

## INVENTIONS, NOTICES OF PREPARATIONS, &c.

*We are glad to be able to announce to our readers that we have now matured arrangements for an occasional supply of information in this column of new and interesting matter connected with inventions of a kind adapted to the character of this journal.*

*"Have you an idea for a patent?" Our readers are requested to send us any new ideas they may have, however simple, and they will promptly receive the advice of a leading patent specialist gratis.*

*All communications under this head should be addressed to the Editor, with the word "Invention" plainly written on the left hand corner of the envelope.*

### A NORWEGIAN INHALER.

MR. F. STORMER, an engineer, has invented an inhaler which has been highly spoken of in Norway and Paris. The principle of the apparatus is as follows: The solution of the drug is first divided by a fine spray, producing a moist fog, or mist, and afterwards it is evaporated so as to leave the drug perfectly dry in the form of an extremely fine powder, which can be easily inhaled with the respiratory air. Dr. Blomberg states that he has used it in several cases, such as chronic catarrh of the nose, the throat, the larynx, and bronchi, with marked success. The advantage which this apparatus possesses, compared with those at present in use, is that the drug is quite dry, and at the same time so finely divided that gravity acts only feebly on it, and the dust can thus be conducted by the respired air to the very terminal canals of the lungs.

The apparatus is heated at one end to a temperature of about 100 to 110 degrees centigrade; the temperature at the other end, when the spray is working, is then 40 to 50 degrees.

From every small globe of the spray, which is driven into the apparatus, the particle of drug dissolved will be separated. The finer the spray, the finer will be the resulting solid particles.

The concentration of the solution also determines the size of the particles. Supposing two drops or globes of the same size, the one containing a solution of 1/100 and the other of 1/1000, there will be ten times as much drug in the one as in the other. The particles from 1/1000 solution will therefore be only one-tenth the size of those from the other solution. This has been proved by microscopic examination of the crystals, which have been collected by passing the air from the inhaler through a case containing pieces of glass for microscopic use, on which the dust settles. The whole proves to be composed of fine crystals (supposing nitrate of silver to be used, as has been the case in all patients).

The inhalations have been of five to fifteen minutes' duration, and the solutions of nitrate of silver have varied from 1/50 to 1/1000. The longer applications, and the more concentrated solutions, have been used for affections of the nose, throat, and larynx. On inhalations through the nose the nitrate does not appear to go farther down than to the beginning of the throat. In inhaling strong solutions through the mouth it is possible to limit the effect to the throat (and larynx) by making a number of short and superficial inspirations. No irritation or other reaction phenomenon, such as severe cough, oppression or fatigue, occurs in these patients.

In bronchial affections on the other hand the solutions used have been 1/1000 to 1/2000 and shorter applications. In such cases the respirations ought to be deep and powerful, with the mouth and glottis wide open, and the fine particles penetrate deeply. During the inhalation strong paroxysms of coughing occur, with easier and more copious expectoration than commonly takes place. In most patients some dyspnœa, feeling of oppression, and sometimes fatigue, occur immediately after the inhalation. When this primary effect—which is probably due to reactive hyperæmiæ and augmented exudation from the bronchi—has passed off a sensation of lighter and easier respiration with lessened cough and easier expectoration occurs. The primary effect commonly diminishes gradually, until at last it ceases completely. The action of the nitrate of silver seems to be quite local, and there is hardly any question of absorption. Some of the nitrate falls in the mouth and is swallowed, but in the ten cases treated, no ill effects on the digestion have been seen.

Dr. Blomberg states that he had never seen any but good results from the treatment with this inhaler and nitrate of silver—in two cases the results were even surprising. These inhalations will often be a great assistance in cases where other modes of treatment do not succeed, specially in chronic diseases of the respiratory organs. The best results are to be obtained in chronic, and particularly in uncomplicated bronchitis.

Since this report was given, Dr. Blomberg has continued the use of the apparatus with the very best results; many cases of convulsive cough have been treated, all with remarkable results.

At the sanitary station, Modum, the apparatus was tried last summer.

The apparatus was tried on sixteen patients with the following results:—

				Very	With-
				Cured.	out
				much	result.
				improved.	
Chronic Bronchitis and Asthma	...	1	...	7	0
Chronic Nose and Throat Catarrh	...	0	...	3	0
Chronic Laryngite	...	0	...	2	0
Tuberculous Laryngite	...	0	...	0	3

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