



NEW YORK, JUNE 3, 1848.

Labor Saving Machinery.

There are many who decry labor saving machinery and condemn its use as being injurious to the interest of working men and a benefit only to men of capital, by destroying the occupation of the former class through the agency of capital doing that kind of work by machinery which had previously been done by manual labor. These views are entertained by many who have a warm side to the working man's welfare. We have charity to believe that such views are held in sincerity, but in ignorance of the subject in all its details. If labor saving machinery is injurious to the interest of the working man, at what point or machine shall we commence the proscription? To that paper which fulminates against labor saving machines, we say, throw your type into the ocean and dash your press to pieces, and then you will give us some evidence of your sincerity. If any labor saving machine is to be proscribed, it should be that one on which all the rest depend. Proscribe the hammer, and then what? The farmer might turn over his furrow with his feet and the backwoodsman gnaw down the trees of the forest like a beaver. Abolish labor saving machinery and we at once become barbarians.

The whole of labor saving machinery, without a single exception, has been the means of advancing civilization and gradually elevating the laboring classes from serfs to men.—The very musket, decry as it may be by some, was an invention which in the hands of England's plebeians, first broke the power of feudal tyranny on the field of Marston. Manual occupations are not to be created for the mere purpose of giving employment but for the producing of something useful. It is a mistaken notion which some political economists have "that physical labor is always necessary to the well being of society, just because it gives people employment." Employment can only be of a benefit to society when it is directed to create something for the comfort of society. If this is not a correct view of the subject, the man who carries a stone in his hat all day long must be as advantageous to the State as he who guides the plough, or wields the hammer. Those who paid fifty cents for a yard of coarse shirting in 1815, will surely have some feeling for the friendly power loom, that has now reduced the price to twelve and a half cents. The working classes above all others, are indebted to labor saving machinery, and we look to future inventions in labor saving machinery, as being the only sure ground and hope for the future elevation of our race. We speak merely in reference to physical comforts. While there is enough to eat and drink and wherewithal to clothe the family of man, there certainly should be no suffering for want, and in whatever country there is suffering among the people, such as there is often among the manufacturing classes of Britain and some other nations, it is not because of the great amount of labor saving machinery there, but in the abuse of its benefits. We might go on step by step and fill volumes with accounts of the benefits of labor saving machinery, were it not trespassing on our rule of brevity.

Motive Power.

It is really amusing to observe the sublime mysteriousness with which some of our "oracle wisecracs" treat the science of Mechanics. With declamatory style they wrap up a vast fund of stupidity and ignorance in an *unknown tongue*, leaving those who peruse their works, not "wiser and better," but certainly much duller men. This is the reason why so few operative mechanics after the severe toils of the day, cannot sit down and read with profit such kind of works. No

branch of mechanical science is less generally understood than momentum. The following axiom if kept continually in mind, will be a beacon to the practical mechanic. "The whole effect produced by mechanical expedients is always equal to the whole cause or labor exerted—mechanical expedients merely condense or expand labor. A power exerted over six feet and producing a result in one foot, is condensed into one sixth, and in that space the result is six times as great as the labor exerted in the same distance, and vice versa. 100 pounds raised 6 feet is equal to 600 pounds raised 1 foot, and vice versa." Thus it follows that the momentum motive power always bears exact proportional relationship to the effect produced. The power momentum may be concentrated, or spread over a wide surface, but in no case can a prime mover communicate power, or impart a momentum superior to what is possessed in itself.—Could this be done perpetual motion would be an easy matter.

Gutta Percha Patents.

It will be seen by reference to our Patent List of this week, that four English Patents for the purifying and manufacture of Gutta Percha into numerous articles have been secured in this country. All these patents belong to the American Gutta Percha Company under the management of S. T. Armstrong, Esq. The company we believe is wealthy and capable of purchasing large quantities of this most useful substance, so as to sell it at the cheapest possible rate, as well as manufacture it in the most superior manner. Before these patents were issued here, we had seen the original specifications and they contain claims to cover almost the entire ground, in fact Brooman's patent granted in 1845 is the foundation of all the others, as being the preparing process, and Hancock's next, for combinations with other substances. This substance, as we have stated before, will revolutionize the arts. All the English patents have been secured by this company at an enormous expense. The patent fee at Washington for each is no less than \$500. Therefore these four patents brought \$2000 into the Treasury of the Patent Office, a sum that would have secured sixty six patents for home inventions. When we consider these things and the amount paid for them in England, besides expense incurred to learn the various Gutta Percha manipulations, we cannot but wish success to this enterprising company for introducing this useful article into the United States. It is our intention to describe in some future number some of its applications regarding which the public have as yet but little knowledge.

A Good Move among Workmen.

The Pittsburg Post states that a large number of workmen in the different rolling mills in and about Pittsburg have it in contemplation to erect a new iron establishment—furnish their own capital, conduct their own business and share the profits equally. It is proposed that two hundred persons, practical workmen, should combine their capital, skill and energy, and form a company, to be governed by rules and regulations of their own adoption. Each member shall furnish \$500, to be put into a capital of \$100,000 with which to commence business. Each member of the association will have a particular branch assigned to him—all will be actively employed and there will be no drones or idlers. In addition to the manufacture of iron of all kinds they are thinking of establishing in connection therewith a sheet tin manufactory. We believe there is not an establishment of this kind in the United States; and persons who worked at the business in England know that the facilities for manufacturing in this country are as good as any where else. The block tin, which is principally imported from Peru, forms about 10 per cent of the ingredients of the sheet; the balance being iron, of course the manufacture will not be so difficult as some suppose.

This is a scheme that heartily commends itself to our views on such subjects. There is no other way in the world for workmen to elevate themselves but by such schemes as this. Why should they not, and why can they not, enjoy both the fruits of capital and labor.

For the Scientific American. American Manganese.

Mr. Editor:—Having heard that the usual sources of supply of Manganese have been nearly exhausted, so that the branches of manufacture dependent on that article are beginning to become somewhat embarrassed—it may be a public service to mention to you that in a conversation with Dr. James Eights, of Albany, well known as one of our ablest Geologists, he stated that during researches made by him in the mineral region of Lake Superior he examined an extensive stratified mass of black oxide of manganese. It was situated in the walls of a mountain stream arranged nearly horizontally, and exhibited a thickness varying from four to six feet or more. Its position was but a short distance from the shores of the lake, where they suddenly expand and form one of the most extensive, safe and commodious harbors for vessels of every description that navigate the lake. The great demand for this highly useful mineral, for various manufacturing purposes, having almost totally exhausted the hitherto well known localities, makes it a matter of considerable importance that so extensive a locality of the article remains yet undisturbed to supply the scarcity which is beginning to prevail on our Eastern board.

Respectfully yours, R. V. DeWitt. Albany, May 20, 1848.

[The above letter from R. V. DeWitt, Esq. brings before the public the gratifying intelligence of such an abundant supply of that useful mineral, manganese. We are glad to hear of this, because we know that the future demand for it will increase with the increase of our population. From it (in a combination) is made the gas that bleaches our cloth and paper rags, and it is used for many other purposes besides, but in the manufacture of chlorine gas alone, it has revolutionized our paper manufacture, and the whole art of bleaching. Further information may be derived from either of the gentlemen whose names appear in the above communication.

Coal.

Is it really a truth after all that coal is a carboniferous strata—that it has been covered with water—that it is a self deposition of vegetable organism which had been drifted by floods to sea and lake basins and then gradually converted into coal beds? Arborescent deposits occur promiscuously imbedded at all angles in some strata and not found metamorphosed into coal.

A number of the specimens of the genus *Lepidodendron* have been taken from the very heart of one of the English coal seams, and the internal portion of the trees were composed entirely of sand stone, which forms the superincumbent roof of the coal seam.—What is the reason of this? Surely those trees in the seam had a fair opportunity of the same chemical action to convert them into coal in the middle of the seam.

Wants of the Working Classes.

Two things are required on the part of the working classes to adjust themselves to the state of society as one altering and improving: skill or practical knowledge, so that when one branch of productive labor fails from improvement or fluctuation, they may resort to another, and economy, that they may provide against "a rainy day," and instead of seeking relief in combination and outrage, have the means of support until the arrival of more favorable times. These qualities will appear only where there has been some training of the head and heart. Let then the mind be taught to think and the judgment be fitted for correct decision, and the difference will be manifest as it is now in cases occasionally witnessed; the intelligent will not be dupes of demagogues or incendiaries, and the thrifty will discover a higher tone of feeling than their improvident neighbors.

Glass Floors.

There are some disputes regarding the patent right for glass floors. Mr. Pepper, of Albany, Messrs. Hewins & Perkins, of Hartford, Ct., and Dr. Valentine of this city, all lay claim to the invention. We are not aware of a patent for this application of glass for flooring and think such a patent would be difficult to sustain.

Music of the Hammer.

But, after all, were we to seek out only one sound in the world, as a representative or expression of life, business, health, vigor and improvement, we should certainly name the sound of the hammer. What on earth is there that is more cheering? It is the very note of preparation for business, and gives a thrill that is peculiar to itself, and to all that lie inert around it.

What brings the morning so fresh and vivid to the mind of the sluggish as the hammer which sounds from the neighboring roofs. It is the veriest reproach an indolent man can have, and speaks straight to the heart, in those quiet, manly tones, which only the sincerest friendship employs. And then, how much is in that sound besides! What a range can fancy take when such a sound comes forth! There is the workman on the roof of a new building, or in the shop of a mechanic, or the store of the merchant. It is the carpenter, the blacksmith, the tinman, the jeweler, or the worker in marble; all industrious, all busy. The "sound of the hammer" is the note that forewarns the world of the whereabouts of the hard working man. About it there is no concealment. The man he owes, hears it, and waits contented, feeling that he is safe. There is a spirit in the sound of a hammer which affects more or less nearly all the world. Some people go through life without noticing one sound from another in the multitude of noises around them; but we will answer for the sound of the hammer, that no one ever heard it without being conscious of an expression either positively pleasant or certainly painful. Mechanics should stick to their hammers for they are sentinels of industry and bestowers of praise.

The hammer is an instrument of power and greatness. By it are forged the sword of contention, and the ploughshare of peace. By it are forged the press of the free, and the shackles of the slave." Let our mechanics in the emblem of the hammer, always behold an instrument to unfetter the darkness of the mind and to drive truth and knowledge home to the hearts and consciences of those who look sneeringly upon labor as the Smith forges the nail or the spike which unites together the timbers of our leviathans of the deep, or the timbers of the fabrics that canopy the proud, the fair, and gay.

English Horses.

By a late census of England, the number of horses in England has been found to have diminished from 1,000,000 to 200,000 within the last ten years: in other words, the Railroads have dispensed with the use of 800,000 horses, and these animals, as well as oxen are now scarcely used for transportation, and thus the grain and food of the 800,000 horses formerly consumed have been dispensed with, and the land used for the growth of hay and grass is devoted to the growth of grain alone for the supply of bread.

Scientific American—Bound Volumes.

The second volume of the Scientific American, bound in a superb manner, containing 416 pages choice reading matter, a list of all the patents granted at the United States Patent Office during the year, and illustrated with over 300 beautiful descriptive engravings of new and improved machines, for sale at this office—Price \$2.75. The volume may also be had in sheets, in suitable form for mailing—at \$2.

The back Nos. of the present volume may also be had upon application at the office.

THE SCIENTIFIC AMERICAN.

Persons wishing to subscribe for this paper have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY, Publishers of the Scientific American, New York City

TERMS.—\$2 a year; ONE DOLLAR IN ADVANCE—the remainder in 6 months

Postmasters are respectfully requested to receive subscriptions for this Paper, to whom a discount of 25 per cent will be allowed.

Any person sending us 4 subscribers for 6 months, shall receive a copy of the paper for the same length of time