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Railroads of the United States.

Dinsmore's excellent *Railroad Guide* for this month contains a summary of the number of miles of railroad now in operation in the United States, from which we learn that we have more railroads than all other countries put together.

The total amount of railroads is 19,664, miles. Great Britain and Ireland have only about 8500 miles in operation, while those on the continent of Europe do not amount to 6000 miles. In 1828 there were only 3 miles of railroad in our country; in 1338, 1843 miles; in 1848, 5682 miles; consequently 13,162 miles have been built during the past seven years. This is a most astonishing and rapid increase, being nearly double those that were built during the previous twenty years.

New York has the greatest number of miles in operation, namely, 2692; Ohio is next, having 2427; Illinois comes next, having 1892; Pennsylvania next, having 1627; Indiana next, having 1482; and Massachusetts has 1317. No one of the other States come up to a thousand miles, and Arkansas, California, and Iowa, have none.

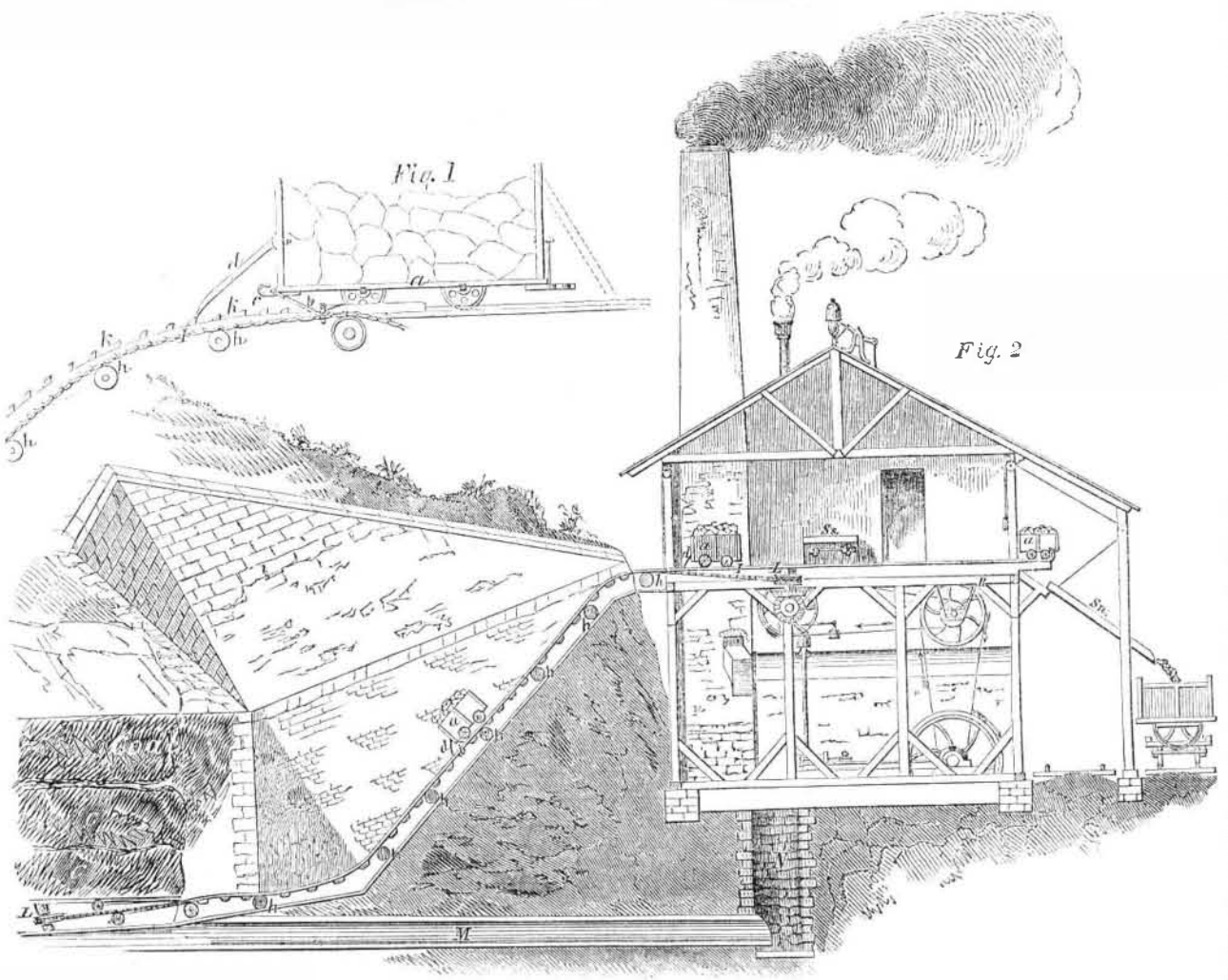
There are now 6000 miles more under construction—as much as there is in continental Europe—and these, it is calculated, will be completed and in operation in two years. The total value of completed railways at $30,000 per mile is $589,920,000. We do not know the exact cost of constructing railways per mile in Illinois and Indiana, but we have been informed that it does not amount to one-third that of Massachusetts, which cost over $40,000 per mile, owing to numerous deep cuttings, and heavy embankments being required. The western States being more level are better adapted than the Eastern States for building cheap railroads. The railroad interests are now a mighty power in the Federal Common wealth.

Dangerous Eating.

Pheasants are said to be poisonous as food during severe cold and deep snow. They are then deprived of their ordinary food, and eat the leaves of evergreen bushes, some of which are poisonous. The Philadelphia *Ledger*, on this subject, says: "During the British occupation of Philadelphia, when the officers indulged themselves in pheasant shooting on Wissahickon hights, seven persons were poisened at the supper succeeding the sport. The bird, unable, on account of the depth of the snow, to find his natural food, was compelled to feed on the buds and leaves of the laurel (kalmia latifolia.) Death ensued. A scientific friend has just exhibited to us the crop and intestines, with the body of the pheasant, weighing 1 lb. 14 3-4 oz. The crop and stomach were crammed with half decomposed laurel. One pair of such birds might render a family helpless for weeks, if not poison them to death."

N. K. Wade, of Pittsburg, Pa., has gone to Russia, in the Emperor's employ, to superintend the manufacture of cannon at St. Petersburgh. He is to receive $5000 per annum.

COAL MINING IN ILLINOIS.



The Wood River Coal Mines are located in Madison County, Illinois, eight miles from Alton and about eighteen miles from St. Louis, Mo. The mines are owned by an incorporated stock company, of which Wm. Richardson is the Resident Agent, and contain near 400 acres of coal land, which, being perfectly level—with the exception of a small portion on a branch of Wood river—contain a solid body of coal, 6 feet 6 inches average thickness, extending under the whole of the company's lands. The coal is a very superior bituminous, containing, according to a analysis by Dr. Jackson, of Boston:

Gas-making bitumen	50 50
Fixed carbon in coke	46 05
Gray ashes	3 45
Sulphur	0 00
	100 00

During the year 1853 and 1854 the Company opened several shafts, principally for ventilation, but also to test the extent and thickness of the coal. They also opened at the head of a bluff on the margin of Wood river, a drift or entry where the building and machinery which form the subject of the accompanying engraving are situated. The cut will give an idea of the manner in which coal is mined in some parts of the country, though probably few localities afford so many natural advantages and facilities for mining operations as are here combined.

The building is placed at the base of the bluff before mentioned, and contains a powerful steam engine for raising the coal from the mines, and also for pumping the water there from. The water is drawn from the floor of the mine through sewer M, which empties into the well N, whence it is pumped by steam.

The coal is elevated from the mine in small car (*a*) loads. A suitable track extends from the bed of the mine to the upper story of the building, the cars being propelled by the endless chain L, which passes over friction rollers, *h*. There is a hitch bar, *b*, attached to one end of each car, which passes into a link of the chain, and thus connects the car and chain together during the ascent and descent. For purposes of safety a rack, *k*, is laid in the center of the track, over which the pawl, *d*, trails. If the chain should happen to break, therefore, the car will not be precipitated down the incline, but will stand still.

When the cars arrive at the landing, I, they disconnect with the chain, pass along the floor to the scales, *S s*, where they are weighed, thence across the floor to the other side of the building, where they are dumped upon an inclined screen, *S n*, and fall, ready for market, into the railroad cars below, as shown. The empty cars are then pushed back to the other side of the building, connected with the downward line of chain, and so are carried back to the mine to receive new loads of coal.

The cars are propelled 168 feet in 24 seconds, and from 3000 to 3500 bushels of coal can, and several times have been raised per hour. The same chain can be extended entirely through the main entry, and thereby render further important assistance. It can also, by a slight alteration, be used for raising coal from a vertical shaft.

Nothing can be more simple, convenient, or rapid, than these arrangements for mining. Taken together with the remarkably favorable situation of the mines, as respects navigation and railroads, the Company will be enabled to supply the western markets with immense quantities of fuel.

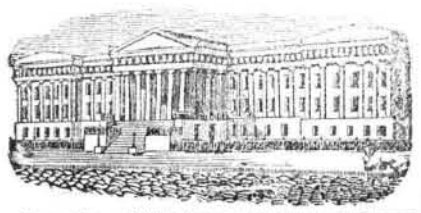
To form a connection with Alton a railroad has been built from the mines to the Terre Haute and Alton Railroad, a distance of two miles. Since that time, however, finding that Alton did not offer a market for half of the coal capacity of the mines, another railroad has been built from the Terre Haute and Alton Railroad direct to the bank of the Mississippi river, at a point opposite the mouth of the Missouri. Here a large wharf boat of 1200 tuns capacity is moored. A truss work rests on the boat and also upon the bank, and the cars, as they arrive, are let down by means of a brake—one ascending and one descending—worked by one man on the boat. They then run on turn-tables, and thence along the whole length of the boat—some 270 feet—dumping on either side, as required, and also into flat-boats, for the St. Louis market. The Company are thus prepared to supply all the upper Mississippi, the Missouri, and Illinois river boats, which is an immense trade. The wharf boat lies in the direct channel of all boats passing, and there is ample depth of water around her. By coaling here boats save a wharfage which is charged at Alton, they also obtain their coal less than elsewhere, besides other advantages in time, &c.

The present capacity of the mines is about 10,000 bushels per day. The Company have in use their own locomotive and cars, and have arrangements made for doing a large business as soon as navigation opens in the Spring. The machinery, plans, railroads, &c., were drawn and superintended by Joseph A. Miller, Civil and Mining Engineer, St. Louis, Mo., and Alton, Ill.

Report of the New England Inventors and Mechanics Industrial Exhibition.

The Committee on Machinery (W. P. Parrott and Saml. Cooper,) submit a brief yet somewhat interesting summary of the different machines on exhibition.

In noticing a pianoforte action, they introduce the remark "that this piano felt better under the touch than any of the pianos on exhibition." This quotation has reference to the opinion of the International Jury of the Paris Exhibition, and is credited to the New York *Times*. We venture to assert that the *Times* never published the extract, and further, that it was copied from an article in the Scientific American, of Sept. 22, 1855.



[Reported officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JAN. 22, 1856.

BENDING PLOW HANDLES, &c.—Benj. F. Avery, of Louisville, Ky.: I claim the strap, G, described, constructed in any manner substantially the same, for the purposes set forth,

I also claim the combination and arrangement of the several devices constituting the machine, substantially as described.

OPENING AND CLOSING FARM GATES—J. A. Ayres, of Hartford, Conn.: I claim, first, the employment and arrangement of the double-acting, self-adjusting jointed treddle, J J' J'', in combination with the self-locking catches, I I, substantially as, and for the purpose set forth.

Second, opening and closing the two parts of the gate, anp re-adjusting the driving boards, H H' by means of the simple arrangement of mechanism shown, consisting of weighted crank shafts, E E', elbow links, d d', and connecting rods, F F', arranged and combined with the two parts of the gate B B', and the driving boards, H H', as described.

FLOURING MILLS—Thomas Crane, of Fort Atkinson, Wis.: I claim securing the bed stone within a hoop, rising from a suitable bed plate, when the said hoop has an open annular space surrounding it, which is supplied with a discharging spout, and has a rotating hoop arranged and operating therein, substantially in the manner and for the purpose set forth.

ECCENTRIC EXPLOSIVE SHELLS—Wm. W. Hubbell, of Philadelphia, Pa.: I am aware that shells having eccentric hollows and reinforcements around the fusee hole have been used before my invention, but in different arrangement of the metal and with different effects from those discovered by me, and I do not claim such arrangement of metal nor their effects.

I claim, therefore, the combination of the head or segment of the solid sphere with flat base uniformly around the fusee hole, with the segment of the hollow part, forming a spherical shell, with flat based head, and externally smooth, as described.

COTTON SEED PLANTER—John M. Jones, (assignor to Newton Foster,) of Palmyra, N. Y.: I claim the disk, D, constructed with exit apertures, K, cavities, V, and ratchet, W, and also the vibrating rim, I, with flexible arms, y, thereon, the said disk being rotated upon said rim, in combination with, and in opposite direction to the flexible arm, G, in the manner and for the purpose set forth.

ARRANGEMENT OF TAN VATS—David H. Kennedy, of Reading, Pa.: I claim the arrangement of a tank, the tan vats, the main supply pipes and their branches, substantially as set forth, whereby the tanning liquor may be caused to flow regularly through a series of vats, from one to another, without the aid of pumps, and any one or more of the vats may be insulated from the system of circulation for any required length of time, without impeding a regular circulation of the tanning liquor through the rest.

DRESSING STICKS—Jos. W. Killam, of East Wilton, N. H.: I do not claim any of the parts of the described machine separately.

But I claim planing at one operation sticks of timber of polygonal form, straight and out of wind, without confining the same to a carriage, by using the combination and arrangement of the feed rollers, F F, and the bed, B, the guide plates, L, and weights, p, with the rotary cutter heads, I K, as shown and described.

RIVETING MACHINE—Emmons Manley, of Marion, N. Y.: I claim the arrangement of the punch, e, lever, A, and mandible, q, in relation to the anvil, d, and self-adjusting hammer head, D, in the manner and for the purposes set forth.

MOWING MACHINES—Jos. S. Manning, of Philadelphia, Pa.: I claim forming the teeth or fingers, H H, with a central rib, g, closing the usual slot, in combination with cutter plate, K, and reciprocating blades, H, constructed substantially as described, for the purpose of more effectually preventing clogging of the cutters, as set forth.

I claim the device for elevating the cutter bar or beam, consisting of pulley or windlass, F, ropes, a a, and straps, d, passing over the shoulders of the horse, arranged and operated in the manner set forth.

VENTILATING RAILROAD CARS—Wm. H. Medcalfe, of Baltimore, Md.: I claim the passing of a current of air, the force of which is regulated by the motion of the car, and a self-regulating bonnet, through a body of water, which water is retained within a certain space by a certain number of wire screens, placed as shown. The air thus freed from water, dust, cinders etc. is carried directly into the car through registers or by pipes around the stove, and out of the car by a similar apparatus, emptied of water, after the air has been used.

HAMMERING LEATHER.—Jean Pierre Molliere, of Lyons, France. Patented in France July 22, 1853: I claim the hammering of sole leather upon a hard surface after it is cut into heel and sole strips, for the purpose of closing its pores without any displacement thereof, in order to render it water-proof, by means of steel hammer heads of slightly rounded face, attached to the hollow rods, C C' C'', which may be weighted at pleasure, and shall be so governed by a cam movement that no two strike at the same moment, while they are kept by their shoulder piece from crushing the leather after it is hammered, the whole constructed and operated substantially as described.

SEWING MACHINES—John O'Neil, of Xenia, O.: I do not claim a feed bar, or one divided into a number of points; nor do I claim a roughened surface of any kind.

But I claim the broad chisel-edged piece, e, which takes hold of several of the warp or weft threads, and thus feeds along the material without piercing or penetrating the cloth, when such edge is of sufficient width to catch or hold several threads of the fabric being sewed, substantially as set forth.

GRATE BARS—John F. Osborn, of New Orleans, La. I claim increasing the hight of ordinary grate bars of furnaces by an addition to their top of a piece having its sides concave, and without any fags in its entire length, substantially as described and for the purposes set forth.

I distinctly disclaim all other features of the grate bar described, except what I have specifically claimed.

REGULATING VELOCITY OF WIND WHEELS—Francis Peabody, of Salem, Mass.: I claim the wind gate described for the purpose specified.

I claim the method described of controlling the wheel, by means of the rods, c c, and screw, i, arranged and operating in the manner substantially as set forth.

SEED PLANTERS—Freeman Plummer, of Manchester, Ind.: I claim the seed cup, z, as formed by slide, f, conductor, i, and hinge, h, as described.

OPERATING THE STEAM VALVES IN BLOWER ENGINES—James P. Ross, of Lewisburgh, Pa.: I claim the cam yoke, y, in combination with the adjustible weights and counterpoise levers, or the mechanical equivalents of these several parts, constructed, arranged, and operating substantially as, and for the purposes specified.

PRIMERS FOR CARTRIDGES OF FIRE ARMS—Horace Smith, of Norwich, Conn., and D. P. Wesson, of New Haven, Conn. (assignors to "The Volcanic Repeating Arms Company," of New Haven, Conn.): We do not claim the steel disk, nor placing the percussion powder on it in the rear of the powder, nor the method of exploding the same, as a patent has already been granted to us for that.

But we claim the combination of a copper or brass case, an iron or steel disk, with cork or its equivalent, and fulminating powder, substantially as set forth and specified.

BORING CARRIAGE WHEELS.—Chas. Schmidt, of Union, Mo.: I claim a new and useful machine for boring carriage wheels.

GRAIN AND GRASS HARVESTERS—John H. Manny, of Rockford, Ill.: I claim, first, in connection with a dividing piece, for throwing the grain inwards from the extreme ends of the cutters or platform, a recess or space, behind said space into which a portion of the grain may afterwards drop and be cut, for the purpose of obviating the tendency to choke or clog at the ends of the cutters, substantially as described.

I also claim the intermediate piece, P, between the tongue and the cutter beam, for the purpose of providing a yielding or elastic joint, not only at or about the line of the cutters, but also at the heel of the tongue, substantially as described.

I also claim, in combination with the lever, U, having its fulcra pivoted intermediately between the tongue and the frame of the machine, the strap, V, and hinged supporting piece, S, for the purpose of regulating the hight of the cutters, substantially as described.

HARVESTER CUTEER BARS—John H. Manny, of Rockford, Ill.: I claim the tempered steel finger bar, by which the delivery of the cut grain or grass upon the stubble is facilitated, and other advantages attained, as described.

RE-ISSUES.

APPARATUS FOR DISSOLVING SILICA—Benj. Hardinge, of New York City. Patented originally May 8, 1855: I do not claim the dissolving of silex with alkaline salts and steam under high pressure, nor do I claim heating liquids by causing them to circulate from a boiler through a coil of pipes in a furnace.

But I do claim, in the described apparatus, the method of taking the liquid from the upper part of the charge in the boiler or digester containing the silicious matter, and the solvents thereof, passing it through a heater, and discharging the vapor thereof in the lower part of the charge, substantially as described, when this is combined with a boiler or digester, provided with stirrers, for stirring the charge, substantially as described.

SEWING MACHINES—Allen B. Wilson, of Pittsfield, Mass. Patented originally Nov. 12, 1850: I claim forming a stitch by each throw of the shuttle, and corresponding motion of the needle, that is to say: making one stitch at each backward motion of the shuttle, this being effected by the needle in combination with the shuttle, both constructed, arranged and operated as described, or in any other mode substantially the same.

SEWING MACHINES—Allen B. Wilson, of Pittsfield, Mass.: Originally patented Nov. 12, 1850: I do not claim a spring foot or rod serving only the purpose of stripping the material to be sewed off the needle, or holding the cloth down to a table as the needle rises, as such a contrivance has been used prior to the date of my invention.

But I claim the method of causing the cloth or material to be sewed in a sewing machine, to progress regularly by the joint action of the surfaces between which it is clamped, and which act in combination, substantially in the manner and for the purposes specified.

Secondly, I claim holding the cloth or other material at rest, by the needle or its equivalent, in combination with the method of causing it to progress regularly, the whole, substantially as set forth.

Thirdly, I claim arranging feeding surfaces, substantially such as described, in relation to the needle, a, set forth, that they, or one of them, shall perform the office of stripping the cloth or material from the needle, as it rises, or recedes from it, as described.

Fourthly, I claim so mounting and attaching one of the feeding surfaces to some other part of the machine, that it may be removed or withdrawn away from the surface at pleasure, substantially in the manner and to effect the objects set forth.

DESIGNS.

COOKING STOVES—Garrettson Smith, Henry Brown, and Jos. A. Read, (assignors to J. G. Abbott and Archilus Lawrence,) of Philadelphia, Pa. Ante-dated Dec. 31, 1855: We claim the design, configuration, and arrangement of the several ornaments in bas relief and moldings on the plates of stove "Premium," as described and shown.

PORTABLE FURNACES—Garretson Smith, H. Brown, and Jos. A. Read, (assignors to A. E. Warfield,) of Philadelphia, Pa. Ante-dated Dec. 31, 1855.

PORTABLE RANGES—Garrettson Smith, Henry Brown, and Jos. A. Read, (assignors to A. E. Warfield,) of Philadelphia, Pa. Ante-dated Dec. 31, 1855.

Zinc, and its Uses.

This metal was known in very ancient times in India and China, and was employed for making brass. As now understood, brass is an alloy of copper and zinc, but there is reason to believe the ancient brass of the Phœicians and Hebrews was what we now call "bronze"—an alloy of tin and copper. The famous "Corinthian brass" is supposed to have been an alloy containing gold, silver, copper and tin. Zinc exists native as an oxyd, and is found combined with carbonic acid, and as a sulphuret. Its color is a bluish white; it is brittle at an ordinary temperature, but malleable and ductile at about 300°, at which temperature it may be drawn into wire, or rolled into plates. It is flexible at a dull red heat; volatalizes at a white heat, and becomes gas; it oxydizes readily in the atmosphere, and burns when highly heated. The ore of zinc occurs in veins traversing primitive or transition rocks. The red oxyd of zinc is found native in some places, especially in the State of New Jersey. The sulphuret of zinc, or blende, occurs in rocks of all ages, and is usually associated with ores of lead. It is generally of a yellow color, and of a crystalline form. This kind of ore (sulphuret) is difficult to smelt, and is not very valvable. The carbonate of zinc or calamine is a valuable ore, and so is the silicate of zinc, which is often found associated with the carbonate. As zinc fuses at a low temperature, the reduction of calamine is easy. The ore is first calcined, then reduced to powder by stampers or a Chilian mill, then mixed with ground coal, and heated in earthen retorts, when the oxygen of the zinc combines with the carbon and escapes as carbonic acid gas, while the zinc vapor is condensed in receivers, and the metal thus obtained. A little arsenic is generally associated with zinc. The processes of reducing zinc ores are different in different countries. The most extensive zinc smelting works in the world are those of the Vieille Montagne Co., near Liege, in France, which supplies our country with most of its foreign zinc, and also supplies England with it so cheap that the native blende cannot be worked profitably.

The zinc ores of New Jersey are believed to be the richest in the world. A single block of the red oxyd weighing 16,400 lbs., obtained from the Sterling Hill mine, was exhibited at the London World's Fair, and surprised all who saw it. The American Zinc Manufacturing Company at Newark, N. J., which was established a few years since, promised to flourish; yet we have been informed that it has not been so successful as to compete with the Vieille Montagne Company, at whose works the smelting is conducted with great skill. Its success, however, is simply a question of time where the ore is rich and abundant and fuel plenty, as is the case in our country.

A few years since much was said about the white oxyd of zinc superseding white lead as a paint, and we believe it has been very effectually tried, still white lead maintains its old place. As lead paints are injurious to the health of painters, zinc paints should be used in preference to them wherever this can be done judiciously. The white oxyd of zinc for paint is made by burning the ore at a high temperature, and supplying it with a great quantity of air while burning.

Zinc is extensively used in the manufacture of common brass, of which it generally forms from 40 to 50 per cent. In the sheathing metal for ships it forms about 40 per cent., the other three-fifths being copper. We import about $600,000 of this sheathing yearly, and about $300,000 worth of other brass manufactures.

Zinc is employed to some extent in casting statues; the group in our Crystal Palace representing the Amazon attacked by a lion, is cast in zinc, and is merely bronzed on the surface. Many of our mechanics are acquainted with the mode of making brass from copper and zinc—by first reducing the copper to a molten state in a crucible, then adding the zinc. Waterbury, Conn., has long been famous for various kinds of brass manufactures especially brass kettles. This alloy is one of the most common and useful in the arts.

As the positive metal in galvanic batteries, zinc plays one of the most wonderful and useful parts in generating electricity and conveying messages on lightning's wings by telegraph. It is also the great agent in batteries for electro plating, by which silver is deposited on pewter and copper, on the types of the printer, and for making copies of engravings. The reason why zinc is the best metal for this purpose, is because it is the most easily oxydized. When placed in water it has such an affinity for oxygen that it separates it from the hydrogen of the water, which is set free. A little sulphuric acid is added to the water in electric batteries, and the product is a sulphate of zinc.

This salt is much used as a drier for paints, especially light colors. By using a pound of it to a gallon of linseed oil, in boiling the latter, it imparts to it valuable drying qualities. It is also used as an emetic in medicine, and as an eye wash, (in a very diluted state,) for mild inflammation of the eyes. It is also a good wash for very virulent sores in animals. Farmers will find it superior to any other for washing the sores of their cattle.

A solution of the double salt chloride of zinc and ammonia is very useful in tinning and soft soldering copper and iron. It is made by dissolving zinc in hydrochloric acid, then adding some salammoniac. It is applied to the seam to be soldered with a fine brush, then the solder is put on with the common iron in the usual way. Thin plates of iron may be soldered in this manner, as well as common tin plates. The chloride of zinc is employed as a preservative for timber, and as a disinfectant in hospitals, by pouring it into sewers, sinks, &c., &c.

Zinc has been used in the art of printing as a substitute for lithographic stone. Plates of this metal possess a peculiar lithographic quality. We have seen maps and designs printed from them, which gave evidence that they are admirably adapted for the coarser and cheaper kinds of lithographic printing—or rather "zincographic"—it being a distinct art in itself.

Galvanized iron is simply iron covered with zinc in the same manner that thin plates of iron are covered with tin. The iron as a post

Sheet Zinc has been used as a roofing material for houses, but it is not so good as tin plate for this purpose. It has also been tried—and said to be somewhat successful—as a sheathing for ships; its principle use, however, in a metallic state, is for electric batteries and the making of brass. Its applications are very numerous, and it is one of our most useful metals.

PLASTIC ZINC CEMENT FOR ROOMS—At a recent meeting of the Academy of Sciences in Paris, M. Dumas communicated the particulars itive condition to receive the zinc, must be well cleaned and scoured bright. The zinc is then melted in an iron vessel and covered with salammoniac, to prevent it volatizing, and the sheets of iron are dipped into this, and gently stirred until they are sufficiently coated. It is also a good plan to dip the plates in a weak solution of salammoniac before they are dipped into the molten zinc, as they then take on the zinc sooner. Chains for pumps and various other purposes are thus coated with zinc. Iron wire covered with zinc has been used for telegraphs; galvanized iron is said to be very durable; and a little zinc mixed with iron is stated to render it very tough and strong.

of a recent invention by M. Sorel, which promises to be of great advantage to plasterers and workers in stucco. He stated that the invention consisted in the discovery of a property possessed by oxychloride of zinc, which renders it superior, to the plaster of Paris for coating the walls of rooms. It is applied in the following manner:—"A coat of oxyd of zinc mixed with size, and made up like a wash, is first laid on the wall, ceiling, or wainscot, and over that a coat of chloride of zinc applied, being prepared in the same way as the first wash. The oxyd and chloride effect an immediate combination, and form a kind of cement, smooth and polished as glass, and possessing all the advantages of oil paint without its disadvantages of smell, &c. The inventor further suggests the employment of oxychloride of zinc as a paint for iron, and also to stop hollow teeth, for which its plasticity and subsequent hardness and impenetrability to the moisture of the mouth, render it particularly applicable."

Theory of Odors.

So much has been written on our five physical faculties, sight, hearing, taste, touch, and smelling, that it has occupied a large portion of the various published works from the time when printing was invented. The three senses first named have been fairly "written out;" but not much has yet appeared relating directly or indirectly to the others. Mr. Septimus Piesse now gives us a theory of the olfactory nerve in distinguishing perfumes. Scents appear to influence the smelling nerve in certain definite degrees. There is as it were an octave of odors, like an octave in music. Certain odors blend in unison like the notes of an instrument. For instance, almond, heliotrope, vanilla, and orange blossom blend together, each producing different degrees of a nearly similar impression. Again, we have citron, lemon, verbena, and orange peel, forming a higher octave of smells, which blend in a similar manner. The figure is completed by what are called semi-odors, such as rose and rose-geranium for the half-note; petty-grain, the note; neroly, a black key, or half-note; followed by fleur d'orange, a full note. Then we have patchouly, sandal-wood, and vitivert, with many others running into each other.—From the perfumes already known we may produce almost any flower. When perfumes are mixed which strike the same key of the olfactory nerve, no idea of a different scent is produced, as the scent dies off from the handkerchief; but when they are not mixed upon this principle, then we hear that such and such a perfume becomes "sickly," or "faint," after it has been in use a short time.—[Piesse's Art of Perfumery.

Philosophical Inquiry.

Do the rays of the sun lose any of their caloric in passing through free space?

On elevated mountains where the pressure of our atmosphere is about seven pounds to the square inch, everything is in a frozen state, even in the torrid zone. Query—What is the required pressure of atmosphere to separate caloric from the rays of the sun? PERDEX.

Binghamton, Jan. 12, 1856.