RECENTLY PATENTED INVENTIONS.

## Engineering.

Movable Dak.-Benjamin F. Thomas, Louisa, Ky. A dam which may be raised and lowered at will, by means of a chain connected with a suitable motor, is provided by this invention. It is formed of A-
shaped trestles, placed side iy side on a salable, foundashaped trestles, placed side in side on a salable. foanda-
tion acroes the stream, and hinged to journal boxes in the foundation, the uperream posts of thetreatles forming the barrier, and when down lying one with another o the foundation, forming no obetruction to navigation. lowering machinery on the abutmente at the side, and there is a footpath at the top above the proposed pool
level. Openings near the tope of the trestles permit the paseage of surplus water.

## Electrical.

Voltage Regulator for Dynamos. -Thomas M. Pusey, Kennet, Pa. To antomatically coneven current throagh a circuit leading from the dynamo to the lamps or other devices, this inventor provides simple mechanism comprising a rheostat in a shant cir cuit wherein is a helix operating a balanced beam and serving as a contact closer, there being a rheotat ope-
rating motor with electrically operated brake for jits armature, and connections between the armature and heootat. The resistance of the beam may be regulat

Telephone Switch Box. - Wallace A. Houts, Parker, Soath Dakota, and Lare G. Nilison,
Sioux City, Iowa. This invention provides a mechanism whereby, on hanging ap the receiver, the parte wil! be automatically returned to a normal position, or one in which the call of the particular box will be automaticall placed in circuit, the construction being such that an number of stations connected with a central office ma e antomatically connected to any one of the others. I the casing is an escapement wheel adapted to make and rying a disk with telephone call numbers, there being sprng connection between the wheels, and means for automatically releasing the locking device.

## Mining, Etc

Concentrating and Grading Ores William H. Coward, London, England. An apparat is provided by this invention for concentrating, grading with a roiller grinding mill. The apparatus has a casing
wisted with openings in the opposite sides and a series of ing spaces, the shells being adapted to have a current o air passed through them, and to engage particles of or carried in the current, causing the particles to dro hrough the spaces between the shellis. The bottom of at which the contents of each compartment may be with

Coal Jig Gates. -Theodore E. Swith Shamokin, Pa. To automatically operate the gates coal jigg, for the discharge of slate or impurities accu-
mulating at the bottom of the jig, this inventor has de rised a mechanism consisting of a gate operating leve and a continuously reciprocating lever locked togethe by a bolt and latch in such way that they will be hel ocked together for a greater or less time accoraing the resistance offtred by the material. The suspended and vertically reciprocated jig has perforations in it and at onc end is an outlet for the escape of the slate etc., the gate, according to this improvement, being an omatically opened when there has been sufficlent acc mulation to place tension on its movement.

## Mechanical.

Combination Tap and Die.-Stephed E. Pranke, Buchanan, Va. This is a tool adapted to quickly and simaltaneously cut external and interna heilug readily changed for work of smaller or catter belug readily changed for work of smaller or large
diameters. A collet having a central opening at its rear end is shaped to fit a holder adapted to carry a tap, the ront end of the collet having a bore into which extends the tap, and the collet rotating with the tap holder and carrying thread catting chasers. The heels of the
chasers abut against a collar screwing on the rear end of he collet, and when the chasers are adjusted they are lack in proper poiltion by a locking collar.
Nut Lock.-William C. Nones, Louisville, Ky. For locking nute on axles, screw bolta, etc plate having a plot to accive the bolt ond a a plate having a slot to receive the boit and a fiange to
embrace the nut, while a spring bar pivoted to the plate is so arranged as to close the slot and prevent the plate from becoming accidentally detached from the bolt and nut. A square-headed screw skein bolt is threaded in the opposite direction of the thread in the nut to be
locked, and has parallel grooves in opposite sides of its head, to be used in combination with the plate.
Making Scraped Brass.-Edward G. smith, New York City. To efficiently scrape brass and
ada pt it to be driven into rollers to form the type for printing wall paper, this inventor has devised a machine in which two Peed disks conct with revoluble cater
separated from each other, and whose catting teeth have their oppositely arranged cutting edges beveled. Two adjustable guide blocks run beneath the feed disks and cutters and extend beyond them, forming galdes proper

Sheet Feeder.-George B. Wurtz, Shreveport, La. To feed sheets of paper of like or difperent sizes rapidy and certainly pridered a mechan ism comprising a suction bar and means to exhaust th air from it, the bar being mounted on an endless carrier Which moves to and from a platform or ta ble on which
are the sheete to be fed. The suction bar has a facing or
twres at suitable pointe, and the air is exhausted from it
as it comes in contact with a sheet to be fed, the vacnun
being broken when the bar reaches the point at which gheet is to be delivered to the grippera
Printer's Page Stick. - Alaric G. Alrich, Lawrence, Kansas. To facilitate the making up made in the form of a steel rule with linea or sco marks on both sides corresponding to pica lines or othe tmadard type measure, the rule having at ite outer en an integral projecting portion or fixed jaw, aud then being slidable on it a movable jaw. In the various score marks are openings aud there is an opening in the mova be jaw, which may be readily ad justed by means of n at any desired line mark on the rale, according try serviceable when form a page, dever being ap to the same size. A clamping device with thumb piece holds the movable jaw on the body of the stick.

## Agricultural

Corn Hartester.-Orison C. Miller, Harveyville, Kansas. This is a machine designed to the stalks of corn being held within the machine prio 0 being cut and the cut corn falling againat a sapport
from which it may be readily removed by one or mor from which it may be readily removed by one or more
operatora. The machine has a dumpling platform on perators. The machine has a dumplng platform on Which the shocks of corn mal be readily set up and se-
cured, that they may be delivered and left standing in the field. Two men are preferably employed to operate the macbine.

## Miscellaneous.

Bicycle Holder.-Lewis K. Miller Clarksburg, Mo. This is a light and compact device be secured to the blcycle frame and carried out of the
way of the rider, but so that it may be ready ali times on dismounting. The holder is attached to the lower diagonal and horizontal upper bar of the bicycle,
and comprises a slotted sleeve in which slides a stem and comprises a blotted sleeve in which silides a stem A aving at it lower end oppositely extending feet or legs. aleeve, and the lower end of the slot is carved, whereby the feet of the holder are swang out to engage the when it is raised the feet are awang in hne with the frame so as not to project at the sides.
Typewriting Machine. - Lawrence . Urbanus, Chicago, Il. This is designed to be a saperior typewriter having the revoluble type wheel on
which the type heads are mounted and means by which hey may be moved to effect the impression, a simple and efficient feed mechanism being provided to move the carriage backward and forward. The key mechanis so so arranged that changes maybe made from upper
lower case, and in the line and letter spaces, with great Pacility and nicety, and a variable spacing mechanism provided, so that aboolntely exact printing may be done The machine is designed to be operated at high speed and do the best work, the keys merely throwing the type into position for printing, the actukl work of which $f$
done by a rotating disk or cylinder, whereby all the let one by a rotating disk or cylinder,
Hose Coupling. - Joseph S. Black burn, Salem, Ohio. This patent is for an improveme on formerly pacenca invenlons of the same invento of prevent che backijng or baliging of the elastic sieev and female sections of the coapler, and aleo simplifying ing a better seat for the wrench adapted to open the jaws. In coupling the two sections are simply forced ogether, when the inner jolning sleeve presente a soll wall throughout its entire length, and when the sections
are united they have a subetantially swivel movement on each other.

Vehicle Seat Canopy CovernAlvanes G. Henery, Malta, O. According to thls in provement, the seat is so made that a top or cover may
be folded into it when not in use, means being provided for detachably connecting the sections of the canopy or op and holding its members one apon the other. The eide braces are pivotally connected and provided with a device limiting their spread, and ribe are removably connected with the braces, while the seat comprises a skeleton base covered by the seating section, there being in the base with the base and being adapted to be stored therein.
Moist Colors. - August Sartorius Hew York City. Colors for use in water color and manner, in deacribed proportions, with chief ingrediente, as binding and diseolving media, of soft soap, mu-
cilage, salicylic acid, glycerine and mirbane oil, the colors not containing any substances that require the application of heat for amalgamation. They may be readily applied in a anlform manner, dry quickly and set permit of blending or the application of one color on
top of another be.ore fully dry. The proportion of color and mixing medium varies according to the nature color.
Notr.-Copies of any of the above patents will be send name of the patentee, title of invention, and date send name of
of this paper.

NEW BOOKS AND PUBLICATIONS.
Rodgh Notes on Pottery. By W. P. by the author. Profusely illustrated by the author. ${ }^{\text {Pp }}$ 112. Price
The author, withont aiming to present a complete trea ing early makers of the best specimens and the development of the manufacture of fineware. The notes on early English pottery and on Stafforshlre work are especially interesting, but the author briefty, and in an eclectic ashion, goes over the whole field, so far as may be done corical A merican earthenware, and another to ware made here and abroad for the American market.

Tables for Iron analysis. By John A. Allen. First edition, first thousand. London: Chapman \&
This excellent compendiom of tables will be accepta le to a vast number of chemista, relieving them of the garthms in converting thelr resulte into the requisite per centages. It gives very fall and elaborate tables for converting the weighte of preclp dates or compounds as weighed or titrsted in the course of analyses into the proper form for report. Thas we find no leas than ight tables for converting $\mathrm{CO}_{2}$ into C , unefal in the deterexample of the system applied by the aathor to all the prominent constitnenta of commercial iron. After this ulatite tables in a more concise shape for effecting re o be for iron chemiots, it will be a most ne beful companion or many others who work in the general field of ind ganic analysis.
Leitraden fur Eisenhutten-Labora TORIEN. Von A. Ledebun. Vierte Neu Bearbeitete Auflage. Braun
schweig: Druck und Verlag von Friedrich Vieweg und Sohn. 1895
Pp. 11.
We have already noted the contents of the tables for Oo analysisis. The present monograph treats of method German would form an excellent companion to the pre ceding work. It is very beaatifullyand clearly engraved he illiastrations being in the well known German style of wood catting, which seems to lend iteelf pecullarly

A Text Book of Plane Surveifing By Wiliam G. Rayınond, C.E.
New York, Cincinnati, Chicago
American Book Conpany. Pp. 484. American
Price $\$ 3$.
We feel that this book deserves considerahle praise for its treatment of the sabject of plane surveying. It is well pacent practice, and as a special example of cited, to the adjustment of which nearly elght may devoted. In ite to table work, and the ne of the slide rule, planimeter and stadia measuremente are excellently given. Fall table and numerous examples of work in the way both of
anderground sarveying and of general topography are

 And of all departwents of the gov ernment of the United States for the
period froun March 4, 1893, to June ndex" provided for by the act ap proved January 12. 1895.) Prepared noder the supervision of the superintendent of documents, Government Printing Offce. Washington: Gor-
Prinment
Printing Office. 1896. Pp. 38.

To those interested in knowing what the United State tenta of the many reporta, as prepared by the federal overnment, and what work is being done in its acien tific departmente, this index will be of great value. It
presents in consecative index form the topics of the pablic departmenta; the indexing running consecatlve rom beginnlug to end, there being, very sensibly, n sabdivisions attempted, beyond the data and the list of
government offlcers to whom the indexes are to be cred-

Mechanical Drawing. By Charles F. Jackson. Philadelphia: J. B. Lip-
pincott Company. Pp. 63, 20 plates. pincott Com

A As mechanical drawing is here presented by a teacher
many years' experience. The subject of projections fully treated, difficult terms are svoided as far as posel be, and the explanations are carefully and concisely Bloc

Ock AND InTERLOCEING Signals. By W. H. Eliott. New York:
motive Engineering. Pp. 277 .
This is a repablication in book form of a series of in eresting articles originally published serially, written by as having had charge of this bureau on the Chicago, Milwankee, and St. Paul Railway. What signals are for, what they do, and how they do it , will ail be found an swered in these pagee, including telegraph systeme,
manual systems, and automatic electric systems, towith methods of operation and rule

Dictionary of the Coal Tar Colors.
By George H. Hurst. F.C S. LonBy George H. Hurst. F.C S. Lon-
don: Heywood \& Company. Pp.
212. Price $\$ 3.25$.
That it shonld require a large book to simply describe and classify the different colors made from what was a
waste product twenty years aco, and these colors now Whe most important in the employ of the textile colorist is one of the most striking of the many illustrations of our progress in applied chemistry. This book has reached its second edition. It gives the chemical composition of
the different colors, formula, method of making, and date of introduction, with the propertics and ases of the colors. It give
color makers.

Commencing with January, 1897, the Street Railway Review will issue a special foreign edition, which in size and quality of matter, illastrations and general attractiveness will be fully equal to their present home edition. As usual, the Review will be the will be spared to make it deserve the same recognition abrosd which it has earned at home.
$\mathfrak{2}$ Business and 2ersonal.

Whe charge for insertion under this head is one Dollar a divertisements must be recelved at publication office as early as Thu
ing week's ssoue.

## Marine Iron Works. Chicazo. Catalogue fre

## U. B." Metal Polish Indiapolis, Samples fres

 ankee Notions. Waterbury Button Co., Waterb's, C Well Drill Prospecting Mach'y. Loomis Co., Tiffin, $\mathbf{O}$ For bridge erecting engines. J. S. Mundy, Newark, N.J. Handle \& Spoke Mchy. Ober Lathe Co.,Chagrin Falls, O . Wanted to purchase, a patent on a small salable H. Wilson, Washington, D. CScrew machines, milling machines, and drill preeses.
The Garvin Mach. Co., Spring \& Varick Sts., New York. Concrete Houses - cheaper than brick, superior to tone. "Ransome," 757 Monadnock Block, Chicago. Machinery manufacturers, attention! Concrete and
mortar mixing mills. Exclusive rights for sale. "Ranme," 757 Monadnock Block, Chicago.
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and other Books for sale by Munn \& Co., 361 Broadway, and other Books for sale by Mun
New York. Free on application.

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HINTS TO CORRESPONDENTS.
Names and Ad dress must accompany all letters
or no attention will be paid thereto. This is for oul information and not for publication.
 Buy er thishing to purchache munt articl hin tud advertised
in our columns will be furnished with addresees of

 Ho okn referred to promptly supplied on receipt of
wricee. in sent for examination should be distinctly
marked or labeled.
(7082) R. W. L. asks for directions for making an electromagnet for working telegraph sounder What number insulated wire should be nsed, circait). mach \& How many cells of gravity batteriea will it take to work it 9 A. For cores use two bundles of iron wire to work it 9 A. For cores use two bundles of iron wire
two inches long and about $3 / 2$ inch in diameter. Wind with No. 20-24 wire to an inch or more in thickness. As
yoke you may use a bar of iron, or simply bend six inch lengths of wire into a $U$, and dispense with yoke. Two (7088) J. W. ank
(7083) J. W. asks : 1. Is electric lighting with batteries succesefulp A. No; except with storage
batteries. 2. What kind of cells and how many would it take to run four 16 candle power lamps four hours per day? A. Ten cells storage battery for low voltage lamps. power lamps from batteries or coal oil lamps to light a room $24 \times 36$ feet? Oil at 35 cente per galion. A. The
coal oillamp is about the cheapeat of the ordinary illa. coal oillamp is a bout the cheapest of the ordinary illa.
(7084) M. S. K. says: A few days ago I had occasion to make some standard resistance coils. I had more resistance when coiled on a wooden spool than it had before it was so coiled. Will you please give me an explanation through the columns of the SciEntific
Ambrican? A. Any disturbance of the molecular condition of wire changesita resistance. If it hardens it, the resistance generally may be assumed to increase, and
(7085) F. S. G. says: Please tell me what kind of glass is best for Leyden jars and whether A. A good $q$ jurs. Some glase is so inferior as to be quite worthless. To charge, connect the inner coating with one terminal
and the outer coating with the other terminal. Take are ef induction coil experiments are described our Supplement, No. 166
(7086) T. W. B. says : I wish to make a 20 ohm telegraph sounder : will you please inform me, in give the most eatisfactory resulta? A. Use No wire will 30 wire.
(7087) J. B. M. asks: What is the reistance of a gallon gravity Bunsen, Fuller, and Le-
clanche battery A. For the Leclanche battery aliow 1 ohm, for the gravity 4 ohms, for the others $1 / 4 \mathrm{ohm}$, all subject to large variations. 2. How long a spark is re-
quired to mate a good $X$ ray? A. Two inches is a good
(7088) J. D. asks (1) for a solution to keep otograph proofs from fading. A. Dip the proop in a olution of hyposulphite of soda 20 grains, dissolved in 5 ounces of water for ten minutes. then wash in changing
water for two hours. 2 . Also mention where I can get unmounted photographe of actreseses. A. For ictures of actreses consult your local book or stationery storeactreeses
keepers.

