Scientific Museum.

For the Scientific American.

To Remove Paint from Clothes.

Many persons by misfortune get paint on their clothes, and from the want of proper knowledge to remove it, their clothes are spoiled for all decent purposes. This is a great loss especially when fine clothes are spotted or daubed with paint. Many fine and excellent coats have, to our knowledge, been laid aside for common purposes, because of a few spots of paint. Paint can be very easily removed from woolen clothes, although it may be quite hardened. The way to do this is to pour some alcohol on the cloth, saturating the paint, and after it has remained on it for about ten minutes, pour on a little more, and then rub the cloth with the paint spots between the fingers. This cracks up and breaks the paint from the surface, after which a piece of clean sponge dipped in the alcohol, should be rubbed on the cloth, with the grain. Paint can be taken out of silk in the same way, only it is best to steep the part of the silk with the paint on it, in a cup containing the alcohol; and it will not do to rub the silk between the fingers, for fear of breaking and creasing its surface. This is true, as it respects lute string or any hard surfaced silk, but figured soft silk, may be gently rubbed. The way to treat the painted silk, is this, after it has been steeped for about 15 minutes, then it should be spread out on a board, and rubbed along the grain with the selvage, by a sponge dipped in the alcohol. This seldom fails to remove all paint. Some use camphene for removing paint, but alcohol is more cleanly. Black paint on a white surface, or even on any delicately colored surface, always leaves a stain, although the paint, itself, strictly speaking, may be removed. It is much easier to clean a white surface, than one of a light color, like French grey, lilac, pink, &c. For cleaning light colored cloths from paint, use only a clean sponge, or if a sponge is not handy, use a piece of clean white flannel.

All the ethers are very effective, in removing paint, also grease spots, but fish oil always leaves a stain, and is exceedingly difficult to remove. There are some who use colored oils for the hair, these always make a bad stain, especially those of a red color. The reason of this is that madder is used to color them, and this is a very permanent dye drug. The best substance for removing paint, grease, &c., from all kinds of clothes, those of the darkest and lightest colors, is that beautiful ether discovered by Prof. Simpson, in Scotland, a few years ago, and by Mr. Guthrie, of America, a few years before, unknown to the Doctor,—we mean chloroform. It is employed in the same manner as the alcohol, only care must be taken to work it more rapidly, as it is more volatile, and care must also be exercised so as not to inhale it. No one should use it but careful persons of mature years: it is of too high a price to be used in general, and young people, in no case, should be allowed to tamper with it.

After what has been said about the removal of paint and grease, no person need be much frightened at a paint stain on a fine cloth coat, but, at best, let us be candid and say, that upon silk it is not possible to remove the paint and leave the silk as it was before being injured. Prevention, in all cases, is better than cure, but misfortunes will take place and seldom come singly, therefore the above will be found useful and of great benefit to many.

George Hudson the Railway King.

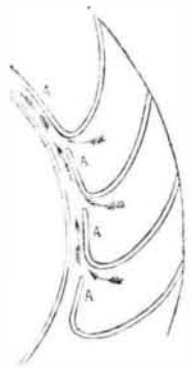
The only monarch, says an English journal, who, in spite of his dethronement, seems likely to regain his crown and his influence, is the over-praised and over-abused ex-King George Hudson. Having by the recent rise in Railway shares acquired an additional half-million of *tin*, and having never for one hour lost any of his *brass*, he is again coming into favor with the worshippers of Mammon, whose name is Legion, and will be by no means short of guests and flatterers at his approaching "Ball in High Life," at his very tall mansion at Albert Gate, Hyde Park. His career has been almost a justification of the worldly wisdom of that respectable parent, whose advice to his son was, "Get money—honestly if you can—but get money."

For the Scientific American.

Hydraulics.

(Continued from page 232.)

Fig. 42.



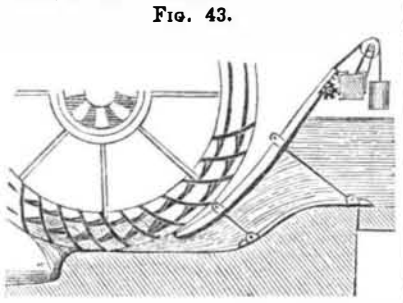
Breast Wheel with Close Sole and Ventilated Buckets.—This wheel is adapted for heights not exceeding 18 or 20 feet, and where it is subjected to back water. Every wheel of this kind should have capacity in the buckets to receive a sufficient quantity of water to force the wheel at full speed through a depth of five or six feet of backwater.

A wheel of this kind was erected, of one hundred horse power, for a flax mill at Whitehaven, England, about four years ago. It was 20 feet in diameter, 22 feet wide inside of the buckets, and 22 inches deep on the shroud. It had a close rivetted sole with buckets ventilated from one to the other as shown in fig. 42. The water is discharged upon the wheel by a circular shuttle lowered by a governor, as circumstances may require. The tail end of the buckets, A A A, are turned up at a distance of two inches from the back of the sole plate, and terminated within two inches from the bend of the upper bucket. The water in passing through the opening between the buckets drives the air before it in the direction of the arrows, into the buckets above, and so on in succession till each bucket is filled as it passes the aperture of the cistern from which the water flows upon the wheel. The buckets are thus cleared of air, the water is discharged with facility, and the air is again admitted at the bottom of the fall.

The wheels with ventilated buckets have received the strongest commendations from those who have used them. The ventilated wheels are more expensive than those which are not so essential for very high falls. It is important to carry the water down as near to the verticalcentre as possible, so as to get the best effect from it, and yet begin to part with it as soon as that line is passed.

Poncelet Wheels.—The accompanying fig. 43 is a wheel that was built at Loubregat, in Italy, by M. De Bergue.

Fig. 43.



The diameter was sixteen feet eight inches, and the width was thirty feet, which, with a fall of six feet six inches, passed one hundred and twenty thousand cubic feet of water per minute, when the periphery travelled at a velocity of eleven to twenty feet per second. An ordinary breast-wheel would require to be ninety feet wide to use advantageously that quantity of water. It is found that the velocity of the periphery should be about fifty-five per cent. of that of the water flowing through the sluice, and upon these data the power of the wheel would be about one hundred and eighty horse power. The buckets were of curved form, and made of wrought-iron, one-eighth of an inch thick; and it would be observed, that there was a larger number of buckets than usual, and that the water came upon them at a tangent, through an orifice of of such a form and dimensions, as to allow the buckets to fill easily, at the rapid speed at which the periphery passed before the sluice. This great primary velocity was very important, as it caused a considerable saving in the gearing of the mill. The main shaft was formed by a hollow cylinder of cast-iron, four feet six inches diameter, in short lengths bolted together. The strain was brought entirely upon the main shaft, and the weight of the wheel was thus reduced to about thirty tons, which was very little for so powerful a machine. The sluice was formed of cast-iron plates, with planed joints, bolted through the flanches, to form one large shuttle, of the breadth of the wheel, and its motion was regulated by radial tie-rods, between the stone-apron and the back of the sluice, which could thus be raised with great facility by racks and pinions, and be regulated by the ordinary governor, the weight of the sluice being in a great degree supported by the water flowing beneath it on to the wheel. It moved very accurately between the side-walls of the pen-trough, and cup-leathers at each side prevented any waste of water. This kind of wheel was less affected by back-water than any other form, and the water acted upon it with its full power of velocity, without any impediment from the air in entering, as there was no sole-plate; the buckets were therefore filled and emptied with great facility. For low falls under 8 feet, this wheel is allowed to be very excellent.

Scientific Memoranda.

Velocity of Sound Over Wire.—Some experiments in regard to the velocity with which sound is communicated by means of iron wire, have just been reported to the Paris Academy of Sciences. The experiments were made upon the wires of the electric telegraph established along the Versailles railroad on the right bank of the Seine. The result was that sound is propagated over wire at the rate of 11,434 feet the second.

Curious Discovery of an Old Mine.—Near Wislock, in Baden, a large mine has lately been discovered, which it is supposed has not been worked for a thousand years, and then by the Romans, who sought only for silver and lead, and left everything else. The mine is said to contain some fifty thousand tons of oxide of zinc, used in the manufacture of zinc paint.

Giant Cotton Stalk.—The Montgomery (Alabama) Journal says: "We were shown a few days since by Mr. Coxe, one of the delegates from this quarter to the World's Fair in London, a section of an immense cotton stalk, which he will take with him as a specimen of the plant as it grows in the rich prairie bottoms of Alabama. The plant was twenty feet in height and bore one thousand bolls. It was grown on the plantation of Mr. P. A. Wray, of this county. Mr. Coke and brother will leave at an early period for Europe."

Poisonous Vessels.—Vessels of copper often give rise to poisoning. Though the metal undergoes but little change in a dry atmosphere, it is rusted if moisture be present, and its surface becomes covered with a green substance—carbonate of the protoxide of copper, a poisonous compound. It has sometimes happened, that a mother has, for want of knowledge, poisoned her family. Sour krout, when permitted to stand some time in a copper vessel, has produced death in a few hours. Cooks sometimes permit pickles to remain in copper vessels, that they may acquire a rich green color, which they do by absorbing poison.

Steam Communication.—The firm of Campbell & Arnott, of Liverpool, are building a line of screw steamers, to run between that city and Chagres. They have already established a house at Panama, and will forward goods, &c., to the Pacific by the American steamers running to San Francisco.

Curious Fact in Regard to Cotton.—Many years ago, the senior editor of this paper was informed by his venerable and hereditary friend, Samuel Maverick, Esq., of Pendleton, that when a boy, as clerk in the house of his uncle, Mr. Wm. Turpin, of Charleston, he assisted in packing the first bag of cotton ever sent to Liverpool from the United States. Mr. Maverick is still living, and we now export some two millions of bags of cotton every year. The cotton packed by Mr. Maverick was put up in the seed. This was long before Whitney's invention of the cotton gin. The consignee of this lone bag of cotton informed the house of Wadsworth & Turpin that he could not sell it, that it was valueless, and advised them to send no more. How little this faithful factor saw into futurity!—Southern Patriot.

The Thames Tunnel Company report that the receipts from this stupendous work are gradually increasing. The Tunnel has been converted into picture galleries. Each panel contains a view like that of the Southampton Water, the Isle of Wight, etc., etc.

LITERARY NOTICES.

General Theory of Bridge Construction.—This is a new work, by Herman Haupt, A. M., published by D. Appleton & Co., Broadway. It is devoted to an explanation of the general principles of the architecture of bridges. It is the fruit of a series of experiments on models, and of the examination of various structures in different parts of the country, especially in the State of Pennsylvania. In the opinion of the author, many serious defects exist in several important structures, that have escaped the observation of practical builders. He claims for his volume the merit of originality, all the propositions having been proved by entirely new demonstrations. The author is a C. E., and General Superintendant of the Pennsylvania Railroad. He has divided his work into two parts, the last one of which embraces much that is new and of the greatest consequence to engineers. The errors of other authors are pointed out, and the theoretical and practical are judiciously blended together. It is well illustrated and well printed. Both author and publisher deserve praise for the production of such a book. It is a valuable acquisition to the scientific works of our country, as it treats especially upon those bridges peculiar to America.

Iconographic Encyclopedia.—Part 18 of this useful and beautiful work is now published and ready for sale by Mr. Rudolph Garrigue, No. 2 Barclay st., N. Y. It contains plates 433 to 512: the illustrations are those of architecture. The engravings are very fine; they represent the different styles and the progress of the art, from the rude wigwam to the finished Parthenon. The Architecture of Egypt, India, and Greece, is beautifully illustrated. There are also some fine views of nautical machinery.

The American Keystone is the title of a new journal just commenced by Messrs. Callicot & Webster, 142 Nassau st., this city. It is devoted to the interests of freemasonry, but aside from this it contains a choice collection of literature and news. Terms, $2.

Nos. 34 and 36, Boston Edition of Shakspeare's Dramatic Works, are now issued; they embrace "King Lear," and "Romeo and Juliet." Two more numbers complete this elegant edition. Dewitt & Davenport, N. Y., agents.