Electric Actions for Organs.

tic, and several devices of the kind have been patented in England, France, and America. These devices have demon-strated the feasibility of the plan. The object to be attained in the use of an electric action is to obviate the necessity of the complicated system of wooden trackers and its adjuncts, and to make a far lighter action, which will admit of the placing of the key board at any distance from, and in any position relatively to the organ itself. Mr. H. L. Roosevelt, of New York, patented through the Scientific American Agency, April 18, 1869, a very pretty, and in several respects unique device, relating to an improvement in electric organ actions. electricity to actions for organs, on both sides of the Atlan- lowed to fall, drop by drop, on a surface of pure water, and

in electric organ actions.

This device requires a separate battery for each octave of the organ. This arrangement obviates the burning of the connections and waste of battery power.

Another prominent feature is the use of glycerin as a protective superstratum on the mercury in the cups, which effectually prevents oxidation and evaporation of that metal, as well as the oxidation of the point of the connecting wire. The ingenuity and efficiency of this feature of the invention will be at once obvious to those conversant with the difficulties which it is designed to obviate.

The pedal action and the manual are electrically united at the will of the performer by means of a sliding wedge or its equivalent, by means of which the mercury cups of key and pedal are connected by a wire dipped into both, and which causes a current from the key battery to be opened and closed by the action of the pedal.

ture of the invention to those conversant with the details of bility for heat and that for electricity. He has experimented electric machines. Without drawings and voluminous description it cannot be made very clear to those not posted in the following order in point of conductibility of heat and such details. The action works easily, and without the dis-electricity:-Heat: Mercury, water, sulphate of copper, sulagreeable ratiling of the old tracker actions. An organ with phuric acid, sulphate of zinc, solution of sea-salt. Electricity : this action attached is now on exhibition at the factory of Mercury, sulphuric acid, solution of sea-salt, sulphate of zinc, Messrs. Hall & Labaugh, the well-known organ builders in this city, where those interested are invited to call and examine its merits for themselves.

Editorial Summary.

ANOTHER SWINDLE .- Mr. D. A. T. Black, who resides in Pennsylvania, has forwarded to us a letter addressed to him, by C. C. Havens & Co., of 649 Broadway, Actuaries, Bankers, and Financial managers of the New York Jewelers' Co-operative Union-wherein Mr. Black in notified that ticket, No. 418 has drawn a gold watch valued at \$200, and that 5 per; ture in Texas. This year hundreds of acres are planted; the cent on its valuation must be paid within twelve days from soil is prolific, and in some instances has yielded 60 bushels of date of notice. Mr. Black with all the innocence of Moses at castor beans to the acre. Very little machinery has as yet the Fair, writes to us that the circular has come to him unsolicited, and not wishing to be imposed upon he asks us to in- also attracting attention. It is looked upon as of great value that Mr. Bessemerhas signified his willingness to reduce his royalties from vestigate the matter in his behalf. If Mr. Black cannot see to the South for the purpose of making ropes. swindle all over the face of the various papers sent to him, then we advise him to forward the \$10, and learn just what such scoundrels are up to.

eral caoutchouc," which has hitherto been chiefly found at Castleton, in Derbyshire, England, in the lead mine of Odin, along with lead ore and calcite, is reported as discovered in Adelaide, South Australia. It is found in Australia on the surface of the ground, where the soil is sandy, through which it would appear to have exuded from beneath. When burnt off occasionally by the bush fires, it is found again after the winter season, in considerable quantities and of various thicknesses. Analysis proves it to contain 82 per cent, or somewhat more, of a pure hydro-carboniferous oil. Its value for gas-manufacturing purposes would be great, and it is also believed to higher than Mount Blanc, which is within a few feet of being caparisoning of the charger astride which the colossalfigure of the Father be applicable to the production of certain dyes.

THE London Athenaum reports the discovery in the Bodleian Library, Oxford, of a single copy of a work printed by William Caxton, the first English printer, who commenced the practice of his art about the year 1480. Very few of the issues of ths pioneer publisher are in existence. The pamphlet just discovered is a short treatise upon death-bed repentance, and consists of sixteen quarto pages. The author of the treatise is unknown, but it appears to be a translation from the original Latin. The title, which forms the first paragraph of the first | phia, the mean velocity of the wind during the entire year, is page, title pages being introduced later, 1s as follows: "Here found to be about eleven miles an hour; at Toronto its annual begynneth a lytyll treatyse schortely compyled, and called ars average velocity is nine miles; and at sea it is estimated at moriendi, that is to saye the craft for to deye for the helthe of eighteen miles. mannes sowle."

Attention has been attracted lately to the application of beautiful figures which are produced when oils, etc., are al-

following process is, however, said to answer perfectly: To 5 drops of the glycerin to be tested add 100 to 120 drops of water, 3 to 4 centigrammes of ammonium molybdate, 1 drop of pure nitric acid (25 per cent), and boil for about a minute and a half. If any sugar or dextrine is present, the mixture assumes a deep blue color.

ACCORDING to M. Millon, the disagreeable odor of bisulphide of carbon can be got rid of by distilling it with quicklime, the two having been in contact twenty-four hours. The distillate is received in a flask partially filled with clean copper turnings. The lime remaining in the retort is strongly colored. By means of the deodorized bisulphide, MM Millon and Commaille have separated the perfume of milk to the extent of recognizing certain plants eaten by the cow-the Smyrnium olusatrum among others.

HERR PAALZOW has been making experiments from which This brief description will give a general idea of the na- he concludes that there is no relation between the conduction the following substances, and has found that they have sulphate of copper. water.

> PATENT OFFICE DECISION .- We hope none of our readers will omit to read the decision of Commissioner Fisher, published in another column. It is not only an interesting paper, but it sets forth in a strong light the views of the new Commissioner of Patents as to what constitutes a new and useful invention within the meaning of the law. There is a spirit of freshness and liberality about this decision which will commend it to the favor of inventors.

> THE CASTOR BEAN is becoming an important article of culbeen introduced for getting out the oil. The ramie plant is

> army belt buckles at the Rock Island Government sale for the brass and solder.

> It has been suggested to us by a distinguished engineer that the diamond turning tool noticed in our last issue might be advantageously applied to trueing up ordinary grindstones. The suggestion is based upon the character of the tool as well as actual experiment in its use for this purpose.

THE German astronomer, Maedler has measured the hight of 1,093 mountains in the moon. Twenty-two of these are three miles high; six are above 19,000 feet. The highest ob- | of his Country is to be placed. served mountain in the moon is 24,844 feet high.

THE Chicago Tribune says that a business depression of more than ordinary weight is felt in that city. There is dullness in trade; the receipts and shipments of grain are below their usual average ; and there is less than the usual demand for houses to rent and improved property for sale.

VELOCITY OF THE WIND.—It is stated that, at Philadel-

DR. CARTER MOFFAT has succeeded in fixing on paper the HOW TO KEEP CANALS OPEN IN WINTER ... DECISION OF THE COMMISSIONER OF PATENTS.

pipes, and by raceways where hot water has been poured upon the fee to thaw it. The applicant having, like Columbus, put the egg on end, there is now no difficulty in suggesting the means, and accordingly, he is informed, that others might built firse by the side of the canal of put furnaces under it, or 11 short, heat it in other ways. It is some tribute to the utility of the plan proposed by applicant that none of the means suggested will conform in prioribility with that de-scribed in his patent. At a later stage it his application door its were ex-pressed as to its utility, and the applicatication door its were ea-propring the produced his afflactive, back the application door is were early easy to be applied to the plan, submitting estimates of its costs, and giving the details of various experiments upon flowing water in miniature canals of different lengths. Upon this state of facts, the two questions remain for solution—Does this invention possess patentable novelty and utility.

remain for solution—Dees this invention possesses patentable novelty and ntillity? It must be remembered, upon the first point, that the invention does not consist in the discovery that water may be prevented from freezing by the application of hest or that heat may be applied by steam pipes laid under white; or merely in placing two steam pipes, at the bottom of a canal. It consists in a system of heaters, composed of steam bollers placed at pro-per intervals along the line of a canal, for the purpose of supplying super-heated steam to sections of pipe laid upon the bo tom of the canal and ex-tending between these intervals. It is this system as a whole, and not the minor details of it, for which applicant asks a patent. This is uncludedly new, and in the language of the English courts in a late case; it lays of arout of the or linary track of the prior applications of heat or steam to water as not to be obviously suggested by them. A man might heat his bath tub for a long time before it would occur to him to devise a plan by which the boys might bathe in the Erie canal in mid winter.

might heat his bath tub for a long bite before it would occur to have a device a plan by which the boys might bathe in the Eric canal in mid witter.
Viewed, therefore, as a new organization for a new purpose, I have no difficulty in finding that this in v-nition possesses patentable novelty.
Thave still less difficulty with the second question. Utility, In the eye of the Patent law, refers rather to a utility of purpose than a utility of means. If the end which the bate can obtain no patent, although the means which he proposes may be ingenious, and. for his purpose, of great utility. A burtlar stool may be a unitably adapted to break open doors an shutters, and, for that purpose, be eminently useful, and yet a patent would unquestionably be denirably adapted to break open doors an shutters, and, for that purpose, be eminently useful, and yet a patent would unquestionably be doned. On the other hand, if the purpose he a good or useful one, the utility is use, and in the busy competitor, and is soon forgotten. The best test of utility is use, and in the busy competitor of the adventor is affirmed or reversed by an inexorable tribunal.
This Office may readily apply the first test. It may determine whether the purpose of the invention is a proper one. It has no means of applying the sace of the same land in the purpose proposed. It accomplished, would be useful, or thy edue to derived of the inventions. It can only see that the purpose proposed, if accomplished, would be useful, or that whet plan does not show the absence of some part objust of adverse restrict or the plan does not show the absence of some part objust or sential conty and watever. Beyond this, it can only oppose the opinion of man to man, an opinion by which if all your great inventions and any end matever. Beyond this, it can only oppose the opinion of man to man, an opinion by which if all your great inventions and any end matever. Beyond this, it can only oprose the opinion of adverse recute a

The decision of the patent is ordered to issue. (Signed) S. S. FISHER, Commissioner.

MANUFACTURING, MINING, AND RAILROAD ITEMS.

BESSEMER STEEL. The London Mining Journal says that it is understood 21. to 18. (d. per tun, except for steel rails, for which a rebate of 20s. per tun is already allowed. Ordinary Bessemersteel will thus be reduced nearly 27. A PLUMBER of Davenport, Iowa, bought 35,000 pounds of per tun, and rails about 17. 10s. This will remove all inducements which might otherwise exist to infringe the patent rights remaining to Mr. Bessemer after the expiration of his principal patents in the course of next year, about seven cents a pound. They cost nearly one dollar a and at the same time will give an impetus to the steel rail trade, by permit-THAT remarkable carboniferous substance known as "min. pound, and would have supplied an army of more than two ting the steel rails to be sold in the market at a price but little higher than hundred thousand men. They are to be melted down for that of iron. If the Heaton process should solve the question of converting cheap pig iron into steel, iron rails may, probably, be entirely displaced.

> A REMARKABLE CAVE .- A remarkable natural cave has just been discovered near "White Pine," in the newly-developed silver district of Nevada. The opening is about six feet in diameter. On clearing the aperture from the loose rocks with which it was encumbered, a room twenty-five by forty feet was discovered, with passages leading from it to an indefinite distance, none of which has yet been explored. The walls are composed of lime stone, intermixed with spar and mineral-bearing quartz, which promises to yield rich returns to the miners.

> The 10,000 pound equestrian statue of Washington, destined for the Public Garden in Boston, is rapidly approaching completion at the Ames establish-ment in Chicopee. The most of the work now remaining to be done is the

> English workingmen are said to have formed a joint stock association, shares one pound each, for t. e purpose offacilitating their emigration to this country. They have sent out a delegation to Nebraska to report on the desirableness of that country for a home.

> The Colorado Miner says that the largest piece of silver bullion ever produced in the United States was recently taken off the cupel at the Brown Company's works. The weight was 52 pounds Troy; currency value \$10, 000. The amount of ore was between 29 and 0 tuns.

> The engineer of the Suez Canal. In. Lesseps, proposes to get up an international excursion party of 100 gentlemen of different nationalities, who are to meet at Paris next spring, and thence proceed to Egypt, to be present at the opening of the canal. The line of the excursion from that point lies through China and Japan, across the Pacific ocean to San Francisco, and via Pacific railroad to New York.

> The value of Australasian gold imported into Britain during the two months ending February 28, of this year, was 658,5862, as compared with 859 18 of 1868. ding two

THE Macon and Brunswick Railroad is now wholly under contract, and will be completed from Brunswick to station No. 6. The junction of the Savannah, Albany, and Gulf Wash immediately in plenty of water, wipe it, rub perfectly Railroad by t'e first of July, and to Macon by the first of dry, and polish with powdered rotten-stone. November next, in time for the State Fair, and for the cotton crop of 1869. This road gives Macon three outlets to the sea, via Macon and Augusta Railroad and Charleston, S. C., Georgia Central to Savannah, and Macon and Brunswick to Brunswick. The Macon and Brunswick Railroad will also build a line of telegraph from Macon to Brunswick.

MELTED lead, which has a specific gravity of 11.5 will float on melted iron, which has a specific gravity of 7. This has been recently explained by Prof. Karmarsch, of Hanover, who finds that the lead when melted forms a hollow spheroid, which is filled with some vapor of lead, making it specifically the past eighteen months. lighter than iron. In smelting, however, certain ores of iron which contain lead, the lead is found at the bottom, where, owing to its specific gravity, we should expect to find it.

RUB some bichromate of potassa fine, pour over it about twice the bulk of sulphuric acid, and mix this with an equal quantity of water. The dirtiest brass is cleaned in a trice.

A MACHINE has been invented and put in operation in Cali- estimated. fornia, which, it is said, has cut, thrashed, cleaned, and sacked The Missouri Pacific Failroad Company have ordered as non-organized, freight cars, and 1,500 tuns of new rails, preparatory to the change to the narthe wheat from twenty acres in ten hours, with only three men to work it.

THE high price asked for pianofortes, it is stated, is due to the great strength required in the frame of the instrument to resist the tension of the strings, which, in some instances, amounts to sixteen tuns.

THREE cooperative stores have failed in St. Louis during

Belgium. The experiment is a success,

2002 in the correspo

The extraordinary expenses incurred by the city of San Francisco by reason of the earthquake and the prevalence of the small pox, during the past year, amount to \$200,000.

The Mont Cenis tunnel has penetrated through the quartz and has come to a stratum of soft stone. The work is expected to be finished, on account of the easy working of this stone, about six months earlier than was heretofore

row gage, which, it is contemplated, will be made in June.

The tariff in dispatches between this city and England, on and after the 1st of June. will be \$10 (gold) for ten words or less, and \$1 (gold) for each word in excess of the limit.

The people of St. Mary and New Iberia, La., have organized an Immigrant Labor Association, in order to meet the increasing demand for laborers in that portion of the State.

The St. Louis and Illinois Bridge Company commenced operations on the Illinois side of the river on the 11th of May. The boring was begun and will be continued until the rock is reached on which to lay the foundation of the shore abutments.

A Pittsburgh oil firm have obtained a verdict against the United States ALUMINUM bells have been manufactured in France and Telegraph Company, in the Court of Common Pleas, for damages amounting to \$10,000 for not transmitting a business telegram.