CONTINUED AND STEADY PROGRESS OF AMERICAN INVENTIONS IN EUROPE.

There is no doubt that the war in this country, aided by the systematic misrepresentations of its causes and purposes by the London *Times*, the leading paper of Europe, has, to the intense delight of the nobility and privileged classes, given a great check to the progress of our political ideas among the people of the Old World. But there is one class of our ideas —our notions in regard to mechanical operations— that make their way abroad in spite of all obstacles. The great masters of industry are not going to conduct their works with interior implements when better are offered to their use.

Patents for the following American inventions have been recently secured in England through the Scientific American Patent Agency ;—

Belt Shippers.—Patented by John C. Goar, of Jamaica Plains, Mass. An illustrated description of this invention was published on page 384, Vol. III., Scientific American (new series.)

Rotary Engines and Pumps.—Patented by Kenyon and Theodore Cox, of New York city. The aim of this invention is to accomplish that long-sought desideratum, the perfect packing of a rotary engine. Though not complicated it would require drawings to make it intelligible.

Improvements in Knitting Machinery and in the Mode of Operating the Same.—Patented by the McNary Knitting Machine Co. of the city of New York. A complete and ingenious mechanism, and cannot be understood without the aid of diagrams.

Fastening of Window Shutters and Blinds.—Patented by Augustus Reeve, of Allowaystown, N. J. This invention consists in fitting the bolt with a case somewhat wider than the bolt, so as to admit of the latter having two movements, a longitudinal and a rising and falling one, the socket, which receives the end of the bolt, being constructed in a similar way, and provided with an opening in its back plate, which opening forms the orifice of a supplemental socket, to receive the bolt when the shutters are secured in a bowed state.

An Improved Mode of Desiccating Wet or Moist Substances.—Patented by J. Eugène Tourné, of New Orleans, La. This invention relates to an improved chamber for drying wet cotton, and consists essentially in placing a bath of fusible metal in the bottom of the chamber, with an apron to carry the cotton slowly through above the bath.

Preparing Compounds of India Rubber, Gutta Percha &c.—Patented by Rudolph Franz Heinrich Havemann, of New Brunswick, N. J. This invention relates to the compounds of india rubber, gutta percha, and allied gums of a texture and appearance resembling ivory or bone. When the gum has been dissolved and treated with chlorine, nearly all of the solvent is washed out with alcohol, a sufficient portion only being left in to keep the gum in a plastic state. Aqua ammonia is then added, and after grinding or stirring the mass till a thorough mixture is effected, powdered salammoniac and pure lime (oxyd of calcium) in a finely powdered state are added, and thorough incorporation by stirring or grinding is effected. The compound is then placed in a suitable metallic mold, and subjected to a heavy pressure, which is to be increased from time to time until the substance is sufficiently condensed, when it is to be removed from the press and exposed to heat until it becomes perfectly hard ; it will then be compact and white, and of texture and appearance resembling ivory, and will withstand the action of all varieties of climate, of hot or greasy water, and of acids.

Packing Press.—Patented by John Jordan Eckel, of New York. This press was invented by A. Randel, of this city, and was illustrated on page 360, Vol. III., Scientific American (new series.)

Feathering Paddle Wheel.—Patented by Byron Densmore, of Brockport, N. Y. This invention relates to paddle wheels in which a rotating eccentric is used for controlling the operation of the floats.

Spring Hinges.—Patented by George Bowen Pierson, of the city of New York. This invention relates to a mode of increasing or diminishing, and of reversing, and even of neutralizing the action of the springs of hinges, particularly those known as butt hinges.

Improved Pavement for Streets.—Patented by Lucius Stebbins, of the city of New York. A smooth plate of cast iron is supported by ribs a few inches above a lower plate resting upon the ground, and the upper plate is perforated with numerous square holes through which iron pins project upward a short distance. These pins are balanced by springs or weights, so that they will easily yield to the vertical pressure downward of the wheels, but will prevent the horses' feet from slipping sideways. Steam or hot air may be introduced between the plates to melt snow or ice.

Cutting and Rounding Corks and Bungs.—Patented by Alexander Millar, of the city of New York. This admirable invention was illustrated on page 152, Vol. IV., Scientific American (new series.)

Quartering Cork Wood.—Patented by Alexander Millar, of New York City. This invention is by the same ingenious and judicious inventor. It would require engravings to make it intelligible.

Making Paper from Corn Leaves---A Great Discovery.

We translate the following from *L'Invention :*—

The conversion of the fibers of maize into paper is to-day an industrial fact confirmed by extensive success, and this discovery cannot fail to influence considerably the price of paper. This discovery, it is true, is not absolutely new ; in the Eighteenth century the manufacture was in operation in Italy with remarkable success ; but, strange to say, the secret was kept by the inventor, and was lost at his death. Many attempts since made to revive the manufacture have all recoiled before the difficulty of removing from the leaves the silica and resinous matter which they contain, and which obstructs the conversion of pulp into sheets Happily, this secret has just been rediscovered, and not, as would have been anticipated, by a chemist, but by a simple Jewish writing-master—M. Moritz Diamant, an Austrian subject—to whom the new industry is going to give a considerable fortune. His process is applied at the present moment on a very large scale, at the imperial manufacture of Schlogelmühle, near Glonitz, in Lower Austria. Although the machinery of the establishment was constructed for working rags, and is not at all adapted to the kind of preparation that corn leaves require, the essay which has been made has had a prodigious success ; the paper obtained leaves nothing to be desired in strength, homogeniety, polish and whiteness. In the last point, particularly, the sheet from corn surpasses that from rags, which always contain impurities that can be removed only with great difficulty.

It is Count Carl de Lippe Weissenfeld who operates at this moment the discovery of M. Moritz Diamant, interested, as may well be supposed, in the fabrication of paper from maize.

According to the German journal from which we have borrowed the preceding details, the principal advantages of this new manufacture are the following :—

1. It is not solely possible to produce from the leaves of maize all the species of paper manufactured at this day ; but it happens, furthermore, that in several respects this paper is superior to that made from rags.

2. But little starch is required to prepare the paper for receiving writing, which results from the fact that the corn leaves already contain a natural ingredient that takes the place of starch. This ingredient may be easily removed if desired.

3. The bleaching of this paper is effected almost instantaneously by a process the most simple and the most efficacious. It is, furthermore, only feebly colored, and for wrapping paper, the bleaching is entirely unnecessary.

4. The paper from maize is stronger –more tenacious –than the best paper made from rags. There is none of the fragility which characterizes paper into the composition of which ordinary straw enters—a fragility which is principally due to the abundance of silica contained in straw.

5. In the process invented by M. Moritz Diamant, no species of machine being necessary to convert the fibers of maize into paper pulp, and this conversion being made by means entirely different from those employed in working rags, there results a great simplification in the apparatus, and consequently a notable reduction in the manual labor and the expense of the manufacture.

New Green Colors.

The poisonous character of green colors, manufactured from the arsenates of copper, renders them very dangerous and objectionable. The following are new green colors designed as substitutes for arsenical greens, described by Professor Elsner, and published in the London *Chemist and Druggist :*—

Elsner Green.—This is prepared by adding to a solution of sulphate of copper a decoction of fustic, previously clarified by a solution of gelatine ; to this mixture is then added 10 to 11 per cent of protochloride of tin, and lastly, an excess of caustic potash or soda ; the precipitate is then washed and dried, whereupon it assumes a green color, with a tint of blue.

Tin Copper Green.—This is made by heating 59 parts of tin in a Hessian crucible with 200 parts of nitrate of soda, and dissolving the mass when cold in caustic alkali ; when clear, this solution is diluted with water, and a cold solution of sulphuret of copper added ; a reddish-yellow precipitate falls, which, on being washed and dried, becomes a beautiful green.

Titanium Green.—Titaniferous iron is fused in a Hessian crucible, with twelve times its weight of sulphate of potash ; when cold, the fused mass is treated with hydrochloric acid heated to 122° Fah., and filtered hot ; the filtrate is then evaporated until a drop placed on a glass plate solidifies ; it is then allowed to cool, and when cold, a concentrated solution of salammoniac is poured over the mass, which is well stirred and then filtered. The titanic acid which remains behind is digested at 122° or 140° Fah. with dilute hydrochloric acid, and the acid solution, after the addition of some solution of prussiate of potash, is quickly heated to boiling ; a green precipitate falls, which must be washed with water acidulated with hydrochloric acid, and then dried under 212° Fah.; it forms a beautiful dark green powder.

Gold and Platinized Steel---Alloy for Bells.

A patent has lately been taken out in England, by Mr. Wm. Longmaid, for improving the quality of iron and steel by alloying them with a minute quantity of gold, or gold and platinum combined. As gold fuses at a comparatively low temperature, the alloying of it with iron does not appear difficult, but how to alloy platinum with iron is certainly an object of great interest to metallurgists, because platinum is such an infusible metal. With respect to the method of producing this alloy, Mr. Longmaid says:—

The most convenient mode of applying gold or platinum in minute quantities to melted iron or melted steel, is first to cast small ingots of iron or steel, each containing a suitable quantity of gold or platinum, or of both those metals, for alloying a tun or other weight of iron or steel on which it is desired to act at one time. The gold or platinum is introduced into the ingot molds, then the melted iron or steel is run into the ingot molds, and such ingots are introduced into the reverberatory or other furnace or vessel containing the melted iron or steel which is to be improved by the action of gold or platinum, or of both those metals, and it will be found that when these ingots have melted and mixed with the iron or steel, the gold or platinum will be diffused very intimately throughout the whole mass, and the gold or platinum, or both those metals, will consequently act on the whole mass so as to produce the desired beneficial results thereon. Or the gold or platinum may be otherwise introduced into the melted iron or steel ; and in cases where gold is contained in quartz, or other minerals in ascertained proportions, the quartz or minerals may be employed without first separating the gold therefrom, and the same be used in the blast furnace or otherwise. I would state that, with the exception of an alloy of iron for making bells, I have not found it desirable to introduce more than half on ounce of gold or platinum, or of the two metals together, to each tun of iron or steel, though for special cases, it may be hereafter found desirable to exceed these quantities.

In the manufacture of steel bells, the patentee states that he has used as much as three ounces of gold to the tun of steel, by which he obtains a very sonorous metal. We have heard before of gold having been employed for alloying steel, but not platinum. About from one-fourth to one-half of an ounce of gold and platinum added to the tun of cast iron, puddled iron, or puddled steel, is stated to improve their qualities to such a degree that the extra cost for the precious metals will be more than covered by the greatly increased prices that may be obtained for the new and superior alloys.

Manufacture of Cast Steel in a Reverberatory Furnace.—*Le Journal des Mines* gives an account of successful experiments in melting steel for manufacturing cast steel in a common reverberatory furnace, in place of the little crucibles that are ordinarily employed ; thus enabling from 1,000 to 2,000 lbs. to be melted in one mass, permitting the employment of a cheaper fuel, saving the great cost of the crucibles, and effecting a notable saving in the expense of the manufacture. The steel is protected during the process from contact with the air by a covering of melted scoria, and the fire is supplied with a blast of hot air.

Sir David Brewster, in his "Life of Newton," says that neither Pemberton nor Whiston, who received from Newton himself the history of his first ideas of gravity, records the story of the falling apple.