BIBLIOGRAPHY

of

GELATIN

by

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Coxe, J. R. 1806

Gelatin.

Am. Dispens., 1 ed., P. 96; 4 ed., P. 13; 6 ed., P. 343, 7 ed., P. 356; 8 ed., P. 360; 9 ed., P. 390.

Gives a brief description of Gelatin, its properties and its principle source from the cellular, membranous and tendinous parts of animals.

Cadet de Gassicourt, C. L. 1815

Extrait d'un Rapport sur un travail de M. d'Arcet, ayant pour objet l'extraction de la gélatine des os, et son application aux différens usages économiques; par Mm. Lerous, Dubois, Pelletan, Duméril et Vauquelin.

Jour. de Pharm., 1, P. 39.

An abstract of the works of M. d'Arcet on extracting gelatin from bones, and the various economic uses of gelatin.

Boudet, M. 1818

Note: Sur l'extraction de la gélatine des os.

Jour. de Pharm., 4, P. 229.

Discusses the preparation of gelatin from the bones of animals by first treating with acid to remove earthy (calcium) salts, then washing and drying.

Doolittle, I. 1818

Account of an economical method of obtaining Gelatine

from bones, as practiced in Paris.

Dated Paris 5-16-1818

Am. Jour. Sci., 1, P. 170.

The method used by M. Robert of Paris in preparing gelatin from bones is described as it was observed by the author.

C(adet), C. L. 1820

Gélatine obtenue des os.

Jour. de Pharm., 6, P. 319.

Gelatin is a product obtained by treating bones with boiling water.

An American Physician 1827

Gelatin.

Eclectic & General Dispens., 1 ed., P. 25.

Gelatin is listed under solid animal matters, but no data is given.

Girardin, J. P. L. 1831

Rapport sur l'emploi de la gélatine des os dans le régime alimentaire des pauvres et des ouvriers. 67 pp.

S.G.L.Index, Series 2, V. 6, P. 221.

Discusses the use of gelatin as a food for the poor and workers.

Lassaigne, M. 1832

Gelatin - Color reaction.

Am. Jour. Pharm., 4, P. 175

Gelatin is an organic axotic substance which becomes red upon the addition of a mixed solution of proto-nitrate and deuto-nitrate of mercury.

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d'Arcet, before 1834

(Preparation of Gelatin)

(Dispens. U.S.A., 2 ed., P. 492; Ibid, 3 ed., P. 483; Ibid, 4 ed., P. 501; Ibid, 5 ed., P. 527; Ibid, 6 ed., P. 528; Ibid, 7 ed., P. 528; Ibid, 8 ed., P. 528; Ibid, 9 ed., P. 546; Ibid, 10 ed., P. 546; Ibid, 11 ed., P. 572; Ibid, 12 ed., P. 632; Ibid, 13 ed., P. 655; Ibid, 14 ed., P. 684; Ibid, 15 ed., P. 1079.)

Gives the method used by d'Arcet for obtaining this pure form of animal matter.

Wood, G. and Bache, F. 1834

Bone*

Dispens. U.S.A., 2 ed., P. 492; 3 ed., P. 483; 4 ed., P. 501; 5 ed., P. 527; 6 ed., P. 528; 7 ed., P. 528; 8 ed., P. 528; 9 ed., P. 546; 10 ed., P. 546; 11 ed., P. 572; 12 ed., P. 632; 13 ed., P. 655; 14 ed., P. 684; 15 ed., 1079; 16 ed., P. 1125; 17 ed., P. 1004; 18 ed., P. 1752; 19 ed., P. 1419;

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* Title varies in different books, being either Os, Os Ustum or Bone.

20 ed., P. 1284; 21 ed., P. 1230; 22 ed., P. 1279.

Prolonged boiling of that portion of the bone remaining after earthy salts have been removed with diluted hydrochloric acid converts it into gelatin.

1834

(Gelatin Capsules.)

Académie royale de Médecine,

(Drugg. Circ., 40, P. 284.)

(States that A. Mothes, a French pharmacist was the inventor of gelatin capsules.)

Cottereau, 1835

(Gelatine capsules.)

Traite de Pharm., _ , P. _ . (Am. Jour. Pharm., 7, P. 351; Proc. Am. Pharm. Assoc., 44, P. 176; Drug. Cir., 40, P. 284.

(Gives a method for preparing gelatin capsules. Gives the credit for their invention to Dublanc, Sr., and Mothes.)

Guillou, A. 1837

Capsules of Gelatin.

Am. Jour. Pharm., 9, P. 20; Proc. Am. Pharm. Assoc., 44, P. 178; Dispens, U.S.A., 4 ed., P. 1146; 5 ed., P. 1257; 6 ed., P. 1258; 7 ed., P. 1257; 8 ed., P. 1262; 9 ed., P.

1330; 10 ed., P. 1333; 11 ed., P. 1417; King's Am. Dispens., 6 ed., P. 452; 8 ed., P. 391; 10 ed., P. 391; 15 ed., P. 391; 16 ed., P. 391; 18 ed., P. 915; Drug. Cir., 40, P. 285.

Discusses an article entitled "Capsules Gelatineuses; Dublanc et Mothes, a Paris," their use in administrating disagreeable medecines and the mode of manufacturing them.

Ratier, M. F. 1837

Thérebinthine de Copahu.

Dictionaire de Médecine et de Chirurgie practiques, 15, P. 285. (Drugg. Circ., 40, P. 284; Proc. Am. Pharm. Assoc., 44, P. 175.)

Speaks of gelatin capsules which would permit the administration of the above without alteration.

Garot, 1838

Procédé nouveau pour recouvrir les pilules d'un enduit de gélatine.

Jour. de Pharm., 24, P. 78. (Am. Jour. Pharm., 10, P. 229; Proc. Am. Pharm. Assoc., 44, P. 176;) Drug. Cir., 40, P. 285.

Since the manufacturers of gelatin capsules refused to sell them empty, Garot was forced to invent a method of coating pills containing disagreeable medicaments in order that he might fill the prescriptions of local physicians. His method of gelatin coating pills is given.

Dublanc, before 1839

(Gelatin Capsules)

(Dispens. U.S.A., 4 ed., P. 1145; Ibid, 5 ed., P. 1256; Ibid, 6 ed., P. 1257; Ibid, 7 ed., P. 1257; Ibid, 8 ed., P. 1261; Ibid, 9 ed., P. 1329; Ibid, 10 ed., P. 1333; Ibid, 11 ed., P. 1416; Ibid, 12 ed., P. 1521; Ibid, 13 ed., P. 1602; Ibid, 14 ed., P. 1656.)

Credited for having invented first gelatin capsules. Original not available.

Vee, 1840

Modification au procéde de M. Garot pour recouvrir les pilules.

Jour. des Connaissance Méd., (8), P. _ ; Jour. de Pharm., 26, P. 585. (Proc. Am. Pharm. Assoc., 44, P. 176. Drug. Cir., 40, P. 285.

Proposes an improvement in the process of gelatin coating pills.

Pereira, J. 1842

Gelatine Capsules.

Pharm. Jour., 2, P. 343.

Discusses gelatin capsules used for administering liquid medicines to horses and dogs.

Steege, A. 1842

Ueber die Bereitung der gelatinösen Capaiva - Balsam - Kapseln.

Repert. für die Pharm., 29, P. 158. (Pharm. Jour., 2, P. 769.)

Gives a method and describes equipment used in preparing the above capsules.

Steege, A. 1843

Ueber die Bereitung der gelatinösen Capaiva - Balsam - Kapseln.

Buchner's Repertorium für die Pharmacie, S. 2, V. 29, P. 158. (Proc. Am. Pharm. Assoc., 44, P. 178.) Drugg. Cir., 40, P. 285;

Describes his method of forming Gelatin capsules which are used for dispensing disagreeable drugs.

Giraud, A. 1846

Sur la fabrication des capsules pour renfermer les substances médicamenteuses.

Jour. de Chim. Méd., S. 3, V. 2, P. 276; Jour. de Pharm., S. 3, V. 9, P. 354 (Proc. Am. Pharm. Assoc., 44, P. 177) Drug. Cir., 40, P. 285.

In a letter addressed to the editor gives what he considers to be an improved method for preparing gelatin capsules, as that of A. Mothes is rather complicated.

"A Surgeon." 1847

Gelatine.

Pharm. Jour., 6, P. 392.

Discusses the commercial sources of gelatin used in preparing capsules.

Murdoch, J. 1847

An Improved Capsule or Small Case for Protecting Matters Enclosed therein from the action of the air and an improved Material to be used in the Manufacture of the said capsules.

Brit. Patent Reports, No. 534, Old Series 1847, No. 11935 - 11950.

On May 2, 1848, Murdoch was granted Patent No. 11937 for gelatin capsules. Gives a description of the capsule, method of preparation and variation in formula for preparation depending on what the capsule is to be used for.

Jozeau, M. G. 1848

(Emploi du caséum comme moyen de parer aux inconvénients qui résultent de la gélatine et des diverses substances qui servent à la confection des capsules médicinales.)

Gaz. Méd. de Par., S. 3, V. 3, P. 193. (S.G.L.Index, S. 1, V. 2, P. 699.)

Suggests the use of casein in place of gelatin and other substances.

Mohr, F. and Redwood, T. 1849

Gelatine - capsules.

Practical Pharmacy, Lond. ed., P. 358; Am. ed., Procter, W.,* P. 510 (King's Am. Dispens., 6 ed., P. 452; 8 ed., P. 391; 10 ed., P. 391; 15 ed., P. 391; 16 ed., P. 391.)

Describes a method for preparing and filling gelatin capsules.

Mohr, F. and Redwood, T. 1849

The covering of pills with gelatine.

Practical Pharmacy, Lond. ed., P. 357; Am. ed., by Procter, W., P. 508.

Describes a method for coating pills with gelatin.

B( ), H. 1850

Perfectionnement apporté par M. Mothès à son procédé de fabrication de capsules gélatineuses.

Jour. de Pharm., 17, P. 204 (Dispens. U.S.A., 9 ed., P. 1330; 10 ed., P. 1333; 11 ed., P. 1416; 12 ed., P. 1521; 13 ed., P. 1602, 14 ed., P. 1656. King's Am. Dispens., 6 ed., P. 452; 8 ed., P. 391; 10 ed., P. 391; 15 ed., P. 391; 16 ed., P. 391; 18 ed., P. 915. Proc. Am. Pharm. Assoc., 44, P. 177; Drug. Cir., 40, P. 285.

Discusses Mothes process for preparing gelatin capsules.

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* Title used Gelatine Capsules.

Redwood, T. 1850

On the adulteration of Isinglass.

Pharm. Jour., 9, P. 503. (Pharm. Jour., 10, P. 26; Am. Jour. Pharm., 22, P. 235.)

Results of various tests showed that gelatin was the chief adulterant of isinglass.

(Editor). 1853

Gelatine Capsules.

Pharm. Jour., 13, P. 272.

Gives a description of different sorts of gelatin capsules exhibited by B. Lindman.

Lallement, M. 1857

Elastic Gelatin.

Proc. Am. Pharm. Assoc., 6, P. 60.

Gives a method of preparation and discusses the use of elastic gelatin.

Redwood, T. 1857

Gelatine capsules.

Supplement to the Pharmacopoeia, 3 ed., P. 664. (Dispens. U.S.A., 12 ed., P. 1521; 13 ed., P. 1602; 14 ed., P. 1659; 15 ed., P. 1655; 16 ed., P. 647; 19 ed., P. 643.)

Describes apparatus and gives the method for preparing capsules of gelatin.

Cloez, S. and Guignet, E. 1858

Transformation de l'azote des matières azotées en nitrate de potasse.

Comptes Rendus, 47, P. 711. (Chem. Gaz., Jan. 1, 1859; Am. Jour. Pharm., 31, P. 152.

Permanganate of potash (nitrate free) readily acts upon gelatin in the cold, forming carbonate and nitrate of potash, besides a peculiar salt of potash which acquires a bright red color when heated to 392° - 572° F.

Gorup - Besanez, E. von 1863

Fortgesetzte untersuchungen über die einwirkung des ozons auf organische stoffe.

Annalen der Chem. und Pharm., 125, P. 207 (Chem. News, _ , P. _ ; Am. Jour. Pharm., 36, P. 168.)

Discusses the action of ozone upon gelatin.

King, J. 1864

Gelatine Capsules

Am. Dispens., 6 ed., P. 452; 8 ed., P. 391; 10 ed., P. 391, 15 ed., P. 391; 16 ed., P. 391;

States that Gelatin Capsules are a means of administering repulsive medicines and gives one of the methods of preparing gelatin capsules.

King, J. 1864

Glue (Leim.)

Am. Dispens., 6 ed., P. 451, 8 ed., P. 390; 10 ed., P. 390; 15 ed., P. 390; 16 ed., P. 390;

A brief summary on Gelatin, giving its zoological source and some of its common properties and uses.

Lea, M. C. 1865

Reactions of Gelatine.

Jour. of Science & Arts, 40, P. 81. (Proc. Am. Pharm. Assoc., 14, P. 193; Jour. d. Pharm. et de Chim., S. 4, V. 3, P. 152; Am. Jour. Pharm., 37, P. 371.)

Gives various color reactions of gelatin.

Crace-Calvert, D. F. 1866

(Gelatin).

Chem. News, 10, P. 30. (Am. Jour. Pharm., 37, P. 507.)

(Lecture notes on gelatin, glue and bone size, giving their methods of preparation, chemical properties and nutritive values.)

Haselden, A. F. 1866

The Employment of Gelatin in Place of Metal for Bottle Capsules.

Pharm. Jour., 25, P. 448. (Am. Jour. Pharm., 38, P.

248; Dispens. U.S.A., 13 ed., P. 1602; 14 ed., P. 1656; 15 ed., P. 1655.

Suggests using gelatin for bottle capsules since it is just as effective while being much easier to handle than the metal capsules.

Haselden, M. 1866

(Capping Bottles with Gelatin)

Chem. News, _ , P. _ . (Drugg. Circ., 10, P. 106; Proc. Am. Pharm. Assoc., 14, P. 147.)

(Discusses the possibility of replacing metal bottle caps with the less difficult to handle gelatin caps.)

Parsons, F. 1866

Gelatine Capsules for Bottles.

Pharm. Jour., 25, P. 511.

In a letter to the editors, commented on Haselden's paper given in the same volume on Page 448.

Burgess, _ . 1868

(Rectifying Alcohol by Means of Gelatine)

Photo. News, _ , P. _ . (Chem. News, 18, P. 339; Am. Jour. Pharm., 40, P. 557.)

(Discusses the possibility of using gelatin in rectifying small quantities of alcohol.)

Milhau, E. S. 1869

Gelatine coated Pills.

Prec. Am. Pharm. Assoc. 17, P. 119.

Exhibited some gelatin coated pills and claimed several advantages over sugar coated pills.

(P(rocter) W. J.) 1869

(Editor)

Gelatin-coated Pills.

Am. Jour. Pharm., 41, P. 476.

Gelatin coated Pills are being made by Cauhope & Co. of New Lebanon, Columbia Co., N. Y., as suggested by Gavot, 1838, (Am. Jour. Pharm., 10, P. 229) and used by Procter for more than 25 years ago.

Guérard, _ . 1871

(Memoire sur la gelatine et les tissus organiques qui peuvent servir à la preparer.)

Bolton, Bill, Chem., 1492-1892, 1 suppl., P. 193.

Original article was not available.

(Editor). 1872

Gelatine Capsules.

Drugg. Cir., 16, P. 47.

Replying to an inquiry, gives a formula from which the body of the capsule is prepared and also a for-

mula of the solution used in closing the capsule after filling.

Henze, F. 1873

(The Preparation of Gelatin.)

Dingl. Polyt., 238, P. _ . (Scientific Am., 28, P. _; Am. Jour. Pharm., 45, P. 369; Pharm. Jour., 33, P. 148; Proc. Am. Pharm. Assoc., 22, P. 285.)

(Gives a method for the preparation of gelatin and for the removal of impurities from it.)

Voit, C. 1873

Ueber die Bedeutung des Leimes bei der Ernährung.

Zeitschrigt für Biologie, 8, P. 297. (Jour. Chem. Soc., 26, P. 284; Nat. Dispens., 5 ed., P. 769; Pharm. Jour., 32, P. 807.)

Discusses experimental work done with gelatin to determine its nutritive value.

Bizio, G. 1876

Sopra la gelatina, considerata particolarmente nella sua azione riduttrice.

Gazz. Chim. Ital., 6, P. 255. (Chem. Sox. Jour., 31, P. 325; Am. Jour. Pharm., 49, P. 471.)

Gives reactions in which gelatin acts as a reducing agent.

Church, A. H. 1878

Gelatine as a food-preserver.

Nature, 18, P. 546., Pop. Sci. Mo., 14, P. 251; Drug. Circ., 23, P. 31.

Discusses Dr. C. Morfit's invention "Gelatin Process" as to its applicability in preserving and concentrating food.

Detenhof, 1878

Préparation des capsules pharmaceutiques.

Jour. de. Pharm., S. 4, V. 28, P. 74. (Proc. Am. Pharm. Assoc., 44, P. 177); Drug. Cir., 40, P. 285.

Describes a method of preparing gelatin capsules which differs from that of A. Giraud's, in the material used.

(Editor.) 1878

Gelatine Coating.

Drug. Cir., 22, P. 157.

In reply to an inquiry gives Garod's method of coating pills with gelatin.

(Editor). 1878

Gelatine: Food Preservation.

Pharm. Jour., 38, P. 244.

Comments on Dr. Campbell Morfit's method of preserving foods by means of gelatin.

Dimcock, R. 1879

Pill Coating.

Pharm. Jour., 39, P. 285 (Drugg. Cir., 23, P. 174;)

Describes a method for coating pills with gelatin.

Stillé, A. & Maisch, J. M. 1879

Gelatina. - Gelatin.

Nat. Dispens., 1 ed., P. 661; 2 ed., P. 672; 3 ed., P. 724; 5 ed., P. 767.

Discusses Gelatin as to its zoological origin, method of preparation, properties, composition, pharmaceutical uses and medical action and uses.

Stillé, A. & Maisch, J. M. 1879

Gelatin Capsules.

Nat. Dispens., 1 ed., P. 662; 2 ed., P. 672; 3 ed., P. 724; 5 ed., P. 768.

Discusses very briefly the method of manufacturing gelatin capsules.

Woodcock, R. C. 1882

Gelatin Jelly as a Dialyser.

Chem. News, 45, P. 79. (Drugg. Circ., 26, P. 52.)

Gives experimental data on work done on dialysis using gelatin jelly as the dialyser.

(Editor.) 1883

The Gelatin Bandage.

New Remedies, 12, P. 269. (Pharm. Jour., 43, P. 429.)

Gives some data on the history and preparation of gelatin bandages.

Franciscus, W. 1883

Gelatin-coating Pills.

Am. Jour. Pharm., 55, P. 106.

Exhibited an apparatus for gelatin-coating pills.

Guest, S. S. 1883

Gelatinum.

Am. Jour. Pharm., 55, P. 209.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on Gelatin.

Tatarinoff, P. 1883

Sur la peptone de gélatine.

Compt. Rend., 97, P. 713. (Pharm. Jour., 43, P. 321)

Gives analytical results obtained on peptonized gelatin.

Weiske, H. 1883

Zur Chemie des Glutins.

Zeit für Phys. Chem., 7, P. 460. (Bied. Centr. für

Agrikult., 12, P. 673; Am. Jour. Pharm., 56, P. 480; Proc. Am. Pharm. Assoc., 33, P. 359).

Discusses the chemistry of gelatin and other animal products.

Parrish, E. 1884

Pills.

Parrish's Treatise on Pharm., 5 ed., P. 885. (Drugg. Circ., 17, P. 64; Ibid 32, P. 44.)

Discusses a method for coating pills with gelatin with an illustration of the apparatus used.

Prollius, F. 1884

(Valuation of Gelatin)

Dingl. Polyt., 249, P. 425. (Chem. Soc. Jour., 46, P. 647; Pharm. Jour., 43, P. 900; Proc. Am. Pharm. Assoc., 32, P. 343; Am. Jour. Pharm., 56, P. 481.

(Determined the amount of ash, water and insoluble matter in various samples of gelatin.)

Emich, F. 1885

Über das Verhalten der Gallensauren zu Leim und Leimpepton.

Monatsh. fur Chem., 6, P. 95. (Chem. Soc. Jour., 48, P. 822; Am. Jour. Pharm., 58, P. 29.)

Discusses the behavior of the bile

acids with gelatin and gelatin peptones.

(Editor) 1886

Gelatin Coating for Pills.

Drugg. Cir., 30, P. 133, P. 157.

In reply to an inquiry, recommends Prof. Patch's formula for coating pills.

(Editor.) 1886

To precipitate gelatin.

Drugg. Cir., 30, P. 111.

In reply to an inquiry, gives a list of substances which will precipitate gelatin from its solution.

Patch, E. L. 1886

Does it pay the pharmacist to make gelatin-coated pills?

Proc. Mass. Pharm. Assoc., 5, P. 209.

The costs, including that of time and labor, in preparing gelatin-coated pills was investigated and it was found that it was profitable for the pharmacist to prepare this type of pills.

Prewett, S. W. 1886

Gelatinum.

Am. Jour. Pharm., 58, P. 219.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on Gelatin.

Sternberg, G. M. 1887

(Die Verflüssigung der Gelatine durch Bakterien.)

Centr.-Bl. für Bakteriologie, 2, P. 326. (Med. News, 50, P. 14; Pharm. Centralhalle, 29, P. 24, Chem. Centr-Bl., 58, P. 1508.)

(Discusses the liquefacation of gelatin by bacterial action.)

Thompson, T. 1887

Solubility of Gelatine as compared with other pill coatings.

Pharm. Jour., 46, P. 863. (Yr. Bo. Brit. Pharm. Conf., 24, P. 257.)

In a paper read before the Pharmaceutical Society of Great Britain at an Evening Meeting in Edinburgh, Wednesday, April 13, gives results of his experiments regarding solubility of gelatin-coatings as compared to others.

Findlay, J. 1888

Gelatin Pill-coating.

Drugg. Cir., 32, Pp. 43 and 159; (Ibid., 33, P. 133;

In a paper read at a meeting of the

Edinburgh Chemists' Assistants Association, gives the results of experimental work on gelatin-coating pills.

Hebling, H. 1889

Gelatin.

Proc. Am. Pharm. Assoc., 37, P. 402.

Describes a method of preparing a gelatin mass, and its moulding into medicated pencils.

1889

(Manufacture of Gelatin "Perles")

Drugg. Bull., 3, P. _ ; (Drugg. Circ., 34, P. 15)

(The apparatus and process for the manufacture of the round globules of gelatin is discussed.)

1889

(Manufacture of Gelatin Capsules)

Rundschau, Prag.

(Drugg. Cir., 33, P. 251.

(Gives a method of preparing gelatin capsules.)

1890

(Gelatin and its uses.)

Bost. Jour. Chem., (now known as Pop. Science News),

(Drugg. Circ., 34, P. 128)

(Gives a method of preparing gelatin and discusses its uses.)

Chittenden, R. H. & Solley, F. P. 1891

The Primary Cleavage Products Formed in the Digestion of Gelatin.

Jour. Physical., 12, P. 23. (Chem. Soc. Jour., 60, P. 949; Proc. Am. Pharm. Assoc., 40, P. 1084.)

Gives the results of the investigation of the products of digestion of gelatin.

(Editor.) 1891

To dissolve gelatin without the aid of heat.

Drugg. Cir., 35, P. 84.

Gives a list of chemicals, solutions of which are solvents of gelatin.

Hinsdale, S. J. 1891

Method of Manipulation in Determining Tannin in Barks, etc. by Precipitation with Gelatin.

Proc. N. C. Pharm. Assoc., 12, P. 52. (West Drugg., 13, P. 445; Proc. Am. Pharm. Assoc., 40, P. 422.)

Estimates tannin by using a solution of dry gelatin, alum and water to precipitate the tannic acid.

(Editor.) 1892

Invention of Gelatin Capsules.

Drugg. Cir., 36, P. 109.

In reply to an inquiry gives a brief history of the origin of gelatin capsules.

Pohl, G. 1892

Ueber Gelatinekapseln.

Pharm. Centralhl., 33, P. 512.

Discusses the various types of gelatin capsules that are available in Germany.

(Editor) 1893

Gelatin-coating pills.

Drugg. Cir., 37, P. 14, P. 61.

In reply to an inquiry gives a method for coating pills with Gelatin.

Liesegang, R. E. 1893

(Solvents for Gelatin.

Phot. Archiv., (Drugg. Circ., 37, P. 154.)

(Discusses several chemical substances, solutions of which will dissolve gelatin.)

Hauser, G. 1894

(Formalin and Gelatin)

Münch. Med. Wock., 40, P. 599. (Proc. Am. Pharm. Assoc., 42, P. 820.)

(Discusses gelatin and its use in growing colonies of bacteria for microscopic examination.)

Remington, J. P. 1894

Gelatin Capsules and Pearls.

Practice of Pharmacy, 3 ed., P. 1231. (Drugg. Circ., 40, P. 285.)

Gives a method for preparing and filling gelatin capsules, with illustrations of the apparatus used.

Skeel, F. 1894

(Formalin in Photography.)

Photography, . (Pharm. Jour., 54, P. 69.)

(Treating gelatin with formalin results in its becoming insoluble in boiling water while remaining transparent.)

1894

(Gelatin)

Confectioners' Union, . (Nat. Drugg., 24, P. 134; Proc. Am. Pharm. Assoc., 42, P. 961; Dispens. U.S.A., 13 ed., P. 647; 21 ed., P. 512).

(Discusses the various types of gelatin and their method of preparation.

Dastre, A. & Floresco, N. 1895

Digestion Saline de la Gélatine.

Arch. de. Physiol., S. 5, V. 7, P. 701. (Mitt. aus d. Grenzgeb. der Med. u. Chir., 8, P. 188; Ibid, 14, P. 682.)

Describes the reaction of gelatin toward salt solutions, its digestion and products resulting.

Dastre, A. & Floresco, N. 1895

Liquèfaction de la gèlatine. Digestion saline de la gèlatine. Note, présentée par M. Chauveau.

Comp. Rend., 121, P. 615. (Pharm. Jour., 55, P. 454; Dispens. U.S.A., 18 ed., P. 647; 19 ed., P. 576; 20 ed., P. 510; 21 ed., P. 512; Drug. Circ., 40, P. 41.

Gelatin losing its power of "gelatinization" through action of ferments or microbes, saline solutions or prolonged action of boiling water is called "gelatose" or protogelatose.

(Editor.) 1895

Nutrient Gelatin.

Pharm. Jour., 54, P. 888.

In reply to a query, gives a method for preparing a nutrient gelatin.

(Editor.) 1895

To Render Gelatin Insoluble.

Drugg. Cir., 39, P. 105; Ibid., 40, P. 108;

Gelatin becomes insoluble in water by treating it with form aldehyde.

(Editor.) 1895

To strengthen gelatin.

Pharm. Jour., 54, P. 991.

In reply to a query, gives a formula used for making gelatin more tenacious and resistant.

Mills, E. J. & Sawers, W. D. 1895

Combinations of Salts and Gelatin.

Jour. Soc. Chem. Ind., 14, P. 252. (Drugg. Circ., 39, P. 131; Pharm. Jour., 54, P. 963.)

The introduction of gelatin into saline solutions results in the combination of the salts with the gelatin.

Mills, E. J. & Sawers, W. D. 1895

(Action of Gelatin on Solutions)

Canad. Drugg., 7, P. 137. (Proc. Am. Pharm. Assoc., 43, P. 586.)

(Found that the introduction of gelatin into saline solutions results in the combination of the salts with the gelatin.)

Alpers, W. C. 1896

Gelatin Capsules.

Proc. Am. Pharm. Assoc., 44, P. 175 - 185; Bull. Pharm., 10, P. 408. Drug. Cir., 40, P. 284; Pharm. Jour., 58, P. 25 and P. 66.

Gives a history and biblography of gelatin capsules.

Bayley, R. C. 1896

(Melting Point of Gelatin Masses.)

Photographic Jour., 20, P. 224. (Pharm. Jour., 56, P. 425.)

(Gives a procedure for determining the melting point of gelatin.)

Carnot, M. P. 1896

Sur les propriétés hémostatiques de la gélatine.

La Presse Med., 4, P. 287; (Répertoire, 9, P. 454; Drugg. Circ., 41, P. 359; Pharm. Jour., 59, P. 377.)

A solution of gelatin with a little common salt applied locally acts as a hemostatic.

Carnot, 1896

(Gelatine und Blutgerinnung.)

Bull. de la Soc. Biologie, 11, P ; (Mitt. aus d. Grenzgeb. der Med. u. Chir., 8, P. 188.)

(Discusses gelatin and its use as a hemostatic.)

Cocks, J. 1896

A New Gelatin Pill Coater.

Pharm. Jour., 57, Pp. 166, 247 and 287.

Illustrates a new and simple machine used in coating pills with gelatin.

Dastre, A. & Floresco, N. 1896

Nouvelle Contribution a l'etude de l'action coagulante de la gélatine sur le sang.

Comptes Rendus de la Soc. Bio. de Paris, 48, P. 358.

(Dispens. U.S.A., 20 ed., P. 511; Ibid, 21 ed., P. 513.)

Observed that the injection of Gelatin greatly accelerated the coagulation of the blood.

(Editor). 1896

Flexible Gelatin Capsules.

Pharm. Jour., 57, P. 478.

Mentions the fact that the preparation of flexible gelatin capsules is a new addition to the business of Messrs. Raimes, Clark & Co.

(Editor.) 1896

Insoluble Coloured Gelatin.

Pharm. Jour., 56, P. 520.

In reply to an inquiry, gives a method for imparting to gelatin any desired color.

(Editor.) 1896

Refining Gelatin.

Pharm. Jour., 56, P. 317.

In reply to an inquiry, gives a method for purifying gelatin.

Hausmann, 1896

(Gelatin Coating Soluble in the Pancreatic Juice)

Jour. de Pharm. d'Anvers, 52, P. 243. (Pharm. Jour., 57, P. 390).

(Gelatin capsules are made insoluble in the acid secretions of the stomach by treating with a solution of formalin - are easily disintegrated by the pancreatic juice.)

Reed, A. B. 1896

Gelatinum.

Am. Jour. Pharm., 68, P. 285.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on Gelatin.

(Editor) 1897

Gelatin Spectacles.

Drugg. Cir., 41, P. 259.

Gelatin treated with formal dehyde has been substituted for glass.

(Editor). 1897

To coat horse-balls with gelatin.

Pharm. Jour., 58, P. 464.

In reply to an inquiry, gives the procedure followed in coating medicinal balls, intended for horses, with gelatin.

Lanceraux, 1897

(Gelatin und Blutgerinnung.)

Bull. de l'Acad. de Med. de Paris, 72, P. 238 (Grenzgeb. der Med. u. Chir., 8, P. 189.

(Discusses subcutaneous injections of gelatin for coagulating the blood.)

Bayley, R. 1898

(Properties of Gelatin.)

Brit. Jour. Phot., 45, P. 764. (Pharm. Jour., 61, P. 607.)

(Discusses the physical properties of gelatin and gelatin solutions.)

Edel, F. 1898

Making and filling soft gelatin capsules.

West. Drug., 20, P. 102, (Pharm. Jour., 61, P. 8.)

Explains the method followed in preparing and filling soft gelatin capsules.

Edel, F. 1898

Practical Notes on Photography. To harden Gelatin Films.

West. Drugg., 20, P. 200.

Gives a method for drying and hardening gelatin plates.

(Editor). 1898

Sterilised Gelatin Vaccination Shield.

Pharm. Jour., 61, P. 606.

In reply to an inquiry gives directions for covering a vaccinate site with a sterilised gelatin cover.

Onfroy, P. 1898

Recherche de la gèlatine dans le chocolat.

Jour. de Pharm. et Chim., S. 6, V. 7, P. 7. (Pharm. Jour., 61, P. 425.)

Gives a chemical procedure used in the detection of gelatin in chocolate.

Trillat, A. 1898

Recherche et dosage de la gélatine dans les gommes et substances alimentaires. Note, présentée par M. Arm. Gautier.

Comp. Rend., 127, P. 724. (Pharm. Jour., 61, P. 545; Proc. Am. Pharm. Assoc., 47, P. 709; Drug. Cir., 43, P. 14.

Gelatin can be detected in a mix-

ture upon the addition of a solution of formaldehyde which renders gelatin insoluble; provided that the other bodies in the mixture are not precipitated by formaldehyde.

1898

(Fluid Gelatin.)

Photographische Chronik, . (Brit. Jour. Phot., 45, P ; Pharm. Jour., 61, P. 257.)

(A German patent has been granted for a preparation of fluid gelatin to be used in photography.)

Haddon, A. 1899

(Dialysis through Gelatin.)

Phot. Jour., 39, P . (Drugg. Circ., 43, P. 15.)

(Finds that the rate of dialysis of salt solutions through gelatin can be controlled by first treating the gelatin with various chemicals.

Heymann, R. 1899

(Ueber einen Fall von Haemophilie mit erfolgreicher Anwendung der Gelatine injection.)

Gesell. zu Leipzig, 30, P . (Münch. Med. Wochenschr., 46, P. 1109; Grenzgeb. d. Med. u. Chir., 6, P. 705.)

(Discusses the fall in hemophil following an injection of gelatin.)

Krause, F. 1899

Einen 15 jährigen Haemophilen, der durch Einspritzung von Gelatinekochsalzlösung geheilt ist.

Munch. Med. Wochenschr., 46, P. 1578. (Grenzgeb. d. Med. u. Chir., 6, P. 705.)

Demonstrates the effect of injecting gelatin in saline solution.

Manicatide, E. & Christodulo, V. 1899

(Ueber die Anwndung der Gelatine als Haemostaticum in der Gynäkologie.)

Klinisch-therapeutische Wochenschr., (Münch. Med. Wochenschr., 46, P. 838; Grenzgeb. d. Med. u. Chir., 6, P. 706.)

(Discusses the use of gelatin as a hemostatic in gynecology.)

Mörner, C. T. 1899

Beitrag zur Kenntniss einiger Eigenschaften des Glutins.

Zeit. für Phys. Chem., 28, P. 471. (Chem. News, 83, P. 48; Proc. Am. Pharm. Assoc., 49, P. 921.)

Discusses the reactions of gelatin towards various chemicals, as a means of determining some of its properties.

Roussel, 1899

Sérum Gélatiné.

Petit Monit de la Pharm., 49, P. 3303. (Pharm. Jour., 63, P. 213.)

Gives the method of preparation of gelatin serum for hypodermic injection as a hemostatic.

Wood, G. & Bache, F. 1899

Gelatinum.

Dispens. U.S.A., 17 ed., P. 1894; 18 ed., P. 647; 19 ed., P. 1907; 20 ed., P. 1918; 21 ed., P. 512; 22 ed., P. 502.

Discusses the preparation of gelatin and gives its description and use in capsule manufacture. The method of capsule manufacturing is also discussed.

Felter, H. & Lloyd, J. 1900

Gelatina. - Gelatin.

King's Am. Dispens., 18 ed., V. 1, P. 914.

Define and give the source, history, description, chemical composition, action and medical uses of gelatin.

Henzold, O. 1900

(Gelatin and Isinglass; New Reactions for -.)

Zeit. offente. Chem., 6, P. 292. (Chem. Zeit., 24, P. 260; Jour. Soc. Chem. Ind., 19, P. 1042; Drugg. Cir., 45, P. 65.)

Gives methods for detecting gelatin in fruit jellies.

Hilbish, J. 1900

Gelatinum.

Am. Jour. Pharm., 72, P. 241.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on Gelatin.

Lépinois, E. & Michel, E. 1900

Préparation magistrale des capsules gélatineuses.

International Pharmaceutique Congrés, Paris, P. 58.

(Drugg. Circ., 44, P. 210.)

Describe a method for preparing gelatin capsules in small quantities.

Lidof, A. 1900

Sur la solubilité du cuivre dans une solution alcaline de gélatine.

Bull. Soc. Chim., S. 3, V. 24, P. 33. (Jour. Soc. Physiol. Chim., P. ; Pharm. Jour., 64, P. 249.)

Experimental work proved that copper is soluble in gelatin solutions forming a soluble organic copper compound.

Middleton, F. 1900

Gelatin Capsules in Pharmacy.

Pharm. Jour., 64, P. 602.

In a letter to the editor recommends "Art of Dispensing" for formula for capsules and gives his own procedure in preparing them.

Sargo, J. 1900

Ueber die Behandlung der aneurysmen und Blutungen mit Gelatine.

Therapie der Gegenwart, 41, P. 397. (Grenzgeb. d. Med. u. Chir., 8, P. 189;

Discusses the employment of gelatin in hemorrhages and aneurysm.

Skinner, H. 1900

Gelatin Applications.

Pharm. Jour., 64, P. 616.

Gives results of his experiments in working with gelatin as a possible epidermol varnish.

Wagner, M. 1900

Ueber die Verwendung sukutaner Gelatineinjektionen zur Blutstillung.

Grenzgeb. d. Med. u. Chir., 6, P. 700. (Ibid, 8, P. 189;

Discusses the subcutaneous injection of gelatin to arrest hemorrhages.

Bengham, C. 1901

The Gelatin Capsule.

Proc. Vt. Pharm. Assoc., 8, P. 31.

Gives historical data on the history of the gelatin capsule largely from a paper by W. C. Alpers, but without the reference.

(Editor.) 1901

Mixtures of Gelatin and Glycerin.

Drugg. Cir., 45, P. 216.

Gives a method for preparing mixtures of gelatin and glycerin.

Gardner, H. C. 1901

Preparation of Gelatin Injections.

Chem. & Drugg., 59, P. 442. (Am. Drug., 39, P. 317; Proc. Am. Pharm. Assoc., 50, P. 705;)

Described with illustrations the apparatus used at the London Hospital for preparing sterile gelatin solutions.

Haydon, J. H. Jr. 1901

Dispensing Notes on Practical Pharmacy.

Am. Drugg., 39, P. 169. (Proc. Am. Pharm. Assoc., 50, P. 705.)

Describes a method of dispensing oils in (gelatin) capsules.

Miwa, Y. 1901

Beiträge zur Geschichte der Gelatine als Hämostaticum.

Klinik zu chiba (Japan), , P. . (Centralblatt f. Chirurgie, 29, P. 249; Jour. Am. Med. Assoc., 38, P. 797.)

Gives the history of the use of gelatin as a hemostatic.

Sackur, 1901

Gelatine und Blutgerinnung.

Mitt aus d. Grenzgeb. der Med. u. Chir., 8, P. 188. (Ibid, 14, P. 682.)

Gives experimental data resulting from work done with gelatine as a blood coagulant.

Bernard, M. 1902

Prüfung von Gelatina alba.

Pharm. Ztg., 47, P. 1007 (Proc. Am. Pharm. Assoc., 51, P. 982.)

Gives tests for determining the quality of commercial gelatin.

Brat, H. 1902

Ueber die Einwirkung von Eiweisskörpern auf die Blutgerinnung.

Berl. Klin. Woch., 39, P. 1146 (Mitt. aus d. Grenz-

geb. der Med. u. Chir., 14, P. 682.

Discusses the use of sterilized solutions of gelatin in coagulating blood.

Buck, L. 1902

The Best Method of Encapsulating Liquid Drugs.

Am. Drugg., 40, P. 131.

Gives a method of filling (gelatin) capsules with liquid drugs and sealing them.

(Editor.) 1902

Coating pills with gelatin.

Drugg. Cir., 46, P. 195.

In reply to an inquiry, gives Findlay's method for coating pills with gelatin.

Emanuel, L. 1902

The Best Method of Encapsulating Liquid Drugs.

Am. Drug. 40, P. 129. (Proc. Am. Pharm. Assoc., 50, P. 702.)

Describes a method of filling gelatin capsules with liquid drugs and sealing them.

Johnson, J. T. 1902

The Best Method of Encapsulating Liquid Drugs.

Am. Drug., 40, P. 132.

Gives a method of sealing (gelatin) capsules with a liquid gelatin after they have been filled.

Krause, P. 1902

Vermeidung der Tetanusinfection bei subcutaner anwendung der Gelatin.

Berliner Klinische Wochenschrift, 39, P. 673. (Jour. Am. Med. Assoc., 39, P. 871.)

Gelatin can be used with confidence after it has been fractionally sterilized in steam at 100°C for half an hour on five (5) consecutive days.

Laffout, M. & Lombard, A. 1902

(Action de l'emploi de la gelatine, dans l'alimentation, sur la plasticité du sang et les phénomènes path. provoqués par les variations de cette plasticité.)

Bulletin de l'Academie de Medicine, 77, P. . (Jour. Am. Med. Assoc., 39, P. 590.)

(Gelatin through utilization of its coagulating and hemostatic properties is a valuable contribution to therapeutics.)

Levy, E. & Bruns, H. 1902

Ueber den Gehalt der käuflichen Gelatine an Tetanuskeimen.

Deut. Med. Woch., 28, P. 131. (Therap. d. Gegnw., 11, P. 265.)

Discusses the care to be exercised in purchasing of gelatin to be used as a culture media.

Margoniner, & Hirsch, . 1902

Die subcutane Gelatineinjection und ihre Gefahren.

Therapeutische Monatschefte, 16, P. 334. (Jour. Am. Med. Assoc., 39, P. 591.)

Reports the results of injections of gelatin in cases of protracted hemoptysis.

Namais, R. 1902

(The Action of Various Chromium Compounds Upon Gelatin.)

Bolletino Chemico Farmaceutico, P. . (Am. Drugg., 40, P. 335.)

(Various chromium compounds render gelatin insoluble. The extent of its insolubility is dependant upon the chromium compound used.)

Schmiedicke, 1902

Weiteres über Tetanuskeime in der Käuflichen Gelatine.

Deut. Med. Woch., 28, P. 191. (Therap. d. Gegenw.,

11, P. 265.)

Gives further data concerning purchasing of gelatin to be used as bacterial media.

Staebler, R. 1902

The Best Method of Encapsulating Liquid Drugs.

Am. Drug., 40, P. 130.

Describes a method of filling gelatin capsules with liquid and then sealing them.

Weils, I. M. 1902

The Best Method of Encapsulating Liquid Drugs.

Am. Drugg., 40, P. 131.

Describes a method of filling (gelatin) capsules with liquid drugs and then sealing them.

Bernard, M. 1903

Harnstoff bestimmung in zuckerund eiweisshaltigem Harn.

Pharm. Zeit., 48, P. 100. (Drugg. Cir., 47, P. 78.)

Gives various tests which may be used in determining the quality of commercial gelatin.

(Editor). 1903

To clean Gelatin Capsules.

Drugg. Cir., 47, P. 38.

Gives a method for cleaning gelatin capsules.

Holcraft, H. 1903

(Note on the Behaviour of Gelatine with Mixtures of Methylated Spirit and Water.)

Brit. Jour. Photo., 50, P. 486. (Pharm. Jour., 71, P. 42.)

(Proves that in a mixture of methylated spirit and water, there is no selective absorption of the water by the gelatin.)

Marshall, C. R. 1903

How "Soluble Elastic Capsules" are made.

Bull. Pharm., 17, P. 199.

Gives a method, with illustrations used at that time in preparing gelatin capsules.

Moll, L. 1903

Die blutstillende Wirkung der Gelatine.

Wein. Klin. Wochenschr., 16, P. 1215. (Therap. d. Gegenw., 11, P. 256.)

Presents his conclusions resulting from work done with gelatin and its action as a hemostatic.

Schoonjans, A. & Foos, F. 1903

Argentage des pilules.

Schweiz. Woch. für Chem. u. Pharm., 41, P. 186. (Pharm. Zeit., 48, P. 331; Pharm. Jour., 71, P. 936.)

Suggests a solution of gelatin and acetic acid as the adhesive in silver-coating pills.

(Editor.) 1904

Gelatin Bottle Caps.

Pharm. Jour., 73, P. 136.

Gives directions for preparing gelatin bottle caps.

(Editor.) 1904

Hardening Gelatin.

Pharm. Jour., 72, P. 880.

Suggests the addition of 5 per cent of formalin to sheet gelatin of good quality.

Heinzelmann, G. 1904

Löslichkeit der Gelatine in Weingeist.

Südd. Apoth. Ztg. 44, P. 386. (Schweiz. Wchschr. f. Pharm., 42, P. 347; Proc. Am. Pharm. Assoc., 53, P. 844; Pharm. Jour., 73, P. 741.)

Small quantities of gelatin are soluble in alcohol of 90% strength or less.

1904

(Gelatin Capsules.)

Jour. Pharm. d'Anvers, 59, P. 223. (Pharm. Jour., 72, P. 325; Proc. Am. Pharm. Assoc., 52, P. 522.)

Describes the method of preparation of gelatin and moulding it into capsules.)

Andrews, E. A. 1905

Action of Formaldehyde on Mucilage and Gelatin.

Pharm. Jour., 74, P. 541.

Comments on R. G. Mumbray's experimental results on the above subject giving those of his own.

Dunning, H. A. 1905

Laboratory Hints.

Drug. Cir., 49, P. 44.

Gives a method for coating pills with gelatin.

(Editor.) 1905

Gelatin Basis for Copying Letters.

Pharm. Jour., 74, P. 924.

Gives a formula for preparing a gelatin base used on "hectograph" frames.

(Editor.) 1905

Something about gelatin.

Drugg. Cir., 49, P. 409.

The quality of various bundles of sheet gelatin can be distinguished by the color of the print on the package.

Hofmann, J. J. 1905

(Gelatine zum pharmazeutischen Gebrauch.

Pharm. Weekblad., 42, P. ; (Drugg. Cir., 49, P. 15; Jahreslen S. Pharm., 64, P. 427.

(Reports on the percentage of water and ash present in gelatin.)

Klose, C. 1905

Flüssige Gelatine.

Pharm. Ztg., 50, P. 813. (Proc. Am. Pharm. Assoc., 54, P. 631.)

The preparation of a fluid gelatin which is free of odor and taste is given.

Landmann, G. 1905

Gelatine und Blutgerinnung.

Mitt. aus d. Grenzgeb. der Med. u. Chir., 14, P. 682. (Therap. d. Gegenw., 11, P. 265.)

Discusses the use ofgelatin in coagulating the blood.

Mumbray, R. G. 1905

Action of Formaldehyde on Mucilage and Gelatin.

Pharm. Jour., 74, Pp. 504 and 577.

Gives results obtained in investigating the properties of formaldehyde with mucilage and gelatin.

1905

(Something about gelatin.)

Oil, Paint and Drug Reporter, , P. . (Drugg. Cir., 49, P. 409)

(Discusses the various grades of sheet gelatin on the market at that time.)

Buttenberg, P. & Stüber, W. 1906

Untersuchungen von Gelatine und Leim.

Ztschr. f. Unters. Nahr. u. Genussm., 12, P. 408.

(Pharm. Jour., 77, P. 517; Drugg. Cir., 50, P. 440.)

Experiments show that various grades of commercial gelatin regularly contain a small percentage of sulphurous acid anhydride.

Dunning, W. A. B. 1906

Gelatin.

Proc. Am. Pharm. Assoc., 54, P. 482.

Describes a method of sealing hard gelatin capsules with gelatin.

(Editor.) 1906

Gelatin Bottle Capping.

Drugg. Cir., 50, P. 331.

In answer to an inquiry, gives various formulas used in preparing gelatin for bottle capping.

(Editor.) 1906

Gelatin Mass.

Pharm. Jour., 76, P. 338.

In reply to an inquiry, gives directions for preparing a gelatin mass.

Forret, J. A. 1906

The Preparation of Gelatin Capsules.

Pharm. Jour., 76, P. 195.

Gives data concerning the preparation of flexible capsules, filling the capsules and preparing the drugs for capsuling.

Waldie, G. C. 1906

A method of determining the strength of Glues and Gelatins.

Drugg. Cir., 50, P. 119. (Proc. Am. Pharm. Assoc., 54, P. 955).

Uses the congealing point and degree of gelatinization. Also

lists briefly other methods used.

(Editor.) 1907

Arsenic in Gelatin.

Chem. & Drugg., 71, P. 286.

Gives a method of testing for arsenic in gelatin.

(Editor.) 1907

Contaminated Gelatin.

Chem. & Drugg., 71, P. 195., (Drug. Circ., 51, P. 724.)

Reveals that lower grades of gelatin on the market are contaminated with either arsenic or copper.

(Editor.) 1907

Gelatin Injection in Cancer.

Pharm. Jour., 74, P. 838.

In reply to an inquiry informs the writer that rather than cancer, he is referring to aneurysm and gives the preparation of gelatin solution for injection for aneurysm.

(Editor.) 1907

Gelatin Mass without Glycerin.

Pharm. Jour., 78, P. 516.

In reply to an inquiry, states that at that time, there is no formula for a mass of that type.

(Editor.) 1907

Gelatin Ovules.

Pharm. Jour., 78, P. 50.

In reply to an inquiry, gives a formula for the preparation of gelatin ovules.

(Editor.) 1907

Improvements relating to Gelatin capsules containing Medicines for internal use.

Pharm. Jour., 78, P. 538.

A new patent application No. 23,337 by Evans Sons, Lescher and Webb, Limited was filed.

Halla, E. 1907

Zur Beurteilung des Leimes und der Gelatine.

Zeit. für Angew. Chem., 20, P. 25; (Pharm. Jour., , P. ; Drugg. Circ., 52, P. 116.

Suggests that the percentage of nitrogen be found in a quantity of gelatin and from this figure calculate the equivalent of gelatin.

Lumière, A. & L. & Seyewetz, A. 1907

(Sur l'insolubilisation de la gélatine par la

quinone.)

La Photographie, P. . (Revue Scientifique, 79, P. 624; Répertoire de Pharm., S. 3, 19, P. 360; Schweiz. Woch. Chem. Pharm., 45, P. 554; Pharm. Jour., 79, P. 467; Drugg. Cir., 52, P. 15.

(A solution of quinone renders gelatin insoluble in both hot and cold water.)

Vamvakas, J. 1907

Recherche de la gélatine dans le sirop de gomme.

Ann. de Chim. Anal. Appl., 12, P. 139. (Analyst, 32, Pp. 93 & 226; Pharm. Jour., 78, P. 807.)

By means of Messler's reagent, as little as 5% of gelatin may be detected in a gum solution.

(Editor.) 1908

Gelatin Basis for Copying Letters.

Pharm. Jour., 81, P. 26.

Gives the formula for a gelatin base for the above purpose.

(Editor.) 1908

Hardening Gelatin.

Pharm. Jour., 81, P. 272.

In reply to an inquiry, gives a formula for hardening gelatin.

Lumière, A. L. & Seyewetz, A. 1908

Sur les phénomènes de précipitation et d'insolubilisation de la gèlatine.

Bull. Soc. Chim., S. 4, V. 3, P. 743. (Chem. Zentr., 2, P. 615; Pharm. Jour., 81, P. 334.)

Discusses the precipitation of gelatin by inorganic or organic substances and the compounds resulting.

Vamvakas, J. 1908

Detection of Gelatin in solution of gum.

Drugg. Cir., 52, P. 17.

Small quantities of gelatin may be detected in a solution of gum by means of Nessler's reagent.

1908

Action of Quinone on Gelatin.

Am. Drugg., 52, P. 66.

A solution of quinone renders gelatin perfectly insoluble in water, both hot and cold.

(Editor.) 1909

An improved Preparation of Gelatin.

Pharm. Jour., 82, P. 71.

A new English patent, No. 23,030, was granted to W. H. Perkin and Whipp Brothers and Tod, Limited, for an improved

preparation of gelatin.

Forrester, G. P. 1909

The preparation of sterilized Gelatin Solutions.

Am. Drugg., 55, P. 209. (Pharm. Jour., 83, P. 794; Am. Jour. Pharm., 82, P. 130;

Describes methods of testing and preparing gelatin solutions used in hypodermic injections.

Wandel, O. 1909

Zur Frage der Gelatinetherapie.

Therap. d. Gegenw., 11, P. 265. (Nouv. Rem., 26, P. 207; Pharm. Jour., 85, P. 160.)

Gives directions for preparing sterilised solutions of gelatin.

Forret, J. A. 1910

Note on Gelatin.

Pharm. Jour., 84, P. 292. (Proc. Am. Pharm. Assoc., 58, P. 394.)

Discusses the properties which gelatin, used for pharmaceutical purposes, should possess.

Herold, J. 1910

Die Bewertung der Gelatine durch Schmelzpunktbestimmungen von Gallerten bekannten Gehalts.

Chem. Zeit., 34, P. 203. (Pharm. Jour., 84, P. 513;

Uses the above process to determine a numerical measure of the glutin content and enables one gelatin to be compared with another.

Liesegang, R. E. 1910

Eine Farbreaktion der Gelatine.

Ztscher. f. Chem. u. Industr. der Killoide, 5, P. 248.

(Chem. Centr-Bl., 81, P. 664; Pharm. Ztg., 55, P. 283; Proc. Am. Pharm. Assoc., 58, P. 393; Drugg. Circ., 54, P. 275.)

Discusses a color test for gelatin which results in the formation of a violet color.

Lumière, A. & L. & Seyewetz, A. 1910

(On the Degree of Impermeability of Gelatine Produced by Various Hardening Substances.)

Brit. Jour. Photo., 57, P. 604. (Drugg. Cir., 55, P. 25; Ibid, 63, P. 441; Pharm. Jour., 85, P. 343.)

(List their conclusions resulting from experimental work on the effects of various substances on gelatin.)

Raines, E. 1910

Gelatin, Bacteriological Examination of.

Am. Jour. Pharm., 82, P. 297.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on the above subject.

(Editor.) 1911

Culinary Gelatin.

Drugg. Cir., 55, P. 643.

Gives a formula for "jelly powders" which contain gelatin.

(Editor.) 1911

Gelatin as an Emulsifying Agent.

Pharm. Jour., 86, P. 546.

Comments on gelatin as an emulsifying agent.

Anderson, W. 1912

Commercial Gelatin.

Am. Jour. Pharm., 84, P. 276.

Submitted a thesis for graduation from the Philadelphia College of Pharmacy, on commercial Gelatin.

Berrar, M. 1912

Beiträge zur Chemie und zur Quantitativen Bestimmung des Leimes.

Bio Chem. Ztschr., 47, P. 189. (Apoth. Zeit., 27, P. 1030; Pharm. Jour., 90, P. 736.)

Gives various reagents and methods used in testing gelatin.

(Editor.) 1912

Bone Gelatin.

Pharm. Jour., 88, P. 838.

Comments on an inquiry concerning a particular gelatin known as "bone gelatin."

(Editor.) 1912

Formaldehyde and Gelatin.

Pharm. Jour., 88, P. 279.

In reply to an inquiry suggests a procedure to be followed in preparing such a preparation.

(Editor.) 1912

Who invented gelatin capsules?

Drugg. Cir., 56, P. 627.

Gives a brief summary on the origin of gelatin capsules.

Feldhaus, F. M. 1912

Der Erfinder der Gelatinekapseln.

Chem. Zeit., 36, P. 697. (Drugg. Circ., 56, P. 627.)

States that a James Murdoch in London, England, was the inventor of gelatin capsules and that he was granted a patent on them in May, 1848.

Gamble, C. W. 1912

On the Determination of the Melting Point of a Gelatin Jelly.

Jour. Municip. Sch. Tech., 4, P. 115. (Drugg. Circ., 56, P. 72.)

Satisfactory results were obtained by the capillary-tube method. One method of determining the melting points is described.

Köpke, O. 1912

Über das Vorkommen von Arsen in Speisegelatine.

Arbeiten a. d. Kais. Gesundheitsamte, 38, P. 290. (Apoth. Zeit., 8, P. 72; Pharm. Jour., 88, P. 387.)

Shows that gelatin prepared from refuse, clippings, etc., of leathers which have been treated with lime and arsenic sulphide, usually contains traces of Arsenic.

Linke, H. 1912

Zur Prüfung der Gelatine auf Schweflige Säure nach dem D. A. - B. 5 mittels Kaliumjodatstärkepapiers.

Apoth. Zeit., 70, P. 671. (Chem. Abst., 6^3, P. 3159; Drugg. Cir., 57, P. 623.)

Gives an improvement to the pharmacopoeial test for sulfur dioxide in gelatin.

Michl, . 1912

(Administration of Gelatin to check Suppuration.)

Wien. Med. Woch., 62, P. . (Br. Med. Jour. Epit., 2, P. 50; Pharm. Jour., 89, P. 727;

(While using gelatin as a haemostatic, observed that it also checks suppuration.)

Roberts, J. 1912

The Purity of Gelatin.

Proc. Penn. Pharm. Assoc., 35, P. 310., Am. Jour. Pharm., 85, P. 83; Jour. Am. Pharm. Assoc., 2, P. 528;

Investigated Gelatin as to its color, degree of gelatinization, odor in solution, color of solution, percentage of ash and freedom from sulphites and arsenic.

Vermorel, V. & Dantony, E. 1912

Tension superficielle et pouvoir mouillant des insecticides fongicides. Moyen de rendre mouillantes toutes les bouillies cupriques ou insecticides.

Compt. Rend., 154, P. 1300. (Pharm. Jour., 89, P. 111.)

The distribution of insecticides over plants aided by the addition of gelatin to the insecticide preparation.

Grosh, M. 1913

Capsules and Capsule Making.

Merck's Rep., 23, P. 57. (Yr.bk. Am. Pharm. Assoc., 2, P. 492;

Discusses the development and modern methods of manufacture of gelatin capsules.

Niculescu, P. 1913

Die anwendbarkeit gehärteter Gelatinekapseln in der medikamentösen therapie.

D. Med. Wochenschr, P. 1255. (Apoth. Zeit., 54, P. 503.

Discusses the usefulness of hardened gelatin capsules.

Procter, H. R. 1913

The Equilibrium of Dilute Hydrochloric Acid and Gelatin.

Pharm. Jour., 91, P. 950.

Presented a paper on the above subject at a meeting of the chemical society held December 18, 1913.

Ruediger, E. 1913

Zur Frage der Gerunnungsfördernden Wirkung der Gelatin.

Med. Klinik, 9, P. 293. (Jour. Am. Med. Assoc., 60, P. 367; Pharm. Jour., 90, P. 597 d.)

The administration of gelatin is important as a preliminary to operations and childbirths or in the treatment of recurring haemorrhages.

Sindall, R. W. & Bacon, W. 1913

The examination of Commercial Gelatins in Reference to Their Suitability for Paper Making.

Pharm. Jour., 91, P. 774.

Presented a paper on the above subject at a meeting of public analysts and other analytical chemists.

(Editor.) 1914

Gelatin Preparation for True-to-Scale Printing.

Pharm. Jour., 92, P. 127.

In reply to an inquiry, gives a formula used by printers for the above purpose.

(Editor.) 1914

Liquefying Gelatin.

Pharm. Jour., 93, P. 288.

Comments on an inquiry concerning liquefying gelatin.

(Remington, J. P.) 1914

Abstract of Proposed Changes with New Standards and Descriptions.

Jour. Am. Pharm. Assoc., 3, P. 1570.

Gives the modified descriptions and tests with added tests for Gelatin in the U.S.P. 1910.

(Editor.) 1915

Rendering Gelatin Insoluble on Fabrics.

Pharm. Jour., 95, P. 108.

A new English patent (No. 25,714 of 1913) was granted to Emile T. J. Watremen of Brussels, an engineer, on his process of treating fabrics with a gelatin rendered insoluble.

Totani, G. 1916

Feeding Experiments With a Dietary in which Tyrosine is Reduced to a Minimum.

Biochem. Jour., 10, P. 382. (Pharm. Jour., 97, P. 505; Jour. Am. Pharm. Assoc., 6, P. 699.)

While experimenting on the above subject, also gives results of feeding experiments with gelatin.

(Editor.) 1917

Bottle capping with paraffin or gelatin.

Drugg. Cir., 61, P. 577; (Ibid., 66, P. 142;

Gives a method for capping bottles with gelatin.

Fenn, W. 1917

(Similarity in Behaviour of Protoplasm and Gelatin.)

Proc. Am. Nat. Acad. Sci., 2, P. 539.

When tested with pure salts or mixtures, gelatin reacts in the same manner as does protoplasm which has been treated similarly.

Harmer, Alice 1917

Manufacture of Elastic Capsules.

Proc. Penn. Pharm. Assoc., 40, P. 239. (Yrbk. Am. Pharm. Assoc., 6, P. 65)

Describes briefly, personal experiences in manufacturing elastic capsules.

Marsh, H. W. 1917

Glue Jackets for Disagreeable Medicines. How Gelatin Capsules are Manufactures.

Sci. Am., 117, P. 194. (Yrbk. Am. Pharm. Assoc., 6, P. 65.)

Describes the large scale manufacture of gelatin capsules.

Ono, J. 1918

(Hemostatic Action of Gelatin.)

Acta Scholae Med. Univ. Imp. in Kioto, 2, No. 3, German Edition, P. . (Jour. Am. Med. Assoc., 71, P. 502; Yrbk. Am. Pharm. Assoc., 7, P. 538.)

(Gives data on gelatin and its use as a hemostatic.)

Wood, G. & Bache, F. 1918

Pulveres.

Dispens. U.S.A., 20 ed., P. 916.

Gelatin capsules are used extensively for the administration of drugs in powdered form.

Jamieson, G. S. 1919

The Determination of Zinc and Copper in Gelatin.

Jour. Ind. & Eng. Chem., 11, P. 323. (Am. Jour. Pharm., 91, P. 383; Drugg. Circ., 64, P. 340.)

Describes the methods used in making the above determinations.

Briggs, T. R. & Hieber, M. C. 1920

Note on the Liquefaction of Gelatin by Salts.

Jour. Phys. Chem., 24, P. 74. (Jour. Soc. Chem., Ind., 39, P. 274; Yrbk. Am. Pharm. Assoc., 9, P. 655;

Gives results of experimental work done on the above subject.

Lloyd, Dorothy J. 1920

On the Swelling of Gelatin in Hydrochloric Acid and Caustic Soda.

Biochem. Jour., 14, P. 147. (Ibid, 14, P. 584; Ibid., 16, P. 530; Pharm. Jour., 133, P. 227.)

Attempts to establish the premise that both physical and chemical heterogeneity are essential to the gel state.

Smith, C. R. 1920

Determination of the Jellying Power of Gelatins and Glues by the Polariscope.

Jour. Ind. & Eng. Chem., 12, P. 878. (Analyst, 45, P. 419; Am. Jour. Pharm., 93, P. 151.)

Discusses how a polariscopic study of gelatins and glues correlate with certain physical tests.

( ) 1920

(Gelatin: Its Use in ice cream and why it cannot be used in unlimited quantities.)

Ice Cream Trade Jour., , P. . (Drugg. Cir., 64, P. 278;

(Gives advantages and disadvantages in employing gelatin in ice cream making.)

Scala, A. 1921

(Behavior of Salts on Gelatin.)

Annali d'Igiene, 31, P. 289. (Jour. Am. Med. Assoc., 77, P. 1927; Pharm. Jour., 108, P. 25.)

(The union of salts with the colloids is a true chemical combination and these combinations behave in respect to water according to the new properties acquired.)

Bogue, R. 1922

(Gelatin, A Partial Food.)

Am. Food Jour., , P. . (Literary Digest., April 8, P. 71.)

Asserts that gelatin is a true food, although nourishing only when taken with certain other foods.

(Editor.) 1922

Making Gelatin Waterproof.

Pharm. Jour., 109, P. 168.

In reply to an inquiry comments on waterproof gelatin.

Robison, R. 1922

The Value of Gelatin in Relation to the Nitrogen Requirements of Man.

Biochem. Jour., 16, P. 111. (Pharm. Jour., 109, P. 67; Yrbk. Am. Pharm. Assoc., 11, P. 333.)

Gives the results of experimental work with gelatin as a foodstuff based upon its nitrogen content.

Alexander, J. 1923

Glue and Gelatin.

Am. Jour. Pharm., 95, P. 322. Drug. Cir., 67, P. 162.

A book of 236 pages and published by the Chemical Catalogue Co., Inc., discusses Glue and Gelatin as to their chemical and physical nature, properties, technology, testing, grading and standardization; also the findings of modern workers in this field of research.

(Downey, T. B. 1923

Gelatin.

Jour. Am. Pharm. Assoc., 12, P. 180. Ind. & Eng. Chem., 1, P. 6.

Announces the establishment of a fellowship for the purpose of ascertaining the real food value of edible gelatin.

Cattelain, M. E. 1924

Essai de la gélatine destinée aux usages pharmaceutiques ou bacteriologiques.

Jour. de Pharm. et Chim., 29, P. 444. (Drugg. Cir., 68, P. 360.)

Gives physical and chemical tests for pharmaceutical gelatin.

Davis, C. E., Salisbury, H. M. & Harvey, M. T. 1924

Surface Tension of Gelatin Solutions.

Ind. & Eng. Chem., 16, P. 161. (Yrbk. Am. Pharm. Assoc., 13, P. 218;

Gives results of measuring the surface tension of gelatin solutions under varying conditions.

Gurwitsch, L. 1924

Über die Aktivität der Oberflächenschicht von Flüssigkeiten.

Zeit. für Physik. Chem., 109, P. 375. (Jour. Soc. Chem. Ind., 42, P. 1189; Drugg. Circ., 68, P. 67.)

Gives the various reactive products resulting when gelatin is treated chemically.

Lemeland, P. 1924

Soluté de gélatine injectable., Soluté salin de gélatine., Sérum gélatiné. Sérum de Carnot.

Jour. d Pharm. et S.Chem., S. 7, V. 29, P. 505. (Pharm. Jour., 113, P. 358.)

Gives the formulas for the above gelatin preparations with directions for preparing them.

1924

(Gelatin as Glue.)

Chem. Trade Jour., 75, P. 652. (Pharm. Jour., 114, P. 138.)

(Gives reasons why gelatin cannot be used in the same way as glue.)

Northrop, J. & Kunitz, M. 1925

The Combination of Salts and Proteins.

Jour. Gen. Physiol., 9, P. 354. (Ibid, 11, P. 477; Pharm. Jour., 133, P. 227.)

In experimental work on combining salts and proteins, gelatin is prepared under a special procedure.

Rae, J. 1925

The Acidity of Gelatin.

Pharm. Jour., 115, P. 3. (Drugg. Cir., 71, P. 35.)

Comments on the distinct acidity of solutions of gelatin.

Little, E. 1927

Gelatin.

Jour. Am. Pharm. Assoc., 16, P. 414.

Discusses the effect of gelatin on titration curves of various acids.

Beal, G. D. & Neff, A. 1928

Gelatin in Medicine.

Jour. Am. Pharm. Assoc., 17, P. 261 (Yrbk. Am. Pharm. Assoc., 16-17, P. 883.)

Discusses gelatin in medicine under the following heads: history of gelatin, manufacturing of gelatin, gelatin amino acids, gelatin as a pure protein, gelatin in infant feeding, hemostatic action of gelatin, thereapeutic uses of gelatin, gelatin as a basis for capsules and suppositories and gelatin in adult dietaries.

Briefer, M. & Cohen, J. H. 1928

Pure Food Gelatin.

Ind. & Eng. Chem., 20, P. 408. (Dispens. U.S.A., 22 ed., P. 503.)

Discuss means for determining and numerically expressing the value of the effective concentrations of gelatin as sued in food products.

Jackson, R. W., Sommer, Beatrice E. & Rose, W. C. 1928

Experiments on the Nutritive Properties of Gelatin.

Jour. Biolog. Chem., 80, P. 167. (Biol. Abstr., 4, P. 1056; Pharm. Jour., 125, P. 485)

Discuss experimental work done on gelatin to determine its nutritive value.

Briefer, M.

Photometric and Electrometric Measurements of Gelatin Behavior.

Ind. & Eng. Chem., 20, P. 408, (Ibid, 21, P. 266; Dispens. U.S.A., 22 ed., P. 503.)

Shows that the physical characteristics of gelatin vary with the chemical treatment of the raw material.

Hudson, J. H. & Sheppard, S. E. 1929

A Contribution to the Preparation of Standard Gelatin.

Ind. & Eng. Chem., 21, P. 263. (Yrbk. Am. Pharm. Assoc., 18, P. 348.)

Give specifications which a "standard" gelatin should possess.

Smith, P. I. 1929

The Uses of Gelatin in Pharmacy.

Pharm. Jour., 122, P. 617.

Discusses the properties of gelatin suitable for pharmaceutical work and the applications of gelatin in pharmacy.

Mendelsohn, O. A. 1930

Gelatin in Cream.

Analyst, 55, P. 567. (Brit. Chem. Abst., 1931-B, P.

133; Pharm. Jour., 126, P. 283.)

Gives results of experimental work done on decting the presence of gelatin in cream by various tests.

Deussen, E. 1931

Ueber die Herstellung von keimfreien Gelatinelösungen*

Apoth. Ztg., 46, P. 842 (Yrbk. Am. Pharm. Assoc., 20, P. 29.)

Gives a method for the preparation of sterile gelatin solutions.

(Editor.) 1931

To distinguish Animal from Isinglass Gelatin.

Pharm. Jour., 126, P. 476.

In reply to an inquiry, gives the methods followed in making the above distinction.

Friedman, L. & Evans, D. N. 1931

The Emulsifying Properties of Gelatin Systems.

Jour. Am. Chem. Soc., 53, P. 2989. (Yrbk. Am. Pharm. Assoc., 20, P. 138.)

Gives the result of investiga-

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* In two parts: Part I written by E. Deussen
Part II written by O. Tonn.

tions carried out on the emulsifying properties of gelatin.

Mancke, R. 1931

Gelatinebelastung als klinische leberfunktionsprüfung.

Munch. Med. Wschr., 78, P. 1430. (Brit. Med. Jour., 82, P. 3696; Pharm. Jour., 127, P. 505.)

Discusses the use of gelatin in determining the protein-metabolising functions of the liver.

Smith, P. I. 1931

The Extended Use of Edible Gelatin.

Pharm. Jour., 126, P. 579.

Comments on the wide use of gelatin now a valuable addition to our dietary.

Tonn, O. 1931

Ueber die Herstellung von Keimfreien Gelatinelösungen.*

Apoth. Ztg., 46, P. 843. (Yrbk. Am. Pharm. Assoc., 20, P. 29. Pharm. Jour., 127, P. 419.

Describes a method for the prepara-

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*In two parts: Part I written by E. Deussen.
Part II written by O. Tonn.

tion of sterile solutions of gelatin.

Weyland, J. 1931

Gehärtete Gelatinekapseln.

Apoth. Ztg., 46, P. 470. (Yrbk. Am. Pharm. Assoc., 20, P. 180)

Tests for determining the"hardness" of gelatin capsules are discussed.

Boyes, G. R. 1932

New Remedies.

Pharm. Jour., 129, P. 420. (Ibid., 139, P. 43.

In an article on Hexyl Resorcinol, states that in the presence of moisture gelatin will combine with hexyl resorcinol.

(Editor.) 1932

Gelatin capsules.

Pharm. Jour., 128, P. 136.

A recent English patent (No. 360,427) was issued to Parke, Davis and Co. for their machine prepared medicinal capsules.

(Editor.) 1932

Gelatin Food Preparations.

Pharm. Jour., 128, P. 136.

A new English patent, No. 361,138 was granted on processes for preparing gelatin food products. No mention made as to whom the patent was granted to.

(Editor.) 1932

Jellying of gelatin solution.

Drugg. Cir., 76, Aug., P. 30.

In reply to a query a number of chemicals are listed which will liquify gelatin solutions.

(Editor.) 1932

Peptonised Gelatin.

Pharm. Jour., 129, P. 432.

In reply to an inquiry, comments on use of peptonised gelatin.

(Editor.) 1933

Specimen of Insects.

Pharm. Jour., 131, P. 165.

Identified a species of insect submitted in a smaple of gelatin which was used as a food.

Farkas, G. 1933

Über eine Methode zur quantitativen Bestimmung der Gelatine.

Biochem. Ztschr., 264, P. 361. (Squibb Abst. Bull.,

6, P. A-1326; Yrbk. Am. Pharm. Assoc., 22, P. 293.)

Describes a procedure for determining the amount of gelatin in a aqueous gelatin- protein solution.

Grabfield, G. 1933

A Gelatin Diet.

Science, 77, P. 13, Science News Letter, , P. 312.

A gelatin diet reveals new knowledge about a certain type of Bright's disease.

Wilson, O. 1933

Animal Fats and By-Products.

Ind. Eng. Chem., News Ed., 11, P. 356.

In reporting on the above, gives a graph showing the production of edible gelatin, by quarters and stocks.

Beal, G. and Szalkowski, C. 1934

Gelatin.

Jour. Am. Pharm. Assoc., 23, P. 22.

Suggests a test which should replace the U.S.P.X test for the detection of gelatin in agar.

Braunsdorf, K. 1934

Über einen neuen Gelatine-Nachweis in Milchprodukten.

Zeit. Unters. Lebensm., 67, P. 326. (Brit. Chem. Abst. 1934 B, P. 522; Chem. and Industry, 53, P. 522; Am. Jour. Pharm., 106, P. 314.)

Discusses a method of detecting gelatin in milk products depending on the gelatin reacting as a protective colloid to cadmum sulphide.

(Editor.) 1934

Gelatin and Isinglass.

Pharm. Jour., 133, P. 227.

In reply to an inquiry gives various sources for obtaining data on the above substances.

(Editor.) 1934

Gelatin renders solution non-liquid.

Drugg. Cir., 78, P. 46.

Replies to an inquiry concerning the gelatinization of a prescription.

Tice, L. F. 1935

Gelatin as a stabilizing colloid for oil in water emulsion systems.

Jour. Am. Pharm. Assoc., 24, P. 1062 (Dispens. U.S.A., 22 ed., P. 503.)

Experimental work revealed that gelatin is a very efficient stabilizing colloid for oil-in-water emulsions.

Pure Nickel Gelatin Evaporators.

Ind. & Eng. Chem., 13, P. 122.

Gives data concerning a new evaporator for processing gelatin.

(Editor.) 1936

Information on Gelatin.

Drugg. Cir., 80, Sept., P. 60.

In reply to a query explains how molds may be prevented in a gelatin solution.

Ferguson, C. S. & Racicot, P. A. 1936

(Comparison of Methods for the Detection of Gelatin in Dairy Products)

Jour. Assoc., of Official Agric. Chem., 19, P. 476.

(Am. Jour. Pharm., 108, P. 472.)

(Gives methods for determining presence of gelatin in dairy products.)

(Editor.) 1937

Hexyl Resorcinol and Gelatin.

Pharm. Jour., 139, P. 43.

Comments on an article in Pharm. Jour., 129, P. 420, concerning the above subject.

Perchl, F. 1937

(Gelatine Kapseln)

Chemish-Pharmazeutischis Bio. und Bibliographikon

A - L. P. 172. (Gesellschaft für Geschichte der Pharmazie,

, P. 172.)

(Garot gave in 1838 a method of preparing Gelatin capsules for administering medicine.)

Starkey, S. J. 1937

The Sealing of Gelatin Capsules.

Pharm. Jour., 138, P. 218.

Gives a method, with an illustration, for sealing soft gelatin capsules.

Tice, L. F. & Batt, W. G. 1937

Variations in Behavior of Gelatin.

Am. Jour. Pharm., 109, P. 29.

Explains how gelatins, depending upon their source but particularly upon their method of preparation, may exhibit distinctly different physico-chemical properties.

A List of Books Consulted

I An American Physician, (The) Eclectic and General Dispens(atory). 1 ed., 1827.

II Coxe, Jr., (Coxe's) Am(erican) Dispens(atory). 1 ed., 1806; 4 ed., 1818; 6 ed., 1825; 7 ed., 1827; 8 ed., 1830; 9 ed., 1831.

III King, J., King's Am(erican) Dispens(atory). 6 ed., 1864; 8 ed., 1872; 10 ed., 1875; 15 ed., 1881; 16 ed., 1889; 18 ed., 1900, V. 1 & 2.

IV King, J. & Newton, R., (The) Eclectic Dispens(atory) (of the) U(nited) S(tates) of A(merica). 1 ed., 1852.

V Thacher, J., (The) Am(erican) New Dispens(atory). 1 ed., 1810; 2 ed., 1813; 4 ed., 1821.

VI Stille, A. & Maisch, J., (The) Nat(ional) Dispens(atory). 1 ed., 1879; 2 ed., 1879; 3 ed., 1884; 5 ed., 1894.

VII Wood, G. B. and Bache, F. (The) Dispens(atory) (of) the U(nited) S(tates) (of) A(merica). 2nd ed., 1834; 3 ed., 1836; 4 ed., 1839; 5 ed., 1843; 6 ed., 1845; 7 ed., 1847; 8 ed., 1849; 9 ed., 1851; 10 ed., 1854; 11 ed., 1858; 12 ed., 1865; 13 ed., 1870; 14 ed., 1877; 15 ed., 1883; 16 ed., 1892; 17 ed., 1894; 18 ed., 1899; 19 ed., 1907; 20 ed., 1918; 21 ed., 1926; 22 ed., 1937.

List of Journals Consulted

I Am(erican)Jour(nal)(of) Pharm(acy), 1-109; 1825-1938.

II Drugg(ists) Cir(cular), 1-81;

III Jour(nal) (of the) Am(erican) Pharm(aceutical) Assoc(iation), 1-27; 1912-1938.

IV Proc(eedings) (of the) Am(erican) Pharm(aceutical) Association), 1-59; 1855-1911.

V (The) Pharm(aceutical) Jour(nal), 1-137;

VI Y(ea)r - B(oo)k (of the) Am(erican) Pharm(aceutical) Assoc(iation), 1-23; 1912-1934.

UNITED STATES PHARMACOPOCIA

(0 - XI) (1820 - 1930)

and

NATIONAL FORMULARY

(I - VI) (1888 - 1835)

HISTORY

OF

GELATINUM

Gelatinum

Gelatin

The purified air-dried product of the hydrolysis of certain animal/tissues, as skin, ligaments, and bonds, by treatment with boiling water.

An amorphous, more or less transparent solid, usually shredded or in thin/sheets; colorless or with a slight yellowish tint, inodorous, and having a slight,/characteristic, almost insipid taste. Unalterable in the air when dry, but putre-/frying rapidly when moist or in solution.

When incinerated, Gelatin is decomposed, leaving a slight mineral residue,/which should not exceed 2 percent of the original weight.

Gelatin is insoluble in cold water, but swells and softens when immersed in/it, gradually absorbing from 5 to 10 times its weight of water. It is soluble in/boiling water, acetic acid, and glycerin; insoluble in alcohol, ether, chloroform,/benzene, carbon disulpide, and fixed and volatile oils.

When dissolved in boiling water (1-50), it should solidify upon cooling,/and form a transparent jelly.

An aqueous solution of Gelatin (1 in 5000)

is at once rendered turbid on the/addition of tannic acid T.S., the precipitate being insoluble in the presence of/an excess of the reagent.

Gelatin is precipitated from its aqueous solution by mercuric chloride T.S. in/excess; it is not precipitated by a solution of alum, by ferric chloride T.S., or/by lead acetate T.S.

If potassium dichromate T.S. be added to a solution of Gelatin in hot water,/the jelly which forms on cooling becomes insoluble in warm water after exposure/to light.

Gelatinum

Gelatin

The purified product obtained from animal tissues, as skin, ligaments,/and bones, by treatment with boiling water.

An amorphous solid, in sheets or flakes or in ground, powdered or shredded form,/ colorless or slightly yellowish, and having a very slight, characteristic odor and/taste; unalterable in the air when dry, but decomposing when moist or in solution.

Gelatin is insoluble in cold water but swells and softens when immersed in it,/ gradually absorbing from 5 to 10 times its own weight in water; soluble in hot/ water, acetic acid or glycerin; insoluble in alcohol, chloroform, ether, benzene,/carbon disulphide or fixed or volatile oils.

An aqueous solution of Glycerin (1 in 5000) is at once rendered turbid by the/addition of tannic acid T.S.

A hot solution of Gelatin in distilled water (1 in 40) is free from putrid odor,/and is not more than slightly acid to litmus; it appears not more than slightly/opalescent in a stratum 2 cm. in thickness, and, on cooling to 6°C. and standing/ for several hours, it forms a firm, transparent or translucent

jelly.

Incinerate about 0.5 Gm. of Gelatin; not more than 2 per cent of ask remains/ A solution of the ash in 25 mils of distilled water, made with the aid of heat/and a few drops of hydrochloric acid, does not respond to the test for heavy/metals (see Part II, Test No. 3).

Heat 1.5 Gm. of Gelatin with 30 mils of hydrochloric acid (1 in 4) in a 150 mil/ Erlenmeyer flask on a water bath, and, when the Gelatin has dissolved, add 3/mils of saturated bromine water and heat it on a water bath for fifteen minutes,/shaking the flask occasionally. Then add 0.5 Gm. of potassium iodide and follow/ it immediately with 0.5 mil of a 25 per cent solution of stannous chloride. Heat/the solution for five minutes on a water bath, cool and subject it to the Test for arsenic (see Part II Test No. 1). The stain produced, if any, is not greater than/that produced in a test made from the same quantities of the reagents to which/2 mils of the standard arsenic test solution (see Part II Test No. 1) has been/added.

Dissolve 20 Gm. of Gelatin in 150 mils of hot distilled water in a flask having/ a round bottom and a long neck, add 5 mils of phosphoric acid and 1 Gm. of/sodium bicarbonate, and at once connect

the flask with a condenser. Distil/50 mils, receiving the distillate under the surface of 50 mils of tenth-normal/iodine V.S. Acidulate the distillate with a few drops of hydrochloric acid, add/2 mils of barium chloride T.S., and heat on a water bath until the liquid is nearly/colorless. The precipitate of barium sulphate, if any, when filtered, washed/ and ignited, weighs not more than 0.0015 Gm., corresponding to not more than/0.002 per cent of sulphur dioxide in the Gelatin, correction being made for any/ sulphate which may be present in 50 mils of the tenth-normal iodine V.S.

Note - Gelatin used for making capsules for medicine contains not more/than 0.15 per cent. of sulphur dioxide.

Preparation-Gelatinum Glycerinatum.

Gelatinum

Gelatin

A product obtained from animal tissues, such as skin, ligaments, and/bones.

Description and physical properties - In sheets, flakes, shreds, or as a coarse or/fine powder. It is colorless or yellowish, and has a very slight characteristic/odor and taste. When dry it is stable in the air, but when moist or in solution/it decomposes.

Gelatin is insoluble in cold water, but swells and softens when immersed in/it, gradually absorbing from 5 to 10 times its own weight of water. It is soluble/in hot water, acetic acid, and in a hot mixture of glycerin and water. It is in-/soluble in alcohol, chloroform, ether, benzene, carbon disulphide, and in fixed/or volatile oils.

Tests for identity -- An aqueous solution of Gelatin (1 in 100) yields no precipitate/with copper sulphate T.S. or mercuric chloride T.S., but is precipitated by/solution of chromium trioxide or trinitrophenal T.S. Even a very dilute solu-/tion of Gelatin (1 in 5000) is at once rendered turbid by the addition of tannic/acid T.S.

Tests for purity -- A hot solution of Gelatin in distilled water (1 in 40) is free/from a putrid odor, and is not more than slightly acid to litmus paper. In a/layer 2 cm. in thickness the solution is only slightly opalescent and on

cooling/to 6°C., and standing for several hours, it forms a firm transparent or trans-/lucent jelly.

Incinerate 0.5 Gm. of Gelatin: it yields not more than 2 per cent of ash./ Dissolve this ash with the aid of heat in a slight excess of hydrochloric acid and/a few drops of nitric acid: the resulting solution diluted with distilled water to/25 cc. meets the requirements of the tests for heavy metals, page 439.

Heat 1.5 G.m. of Gelatin with 30 cc. of hydrochloric acid (1 in 4) in a 150 cc./ Erlenmeyer flask on a water bath, and, when the Gelatin has dissolved, add/3 cc. of bromine T.S., and heat on a water bath for thirty minutes, shaking/ the flask occasionally. Then add 0.5 Gm. of potassium iodide and follow it/with 0.5 cc. of a 25 per cent solution of stannous chloride. Heat the solution/for five minutes on a water bath, cool and subject it to the test for arsenic,/ gage 428. The stain, if any, is not greater than that produced in a test made/with the same quantities of the reagents and 2 cc. of the standard arsenic/test solution.

Dissolve 20 Gm. of Gelatin in 150 cc. of hot distilled water in a flask having a/round bottom and a long neck, add 5 cc. of phosphoric acid and 1 Gm. of/sodium bicarbonate, and at once connect the flask with a condenser. Distil/50 cc., receiving the distillate under the surface of 50 cc. of tenth-normal/iodine. Acidulate the distillate with a few drops of

hydrochloric acid, add 2 cc./ of barium chloride T.S., and heat on a water bath until the liquid is nearly/colorless. The precipitate of barium sulphate, if any, when filtered, washed and ignited, weighs not more than 0.003 Gm., corresponding to not more than / 0.004 per cent of sulphur dioxide, correction being made for any sulphate/which may be present in 50 cc. of the tenth-normal iodine.

Note - Gelatin to be used for capsules for medicines may contain not more/than 0.15 per cent of sulphur dioxide.

Preparation - Gelatinum Glycerinatum.

Gelatinum

Gelatin

A product obtained by the partial hydrolysis of collagen, derived/from the skin, white connective tissue, and bones of animals.

Description and physical properties -- In sheets, flakes, shreds, or as a coarse or/fine powder. It is colorless or yellowish, and has a very slight, characteristic/ odor and taste. When dry it is stable in the air, but when moist or in solution/it is subject to bacterial decomposition.

Gelatin is insoluble in cold water, but swells and softens when immersed/in it, gradually absorbing from 5 to 10 times its own weight of water. It is/soluble in hot water, in acetic acid, and in a hot mixture of glycerin and/ water. It is insoluble in alcohol, in chloroform, in ether, in benzene, in/carbon disulfide, and in fixed or volatile oils.

Tests for identity -- An aqueous solution of Gelatin (1 in 100) yields no precipitate with cupric sulfate T.S. or mercuric chloride T.S., but is precipitated by/ a solution of chromium trioxide or by trinitrophenol T.S. Even a very dilute/solution of Gelatin (1 in 5000) is at once rendered turbid by the addition of/tannic acid T.S.

Tests for purity -- A hot solution of Gelatin in dis-

tilled water (1 in 40) is free from/ a putrid odor, and is not more than slightly acid to litmus paper. Viewed/ in a layer 2cm. in thickness, the solution appears only slightly opalescent.

Place 0.1 Gm. of Gelatin, accurately weighed, in a test tube about 150 mm./ in length and having an internal diameter of 15 mm., and add enough distilled water to make the mixture measure exactly 10 cc. at 25° C. Place a stirring/rod in the tube and allow it to stand, with occasional stirring, for six hours. Place the tube in a bath of boiling water and stir until the Gelatin is com-/pletely dissolved and the solution throoughly mixed. At once remove the/stirring rod, stopper the tube tightly, and allow it to stand in a refrigerator/over night. Place the tube in a bath of ice water for thirty minutes, then/allow the temperature of the bath to rise slowly. When the temperature/ of the bath reaches 10°C. the jelly does not flow when the test tube is laid/on its side.

Incinerate 0.5 Gm. of Gelatin: it yields not more than 0.01 Gm. of ash./ Dissolve this ash with the aid of heat in a slight excess of hydrochloric acid/ and a few drops of nitric acid: the resulting solution, diluted with distilled/water to a volume of 25 cc., meets the requirements of the testfor heavy/metals Page 477.

Heat 15 Gm. of Gelatin with 60 cc. of dilute, arsenic-free hydrochloric acid/ (1 in 4) in a covered flask until

all insoluble matter is flocculated and the/Gelatin dissolved. Add an excess of bromine T.S. (about 15 cc.), neutralize/with ammonia T.S., add 1.5 Gm. of sodium phosphate, and allow to cool./ Add a slight excess (about 30 cc.) of magnesia mixture T.S., allow to stand/for one hour, filter, and wash with five 10-cc. portions of ammonia T.S., /diluted with 3 volumes of distilled water. Drain the precipitate well and/dissolve it in dilute arsenic-free hydrochloric acid (1 in 4) to a volume of/exactly 50 cc. Subject 5 cc. of this solution to the test for arsenic, page 436./ The stain, if any, is not more intense than that produced in a test made with/similar quantities of the same reagents and 1.5cc. of the standard arsenic/test solution.

Dissolve 20 G.m. of Gelatin in 150 cc. of hot distilled water in a flask having/ a round bottom and a long neck, add 5 cc. of phosphoric acid and 1 G.m. of/sodium bicarbonate, and at once connect the flask with a condenser. Distil/50 cc., receiving the distillate under the surface of 50 cc. of tenth-normal/iodine. Acidulate the distillate with a few drops of hydrochloric acid, add/2 cc. of barium chloride T.S., and heat on a water bath until the liquid is/nearly colorless. The precipitate of barium sulfate, if any, when filtered,/washed and ignited, weights not more than 0.003 Gm., corresponding to not/more than 0.004 per cent of sulfur dioxide, correction being made for any/sulfate which may be present in 50 cc. of the tenth-normal iodine.

Note -- Gelatin to be used in the manufacture of capsules in which to dis-/pense medicines may contain not more than 0.15 per cent of sulfur dioxide.

Preparation - Gelatinum Glycerinatum

Summary of U.S.P. and N.F. data of Gelatin

When and where official:

U.S.P. 1900, '10, '20, '30.

Official Latin Title:

Gelatinum, U.S.P. 1900, '10, '20, '30.

Official English Title:

Gelatin., U.S.P. 1900, '10, '20, '30.

Official Abbreviation:

Gelat., U.S.P. 1900, '10, '20, '30.

Official Synonyms:

None ever official

Official Definition:

U.S.P. 1900, '10, '20, '30

Scientific Name:

None ever official.

Official Description:

U.S.P., 1900, '10, '20, '30.

Official Preparations:

Gelatinum Glycerinatum, U.S.P. 1910, '20, '30.

Official Dose:

None ever official

Official Assay:

None ever official

APPROVED BY

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