

we mean on the outside, and when we first discovered its approach we made a rush for hair restoratives, poultices, flying sinapisms—indeed anything to save us from a bald head—but in vain; we could neither coerce nor coax a spear of wool to grow where it ought to grow, and we have at last yielded to our bare-headed fate. Seriously, we do not think the thing can be done, and the advertised hair restoratives are usually money-traps, to gull the public; all certificates to the contrary, notwithstanding. A gentleman of our acquaintance has informed us that he has improved his hair crop by the free use of Castile soap and water with a generous rubbing—a simple remedy which it will do no harm to try.—Eds.

#### ANNUAL PETROLEUM PRODUCT.

A very full and interesting annual review of the petroleum trade is given in the *Shipping and Commercial List and New York Price Current*. From it we learn that no less than 28,000,000 gallons were exported during the year 1863. This export was as follows:—From New York, 19,547,604 gallons; Boston, 2,049,431; Philadelphia, 5,395,738; Baltimore, 915,866; Portland, 342,082. In 1861, the total export was only 1,112,476 gallons; in 1862, 10,857,701 gallons. This trade has sprung into existence with such rapidity and attained to such dimensions, that it appears almost like the work of some great wizard. A few years since, some persons, while boring for water in an obscure Pennsylvania valley, were surprised to find their labors culminating in an oil instead of a water-spout. The event caused great excitement; other wells were soon sunk, with like results, until finally the rocky chambers of that valley have become the natural laboratory which supplies all the rural mansions and cottages in America and Europe with beautiful artificial light to cheer the long winter evening hours. Next to gas, refined petroleum gives the most clear light, while it is also the cheapest ever used by man; we therefore hope, for the good of our fellow-men, that the supply of it will long continue to be copious.

Since petroleum was first introduced, great improvements have been made in refining it. Formerly it produced an offensive odor while being burned, and it was usually of a dark color. That which is now generally used is freed from disagreeable smell, and is as clear and colorless as water. The present price of the crude is 31 cents per gallon; refined, 53 cents. The quantity exported in 1863 amounted to 252,000 tons weight, and engaged no less than 252 ships of 1,000 tons burden each, to carry it. It has become one of the most important of our national products. The value of 28,000,000 gallons of the refined article is no less than \$14,840,000, but not over one-half of the quantity forwarded was refined; still, with this allowance, our petroleum has brought the country \$11,900,000 during the past year—a snug little sum for such a young trade. While in conversation, a few days since, with a gentleman engaged in this business, he stated that the export for the next year would, in all likelihood, greatly exceed that of the past twelve months, and would probably reach forty millions of gallons.

#### 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:—

**Deflecting Window for Railroad Cars.**—This invention consists in having the frame of the car window hung on central pivots, and arranged in such a manner that it may be adjusted in an oblique position relatively with the car body, so as to deflect dust, cinders, &c., from the car while it is in motion and at the same time admit of a passage of air out from the car, and also admit of being so adjusted as to cause air to enter the car through the window when there is no dust to contend with. George Mann, Jr.; of Ottawa, Illinois, is the inventor of this improvement.

**Horse Hay-fork.**—This invention relates to a new and improved horse hay-fork, such as is used for elevating hay in barns. The invention consists in the employment of one or more spiral or screw tines attached to an arbor which is fitted in a suitable head having steady tines or ends attached to it, these parts being used in connection with a pawl and ratchet or other device to serve as a fastening for the above, all being so arranged that large loads may be elevated

by the fork. T. H. James and H. James, of Stockport, N. Y., are the inventors of this improvement.

**Nail Machine.**—This invention relates to machinery for the manufacture of forged nails, more especially horse-shoe nails. In the manufacture of such nails by machinery it is difficult to produce as thin or fine a point as is desirable by a hammering or drawing operation. The plan adopted in this invention is to cut the points, after having reduced the nail as much as desirable by hammering or drawing. The improvement consists in the employment, in a machine for making forged nails, of cutters so constructed and applied that they will serve the purpose of cutting the metal from the side of the nail to reduce the thickness and produce the desired form of the point. It also consists in the employment, in combination with such cutters, of a moving finger or presser, so arranged in combination with a fixed guide as to press the nail against such guide and hold it in contact therewith, and in proper position during the operation of cutting the point, and so to act upon the point before or during the cutting operation as to bring it into line with the center of the nail when the cutting is completed. Daniel Dodge, of Keeseville, N. Y., is the inventor of this improvement.

**Horse Hay-fork.**—This invention relates to an improvement in horse hay-forks which are provided with a bail or sustaining bar, and a brace or toggle-joint bar, the latter serving to hold the fork in proper position while being elevated with its load, and admitting, when its joint is shoved out of line with the two parts or bars which it connects, of the load being discharged from the fork. These forks have been much used since being introduced to the public, and have given general satisfaction, the only material objection urged against them being the effort required to actuate the toggle-joint bar in order that the fork may discharge its load. The object of the invention is to obviate this difficulty, and to that end it consists in applying a lever to the fork in such a manner as to act against the toggle-joint bar, and cause the latter, with a quite inconsiderable effort on the part of the attendant, to be so used or adjusted as to admit of the load being discharged. J. D. Halsted, of Rye, N. Y., is the inventor of this hay fork.

**Improvement for Removing Obstructions from Harbors and Rivers.**—This invention consists in providing, in the interior of a vessel propelled by steam, sails or other means, a fixed working chamber with an open bottom and into which air is compressed as in a diving-bell, to permit persons to operate within it below the surface of the water so as to be protected from an enemy's projectiles by the water. It also consists in the combination with such chamber of an air-lock, so arranged below the surface of the water as to permit persons to pass through it on their way to and from the working chamber. Benjamin Maillefert and Levi Hayden, of No. 108 Wall street, New York city, are the inventors of this improvement.

**Eccentric Valve for Steam Engines.**—This invention consists in a certain novel construction of an eccentric and its encircling strap, whereby it is made so to operate the valve as to give a full opening to the ports, both for induction and eduction, during the first quarter of the stroke of the piston, and to close the ports during the last quarter of the stroke, leaving the valve stationary and the ports full open during the second and third quarters of the stroke, by which is maintained not only the full pressure of steam on the piston more nearly to the termination of its stroke, but to provide for a freer exhaust than is possible when the valve is connected with a common eccentric, thereby obtaining the full power of the engine and enabling it to work at a higher speed and keep up a more steady motion. Wm. G. Snook, of Corning, N. Y., is the inventor of this improvement.

**Method of Removing Torpedoes and Obstructions from Harbors and Rivers.**—This invention consists in the removal or destruction of torpedoes or other submerged or partly submerged obstacles, or obstructions from harbors, rivers and other waters, by throwing over them from a mortar or mortars on board of a vessel placed at a suitable distance, projectiles which are furnished or have attached to them, hooks or other grappling devices, and connected with the vessel by ropes or chains of suitable length and then propelling the vessel in a direction to produce a draft on the said ropes or chains and drag away or destroy the said obstructions or obstacles. By this means the

vessel employed in removing the obstructions is not liable to be damaged by the explosion of torpedoes. Charles Sholl, of Brooklyn, N. Y.; is the inventor of this improvement, and it has been assigned to F. A. de Mey, of No. 49 Broad street, New York.

**Manufacture of Glass.**—This invention consists in the employment for what is termed the finishing of glassware, of a furnace and pots of the same kind as are used in the melting process, whereby goods are produced having a brighter and cleaner surface than goods finished by the use of any other kind of furnace, as the glass while being finished is not exposed to the fumes of sulphur or to smoke, dust or any other deleterious agency. It also consists in providing in the outer shell of a glass furnace a system of air flues which are open at the top and the bottom on the exterior of the shell or cone, the lower opening being arranged at a suitable distance from the floor of the glass-house for the reception of the heated and impure air, and the upper ones for the discharge of such air above the roof of the house, and the said flues serving both for the ventilation and cooling of the house and for the reduction of the excessive heat of the shell of the furnace. John L. Gilliland, of Brooklyn, N. Y., is the inventor of this improvement.

**Revolving Fire-arm.**—In revolving cylinder fire-arms which load at the rear of the cylinder there have been many different constructions of the frame and modes of applying the cylinder to provide for loading. One mode of applying the cylinder, which admits of a very simple construction of the arm, is to attach its axis pin to a swinging support, which permits the cylinder to swing outward from the other parts of the arm in a lateral direction; but as the said pin has only been attached at one end to such support, the attachment has not been sufficiently firm and durable. The object of the first part of this invention is to afford a better support for a so-called revolving cylinder and its more durable attachment; and to this end it consists in the employment, within the main frame of the arm, of a laterally-swinging frame, constructed to support both ends of the axis pin and to fit within recesses in the main frame. The second part of the invention consists in a novel mode of applying a plunger in combination with a cylinder having such a swinging movement for the purpose of expelling the discharged cartridge shells from the chambers and cleaning them, whereby, while remaining attached to the arm, the said plunger is permitted to have the necessary movements for the purpose, and when not in use is permitted to lie close under the stationary barrel, out of the way. H. A. Briggs and S. S. Hopkins, of Norwich, Conn., are the inventors of these improvements, and C. A. Converse, of Norwich, Conn., may be addressed in relation thereto.

**Postage Revenue Stamps.**—The stamps at present in use for postage and inland revenue can, after being canceled, be easily restored beyond detection except by the most careful examination, owing to their being printed solely with indelible ink, and to the inks commonly used for their cancellation, viz., printer's ink for postage stamps, and writing ink for revenue stamps, being of a fugitive character. The object of this invention is to prevent the restoration of such stamps and thereby to protect the government against loss by their fraudulent second use, and to this end it consists in printing such stamps partly or wholly with fugitive ink, the impression of which will be destroyed or removed by the means that would be likely to be employed for the removal of the fugitive ink employed in their cancellation. Abraham J. Gibson, of Worcester, Mass., is the inventor of this improvement.

**Dyeing and Printing Textile Materials.**—This invention relates to a mode of applying that class of colors derived from aniline, naphthaline, nitro-benzine, cinchonine and analogous substances to the obtaining of patterns or designs upon textile materials and fabrics, and it consists in the employment of tannin, either alone or in combination, for the purpose of fixing colors derived from aniline or analogous substances on to textile materials and fabrics, in such a manner that cheap and fast goods can be produced. Robert H. Gratrix, of No. 69 East Twenty-seventh st, New York, is the inventor of this improvement.

It is stated that forty thousand dollars worth of Massachusetts marble has been used in the capitol at Washington.

**Improved Geared Capstan.**

This improved capstan is a very powerfully-gearred machine. In ordinary capstans the force of the operator is transmitted to the cylinder or drum, through the medium of a lever; the length of it and the diameter of the capstan body is a measure of the force exerted. In this capstan the lever or handspike is also used, but there are three distinct ways of applying the power. In the first, the capstan can be used as any ordinary one by simply placing the handspikes in the holes in the head, A; the drum, B, will then revolve as in all others. This is the quickest way of using the machine, and for fleeting up chain cables, falls or hawsers, it will be found valuable in connection with the other features of the capstan.

On the left of the engraving a horizontal spur wheel, C, may be seen, which gears into a similar fixture on the base of the capstan; this affords a slower motion than the first, and an increased strain on the line or chain which is wound on the drum; the gear is worked by the vertical shaft seen at the right; the end of it fitting in the socket, D, to which the shaft is transferred as required. The gearing through which the operator is exerting his strength, is yet another modification, and the most efficient one of all for extremely heavy work, such as dislodging anchors caught in heavy holding ground, hauling ships off shore, &c. &c. It will be seen that the vertical shaft is provided with a small capstan head, which has apertures for four or more bars, and that this shaft sets in a socket in the bevel wheel, E; this wheel gears into a large bevel wheel, F, on the shaft, G; this latter shaft has a worm upon it which meshes into a thread cut on the base of the drum.

Any one at all familiar with machines will see that this is a most effective arrangement for obtaining an immense strain. The movement of the drum is slow, but not necessarily so; for where steam power is convenient the capstan head may be removed and a pulley substituted which can be driven by a small engine; or for that matter this head is itself a pulley on which a belt may be run with perfect facility. Through this agent the velocity of the small shaft and worm can be regulated to suit circumstances. This machine combines a very wide range of usefulness, and will be found a most valuable aid on ship-board or for wrecking purposes. It is strongly fastened to a solid bed-plate, and can be made as heavy as required; suitable pawls are provided within the base of the drum to take up the slack or recoil of the same.

This is a most excellent capstan, and as such we do not hesitate to give it our endorsement. It was patented Oct. 20, 1863, by J. G. Morgan, of Ithaca, N. Y. For further information address G. H. Collins, 235 Broadway, New York.

**Porpoise and Shark Oil for Machinery.**

The rebels are put to such straits for want of oil to lubricate their machinery with, that they have established a porpoise fishery at a place called "Weatherly Swash," the North Carolina coast where they take quantities of the fish; one porpoise yielding about ten gallons of oil. They also catch sharks and try out their livers for the sake of the oil they contain.

Porpoise oil is used chiefly for clocks and small tools; but is not adapted for heavy machinery, being too thin and without sufficient body. Peanut oil is also used; but the journal from which we take the above facts, adds, naively, "it is of little worth."

**ATTERBURY & REDDICK'S REFLECTOR LANTERN.**

This invention consists in applying a silver-plated or polished tinned reflector to one side of a lantern, so

that it remains permanently fixed where it adds very much to the power or intensity of the light. When the glass shade, A, is first made, a circular opening, nearly the size of the reflector, is left in it; this opening is afterward closed by the reflector, which is permanently secured by means of cement or similar sub-

invention was patented, May 12, 1863, by J. S. and J. B. Atterbury, Pittsburgh, Pa. For further information address Atterbury, Reddick & Co., at that place.

**MACHINES FOR MAKING SKATES.**

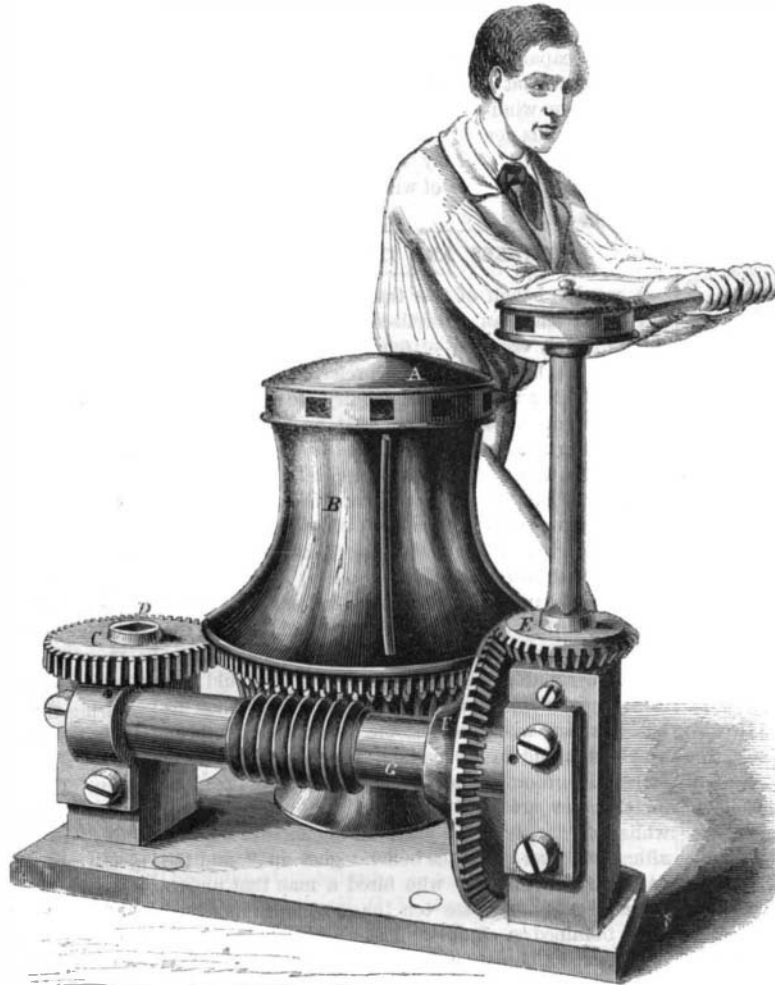
The pastime of skating has been so universally adopted that the demand for skates will increase instead of diminish for a longtime to come. There are so many varieties of the article in question, that it would be out of place to name any particular shape or pattern, as most desirable to be made by a special machine. Nevertheless it is easy to see that an apparatus for shaping the runners, in connection with another for grinding and polishing the same, would be the means of cheapening the article in a remarkable degree. A good pair of imported skates costs \$5, which is far too much; domestic ones cost much less. Fine cast steel, far better than skate runners are generally made from, costs at this time 23 cents per pound; the metal in a pair of skates need not weigh over 1½ pounds at the most, which makes the cost of the raw material amount to 35 cents. There is no reason why a vast skate manufactory should not be established on the principle of a sewing-machine factory, to systematize the work, so that the cost of production shall be reduced to the lowest point, and as a consequence enhance the profits. The factories already engaged in skate-making might successfully employ a good machine for the purpose indicated, and although we know nothing of their wants in this respect, we do not doubt that they would be glad of a practical tool for the object indicated. The foot-hold of the skate, whether wood or iron, might also be provided for by special machinery. Skate-making tools are now as necessary as those for rifled muskets.

**MESSRS. MUNN & CO. TO THE READER.**

Wise ship masters, if they wish their vessels to be conducted in the quickest and safest manner through deviating channels, employ the assistance of the best and most experienced pilots. The same observation holds good in respect to the piloting of inventions through the courses of the Patent Office. Many thousands of patents have already been piloted by us with success, and the public confidence in our establishment has, from year to year, steadily increased. This has ripened our judgment, widened our experience, and prepared us to serve the interests of large numbers of clients in the most prompt and superior manner.

We find in the last weekly official list of patents granted the names of FIFTY-ONE of our clients. This is about forty-nine times more cases than the majority of patent agents in this country are in the habit of obtaining in the same period. Our experience in obtaining patents is so extensive, and our facilities for preparing the drawings and papers so complete, that we are often enabled to execute the work quicker and better than it can be done elsewhere, while no one can possibly enjoy better advantages for pushing cases speedily through the Patent Office. This is the reason why so many persons, living at a distance, prefer to send all their patent business to Munn & Co.

**RAILROAD ACCIDENTS.**—We learn from the *Railroad Journal* that 935 serious accidents occurred on American railroads in 1863, by which 264 persons lost their lives, and 671 were wounded. The number of casualties is less than in the previous year. In 1862, there were 263 lives lost and 870 persons wounded. We are pleased to make this record, more especially as our railroads were pushed to their utmost capacity last year. Railroad traveling is far more safe than by the old-fashioned stages.

**MORGAN'S GEARED CAPSTAN.**

stance. This lantern is also conveniently arranged for lighting and filling. An aperture is left on the bottom, B, which is surrounded by a loose band, C; this band has also a hole in it, so that when it is



turned to correspond with the opening in the slide, the lamp can be trimmed or filled as occasion may require. The small projection, D, is for convenience of moving the loose band spoken of previously. This