that will be displayed in this great American Crystal Palace. We have named this building the American Crystal Palace, not after the European fashion which gives that name to royal residences, and those which have been honored with royalty sleeping in them, but because it will be taken possession of by a whole army of old and young American kings and queens next year. We do not expect to see them carried to it in carriages drawn by cream colored Arabian horses, but in the royal cars of the Sixth avenue railroad which will take as many passengers as may choose to go, from Chambers street to the Palace, for only one five-cent piece each. We should all be glad if Queen Victoria would come over here to pay us a visit and see our "New York World's Fair;" she would meet with a really true and kind welcome: American gallantry would exhibit itself in manly respect and dignified courtesy. We are confident that she would go away heartily pleased with her American cousins, who believe her to be a good wife and mother, and a great deal better *man*, so far as good sense and the government of her people are concerned, than many men who have a considerable reputation for statesmanship.

We will furnish stereotype cuts of the above beautiful engraving for the low price of $10 each. This we do to remunerate ourselves in part for the great expense we have incurred in securing it in advance of all other publications.

MISCELLANEOUS.

Fair of the American Institute.

[Continued from page 34.]

According to our promise of last week, we have given, in the present number of the Scientific American, a more extended account of the various objects on exhibition at the Fair. For the better convenience of reference, these are classified under separate heads, so that our readers may be able to discern at a glance those subjects that are more particularly interesting to themselves.

RAILROADS.

Under this head are placed those inventions that have reference to locomotive travelling, and two divisions of it are particularly rich in new inventions, namely, that for the purpose of Ventilation, and that which we have assigned to Brakes.

Ventilation of Railroad Cars.—Here we have two leading principles by which most of the inventors appear to have been actuated—either of admitting the air by the top or else by the under-side of the car; we shall, however, give a description of each invention separately, and leave it to the Judges to decide to whom the premium is due—"*Palmam qui meruit ferat.*"

Mr. Paine was there, of course, with his ventilating apparatus, but as his plan has already been fully described and illustrated by us on page 244, Vol. 7, it will be unnecessary to say anything further upon the subject.

A. R. Church, of Dansville, Ohio, obtains his mode of ventilation by means of a large pipe placed on the top of the car with a funnel at the end to catch the wind. A small pipe connected with the above is carried round the outside of each window with an open groove in the centre; this latter, by giving a vent for the wind, causes a current of air that prevents the dust from blowing into the car, acting in fact as a counter-current.

In Daniel Flynn's arrangement, underneath the car is fixed a refrigerator filled with ice or water, which purifies the air above intended for ventilation, there being between the floor of the car and the refrigerator a false bottom. At the top of the refrigerator are two self-acting valves, one of which is closed when the other is open. By this means fresh air is supplied to the car, from underneath the flooring, through apertures furnished with registers to moderate the current at pleasure. The foul air is driven out by the windows and thus prevents the entrance of dust. In case the windows are shut, there is a series of self-acting valves above which answer the same purpose, and which can be severally closed by a handle inside, at the option of each passenger.

Mr. Jeffrey's invention consists in a long flexible tube, running the whole length of the train from the fire-box of the locomotive, with branch pipes let into the top of each car, the commencement of the pipe near the engineer being funnel-shaped, so that the air can easily rush in. There is one objection to this plan which struck us particularly, and for which we do not recollect to have seen any remedy: should the engine be pushing the train, instead of drawing it, the apparatus would of course be of no avail.

The plan of W. Atwood, of Waterbury, Ct., consists of a rectangular frame-work placed before the door of each car, of a larger size than the latter, and made, apparently, of textile india rubber. It will thus be seen that when two cars are coupled the india rubber framing of both, which is shaped like a bellows, closely approach each other, and prevent the admission of the dust, while the air can pass through.

Clinton Roosevelt has a plan which consists of a fan and bellows on the top of the car, one at each end, which are driven by bands connected to the wheels, the one for rapid and the other for slow motion. Another invention of the same party consists in obtaining the necessary ventilation by fixing at the ends of the car a frame-work of buck-skin leather, which is sufficiently porous to allow the air to pass through, and yet can exclude the dust. This latter point is almost as great a desideratum as the ventilator, for no one travelling much on railroads can fail to find the dust an intolerable nuisance.

J. C. Symmes, of West Troy, N. Y., presents a car with a gable-shaped roof, forming an air vessel at the top of the carriage; a rectangular funnel at one end, and a species of shutter-blind at the other, complete the arrangement.

As we are on the subject of ventilation, we may as well, in this place, make reference to Robinson's Ship Ventilator, which is also on exhibition, but which we do not consider valuable in every instance, especially where foul air has been permitted to accumulate in the holds of ships. For ordinary purposes it may, perhaps, be of use, but we do not think that it would be found effectual in all cases.

Railroad Brakes—The Brakes which we saw—and they are rather numerous—fail in one important particular, viz.—originality; they are nearly all similar in the main principle to the brake in common use. In fact they nearly all act on the system of forcing a segment of a ring of wood or iron against the periphery of the wheel, which, it is well known, is far from being *a new idea.* The system of levers, by which such a result is effected, is a mere secondary consideration, and combinations of them may be made *ad infinitum*, without entitling the contrivers to the honorable name of an inventor. We may be asked, "What then would you have?" We reply, "*Something of which nobody has hitherto thought,*"—and that is what we call an invention.

But to return to a description of the articles before us, something original we have in Jackson's long action brake, in which, discarding the idea of friction against the wheel, he applies the pressure against the rail by means of a long bar extending nearly the whole length between the axles of the car. This is raised or forced down by levers. There are objections to this plan, one of which is, that it might have a tendency towards throwing the cars off the rail.

Hand and Steam Brake—By T. Walker, of New York.—This invention consists in applying the brake blocks to each side of each wheel, thereby more effectually equalizing the strain on the axles and wheels. In order to be worked either by hand or steam, the brake is fitted with an apparatus by which each car can be stopped by hand without interfering with the action of the steam on the brakes, thus rendering the steam and hand-breaking power independent of each other.

Henry Olds, of New Haven, Ct., exhibits a brake, intended to exert against the wheel more or less pressure, as required, which is effected by forming the brake in the shape of the letter C, and suspending it from a joint, not exactly in the middle of the arc, so that more or less of the periphery of the wheel is subjected to the pressure of the brake as required. The patentee has connected with this brake a mode of ventilating cars, expecting the wheel to act as a fan in drawing off the air, whilst fresh air is admitted from the bottom, passing through a layer of sponge to deprive it of dust, &c.

A. A. Church, of Painesville, Ohio, effects the application of the brake by the operation of two men stationed in front of the engineer, who let fall a friction wheel on the track by means of a lever, and which winds up a chain connected by rods to the brake. The brake consists of slides which press upon the rail when it is required to stop the train.

Car Wheel—By H. Gardiner, of Schoharie, N. Y.—This is a good strong wheel, with wrought-iron spokes, but we observed nothing new about it.

Railroad Car Seat—By A. B. Buell, of Westmoreland, Oneida Co., N. Y.— (See page 305, Vol. 7). The nature of this improvement consists in attaching to the backs of the ordinary car seats outer sliding backs, which may be raised or lowered as required. By this means there is obtained a very compact car seat, with a back equal to a concaved high-backed chair, and it is so arranged that two persons sitting on the same seat, who may choose to have the backs at different elevations, can be accommodated to their heart's desire.

W. Warren, of Cincinnati, Ohio, exhibits two new seats, which, for convenience, change of form, and adaptation to different postures, are superior to anything that we have hitherto seen.

Guard Cars—By Booth & Ripley, of Troy, N. Y.—This is an elaborate contrivance to receive the first shock of anything on the road, and consists of a huge clumsy-looking iron car stationed in front of the train.

We also noticed two passenger cars of sheet-iron, which have the advantage of extreme lightness—one by Thomas E. Warren, of New York, illustrated and described on page 388, Vol. 6, Scientific American; the other by M. C. Butler, of New York.

The fearful accidents which occur from cars running off the track or the breaking of an axle, has caused several contrivances to prevent this danger. Wm. Gee, of 66 Gold st., N. Y., has a pencil sketch of an invention of this kind, and has affixed letters of reference with it, but has neglected to give the corresponding explanation; so far, however, as we can understand his drawing, he proposes to form the wheel with a recess of large diameter, into which he fits a strong circular plate, having a box working loosely on the axle, and enabling it to be clamped to the framing; a strong plate is screwed against the inner side of the wheel to keep the whole secure. Should the axle break it is evident that the wheel will be retained in its place.

A. L. Finch, of New Haven, Conn., has a plan with a similar intention; he encloses the wheel in a sort of frame, which, of course, would be similarly effectual.

Station Indicator.—By M. F. Potter, of Charlemonnt, Massachusetts.—The owner of this invention is not so ambitious in his aspirations, he aims only at benevolently preventing unlucky or heedless passengers from being carried beyond their destination. For this purpose he has a species of scale inscribed with the names of the various stations on the road, and a variety of other information. This scale is suspended near the roof of the car, and when a station is approached, the name on the scale is brought forward; when the station is passed, the name is rolled up out of sight, and the next place brought under notice. The operation is effected by means of toothed wheels set in motion by the axle. We fear that the slip of the wheel is liable to deteriorate from its efficiency.

Engine and Car Truck—By Edwin Stanley.—This truck, in addition to the usual advantages, is also intended to act as a relief to axles and outside rails at curves, as well as a brake, which is thus effected:—the truck has independent bearings or springs and also a guarded lateral motion, allowing the flanges of the running wheels to only touch the outside rails.

Self-directing Railroad Cars—By Lander & Harding.—The principle embraced in this invention is, first, an independent motion to the opposite wheels, by means of separate axles; second, the bringing the axles into the line of the radii of the curve, thereby causing the wheels to follow the same on a curved or straight road.

Compound Car Axle—By P. G. Gardiner, of New York.—This appears to be an ingenious invention to overcome the difficulty which occurs from the wheels being keyed on to the axle. It is obvious that when traversing a curve, the wheel on the rails which has the smallest radius requires to move at a less velocity than the other. The impossibility of doing this is a fruitful source of accidents, but is obviated by this plan. An axle box, somewhat similar to that used for wagons, is placed on the axle, and on this box the wheel is secured. The axle box is held in its place by a V-shaped collar, a rim of metal to correspond with the inner edge of the V is screwed on to the box, which can thus be made to act as a species of friction clutch. In ordinary cases the axle itself will revolve, but should a sudden strain occur in a curve, the axle box will work loose, and the wheel thus be enabled to acquire the diminished velocity required.

Self-adjusting Railroad Switch—By R. H. Middleton, of New York.—The right or the left wheel of the car, according to which line of rails it is upon, on approaching the switch, acts upon a short lever, so arranged that the wheel, in passing presses it down, and thus the switch is adjusted to receive the train.

STEAM MACHINERY.

The steam engine and its numerous appendages attract the lively curiosity of visitors, whilst the boilers give a practical illustration of the mode of setting recommended by Dr. Griffin.

Stillman's Gauges are attached, as they usually are, to all well-managed boilers, and we noticed a neatly-made counter fixed to the engine, which was rapidly numbering its quick strokes. We are glad to see this excellent little invention of James Watt brought forward for the use of land engines, and regret the omission of an Indicator. Sloan & Leggatt's Hydrostat is attached to the Boiler, and gives ample proof of its efficiency in regulating the supply of feed water.

Mr. Morris, of Duane street, N. Y., has a model of an engine with two oscillating cylinders inclined at an angle to each other. The idea is somewhat similar to that of the original engines of the Great Britain, designed by Brunel, with the exception that the latter were fixed.

Boardman's Boiler—The inventor proposes to supplant the common locomotive boiler by his plan, but it seems to us that the vertical position of the tubes is a great drawback. There is doubtless an enormous sacrifice of fuel in locomotive boilers, but railway companies are willing to suffer that loss to attain a high rate of speed. If the tubes according to the model, are to be fixed vertically, we doubt their superiority for a rapid generation of steam. For stationary purposes, where economy of fuel is an important object, this may probably be a desideratum.

E. Gould, of Newark, N. J., D. & M. Saunders, of Hopkinton, R. I., and others, exhibit some excellent machinists' tools.

Baldwin & Cunningham, of Nashua, N. H., exhibit an excellent machine for boring locomotive cylinders without the necessity of removing the cylinder from its place. All locomotive managers will be aware of the utility of this invention.

Ingersoll exhibits a useful Drill Brace, in the mode of working somewhat similar to the ratchet brace, but with the advantage of moving the drill during the back stroke.

Steam Paddle—By Carpenter, of Flushing, L. I.—The float blades are here made to feather by rods which slide upon an elliptical frame. The main objection to all these plans of adjustable paddles, is the liability to get out of repair, otherwise they are far superior to the common paddle.

Rotary Pendulum Governor—By J. Tremper, of Buffalo, N. Y.—We noticed this governor revolving at a tremendous rate, but the fans which the maker has attached to the cylinder, make it rather embarrassing to discern. It is a modification of the ordinary governor, but must evidently be much cheaper;

how far it is more efficacious we are unable to say. The many joints which are necessary to the latter, are here superseded by a cord or catgut.

Judson's Governor Valve—This valve is very similar to a disc valve or to the regulator which is used in many locomotives.

MISCELLANEOUS.

Under this head we have comprised a variety of inventions that are not sufficiently numerous, or of sufficient importance, to be classified alone.

Lightning Conductors—By Otis & Streeter.—This invention consists of metal rods running down the sides of the building from which they are insulated by glass stays. Along the ridge of the roof is a horizontal rod, which connects the longitudinal conductors, and at intervals project pointed rods.

Mortising Machine—By O. Judson, of Steuben Co., N. Y.—This is very good for what it is intended, viz., for piercing holes in hubs.

Card Printing Press—By G. P. Gordon, of New York.—This was the only press we noticed at the Fair, at which we are rather surprized, as several patents have lately been taken out. It bids fair to become a formidable rival to the Yankee Card Press now generally used. Mr. Gordon has substituted the revolving type cylinder for the common method, —the paper is in an endless roll, and is fed down from overhead on to a flat bed, where it receives the impression from the cylinder as it revolves, and thence descending, is cut into cards as fast as printed.

Paper Cutting Machine—By S. Perry.—The top cutter is fixed, and the under one revolves —as the latter approaches the paper it closes a catch above, which grips the paper so as to hold it square whilst being cut. As the lower cutter revolves, the catch or nipper is loosened, and the paper is fed down as before.

Daguerreotype Buffer—By Duryea, of Williamsburgh, L. I.—Here we have a new species of buffer, different from any other in use, the inventor using a straight motion instead of a circular one. A bed, covered with buff leather, is made to work to and fro by the usual foot motion. The plates are held up to the under-side of the buffer by means of a lever which the operator holds to regulate the pressure.

Street and Rail Truck Sweeper—By A. S. Watson, of Staten Island.—More likely to be used for the former purpose than for the latter, —consisting of an apparatus fixed beneath the car. Two large geared wheels are worked by a piston; around their edge are fixed vertical brooms, which are kept downwards by spiral springs. The pinion is worked by a species of tread-wheel mounted on the car, but we see no reason for it, as the motion of the car would be quite sufficient from which to derive power.

Stone Picking Machine—By J. T. Foster, of Jersey City.—This invention consists of a series of revolving prongs, which catch up the stones and jerk them into a spout, from which they afterwards run into the car. It is adapted either for roads or agricultural purposes.

Coupling for Shafting—By Vanzile, of New York.—The circumference of the fixed pulley is divided into segments, which are capable of expanding when acted upon by a contrivance that is moved to and fro by a long lever. Supposing the loose pulley in its place in the fixed one, by pushing the lever to the right the segments are forced out and grasp the loose pulley, which carries the shafting around with it. The weight of the lever maintains the tension of the segments.

There are a few standing, embossing and other varieties of presses, in which we noticed nothing particularly new, with the exception of a standing press, (marked in the catalogue No. 1839), in which the maker has placed the screw on a horizontal instead of the usual vertical position, and has also employed an elbow-joint.

There are on exhibition several of Dick's Anti-friction Presses, but most of our readers are acquainted with their excellence, having been fully described and illustrated in the Scientific American.

Cotton Spinning Machine—By Brundred, of Oldham, near Paterson, N. J. (See page 361, Vol. 7.)—This is decidedly the best machine of the kind in use. It is of the throstle description, but no throstle will produce the fine work of which a mule is capable. However, those who desire to produce the description of thread that the throstle is capable of producing, may use this machine with advantage.

Among the minor inventions are a Balance Window Sash and several Bread, Meat, and Fruit Cutters; of these latter it may be observed, that however excellent for particular purposes, they will never supersede the common knife, and the living lever by which it is worked.

Bridges—Of this class we have three different inventions—two trussed bridges and a plan of a submerged bridge for railroad purposes. The peculiarity of the first is its lightness, too much so, in our opinion, to be compatible with bearing much weight; of the second is its strength, in proof of which the inventor, Gralley, of Brooklyn, has loaded the model, on the top, with 2,000 lbs. weight of iron, presuming, we suppose, that the actual bridge will support a proportional burthen; but theory, in such cases, is often at variance with practice. The third, as mentioned above, is a plan of a submerged bridge for railroad purposes. The bridge, when not required for the passage of a train, is sunk at the bottom of the river, and pulled up when a train requires to pass. The idea is good, but the question is as to its general practicability; we foresee many obstacles where the river is wide or deep, in the facility of its construction and management. Otherwise, it would be a great desideratum where stationary bridges are not allowed to be carried over rivers.

AGRICULTURAL IMPLEMENTS.

In this department there is on exhibition the ordinary run of agricultural machinery, but we did not observe anything very novel in their arrangement. There are three or four different kinds of reaping and mowing machines, but there is nothing very interesting about them. The same remark is applicable to the other kinds of implements, which do not vary particularly one from the other in the arrangment of their machinery. Among the articles stationed in this part of the exhibition, we noticed a new faucet for water and other liquids, the invention of E. Stebbins, of Chicopee, Mass. It substitutes a flat valve, which is raised by a screw, for the ordinary tap; a leather seating is used for the valve, and likewise leather packing for the screw. Abraham's patent, in England, is very similar, but probably more expensive, as he employs a mitre valve.

Four Grain Cradle—By S. Wilkinson, of Middleton, Orange Co., N. Y.—This instrument differs somewhat from the ordinary cradles, in the number and arrangement of its adjusting screws, as also in the shape of the handle, which is curved differently from what is usual. From the specimen exhibited, we should conclude it to be a superior article.

FINE ARTS.

In this department we noticed several beautiful specimens of workmanship and taste,—a collection of medallions, busts, &c., in what is called, by the artist, Sitler—Parian composition resembling alabaster; bronze figures, &c., Lucet;—with a variety of objects of luxury and use, which it would be impossible to particularize. Furniture of every description —chairs, bedsteads of iron and wood, silver ware, clock stands, telescopes, &c. Fire-proof safes, so ornamented that they appeared more fit for a lady's boudoir than a merchant's counting-house. Specimens of inlaying in wood, by Volkert, Elm street, N. Y.; Electrotype specimens by John Evans, Jr.; pictures, prints, needle-work,—and a host of miscellaneous articles.

Daguerreotypes—This department of the Fair is generally very attractive to the idlers, who love to while away the time by studying the various specimens of the "human face divine." We have, as usual, a goodly collection. Gurney exhibits below, in the body of the building, some choice specimens of the art, —there is a softness about his pictures which we meet with nowhere else; whether it arises from a more judicious light, or better prepared plates, we know not, but such is the case. The majority of the Daguerreotypists, however, exhibit in the upper gallery, and here we pass, in rotation, Holmes, Meade, Root, &c., &c. Meade's collection has an imposing appearance from the number of extra mammoth-sized pictures exhibited, they are mostly superior specimens, but should not be ticketed, as some are, with what may be called certificates of character—"good wine needs no bush." We noticed one or two ticketed in this manner, "A Rembrandt," but why or wherefore we cannot tell, as to being copies of Rembrandt's peculiar style, we decidely object to the assumption. Root exhibits some specimens of crayon daguerreotypes which do him infinite credit; they are a pleasing diversity from the ordinary pictures, and depict, with great effect, the more striking traits of the physiognomy. Insley also exhibits some unique specimens of the art, which, as models of a peculiar style, are highly commendable; the method appears to us particularly applicable for copying statues, &c., of which the specimens exhibited are copies. As a matter of course, there are several other exhibitors of this class, but the above-mentioned struck us more particularly with their excellence.

[To be Continued]

For the Scientific American

On Rainbow Colors.

It is found that if we diminish the thickness of transparent bodies to a certain degree, instead of transmitting and reflecting white light, it is in both cases colored; this is seen in soap-bubbles, thin films of glass, mica, &c. In all these cases the colors are due to the interference of the luminous rays, and the different colors depend upon this interference—the light from the under-surface of the film interfering with that reflected from the upper. In this manner De la Rue applied iridial colors to paper, plaster of Paris, wood, &c., by dropping a colorless varnish on water, and lifting up the substance under the colors thus produced, giving to objects the appearance of the mother-of-pearl, the iridescent hue of the plumage of birds, the shields of beetles, and colors of a like nature. The same colors are frequently seen when oil and other substances, not soluble in water, are thrown on that liquid; these colors are also produced by the reflection of light from delicately grooved surfaces, as is seen in the mother-of-pearl, and whalebone which has been cut transversely. By cutting grooves in polished steel or other metallic surface, at the distance of from the 2,000th to the 10,000th of an inch apart, the same colors are produced, and I have frequently succeeded in producing them by corrugating thin films of gum arabic, tannin, isinglass, &c., by rapidly drying a solution of these on a smooth metallic surface. In all cases where the colors are produced by grooved surfaces they are transferable to wax and other plastic substances.

Rainbow colors are frequently produced in coating the silver tablets for taking daguerreotype pictures, by the formation of a thin film of the iodide of silver, but when thus taken they are not permanent, as they are blackened by the well known action of the sun's rays on the iodide of that metal. This objection can be obviated by using a polished copper plate, instead of one of silver, the iodide of copper not being affected by light. They can also be permanently witnessed upon a silver plate by holding it over sulphur which is being sublimed on the fumes of burning sulphur, by which a thin coating of the sulphuret and sulphite of silver are formed, neither of which are affected by the chemical rays of light. When burning silver is used, under a silver plate, the colors are of a bluish cast and of great beauty.

Copper, when well polished, and held over the fumes of sulphur or bromine, will also receive an iridescent appearance, and objects composed of wood, plaster of Paris, cloth, &c., may all be made to receive these colors by first coating them with silver or copper, by means of galvanism, and exposing them to the vapors of sulphur, iodine, bromine, and the fumes of burning sulphur.

The colors produced by evaporating solutions of the gums on smooth metallic surfaces are effaced by varnishing them, the grooves being filled up, but this is not the case when iodine or sulphur is used, their intensity being heightened by the application of varnish. The latter, of course, are not transferable to sealing-wax from not being formed of grooved surfaces. CHAS. W. WRIGHT, M. D.

Cincinnati, October, 1852.

A New Kind of Brick.

The following we have seen in quite a number of exchanges:—

"The article referred to is made of coke and other materials, and with such success and economy, that they can be afforded for about one-third the price which is now paid for the common bricks made of clay. The manufacture, according to the specification, is effected by means of cast-iron moulds, the interior of which are the exact dimensions of the common brick; in this mould a certain quantity of duff or waste coal, powdered coke, charcoal, or cinders, is placed, and being carbonized, the amalgamated material swells to the exact form required.

When taken from the mould it undergoes a finishing process, in which varnish is applied to the end or side having, while wet, a coating of powdered glass, with an admixture of a mineral coloring matter sifted over it. The brick is then vitrified, when a beautiful glaze of any required color is produced, and the article is ready for use. During the manufacturing process, the fumes are passed through water. The finishing process is only required for particular purposes, as in many instances the coke brick is equally available without it. The material is rendered fireproof by an application of the muriate of alumina, and is impervious to atmospheric influences by the nature of its formation. When articles of coke fabric are required of extraordinary density, a variation in the filling material, and also an extraordinary amount of compression, are necessary; and then there is hardly any limit to the degree of solidity which may be obtained. It is further stated that there is no description of article used in the erection or ornamentation of buildings but may be produced of the material; thus columns of interior and exterior use, cornices, capitals of plain or ornamental design can be manufactured and supplied in a finished state."

[Now, no one acquainted with the price of coke and clay can for a moment doubt, if he reflects, that this new material must be far more expensive to manufacture than brick. Common bricks can be vitrified in the same manner, and as clay contains a great quantity of alumina, bricks do not require to be rendered fire-proof, (for this they are already) by being dipped into a solution of chloride of alumina. Instead of such bricks being made for one-third less than common bricks, we believe that they could not be made for double the price, and in every sense they must be inferior in quality. Ornamental brick can be made of clay,—they are now made.

Gold Deposits in Canada.

The provincial geologist of Canada, in his report for the year 1851'52, gives an account of gold washings on the river Du Loup, at its junction with the Chaudiere, in which he states that during the present season 1,900 pennyweights of gold have been obtained by fifteen men employed by the company engaged in working the deposit. Much time and money were lost in consequence of their dam being carried away, but on the whole the labor has been remunerative. The other minerals found in connection with the gold and iron sand, a small quantity of platinum, and irrodium with an indication of mercury.

Several prospectors, both American and Canadian, have traversed the country around, and have been successful also in finding the precious metal in other localities, but had not succeeded in making its collection profitable. The geologist concludes, from the evidence collected, that the deposits are not generally sufficiently rich to render their working remunerative to unskilled labor; and that agriculturists and others engaged in the ordinary occupations of the country, would only lose their time and labor by turning gold-hunt ers.

Preservation of Timber.

Mr. J. C. Symms, of the U. S. Arsenal, of West Troy, N. Y., is now engaged in making experiments with different solutions on white oak timber for the United States, an account of which experiments he will present in a series of articles to the readers of the Scientific American.