it is only about half pure amyl alcohol. As I have before stated, it is of the utmost importance, in the preparation of nitrite of amyl, that the amylic alcohol be as pure as possible, for it is much easier to purify this than to purify the nitrite produced from it in its impure state. For this purpose, the best process is first to agitate the fusil oil with about an equal bulk of a strong solution of chloride of sodium; this usually reduces its bulk about 16 or 20 per cent. and also considerably lowers the specific gravity. This washed product is separated and introduced into a retort furnished with a thermometer; that portion of the distillate which passes over before the temperature reaches 125° C. consists mainly of the lower alcohols of this series, and whose boiling points are below that of amylic alcohol, for the boiling point rises in proportion as the compound is richer in carbon. The distillate collected between 125° C. and 140° C. is collected apart, and redistilled until it has a boiling point near 132° C.; this may then be considered pure enough for our purpose. This is then introduced into a glass retort containing some copper wire, and furnished with a safety tube, and one-tenth its bulk of $H_2S\,O_4$ added. The same quantity of $H\,N\,O_3$, diluted with an equal volume of water, is next put in, and a very gentle heat applied until the temperature reaches about 65° C., when the reaction will commence and proceed in a perfectly manageable manner, until a bulk about equal to double the quantity of $H\,N\,O_3$ added collects in the receiver, the temperature in the meantime rises to about 98° C. The reaction ceases very quickly, as in the case of spirit of nitrous ether. The temperature having fallen somewhat, another portion of $H\,N\,O_3$, equal in bulk to the first, is added, and this process of successive additions of the acid continued until nearly the whole of the amylic alcohol is exhausted, which may be known by the dense red fumes evolved from the retort. The distilled product exceeds in bulk the amylic alcohol used, and is the impure nitrite of amyl. This is washed with solution of $Na\,H\,O$ to remove the $H\,C\,N$ and other free acids present, and rectified over fused $K_2C\,O_3$ to get rid of moisture. The portion which distils between 95° and 100° C. is collected as nitrite of amyl, sufficiently pure for medicinal use.

It has several times been stated that nitrite of amyl produces violent headache, and also coughing and irritation of the larynx; this, I think, must be due to its insufficient purification. The presence of $H\,C\,N$ and undecomposed amylic alcohol would, I think, account for this; no such effect was produced on myself with the purified nitrite. Mr. Umney has shown, in an article in the *Pharmaceutical Journal* of November, 1870, that the samples then met with were very impure.