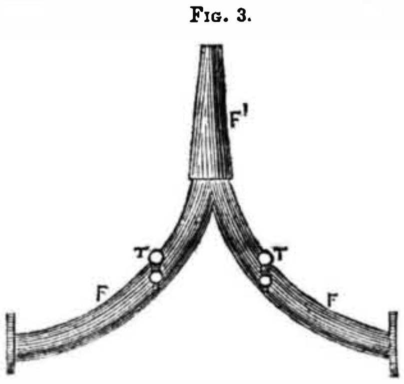
constructed, arranged, and operated in any convenient way or manner for producing results similar to the above, by means substantially the same as those above described.

The head of the pump may be made concave on the inner side, or of an obtuse angle shape, or in two segments or semicircles—the upper segment being stationary and bolted to the cylinder and the lower segment hinged by its straight side to the straight side of the upper segment to answer as a valve for preventing clogging from an accumulation of sparks in the pump, the end of the eduction tube bolted to the outside of the head of the pump being made sufficiently large to embrace and cover the said lower segment of the head which is to serve the double purpose of a head and valve—which arrangement would require the eduction tube to be bolted to the circular flange of the pump instead of the head of the pump, as described.

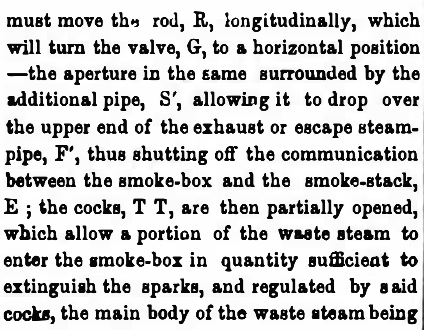
The parallel guides, P' P'', are sustained in their required position by the plate, *b*, fixed to the end of the cylinder, and the plate, *z*, secured to the frame of the engine by the brace or arm, *a*. On firing up the engine, the valve, G, must be turned to a vertical position by moving the rod, R, to which it is attached; the furnace and engine being in full operation, and it being required to prevent the sparks escaping from the smoke-stack, the engineer

FIG. 3.



must move the rod, R, longitudinally, which will turn the valve, G, to a horizontal position —the aperture in the same surrounded by the additional pipe, S', allowing it to drop over the upper end of the exhaust or escape steam-pipe, F', thus shutting off the communication between the smoke-box and the smoke-stack, E; the cocks, T T, are then partially opened, which allow a portion of the waste steam to enter the smoke-box in quantity sufficient to extinguish the sparks, and regulated by said cocks, the main body of the waste steam being

FIG. 4.



allowed to escape in the usual manner through the chimney or stack, it being unnecessary to allow all the waste steam to enter the smoke-box and pumps, as it would create an undue pressure on the several parts.

The following are the claims of this patent, and, with the full evidence of what they are, we would state that Mr. Wade is prepared to sell rights, and any communication addressed to him will be promptly attended to:—

"I claim pumping the sparks from the smoke-box of a locomotive engine, when the sparks are extinguished, or partly so, by the introduction of a portion of the escape steam through the cocks, T T, substantially in the manner and for the reasons stated. I also claim the arrangement of the valve, G, in the smoke stack, E, as constructed, with the short pipe, S', in combination with the united steam pipes, F, for preventing the escape of the smoke and sparks during the operation of the pump, and, at the same time allowing the waste steam to escape through the smoke pipe, E.

[Special Correspondence of the Scientific American.

The Great Industrial Exhibition and Incidents Connected Therewith.

LONDON, May 31st, 1851.

Since the shilling admissions have commenced, although it was confidently anticipated that the great building would be innundated, the current of people, strange to record, has visibly fallen off, from a prevailing impression through the country that the crowds would be so great that there would be little comfort experienced in a visit. During the half-a-crown days, which occur once a week, the tide swells up to the old five shilling average; but in a week or so more, when the railways have commenced what they call "cheap trips to London," from the interior of the country, it will even surpass antecedent great return days. The bulk of stranger visitors now are French and Germans, and there are a goodly number of Americans, but not a circumstance of what were expected from the representations made by the American journals.

Queen Victoria and suite are daily visitors, and they take a lively interest in every proceeding connected with this great work of modern times. The Prince, especially, and the old Duke of Wellington, spend one third of the week, one way or another, in looking after the interests and arrangements. This is gratifying, as it sets a pattern to the nobility and gentry, who are slow to act unless they receive an impetus by royal example.

The list of prizers has at length been made known, much to the satisfaction of the numerous exhibiters, who were anxious to learn the class and character of the men who were to decide upon the intrinsic merits of their works. We think much judgment has been shown in the selection of the Council of Chairmen, among whom we find, for instance, in the department of machinery, the eminent Sir David Brewster, and the Earl of Jersey, a practical and a capable professor. In the metallic, vitreous, and ceranic manufactures, are the Duc De Suynes, a celebrated Prussian philosopher, and Horace Greeley, of New York City, of whom comment would be superfluous. In vegetable substances, used in manufactures, we find the name of Professor Richard Owen, F. R. S. In philosophical instruments, the name of Sir John Herschel stands pre-eminent, and in the sub-jury of musical matters come Sir George Smart, Sir Henry Bishop, and the great Thalberg. In sculpture, models, and the plastic art are the famous Panizzi, Wigon, of the Royal Academy, Lord Holland, and M. Quetelet. We also find Horace Greeley, Esq., (who is announced as an Honorable), elected as Chairman of the Iron and Hardware Department: his associates are stated to be capable gentlemen.

The United States division does not attract as much attention as we should like. The most striking features are the Greek Slave, (which is flocked by the *dillentanti*); the large display of Goodyear's india rubber garments; Pirsson's pianos (which Thalberg has pronounced the finest from the United States); an iron double salamander safe from the warehouse of Silas C. Herring; a huge mass of zinc ore; a collection of perfumery by Rousel, of Philadelphia, and a number of small and ingenious articles, which we do not now remember. We notice with pleasure that some thoughtful American has made a collection of all of the papers published in the State of New York, and bound them in volumes of each county. The City of New York collection excites considerable attention among the English visiters, who marvel at their cheapness and beauty of typography: a "Brother Jonathan" they deem a very mammoth, as in truth it is, and they cannot imagine how a New York "Sun" can be sold for a cent, when they have to pay eight and ten cents for the least morning paper.

There is now no room left to doubt the great good the Crystal Palace has brought about. Where are the dissenting Chartists? Why have the Red Republicans kept so quiet, when, according to the officions statements of the New York "Herald" and the London "Chronicle," they were preparing to wage death and destruction by their vicious co-operation with the rabble concentrated of all the civilized world. The socialists are as quiet as mice, and never did harmony reign so supremely general as it has during the whole course of the Exhibition from its projection until the present time. We cannot but admire the various instances of liberality and kindness on the part of many distinguished gentlemen, all of which have been called forth by this *monster*, as some of the press sneeringly and satirically styled it. As an instance, we see it stated that Lord Leigh has invited all of his numerous tenants to visit the Palace at his expense, and W. Brown, Esq., Member of Parliament from South Lancashire, and head of the well-known firm of Brown, Shipley & Co, has given £20 to each of his forty or fifty clerks to enable them to visit, without trenching on their ordinary finances, the Exhibition during the season. Again, the Admiralty have granted their dock-yard workmen, for the same purpose, leave of absence for two days, and we learn they also have agreed to pay a certain portion of the expenses of the artificers who have availed themselves of the permission. A general leave to the army has also taken place to all regiments at home, from the 1st of June to the 30th: one field officer, half the captains, and half the subalterns to be allowed the indulgence each fortnight in the month. We suppose, also the numerous Charity Schools will come in for a general holiday, and if we mistake not, ere this, the Royal Commissioner has entertained the idea.

We believe, with the single exception of the Russian Department, the Exhibition may now be deemed complete. From some statements we have seen, the Russian collection will be one of the most wonderful and attractive in the Exhibition. The jewelry arrived is valued at $200,000, and it is said will quite eclipse the brilliant display sent by the Queen of Spain. Among other matters is a pair of folding-doors, valued at $40,000, of most valuable malachite, from Siberia, belonging to the Prince Demidoff. There are also chimney-pieces, arm-chairs, and cabinet furniture of the same precious stones. There is an enormous candelabrum, in ormula in dead steel, upwards of 14 feet in heighth, and one in silver, representing a group of armed knights dismounting under a fir tree: the workmanship is exquisite, and it weighs upwards of 2 cwt. of silver.

The American Department is called "The Prane," and each country appears to receive some characteristic appellation by which it is known. The American visitors are requested to register their names in a book provided for the purpose, and on a hasty examination we find there have been about five hundred visitors from the United States, the bulk of whom hail from New-York and Virginia.

A writer in the London Expositor, a paper devoted to inventions, designs, art, and manufactures, calls attention to the vehicles from the United States, and argues that they surpass in elegance of design and beauty of workmanship anything of the sort manufactured in England. The same writer also praises the solar lamp by Cornelius & Co., of Philadelphia, and a bell telegraph from New York. He deems them very important inventions, and as he is a man of weight and judgment, perhaps his dictum will have some weight with the jurors. We fear that the Americans will gain but few, if any prizes, as the jurors, with very few exceptions, are Europeans of various countries, and it is but natural to suppose they will take cognizance of the improvements of their own nations before those of any other that may present themselves for inspection, no matter how strong their claims. H. H. P.

Soap a la Rose

This is made of the following ingredients: —30 pounds of olive oil soap; 20 of good tallow soap. Toilet soaps must be reduced to thin shavings, by means of a plane, with its under face turned up, so that the bars may be slipped alongit. These shavings must be put into an untinnedcopper pan, which is surrounded by a water bath, or steam. If the soap be old and hard, 5 pounds of water must be added to them; but it is preferable to take fresh-made soaps, which may melt without addition, as soap some time kept does not readily form a homogeneous paste. The fusion is commonly completed in an hour, or thereby, the heat being applied at 212° Fah., to accelerate the process, and prevent the dissolution of the constituent water of the soap. For this purpose the interior pan may be covered. Whenever the mass is sufficiently liquefied, 1¼ ounces of finely ground vermillion are to be mixed, after which the heat may be taken off the pan; when the following perfumes may be added with due trituration:—3 ounces of essence of rose; 1 ditto cloves; 1 ditto cinnamon; 2½ ditto bergamot.

Transparent Soaps.

These soaps were for a long time manufactured only in England, where the process was kept a profound secret. They are now made every where. Equal parts of tallow soap, made perfectly dry, and spirit of wine are to be put into a copper still, which is plunged in a watter-bath, and furnished with its capital and refrigeratory. The heat applied to effect the solution should be as slight as possible, to avoid evaporating too much of the alcohol. The solution being effected, must be suffered to settle; and after a few hours' repose, the clear supernatant liquid is drawn off into tin frames, of the form desired for the cakes of soap. These bars do not acquire their proper degree of transparency till after a few weeks' exposure to dry air. They are now planed, and subjected to the proper mechanical treatment for making cakes of any form. The soap is colored with strong alcoholic solution of archil for the rose tint, and of turmeric for the deep yellow. Transparent soaps, however pleasing to the eye, are always of indifferent quality; they are never so detergent as ordinary soaps, and they eventually acquire a disagreeable smell.

Windsor Soap.

Take common hard curd soap 56 lbs., oil of carraway 1½ lb., tincture of musk 12 ounces, English oil of lavender 1 ounce, and oil of marjoram 4 drachms.

Starkey's Soap.

Rub together in a mortar subcarbonate of potash with oil of turpentine.

Soap au Boquet.

30 pounds of good tallow soap; 4 ounces of bergamot; oil of cloves, sassafras, and thyme, 1 ounce each; neroli, ½ ounce. The color is given with 7 ounces of brown ochre.

Cinnamon Soap.

30 pounds of good tallow soap; 20 ditto of palm-oil soap. Perfumes:—7½ ounces of essence of cinnamon: 1½ ditto sassafras; 1½ ditto bergamot. Color:—1 pound of yellow ochre.

Orange Flower Soap.

30 pounds of good tallow soap; 20 pounds of palm oil soap. Perfumes:—7½ ounces essence of Portugal; 7½ ditto amber. Color:— 9½ ounces, consisting of 8¼ of a yellow-green pigment, and 1¼ of red lead.

Musk Soap.

30 pounds of good tallow soap; 20 ditto palm-oil soap. Perfumes:—Powder of cloves, of pale roses, gilliflower, each 4½ ounces; essence of bergamot, and essence of musk, each 3½ ounces. Color:—4 ounces of brown ochre, or Spanish brown.

Bitter Almond Soap.

Is made by compounding, with 50 pounds of the bestwhite soap, 10 ounces of the essence of bitter almonds.

Lowell Mechanics' Fair.

We would call attention to the Mechanics' Fair which is to be held in Lowell, as set forth in an advertisement on another page. We are positive that it will be a far better display of American inventions, in every department of art and manufacturing, than at the great Exhibition.

The Locust has no Sting.

Dr. Gideon B. Smith, the distinguished naturalist, has made enquiry into all the recent reported cases of death an sickness from the sting of the locust, and the result of his inquiry is, that no one has yet been injured by the sting or bite of a locust.

(For the Scientific American.)

Electro-Magnetism as a Moving Power.

Your paper of the 24th ult. contains some remarks upon the subject of Electro-Magnetism as a moving power, which seem to require a brief reply "at my hands." Firstly,—the writer takes unnecessary pains to show that electro-magnetism is far inferior to steam as a motive power—a fact never doubted by any one conversant with the subject; and he further supposes that persons investigating electro-magnetic power are not generally "acquainted with the economy of steam." I cannot agree with him, but, on the contrary, I do not consider that a person can be well qualified to investigate this subject without being very likely to possess a competent knowledge of the economy of steam; and I have never yet met with an investigator of electro-magnetism who did not evince an acquaintance with steam power. Upon the subject of steam we have enough written, and "he who runs may read;" but upon electro-magnetism there is a great dearth of published matter, and the subject itself is recondite and difficult. Your writer, in referring to my preference for the rotary form of the engine, says, I have "fallen back upon Davidson's and Avery's plans." As to Davidson's engine, it was fully tested by myself on a large scale in Boston, in 1837, and it was invented and tried in Baltimore by Dr. Edmonson, in 1834. [See Silliman's Journal]. But your writer misapprehends the case: I have "fallen back" upon no one. The rotary form of the axial engine, as well as the reciprocating, differs most essentially from any engines ever before tried. In my reciprocating engines, the *magneticpiston*, if I may so call it, is impelled with nearly an equal force throughout the stroke, and this for any length of stroke desired. The rotary axial is the perfection of the improvement, and does not seem to involve the difficulties inherent in rotary steam engines, for my *pistons* require no *packing*. When the description of my engine is published, which will be ere long, I think your writer and others will appreciate its peculiarities, and I hope he will suspend his judgment till he has an opportunity of being well acquainted with its details. I have never claimed for electro-magnetic power that it is or would be, superior to steam, that is, in every respect, nor is it necessary that it should be, to answer the purposes of my investigations. The cost of the power has been with me a subordinate question, knowing full well that other more important questions had to be settled first before ever the cost could be fairly ascertained. The abstract rule laid down by M. Joule, Messrs. Hunt, Scoresby, Oersted, and others, of the absolute duty performed by a given quantity of zinc, is well enough as far as their experiments went, but is of little or no value in the practical question of the availability of this power. To illustrate my meaning, take the highest duty of coal in the best condensing engines in the world; will any one pretend to say that there is no room for improvement even there? Why, in the Cornish engines, within a few years, the expense of a horse-power has been reduced from 10d. to 2d. per diem. But suppose it be admitted that the minimum cost has been attained; how many engines in the world can be worked as cheap as those engines? In reality, M. Joule's calculation makes the expense of magnetic power less than is steam power at the present day in some of our locomotive engines. The cost, therefore, I say, is not the practical question, and if the magnetic power will cost more than the dearest steam power, still, if we render it an *available* power in other respects, it must come into use for many and perhaps most purposes, by reason of its great advantages over steam in point of safety, simplicity of construction, readiness for operation, compactness of machinery, and, lastly, one very important condition, viz., there need be no consumption of material when power is not wanted for use.

Your writer is a friend to progression in art and science, liberal and candid, but in running so severe a parallel between magnetic and steam power he disparages the former, and, in effect, discourages the new enterprise. The comparison is unfair for magnetism, for it is yet in its infancy, and steam is full grown. The proper appreciation of magnetic power is to be had by comparing it with steam in an equal stage of its developement, when it will be seen that the magnetic power rather carries the palm. Steam power has not yet reached its climax, but it seems as if it were approaching its culmination, as its march seems to be comparatively slow; while magnetic power, evidently in its inception, is progressing rapidly. The first steam locomotive applied in England, in 1804, made, on a level plane, five miles an hour wrth about 15 tons, and ten years after, the celebrated Mr. Stephenson constructed a locomotive which was considered a great improvement, and carried eight carriages, about 30 tons, four miles an hour; and in 1829, after 25 years of experience, (and all the while "invention was stimulated by necessity"), Mr. Stephenson produced his locomotive, the ROCKET, which made an average speed of 15 miles an hour, with 17 tons, consuming about one pound of coke per mile to a ton, as in the two trips of 70 miles, 1,085 lbs. of coke were consumed. With my magnetic locomotive just as it is, I would willingly have entered the *list* with the Rocket in point of power, speed, and expense of working. I feel confident, however, that the magnetic locomotive is capable of carrying two loaded passenger cars to Baltimore at the rate of 20 miles an hour, as soon as some of the very great and obvious defects are remedied.

I had lately an opportunity of seeing how great was the friction of the machinery of the locomotive. They have at our station here, one of the largest and strongest horses I ever saw, and he is well trained to the work of pulling cars. In removing the magnetic car from its station, this horse was attached to it, but was found to be unable to pull it up the grade over which the car was propelled by magnetism 6 miles an hour. It required five men and this horse to get the car over this grade, and it was lighter by two tons than when driven by magnetic power; and moreover, when it ascended this grade at six miles an hour, the power of the battery was not fully up; and I have discovered a cause of great additional friction when the engine was in action, the remedy for which is obvious.

In regard to the doctrine of Liebig, that the zinc cannot give out more power than the coal required to smelt it, it is unfortunate, and though entertaining the highest respect for his reputation and ability, I must pronounce it a *practical absurdity*. It is reasonable to suppose that a given amount of zinc combining with oxygen, would not eliminate more heat than would be required to overcome this affinity, but we have no proof of any such relation of electricity to heat as to make the mechanical power of the one the measure of the mechanical power of the other. Whatever may be the connection and analogy between heat and electricity, we must consider them as distinct forces, in their mechanical relations. In the combustion of coal we develope heat as the motive force, and no electricity; in the oxidation of zinc in the battery, we develope both heat and electricity, the latter only being the motive force. The *absolutism* of forces regulating affinities, may be interesting as a matter of speculation, but, as furnishing a practical estimate for the amount of mechanical or available power, it cannot stand, and necessarily involves the unwarrantable assumption that the whole power or inherent force may be eliminated and rendered available in each case. But Liebig goes still further: he maintains that the heating power of the current is the equivalent of its mechanical power through electro-magnetism; or, in other words, that the heat developed by the passage of the current ought to raise steam enough to furnish a power equivalent to the electro-magnetic power of the same current, and from the fact that the mechanical force derived from steam raised by the heating power of the current is so small compared with that obtained by the combustion of coal, he arrives at the conclusion that electro-magnetic power "can never be used." The speculation is thus pursued up to a point where facts are brought in to its support, and fortunately where facts enough can be adduced to subvert the whole doctrine. I will take but one, and one that can be easily admitted; or, rather, I will propound a question: "how many pairs of plates would be required to operate through their calorific or steam power the lever of the receiving magnet in Morse's telegraph, say through a circuit of 80 miles? I saw an experiment some years ago at the Capitol, when gunpowder was fired through this length of circuit, the powder being at the Capitol and the battery at Baltimore. Fifty pairs of Grove's battery, such as they used for the telegraph, would not ignite a platinum wire one-thousandth of an inch in diameter. It finally required 75 pairs to fire the powder. Ten pairs of such plates will work the receiving magnet through this circuit vigorously. I leave it to mechanical minds here to form their own conclusions. The truth is, that the cost of electro-magnetic power, or any other power, is circumstantial, and the attempt to predicate the whole economy of magnetic power upon the cost of coal and cost of zinc, and the fact that coal is found native and zinc not, is, in effect, to make nature's laws and operations amenable to market prices and other contingencies. Yours, &c. CHAS. G. PAGE.

Washington, D. C., June 3, 1851.

[This communicatian will be answered next week.

Floating of Rafts.

In number 38, in the article about floating rafts, we said, "a person not satisfied with our answer should assign a reason." The author of the letter therein is not satisfied, and presents his theory; it is this, "rafts are carried to their destination by the force of gravity merely, independent of the motion of the water in the said direction." The raft," he says, "would float down the river if its motion, (the water's) could be arrested entirely." This is his theory, and we do not say, *we are not satisfied*, he is welcome to his opinion. But let us show how he reasons against his own theory—he considers the bed of the river an inclined plane, and says, "the water lubricates the inclined plane, and the greater the quantity of water contained within the bed of the stream, the greater the motion of both raft and current, because the distance from the bottom and banks, and the portion of the water retarded by friction against them, is thereby increased and the direct motion of the water less interfered with by the revolving or eddying motion consequent on that friction." That's it exactly friend; don't you see it is the water that carries the raft along—that gives it momentum. Now stop the current friend, according to your theory, and see how fast the raft will travel. Ah, you will say, "then we shall have no inclined plane." True, for we never bring up an impossibility to prove anything. We happen to know something about rafting personally. We lay down the following proposition;

1st. Rafts are carried by the motion of the current, and receive their momentum from the water.

2nd. The momentum imparted to the raft deprives the moving body (the water) of a quantity of force equal to that which it, the raft, receives.

3rd. It is gravity which moves the raft, but not its own, it is the gravitating force of the water; to prove this, a log will lie on an inclined plane of boards of 50 feet inclined to the mile, till doomsday, while it will be moved along with the water, having only a descent of 5 feet to the mile.

4th. A body of less specific gravity than another, and partly merged in it, could not move, by the known laws of gravity, unless the sustaining body moved. This is the case with the log and the water.

5th. The speed of the raft will be according to its form, the rougher and heavier, the slower.

6th. Some water moves as fast as the raft.

7th. The velocity of the river is according to its incline, form of its bottom, and banks.

8th. The water in the middle of a river has a greater velocity than that at the sides, and the surface greater than that at the bottom.

9. It is common for the surface water in rivers to travel 10 miles for the raft's 4, and yet the raft be nearer the end of its journey. This is owing to bends and contractions in rivers. Raftsmen know this, and rafts without raftsmen to guide them make mighty fine trips on rapid crooked rivers—a great deal faster than the water, eh? Ask an old raftsmen. A river carrying a raft is just like a great number of *bearers* who take the load one after another and carry it along on their shoulders. At every bend of the river, there are two gangs, the one shoots off at an angle and takes a long round about road, and the other is slower but takes a shorter road; the raftsman takes the slower but shorter road, and this is the reason why the raft gets ahead of the water.

10. The surface of the water and the raft will move with equal velocity for 100 miles, if the line of the river is straight and the banks smooth. It is wrong in mechanical langnage to say "a body moves by gravity," when it is carried by another.

N. B.—We have recieved a communication from a new correspondent who says "the raft has a tendency to move to the centre of the earth by gravity, and this is what causes it to move, and it would go there, only for the resistance of the earth and water beneath it, and the air above it." He does not appear to be aware that the air on the surface of a current of water moves along with it.

Next week we will publish a short communication on the subject, which will end the discussion for the present.

(For the Scientific American.)

Iron Ore in Essex County, N. Y.

Tons of ore raised in Essex Co., in 1850:

In Crownpoint—Penfield, 2,000; Hammond, 4,000—none shipped.

In Moriah—By Goff, 7,000, Port Henry Iron Co. ore bed, half a mile from the lake. By Foot, 4,500, Foot's Iron Co., half a mile from the lake. By Hull, 2,500, No. 75 Ore Bed; by Storrs, 4,000, Rousseau Ore Bed; by Miller, 500, No. 50 Ore Bed; by Rousseau, 7,000. Rousseau Ore Bed; by Sherman, 6,000, New Ore Bed; by Lee, 6,000, New Ore Bed—5 to 7 miles from the lake. Dead, 3,500.

Elizabethtown, (supposed), 1,500.

Amounting, altogether, to 48,500 tons of raw ore.

Very little ore is worked up in Moriah, about half of it being shipped to Clinton Co., and the rest to Vermont and other parts of New York, New Jersey, Virginia, and Philadelphia and Pittsburgh, Pa. Mr. Goff has just informed me that, owing to the superior quality and richness of his ore, it will pay shipping to Pittsburgh, Pa.

The ore sells on the dock for $1,75 to $3,25, raw, and for $2,25 to $4,50, separated.

A new bed of superior ore, about 2 miles from the lake, is being worked this year.

Product of the Moriah ore mines in 1850: —13,666 tons raw ore, average value on the dock $2,25—$30,748,50; 27,332 tons separated ore, average value $3,25—$88,832,25; total, $118,580,75.

But the depression of the iron business and competition has shorn mining of its profits.

CLARK RICH.

Port Henry, N. Y., June 6, 1851.

Natural Soap in New Mexico.

John Gorman, Assistant Marshal, who was engaged in taking the census of New Mexico, discovered in the Town of Chimallo, in Rio Arriba county, a substance resembling soap. It makes a lather like soap, and has the property of removing grease spots or stains ont of any kind of cloth. When put in water it immediately slacks like lime. At the place where the discovery was first made, it is even with the surface, and about fifteen yards square. It is rotten on the top to about the depth of three feet, but appears cleaner and sounder at greater depths. It can be taken out in large lumps, of ten or fifteen pounds weight. It is as white as snow, and seems to exist in large quantities. Specimens have been forwarded to the Census Office at Washington.

If one ounce of powdered gum trajacanth, in the white of six eggs, well beaten, is applied to a window, it will prevent the rays of the sun from getting in.