

to go, *volens volens*, in the wrong direction.—The present improvement consists in the application to the pinch bar of a sort of spring wedge, so arranged that the moment the locomotive wheel moves, the wedge springs under and holds the same, thus preventing any back action.

Improved Flock Cutting Machine.—By J. N. Pitts, of Blackstone, Mass.—Certain kinds of wall paper used in dwellings are furnished with raised ornamental figures, which have a beautiful velvety appearance and touch. This is called "flock paper." It is made by dusting over the figures, after printing, and while the ink is fresh, with woolen dust. The dust is thus glued to the figure, and feels, beneath the finger, somewhat like velvet. Flock dust is made by cutting up bits of cloth into minute pieces. Any desired color may be imparted to it by dyeing. Printers use flock dust in the production of ornamental placards. It has a very beautiful effect.

The improvement above noted consists of a large drum, within which two cutting cylinders, having knives upon them, rotate. The stuff to be reduced into flock being thrown into the drum will be continually carried around and dropped between the cutting cylinders, until, at last, it is sufficiently fine for use. This is a very excellent invention for the purpose. It was illustrated on page 84, Vol. IX. of our paper. It may be used for cutting up rags in paper making.

Recent Foreign Inventions.

GIRDER RAIL.—W. B. Adams, C. E., of London, has obtained a patent for a new rail which has been tested on the Great North-Western Railroad, over which a heavy coal traffic passes. The rail is similar to the ordinary one, but 2 in. deeper, being 7 instead of 5 in. deep. There is a flange at top and bottom, and on each side angle brackets, one side of which fills up the space between the flanges secured to the rail by bolts, the other extends outwards, forming a sort of longitudinal shelf at each side, level with the ballast, so that when packed all that is seen is 2-1-2 in. rising above the brackets. These form a secure bearing of 13 inches wide. The ballast is packed from each side, and thus secures the permanent way. The gauge is kept correct by the rods, about 9 feet apart, no wooden sleepers are employed, and the entire rails and appendages, consisting of rails, brackets, bolts, and tie bars, are of wrought iron; the whole, when complete, forms one compact mass.—This rail is expensive at first, but is said to be the cheapest in the end, as it endures longer than the common kind, and requires less attention for repairing, &c.

NEW PAPER MATERIALS.—J. Pechlgriss de Frontin, of Agen, France, has obtained a patent for making paper from the stalks of the artichoke and the stalks of the sunflower. They are said to make a beautiful quality of paper.

A NEW ETHER ENGINE.—Henri G. Pecoul, C. E., Paris, has obtained a patent for generating power in steam engines, by passing steam from the boiler through spiral copper tubes, which converts ether in a cylinder into vapor, and it then actuates the piston to give it motion. We have seen some statements in our foreign exchanges, to the effect that a company in France formed to test Du Tremblay's steam and ether engines—and who have had some ships propelled by such engines running between Marseilles and the Crimea last year—have paid a dividend of 40 per cent on the original stock. Such immense profits as these are stated to be, afford good grounds for suspicion regarding their truthfulness.

NEW TEXTILE FABRIC.—R. Mulligan, of York, England, has obtained a patent for making a cloth or fabric which has the appearance of being partly crape and partly Orleans cloth. To effect this, the warp of the fabric is made of worsted or other suitable yarn, and a weft of woolen yarn used for some parts, and of worsted yarn for other parts, the different qualities of weft producing a different cloth in the same web. A great variety of fabrics may thus be produced in one web of cloth, for skirts of ladies' dresses, &c., by the use of alpaca, mohair, silk, and other weft. Our manufacturers may improve on this hint.

NEW BURNING FLUID.—G. H. Wilson, of London, has obtained a patent for a combined fluid to be used for artificial illumination, composed of glycerine and alcohol. Mr. Wilson read a paper on the uses of glycerine before the late meeting of the British Scientific Association. He is Superintendent, we believe, of Price's celebrated candle and soap works in London.

TRAVELING WRAPPER FOR PERSONAL WEAR.—A patent has been taken out by Phillip Levy, of Edinburgh, for a wrapper for traveling in cold and stormy weather, which is intended to protect the feet, legs, and body as far up as the waist. The inventor describes it as follows: "I construct a sack or bag which extend upwards at the back, in such a manner that when the feet and legs are inserted therein it shall come up to the thigh of the wearer, but I construct it upwards in front to come to the waist, while the sides, which are not united at back further up than the thighs, wrap round the loins and back; I make these wrappers of warm woolen material, and line them with fur or other soft warm substances."

The patent for this garment-cost the inventor or four times more than a United States patent would have cost an American inventor, and yet we have no doubt but he has found it a profitable security. In our country such garments are more necessary than in England, and yet, we doubt if any of our furriers would have taken out a patent for a like invention. Any improvement, however small, in the line of business in which a person is engaged, and which he can manufacture, always pays handsomely for the securing of it by patent. In England they know, by long experience, the value of patents, hence, although they (patents) are more expensive there than here, as many, if not more, are secured weekly. Many men have made fortunes by obtaining patents for such improvements on articles as others would have overlooked or neglected to secure.

The Woodworth Patent Extension.

MESSEURS. EDITORS.—The remonstrance against the Woodworth Patent is still progressing.—There seems to be an interest awakened against the monopoly tantamount to the odiousness of the opposition. The outrageous demands of the Woodworth party is meeting with their desert as far as St. Louis is concerned. What are other places doing. J. J. S.

St. Louis, Mo., Jan. 24, 1856.

Our correspondent also sends us an extract from a St. Louis paper, which reads as follows:

"Down With the Woodworth Monopoly.—Petitions of remonstrance against any further extension of the 'Woodworth Patent for Planing Machines,' by Congress, may be found at the office of the Missouri Planing Mill, corner of Walnut and Ninth sts.; at Moies & Co.'s, No. 16 Main street; at Hunt and Wiseman's hardware store, Third street, and at R. M. Parks & Co.'s office, corner of Washington avenue and Seventh street, St. Louis, Mo.

All interested in dethroning this 'hydra-headed monster,' are requested to leave their autographs at any of the above places."

We are pleased to observe that the people of St. Louis are waking up to action on this great subject. The same spirit is manifest in other sections of the country, but in still others, there is a listlessness and languor which is not only discreditable but unfortunate. Every branch of mechanical and agricultural industry will be more or less affected favorably by the prevention of the extension scheme. Farmers, mechanics, and people of every class, do you want the price of lumber, with which you build and repair your houses, your ships, your vehicles, your tools and implements of all descriptions, reduced? If so, then try to prevent the extension of the Woodworth Patent. In buying dressed lumber you now pay a heavy tax, amounting in the aggregate to several millions of dollars annually, to one of the greatest monopolies that ever existed. Do you want to continue or abolish that tax? If you wish it abolished, then sign your name to the remonstrance against the extension outrage.

The Woodworth Patent Extension.

MESSEURS. EDITORS.—The remonstrance against any further extension of the Woodworth Patent Planing Machine, by Congress, is being largely subscribed to here. Signatures are ob-

tained without a dissenting voice, excepting from one or two parties who are interested in the extension being granted—being owners of the patent now, and having the prospect of retaining the same for another term, should that be obtained. I confess I was not prepared to believe that such vast measures would be resorted to as are being used in the acquiring of influence and means to accomplish the continuance of so ultra a monopoly.

I have ascertained, by the admission of parties concerned, that an agent or representative of the Woodworth Patent interest, was in this place a short time ago, and conferred with the owners of the right here, soliciting their support and influence to get the extension granted, under a guarantee that they should hold the extension for the next term on very easy and reasonable terms; hence retaining an influence which would otherwise have been powerful against them. This being the case here, is no doubt the case every where, throughout the Union, wherever the machines are used or rights owned. Hence you will perceive that every owner of the Woodworth Patent is being a party to, and has a direct interest in the extension.

Thus a vast array of influence and interest is presented before Congress, from all parts of the Union; and unless a powerful counter influence is exerted, will no doubt tell to the accomplishment of their schemes.

Had these measures not been adopted, those owning the patent, in their respective localities, throughout the Union, would have been doubly interested in putting down the monopoly. For having their mills in operation, and their business established, they have little to fear in respect to growing competition. While, on the other hand, should the extension be granted, they would be subject to contend for the right against the capitalist, who, seeing the advantages arising from its protection for another term of seven years, would bid largely for the prize; hence the present owners would be compelled to pay exorbitant prizes or lose their business, and their machines rendered useless to them.

I have also been informed, through a gentleman from Ohio, who is largely interested in both the Woodworth and Norcross patents, that in Ohio the Woodworth party have petitioned the Legislature to recommend, through their Representatives in Congress, a further extension of the patent. Thus not only is there an individual, but a legislative influence brought to bear in favor of their avaricious and unprincipled demands.

Can it be possible, after having reaped a more than bountiful reward, from the liberal protection of our patent laws, to their fullest extent, and a still further bounty from Congress, by which they have become immensely wealthy, that they should seek to usurp the rights of the public, and to avert the just intent of our liberal patent laws? Has individual honor no moral power to incite to honesty and justice in this respect, or has honor and honesty been made subservient only to avarice? It would seem so, or such measures as those above alluded to, would never have been used.

J. J. S.

St. Louis, Mo.

Brief History of Guano.

The London *Farmer's Magazine* furnishes the following comprehensive history of Guano:—"Guano, as most people understand, is imported from the islands of the Pacific—mostly of the Chincha group, off the coast of Peru, and under the dominion of that government its sale is made a monopoly, and the avails, to a great extent, go to pay the British holders of Peruvian government bonds, giving them, to all intents and purposes, a lien upon the profits of a treasure intrinsically more valuable than the gold mines of California. There are deposits of this unsurpassed fertilizer in some places to the depth of sixty or seventy feet, and over large extents of surface.

The Guano fields are generally conceded to be the excrement of aquatic fowls, which live and nestle in great numbers around the islands. They seem designed by nature to rescue, at least in part, that untold amount of fertilizing material which every river and brook is rolling into the sea. The wash of alluvial soils, the floating refuse of the field and forest, and, above all, the wasted materials of great cities

are constantly being carried by the tidal currents out to sea. These, to a certain extent at least, go to nourish, directly or indirectly, submarine vegetable and animal life, which in turn goes to feed the birds, which in our day are brought away by the shipload from the Chincha Islands.

The bird is a beautifully-arranged chemical laboratory, fitted up to perform a single operation, viz.: to take the fish as food, burn out the carbon by means of its respiratory functions, and deposit the remainder in the shape of an incomparable fertilizer. But how many ages have these depositions of seventy feet in thickness been accumulating?

That a little bird, whose individual existence is as nothing, should in its united action produce the means of bringing back to an active fertility whole provinces of waste and barren lands, is one of a thousand facts to show how apparently insignificant agencies in the economy of nature produce momentous results."

Great Bronze Casting.

The Springfield *Republican* gives an interesting account of the casting of the parts of the great bronze equestrian statue of Washington, at Ames Foundry, in Chicopee. The statue was modeled by Mr. H. K. Brown, and is the largest of the kind in the country. The *Republican* says:—

"The immense work has been cast in fragments, and that one just finished is the largest and most difficult of the whole, namely, the entire body of the horse. As the preparation of the mold has required considerable time and great care, and as many hazards attend the execution of such a work, the hour appointed for the trial was one of no small interest to the contractors and those employed upon it.—About one hundred persons had gathered from the neighboring shops to witness the scene, wholly unprepared, however, for what followed. Soon after the hot metal began to flow into the mold it commenced spitting with great rapidity from every crevice in the mold, and in all directions. The workmen who stood upon and around it, were enveloped in a shower of liquid fire, which burned their hands and faces, and set fire to their garments, while the spectators fled in terror from the building. The foreman of the shop, Mr. Langdon, anticipating some trouble, had agreed with his workmen not to give up the object of their long endeavors if a desperate effort could save it. With courage that deserves great praise, they persevered and filled the mold, escaping with only slight injuries. We saw the monster horse, headless and limbless, lifted from his bed yesterday, and it was hailed as an entire success. The contractors may well congratulate themselves over their work, for it is the first and only achievement of the kind made in this country, and perhaps nowhere else, but in Munich, Bavaria, could so large a piece of bronze statuary be cast."

A great meteor passed over Denmark on the night of the 10th of last month. It varied at times from the size of the sun to that of a star of the first magnitude. It changed its configuration several times, having appeared now in one mass, then in two, then again in three and so forth alternately, lighting up the heavens to a considerable distance.

A mine of Epsom salts is said to have been recently discovered in Santa Cruz county, California. If it should not prove remunerating to its proprietors, it will, nevertheless, be always good for *working people*.—[Exchange.]

[But how can there be Epsom salts in California? These salts are simply the sulphate of magnesia prepared at Epsom. The sulphate of magnesia is found native in South America, in various mineral springs, and may be formed direct from "bittern" sea water.

It is said that agate stones steeped in a solution of copperas for a few hours, then baked in a hot oven, acquire a fine red color.

Persons were passing on the ice, last week, between Goat Island and the Canada, above the Falls of Niagara. It is 25 years since this was done before.

A submarine telegraph has been laid down from Constantinople to Alexandria, to cross Egypt, and be hereafter extended from Suez to India.