RECENTLY PATENTED INVENTIONs. Engineering.
Boiler Feeder.-Augusto S. y Bar on, Corunns, Spain. A float in a regulator connected toates a valve to interrapt the connection between the the feed water being connected with the boiler and th the feed water being connected with the boiler and the to be antomatically closed by the redaction of pressure in the filling receptacle and in the regolator when the admission of steam to the latter ceasee. The whole ap
paratus is of simple and durable construction, and is ar ranged to measure and regula te the quantity of water to

Furnace Tap.-Edward P. Mathew , Pueblo, Col. This invention provides an improve ment on a former patented invention of the same in-
ventor, the improved tap being readily applicable to any furnace now in use, and being so arranged as to prevent any undue chilling of the matte. The tap has a casing in commonication at its rear open end with the interior of the furnace, the front of the casing having an inward below the bottom edge of the water-cooled bosh, a clean ing hole being also located above the extension at the front, and

Stuffing Box.-George H. Hitchcock, Danville, Il . The steam pressare is, according to this invention, made to insure a steam-tight joint between an on rod aperture is of greater diameter than the rod, an has a coonterbore in the base of which are held two ex pansible rings of greater internal diameter than the piston rod, and having beveled engaging sarraces, the ower elge of the onter ring being exposed to the the staffing box is secured to the cyli der head with it lower end closing the apper end of the steam spac formed by the ringe.
Center Seal of Gas Purifier.John Hearne, Boston, Mase. This invention provides a capacity to connect with any neceseary number of parif ers. It has a gas inlet and outlet arranged in such manner that the gas may flow onobstractedly through the seal, and has a number of sapplemental and easily operated valves by which the gas may be directed to any desired nomber of parifiers, or may be cat off from one or all of them withont interfering with its flow
through the seal, enabling the operation of purifying to be carried on through some of the parifiers when the be carried on hroagh some of the parife

## Electrical

Armature. - Joseph J. Smith and George W. Findlater, Jamaica, N. Y. A central ring ha radially artending arms carrying circnmferential bands, one of the bands having an end flange, while a eeries of removable bobbinsis the bobbins baving their feet dovetailed into the ring, overlap the feet of the bobbins, the washers having on flat elge and being secared by a fastening device. cheap and simple form of armature is thas formed, the bobbins being easily removable and each carrying a coil, he several coils being readily connected and disconnec ed , so that in case one is borned oot it mats
moved and another inserted in its place.

## Rallway Appliances.

Switch Manipulating Device. Daniel L. Boland, New York City. This device is ei pecially adapted for ase upon street car tracks, and is to bring also capahle of manipalation by a rapidly movin train some distance from the switch. Levers located be noast the car are adapted to deprese hinged platforms between the tracks, each platform being connected by awitch lever, by means of which the witch may bethro in either direction in advance of the car.

## Mechanical.

Wrench.-Frederick S. Seymour Iake Geneva, Wis. This wrench comprises two jaws
having a hinged connection, one jaw overlapping the other and one overlapping end having a cylindrical sur ping cylindrical surface of the other jaw s handereiap ping cylindrical surrace of the other jaw, a handle being
connected with thecam. Thetwo jaws are approsimately Irshaped, the cam enfaging the rear member of the movable jaw to swing it on its pivot, so that the wrenc may be quickly applied to a not of any size.

Nut Lock.-Robert Holmes, Canon City, Col. Two sleeve nots of equal diameter and exterthreads to engage the same bolt head, there being squared reduction on each end of the nots to fit the same socket wrench, while two similar jam nots, hexagonal externaily, are internally threaded to fit on the sleeve nu threads, and ratchet teeth in a continnons circle are formed on an end face of each jam nat. The improve ment is applicable to lock nots on all kinds of manat.

Printing Press.-Oliver S. Bowman, Salt Lake City, Utah Ter. This is a job press designe to give a direct and even impreseion withoat hinge mo device, and a quick and reliable means of feeding. Meang re aleo provided to facilitate "making ready" in a short time, and the printed sheets are delivered by grippera upon a table at the rear of the prese.

## Agricultural.

Seed Planter and Fertilizer DisTRIBUTER - Charlea R Reid, Heidelberg, Mise. This
lifted from the groand withoat interfering with the planting or distribating mechaniam, which is driven heel main supporting wheel. The hopper and feed like beed and for distribating fertilizer, with a continnons delivery, and the seed box and driving mechanism are spring supported. Different styles of hopper may be pring and eneced wis or detached from the facture and is designed to work well on groand of any

Weeder and Cultivator.-Charles . Platt. Waverly, Kansas. A machine especially this inventor, the ronners of which are readily adjugt able toward and from one another, while the cultivators are independently adjustable vertically and laterally, the frame carrying the coltivators being also readily raised and lowered. The weeders consist of two blades at each de of the machine, one blade shorter than the other, 11 being rearwardly inclined, bat the longer one having downward and the shorter an apward inclination, 8 one set of coltivatore is designed to and of the row of corn and within the space between the onners, the plants being protected by shields.
Thrashing Machine Device. george W. Racker, Belle Plaine, Iowa. This is a light pon the thrasher when not in ose withont remoring belt. A conveyer is located beneath the delivery end of series of carrying belts, a knifo carrying drum revolving above, while a series of stationary knives is located in the path of revolation of the drum, there being striping or cleaning devices for the belta and knives. The ander cat both the to dondles and any kind of grain fed to it, paseed to the thrasher withont losg
animal Shears.-Charles and Harty Burgon, Sheffeld, England. This invention relates to mprovements in sheep-shearing machines former,y patient and durable anti-friction bearing as a sobatitute for he ball bearings heretofore used abont the main pivota axis of the catter-driving lever, providing aleo means for adjasting the pressure of the top catters apon the comb, applied to act directly apon the catter-driving
hrough the mediam of the anti-friction bearing.

## Miscellaneous.

Ladder.-John. Splann, Athens, Pa his ladder may be conveniently used as an extension ladder, a slep ladder or a horse to sapport a staging nother, and being cheap, strong and dorable. It com prises two sections, the apper section sliding betwen the side rails of the lower section, and each section carrying a windlass, the cable connecting which is passed over cide palleys on the lower and apper portions of the
ower and npper ladders, and the apper section being
FENCE. -John S. Hamilton, Marysille, Ohio. This is virtoally a metal fence in which ach post is anchored by a base block below the sarface the groond. Each post is formed of a strip of metal ent into strap form, , the parallel being stiffened by spacing pieces and tension arma for the stretchers. The tension arms have notches to en gage the loops of wire stretchers.
Holder for Bouquets, etc. - Herman C. Wiedenmann, Philsdelphis, Pa. This holder side, integral arms extending from the sides of the opening, and an adjastable fartening device to afflx the position of the arms and fasten the clasp to a support, a apport an article. The holder is adapted to soppor bonquets, flag sticks, parasols and other light articles and may be easily attached to the frame or handle baro cle or other support.
Napkin Ring.-Ernest Drevet, New York City. Two carved bands overlapped at their end which are connected by pivota, carry a clasp; pivoted one of the bands. many pretty deesigns, and may be opened wide or ons
partially opened to receive the napkin. It is aleo adapted pormally opened to receive the napkin. It is aloo adaplas protect the bosom.
Arm Rest.-Charles S. Rodgers and Charles E. Schudy, Maniton, Col. This rest has on on body of the reat the body of a book may be inserted and held, the clamp being pivoted so that it may be turned longitadinally or transversely on the rest. The rest may
be held in firm position even when ueed in connection with the last or first leaf of a book.
Hame Tug.-John C. Anderson, New Windsor, Ill., (deceased, Arthar R. Anderson, adminis trator.) This tag is formed of a single looped piece, the tending between the prongs to their rear ends, while the ends of the prongs have eyes to receive the pintle or pin The device is light and cheap, makes the joint in the right place for easy action and has very little friction on
Roach Trap.-Charles F. Kuntz, St. Lous, Mo. This trap comprises a casing having inclined pe ways leading to an opening in the to the bottom, he ways leading to an opening in the top of the trap, while inclined flanges within the trap project downward there being a lid in the bottom of the trap. The trap cheap and easily cleaned, and when a roach or other brg is in it he cannot get ont.

## Designs.

Hardware Ornamentation. - Leo pold Kahn, New York City. This is a band-yle meta
ody portion of the metal swelling outward slightly be ween the borders.
Watch Charm.-Andrew Mulcay, Forde of which is a central in the form of a star, on on ern Hemisphere on a diak simolating the globe, while on the other side is a representation of the head of Colom Nors.-Copies of any of the above patents will be
formished by Monn \& Co., for 25 cents each. Please send name of the patentee, title of invention, and dat send name of
of this paper.

## NEW BOOKS AND PUBLICATIONS,

PHOTOGRAPHY ANNUAL FOR 1893. Edited by Henry Sturmey. 448 illustrations, numerous full parge plates, tables
1893. London: $\boldsymbol{\text { Diffe }}$ \& Son. 8vo Pp. cxc, 790 . Price $\$ 1$.
The science forthe year. The editorial portion ron tion to developers, etc., being given. For a number o tiea tuis annoal has illastrated and described the nove ties brooght out by the photographic honses both
home and abroad. The plates this year are very fine. The Great Barrier Reef of Aus Tralia. Its products and potentiali
ties. By Waville-Kent. Lon-
don : W. H. Allen \& Co., Limited. don : W. H. Allen \& Co.,

This saperb work is devoted to the lire of the Austra ian reef, its indastries, processes of its formatio and similar topics. In the elegance of printing, in its profuse illustrations, and the high character of
the same, it is almost unique. The monetary importance of the reef area is indicated by the fact that about $\$ 500,000$ worth of raw material taken from the reef is one of the wonders of the universe The illostrations the book are remarkable in effectiveness. They include 48 photo-mezzotype plates, illastrating corals, scenery, pearls, mother-of-pearl shells, fishes found aboat the reef, etc., the whole including many sabjects. A considerable portion is devoted to the Beche-de-Mer fisheries conducted for the Chinese market. Besides the above beantiful plates, 16 superbly execated chromoplates are the reef life. The text is exceedingly interesting. It is not a dry deecription of the place by any means, but tells the whole story of the reef and reads i many places as interestingly and graphically as any book of travel. A
very fall index is provided. It has been regretted that the work is absolutely ondated, thas impairing its vala as a reference in some cases which may arise reganding priority of description of similar points. The work po seases the feature of interesting the layman as well as
the naturalist, appealing to the artistic and literary inthe natoralist, appeaing to the artistic and
Die Definizionen und Fundamental SATZE der Theorie des Gleichgewich-
tes schwimmender Koerper. By
Trieste: $F$ H Schimpff 66 pare 10 plates.
This little volume treats on the stability of floating codies and forms a critical review of the at pr
Pietro Ghisleri. By F. Marion Craw ford. 1893. New York and London :
Macmillan \& Co. Pp. 429. Price $\$ 1$. A first-class peychological novel. The plot and the an diding or characters are somewhat after the manner of Dr.Hammond. Ineachsuccessive novel Crawford's powe portraying the subtileties of character incresese, and ho falls little below Zola. The treatment of the poisonin episode is mssterly and the whole novel shows that th dige of both thitere mast bring to their ald the know hold their readers
Practical Designing. A hand book ings. Edited by, Gleeson White Contributors: Alexander Millar Arthur Silver, Wilton P. Rix, Owen
Carter, R. Ll. B. Rathbone, Selwyn Image, H. Orrinsmith, George C. York : George Bell \& Sons. Pp. viii,
327 . Price ${ }_{2} .50$ No index This very pretty work, well within the aspects of the present day, is really a collection of eleven monographs,
on such subjects as carpet designing, pottery, metal work, bookbinding, and wall papers, each monograph by a recognized anthority. Profnse illustrations are given to elacidate the text. It certainly seems as if the sabjects represented by eleven typical classes of designing cover the sabject pretty thoroaghly. The absence of n inder is to be regretted.
OME Hints on Learning to Draw.
By G. W. Caldwell Hutchinson, Art Master, Clifton. College. 1893. London and New York: Macmillan \&
Co. Pp. xii, 199. Price $\$ 2.25$. Co. Pp. xii, 199. Price $\$ 2.25$.
It seems as thongh too mach praise can hardly be adopted in it. It is emphatically a book of drawing written ap to the present date, characterized by the use modern methods and theories. When it is stated that among the illustrators no less than 17 eminent artists are represented, and that the work of these artista represents bat a minor portion of the illustrations, some idea of its character may be gatuerea.

DYNAMOELEKTRISCHEN MASCHINEN truction und Anwendungen. Sechste Danzlich neubearbeitete Auflage. Von
Universitat Jena.' Pp. xvi, 288 . No.
inder. Price 81.

Die Elektrischen Leitungen und IHRE ANLAGE FUR ALLE ZWECKE XVi, 247. Price $\$ 1$.
The Columbus Gallery. Historical Lescription. By Nestor Ponce de York: N. Ponce de Leon. Pp. iv, This work gives reprodactions of famons portraits and
pictures connected with the great discoverer, with de-
scriptive text. The latter not only gives an accoont of the scriptive teat. The latter not only gives an account of the 95 cats, bat inclades notes apon many other pictures not
illuastrated. Thas a considerable value attaches to the illustrated. Thas a considerable value attaches to the
book as a sort of catalogue of Columbus pictures in all parts of the world. Otherwise it is of high interest as eing written in popular and anecdotal style. It shonld celebration.
The Metasperme of the Minnesota ducing plantsindigenous to the drainage basin of the Minnesota River.
By Conway Macmillan. Reports of the geological and natural history survey of Minnesota. December 29. .
1892. Minneapolis, Minn. Pp. xiii, 826.

Reports of the United States Composition of 1889 at Paris. Volume Riley, Ph.D. 1891. Washington Department of Agriculture. Govern219 illustrations, 77 plates.
The exhibit made by the United States at Paris wa ery fine and the present volume, which contains a fal escription of the agricultoral exhibits both of the United both and foreign cosntries, rellects great credi apon papers relating to vine cultivation, wine making, usefo and injorions insects, inclading the dreaded phyllozera eld trials of implements, agricaltural stations, foo dalteration, the caltivation of textile fibers, vegetable by A. C. True, entitled "A Report on the History and resent Condition of Agricaltaral Science ahd Edaca-

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## SCIENTIFIC AMERICAN

## buILDING EDITION.

## JULY, 1893.-(No. 93.)

## TABIL OF CONTENTS

legant plate in colors, showing the handsom residence of S. E. Walton, Esq., at Springfield, and perspective olevations. A pleasing deaign.
2. Fitzgerald at Bridgeport, Conn., erected at a cos of $\$ 6,000$ complete. Two perspective views and floor plans. - J. W. Northrop, Esq.,
Bridgeport, Conn. An attractive design.
3. A dwelling recently erected at Chester IIII, N. Y. Perspective view and floor plans. A model do sign. Cost $\$ 6,80$.
New York City.
4. A Colonial modern dwelling recently erected at Mont clair, N. J., at a cost of $\$ 5,500$ complete. Fioor plans, two perspective views, etc. Mesarg. Monn
\& Co., architecte, New York. An excellent deaign-
5. Fingraving and floor plans of two designs of cot tagee recently erected for Mr. D. H. McKay, at
Boston, Mass., at a cost of about $\$ 1,600$. A. W. Pease, architect, Boston, Mass.
Foor plans and engravings of a stone residence erected for George W. Childs, Esq, at St. David,
Pa A very attractive design. Cost $\$ 7,600$ com plete. Messre. F. L. \& W. L. Price, arcbitecte Philadelphia, Pa
Fold colonial style dwelling at Belle Haven, Conn. Floor plans and prospective elevations. A pic turesque design.
A residence at Belle Haven, Conn. A anique design Perspective elevation and floor plans. Messrs.
Boring, Tilton \& Mellin, architects, New York Boring
City.
9. Bird's-eye view of the World's Columbian Exdosition looking West.
0. The Fifth Avenue Theater, New York--View show ing the orchestra chairs and seating arrangeme
Miscellaneoas contents : A cbange in name.mattic metal ceeling, feed, illostrated. Simplen's ant raising water to house tanke, illustrated.-Coppe statae, "Flying Dutchman," at the Columbian Ex position, illustrated.-Naphimalene as a timber pre servative.-Ornamental parquetry floors and bo ders, illustrated. -
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