. Museum, v. 8, p. 21; (*New Rem.*, 9, p. 267.)

He describes the habitat, general characteristics of the tree, of the cones producing the balsam, the method of obtaining the balsam, and the destruction of the tree by a beetle.

Lauche, W.

(after 1880)

(*Abies balsamea*)

*Deutsche De ndrologie*, 2 ed., p. 84. (*Silva of N. Am.*, v.

12, p. 107.)

The original was not available.

---

Flueckiger, F.A.

1881.

Note on the Early History of Canada Balsam.

Pharmakognosie des Pflanzenreichs, 2 ed., p. 80; Pharm. Journ., 44, p. 544; *ibid.*, 53, p. 593; (Proc. Am. Pharm. Assoc., 18, p. 252.)

He discusses the early history of Canada Balsam as to use, habitat, and general characteristics of the tree producing it.

---

Peck, C.H.

1881.

(*Abies Balsamea*, Balsam Fir).

Proc. Am. Pharm. Assoc., v. 29, p. 236; New Rem., 9, p. 267; Pharm. Journ., 40, p. 333; Pharmakognosie Pflanzenreiches, 2 ed., p. 81.

Describes the destruction of the tree by the beetle belonging to the genus *Tomicus*, the habitat and general characteristics of Canada Balsam.

---

Veitch, J. & Sons

1881.

*Abies Balsamea*.

Man. Conif., \_\_, p. 88. (Silva of N. Am., v. 12, p. 107).

A general description of the tree, habitat, and mentions the introduction of the tree producing Canada Balsam into Canada by Bishop Compton in 1697.

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Haydon, W.

1884.

Medicinal plants used by the Cree Indians, Hudson's Bay Territory.

Ph. Jr., 44, p. 302. (Am. Jr. Pharm., 56, p. 617; Proc. Am. Pharm. Assoc., 33, p. 101.)

E. M. Holmes identifies Wayakash as the liber of the bark of *Abies balsamea*.

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Hirschsohn, E.

1884.

(Canada Balsam).

Pharmaceutische Zeitschrift fuer Russland, 16, p. 81. (Pharm. Record, 4, p. 112; Yrbk. Brit. Pharm. Conf., 15, p. 310;)

Outlines a scheme for recognition of the important natural balsams.

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Macoun, J.

1884.

*Abies*, Juss. (Balsam)

Catl. Canadian Plants, 1, p. 473; (Silva of N. Am., v. 12, p. 109).

Gives the various regions of North America in which the tree producing Canada Balsam is found.

---

Oldberg, O. & Wall, A.O.

1884.

*Terebinthina Canadensis*. Canada Turpentine.

Compan. to U.S.P., 1 ed., p. 974.

Gives origin, habitat, description, constituents, and medicinal use of Canada Turpentine.

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Sargent, C.S.

1884.

*Abies balsamea*, Balsam Fir, Balm of Gilead Fir.

Forest Trees N. Am. 10th Census U.S., v. 9, p. 210; (Silva of N. Am., v. 12, p. 107.)

Gives the habitat, general characteristics of the tree and method of obtaining the balsam of fir.

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Stille, A. & Maisch, J.M.

1884.

*Terebinthina canadensis*, Canada Terpentine.

Nat. Dispens., 3 ed., p. 1496.

Gives the U.S.P. (1880) definition, general characteristics, popular description, habitat and medical properties of Canada Turpentine.

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Wiegand, S.T. 1885.

Pills and Excipients.

Am. Jour. Pharm., v. 57, p. 595.

Discusses the use of Canada Balsam as a pill excipient.

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Kremel, A. 1886.

(Notizen zur Prüfung der arzneimittel).

Pharm. Post, 19, p. 445; Pharm. Zeitung, 31, p. 477; Pharm. Journ., 46, p. 547; Yrbk. Brit. Pharm. Conf., 24, p. 216; Am. Journ. Pharm., 59, p. 91.

Describes a method for determining the acid number of Canada Balsam.

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(Mason, A.H. Chm.) 1886.

Report of Committee on the Drug Market.

Proc. Am. Pharm. Assoc., 35, p. 375.

Discusses the status of the market of Canada Balsam, giving as reasons, conditions in the collecting area in Quebec.

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Dieterich, E. 1889.

(Chemical examination of resins, gum-resins and balsams).

Pharm. Post, 22, p. 336; (Am. Journ. Pharm., 61, p. 357); Yrbk. Brit. Pharm. Conf., 26, p. 179.

Gives the acid, ester and saponification values of Canada Balsam.

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(Editor) 1889.

Canada Balsam.

West. Drugg., 11, p. 418.

Replying to an inquiry of J.L., discusses the source of Canada Balsam, and discusses the use of Oregon Balsam in its place.

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Watson, S. & Coulter, J.M.

1889.

*Abies balsamea*.

Gray's Manual of Botany, 6 ed., p. 492. (Silva of N. Am. v. 12, p. 107.)

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(Editor)

1890.

Balsam Fir.

West. Drugg., 12, p. 463.

States that Balsam Fir is used in Thomas' electric oil.

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Maisch, J.M.

1890.

*Terebinthina canadensis*, Canada Turpentine.

Organic Materia Medica, 4 ed., p. 461; *ibid.*, 5 ed., p. 473. (Proc. Am. Pharm. Assoc., 42, p. 308).

He gives the habitat, method of production, general description, constituents, adulterants and medicinal properties of Canada turpentine.

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Mayer, H.

1890.

(*Abies Balsamea*).

Die Waldungen von Nordamerika etc. 220, f. 6; (Silva of N. Am., v. 12, p. 107.)

The original was not available.

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Wesmoel, A.

1890.

Naturalization of American Conifers in Belgium.

Garden & Forest, 3, p. 494; (Silva of N. Am., v. 12, p. 110.)

Discusses the successful attempt to naturalize *abies balsamae* in Belgium and gives the general characteristics of the tree.

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1890.

(Canada Balsam).

Pharm. Rec., 15, March, p. 12.

Lists the current price of Canada Balsam.

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Beissner, L.

1891.

(*Pinus Balsamae*).

Handbuch der Nodelholzkunde, p. 464. (*Silva of N. Am.*, v. 12, p. 107; *ibid.*, v. 12, p. 110).

---

Humphrey, J.

1891.

The Microscope for Students.

Pharm. Journ., 51, p. 490.

Describes the use of Canada Balsam as a mounting medium.

---

Kradwell, G.V.

1891.

*Terebinthina Canadensis*, with a Review of the Different Varieties of Turpentine.

Proc. Wis. Pharm. Assoc., 12, p. 37. (*Am. Journ. Pharm.*, 67, p. 140.)

Discusses the chemical composition of three fractions of Balsam Fir.

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Schubeler, F.C.

1891.

(*Abies balsamea*).

*Tillaeg til viridarium Norvegicum*, p. 428. (*Silva of N. Am.* v. 2, p. 107.)

The original was not available.

Unna, P.G.

1891.

Zur Kenntniss de Hautfirnisse.

Therapeutische Monatshefte, 5, p. 574. (Yrbk. Brit. Pharm. Conf., 29, p. 241.)

Discusses the use of Canada Balsam with collodion as a skin varnish.

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(Dieterich, E.)

1892.

Ueber die Loslichkeit einiger Balsame und Harze in verschiedenen Losungsmitteln.

Helf. Ann., 6, p. 31. (Proc. Am. Pharm. Assoc., 41, p. 413; Pharm. Centralh., 33, p. 424).

Discusses the solubilities of different balsams, including Canada Balsam, in alcohol, ether, chloroform, acetic ether, benzol, Petroleum ether, Turpentine and carbon disulphide.

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Kressin, L.H.

1892.

Notes on Pinene.

Proc. Wis. Pharm. Assoc., 13, p. 66; (Am. Journ. Pharm., 67, p. 40.)

Gives the boiling point, specific gravity and rotatory power of different fractions of the oil of Canada Balsam.

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Marpmann, \_\_.

1892.

Die anwendung des Refractometers fur Untersuchung von Nahrungsmitteln etc.

Pharm. Centralhl., 33, p. 210. (Proc. Am. Pharm. Assoc., 40, p. 986).

Gives the refractive index for Canada Balsam.

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Unna, P.G.

1892.

(Canada Balsam).

Pharm. Journ., 52, p. 1007.

Gives use of Canada Balsam for microscopical mounting purposes.

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Bertram, J. & Walbaum, H.

1893.

Pine Needle Oils.

Journ. Chem. Soc., 44, p. 659. (Yrbk. Brit. Pharm. Conf., 31, p. 182).

Given the chemical constituents, specific gravity, rotatory power, and the amount of Canada Balsam that distills over at certain temperature and the fact that the balsam decomposed at a certain degree also.

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Boyce, R.

1893.

Notes on Microscopy.

Pharm. Journ., 52, p. 1007.

Discusses the method of mounting sections in Canada Balsam as originated by Cole.

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"Galen Jr."

1893.

How to Make Them Yourself.

Am. Drugg. & Pharm. Rec., 23, p. 37.

States that Balsam Fir is used in Balsamic Carbolic Salve.

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Koehne, B.A.E.

1893.

(Abies balsamea).

Deutsche Dendrologie, p. 18. (Silva of N. Am. v. 12, p. 107).

The original was not available.

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Peters, A.H.

1893.

Examination of the Resin of Canada Balsam.

Proc. Wis. Pharm. Assoc., 13, p. 66; Proc. Am. Pharm. Assoc., 41, p. 495.

A thesis worked at the School of Pharmacy of the University of Wisconsin on the examination of the resin of Canada Balsam.

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(Schimmel & Co.)

1893.

Pine Oil.

Pharm. Journ., 52, p. 342; (Yrbk. Brit. Pharm. Conf., 30, p. 79).

Discusses the adulteration of different pine oils, and gives the constituents of the oil of abies canadensis.

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Bertram, J. & Walbaum, H.

1894.

Beitrag zur Kenntniss der Fichtennodelste.

Archiv. der Pharm., 231, p. 290. (Yrbk. Brit. Pharm. Conf., 31, p. 182.)

Here he discusses the chemical constituents, the specific gravity, rotatory power and the amount that distills at certain degrees and the fact that the balsam decomposes at a certain temperature.

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(Editor)

1894.

(Canada Balsam Fir).

Drug. Reporter, \_\_, p. \_\_. Pharm. Journ., 54, p. 375.

Describes the collection of Canada Balsam in Canada.

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(Editor)

1894.

Balsam of Fir and Spirit of Nitrous Ether in a Prescription.

Pharm. Era., 11, p. 210.

Criticizes the use of Balsam of Fir and Nitrous Ether in the same prescription.

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(Editor)

1894.

Crystalline.

Mont. Pharm. Journ., 4, p. 218.

Uses Balsam of Fir in a solution of crystalline (Pyrox-  
ylin in methyl alcohol) and castor oil, as a substitute  
for Flexible Collodion.

---

Morrison, E.J.

1894.

The Solubility of Canada Balsam in Alcohol.

Proc. Am. Pharm. Assoc., 42, p. 308; (Pharmacographia, 1 ed.,  
p. 553; Nat. Dispens., 15 ed., p. 1585; Pharmacographia  
2 ed., p. 81; U.S. Dispens., 20, p. 1118; U.S. Dispens.,  
21 ed., p. 1081.)

Discusses the solubility of Canada Balsam in alcohol  
of various strengths in specified conditions.

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Stille, A.; Maisch, M.J.; Caspari, C. &  
Maisch, C.C.H.

1894.

(Terebinthina canadensis, Canada Turpentine, Canada  
Balsam etc.)

Nat. Dispens., 5 ed., p. 1584.

Gives U.S.P. description, general characteristics,  
habitat, and medicinal properties of Canada Balsam.

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(Editor)

1895.

The Balm of Gilead Fir.

Gard. Chron., s.3, 17, p. 422; f. 57, 58; (Silva of N. Am.  
12, p. 107.)

He gives the habit, general characteristics, of the  
tree producing Balm of Gilead Fir and he also discusses  
the attempt to plant the tree on the Keillom Pinetum near  
Methaven castle in 1831.

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Emmerich, H.L.

1895.

Volatile oil from Canada Balsam.

Am. Journ. Pharm., v. 67, p. 135. (U.S. Dispens., 21 ed., p. 1081; U.S. Dispens., 20 ed., p. 1118.)

Here he gives the boiling points of different fractions of the oil and the amount of water and carbon dioxide give off from a given amount of the oil.

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Hunkel, C.G.

1895.

(*Terebinthina canadensis*).

Am. Jour. Pharm., 67, p. 9. (U.S. Dispens., 20, p. 1118; Proc. Am. Pharm. Assoc., 43, p. 1027; Yrbk. Brit. Pharm. Conf., 32, p. 162; Pharm. Journ., 54, p. 644; U.S. Dispens. 21 ed., p. 1081.)

Gives data for the determination of the specific gravity and rotatory power of Canada Balsam.

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Low, A.P.

1895.

*Abies balsamea*. (Balsam Fir or Spruce).

Rep. Geolog. Surv. con., s. 2, v. 8, pt. 1, p. 351; (Silva of N. Am., v. 12, p. 109).

An account of the distribution of the tree producing Canada Balsam, with a note on its northern limit.

---

Rothrock, \_\_\_.

1895.

(*Pinus Balsamea*).

Rep. Dept. Agric. Penn., pt. 2, Div. Forestry, p. 284; (Silva of N. Am., v. 12, p. 109).

The original was not available.

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Simmonds, L.P.

1895.

Notes on Some Saps and Secretions used in Pharmacy.

Am. Journ. Pharm., 67, p. 92.

Gives a description and general characteristics of Canada Balsam, with 3 scientific names for the plant.

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Bastin, E.S. & Trimble, H.

1896.

Contribution of the Knowledge of some North American Coniferae.

Am. Jour. Pharm., 68, p. 554; Proc. Am. Pharm. Assoc., 45, p. 573; Yrbk. Brit. Pharm. Conf., 34, p. 149.

Gives an account of the distribution and general characteristics of the tree, its microscopical structure, the chemical composition and economies of the tree yielding Canada Balsam.

Howard, \_\_\_.

1896.

Balsam Varnish for Dentistry.

Dental Practitioner (Canada), \_\_, p. \_\_; (Pharm. Journ., 56, p. 199.)

Discusses the use of a specially prepared Canada Balsam as a varnish in Dentistry.

Bentley, R. & Trimen, H.

1898.

(*Abies Balsamea*; *Terebinthina Canadensis*).

Med. Plants, 4, p. 203; Med. Plants, p. 256; King's Am. Dispens., 2, p. 1921; *ibid.*, 5, p. 1584; Nat. Dispens., 3, p. 1496; U.S. Dispens., 15 ed., p. 1123.)

Gives habitat, collection, medicinal uses, and characteristics of Canada Balsam and characteristics of the tree producing it.

Sargent, C.S.

1898.

*Abies Balsamea*, Balsam Fir.

Silva of N. Am., v. 12, p. 107.

The author gives the general characteristics, habitat, description of the cones and the tree producing Balsam Fir as well as the botanical synonymy with references.

(Editor)

1899.

(Canada Balsam).

Pharm. Journ., 63, p. 356.

States that when Canada Balsam is dissolved in benzol it should not leave a sticky residue.

---

Felter, W.H. & Lloyd, W.R.

1900.

*Terebinthina canadensis*. Canada Turpentine.

King's Am. Dispens., 18 ed., v. 2, p. 1921.

Gives general characteristics, popular description, habitat of the tree and medicinal properties of Canada Turpentine.

---

Tschirch, A.

1900.

Kanodabalsam.

Die Harze und die Harzbehalten, v. 1, p. 542; *ibid.*, v. 2, p. 1107. (*Archiv. der Pharm.*, 238, p. 487).

He gives the method of collection of the balsam, physical properties, chemical properties and also a list of the constituents.

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Tschirch, A. & Bruning, E.

1900.

Ueber den Harzbalsam von *abies Canadensis*. (Canada balsam).

*Archiv. der Pharmacie* 238, p. 487; *Pharm. Journ.*, 65, p. 489; *Yrbk. Brit. Pharm. Conf.*, 38, p. 49.

They discussed the constituents of Canada Balsam.

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Tschirch, H. & Weigel, G.

1900.

(Canada Balsam; Canada Turpentine).

*Archiv. d. Pharm.*, 3, p. 238 & 401, 411, 487; *Proc. Am. Pharm. Assoc.*, 49, p. 745.

They give the chemical constituents of Canada Balsam in this article.

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(Editor)

1901.

Terebinthina Canadensis.

Pharm. Journ., 66, p. 50.

Gives the habitat, general characteristics, tests and medicinal properties of Canada Balsam.

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Kobak, F.

1905.

Oleoresin of Abies amabilis.

Pharm. Rev., 23, p. 46. (Yrbk. Brit. Pharm. Conf., 42, p. 122; Pharm. Centrbl., 46, p. 689.)

He calls attention to the fact that the oleoresin obtained from abies amabilis is similar to that obtained from abies balsamea.

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(Editor)

1906.

Fir Balsam Free as Crude Drug.

Pharm. Era, 35, p. 235.

The Board of Appraisers of the U.S. Customs Office ruled that Canada balsam as ordinarily imported is a crude drug therefore is entitled to be admitted duty free.

---

Rabak, F.

1905.

Turpentine Oil from Canada Balsam.

Pharm. Rev., 23, p. 325. (Digests of Com. on U.S.P. & N.F. 1905, p. 279; Proc. Am. Pharm. Assoc., 52, p. 741; *ibid.*, 53, p. 685; Yrbk. Brit. Pharm. Conf., 41, p. 196; Chem. & Drugg., 64, p. 439.)

Gives the physical constants of Canada Balsam and the volatile oil from it according to Dowzard.

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Evans Sons, Lescher & Webb.

1906.

Canada Balsam.

Analytical Report, 1906, p. 12; *ibid.*, 1907, p. 14; (Digest

of Comm. on U.S.P. & N.F., 1906, p. 500.)

In this article is given the acid and saponification values of Canada Balsam.

---

Henkel, Alice

1906.

Wild Medicinal Plants of the United States.

Bur. Plant Ind., U.S. Dept. Agric., Bull. 89, p. 7; (Digests & Comm. on U.S.P. & N.F., 1906, p. 500.)

Here she gives the habitat, and general characteristics of the tree yielding Canada Balsam.

---

Davidson, J.T.

1907.

Balsam of Fir Emulsion.

Drugg. Circ., 51, p. 764. (Yrbk. Brit. Pharm. Conf., 45, p. 265.)

Discusses the use of Balsam of Fir for colds and gives a formula for preparing an emulsion for this purpose.

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(Evans Sons Lescher & Webb)

1907.

Canada Balsam.

Analytical Report, 1907, p. 14; (Digest & Comm. on U.S.P. and N.F. 1907, p. 442.)

In this article is given acid and saponification values of Canada Balsam.

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Perrot, E.

1907.

(Terebinthina Canadensis, Canada Turpentine).

Bull. d. sc. pharmacol., 14, p. 351. Dig. of Comm. on U.S.P. and N.F. 3, p. 442.

In this article he gives the physical characteristics of Canada Balsam and the addition of foreign resins when it becomes dry.

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(Committee)

1908.

Report of the Therapeutic Committee on the Revision of the Pharmacopoeia.

Suppl. Brit. Med. Jour., 1908, v. 2, p. 320. (Digest and Comm. on U.S.P., 1908, p. 537.)

The committee suggests the deletions of Canada Balsam from the Pharmacopoeia as it is unnecessary.

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(Evans Sons, Lescher & Webb)

1908.

Canada Balsam.

Analytical Notes, 1908, p. 10. (Digest & Comm. on U.S.P. & N.F., 4, p. 537.)

In this article is given the acid and saponification values of six samples of Canada Balsam, its solubility in alcohol, the effect of heat on the balsam.

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Lochney, R.H. (Chm.)

1908.

(Report of Committee on Trade Interests).

Proc. Penn. Pharm. Assoc., 31, p. 79. (Digest & Comm. on U.S.P., 1908, p. 537.)

In this article they mention the fact that Canada Balsam is adulterated with other exudations.

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Smith, Kline & French Co.

1908.

(*Terebinthina canadensis*; Canada Turpentine.)

Analytical Report, 1908, p. 37. (Digest and Comm. on U.S.P. 1908, p. 537.)

The original was not available.

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Weigel, G.

1908.

Neues vom Drogenmarkt, III.

Pharm. Zentralh., 49, p. 976. (Digest of Comm. on U.S.P. 1908, p. 538.)

He compares Canada Balsam to the balsam of the Douglas fir as to physical characteristics.

Wood, H.C. & Wood, H.C. Jr. 1908.

*Terebinthina canadensis*, Canada Turpentine.

Therap. its Prin. & Pract., 14 ed., p. 548.

Gives the habitat, general characteristics and amount of volatile oil present in Canada Balsam.

(Evans Sons, Lescher & Webb) 1908.

(Canada Balsam)

Analytical Notes, 1909, p. 18. (Digest & Comm. on U.S.P. & N.F. 1909, p. 697).

In this article is given the acid saponification values of eleven samples of Canada Balsam and its solubility in alcohol.

(Evans Sons, Lescher & Webb) 1910.

(Canada Balsam).

Analytical Notes, 1910, p. 19. (Digest of Comm. on U.S.P. & N.F. 6, p. 748.)

Here is given the acid and saponification value of six samples of Canada Balsam, the absence of fixed oil in each case.

Schaller, W.T. 1910.

The Refractive Index of Canada Balsam.

Am. Jour. Science, 179, p. 324. (Digest of Comm. on U.S.P. & N.F. 1910, p. 748.)

Here he gives the refractive index as found on three different slides of Canada Balsam.

Southall Bros. & Barclay, \_\_. 1910.

Canada Balsam.

Rept. for 1910, p. 7. (Digest & Comm. on U.S.P. 6, p. 748.

In this article is given the acid and saponification value of two specimens of Canada Balsam.

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(Comm. of Ref. in Pharm.)

1911.

(Canada Turpentine).

Pharm. Journ., 87, p. 847. (Digests & Comm. on U.S.P. & N.F. 1911, p. 647.)

The original was not available.

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Peters, R.

1911.

Ueber echte und verfälschte Terpentine und ehre verfälschungsmittel.

Pharm. Zentralh., v. 52, p. 2. (Dig. of Comm. on U.S.P. & N.F., 1911, p. 647.)

He discusses the similarity and dissimilarity between Canada Balsam and Venetian Turpentine.

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Evans Sons, Lescher & Webb, Ltd.

1912.

Canada Balsam.

Analytical Notes, No. 7, p. 18. (Brit. Pharm. Conf., 50, p. 154.)

Gives the ester, acid, saponification value of Canada Balsam and its solubility in alcohol.

---

Britton, N.L. & Brown, A.

1913.

Pine Family conifers.

Ill. Flora of N. Am. 2 ed., p. 63. (Silva of N. Am., 12, p. 107.)

Here he gives the general characteristics and habitat of the tree producing Balsam Fir.

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(Editor)

1913.

The Rise in Canada Balsam.

Pharm. Journ., 91, p. 640.

He discusses the high price of Canada Balsam and comments on its scarcity.

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(Huishing, C.T., Chm.) 1913.

Balsam Fir, Canada.

Proc. Nat. Wholes. Drugg. Assoc., 39, p. 105. (Dig. of Com. on U.S.P., 9, p. 489.)

In this article he gives the effect of the ravages of an insect on the tree producing Canada balsam and its effect. Also data on Oregon balsam.

---

Kebler, L.F. 1913.

Rept. of Comm. on Drug Market.

Journ. Am. Pharm. Assoc., 2, p. 1088. (Digest of Com. on U.S.P. & N.F. 1913, p. 489.) Drugg. Circ., 57, p. 738.

He says that one lot of Canada Balsam had an odor resembling Storax and contained a small amount of volatile material.

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(Lochney, R.H. Chm.) 1913.

Rept. of Com. on Trade Interests.

Proc. Penn. Pharm. Assoc., 36, p. 131; Journ. Am. Pharm. Assoc., 2, p. 862; (Digest of Com. on U.S.P. & N.F., 1913, p. 489.)

Discusses the adulteration of Canada Balsam with Oregon balsam and gives tests and properties of both balsams, and comments on the high price of Canada Balsam.

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Roberts, J.G. & Becher, M.M. 1913.

Oregon and Canada Balsam of Fir.

Proc. Pa. Pharm. Assoc., 36, p. 328; (Journ. Am. Pharm. Assoc., 2, p. 982; Digest of Com. on U.S.P. & N.F. 1913, p. 489; West. Drugg., 35, p. 459; Yrbk. Brit. Pharm. Assoc., 51, p. 104; U.S. Dispens., 21 ed., p. 1080.)

They give the physical and chemical difference between Canada Balsam of Fir and Oregon Balsam of Fir.

---

Southall & Co. 1913.

Canada Balsam.

Southall's Report, 21, p. 26. (Yrbk. of Brit. Pharm. Conf., 50, p. 71.)

Gives specific gravity and ester value of the oil of Canada Balsam.

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McKesson, I. 1914.

Trade Customs Attached and Defended.

Pharm. Era., 47, p. 172.

Argues in favor of marketing Balsam Fir by the liquid pound.

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(Schimmel & Co.) 1914.

Canada Balsam Oil.

Semi-Ann. Rept. April, 40, p. 38. (Digest of Com. on U.S.P. & N.F. 1914, p. 486.)

Here is given the constants of the volatile oil of Canada Balsam.

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(Southall Bros. & Barclay, \_\_.) 1915.

Canada Balsam.

Ann. Rep. Southall & Barclay, Jan. p. 9. (Dig. of Com. on U.S.P. & N.F. 10, p. 486.)

In this article is given the acid and saponification values of Canada Balsam.

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Smith, H.L. 1917.

Wanted, Ten to Twenty Year Old Specimens of Canada Balsam.

Pharm. Journ., 99, p. 106.

Inquires for a 10-20 year old sample of Canada Balsam for experiment purpose.

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French, J.W.

1918.

Canada Balsam as a Cement for Optical Lenses.

Trans. Opt. Soc., 19, p. 143. (Yrbk. Pharm. Conf., 56, p. 289; Jour. Soc. Chem. Ind., 38, p. 29a).

The author discusses the cementing together of the parts of an optical system by the use of Canada Balsam.

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Phillips, M.

1919.

Phytochemical Notes. The Volatile Oil of Canada Balsam.

Jour. Am. Pharm. Assoc., 8, p. 175; (Yrbk. of Brit. Pharm. Conf., 56, p. 76.)

Gives the specific gravity of various fractions determines some of the constituents of the oil of Canada Balsam.

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(Editor)

1920.

Turpentine from Fur.

Pacific Drugg., \_\_, p. \_\_. (Mont. Pharm. Journ., 31, p. 181).

Mentions that Oregon Balsam of Fir is sometimes used as a substitute for Balsam of Fir.

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(Editor)

1921.

Balsams.

Am. Drugg. & Pharm. Record, v. 69, April, p. 41.

Among other so-called "Balsams", gives uses of Canada Balsam and its place of collection.

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Holmes, E.M.

1922.

Oregon Balsam.

Pharm. Journ., 108, p. 146. (Yrbk. Brit. Pharm. Conf., 59, p. 207.)

He discusses the substitution of Oregon Balsam for Canada Balsam, historically the magnesium oxide test for both and the ability to tell between the two by their acid numbers.

—  
Carr, \_\_.

Pinus Balsamea.

Conif. p. 217 (Prodromus, v. 16, pt. 2, p. 423.)

The original was not available.

—  
Gihone, \_\_.

(Abies Balsamea)

Arb. Res., \_\_, p. 45. (Silva of N. Am., v. 12, p. 107.)

—  
Regel, E.

(Abies balsamea)

Russ. Dendr. pt. 1, p. 20. (Silva of N. Am., v. 12, p. 107.)

The original was not available.

—  
Rich, \_\_.

(Pinus balsamea).

Conif. p. 74, t. 16. (Prodromus, v. 16, pt. 2, p. 423.)

The original was not available.

UNITED STATES PHARMACOPOEIA (O-X)  
1820-1920  
AND  
NATIONAL FORMULARY (I-V)  
1888-1926  
HISTORY  
OF  
TEREBINTHINA CANADENSIS

U.S.P. 1820 - P. p. 48.

Terebinthina canadensis

Pinus balsamea W. IV 504/

Canada balsam

Balsamum, The Balsam

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U.S.P. (Phila.) 1830 - P. p. 26.

Terebinthina canadensis - Pinus balsamea W. IV 504/

Canada Balsam

Succus. The juice.

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U.S.P. 1830 (N.Y.) - p. 63.

Terebinthina canadensis Pinus Balsamea

Canada Balsam

Similar in its general properties to the other turpentine, but more/ fragrant.

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U.S.P. 1840 - P. p. 39.

Terebinthina canadensis. Canada Turpentine.

Syn. Canada balsam. Balsam of Fir.

The juice of abies balsamea (Lindley, Flor. Med.)/

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U.S.P. 1850 P. p. 44.

Terebinthina canadensis. Canada Turpentine.

Syn. Canada Balsam. Balsam of Fir.

The juice of abies balsamea (Lindley, Flor./ Med.)

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U.S.P. 1860 - P. p. 54.

Terebinthina canadensis. Canada Turpentine.

Syn. Balsam of Fir.

The juice of *abies balsamea* (Lindley, Flor./ Med.)

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U.S.P. 1870 - P. p. 53.

*Terebinthina canadensis.* Canada Turpentine.

Syn. Balsam of fir.

The liquid oleoresin obtained from *abies balsamea*  
(Lindley, Flor. Med./)

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U.S.P. 1880 - p. 332.

*Terebinthina Canadensis*

Canada Turpentine

(Balsam of Fir)

A liquid oleoresin obtained from *abies balsamea*  
Marshall (Nat. Ord.,/ coniferae).

A yellowish or faintly greenish, transparent, viscid  
liquid, of an agreeable tere-/ binthinate odor, and a  
bitterish, slightly acrid taste; slowly drying on exposure,  
and then forming a transparent mass; completely soluble in  
ether, chloroform, or/ benzol.

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U.S.P. 1890 - p. 404.

*Terebinthina canadensis*

Canada Turpentine

(Canada Balsam. Balsam of Fir)

A liquid oleoresin obtained from *abies balsamea* (Linne)

Miller (Nat./ Ord. coniferae).

A yellowish or faintly greenish, transparent, viscid liquid, of an agreeable/ terebinthinate odor, and a bitterish, slightly acrid taste.

When exposed to the air, it gradually dries, forming a transparent mass. It/ is completely soluble in ether, chloroform, or benzol.

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U.S.P. 1900 - p. 451.

Terebinthina canadensis

Canada Turpentine

A liquid oleoresin obtained from abies balsamea (Linne) Miller/ (Fam. coniferae).

Viscid, pale yellowish or greenish-yellow, transparent; odor agreeable; taste/ terebinthinate, bitter, and slightly acrid.

When exposed to the air, Canada Turpentine gradually dries and forms a/ transparent varnish; it solidifies on being mixed with 20 percent. of its weight/ of Magnesium oxide previously moistened with water; it is completely soluble/ in ether, chloroform, or benzene.

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U.S.P. 1910 - p. 528.

Canada Turpentine.

A liquid oleoresin obtained from abies balsamea (Linne)/ Miller (Fam. coniferae) viscid, pale yellowish or greenish-

yellow, transparent;/ odor agreeable, taste terebinthinate, bitter, and slightly acrid; it is completely soluble/ in ether, chloroform, or benzene. When exposed to the air, Canada turpentine/ gradually dries and forms a transparent varnish; it solidifies on being mixed with 20/ per cent of its weight of Magnesium oxide previously moistened with water.

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U.S.P. 1920 - p. 473.

Canada Turpentine.

A liquid oleoresin from *Abies balsamea* (Linne) Miller/ (Fam. Pinaceae). A pale yellow or greenish, viscid, transparent liquid. Completely/ soluble in ether, chloroform, and benzene. When exposed to the air, Canada turpentine/ gradually dries and remains transparent. Canada turpentine solidifies when mixed/ with 20 per cent of its weight of magnesium oxide, previously moistened with water.

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S U M M A R Y

Official:-

1820, '30 (N.Y.), '30 (Phila.), '40, '50, '60, '70,  
'80, '90, 1900, '10, '20.

Official Latinized Title:-

*Terebinthina canadensis*:- 1820, '30 (Phila.), '30 (N.Y.),  
'40, '50, '60, '70, '80, '90, '00.

Official English Title:-

Canada Turpentine - '40, '50, '60, '70, '80, '90,  
1900, '10, '20.

Canada balsam - '20, '30 (Phila.), '30 (N.Y.)

Official abbreviations:-

Official Synonyms:-

Canada balsam - '40, '50, '90

Balsam of fir - '40, '50, '60, '70, '80, '90.

Scientific names:-

*Abies balsamea* - 1820, '30 (Phila.), '30 (N.Y.), '40,  
'50, '60, '70, '80, '90, 1900, '10, '20.

Family:-

Nat. ord. coniferae - '80, '90

Fam. coniferae - 1900, '10

Fam. Pinaceae - '20

Part Used:-

The balsam - 1820

Balsamum - 1820

Succus. The juice - 1830 (Phila.)

Part Used cont.: -

The juice - 1840, '50, '60.

The liquid oleoresin - 1870, '80, '90, 1900, '10, '20.

Description: -

1830 (N.Y.), p. 63; '80, p. 332; '90, p. 404; 1900, p. 451; '10, p. 528; '20, p. 473.

Official preparations: -

Average dose: -

Properties: -

Odor, fragrant, agreeable, terebinthinate; taste, bitterish, slightly acrid, soluble in ether, chloroform, or benzol; color, yellowish or faintly greenish, pale yellowish or greenish-yellow, transparent; consistency, viscid; gradually dries and forms a transparent varnish; solidifies when mixed with 20% Magnesium oxide previously moistened with water.

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Am. Drugg. & Pharm. Record	(22-74)	1892-1926
Am. Journ. of Pharm.	(1-99)	1829-1927
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Drugg. Circ.	(1-71)	1857-1927
Journ. Am. Pharm. Assoc.	(1-16)	1912-1927
Mont. Pharm. Record	(7-36)	1896-1925
New Rem.	(5-12)	1876-1883
Pharm. Era	(1-63)	1887-1926
Pharm. Journ.	(1-118)	1841-1927
Pharm. Record	(4-15)	1884-1893
Pharm. Rev.	(1-26)	1892-1908
Proc. Am. Pharm. Assoc.	(1-59)	1851-1912
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