

## RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

**Iron-clad and Other Vessels.**—This invention consists in the application to a vessel of a hinged adjustable shifting keel connected to the main keel and operated by chains or other suitable means in such a manner that it can be turned down to a perpendicular position whenever it may be desirable to increase the steadiness of the vessel, or that it can be turned up on the side of the main keel if the latter is deemed sufficient to keep the vessel steady. The invention relates also to certain improvements in the gear for operating the turret, also to a certain novel arrangement for operating steam rams and scuttling rams or augers extending through the sides of the vessel and calculated to produce holes in a hostile vessel, either by blows or by boring such holes, as may be most convenient. Charles Slater, Brooklyn, N. Y., is the inventor.

**Printing Press.**—This invention relates to a new and improved printing press for general use, but more especially designed for printing labels or small bills, etc. The object of the invention is to obtain a press of simple construction by which any person can do his own printing in a small way. Druggists, for instance, print their own labels, storekeepers their own circulars, bill-heads, etc., etc. The invention will prove valuable in those cases where dates are put on labels, and consequently require to be changed every day, and where the titles on labels are frequently changed. Henry Redlich, Chicago, Ill., is the inventor.

**Ore Separator.**—This invention relates to a new and improved device for separating the heavier masses of ore from the lighter portion or "slime" as it is technically termed, and it consists in the employment or use of a hopper provided with a deflecting board and a chute, and also provided with an exit chamber having a pipe or tube communicating with it and provided with faucets or plugs, all arranged in such a manner as to effect a complete separation of the two parts of the ore specified. James Watson, Cliff Mine, Mich., is the inventor.

**Composition for Preparing Ribbons for Hand Stamps, Etc.**—In certain classes of hand stamps ink-prepared ribbons are used, which are drawn through between the die and the bed, and give the impression when the die is depressed. For the purpose of preparing these ribbons ordinary printing ink has been used in the absence of some better composition, and a ribbon thus prepared will give about thirty impressions on the same spot. The composition which forms the subject matter of this invention, and the coloring base of which is one of the aniline colors, when properly mixed and applied to the ribbon allows of taking more than a hundred impressions from the same spot; in fact, the color seems to be inexhaustible, and is, therefore, of great value for the purpose above stated. Horace Holt, No. 264 Broadway, is the inventor.

**Oil Press.**—This invention consists in the use of doors sliding in grooves in the adjoining movable sides of the press boxes, said grooves being arranged in such a manner that they retain the slides firmly in position, and compel them to close tight when the press is filled, and at the same time they do not interfere with the sliding motion of the sides of the press boxes. The invention consists also in the application of a steam supply and of an exhaust pipe, extending over the entire length of the press, and communicating with each press box by small pipes, in such a manner that said small pipes will have sufficient spring to allow the sides of the press boxes being moved the requisite distance, and all complicated joints in thin pipes can be avoided. Wm. V. McKenzie, Jersey City, N. J., is the inventor.

**Circular Cutter.**—The object of this invention is to cut out circular disks or rings of india-rubber or other material, such as is used for the packing of flanges and other circular parts of steam engines and other machines. To effect this purpose a movable knife holder is secured to a rod provided with a rule and with a screw handle, and fixed center, in such a manner that the knife can be readily adjusted to any desired distance from the fixed center. By turning

the handle the knife holder can be released or fastened at any desired point on the rule. The fixed center is secured in a stationary head provided with a swiveling arm rest, in such a manner that the operator is enabled to press the fixed center down with his arm, and take hold and operate the knife with the hand, while his other hand is free to hold the material and move it against the knife, and the cutting operation will be executed in a short time with care, and with perfect exactness. Emil Hubner, New York city, is the inventor.

**Fire-arm.**—This invention consists, among other things, in forming the lock frame and the guard in one piece, and in so connecting the frame to the receiver as to be removable by the withdrawal of the pin on which it rotates; also in a novel method of forming the shell drawer for withdrawing the empty shell of the cartridge, and in other devices and modes of operation which are considered to be valuable improvements in breech-loading fire-arms. The patent bears date April 18, 1865. Albert M. White, Port Chester, Westchester Co., N. Y., is the inventor.

## BOOKS AND PUBLICATIONS.

**ATLANTIC MONTHLY.**—The May number of this standard periodical has a leading article upon birds of America, which, in a discursive and genial way, tells us all about our feathered friends—those familiar to us from constant flitting about our houses, and those afar off who haunt the woodside or the depths of the forest. Every lover of nature will read the article with pleasure. The poetry of the May number is not remarkable for depth, feeling, or originality of thought—"Gold Egg; a phantasy," being as fantastical in meter as it is vague and misty in purpose. "Out of the Sea" is a local romance, with a vigorous, fresh life and tone, and other tales, together with Mrs. Stowe's always welcome and popular, because sensible, articles on topics of everyday interest, make this number a most entertaining one. Sold by all booksellers and newsdealers.

**GAZLEY'S PACIFIC MONTHLY.**—This magazine is a new comer in the field of periodical literature. It is intended for circulation in California principally, and has articles bearing upon topics interesting to the people of that State. It is printed very handsomely, and is published in New York at No. 34 Liberty street.

**DEMAREST'S MONTHLY MIRROR OF FASHIONS.**—This magazine is chiefly valuable for the attractions it presents to modistes and housekeepers generally in the very elaborate set of paper patterns which accompany each number, and which would cost if bought on Broadway more than the price of a year's subscription. By consulting this periodical our readers in remote towns can have the earliest fashions brought to their firesides. In addition, there are recipes for cooking which are also valuable to those who consider taste any object in culinary matters. Published by W. I. Demorest, New York.

## The Russian Epidemic.

There seems to be no occasion for alarm in regard to the epidemic prevailing in Russia. In the French Academy of Medicine it is declared to be typhus fever, a disease wholly unknown in this country except among crowds of foreigners just landed from emigrant ships. Our common typhoid fever is so named because it resembles the typhus in some of its symptoms, but it is an entirely distinct disease, characterized by ulceration of the bowels. Dr. Murchison, physician to the London Fever Hospital, writes to the *London Times* this full account of the Russian epidemic:—

If the details furnished by foreign physicians are to be relied on, it is not a new pest which has invaded the world, nor has the disease any relation whatever to Asiatic cholera. The malady is evidently relapsing fever, which, under different designations, has been well known in Britain and Ireland for nearly two centuries, which constituted a great part of the Irish epidemic of 1847, and which about the same time was very prevalent in Upper Silesia and in other parts of Germany. The Russian disease corresponds with relapsing fever in every particular save one—viz., its great fatality; but this difference is apparent rather than real, and is attributable to an admixture of ordinary typhus. The mortality from relapsing fever has rarely exceeded three per cent; but almost all epidemics of relapsing fever have coexisted with epidemics of typhus, of which the average mortality is nearly 20 per cent. Hence the aggregate mortality of an epidemic of the two diseases varies with the proportion of typhus. One peculiarity

of relapsing fever is that it prevails in great epidemics, and then entirely disappears for years. In 1861 more cases of relapsing fever were admitted into the London Fever Hospital than of any other fever, but for upward of ten years not one case has been observed. The intervals between some of the epidemics have been so long that time has been afforded for a new generation of medical men to spring up having no experience of the disease, and who, on the occasion of a fresh outbreak, have imagined that they were encountering a new malady. So it was in Scotland in 1843, and so it is now in the case of the Russian epidemic. The causes assigned for the Russian epidemic are the crowding into St. Petersburg of 43,000 laborers in search of work, but more particularly the unusual destitution among the poor, and their recourse to unwholesome food, such as bread containing a large quantity of horned rye. The epidemic, we are told, is "exclusively confined to the poorer classes." In this respect the relapsing fever of Russia is not singular. In this country the disease has always been confined to the poorer classes.

## The Way Tar is Obtained.

In compliance with the request of a correspondent we publish this description of the process of procuring tar, which we take from an article on the subject in Appleton's New American Cyclopædia:—

Tar, a thick, black, viscid material, a product of the destructive distillation of carbonaceous substances, as wood, peat, bituminous coals and shales. It is a commercial article, largely produced, and applied to a variety of uses. It was known to the ancient Greeks, and Dr. Clarke, who describes the method of manufacturing it in the forests of Bothnia, states that there is not the smallest difference between the processes there practiced and those of ancient Greece. Along the whole coast of the Gulf of Bothnia the inhabitants are very generally engaged in this occupation. They make use of the roots of the fir trees, with logs and billets of the same, which they arrange in a stack of conical shape, fitted to a cavity in the ground, generally made in the side of a bank. In the bottom of this cavity is placed a cast-iron pan from which a spout leads out through the bank. The heap is covered over with turf, and is then fired, as in making charcoal. Tar collects in the latter part of the process of charring, and runs off through the spout into barrels placed to receive it. Tar is a product, where charcoal is the chief object of the process, but is seldom obtained in quantities sufficient to render it an object to collect it, except in charring the resinous woods of the pine family. In Sweden, where the business is also an important one, some peculiar methods are adopted to increase the yield of tar in wood. Trees of no value for the saw-mill are partially peeled of their bark a fathom or two up from the ground, not enough to kill them, but only to check their growth. After five or six years, when cut down, the wood is found to be much richer in resinous matters which produce tar. It is noticed that the condition of the weather during the process of charring may make a difference of 15 or 20 per cent in the yield of tar. In the United States tar is produced in almost all parts of the country where pitch pine and the *pinus australis* are found. Along the coast of the Southern States, especially of North Carolina, Virginia, and Georgia, the business has been carried on upon a large scale in connection with the manufacture of turpentine, rosin, and pitch. Old trees, which have ceased to produce turpentine, and dead wood which is rich in resinous matter, are selected for the coal pits. The process does not materially differ from that already described.

**VEGETABLE ORIGIN OF DIAMONDS.**—Prof. Gœppert, who recently obtained the prize offered by the Dutch Scientific Society for an essay on this subject says:—"In my essay I have given ample proof that at one time diamonds were soft bodies. I have not yet attained any results with respect to graphite, but in diamonds I have found numerous foreign bodies inclosed, of which, if they cannot be said to be evidently and undoubtedly vegetable in their origin, it would, on the other hand, be difficult to deny their vegetable nature altogether."—*Seemann's Journal of Botany.*

MM. MOUTIER and DIETZENBACHER have been investigating the modifications of the physical properties of sulphur which are produced by minute quantities of carbon. They find that sulphur, when heated to 270 deg., in contact with carbon, absorbs about one-tenth per cent of that body, and is thereby rendered soft and plastic. Minute quantities of iodine, and of several other bodies, are similarly absorbed by sulphur, and similarly modify its properties.