PARLOR STOVES—Conrad Harris & Paul W. Zoiner, of Cincinnati, O. : Design for a parlor stove named "Carbon."

SIX PLATE BOX STOVES—Conrad Harris & Paul W. Zoiner, of Cincinnati, O.

COOKING STOVE—Conrad Harris & Paul W. Zoiner, of Cincinnati, O. Design named "Kanzas."

STRAP HINGES—Enoch Woolman, of Damascoville, O.

NOTE—About one-third of all the American patents granted last week were obtained through the Scientific American Patent Agency. Several of the grants are for inventions of a very valuable and important nature, from which rapid fortunes will be made. To those who are longing to elevate themselves in the world, pecuniarily, we say invent, invent, invent! There is not a surer way to business and fortune for individuals who are without capital, than patents. A good invention generally yields a cash return, and is often of more value than a California gold mine.

The present is an unusually favorable time for applying for patents. The Hon. Charles Mason is again in power, and the business of the Patent Office is being once more conducted with promptness and vigor. Applicants will not have to wait so long as formerly, before the result of their cases is made known.

Prince Albert on Science and Common Sense.

On the 22d of last month, at the laying of the corner-stone of the new edifice of the Birmingham Institute, England, Prince Albert—who was present, and whose health was drank at the dinner given on the occasion—made a speech, in which he, very sensibly, never alluded to the war, nor to political matters, but exclusively to the objects for which the building was designed, namely, scientific instruction. He said it was a pleasure for him to participate in a work of worldly wisdom in that great town, because it was one of the first public acknowledgments of a principle daily forcing its way among the people of Britain, and destined to play an important part in its future developement (and the world in general,) viz., the introduction of science and art as the conscious regulators of human industry. The following short extracts from his speech are worthy of being engraved in letters of gold :

"In all our operations, whether agricultural or manufacturing, it is not we who operate, but the laws of nature, which we have set in operation. It is, then, of the highest importance that we should know these laws, in order to know what we are about, and the reason why certain things are, which occur daily under our hands, and what course we are to pursue in regard to them. Without such knowledge we merely go on to do things just as our fathers did, and for no better reason than because they did so—or improve upon certain processes by an experience hardly earned and dearly bought, and which, after all, can only embrace a comparatively short space of time, and a small number of experiments. From none of these causes can we hope for much progress; for the mind however ingenious, has no materials to work with, and remains in presence of phenomena, the cause of which are hidden from it. . . . . .

But these laws of nature—these Divine laws—are capable of being discovered and understood, and of being taught and made our own. This is the task of science; and while science discovers and teaches these laws, art teaches their application. No pursuit is, therefore, too insignificant not to be capable of becoming the subject both of a science and and art. . . . . .

No human pursuits make any material progress until science be brought to bear upon them. We have seen many of them slumber for centuries; but from the moment that science has touched them with her magic wand, they have sprung forward and taken strides which amaze and almost awe the beholder. Look at the transformation which has gone on around us since the laws of gravitation, electricity, magnetism, and the expansive power of heat have become known to us! It has altered our whole state of existence—one might say the whole face of the globe! We owe this to science, and science alone; and she has other treasures in store for us, if we will but call her to our assistance. It is sometimes objected by the ignorant that science is uncertain and changeable; and they point to the many exploded theories which have been superseded by others, as a proof that the present knowledge may be also unsound, and after all not worth having. But they are not aware that while they think to cast blame upon science, they bestow, in fact, the highest praise upon her. For that is precisely the difference between science and prejudice; that the latter keeps stubbornly to its position, whether disproved or not, while the former is an unarrestable movement toward the fountain of truth—caring little for cherished authorities or sentiments, but continually progressing—feeling no false shame at her shortcomings, but, on the contrary, the highest pleasure when freed from an error, at having advanced another step towards the attainment of Divine truth. . .

We also hear, not unfrequently, science and practice, scientific knowledge and common sense, contrasted as antagonistic. A strange error! For science is eminently practical, and must be so, as she sees and knows what she is doing; while mere common practice is condemned to work in the dark, applying natural ingenuity to unknown powers, to obtain a known result. Far be it from me to undervalue the creative power of genius, or to trea rewd common wose as thousenwihle ttrss st knowledge. But nobody will tell me that the same genius would not take an incomparably higher flight if supplied with all the means which knowledge can impart, or that common sense does not become only truly powerful when in possession of the materials upon which judgment is to be exercised. . . . . .

No pursuit is too insignificant not to be capable of becoming the subjects both of a science and an art. The fine arts, as far as they relate to painting and sculpture (which are sometimes confounded with art in general) rest on the applicatiou of the laws of formand labor, and what may be called the science of the beautiful. They do not rest on any arbitrary theory on the modes of producing pleasurable emotions, but follow fixed laws, more difficult, perhaps, to seize than those regulating the material world, because belonging partly to the sphere of the ideal and our spiritual essence, yet perfectly appreciable and teachable, both abstractly and historically, from the works of different ages and nations." (Cheers.)

Recent Foreign Inventions.

JOINING SLABS OF SHEET-IRON—A patent has been granted to Mr. Bertram, a practical engineer, employed in Woolwich Dockyard, Eng., as foreman. His invention consists of a process of firmly joining together slabs of sheet-iron work for the purpose of making boilers, building ships, and erecting bridges, &c., without the use of rivets. This novel method of welding the iron instead of joining it by the rough means hitherto in use—that of riveting—is carried out by fusing the two edges of the plates to be adhered, and striking them simultaneously on both sides. By this means the structure is rendered materially lighter, and much stronger. Some experiments have been tested by order of the Lords of the Admiralty, in presence of the officers of the Dockyard, who are authorized to report thereon. The result of their deliberations will shortly be made known. It has been hitherto considered impossible to make an unlimited surface of iron; hence the system of riveting has been so far perpetuated.

A NEW EXPANSIVE VALVE MOTION FOR STEAM ENGINES was lately described at the Institution of Mechanical Engineers, by Mr. G. M. Miller, of Dublin. In this motion a single eccentric only is used on the driving axle; this works the rod of one of the valves direct, and the rod of the second valve is worked by the eccentric through the intervention of a loose ring on the driving axle, having two arms projecting at right angles to each other, to one of which the second valve-rod is attached, the other arm being connected with the eccentric. By this means a similar motion is given to both valves, but corresponding to the relative positions of the two cranks at right angles to each other. The eccentric is molded upon a transverse slide, which is capable of being moved backwards and forwards across the axle by means of a handle, answering to the ordinary reversing handle or lever, and acting through the medium of a pair of racks and pinions. By moving the transverse slides the throw of the eccentric is altered or reversed, thereby enabling the engine to be worked expansively or reversed. A model of the new motion was exhibited, showing it as applied to a locomotive engine; and the particulars were given of the successful working of the new motion in two engines upon the Great Southern and Western Railway of Ireland.—[Railway Gazette, London.

STEAM ENGINES—Mr. T. W. Bunning, C. E., of Nowcastle-on-Tyne, has patented some improvements in steam engines, which consist of an arrangement of trunk-engines in which the steam from the boiler is only admitted under the piston to perform the up-stroke, while it is made to enter through a slide of a particular construction into the upper part of the cylinder, there to work expansively and perform the down-stroke.

FURNACES—T. R. Crampton, C. E., of London, has patented an improvement in locomotive and other boiler furnaces, which consists in employing a series of flat bars arranged transversely in a furnace of a steam boiler, one bar below another, and somewhat forward of each other, thus producing a shelving grating, with spaces for the passage of air horizontally between the bars. At the lower part of such series of shelving bars is a series of ordinary fire bars, which receive the well-ignited fuel descending down the shelving bars, and which are so connected with an axis as to allow fire to be dropped upon them when desired.

Bursting of Krupp's Steel and Iron Cannon.

On page 98, in our list of claims of the 27th ult., two of the claims were embraced in a patent granted to Alfred Krupp, of Essen, Prussia. The first was for the manufacture of cannons from solid pieces of steel, and the second was for the surrounding of cannons made of cast steel with cast, or wrought iron, or gun metal.

We have learned, by recent foreign exchanges, that on the 19th of last month, at the Royal Arsenal, Woolwich, England, a number of scientific gentlemen assembled to witness the testing of one of these guns, a 68 pounder, manufactured by Krupp, in Prussia, for Capt. Creuse, royal engineer. It was supposed to be the largest piece of cast steel ever manufactured, and weighed between three and four tuns. The chemise, or outward covering of cast iron brought its weight to nine tuns. The proof charge was 25 lbs. of gunpowder, one wad, and one of the projectiles made by the inventor and intended for service with the gun. This shot was of a conical shape, about two feet in length, weighing 2 cwt., 1 quarter, and 7 lbs. The quantity of powder used was less than the proof charge of an ordinary 68 pounder by 3 pounds. At the first discharge the gun burst, scattering the fragments high into the air. The sensation of the result was very great, as some supposed it capable of resisting any amount of powder. Its declared value was £1500—$7500

Great Steamship Launched.

On the morning of the 10th inst. the new steamship *C. Vanderbilt* was launched from the yard of R. Simonson, at Greenpoint, amid the acclamations of a dense crowd numbering some thousands of persons, some of whom had come from a great distance to witness the descent of this noble vessel into the briny element. The launch was very successful. The vast size of this new leviathan of the deep was not properly appreciated because of her fine lines, until she was about to be towed down to the dock to get on her sheathing. Four tolerable sized "tugs"—two on each side—appeared beside her, like dog-fish beside a whale. The *C. Vanderbilt* is designed for the Atlantic trade between this port and Havre. She is built very strong, and of a capacity amounting to five thousand tuns. Her engines will be of the common over-head beams. They are nearly finished, at the Allaire Works, and are of huge proportions. The *Vanderbilt* is the largest steamship yet launched on our continent

Granite Dust.

A correspondent of the Washington *Intelligencer* says :—"While examining the granite quarries at Northbridge, Mass., a few days since, I had a conversation with the workmen who were dressing out the stone, in reference to the dust that they were rapping off with a flat piece of board from the face of the stone they were hammering. The dust is reduced in the hammering of the stone to an impalpable powder, and will float in the air. I said to them that it would be well to try the vegetating powers of this granite dust in a hill of corn. They replied that it had been used in gardens and on grass lands with great success, and that it was equal to the best manure. The granite rocks may be ground to an impalpable powder and used as a fertilizer. Feldspar, a component of granite, yields potash, and may therefore be supposed to possess extraordinary fertilizing power."

French Single Horizontal Steam Engines.

Wm. Fairbairn, of Manchester, Eng.,—the famous engineer—in his report of the steam engines on exhibition in Paris, states that the horizontal *single* cylinder engine is gaining ground on the double cylinder vertical engine. He attributes this to its being both cheaper and more compact. At one time the great objection to horizontal engines was the excessive unequal wear of the piston upon the lower side of the cylinder; but owing to the accuracy with which pistons, are now made, the wear and tear upon cylinders is greatly reduced. In France, Mr. Fairbairn states, the consumption of coal per horse power, in the most common steam engines, is very low—only about three pounds, and the makers of them guarantee that they will not exceed that amount. The steam is used at about fifty pounds pressure on the square inch, and is cut off at one-fifth of the stroke, and so far as economy of fuel is concerned they are equal to an engine with two cylinders, the one for high pressure, and the other for expansion—the well known Wolfe principle, which has been held to be the most economical of all. Mr. Fairbairn states that the improvements in French engines, although well known in England have not been carried out to the same extent as in the former country. He therefore awards high praise to the French engineers, and certainly, when we consider the economy of fuel—3 lbs. of coal per horse power an hour—in their engines, we must call upon our own engineers to spur up and useless fuel than they heretofore have been accustomed to do.

English Scientific Journal.

We understand from undoubted sources that a new scientific and mechanical journal is about to be established in London, adopting the SCIENTIFIC AMERICAN as the standard. We are not permitted to announce the names of its projectors, but they are men of enterprise, and occupy high positions in the scientific circles of London, with almost unequalled advantages for a work of this character. So far as we know—and we believe we understand the subject thoroughly—there is not a first-class journal of the kind in London. They are generally monthlies or weeklies, without force or energy, and the opening for a good journal is, no doubt, very encouraging.

Terrible Effects of Conical Balls.

An English surgeon—Mr. Longmore—writing to the London *Daily News* from the Crimea, says :—

"The experience of French practice, as well as our own is, that patients scarcely ever recover with compound fractures of the thigh, caused by rifle shots in the upper part of the limb, whether amputation be performed or not. This has led both the French and ourselves to make some experiments in cutting out some portions of the bone broken and killed by the injury, leaving the limb on; hoping that while one source of irritation is thus removed, and a less severe shock to the frame is caused than by lopping off the whole limb near the hip, nature may in time restore the continuality of the detached ends by throwing out new bones. There have not been sufficient cases to warrant conclusions on the propriety of this proceeding in the thigh. In no previous war has the human frame been shattered by missiles projected with such force as in this, and the conical form in the balls has caused a considerable difference in the kind of fissuring and splitting up of the bones."

Frantz's Wind Mill.

In the description of the Wind Mill in No. 13, SCIENTIFIC AMERICAN, it was stated that Phillips & Tritle were the assignees of the patent. The patent was assigned to Mr. John Phillips solely, by the inventor,—Phillips & Tritle manufacture the Wind Mills.

Fermentation.

French grape juice, which ferments spontaneously in contact with the atmosphere, if put up in a glass jar, free from contact with the air, will not ferment. This was discovered by Gay Lussac.