RY DAY SCIENCE.

Consumption of Power.

UTILIZING THE HEAT OF SLAG.

Farmer From His Farm. MECHANICAL BIRDS THAT FLY WELL

Natural Gas Has Almost Driven an Indiana

Readers of THE DISPATCH who desire information on subjects relating to industrial development and progress in mechanical, civil and electrical engineering and the sciences can have their queries answered through this column.

As an instance of negative hydraulic pressure or relative vacuum in the wake of experience. Natural gas is coming up out a moving vessel, Mr. P. G. Hamerton de- of the ground all over his farm, and it is scribes an incident which occurred in a easy to light it in hundreds of places by simyachting tour on the Saone. The small ply applying a match. Even the water in the sailing yacht, or "catamaran," Arar is a farmer's drive well is forced out by the gas, double boat, built on the principle of the and the family is contemplating a removal Calais-Douvres. Returning against the stream in the wake of a huge barge towed by a small steam tug, Mr. Hamerton re- altogether, unless some way can be devised marks: "On drawing the Arar close to the | to control the escaping gas. barge I found the motion less fatiguing; but the curious thing was this-the Arar now followed without a hawser. There was, in fact, no necessity for a rope, as our boat was storing of oxygen from the atmosphere. This propelled by the back-water behind the interesting process has a unique application barge. The Arar kept the noses of her two hulls at a distance of about three inches the quality of beer. It is claimed that the from the stern of the boat before her, and oxygen in its contact with spirits actually that with marvelous steadiness. For some time the hawsers hung idly in festoons, but they were entirely detached before we came to the bridge at Macon; yet the Arar followed under the arch against the general current of the river, though in reality on the rapid counter-current of the back-water. How can a steamer tug a small boat without either increase of power or diminution of speed? The question appears insoluble; yet here is a solution of it: the steamer's motion may create a back-water behind a small boat may follow on the back-water without imposing the slightest extra tax upon the tug."

Mechanical Birds.

An ingenious manufacturer, M. Pichaucourt, has recently brought out some small mechanical birds, which operate with great regularity. The motion of the wings is brought about by the energy stored up in twisted rubber bands. The spread of the wings is 13 inches; the rubber spring weighs 120 grains, and is 5 inches in length, and the total weight of the apparatus is three-quarters of an ounce. The device in flying rises slightly, and is capable of moving to a distance of 60 feet. M. Pichaucourt has succeeded in constructing a mechanical bird of the same kind of larger size, and which weighs no less than 20 ounces. Set free by the hand, this apparatus has risen to a height of 25 feet above the ground, and fallen at a distance of 21 yards from the starting point against a head wind of 13 feet per second. The success of these so-called toys is regarded as very significant by mechanical aeronautical experts.

Utilization of Sing Heat.

A most singular and interesting instance of commercial economy is afforded by the new invention of Sir Lowthian Pell, which consists in utilizing the waste heat of slag derived from iron furnaces and furnaces employed in other metallurgical operations. The slag may be received into iron vessels mounted on wheels, and capable of containing several tons. These vessels when charged are caused to be passed down an incline into a chamber, over which an evaporating pan of large area is set. When the slag blocks

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Emma Abbott and Entire Company. TUESDAY-Auber's Charming Opera. CROWN DIAMONDS. Emma Abbott and Entire Company, WEDNESDAY Matinee, 75c, 50c and 25c,

BOHEMIAN GIRL WEDNESDAY-Balfe's Brilliant Opera, ROSE OF CASTILE. Emma Ablott and Entire Company.

THURSDAY-Verdi's Grand Onera, IL TROVATORE. Emma Abbott and Entire Company. FRIDAY-Bellini's Heroic Opera,

NORMA Emma Abbott and Entire Company. BATURDAY ABBOTT MATINEE—Gounod's Exquisite Love Lyric, ROMEO AND JULIET.

Emma Abbott as Juliet. Entire Company. SATURDAY-Flowtow's Charming Cpera, MARTHA MARTHA (Abbott's "Last Rose of Summer.") Emma Abbott and Entire Company. March 24-"The Twelve Temptations,"

WORLD'S MUSEUM-Allegheny City.

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Miss IDA WILLIAMS,
Mastodonic fashion plate, with her costly wardrobs, direct from Prof. Worth's, Paris; a treat
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Zemora and his wonderful Egyptian Mystery. Zemora and his wonderful Egyptian Mystery.

Re-engagement

Re-engagement

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GERMAN ROSE, Midget Vocalist.

CHAUNCEY MORELAND, Indiana's fat boy.

Prof. Hampton's college of educated dogs, cats, monkeys, geese.

In the theater, strongest specialty show of the season. MONDAY, March 17, every visitor will re-eive a genuine shamrock, imported direct

from Ireland.

NEXT WEEK, MAGGIE THE MIDGET, and her tiny baby, only midget mother and baby ever lived.

mhl6-99

are in the chamber they are sprinkled with water to harden the exterior. Steam is there-by generated, and this steam coming in conging a Small Boat Without Any heat thereto, and so heats the brine or solu-tion which the pan contains. Or the steam thus generated may be passed through pipes mersed in the solution

Submarine River Plow.

A curious machine for cleaning out the Sacramento river and various bars is about to be constructed at San Francisco. The machine is not a dredger, but a great submarine plow, which simply clears the channel as it runs. It is propelled by three engines of the combined power of 54 horses, and while going at the rate of 12 miles or more an hour, scoops out a space six feet deep and 40 feet wide. The debris is shoved on either side, so that, instead of the banks being weakened, they are strengthened. The plow will be 100 feet long, 35 feet wide, and

Amenities of Natural Gas. A farmer in Indiana has had a singular from its residence to avoid being blown up. The farmer considers that his farm is entirely ruined, and will doubtless abandon it

Ageing of Spirits Artificially. A novel industry is the separating and in the maturing of spirits and in improving oxygen in its contact with spirits actually accomplishes in a few days what, if left to oxygen gets rid of the jusel oil quickly, and when used on beer produces a rapidly maturing effect.

Miscellaneons Notes. A MACHINE for taking soundings has been invented which does not require that the vessel be stopped for the work.

THERE are 32 compositions on the market to prevent submarine growths on iron ships, and none of them do the work. A BIG manufacturing firm has offered a re-

ward to its firemen who save the most fuel, The firm is convinced improper firing is responsible for great waste. It has been found that steel ships possess magnetism that is permanent, and this has, in

some instances, greatly affected the needle. The magnetism seems to be acquired during Japanese lacquer is highly spoken of. It gives a surface to wood much harder than the best copal varnish, without brittleness. It takes a polish not to be excelled, which lasts for centuries, as we may see in the old treas-ures of Japan. It is proof against boiling water; alcohol and apparently every agent known.

An Italian journal describes a new pharolight, which is said to be as powerful as the electric light, and the efficiency of which is not impaired by fog as is the case with the latter. A clock work arrangement nours every 30 seconds ten centograms of powdered magnesium into the flame of a round wick lamp, producing an extremely brilliant flash of light. The weight of the apparatus being only about 6½ pounds, it can readily be used for signalling purposes at sea.

WEAE stomach, Beecham's Pills act like magic l'EAES' Soap secures a beautiful complexion.

GRAND OPERA HOUSE MR. E. D. WILT, Lessee and Manager.

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Week Beginning Monday, March 17.

Every Afternoon and Evening.

SHOOK & COLLIER'S Magnificent Military Drama,

THE BLUE

THE GRAY

70-People on the Stage-70

ORIGINAL SCENIC EFFECTS

A local military company will appear at each performance.

Week March 24-"UNDER THE LASH."
mb16-10

RAND CONCERT-Under the auspices of the ROYAL ARCA-NUM, of Allegheny county, at Carnegle Music Hall, Allegheny, on Thursday evening, March 20, 1890. Mrs. W. B. Wolf, soprano; C. C. Mel-lor, organist: Harry B. Brockett, tenor; W. S.

BEETHOVEN QUARTER composed of er, Fred Toerge, George Toerge Charles Cooper.

J. A. Langfitt and S. U. Trent, Esqs. of Pitts burg Bar.

Performance at 8 o'clock, Tickets, 50 cents. mh16-118 UENTHER'S ORCHESTRA

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GOSSIP OF THE STUDIOS.

MISS WHITMORE, of the School of Design, bas completed an excellent crayon portrait of Mr. Robert Knox, Jr., of Allegheny City. The picture is on view at Morrison's, on Sixth

THE landscape exhibited at Boyd's this week by Mr. F. Kaufmann is a much stronger work than the one bearing his name noted in this column a short time ago. In this work there is a really fine glow of light in the sky against which the branches of some trees have been outlined in a very skillful manner. The only part lacking in strength is the immediate fore

seif almost exclusively. The picture in question has been executed in his best manner, and will count one among the many fine works that have become the property of some of our best known citizens during the past twelve months. The subject represents a number of soldiers, fully accountered for service, engaged in scaling a wall, the necessity for caution and silence being plainly evident from their furtive glances and stealthy movements. The scene is located in what appears to be the midst of a picturesque woods with fine old trees, whose varied and graceful foliage forms a splendid background for the figures of the men. With regard to the style of handling, it is unnecessary to say more than that it is in keeping with the artist's reputation. In color, the picture is strikingly rich and harmonious,

Mr. D. B. Walkley has put the finishing A VERY excellent portrait of Mr. William B. Scaife, executed by D. B. Walkley, is shown at Boyd's. This picture will be sure to attract a great deal of interest for the reason that in addition to being a striking likeness it is also a splendidly handled work, if judged solely from a technical standpoint. It is certainly a fine example of a broad, free style of painting com-bined with true life-like coloring and correct touches to another of his last summer's sketches, and has it at present upon exhibition

MR. LE GRAND JOHNSTON has a fondness for painting sheep, and now has at Boyd's a work consisting of a flock of sheep near the work consisting of a flock of sheep near the brow of a hill, the severe outline of which is broken only by a small clump of trees. The sheep are painted with the skill and eleverness for which the artist is becoming noted. The landscape is a subdued effect of brown and gray, beneath a sky reposeful and s-rene, the entire scene being pervaded with an atmos-phere of pastoral peacefulness and quiet. A PHOTOGRAVURE of Abbot Grave's amus ing picture "Music, Literature and Art," has ing picture "Music, Literature and Art," has been recently published and may be seen at the art stores. The work is divided into three sections, in which a comical looking youngster and a cat are the subjects. From the first division it becomes evident that music is evolved from the lungs of a cat as the result of a small boy pinching its tail, while in the second section the boy is busily engaged in arranging some lettered building blocks, with pussy an evidently deeply interested observer. As representing art the boy has seized hold of the cat and is making a more or less successful use of its tail as a paint brush, much to his own satisfaction, regardless of the little animal's preferences.

Mr. John Johnston exhibits a landscape the natural and usual process, required a st Young's which might perhaps be a great period of from three to five years. The deal worse, but which, at the same time, is not deal worse, but which, at the same time, is not all that it ought to be. The subject, a winding stream between gently sloping hills, would be pleasing enough had there been a greater degree of strength put into the handling of the work. The chief fault of the picture is the sameness of color that exists throughout its different parts. Nature's hues are infinite in variety, and it is not safe to paint a tree of a too literal green, even though that be the color which it appears to us, and it is better for the artist to err on the side of variety than that of monotony.

A PAINTING has been on exhibition at Gillespie's for the past few days worth going to

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WEEK MARCH 24.

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ANTONY AND CLEOPATRA. Monday, March 24—The Bennett Brothers' specialty Co. mh16-13 IMPERIAL HALL,

Cor. Seventh avenue and New Grant street, THE IMPERIAL BALL

NEXT THURSDAY NIGHT. Colonel Christy will introduce his new and laughable quadrille, called Punch and Judy, The funniest dance out. Don't fall to see it.

see. It is the work of the famous French artist, Beauquesne, and is the property of a Pittsburg gentleman who acquired it quits recently and has just brought it to the city. Beauquesne is one of the most celebrated painters of military subjects, to which he confines himself almost exclusively. The picture in question has been executed in his best manner, and will count one among the many fine works that have become the property of some of our best known cltizens during the past twelve months. The subject represents a number of soldiers,

important pictures ever shown in the Gillesple gallery occupy its walls at present. Through-out the entire list of works shown there are no names except those of high standing in the art world, and this is not only true, but also that some of the paintings are most notable examples of the work of the great masters. J. worth traveling far to see. Its title is "A Night in the Desert," the subject being a group MR. D. B. WALKLEY has put the finishing of tigers in the foreground of a vast stretch of dreary landscape, over which the stars are shining, "Gulliver Bound by the Lilliputians," at Boyd's. He was unusually successful in his by J. G. Vibert, is a noble work, its innumer work last season in securing studies of rare effects of atmosphere and color, combined with a unique and pleasing style of composition. The subject of this present work is of a very simple character, in spite of the fact that it is quite out of the ordinary run; it is just such a scene as is passed over by the casual observer as possessing little attractiveness, and requires the aid of artistic treatment to bring out its good qualities. That Mr. Walkley has been fully equal to the task is amply proven by the result of his labors which those interested may see and judge of for themselves. The scene is a ground and subject to the task is amply proven by the result of his labors which those interested may see and judge of for themselves. The scene is a ground sudge of for themselves. The scene is a gentle slope, the range of vision is still somewhat limited. At the most distant part of the road may be seen a small clump of dark trees. able small figures being finely drawn and col-

two works by Theodore Roybet, "The Critic," and "The Prize of the Artist Van der Helst," are both fine paintings. "The Piccolo Canal," by Rubens Santoro, a pupil of Rico, though a fine work in many respects, still serves to show how far the master is above his followers. As the works of both master and pupil, of about the same size and very similar in character, are to be viewed almost side by side, the opportunity presented of judging critically of their respective merits is a very fair one. "The Artist Cardinai," by Leo Hermann, could not well be better, while another fine work, consisting of a single figure, is "The Connoiseur," by Glaize. There are a number of paintings more or less fairly representative of deceased artists who have left behind them fame if not fortune, such as Corot, Courbet, Daubigny, Diaz, Troyon, Verschuur and others. THERE can be no question that the most

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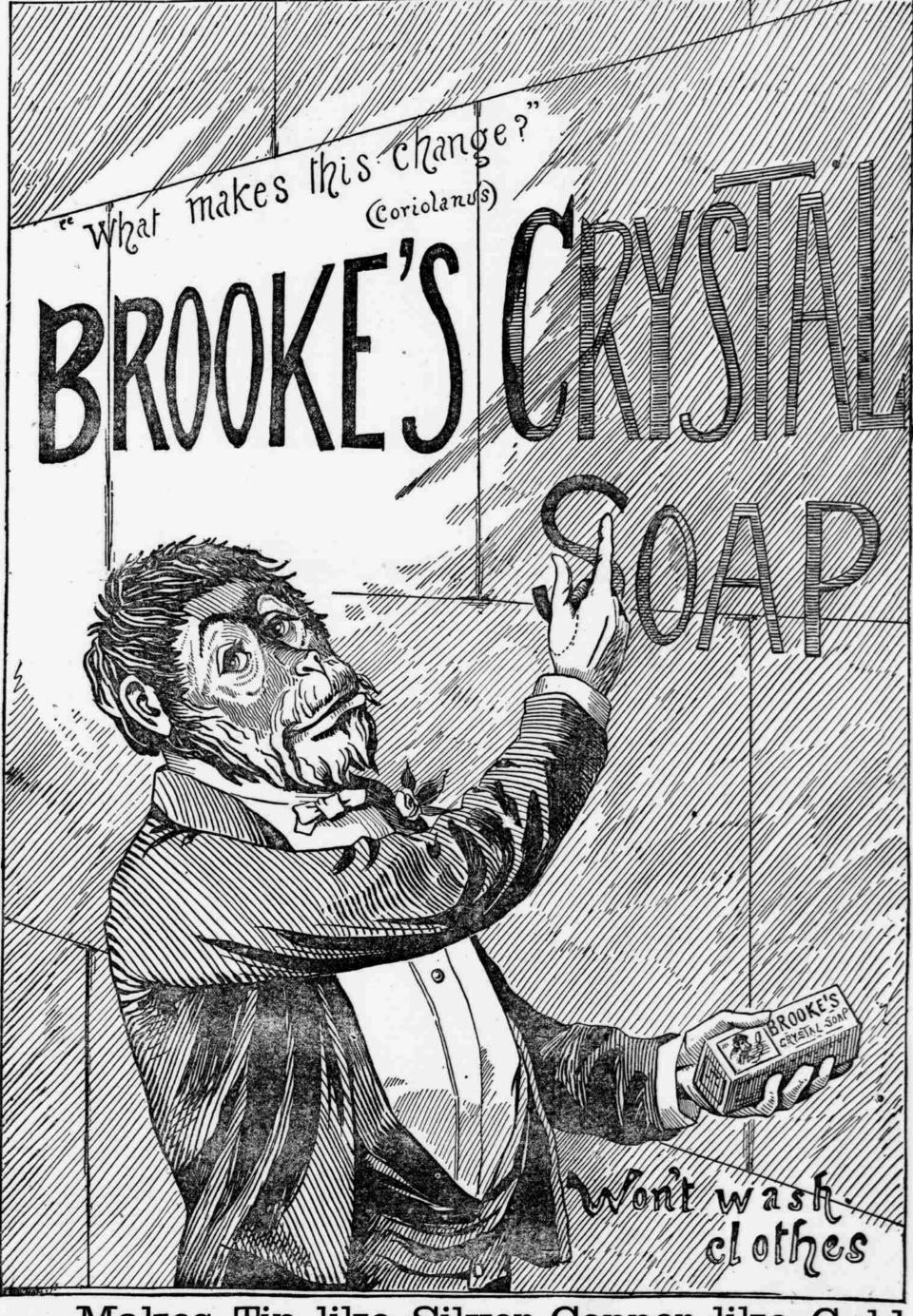
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