Science and Art.

The Use of the Eyes.

The proper adjustment of the light is very important to the close reader and student. Alternations of light and darkness distress weak eyes, and debilitate those which are sound. The sudden transition from dark to light rooms, the degree of light in the study room, the manner in which the light falls upon the page, are all important considerations, though apparently trifling in themselves. Too little light debilitates the eye and compels over-action, while too much dazzles and confuses, and causes a morbid sensibility of the organ. The student should not, after sitting in the dark to meditate, suddenly commence his studies. There should be sufficient light to see easily. The light should be equally distributed, and not reflected or concentrated. The practice of wearing green shades is bad, unless there is a deficiency in the prominency of the eyes or a peculiar weakness of the sight. Reading or writing by twilight or moonlight, and looking at lightning, are attended with danger to the sight. Sitting in front of a window with a book on the knees, sitting with the back directly to any open window, and permitting strong light to fall immediately upon the paper, holding a candle between the eye and book, are all practices likely to debilitate the sight. The light should fall obliquely from above, over the left shoulder.

Color of Paper for Reading and Writing.

Many afflicted with weak eyes, suppose that writing on white paper strains the eyes more than paper of a green or blue color. They also suppose that books printed with black ink on a white ground, are more difficult to read than if the paper were colored green or light blue. This notion is a mistaken one. Chevreul, in his great work on color, states that black and white contrasted, as black letters on a white ground, are the most favorable to distinct vision. He says, "black letters upon a white ground present the maximum of contrast of tone, and the reading is made in a perfectly distinct manner, without fatigue, by suffused daylight." Gray tinted paper is the most unfavorable to distinct vision, for printing on. Next to white paper, on which to print black characters, light yellow and light green are the best colors for distinct vision—the green paper is better than the yellow for reading by candle light, but the latter is the best for reading by day.

What England is Worth.

The material wealth of England is set down in value at £1,447,000,000. Its cultivated soil is valued at £1,700,000,000, its mines at £120,000,000, its dwellings and factories at £450,000,000, agricultural implements, live stock, and manufactured goods each over £200,000,000, and its mercantile shipping at £40,000,0000.

We have seen the above paragraph in a number of our exchanges, but it is no criterian of England's wealth. The only true wealth of nations is "industry wisely directed." The most fertile soils and the richest mines would be but barren wastes without labor.

Curing Baldness.

In an old number of the *Foreign Medical Journal*, it is stated that baldness had been cured by using a liquid of good brandy poured upon sulphate of copper. The solution was applied to the bald parts once per day. The hair began to grow in a week after the first application. We give this for what it is worth. It may be suitable to particular, but not general cases.

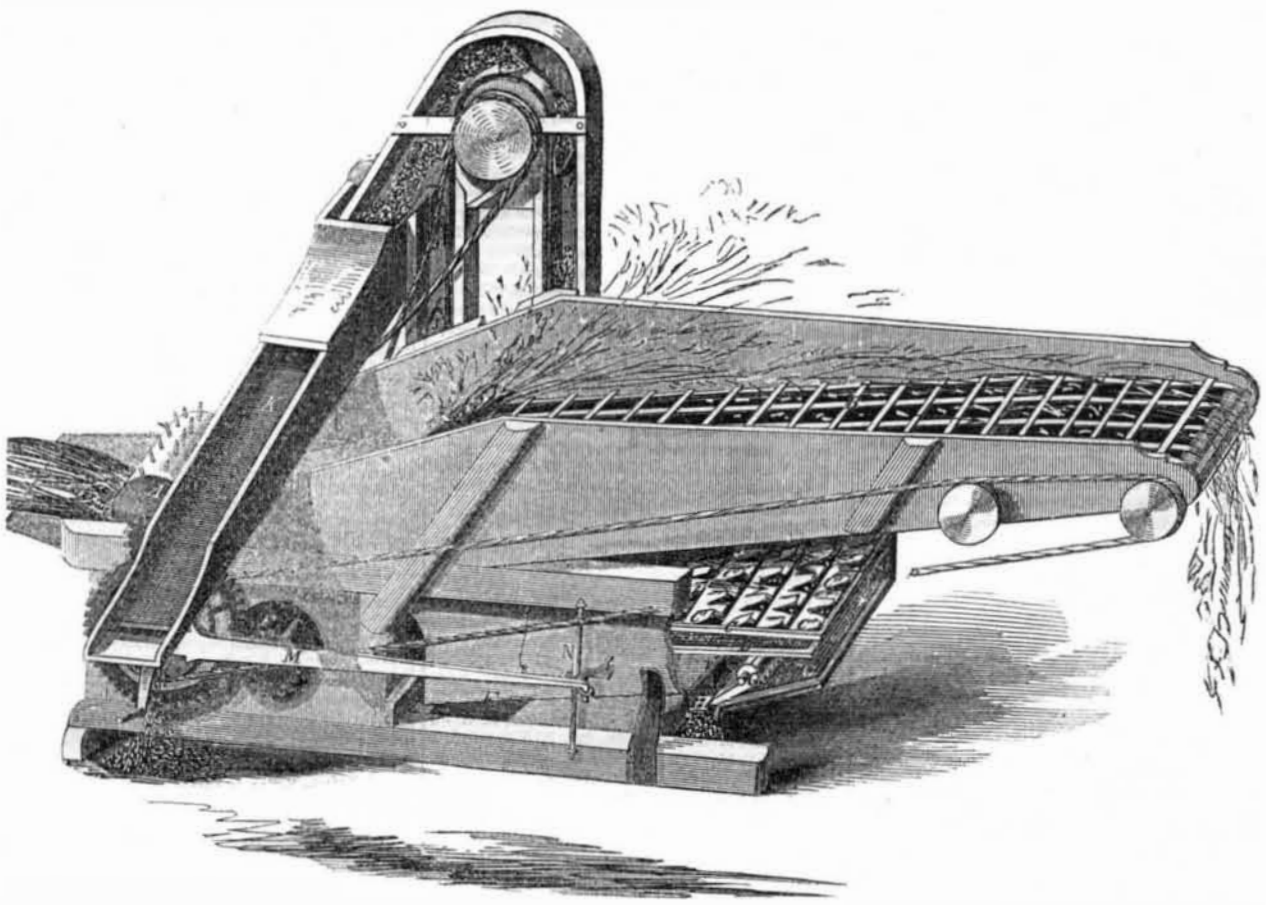
The steamer, *U. T. Cushing*, has left Philadelphia, for a voyage to Chicago, Ill. She goes up the St. Lawrence and through the Lakes—an extraordinary voyage.

Steam Power Done For.

The London *Morning Chronicle* announces that a great experiment was recently tried at Vincennes, in the presence of Gen. Lahitte and the officers of the fort. The *Chronicle* says:—"The secret of compressing and governing electricity is at length discovered, and that power may therefore now be considered as the sole motive henceforward to be used. A small mortar was fired by the inventor at the rate of a hundred shots a minute—without flashing, smoke, or noise. The same power can, it seems, be adapted to every system of mechanical invention, and is destined to supersede steam, requiring neither machinery nor combustion. A vessel propelled by this power is said to skim the water like a bird, and to fear neither storm nor hurricane. The inventor has already petitioned for a line of steamers from L'Orient to Norfolk, in the United States, which passage he promises to accomplish in forty-eight hours.!"

Just think of it; skimming over the ocean at the rate of sixty-two miles per hour. Gen. Lahitte, you are the man for America if you can do this. But although Jonathan is almost a disbeliever in impossibilities, he must plead incredulity in the above until the General makes his first voyage.

GRAIN SEPARATORS.



Improved Grain Separator.

The principal novelties in the inventoni herewith illustrated, consist in the construction of the chaff screener, and in a new method of rubbing out the grain from such heads as happen to pass through the thrashing cylinder without being wholly separated.

The grain is fed into the thrashing cylinder, A, in the usual manner, and the straw traverses up the endless carrier, B, and falls off, as shown, while the chaff and grain pass on to the screen, C. This screen is covered with tongued ribs, made of sheet metal. The tongues, C', are slightly bent up, and are larger at their base than at their points; consequently, when the customary shaking motion is given to the screen, the chaff and heads will advance in direction of the arrow, while the grain sifts through and falls upon screen D, down which it rolls into a receiving box at E.

The light chaff is blown off from screen C, and from other parts of the apparatus, during the various stages of the operation, by means of a fan at F, which sends its blast through all the screens, and effectually cleanse the grain. The unthrashed heads, stones, etc., fall from screen C down to screen G, and the heads are thoroughly rubbed by the toothed rubber, G', until the grain separates; the chaff is blown away, but the stones, weeds, heavy chaff, &c., roll out from trough, H, while the clean grain falls down through tube I into receiver E. A screen (not shown) is placed over trough H, on to which the stones fall, the grain passing through the screen into tube I. From the receiving box, E, the grain is raised by elevators, J, and passes down over screen K, thoroughly cleaned and separated, into measures or bags, ready for market. The required vibration of the screens is accomplished by means of rods, M N, &c. Springs are employed to relieve the shock of the vibrations.

The method of rubbing unthrashed heads is good, as it saves the complication and expense involved when mechanism is employed to carry the grain, stones, weeds, &c., back to the thrashing cylinder for re-working. This separator is strong and compact in all its parts, certain and thorough in operation, economical for manufacture.

Many of the ordinary separators are liable to choke up, and if the chaff screen breaks, they are not easily repaired. In this machine these objections do not exist; owing to the nature of the construction, the straw, chaff, and grain are rapidly carried away, so that no choking can take place; any of the tongued ribs of the chaff screen may be replaced without trouble.

On a recent trial, we are informed that one of these machines thrashed and delivered the clean grain at the rate of two bushels per minute, or over 1000 bushels per diem; it was also driven with less power than other machines. Price from $300 to $320 complete; power required, eight horses. Mr. Alfred Belchamber, of Ripley, Ohio, is the inventor, of whom further information may be obtained. Patent applied for.

Effects of Cleanliness.

Count Rumford, the celebrated practical philosopher, whose writings have been of greater value to mankind than the abstruse speculations of a host of metaphysicians, thus describes the advantages of cleanliness:—

"With what care and attention do the feathered race wash themselves, and put their plumage in order; and how perfectly neat, clean, and elegant they do appear. Among the beasts of the field, we find that those which are the most cleanly are generally the most gay and cheerful, or are distinguished by a certain air of tranquility and contentment, and singing birds are always remarkable for the neatness of their plumage. So great is the effect of cleanliness upon man, that it extends even to his moral character. Virtue never dwelt long with filth; nor do I believe there ever was a person scrupulously attentive to cleanless who was a consummate villian."

Convention Respecting Guano.

A Convention of Agriculturists met at the Smithsonian Institute on the 10th inst., to hold consultations about obtaining guano at a less cost. Were it not for the enormous tax imposed upon every tun of it by the Peruvian Government, its cost would be comparatively low. This tax should be reduced, and our government is endeavoring to induce the Peruvians to do so. But we are afraid that this will not be easily brought about, as the tax is partly imposed to pay a national debt.