## Stience mid Axt.

## 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. Ramay is now seeking for a cepitalist 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 ther 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 o 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 $\mathbf{C} . \mathrm{E}$ is the pro-

jecting collar of packing material or the hose itself, which fits tightly against the face of C and F F on each part are simply projections to receive the blows of the mallet or hammer two or three of which only are required at any time to effect a junction or separation even if the water is flowing very rapidly through the hose.
The new coupling makes a tighter joint than the screw coupling, is not so liable to
in the manufacture, and presents a much determined the issan of an oxtensive conflaneater appearance than the screw coupling. gration. But its great advantage at fires is the saving This coupling was patented June 9th, 1853, 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 with screw couplings undoubtedly has often Prof. Chas. G. Page, of Washington, D. C.

## MEYERS' SEEDING MACHINE.

Fig. 1.

L. B. and H. A. Meyer, of Massillon, Ohio, spouts which serve the double purpose of re theinventors and patentees of the machine excavating the drills or channels, and providseen 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. uplike other of the most approved machines Provision is made for depositing in drills, or cattering 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 qual 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 deflectors, 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 $\mathrm{B}^{\prime}$ 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, $M$, the seed is allowed to descend at each revolution of the shaft, F;NN are digging $\begin{aligned} & \text { Ion, } \mathrm{Obi} .\end{aligned}$

## Something New in the Iron Trade.

Something New in the Iron Trade.
The Liverpool Courier announces that John Harding, the managing partner in the Beeston Manor Iron Works, Leeds, has taken out a patent for an improved method of freeing ron 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 air, by which the rock and shale was loosened, by manual labor. This was a work of time

against derangement, and for combining great strength and durability with lightness and ease of working.
This machine was patented on the 3d of arch last. For further information address ther L. B. Meyers or H. A. Meyers, Massil
and involved considerable cost, and the object of Mr. Harding's patent is to diminish both the one and the other. Instead of exposing the stone to the air, it is enclosed in a structure 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 by some of the leading men connected with the iron trade in the district, who are satisfled of its value and efficiency; and it may yet b very extensivaly operated.

Scirnct of
Ltherary Noticen




 Thr Eclectic Magazine, for August, containsa fine






 inforior either in correctness or
many other astronomical books.


OF TH
SCIENTIFIC AMERICAN.
VOLUME THIRTEEN.

## To Mechanics, Manufacturers,

 Inventors, and Farmers.In announcing the Thirteenth $\Delta$ nnual Volume of the Scientific Anerican, which commences on the 12th of Septembor, the Editors and Publighers embrace this opportunity to thank their numerous friends and subcribers for the oncouraging and very liberal support heratofore extended to their journal, and they would ugain re-assure their patrons of the determination to ender the Soirintifio $\Delta$ mirrions more and more seful, and more and more worthy of their continued confidence and good will. The undersigned point to the pat as a guarantee of their disposition to always deal ustly and discriminatingly with all subjects of a Scien iffc and Mechanic
Havine purviow. Eaving ond no Soizitirio Americar pribors, the Put ONE THOUSAND FIVE HUNDRED DO

## CASH PREMIUMS

or the fiteon largest lists of subscribers sent in by the
lst of January. I868: raid promiums to be distributed a 1st of Janu
follows -
For th

For the largest List
For the 2nd largest List
For the 3rd largest List
For the 4 th largest List
For the sth largest List
For the sth largest List
For the bih largest List
Fox the 7th largest List
For the 8th largest List
For the oth largeot List
For the Ilth largest List
For the 12th largest List
For the 13th largest List
For the 14th largest List
For the 15 th largest List
Names of subscriber
$\quad-\quad . \quad 20$
20 and from difforent Post Offices. The cash will be paid to the orders of the successful competitors, immediatey aftarthe 1st of January, 1858.
Southern, Western, and Canada money will be taken remit Twenty-six cents extra on each year's subscrip. ion to pre-pay postage.
TERNS OF SUBSCRIPTION-Two Dollazs a Year, One Dollar for Sir Montha
CLUB RATES.-Five Copies, for Six Months, sti: Five Copies, for Twelve Months, 88 ; Ton Copies, for Six
Months, $\$ 8$; Ten Copies for Twelve Months, 815 ; Twenty Copies, for Twelve Months, $\$ 28$.
For all Clubs of Twenty and over, the yearly subscrip ion is only $\$ 1 \cdot 40$.
The new vol
with new type.
The general
The general character of the Scientifio $\Delta$ mebrions orted to the promulgation of information re chiefy de rarious Mechunical and Chemical Arts, relating to th Agriculture, Palents, Inventions, Engineering, Mill
Work, and all interests which the light of Practical Science is calculated to advance. It is issued weekly, in orm for bindingi it contains annually from 500 to 600 finely oxecuted Engravings, andNoticesof American and Euro pean Improvements, together with an Official List of
American Patent Claims published weekly in advance of all other papers.
It is the aim of the Editors of the Sciristiric $\Delta$ aneri oAs to present all subjects discussed in its columns in z practical and popular form. They will also endeavor to maintain a candid fearlessnoss in combating and ex-
posing false theories and practices in Scientific and M chanical matters, and thus preserve the character of chancal maters, and thus preserve the character or
the Scientiryo Amintican as a reliable Encyclopedia of Useffl and Entertaining Knowledge.
15 Specimen copies will be sent gratis to any part of
ar
$\cdot \mathrm{MUN}$.
Publishors and Patent $A$ gents,
o. 122 Fulton atreat, Now York

