

Improvements in the manufacture and production of a pharmaceutical product.

Contributors

Vereinigte Chininfabriken Zimmer & Co.
Johnson, James Yate
Johnsons & Willcox.

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Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
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Date of Application, 18th Feb., 1896

Complete Specification Left, 4th Nov., 1896—Accepted, 19th Dec., 1896

PROVISIONAL SPECIFICATION.

Improvements in the Manufacture and Production of a
Pharmaceutical Product.

I, JAMES YATE JOHNSON of 47 Lincoln's Inn Fields, in the County of London, Gentleman do hereby declare the nature of this invention (which has been communicated to me from abroad by the Firm or Company trading under the title of "Vereinigte Chininfabriken Zimmer & Co." of 46 Darmstaedter Landstrasse, Frankfort-on-the-Main in the Empire of Germany) to be as follows:—

The fact that menthol is fit to be applied externally, as a remedy for certain ailments, is generally known; but it has hitherto, only to a limited extent been administered as medicine for internal use notwithstanding its conspicuous stimulating and restorative properties. The main difficulty that has so far stood in the way of its introduction into use as medicine to be taken internally is its acrid burning taste; a difficulty enhanced by the absence of any suitable solvent for it. The fact is that the usual solvents of menthol are either altogether unsuited to internal use (such for example, being the case with chloroform, sulphuret of carbon ligroine and the like,) or if brought to the requisite degree of concentration, they are incapable of overcoming the pungent taste of menthol or of checking its irritating action upon the mucous membranes and in the case of alcohol and ether for instance the irritation is actually intensified. Natural peppermint oil contains menthol in widely varying proportions, and would not therefore admit of dosing with the requisite precision, in addition to which, owing to the presence of its other constituents it precludes the menthol proper from producing its full effect.

My foreign correspondents have discovered that fluid ethers such as are obtainable from fatty or other acids and menthol (and amongst which the ether of menthol and valerianic acid may be particularly instanced) are solvents which enable the menthol to be dosed very exactly the menthol being soluble in them in any desired proportions.

These ethers at the same time, render the menthol non-injurious to the human system, and even where solutions containing high percentages of menthol are prepared through their agency, these solvents have the property of considerably tempering the taste of the menthol, while they assist its action, and render it effective and lasting; so that a small quantity of the solution suffices to produce most powerful effects without causing any caustic or irritating action, such as would unavoidably occur were the menthol taken, either pure, or dissolved in any other solvent.

The said menthol solutions can be prepared as follows. The required quantity of pure menthol may either be dissolved in pure menthol ether; or, in preparing this ether only part of the menthol employed may be converted into ether, instead of the entire quantity. The amount of unconverted menthol may be readily determined by saponifying the ether, and then proportioning it to the desired percentage.

Good preparations have been obtained by dissolving from 10 to 30 *per cent.* of menthol in menthol-ether of valerianic acid; but the composition may vary according to requirements. Solutions such as these will prove to be excellent restoratives and invigorators, with the additional advantage of being free from

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that sharpness or causticity which is peculiar to other restorative agents such as camphor, ether, musk and the like. The instantaneous effect of the free menthol contained therein is, when once produced, unremittingly sustained by the solvent owing to its being a menthol ether; while at the same time, the valerianic acid manifests its extremely beneficial effect on the stomach and nervous system, without the offensive and nauseous odour and taste of the valerian being noticeable. 5

Dated this 18th day of February 1896.

JOHNSONS & WILLCOX,
47 Lincoln's Inn Fields, London, W.C., Agents. 10

COMPLETE SPECIFICATION.

Improvements in the Manufacture and Production of a
Pharmaceutical Product.

I, JAMES YATE JOHNSON of 47 Lincoln's Inn Fields, in the County of London Gentleman do hereby declare the nature of this invention (which has been communicated to me from abroad by the Firm or Company trading under the title of Vereinigte Chininfabriken Zimmer & Co. of 46 Darmstaedter Landstrasse Frankfort-on-the-Main, in the Empire of Germany) and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:— 15 20

The fact that menthol is fit to be applied externally, as a remedy for certain ailments, is generally known; but it has hitherto only to a limited extent been administered as medicine for internal use, notwithstanding its conspicuous stimulating and restorative properties. The main difficulty that has so far stood in the way of its introduction into use as medicine to be taken internally is its acrid burning taste; and a further difficulty has been the want of any suitable solvent for it. The fact is that the usual solvents of menthol are either altogether unsuited to internal use (such, for example, being the case with chloroform, sulphuret of carbon, ligroine, and the like) or if brought to the requisite degree of concentration, they are incapable of overcoming the pungent taste of menthol, or of checking its irritating action upon the mucous membranes, and in the case of alcohol and ether, for instance, the irritation is actually intensified. Natural peppermint oil contains menthol in widely varying proportions and would not therefore admit of dosing with the requisite precision, in addition to which owing to the presence of its other constituents, it precludes the menthol proper from producing its full effect. 25 30 35

My foreign correspondents have discovered that fluid ethers such as are obtainable from fatty or other acids and menthol (and amongst which the ether of menthol and valerianic acid may be particularly instanced) are solvents which enable the menthol to be dosed very exactly, the menthol being soluble in them in any desired proportions. These ethers at the same time, render the menthol non-injurious to the human system, and even where solutions containing high percentages of menthol are prepared through their agency, these solvents have the property of considerably tempering the taste of the menthol while they assist its action, and render it effective and lasting; so that a small quantity of the solution suffices to produce most powerful effects, without causing any caustic, or irritating action, such as would unavoidably occur were the menthol taken, either pure, or dissolved in any other solvent. The said menthol solutions can be prepared as follows:—The required quantity of pure menthol may either be dissolved in pure menthol ether; or, in preparing this ether, only part of the menthol employed 40 45 50

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may be converted into ether, instead of the entire quantity. The amount of unconverted menthol may be readily determined by saponifying the ether, & then proportioning it to the desired percentage.

Good preparations have been obtained by dissolving from 10 to 30 *per cent.* of menthol in menthol-ether of valerianic acid, but the composition may vary according to requirements. Solutions such as these will prove to be excellent restoratives and invigorators, with the additional advantage of being free from that sharpness, or causticity, which is peculiar to other restorative agents such as camphor, ether, musk, and the like. The instantaneous effect of the free menthol contained therein is, when once produced, unremittingly sustained by the solvent, owing to its being a menthol ether, while at the same time, the valerianic acid manifests its extremely beneficial effect on the stomach and nervous system, without the offensive and nauseous odour and taste of the valerian being noticeable.

16 Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed I declare that what I claim is:—

1. The manufacture of preparations of menthol by the employment of fluid ethers such as are obtainable from fatty or other acids and menthol as solvents substantially as hereinbefore described.

2. The manufacture of preparations of menthol by the employment of menthol-valerianic ether as a solvent, substantially as hereinbefore described.

3. The manufacture of a preparation of menthol by converting a portion of the menthol into ether substantially as hereinbefore described.

25 4. As new articles of manufacture the preparations of menthol such as can be produced by the means hereinbefore described and claimed.

Dated this 4th day of November 1896.

JOHNSONS & WILLCOX,
47 Lincoln's Inn Fields, London, W.C., Agents.

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