

Experiments with Paints.

We have received from John Ewen, Jr., of Williamsburg, L. I., an interesting account and proofs of experiments conducted by him to test the comparative durability of certain pigments, and the vehicles employed with them as applied in house painting. During the last twenty-three years, he has been practically engaged in house and sign painting, and in that period many questions had been asked of him regarding the best paints to use. "To these," he says, "I gave the best answers that a general and superficial observation would warrant; but not being reliably answered, they increased fourfold as the zinc paint came to be generally used. It was at this time (September, 1851) that a method of demonstration suggested itself. I forthwith procured two strips of board, and marked them into compartments, and after numbering them 1, 2, up to 11, I coated them in the following manner:—No. 1 received two coats of white lead mixed with raw linseed oil, and no dryer; the paint was laid off or finished with the brush, stroked up and down. No. 2 received the same coating of material as No. 1, but was finished with the brush passed right and left, crosswise. No. 3 was given two coats of white lead, raw linseed oil, and considerable spirits of turpentine in the first, but only a little in the last coat. No. 4 received two coats of white zinc and raw linseed oil—all mixed with what is called "patent dryer." No. 5 the same as No. 4, but with no patent dryer. No. 6 received a first coat of white lead and Paris white, equal parts, and clear white lead for the last coat, with raw linseed oil as the vehicle. No. 7 was given two coats of white lead, with *boiled* linseed oil. No. 8 three very thin coats of white lead, with raw linseed oil. No. 9 got a very heavy prime coat of white lead, and a very thin second and last coat, with raw linseed oil. No. 10 the reverse of No. 9, namely, a thin prime coat and a heavy finishing one. No. 11 received two coats of Paris white and white lead, equal parts, with raw linseed oil. After this was accomplished, and the paints well dried, the two pieces of board were placed in a position where they were exposed to the weather—its sunshine and its storms—for years."

The following are the results obtained:—"The white lead paints exhibited a decided superiority for durability over the zinc, and the squares finished with the brush up and down in vertical lines are decidedly superior to the one laid with the brush right and left. [This is undoubtedly due to the moisture being allowed to flow down more freely than in the square finished with the brush run transversely, which left small cross ridges of the paint.] No. 9, which received a very heavy prime coat, is white and chalky; No. 10 is darker in color, but not so chalky; No. 11 is superior to the two preceding numbers. Of all the squares, however, No. 7, consisting of two coats of white lead, with boiled linseed oil, is by far the best—the smoothest and closest."

Mr. Ewen has left the boards with us, and the apparent results are such as have been stated. The experiments are valuable, because they afford positive data regarding paints, and the manner of applying them to the outside of buildings, so as to obtain the best effects. The coating of white lead, with raw linseed oil and a little spirits of turpentine, looks well, and strikes us favorably. Raw linseed oil, in white lead, without turpentine, imparts a greasy appearance to white paint when first put on; a little turpentine, therefore, improves its appearance, but care must be exercised not to add too much, because when in excess, it imparts a saponaceous character to the paint, which makes it become chalky, and scales off rapidly by exposure to rains and winds.

Selling Coal by Weight.

MESSRS. EDITORS.—For many years our law-makers have endeavored, by various enactments, to secure accurate weight to the purchasers of coal and other articles. A bill is now before our Legislature, the provisions

of which will compel the coal-dealers of this city to weigh every load of coal at the door of the consumer. This will involve the necessity of portable scales, or scales attached to every coal cart. The retail coal trade of this city alone is estimated at half a million of tons per annum. Were only the nominal tax of five cents per ton exacted from the above business, for the use of a suitable self-weighing cart, it would secure to the fortunate inventor the comfortable sum of \$25,000 per annum.

Should the bill before our Legislature be adopted, it will, doubtless, be but initiative to laws of a like character in other States having such large coal-consuming cities as New York, Boston, Philadelphia, &c.

Who will be the first, among your host of ingenious readers, to furnish us with an accurate, simple, and durable self-weighing cart?

A COAL DEALER.

Philadelphia, Pa., February, 1858.

[By referring to No. 17, Vol. XII, of the SCIENTIFIC AMERICAN, our correspondent will find "an accurate, simple, and durable self-weighing coal cart," patented by one of his own townsmen.—Eds.]

Encouragement to Old Folks at Home.

A short time ago, the *London Times* gave an account of an old lady more than eighty years of age who had cut her third set of teeth, and her features, it is said, have now the juvenescence of thirty years. Many such facts could be collected. We are therefore bound, perhaps, to give credence to certain good authorities when they assert that such natural changes have occurred in the entire body, that the powers of youth have been restored to persons with whom they have been familiar. "Velescus de Taranta (let us by all means cite authorities) relates that there was an abbess in the nunnery at Monviedra, who reached the great age of a hundred years, and was then very infirm; but the lost powers of nature unexpectedly came back to her. Black hairs sprouted from her head, and the white hairs were thrown off; all the teeth returned into her mouth; wrinkles were lost from her face; her bosom swelled, and she became at last as fresh and lovely as she had been at the age of thirty. Many flocked to see this marvel, and no doubt paid for the privilege; but the abbess did not readily suffer herself to be seen, for she was ashamed (she said) of the recollections that her restored beauty awakened."

It is also asserted that there are means in nature of restoring youth. In *Household Words*, it is said, that there is a fountain in the Island of Bonica which restores youth to those who drink its waters. Certain of the inferior animals are also acquainted with herbs that restore youth to them; the stag recovers it by eating snakes, and the snakes recover it by eating fennel. Italian ladies used to eat snake-meat, in order to retain their freshness and youth. Johnston, in his *Chemistry of Common Life*, says—"Before a Circassian beauty is sent to the seraglio at Constantinople, she eats about an ounce of a very choice and peculiar description of manna (the Sinai manna), every day for eight or ten weeks. This has the effect of imparting *embonpoint*—or rather, of beautifully rounding all the angles of the human frame; and without the least exaggeration the result is a form as beautiful as a living Venus de Medicis. This manna is also much esteemed in Syria as a remedy for affections of the chest." Roast hare is also said to be a great preserver of beauty.

Several well-authenticated instances are likewise recorded of rapid change in the color of the hair. By an inscription on a tombstone at Breslau, it appears that one John Montanus, who was a dean there, recovered the color of his hair three times. It is next to impossible to deny the great age of the patriarchs—of Methuselah, of Cainan, and of Enos. That they passed into age at the ordinary period of life familiar to us, and then continued with the same appearance of age and decrepitude for the remainder of their

days, is not probable; far more reasonable is it to suppose that they recovered their youthful powers at certain periods, like a plant that putteth on youth every spring. In our "seventh age" we not unfrequently again become "childish." Does it therefore appear incredible or impossible than man may occasionally, after his threescore years and ten, again exhibit the powers and physical qualities of youth? SEPTIMUS PIESSE.

Re-pointing Gold Pens.

MESSRS. EDITORS.—In the number of the SCIENTIFIC AMERICAN dated the 13th inst., you state, in answer to a correspondent, that gold pens cannot be re-pointed; and you give as a reason, that in soldering on the point, the elasticity of the gold is destroyed by the heat. Hitherto this has been the case, but by recent discoveries and a series of experiments, I have surmounted all difficulties in re-pointing gold pens. It is true that heat destroys the elasticity of the gold, but I put on the point, re-produce the elasticity, and make the pen equal to new at a trifling expense.

L. H. MARTIN.

New York, February, 1858.

[We have seen the fruits of our correspondent's discovery, in a re-pointed gold pen, which, in every respect, is as good as when first made. The discovery is a very useful one indeed, as the gold pen business is now a considerable institution in our country.—Eds.]

The Vibrations of Dams Settled.

At a recent meeting of the Boston Society of Natural History, as reported in the *Traveler*, Wm. Edwards, of South Natick, Mass., read a paper on the above subject, which effectually disposed of air behind the falling sheet of water, as some have supposed, being the cause of these vibrations. During the month of December, he made experiments on the dam at South Natick, where the vibrations are sometimes very violent. He erected a short flash-board on the top of the dam, at the one side, so that he could walk dry behind the sheet of falling water. Having been a believer in the theory of air causing the vibrations, he expected to find a violent wind under the sheet, but behold it was so calm that a feather descended as quietly as in a room, and the flame of a lamp was scarcely ruffled. He found the water as it fell to assume the spheroidal form, as before set forth in our columns, thus causing the vibrations.

The Texas Grasshoppers turned Cannibals.

The *Gonzales (Texas) Inquirer* says: "The grasshoppers, having about completed the work of destruction to vegetation, have, cannibal-like, fallen to work devouring each other; at least, they seem to be dying off very fast, and wherever there is a dead one there are half-a-dozen live ones around it, eating it up."

It is thus that there is a limit placed by natural laws to restrain the ravages of these insects, otherwise they would increase in such numbers as to threaten the destruction of the human species, by destroying all the vegetation necessary for man's sustenance.

Recent Patented Improvements.

The following inventions have been patented this week, as will be found by referring to our List of Claims on another page:—

STRAINING SAWS.—In this invention the saw is connected by a pitman at the top and bottom to crank pulleys, so that the strain is equal at all parts of the stroke. Saws arranged in this manner may be put up at a moderate cost, and their parts are not liable to become deranged by wear; very little friction is produced by the operation, and the principle is equally applicable to large or small saws. It is the invention of G. P. Ketcham, Jr., of Bloomington, Ind.

ROLLER COTTON GIN.—This invention consists in the employment of two rollers grooved circumferentially and fitted together in the same plane, so that the projecting flanches of each roller will work in the grooves of its fellow or adjoining roller, whereby many advantages are obtained. It is the invention of

Lewis J. Chichester, of New York, who has assigned it to H. G. Evans, S. Barstow, and D. L. Winteringham, of the same place.

FLOUR BOLT.—S. G. McMurtry, of Memphis, Tenn., has invented an improved flour bolt, which has for its object the keeping of the meal at a proper temperature while being bolted, in order that it may be rapidly and perfectly bolted, and the bolt prevented from becoming clogged. This is effected by the employment of a fan in connection with spouts and a bolt, so that the fan blows the flour through the bolt, and the different qualities catch on ledges and pass out through the spouts.

GRINDING MILLS.—Thomas E. Little, of Janesville, Wis., has invented an improvement in grinding mills, the object of which is to keep an unobstructed space all around the inner or upper stone, between it and the curb, so that the meal will be allowed to escape freely from between the stones, and the process of grinding will be expedited and the meal be kept in a much cooler state than in the ordinary mills. The invention consists in having a series of scrapers attached to a rotating head placed on the curb, the scrapers being fitted in the space between the curb and runner, and as they pass around within the space, clearing or scraping the ground meal, as it escapes between the stones into the discharge pipe. This is a most useful and practical invention, and is a valuable addition to all kinds of millstones.

The following inventions were patented last week, but were omitted for want of space:—

PLANING AWAY ICE IN RIVERS.—This invention provides an auxiliary attachment to steamboats, &c., which will enable them not only to remove the ice out of their track, but also pulverize or reduce it to such a state that it will rapidly dissolve into water, and thus not be capable of falling back into their path or track, and of blocking up the same before they have a chance to make their return trips. We regard this as a good contrivance and worthy of attention. It is the invention of R. W. Heywood, of Baltimore, Md., and was patented Jan. 26, 1858.

COTTON PRESS.—This invention renders the jack-screw press capable of pressing upwards, and thus affords greater convenience, as the pressing-box can be situated in the picking or ginning room, and the time and labor of transporting the cotton down to the bottom of the press are saved. It also simplifies the press so that negroes can superintend its management, renders the follower self-lowering, and lessens the weight of the rack bar, which carries the follower, without impairing its strength at the point where the greatest strain comes upon it. The press, as a whole, presents the perfection of simplicity and utility. It is the invention of Judge J. W. Bocage, of Pine Bluff, Arkansas, and was patented Feb. 2, 1858.

METAL TIPS TO BOOTS AND SHOES.—The saving in shoe leather which the small metallic tip on the toe of a boot or shoe effects is very great, and the invention is one of practical utility. Children are remarkably fond of kicking out the toes of their little shoes, thus rendering them useless and making it necessary that another pair should be procured, although no other part of the former pair is injured. By the use of these tips, which may be made of silver, copper, iron or any other malleable metal, the boot or shoe may be worn until it is really "done up," and they are so secured that so long as any portion of the sole remains, the tip will be held fast. They do not increase the weight of the shoe above half an ounce or an ounce. It is the invention of G. A. Mitchell, of Turner, Me., and was patented on the 5th of January last. Economically speaking, there is no doubt of its value, as one pair of boots or shoes—men's, ladies' or children's—can be made to last nearly twice the time they would without the tips.