

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:—

Petroleum Elevators.—This invention is embraced in two separate Letters Patents, and relates more particularly to apparatuses for the raising of petroleum from deep wells, although it can be adapted to the raising of liquids generally from great depths or to great heights, in which an air-blast is used, and consists principally in a peculiar construction and arrangement of the air-nozzle or orifice through which the air issues to the petroleum in the well, whereby the oil can come in contact with both the exterior and interior surfaces of the air blast, thus greatly increasing its suction and consequently drawing up and discharging a proportionally greater quantity of oil at the top of the well. S. F. Schoonmaker is the inventor, who can be addressed at the Astor House, New York City.

Smoking Pipe.—Mr. L. C. Walker, of 21 South Calvert street, Baltimore, Md., has obtained a patent through the Scientific American Patent Agency, for quite a noticeable improvement in smoking pipes. One feature of the invention consists in breaking the current of smoke in passing from the bowl to the mouth, allowing more time for the nicotine, an injurious element of the smoke, to be deposited and received into the saliva cup. Another point of the invention is in having the stem closed at the end and the smoke passage to lead into the mouth at the upper side of the stem, thus restricting the tendency of the saliva from passing into the mouth of the smoker. As a further guard against this latter evil, a smoke bag or sack is formed in the stem just below the egress opening for the smoke. The patent is dated March 21, 1865.

Baling Press.—This invention relates to a new and improved press of that class designed for compressing substances, such as cotton, hay, hops, etc., for baling, and consists in the employment of toggles, arranged and applied to the press in such a manner as to afford a very compact and efficient mechanism for operating the follower, and compressing the substance within the press-box. The invention for these consists in novel and improved fastenings for the side and top doors of the press, while the same may be very readily secured in a closed state, and also very readily opened. George C. Paine, of San Francisco, Cal., is the inventor, and the Patent bears date April 4, 1865.

SPECIAL NOTICES.

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Parties wishing to oppose the above extensions must appear and show cause on the 19th day of June next, at 12 o'clock, M., when the petitions will be heard.

DURING the starvation of an animal, all its secretions are still formed; a consideration which proves that the productions of urine, bile, and other such bodies are, in reality, connected with the destructive processes going on in the animal system. These processes of decay originate in the action of oxygen admitted by the process of respiration.

POLYTECHNIC ASSOCIATION OF THE AMERICAN INSTITUTE.

The Association held its regular weekly meeting at its room at the Cooper Institute, on Thursday evening April 13, 1865, the President, S. D. Tillman, Esq., in the chair.

CEMENT PIPE FOR SEWERS.

This was announced as the subject of the evening. Mounted on a table in the room were three pieces of pipe twelve inches in diameter and each piece about four feet in length; they were from the manufactory of Knight & Woodward, No. 10 Reade street, Brooklyn. This firm have made large quantities of this pipe for the sewers of Brooklyn.

Mr. Knight explained the process of manufacture. The materials are one part Rosendale water cement to two parts clean sand. These are thoroughly mixed together dry, then moistened with water into a stiff mortar, and immediately molded into pipe. The core is iron smoothly polished upon the outside, and the exterior mold is of iron polished upon the inner surface. The mortar hardens, or "sets" almost instantly, but it is kept in a damp place a fortnight before it is placed in the ground for use. The pipe is manufactured in sizes ranging from 3 inches to 24 inches in diameter, the prices being from 14 cents to \$1.30 per lineal foot. More than 50 miles of the 12-inch pipe have been laid in the sewers of Brooklyn, and many miles of other sizes.

Mr. Woodward read some extracts from the report of an English commission appointed to examine the sewerage system of London, showing the conclusion of the commission that small pipes are less likely to be obstructed than large sewers which are several times more expensive.

Mr. Enos Stevius gave the results of some experiments that he had tried to ascertain the descent required for water to carry along stones and other substances. He found that in a V-shaped trough, after it had become smooth, a descent of 1 foot in 58 was sufficient to wash away all obstructions.

After further discussion at considerable length the subject of comb-making was selected for the next evening and the Association adjourned.

Curious Trees.

The Adansonia, or Baobab Tree, is the giant of the vegetable world. We have the record of one whose trunk measured one hundred and four feet in circumference. The height of this tree does not exceed fifty or sixty feet, while the branches are about the same length, and when seen from a distance, the hemispherical cap of foliage almost resembles a forest. A full-grown Adansonia, with its deep green leaves, and large snowy blossoms is a magnificent sight. It attains to a patriarchal age, and it is said there are trees now living more than two thousand years old. It is a native of Senegal and other parts of Western Africa.

The Dragon Tree—another gigantic tropical growth—has ordinarily an erect trunk of not more than twelve or fourteen feet in height, which divides into short branches, each terminating in an expanded tuft of pointed, sword-shaped leaves. There was one of these trees, destroyed by a tempest some forty years ago, in the island of Teneriffe, which measured forty-five feet in circumference, and nearly sixty feet in height, and which was supposed to be one of the oldest living inhabitants of our globe.

The Courbarils, of Brazil, are described as having trunks more than eighty feet in circumference at the base, and sixty feet where the boles become cylindrical. They are said to resemble living rocks more than trees, for it is only on the pinnacle of their bare and naked bark that foliage can be discovered, and that at such a distance from the eye that the forms of the leaves can not be distinctly seen.

There was, and for anything we know, there is still, a cypress at Chapultepec, in Mexico, whose trunk measured one hundred and eighteen feet in circumference. In Buckinghamshire, England, there is a famous yew which has a diameter of about twenty-seven feet.

The Norfolk pine, or Kawri of the New Zealanders, attains a huge size. This majestic tree grows to the height of from one hundred and sixty to two hundred and thirty feet. One is spoken of which measured seventy-five feet round the base.

Among gigantic flowers and leaves, we have the Victoria Regia, a water lily.

The Rafflesia Arnoldi is still larger. This colossal parasite is a native of Sumatra, growing on a kind of vine, and having no true stem or leaves. The petals of the flower, as observed by the discoverer, were five in number, of a dull brick red, and covered with yellowish white spots. They and the nectary were from one-fourth to three-fourths of an inch in thickness. The flower measured a full yard across, and the nectary was of the capacity of six quarts, while the weight of the whole was at least fifteen pounds.—*Horticulturist*.

Profits of Fruit Growing.

Looking carefully into the matter of the profit realized from all descriptions of fruit growing, and running over only two or three authorities on the subject, multitudes of instances are to be found where extraordinary gains are annually realized without apparent care or skill. Some years ago there was an orchard of 70 Mayduke cherry trees, a few miles below Philadelphia, the daily sales from which during the season amounted to \$80. A single Washington plum tree, in a city garden, has been known to yield six bushels of fruit, worth \$10 per bushel. A vineyard some sixteen miles from Philadelphia, occupying three-eighth of an acre, has produced \$300, when the grapes sold only for eight cents a pound, or at the rate of \$800 per acre. A single Catawba vine, in the same neighborhood, has produced ten bushels, worth \$40 at market prices.

No matter what fruit is examined, the same results are found to occur. A row of common gooseberries a hundred yards long have realized \$40. Two superior Apricot trees have produced \$100 worth of fruit in a season. There are Onondaga pear trees in New Jersey gardens which yield fruit enough, every season, to net their owners \$30 per tree.

Treatment of Fowls.

The *Country Gentleman* has a correspondent who writes as follows:—The best English chemists have pronounced kerosene oil to be the most effectual and harmless remedy known for the destruction of parasites upon animals and fowls. I have proved it by experience; the lice die at once and their extermination is almost certain. Two days' confinement is generally sufficient to overcome the incubating fever. I think it is by far the best and most humane remedy known. A very valuable remedy for sick fowls is jalap. I have often tried it, and been astonished at the rapidity of their recovery from disease; it is very efficacious in many diseases, and its timely administration would save many a valuable fowl; fourteen to sixteen grains made into a pill is a dose for a good sized fowl.

STAMP ALL ASSIGNMENTS.—We would call the attention of all corporations, stock companies and banking institutions to the fact that the Commissioner of Internal Revenue has lately decided that "an assignment of stock made by the owner which passes the title to the purchaser, whether made upon the bonds of the corporation or upon the certificate, is subject to stamp duty of five (5) cents." No general publicity having been given to this decision, the corporations, in consequence, have failed to comply with the law in this respect, the failure of which makes the transfer invalid.

HARDENING OF BURNT CLAY.—At Rivieres, France, they make tiles and bricks of a sandy clay which contains 32 per cent of chalk. When first burnt they are so tender that, unless they are carefully handled, they fall to pieces. As soon, however, as they are cold enough to touch, they are quickly removed from the furnace and carefully stacked. They are then soused with water, by the action of which they are so hardened that they may be used the next day for building. This fact is, perhaps, easily capable of a chemical explanation, and brickmakers may be able to gather a hint from it.—*Chemical News*.

GOLD may be purified from silver by quartation; that is, fusing it with three times its weight of silver, and then acting on the mass with nitric acid; the gold is left as a dark powder, and may be fused after being washed.

Improved Double-edging Machine.

This machine is intended to be used in mills where large quantities of lumber require to be edged parallel, or split into parallel strips for flooring or fencing boards. Its construction and operation is such that much time and labor is saved by it, and lumber produced with neat and parallel edges. The machine is provided with two saws on one arbor; one of the saws, A (Fig. 2), is attached to a stationary collar, B (Fig. 1), and the other saw is attached to a sliding collar or sleeve, C, which is provided with a feather or key that fits in a groove running the length of the arbor between bearings. The saws are adjusted in an instant to any desired width by operating the hand lever, D, which moves the sleeve and saw, by means of the rod and lever, E; this operates a sliding arm, F (Fig. 2), under the front fluted roller, G. The lumber is fed through the machine by means of the several fluted rollers, and the press rollers, I, mounted on the roller caps or frames, J, which are jointed to the curved side plates of the cast frame, K. The press rollers can be elevated or lowered at pleasure to suit any thickness of lumber by operating the long foot lever, L (Fig. 2), which carries or moves the two-branched lifting jack, M, on which rest the two frames before-mentioned. This arrangement always insures a parallel position of press rollers with the feed rollers. It is an important detail, as it produces an equal pressure on either edge of the board, thereby feeding the lumber through straight, which cannot be done where one end of the rollers is allowed to raise and fall independent of the other. The feed rollers are put in motion from a small belt pulley on the end of the saw arbor (Fig. 1), and the belt, N, which operates the small friction pinion attached to the belt pulley, O. This friction pinion runs between the two flanges on the large pulley, P, giving motion to the fluted feed rollers, G; motion is also imparted to the feed roller or pulley, Q, by the belt, R, driven by the large friction wheel, S. The pulley, O, is mounted on a rock shaft, T, and by operating the lever, U, the friction pinion on O is made to impinge either against the inside or outside friction rim, at pleasure. This arrangement admits of first feeding the lumber through to take off the edges of it, and then by operating the hand lever, U, re-

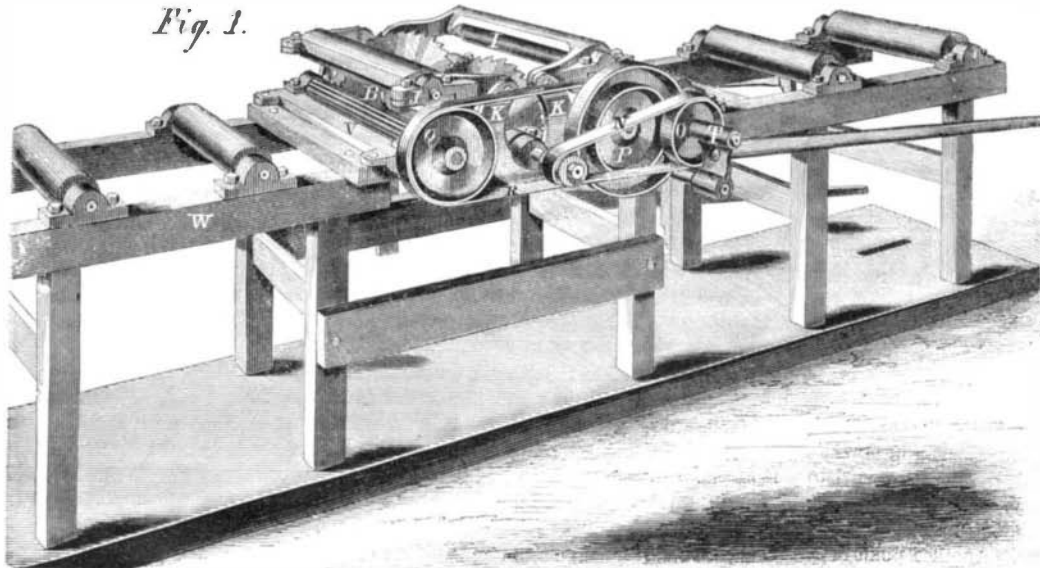
verses the motion of the feed rollers, and thus brings the lumber back again for a second operation of sawing into strips if required. All the working parts of the machine are neatly and substantially built of iron and mounted on the iron frame, O, which is simply bolted down to the wood frame or table, W. X is one of several wooden rollers which should be carefully adjusted into line with the iron-fluted rollers. This machine was patented Aug. 12, 1862; for further information address the patentees, Hayes & Newman, Unadilla, Otsego Co., N. Y.

WESTFIELD, Mass. has been for a long time famous for the extent of its whip manufactories. The business was commenced there twenty years ago and there are now forty-two factories.

WONDERFUL SKILL IN BILLIARDS.

Many curious illustrations of the composition and resolution of forces can be seen in the movements of ivory spheres on a billiard table. It is found that in the rebound of a ball from a plane, the angle of reflection is not always equal to the angle of incidence, but that the relation of these angles depends on a number of circumstances.

Fig. 1.

**HAYES & NEWMAN'S PARALLEL DOUBLE-EDGING MACHINE.**

On the evening of Tuesday, April 11th, several hundred persons, including a number of ladies, were gathered in the large hall of the Cooper Institute to witness a display of skill in billiards by M. Carme, who had recently arrived from France to enter the lists in contest with the eminent billiard players of this country.

The table used was a small carom, manufactured by Phelan & Collander for the occasion, having been commenced and completed on the same day of the exhibition.

Some of the shots made by the Professor, his *masse*

shots especially, were exceedingly well executed, and evinced remarkable skill; but for some reason he did not seem to possess that degree of confidence in the result of his endeavors which always characterized the celebrated Berger's playing, and consequently he was too much given to *misses* to make the entertainment in the highest degree enjoyable. The management was bad on the opening evening, but will no doubt be improved on subsequent occasions. On the cards of invitation it was stated that seats would be reserved for ladies, but on our arrival, a few minutes past 8 o'clock, we failed to discover any vacant ones, although the number of ladies present was not overwhelming. A challenge to play with any one in America was read at the close of the exhibition, but the specified conditions as to size of table, balls, etc.,

may not meet the approbation of our American players. We should like to see M. Carme play with Kavanagh the American game, on a full-sized Phelan table, and we hope an opportunity will be given New Yorkers to witness such a contest.

ARSENIC POISON.

An old and respected correspondent sends us this note:—

"It may do good to some of your many thousands of readers, to remind them that a teaspoonful of common copperas, dissolved in a small tumbler of water, with another teaspoonful of common magnesia added, and drank, is a perfect antidote to arsenic taken into the stomach. Of course it will not repair any damage already done to tissues, but it will almost instantly check and prevent further harm. I leave you to state, if you will, what the reaction in the stomach will be. I suppose physicians would recommend an emetic within half an hour."

The importance of the subject of this communication induces us to publish it, in the hope of drawing out the truth in relation to the remedy proposed. Oxide of iron is a well known antidote for arsenic poison. If magnesia is added to a solution of copperas, which is sulphate of iron, the copperas is decomposed, the sulphuric acid combining with the magnesia and the oxide of iron being set free. It might therefore seem plausible that the plan suggested would be effectual.

But the form in which arsenic is most commonly used is that of arsenious acid, As_2O_3 , and the antidote is the sesquioxide of iron, Fe_2O_3 .

The iron gives up a portion of its oxygen which combines with the arsenious acid, converting it into arsenic acid, As_2O_5 , and this combines with the iron, forming a sub-arsenate of the protoxide of iron, $4FeO, As_2O_5$. In the plan proposed by our correspondent we do not see where the oxygen is to come from to convert the arsenious into arsenic acid. There may be, however, some reaction between these substances of which we are ignorant. If R.H.A. or any other correspondent has facts which settle the question, we should be pleased to hear from him. With our present information we are more disposed to

caution people against trusting to this remedy than we are to recommend its use.

THE sewing-machine inventor, James E. A. Gibbs, who went South in an early stage of the rebellion, is said to have been the chief of the torpedo corps organized by the rebel authorities, and the efficiency of those infernal machines is attributed to his ingenuity and mechanical skill. He is a native of Pocahontas County, Virginia.

A. BABCOCK, Brunson Harbor, Mich., wishes to obtain hand looms and plantation spinning machines for farmers' use.

A THREE-CENT copper coin has been ordered, and by law to be a legal-tender, up to sixty cents.