

## SPECIAL CORRESPONDENCE OF THE SCIENTIFIC AMERICAN.—AFFAIRS AT THE PATENT OFFICE.

WASHINGTON, D. C., Sept. 2, 1868.

You have already announced that Commissioner Foote is hard at work reorganizing the business of the Patent Office. His reform promises to be very thorough. Laziness is a thing not to be tolerated any more, expenses will be cut down to the lowest figure, and the Office be put upon a thorough working basis. The practice of paying forty-eight dollars per thousand for manilla envelopes has been discontinued, and the daubing over of stone columns with cobalt blue is not likely to be repeated at present. The Commissioner has made several changes relative to preparing the annual report, printing specifications, etc., which will greatly reduce the expenses, and advance the true interests of the office.

Among other reforms introduced, is that of examination of examiners, to see if they are qualified for their duties. W. B. Taylor and J. W. Jayne, Examiners, and B. F. James, of the Appeal Board, are appointed to examine applicants for positions in the Office, and hereafter, before any appointment can be made the candidate will be thoroughly examined as to his fitness for the place. He must possess at least some show of qualification or he cannot be appointed. All those now in the Office will have to submit to this examination, and if found unqualified will be discharged. They must have on the wedding garment or they cannot sit at the feast.

The Commissioner intends to raise the standard of principal examiners to that of the judges of our common courts, and means to do away with the practice heretofore in vogue of appointing persons to positions simply because they happen to be related to some M. C. or Senator.

It is not stated whether any examination as to moral qualification is to be made, but it will do the candidates no harm to put to them a few questions from "Watts on the Mind," and the old-fashioned "Westminster Catechism," books too much neglected by officials now-a-days. There is considerable interest felt about this new procedure, and it is already reported that some of the officials with hair erect, are expecting momentarily to be summoned before the new Tribunal. Mr. Taylor, who has had long experience in examining shooting irons, is expected to throw in some sharp shots. Judge James will apply the legal rules, and Mr. Jayne will do his share of the heavy work. The board is really a very able one, and Commissioner Foote has shown wisdom in making the selection. The board will soon organize, and proceed *secundum artem*.

You have, for some time, been aware of the fact that the Examiners have been seriously hampered for room in which to transact their business, and owing to the lack of a little gumption on the part of former Commissioners, no efforts were made to remove the clog. I am happy to say that five rooms in the basement formerly occupied by the Agricultural Department, have been turned over to the Patent Office, and will be occupied by the chemical department under Professor Hedrick and other purposes.

The appointment of Judge Foote to the Commissionership, will do much to break up some mischievous cliques, which have swarmed about the Office like hungry flies—this class of which I am now speaking are really a serious pest, and it wants a high-toned Commissioner to keep them in their proper places, and to teach them that the Patent Office can be managed without their assistance and advice.

The Office will soon be all that inventors have a right to expect; and that their claims will be liberally treated, no one need fear or doubt. Judge Foote is a warm friend to the inventor.

There is a report that Mr. Grinnell, at present an examiner, is to take the place of Gen. Stout, as Chief Clerk, but I think this is somewhat premature. Gen. Stout is now absent, and it is not likely that any change will be made, if at all, until his return.

After a very severe contest the Commissioner has decided to extend the Haywood India Rubber Patent, which is considered to be very valuable. COMMUNE BONUM.

## Chemical and Technical Prizes.

The *Société d'Encouragement pour l'Encouragement pour l'Industrie Nationale* of Paris has established the following prizes for solving the subjoined questions. The details may be found in the *Programme des Prix et Médailles mis en Concours de la Société d'Encouragement, Paris, rue Bonaparte No. 44* (1867).

1. 2,000 francs for an improved method for preparing oxygen on a large scale. (Answer in 1869).
2. 3,000 francs for a technical application of binoxide of hydrogen. (Answer in 1869).
3. 3,000 francs for a cheap method for preparing ozone. (Answer in 1871).
4. 2,000 francs for converting the nitrogen of the atmosphere into a stable form, as nitric acid or ammonia. (Answer in 1869).
5. 2,000 francs for manufacturing cyanides by the aid of atmospheric nitrogen alone. (Answer in 1871).
6. 3,000 francs for manufacturing oil of vitriol without arsenic from pyrites. (Answer in 1870).
7. 1,000 francs for technical application of some common and cheap mineral substance. (Answer in 1868).
8. 1,000 francs for rendering valuable the various residues of manufactories. (Answer in 1869).
9. 1,000 francs for useful applications of the newly discovered metals—thallium, magnesium, indium. (Answer in 1870).
10. 1,000 francs for the same of non-metallic elements, as

silicium, borax, bromine, iodine, selenium, phosphorus. (Answer in 1870).

11. 1,000 francs for the discovery of a new and valuable alloy. (Answer in 1871).
12. 3,000 francs for the preparation of artificial plumbago adapted for lead-pencils. (Answer in 1872).
13. 3,000 francs for producing artificial black compact diamonds. (Answer in 1872).
14. 4,000 francs for discovering a process by which useful organic substances, such as quinia, indigo, alizarine, cane-sugar, etc., may be manufactured. (Answer in 1872).
15. 4,000 francs for discovering a method for the artificial production of fatty acids or waxes. (Answer in 1874).
16. 6,000 francs for a method of manufacturing steel founded on reliable experiments. (Answer in 1872).
17. 5,000 francs for a method which disinfects the refuse matter of gas factories. (Answer in 1869).
18. 1,000 francs for a method which rapidly disinfects and clarifies the water of culverts. (Answer in 1868).
19. 1,500 francs for an ink which does not injure steel pens. (Answer in 1868).
20. 3,000, 1,500, and 500 francs for the application of borax or boracic acid in pottery; for the discovery of new sources of boracic acid in France or her colonies, and for a composition which may replace boracic acid in the glazing of porcelain ware without increasing the cost. (Answer in 1868).
21. 1,000 francs for a practical application of dialysis. (Answer in 1868).
22. 1,000 francs for a practical application of dialysis to gases, such as separation of oxygen from air; distinction of noxious gases in confined spaces; discovering of a diaphragm, by means of which, in rooms lighted by gas and kept ventilated, to prevent explosion, the gas may be permitted to escape while the air is retained (?). (Answer in 1868).
23. 1,000 francs for the best mode of heating and at the same time ventilating rooms. (Answer in 1868).
24. 1,000 francs for a good filter for drinking water. (Answer in 1869).
25. 1,000 francs for a new and ready method by which fresh meat, game, or fish may be preserved at least for thirty days. (Answer in 1868).
26. 6,000 francs for a mode of permanent disinfection of water closets. (Answer in 1871).
27. 1,000 francs for practical introduction of Pasteur's method in the manufacture of vinegar. (Answer in 1868).
28. 2,000 francs for a book on the manufacture of wine, etc. (Answer in 1870).
29. 3,000 francs for the best apparatus to preserve and transport wine in. (Answer in 1870).

## MODERN PENMANSHIP.

We gave last week some illustrations of the pictorial written languages of savages. A natural sequence to the train of thought suggested by that article, is the written language of modern times. In the written language of civilized nations we find arbitrary characters, representing sounds which, in combination, are used to represent things and ideas. The history of these characters contains many matters of interest; but in the present article we wish to confine ourselves to the discussion of the forms of the letters used in modern penmanship, and to show that the observance of these forms entails a large amount of useless labor, which renders the system inadequate to modern business exigencies. We further believe that the conventional forms of which we speak are capable of modification, so as to be equally legible while they could be far more rapidly written. The two great elements which are of vital importance in business penmanship, are rapidity and legibility. We hold that artistic forms have no claims whatever which ought to demand consideration, when they hinder the attainment of the former requisites. The business of job printing owes its prosperity largely to the inefficiency of modern penmanship. The best and most learned men of our age have lamented the waste of time forced upon them by the labor of writing, and have advocated the adoption of a less complicated system of penmanship than the one in universal use.

Many have gone so far as to advocate the general use of phonography. The Hon. Thomas H. Benton said that an early knowledge of phonography would have saved him twenty years of hard labor. An English reviewer, speaking of this subject, says, "We require some means of bringing the operations of the mind and of the hand into closer correspondence." We are, however, of the opinion that there are many objections to the adaptation of the existing systems of shorthand for business purposes. The first and most obvious objection seems to be the necessity for the observance of the orthography of words in ordinary legal and business writing. The most popular systems of shorthand more or less ignore this necessity, and multiply the characters used in writing so that certain sounds expressed in the ordinary way by a combination of characters, are represented by symbols arbitrarily used for that purpose. We are aware that some modifications of these systems have been proposed, which render them more fit for business use than the reporting style, admitted by all authors to be unfit for that purpose. But the substitution of any of these systems for the old one would be too radical a change, and would be attended with obvious difficulties. The reform should commence with the alphabet now used, the aim being to gradually modify the forms of the letters, so as to divest them of the useless turns and flourishes which do not add to legibility, and, regardless of all artistic notions, to simplify their construction as much as possible. This is quite possible to do, especially with the capitals. Scarcely one of these requires more than two-thirds the number of motions now required, to answer equally well, and to be read by any one who can read ordinary writing. In the

course of time entirely new characters might be substituted, beginning first with the letters least used. The latter should be as simple as those now used in phonography; a single dash or curve, above or below the line upon the paper. Any one at all versed in the shorthand systems now used, will readily understand how the variations in the positions, angles and thickness of such primitive forms, can be multiplied so as to give the requisite number of characters. An alphabet may be made entirely of straight marks, each letter requiring but one motion, and differing from the others only in thickness, length, the angle it makes with the ruling of the paper, and its position above or below the line. Moreover, such an alphabet can be written with perfect legibility, and in much less time than the ordinary characters. But it is not necessary to limit ourselves to straight marks, and it would not be advisable to do so. The object in speaking of it in this connection was to show the entire practicability of eventually obtaining an alphabet, in which each letter should demand only a single motion instead of five or six, as is the case with many now in use.

The progress of the age depends so much upon the pen, that it is wrong to neglect any means that would facilitate the work of authors, editors, and the large class of those who spend their lives in clerical labor. But in this as in all other needed reforms we must make haste slowly, and it is on this account we recommend beginning with the simplification of the alphabet now used, rather than the attempt to at once adopt phonography, as advocated by many of our exchanges.

## An African Rainstorm.

The following extract from the travels of the celebrated African hunter and explorer Mr. Baker, recently published, will give a good idea of the great rapidity with which rainstorms gather in tropical regions, and the enormous volumes of water which often fall in a few hours, filling the previously dry and arid beds of rivers, and causing inundations of proportions entirely unknown in more temperate climes.

"The cool night arrived, and I was lying half asleep upon my bed by the margin of the river, when I fancied I heard a rumbling like distant thunder; I had not heard such a sound for months, but a low, uninterrupted roll appeared to increase in volume, although far distant. Hardly had I raised my head to listen more attentively, when a confusion of voices arose from the Arab's camp, with a sound of many feet, and in a few minutes they rushed into my camp shouting to my men in the darkness. 'The river! The river!'

"We were up in an instant, and my interpreter, Mahomet, in a state of intense confusion, explained that the river was coming down, and that the supposed distant thunder was the roar of approaching water.

"Many of the people were asleep upon the clean sand of the river's bed; these were quickly awakened by the Arabs who rushed down the steep bank to save the skulls of my two hippopotami, that were exposed to dry. Hardly had they descended, when the sound of the river in the darkness beneath, told us that the water had arrived, and the men, dripping with wet, had just sufficient time to drag their heavy burdens up the bank. On the morning of the 24th of June, I stood on the banks of the noble Atbara river at the break of day. The wonder of the desert! yesterday there was a barren sheet of glaring sand, with a fringe of withered bush and trees upon its borders that cut the yellow expanse of the desert. For days we had journeyed along the exhausted bed of the river; all nature, even in nature's poverty, was most poor; no bush could burst a leaf; no tree could throw a shade; crisp gums crackled upon the stems of the mimosas, the sap dried upon the burst bark, sprung with the withering heat of the simoom. In one night there was a mysterious change—wonders of the mighty Nile!—an army of water was hastening to the wasted river; there was no drop of rain, no thunder cloud on the horizon to give hope, all had been dry and sultry; dust and desolation yesterday,—to-day a magnificent stream, some five hundred yards in width, and from fifteen to twenty feet in depth, flowing through the dreary desert! Bamboos and reeds, with trash of all kinds, were hurried along the muddy waters."

## The Late Flood at Baltimore.

The *Baltimore Weekly Commercial* takes the ground that the late disastrous flood was caused by a storm wholly exceptional in its character, and argues that in the re-occupation of the fine water privileges, where so much damage was sustained, it should be so considered. It says:

"According to the best accounts that have come to us of the visitation in question, and after mature consideration, it seems to be the concurrent testimony that on the day the deluge came, a vast black cloud covered the country all the way from about Laurel and the region north of that point to the Pennsylvania line. A lady staying at the time some twelve miles to the north of the point named, stated that for two or three hours it was so dark, even at the window, as to make sewing difficult. This vast amount of water appears to have been discharged from the clouds almost simultaneously, and near the head waters of the streams so suddenly affected, there having been comparatively but a few drops observed at Elliott's Mills when the water began to rise with such fearful rapidity there. Almost in the nature of a great water spout then, it was one of those unusual visitations—we repeat—such as might never occur again; and therefore, we say, considering all the circumstances, it is but a matter of course that those who have hitherto enjoyed the fine advantages of the streams alluded to, should put their power in requisition once more for business purposes."

LYONS, Michigan, has 100 acres of peppermint under cultivation, and has made this year 1000 pounds of pure oil, and is still at it. The oil is worth \$8 a pound.