

Now we would like to know of Dr. Bigelow, whether any such restricted object is contained in the patent? None such appears in the proprietor's advertisement, and we apprehend that time will show that the sale is only limited by the price and disposition to purchase.

"We understand," says Dr. B., "already, that the proprietor has ceded its use to the Massachusetts General Hospital, and that his intentions are extremely liberal with regard to the medical profession generally." Not a word of the sort is in the proprietor's advertisement. Did not Swain give his panacea to the poor gratis, and a lot of ground to build a church on to boot? And did not John Williams, the oculist, with a trunk full of seals and royal testimonials, invite all the reverend clergy to come to him, and to bring with them all the poor blind people of their parishes, that he might cure them without money and without price?

The "preparation" is inhaled from "a small two-necked glass globe," and smells of ether, and is, we have little doubt, an ethereal solution of some narcotic substance. The patient is rendered insensible for a period of from five or ten minutes to an hour; the pupils are dilated; "very young subjects are affected with nausea and vomiting," and for this reason Dr. M. has refused to administer it to children." In one case, a patient of Dr. Dix, "the respiration was very slow, the hands cold, and the patient insensible." Various active measures were found necessary to restore the patient, and "complete consciousness returned only at the expiration of an hour."

We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty, into the quagmire of quackery by this will-o'-the-wisp; and if any of our respectable dentists should be tempted to try this new "patent medicine," we advise them to consider how great must be the influence of an agent over the nervous system, to render a person unconscious of pain—the danger there must necessarily be from such overpowering medication, and that if a fatal result should happen to one of their patients, what would be the effect upon their conscience, their reputation and business, and how the practice would be likely to be viewed by a Philadelphia court and jury? We cannot close these remarks, without again expressing our deep mortification and regret, that the eminent men, who have so long adorned the profession in Boston, should have consented for a moment to set so bad an example to their younger brethren, as we conceive them to have done in this instance. If such things are to be sanctioned by the profession, there is little need of reform conventions, or any other efforts to elevate the professional character—physicians and quacks will soon constitute one fraternity.—*Philadelphia Medical Examiner*, Dec., 1846.

## CHEMISTRY.

### GUN-COTTON—XYLOIDINE.

It is rather more than two months since we inserted a notice of a remarkable chemical discovery reported to have been made by Professor Schönbein of Basle. We allude to the preparation of cotton so as to give it fulminating properties, and to render it a safe, inexpensive, and simple substitute for gunpowder. We then announced it as probable, that the professor would give a full account of his alleged discovery at the meeting of the British Association at Southampton. To the surprise and disappointment of all scientific men, this meeting was converted into an advertising medium for the so-called gun-cotton; and the professor declined to give the least intimation respecting the preparation of the substance, as it was his intention to take out a patent for it, and thus render it a commercial speculation. After the noble example of Sir H. Davy, who declined to patent his safety-lamp, we should have thought scientific men would have hesitated before resorting to the patent laws for a pecuniary remuneration; and we certainly think that the British Association committed a grave error in allowing the subject to be brought publicly forward, when there was no intention, on the part of the alleged inventor, to describe the process by which the gun-cotton was prepared.

Within the last week, public attention has been much directed to the subject. It is reported that the German Diet has conditionally awarded 100,000 florins as a reward to the inventor. The *Athenæum* informs its readers that a hundred weight of the

gun-cotton is now on its way from Basle to Woolwich, having been ordered by our government with a view of testing its applicability to heavy ordnance.

In the meantime, although it does not appear that Professor Schönbein had divulged his secret, Dr. Otto, professor of chemistry in Brunswick, has addressed a letter to the *Hanoverian Gazette*—since published in the *Times*—in which he states that he was led, from the researches of Pelouze, to infer that the cotton was soaked in nitric acid of a certain strength, washed, and dried. Thus the secret of the gun-cotton became at once public. On the 4th of October, Dr. Otto performed certain experiments with his preparation, the results of which satisfied him that it must be identical with the gun-cotton of Schönbein. At a late meeting of the Academy of Sciences in Paris, M. Arago gave an account of certain experiments performed with prepared cotton by M. Morel, the results of which satisfactorily showed that it was capable of forming an admirable substitute for gunpowder; and with all that enthusiasm which characterises our Gallic neighbours, M. Arago pictured an army entering on a campaign, with a few bales of cotton and a few gallons of nitric acid, making their own explosive cotton as they required it! M. Morel, it is stated, has secured a patent for France; and, so far as we can ascertain, he has acquired his knowledge of the subject independently of any communication from M. Schönbein. The latest intelligence is that the last-mentioned gentleman has procured a patent for England and her colonies.

Having thus given a slight history of what has transpired publicly on this subject, we now propose to consider how far M. Schönbein has a claim to be regarded as the inventor of gun-cotton, assuming that he employs nitric acid like Dr. Otto and M. Morel.

About six or seven years since, it became pretty generally known to the chemists of England, from the researches of M. Pelouze, that when woody fibre, whether as paper, sawdust, or linen, was saturated with strong nitric acid, washed, and dried, its properties were considerably altered. A principle called *xyloidine* was produced; and the woody fibre, although all the acid was washed out of it, burnt rapidly, and often with explosive violence. We saw this experiment made about six years since; but from that time the subject appears to have received from chemists no particular notice, until the alleged invention of Schönbein recalled the attention of Dr. Otto and others to the researches of Pelouze.

In various chemical works published in 1842-3, the action of nitric acid on woody fibre is especially mentioned. Thus, in Turner's Chemistry, it is stated, in reference to woody fibre,—"In strong nitric acid sawdust dissolves; and on the addition of water, a white insoluble powder is deposited, which contains nitric acid, and explodes when heated." In Graham's Chemistry the facts are more explicitly stated, as the following extract will show:—"Nitric acid, in its highest state of concentration, exerts no violent action upon certain organic substances, such as lignin or woody fibre and starch, for a short time, but unites with them, and forms singular compounds. A proper acid for such experiments is procured with most certainty by distilling 100 parts of nitric acid with no more than 60 parts of the strongest oil of vitriol. [These are exactly the proportions recommended by Dr. Otto.] If paper is soaked for one minute in such an acid, and afterwards washed with water, it is found to shrivel up a little, and become nearly as tough as parchment, and when dried, to be remarkably inflammable, catching fire at so low a temperature as 356 deg., and burning without any nitrous odour (Pelouze)."

Professor Graham here, it will be seen, gives, in 1842, an outline of Pelouze's discovery, and by the substitution of cotton for paper, it becomes the so-called discovery of another in 1846!

We shall now give an extract from the *Traité de Chimie* of M. Dumas. At page 12, tome vi., published in 1843, this author says:—"When cloth (either linen or cotton,) or a sheet of paper, is soaked for a few minutes in nitric acid of a specific gravity of 1.4, and afterwards washed in water, the xyloidine formed at the expense of a part of the vegetable tissues remains locked up in the fibre, rendering the paper and the cloth impermeable to water, and much more combustible. These properties suggested to M. Pelouze the idea of employing them in the manufacture of cartridges for artillery!"

\* Lorsqu'on trempe pendant quelques minutes un morceau de toile ou une feuille de papier dans l'acide azotique à 1.4 de densité.