Scientific American.



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Steam Cultivation.

Among the tolerably promising devices for plowing or loosening the earth by steam power should be mentioned a steam spading machine, recently patented by G. M. Ramsay, of this city. It is a locomotive with a series of spades behind, to operate in such a manner as to propel the wagon ahead, like the stern wheel to a shallow river steamer, and at the same time to pulverize the soil to any desired depth. The spades are worked by two cranked shafts, which latter are mounted one above the other in an adjustable frame. Dr. Ramsay is now seeking for a capitalist to assist him in bringing it out.

Falconer's Hose Coupling.

With the hose couplings now in use, great difficulty is encountered in effecting a junction or coupling while the water is flowing through the hose; and in the cases where a head of water, force pumps, or fire engines are employed to force the water, the supply must be shut off above the break in the line of hose. The screw coupling now generally used by the fire departments is also objectionable for other reasons, it requires considerable time to "set it up," and complete the joint.

The coupling represented in the accompanying figures has been used by the Perseverance fire company, of Washington, D. C. since April, 1855; and it has been found, by actual experiment, that there is no necessity for shutting off the water, and that the union can be effected with the water flowing, no matter how forcibly. The joint is set up and made tight by a single blow from a mallet, and it may be broken or separated with equal facility.

The halves of the coupling are held together by a species of dovetail, and the joining and separating is similar to the motion of an ordinary draw slide. The parts are made a very little tapering or wedging, so that the faces are drawn together very tightly, and a ring of leather or rubber allowed to project from the face of the female part, makes a perfectly tight contact with the plane face of the other part.

Fig. 1 shows the female, and Fig. 2 the male parts of a coupling. A is the hose and B the metallic neck, in each ; C is the dovetail, and D D the stout, lipped flanches on the other part which embrace C. E is the pro-



The new coupling makes a tighter joint choke from grit or ice, costs considerably less by manual labor. This was a work of time very extensively operated.

in the manufacture, and presents a much determined the issue of an extensive conflaneater appearance than the screw coupling. gration. But its great advantage at fires is the saving of time. Time is all important at a fire, and by R. J. Falconer, of Washington, D. C. For the loss of five or ten minutes in connecting further information or for rights, address

This coupling was patented June 9th, 1853,

with screw couplings undoubtedly has often Prof. Chas. G. Page, of Washington, D. C.

SCIENCE OF COMMON TH INCE-A familiar explanation of the first principles of physical science, for young su-dents. By David A Wells. A. M.; Ivison & Phinnsy, New York, 1837, 12 mo., 324 pp. A great objection to works of this kind is that they are necessarily too concise to convey scientific knowledge. Brief generalizations of truth are frequently m st prolific fountains of error in the natural sciences. Haying said this we are free to add that after careful examination we unhesitatingly pro-nounce inis the best book in its line which has ever yet appeared. It is almostinvariably clear and correct, and interlards the exposition of principles with many valu-able facts relating to each of the subjects treated on.

Literary Notices.

able facts felating to each of the subjects treated on. THE ECLECTIC MAGAZINE, for August, contains a fine engraving and likeness of Agassiz, the most aminent na-turalist now living, accompanied with a brief biography, It has also an able article from the *Westminsster Review* on "Progress, its Law and Cause," besides others of solid interest. We are happy to learn from the editor that the *Eclectic* is in a prosperous state. It well deserves success, as it is asterling magazine, and should have a circulation equal to its character and value. W. H. Eidwell, Publisher, No. 5 Beekman street.

A MANUAL OF ASTRONOMY AND THE USE OF THE GLOBES. By Henry Kidder, A. M. Ivison & Phinney, New York, 1867; 12mo., 171 pp. This is a school-book on a science which is very sublime and ennobling, but is practically useless to those for whom this book is intend-d. The first four pages are ordinary valuable defini-tions of geometrical terms-the remainder is dry, and far inferior either in correctness or attractive character to many other astronomical books.



To Mechanics, Manufacturers, Inventors, and Farmers.

In announcing the Thirteenth Annual Volume of the SCIENTIFIC AMERICAN, which commences on the 12th of September, the Editors and Publishers embrace this opportunity to thank their numerous friends and subscribers for the encouraging and very liberal support heretofore extended to their journal, and they would again re-assure their patrons of the determination to render the SCIENTIFIC AMERICAN more and more useful, and more and more worthy of their continued confidence and good will. The undersigned point to the past as a guarantee of their disposition to always deal justly and discriminatingly with all subjects of a Scientific and Mechanical character which come within their legitimate purview.

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Specimen copies will be sent gratis to any part of the country. .MUNN & CO., Publishers and Patent Agents,

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MEYERS' SEEDING MACHINE.

L. B. and H. A. Meyer, of Massillon, Ohio, | spouts which serve the double purpose of are theinventors and patentees of the machine seen in the accompanying engravings. It is | ing a passage for the seed to the bottom adapted to the planting of seed alone, or to thereof. In other points the machine is fitted the depositing of any fine fertilizer therewith. | up like other of the most approved machines Provision is made for depositing in drills, or for this purpose, and every provision is made scattering broadcast at pleasure.

The seed or fertilizer is measured off and deposited by the working of double pistons, through holes in the bottom of the seed box and at each movement an amount of seed equal to the space inclosed between the pistons is allowed to descend through tubes. In case it is desired to plant it in drills, it is let down through flexible spouts into the drill, but in scattering broadcast, it is thrown upon conical defiectors, and allowed to scatter as much as possible.

Fig. 1 is a perspective view of the whole machine, and figs. 2 and 3 are sections of the bottom of the seed box, showing the pistons first in their highest and second in their lowest positions.

A is the frame of the machine; B the seed box, and B' the cover; C C are carrying wheels; D is an internal gear on one of the wheels, and S a pinion meshing therein; F is a cranked axle on which E is fixed; G' are 'spade handles" on the upper ends of the piston rods, G; H are short feed cylinders secured in the bottom of the seed box, B; I represents the lower pistons, and J set screws by which they may be secured at a higher or lower position on the piston rods, G ; K represents the upper pistons which are merely disks of leather or rubber, and L the discharge trough through which and the flexible spout,

Harding, the managing partner in the Beeston Manor Iron Works, Leeds, has taken out the stone to the air, it is enclosed in a struca patent for an improved method of freeing iron and other metalic ores from the rock and shale in which they are generally imbedded. As those who are familiar with the iron trade are aware, it is necessary to remove this extraneous rubbish before the ore is sent to the blast furnace, and hitherto the mode of accomplishing this has been by exposure to the by some of the leading men connected with air, by which the rock and shale was loosened, the iron trade in the district, who are satisfied than the screw coupling, is not so liable to after which it was chipped or "napped" off of its value and efficiency; and it may yet be

and involved considerable cost and the obj The Liverpool Courier announces that John of Mr. Harding's patent is to diminish both the one and the other. Instead of exposing ture for the purpose, and subjected to the action of steam, which effects in a few hours that which often, under the ordinary method, takes months or years to accomplish, the shale and rock falling off of themselves, and rendering almost unnecessary manual labor for "napping." The invention has been seen

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Fig. 2 Fig. 3

excavating the drills or channels, and provid-

H KI

against derangement, and for combining great strength and durability with lightness and ease of working.

This machine was patented on the 3d of March last. For further information address M, the seed is allowed to descend at each either L. B. Meyers or H. A. Meyers, Massilrevolution of the shaft, F; N N are digging lon, Obio.