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## AMERICAN LANDSCAPE GARDENING.



THE usual accompaniments of refinement and civilization are displays of the fine arts, such as painting, statuary, elegant cabinet works and architectural decorations. These are all very well in their place, but there

is another art which deserves a much higher position than is generally assigned to it by those who form their ideas of refinement by the display made in our cities; we mean the art of landscape gardening. The highest style of art consists in cultivating nature in the best manner. No work of art is really beautiful which is not in accordance with natural laws, and no people can become truly refined who do not possess a taste for the beauties of nature. The most gifted and cultivated minds have ever found delight in rural scenery. In the days of Augustus, when the Romans had attained to a state of civilization nearly equal to that enjoyed by us at the present day, landscape gardening held a high position. In the strains of Virgil we can almost fancy that we hear the hum of his bees, the bleating of his flocks and the murmurs of his fountains, as the poet sat at noon-tide under a shady bower, enjoying the sight of cultivated fields. The great Newton took exquisite delight in his flower garden, which was said to be the neatest in all England. The graceful lawns and beautiful gardens attached to the mansions of the noble and wealthy men of Europe are better evidences of true refinement than the monuments of marble, the galleries of paintings and the gorgeous temples of their cities. These facts are now being appreciated by our people. In the early settlement of our country, the struggle was severe to subdue nature in the rudest form, so as to obtain the fruits of the field for the necessities of life. The beauties of art, as the handmaids of nature in rural cultivation, were then held in abeyance to the rude but pressing demands of necessity. But as national wealth has accumulated, so has there been a commendable search for enjoyment in the rational and elevated refinements of cultivated nature. The late Mr. Downing, whose name and fame are world-wide, said, wrote, and did much to spread abroad a taste for landscape gardening, and he was eminently successful in his labors. Within the past twenty-five years, especially, there has been a vast increase of general and individual wealth, and it affords us much gratification to witness a proportionate diffusion of taste for rural beauties. A recent short tour in some of the districts bordering on the Hudson river has impressed us most favorably respecting the growing taste for the sublime and the beautiful in nature, combined with art. Go where we may, we behold grassy lawns, like beds of emeralds, surrounding stately mansions. Silver streams are trained to send forth their sparkling showers from numerous fountains; and the banks of our rivers are becoming as attractive for highly-adorned scenery as those of the Thames and the Rhine. We commend this growing national taste for the beautiful in nature, and exhort our people to indulge in it with persevering enthusiasm. The climate and soil of the United States are most favorable for superior landscape gardening. We have lofty mountains, broad lakes, deep and noble rivers, fertile vales and extensive plains and an almost tropical vegetation; and these certainly are natural advantages of the very highest order. American travelers in England used to speak

with enthusiasm of the trim hedge-rows, the neat fields and the high style of gardening displayed on every hand, foreign travelers in America now admit that the national taste for rural beauty is not inferior to that displayed in Europe, and that we are progressing to the attainment of the very highest position for landscape gardening.

## EXPLOSIONS OF BOILERS AND THE CAUSE.

A review of the "city items" column in the daily papers, for the last year, will disclose a frightful array of casualties and accidents arising from this source. If these occurrences involved in their destruction only those who were in the immediate charge of the boilers, it would be painful; but when we reflect upon the number of innocent people who suffer in the general ruin and havoc, it becomes more lamentable still. And yet, in the main, there is little or no excuse for them; we take strong and bold ground, and do not speak without having fully considered our position. When we see men, as we have seen them, go into their factory in the morning, perhaps a little late, throw in their kindling-wood and start up their fire with all possible dispatch; never so much as trying a gage to see if the water which they left in the boiler the night before has not, by some unforeseen accident, leaked out—when we know of ignorant watchmen, who have been placed in charge of the premises, lighting the fire before the arrival of the engineer (as they are often required to do), then need we wonder that accidents are of so frequent occurrence? Shall we not think, with justice, that a merciful Providence spares men's lives when the carelessness of their fellow-men jeopardizes it, time and again? The practices above-mentioned form no slight ground for comment. We can understand more fully now this stereotyped phrase in the daily journals:—"It was fortunate that the accident occurred so early, as all the hands employed had not yet arrived." In addition to all this, we have actually seen men come up to a boiler, and finding the water (or not finding it) below the level of the lowest cock, turn on the "feed" with the utmost placidity, as if there were no such things as overheated flues and red-hot crown sheets; and only escaping death from the fact of the lowest gage being at a great height from the crown sheet, or from the good luck of the water being sufficient to avoid danger. We repeat again, that when such practices obtain, is there any room for wonder? We should speak at random, and render our few words upon this subject valueless, if we asserted that boilers never exploded but from want of water, for it is well-known that they do; but, whatever the cause and whatever the deficiency, it can, in most cases, be obviated by a careful, cool-headed and intelligent superintendent.

This experience and these statements are not derived from books, full of theories, or from scientific analysis of superheated steam, ozone, or the endless category of hard names which are called into requisition on the occasion of every explosion; nor would we, while disavowing this view of the subject, cast any slight upon those philosophers and experts who are carefully and conscientiously considering the subject in this light; but our observation and deductions are drawn from personal experience—from perspiring over boilers, on water and land. We arrive at the conclusion that by far the greater part of the evil complained of might be averted by careful management, for it is an evil and a sorrow that the pen is powerless to depict, all sympathy is idle, and all sentiment is turned into rhodomontade, when one looks upon the victims of the engineer's carelessness.

If, upon examination of the boiler or boilers of an establishment, we find the water-bottom undistinguishable from the mass of ashes and cinder accumulated upon it; the spaces between the socket bolts filled up with sticks and rubbish, and the crown sheet suspiciously low in the center, need we but infer that at some future day, not far distant, we shall see another item unless matters are speedily changed? There is an old proverb, particularly applicable to engineering, which is:—"An ounce of prevention is better than a pound of cure;" and there never was a truer maxim, or one which an engineer might bear in mind to a better purpose. The American character is strongly prone to recklessness and haste—we like, as a people, to "run our chance," and take good luck as granted; but we assert it to be much better to lose a little of our reputation for energy and enterprise, and save the lives of our fellow-men, at least,

while weighing them in the balance against steam-power. An engineer, of many years standing and experience in wrecking and other branches of the trade (having served on many committees to examine boilers which had exploded), has told us that there were but few disasters which he could not trace to a want of water.

There are many theories of boiler explosions, and nearly every engineer has his favorite one; we shall not dispute any of them, for we could not do violence to any one's opinion, but we append a quotation from "Useful Information for Engineers"—a work written by Wm. Fairbairn, F.R.S., an English engineer of great eminence. After considering the various classes of disasters to boilers—such as collapse, want of proper strength of construction and deficiency of water, he says (of the latter):—

"This division of the subject requires the utmost care and attention, as the circumstance of boilers being short of water is of by no means unfrequent occurrence. *Inminent danger arises from this cause*; and it cannot be too forcibly impressed upon the minds of engineers that there is no part of the apparatus constituting the mountings of a boiler which require greater care and attention—probably the safety valves not even excepted—than those which supply the boiler with water; a well-constructed pump and self-acting feeders, when they can be applied, are indispensable in working at a low pressure; when they cannot be affixed, the glass tubular gage and cocks must have more than ordinary attention."

The above line of argument Mr. Fairbairn pursues through a long chapter; and its force and power are greatly increased by the knowledge that the statements are derived from personal experience; and, what is still more conclusive, is the fact that they are quite unanswerable.

## PNEUMATIC TELEGRAPHS AND PNEUMATIC POWERS.

We stated on page 71 of the present volume of the SCIENTIFIC AMERICAN, that a private pneumatic telegraph had been successfully employed for several years in London, and that measures had lately been taken to employ it for more general purposes. The idea of conveying parcels and letters through an air-tight tube is quite old, but practical difficulties have hitherto prevented its perfect application. The advantages of such a system are self-evident, and respecting these benefits the London *Mechanics' Magazine* says:—"It is impossible to foresee all the changes which this pneumatic system is manifestly destined to introduce. It is evident that unless the post-office authorities take the system up, as they undoubtedly should, the whole metropolitan postal arrangement will fall through when once the rivalry of the pneumatic plan is brought into play. It is the beginning of a grand commercial undertaking, for we doubt not the pneumatic despatch system will ere long be even more wide spread than the telegraph system has become, although the circuits will, of course, be much shorter." Such a system applied in New York and all our large cities would supersede local express and post-office carriers. It is a subject worthy of general investigation.

In connection with this topic, a correspondent—Mr. John Turley, of La Grange, Ind.—directs our attention to the convenience and benefits that would result in many cases from applying compressed air as a motive agent for driving machines in factories. He has had considerable experience with mechanism, and asks: "Cannot we get something better than shafting, gearing and belts for driving machinery? I have thought we might use the first power (steam engine or water wheel) to force air into a long cylinder, so that the friction through it would not be much; then let the compressed air from this cylinder operate the whole of the machines in a shop. Whenever we want to start a machine, conduct the air to it by a branch-pipe; and if we lose some of the power by leaks, we can afford to do so by throwing away the belting and counter-shafting. It does seem to me that if we had some good wheel operated by air, we could even save power, as we could do without heavy belts, the friction of shafting and gearing."

These are some of our correspondent's ideas upon this subject, and they are worthy of much consideration by inventors, manufacturers, and mechanics. Compressed air has been experimented with several times, for the very purposes suggested by our correspondent, and if it could be employed for operating machines as economi-