

Paraldehyde in Insomnia.

Surgeon J. R. Tryon reports the case of a man who had been in the service about twenty-three years, and whose health had always been good until October, 1882, when he became afflicted with insomnia. By change to shore duty during the following year he obtained relief, but on his return to sea service on the Mexican coast the attack returned, together with general debility. In October, 1883, he was detached and sent home. He went to the mountains of North Carolina and remained there until June, 1884, when he was again ordered to sea. During the time spent on shore the insomnia gradually disappeared, but his general health improved slowly, and at the time he reported on board for duty he was far from well, and required tonics.

After several months the attacks of insomnia again recurred. Various hypnotics, sedatives, tonics—in fact, every remedy that promised success—had been used, but only with temporary relief. His habits were good; tobacco, tea, coffee, and everything that might contribute to his affection were excluded. The only discoverable organic lesion was slight hypertrophy of the heart. Urine contained phosphates in excess. About this time he was ordered Horsford's acid phosphate and the compound sirup of the hypophosphites, which, added to longer stays in port, produced some beneficial effect.

"He had himself noticed an account of the action of paraldehyde, and requested that it be tried on him. The first dose was 2 c. c., taken in the daytime, but probably on this account without effect. The second dose was 3 c. c., which produced four hours' sound, uninterrupted sleep, something quite unusual for him. Subsequently, doses from 3 to 4 c. c. were given about twice a week only, after vainly trying for about an hour to sleep without it. These doses have always been found sufficient to produce sound sleep, sometimes for the best part of the night, and never for less than two hours at a time. To avoid a diminution of effect, it has been given only when absolutely necessary, and so far, two, or at most three, doses a week have been sufficient. The sleep is sound, dreamless, and, unlike chloral or morphia, leaves no unpleasant effect. . . . It has a cooling taste, produces a feeling of warmth in the stomach, but has no effect on the heart, pulse, or temperature. His general health since he has been taking the drug, and been able to procure refreshing sleep, has greatly improved; but this may be partially due to the phosphate, which he is still taking."—*Report Surgeon-General, U. S. N.*

Photo-thermography.

We have received the following communication, together with two pictures on glass, from Mr. George Mason, of Glasgow:

"I send you on to-night a transparency of one of the most wonderful things in the way of impressions I have ever seen. This picture, as you see it, is photographed from a piece of glass that covered an etching on which it must have imprinted itself from the etching behind. However, the etching and the glass in frame were never in contact, as there was an overmount between.

"The etching has been in the frame for some years, and has been hanging in a strong light. Messrs. Lawrie & Son, the fine art dealers here, sold the etching, and on removing it from the frame found the front glass had a faint impression of the picture on it, which we have photographed to send to you. From the transparency inclosed you will see the result. Of course the exposures turn out positives, the glass being negative in impression. The frame was three feet seven inches by three feet. The picture was one foot eleven inches and one foot three inches, the subject *The Pied Piper of Hamelin*. A mount fitted between the picture and the glass.

"Now this glass would be about a sixteenth of an inch away from the etching, and in front of it. Have you any idea how the impression could be taken up? It must have been thrown back from the picture to the surface of the glass again. It is such a curious thing, and probably new to you, that you might be able to make some use of it."

Having carefully examined these truly interesting photographs, we shall endeavor to give a few words of explanation concerning the phenomena.

There is a principle in physics first investigated by M. Ludwig Moser, who in 1842 announced the following fact: "If a surface has been touched in any particular parts by any body, it acquires the property of precipitating all vapors which adhere to it, or which combine chemically with it on these spots, differently to what it does on the other untouched parts." This was the form in which the law was first announced, but further investigation showed that contact was not necessary, mere juxtaposition sufficing. Emanations were found to be given off from one body to

another, in virtue of which vapors were condensed on certain parts in preference to others. Moser designated the phenomena as having been produced by "invisible light," but Hunt adopted the more philosophical term thermography, and made numerous and valuable investigations in this department of physical science, which he published in the *Philosophical Magazine* of the period, and elsewhere. Having found that a blackened paper gave more forcible radiations than a white one, he tried the copying of printed matter, and eventually succeeded in doing so, developing the image by various agencies. The specimens received from Mr. Mason possess an exceptional degree of interest, and are by far the best examples we have seen. That their existence is attributable to thermography, however unhappily it may be named as applicable to this case, we have no doubt.—*British Jour. of Photo.*

THE RACQUET TAILED KINGFISHER.

The Obi Island tanysepta has the head and wing coverts brilliant ultramarine and the rest of the back and wings deep indigo. The entire under surface of the body is creamy white, and the beak vermilion, while the median pair of tail feathers are greatly prolonged, to a length, perhaps, of nine or ten inches in

**THE RACQUET TAILED KINGFISHER.**

full plumage. They are dark ultramarine in color and very narrow, but terminate in a racquet-shaped expansion of snowy whiteness.

I watched the bird sitting on the boughs a few feet only above the ground, motionless but for an occasional rapid movement of the head. Suddenly there was a flash as of a blue meteor descending to the ground, and a moment later the lovely creature had returned to his perch, and sat hammering away at the small crustacean he had found; the whole action reminding me strongly of that of the bee eaters.—*Dr. F. H. H. Guillemard, Cruise of the Marchesa.*

Cleaves' Method of Blue Printing.

At the recent convention of the American Society of Mechanical Engineers, Professor R. H. Thurston thus refers to this process:

"It gives me great pleasure to present to the society a copy of a very large blue print made by Professor E. C. Cleaves, of the Sibley College of Cornell University, by a new method devised by him, by means of which almost any desired size may be made.

"By the common method the larger sizes are difficult to make satisfactorily; the plate glass needed for the apparatus is very costly, and is subject to serious risk of breakage, and the whole arrangement becomes clumsy and difficult of management. By the process adopted by Professor Cleaves no plate glass is required; the apparatus is simple and easily and conveniently handled; and the size and cost of apparatus bear very little relation the one to the other. Any size likely ever to be required in any work of the engineer can be as easily made as the smaller sizes, and the cost and diffi-

culty of construction of the apparatus are never likely to be such as to constitute a bar to the use of this system of printing. There is no practical difficulty in getting up an apparatus to print a drawing ten feet wide and thirty feet long, if it should be found desirable. That here exhibited in illustration of what can be done is three and one-half feet wide and eight feet long, and is probably the largest blue print yet made by any process.

"Professor Cleaves' apparatus consists merely of a cylinder of a length exceeding that of the widest drawing to be reproduced, and of a diameter such that the longest tracing to be used can be wrapped around it with sufficient space to spare to give room for the clamps by which it is drawn into place and held. The cylinder is smoothly covered with felt and the sensitive paper carefully wrapped about it, the tracing to be copied being drawn over the whole and held smoothly in place by spring clamps, which seize its ends. It is found to be easy to lay the tracing smoothly over the surface, and to draw it into contact so perfectly that the work done by this method is even better and more certain than that produced by the ordinary plate glass apparatus, even with the air cushion now so successfully used with it. The print shown has a defect at one corner; but it is the only defective one yet made, and was selected to send simply because it was feared that there might be some danger in sending it by express, and it was preferred to risk this rather than another. It is easy, with a little care and with some practice, to make these prints absolutely perfect, much easier than with glass.

"The apparatus being ready for use, it is mounted on a cradle, supported by its gudgeons, and is revolved in the sun by means of a cord leading from some convenient line of shafting; or it may be turned by hand until the exposure is satisfactorily complete. It requires a little more time to print a sheet by this method than by the old, as the tracing and the underlying sensitive paper is but one-half the time exposed to the rays of the sun. With these exceptionally large prints, however, for which only this process would be employed, this is not an important matter. They are not likely to be made every day."

Patents as Monopolies.

In view of the fierce attacks sometimes made on valuable patents, it is well to remember that they represent a monopoly of but limited duration, and that their very value lies in the economy that they effect in some way for the people who use them. The use of a patented article is in every instance, we believe, a matter of deliberate choice as to a convenience, and not the resort to an absolute necessity. The other side of the "monopolies" is rather neatly brought out in the following from the *Omaha Bee*: "A displeased correspondent of the *New York World* wrote to that paper and asked it to answer, if it could, 'What unpatented American industry is a monopoly in this country?' That journal referred him to the oil and coal industries. If the correspondent wants further information, let him come West, come to Nebraska, and gaze upon the workings of both patented and unpatented monopoly industries. We can show him where railroad companies

not only own coal mines, but where they fix a price that is beyond all reason, and make the price within one hundred miles of the mines the same as they charge four hundred miles further east. We can show him where unpatented lime is owned and handled exclusively by one railroad company and peddled all over the State at the same price—distance making no difference. We can show him where salt from great salt works is sold in the same manner. We can show how unpatented dealers get special inducements, and how outrageous freights are charged on unpatented railroads. We could show him 'unpatented American industries which are monopolies,' by reason of the aggressions of great corporations, until his eyes would water, and he would gasp for breath."

After all, the inventor who arrives at great results by years of patient toil and the exercise of his unique talent is a very creditable monopolist, and we wish there were more of his kind. It sometimes happens, too, that large fortunes are acquired by those who obtain an interest in his inventions, but there is little to deplore in that, for they can only grow rich out of the greater economy effected in some special device for public benefit or by some improvement in manufacture.—*Electrical World.*

Hay Fever Cure.

Dr. Moorhead writes, in the *British Medical Journal*, that he has obtained relief from hay fever, his annual persecutor for thirty years, by hypodermic injection of one-twentieth of a grain of morphia and one two-hundredth of a grain of atropin night and morning. The relief was complete.