RECENTLY PATENTED INVENTIONS. Railway Appliances.

TRACK LIFTER.-William L. Whitfield, Ocala, Fla. In this device the lifting mechanism is supported on a truck frame, a toothed wheel fixedly held on the axle being engaged by an operating lever and there being connections between vertically arranged rack bars and the axle. One of the rack bars is termed a jack bar, and has a removable foot or rest member. supported on the ground, the opposite rack bar, termed the lifting bar, having at its lower end clamp hooks to engage the tie. By this arrangement, on the operation of the lever, the tie track and the truck are both raised

Mechanical Appliances.

WRENCH.—William C. Lawrence, Casselton, North Dakota. The body bar of this wrench has a jaw formed at one end, and upon the surface of the body is firmly secured a nut through which extends an adjusting screw with which is pivotally connected the shank of a hook-shaped jaw adapted to extend over the jaw on the body, whereby the hook-shaped jaw may be dropped to stand at a right angle to the body bar. The device is more especially designed as a pipe wrench, affording a firm grip which is released by a single movement of the hand, without the aid of ordinary thumb or

SAW SWAGE. - Richard E. Dimick, Rhinelander, Wis. In a slotted swage block turns a swage die having a flattened portion within the slot, near which is a stationary anvil carried by a shaft turning in the block for effecting the angular adjustment of the anvil, which may protrude more or less from the shaft. Oppositely arranged dressing dies are also actuated simultaneously with the swage die to dress one tooth while another tooth is swaged, intermediate nechanism connecting the swage die with the dressing dies. The arrangement also admits of regulating the width to which the tooth is dressed by the dies.

DIE STOCK.—Joel G. Jackson, Minnespolis, Minn. Lugs on the upper face of this stock hold the dies, one lug beingstraight and having on its inner edge an overhanging flange and the other lug being inclined. A wedge has lateral and longitudinal movement between the inclined lug and the dies, a face plate overlapping the wedge, while limiting screws extend through the face plate, through slots in the wedge, and into the stock body, there being a lever for moving the wedge. The dies are firmly held and may be readily inserted or removed, and by the accurate adjusting mechanism the dies may be set to cut any desired size of thread within

Agricultural.

CORN HARVESTER.—Warren E. Abbott, East Monroe, Ohio. This machine has side tables which may be raised or lowered, and the tables have guide fingers with rotary cutters to cut the corn quickly and perfectly, whether it is presented to the cutter in an upright or an inclined position, or whether the roots have been destroyed by grub worms or the corn stalks are toughor withered. The rotary knives are driven from the supporting wheels, and may be conveniently thrown out of gear with the driving mechanism, or the cutters may be thrown out of the path of any of the stalks which it may be desired to leave standing as supports for the shocks.

GRAIN SCOURING MACHINE.—Peter Provost, Menominee, Mich. This invention provides an improvement upon machines which have been made the subject of several former patents by the same inventor. the construction being simple and durable and the ma chine being designed to scour and polish the grain perfectly and remove all impurities. A revolving disk car rying a woven wire scouring disk discharges into a ring provided with annular interior flanges formed with slots and openings for the passage of the grain, a fixed wire disk being supported on top of the ring, to which is bolted a second ring carried by the second wire disk, while downwardly extending projections are arranged on the second ring to engage the first ring.

STRAW CARRIER. - Howard and George Ghere, Frankfort, Ind. This improvement may be attached to any form of thrashing machine, and has a level table receiving the straw from the thrasher and de livering it to the elevators. The wind is prevented from interfering with the transfer, and the body of the carrier may be made in two sections, one to be placed beits outer end. Simple means are also provided to give any desired inclination and elevation to the elevator sections of the carrier, the movable elevator sections being readily manipulated.

BAND CUTTER AND FEEDER FOR THRASHING MACHINES.—George N. Kern and James W. Fielder, Mason City, Ill. The feed boards or pans, according to this improvement, move in horizontal planes, be attached to the wearer's feet and legs, provision beand are alternately reciprocated, each feed board being provided with a series of adjustable fingers whereby the grain is presented to the cylinder of the thrasher in the best shape and with a movement as nearly as possible to that of hand feeding. Over the feed device and in front ready ascent of moderate grades, by simply stepping forof the delivery end of the carrier are located knives to cut the ties of the bundles. The attachment may remainpermanently attached to the thrasher and he disposed of in such manner as not to be in the way.

CHURN.—Hiram F. Quigley, Atoka, Indian Ter. This is a dasher churn, having a perforated inner cylinder for the dasher to work in this cylinder being open at its bottom. where it has an outside encircling flange resting upon the bottom of an outer close cylin der. When the perforated cylinder is lifted out after top of the buttermilk and upon the sides of the cyl-

SHEPHERD'S CROOK.—Robert L. Renz a smoothinner surface at its crook portion, and a curved normally press the inner surface of the crook portion, coration.

the free end of the spring extending within an orifice of the shank, thus affording a spring latch by means of which the leg of an animal may be caught and held.

Miscellaneous.

HARNESS SUSPENDING DEVICE.—Louis Townsend, Evansville, Ind. That fire engines may more quickly respond to alarm signals it is usual, in city fire departments, to employ suspending devices by which the harness is held in such position that it may be quickly dropped upon the horses, thus effecting a great saving in the time of harnessing. This invention provides an improvement in such devices, comprising a counterbalance, a harness bar with spring-actuated bolts at its ends and intermediate trigger connectious, with an operating cord, and various other novel features

DETACHABLE TIRE.—Arthur C. Gillette, Jersey City, N. J. This is a flexible tire and guard formed from a single piece of sheet metal, with spurs on its face and fastening lacings for securing it to the felly of the wheel. It is especially adapted for use upon bicycles with pneumatic tires, to which it may be quickly strapped to enable the wheels to be ridden safely over rough ground or ice, and being readily removable. It is also a practical ice creeper for the wheel, facilitating all riding over ice and snow.

ELASTIC HORSESHOE. - Michael Hallanan, New York City. A rubber shoe which has an integral rubber pad and frog is provided by this invention the shoe being continuous to form a complete closure of the hoof, and having a backing of leather with an interposed layer of canvas, the whole being united together and affording a firm bearing for the horse, while being sufficiently yielding to prevent jar.

HORSESHOE AND PAD.—The same inventor has patented a further improvement by which the shoe and pad are so made as to give the horse a firm bearing and relieve the foot of strain at the inside quarter by causing the weight to come on the pad and on the shoe at the outside quarter. The pad has a yielding frog and a raised bead, outside of which is, a flange on which the shoe is seated, having a reduced thickness at the inside quarter, where the surface of the pad projects beyond the shoe. The facing of the pad is of rubber secured to a layer of canvas, and this is backed by leather; but, to absolutely prevent the picking up of nails, a thin steel plate is interposed between the leather and the

FLOATING SIGNAL FOR SUNKEN VESsels.—Johan Larsson, Ludington. Mich. This is a buoy to show the location of a sunken craft, whose name will be indicated on a flag carried by the buoy, while roomis provided for a hermetically sealed casewith memoranda. The buoy is supported on the vessel, in connection with a line attached thereto, arranged in such a way that should the vessel sink the line will be paid out, and the buoy will float over the sunken vessel to which its line is attached.

WINDMILL. - Edwin L. Davies and John N. White. Salt Lake City. Utah. Tubular arms connected with the wind wheel shaft carry reversely located vanes extending farther below than above the arms, the arrangement being such that on one side of the hub the vanes will be perpendicular and on the other side horizontal. A shaft connects the vanes of each arm, and a centrifugally operated governor slides on the vane shafts, whereby the vanes will be carried with their edges to the wind when it blows too hard, or the peed may be automatically limited to a certain rate.

Sulky.—Moses McCormick, Baltimore Md. This is a trotting sulky with pneumatic tires, and with an arched axle extending centrally well above the tops of the wheels, while to each downwardly bent end of the axle are bolted two metal bars, whose lower ends form an outer and inner bearing for an individual axle for each wheel, one of the bars descending upon the outside and the other upon the inside of the wheel.

BOOKCASE.—James Stimson, Watsonville, Cal. This is a case or stand suitable to rest upon any flat surface, as a bureau, mantel, desk or table, or to stand upon brackets, and hold books of reference or volumes in frequent use. It comprises but three pieces, a base and two L-shaped clamping arms, and the number of volumes accommodated is regulated by the length of the stand. When not employed it may be compactly folded and stored away.

PIANO HAMMER.-John Ammon, New York City. The hammer head, according to this invention, is forked, and a felt made from a V-shaped blank, neath the other or to extend a certain distance beyond; and doubled up at its sides, the contacting faces being fastened together, is inserted in the fork. A simple and durable hammer is thus made, not liable to get out of order, and one which will sound the string to avoid hardness and produce a very clear tone

> ROLLER SKATE.—Russell C. Leedham, Salt Lake City, Utah. The wheel of this skate is supported in a frame that is spring-cushioned on guides ing made to prevent any backward movement of the wheels. The tire or periphery of the wheel is rubber covered, and the cushion springs absorb the shocks of a rough road, enabling rapid progress in use, and the ward as in walking or running.

LIFTER OR DRAINER. - William W. Olcott, Fremont, Neb. This is a simple device, consist ing of two oppositely arranged wire members crossed and pivoted on a common fulcrum, so that their upper portions serve as handles and their lower portions as a clamp to hold the body portions of kettles, pots, pans, and similar articles, so that when they and their contents are hot they may be easily and safely handled and drained. The device holds the coverin place, and holds churning it brings out the butter, which forms upon the the body of the kettle, etc., in a rigid manner, so that it may be tipped as desired.

DESIGN FOR A TEA OR COFFEE POT. Austin F. Jackson, Taunton, Mass. This design preand Henry Weidman, Poplar, Montana. This crook has sents an original shape and rich and novel ornamentaspring secured to the shank and extending forward to and handle also showing most artistic and elaborate de-all newedcalers.

SUSPENDER ATTACHMENT.—Georg L. Heuler, St. Louis, Mo. Clips, with perforated lugs in which are rings engaging a middle bar having a central opening, are secured to the trousers at the front and rear by means of eyes or spurs, the central opening of the middle bar being engaged by a hook plate attached to or connected with the suspenders. The device is designed to afford great flexibility, be readily adjustable or removable, and the parts are not liable to become accidentally detached.

CATHETER HOLDER. - William W. Lovejoy, Cochituate, Mass. This is a simple and light device adapted to hold a catheter of any kind in proper position, so that it may be worn with comfort. It comprises a collar with which a clamping arm is movably connected, while a locking device is adapted to hold the arm stationary upon the collar.

Note.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

THE PRINCIPLES OF FITTING FOR AP-PRENTICES AND STUDENTS IN TECH-NICAL SCHOOLS. By A Foreman Pat-tern Maker. London: Whittaker & Co. New York: Macmillan & Co. Not dated. 16mo. Pp. 313, 250 illustrations. Price \$1.50.

The book describes the method of liningout work, the use of templets, chipping, filing, drifting, adjustments, repairs, joints, friction, lubricants, etc. The appendix contains a remarkable collection of useful notes, rules,

ELECTRIC LIGHTING AND POWER DISTRIBUTION. By W. Perren Maycock, M.I.E.E. London: Whittaker & Co. New York: Macmillan & Co. 1892-93. 16mo. Three parts. Pp. 452, one sl 273 illustrations, folding plates. Price N. Y. 75 cents each part.

This is an excellent work. The first chapter begins

by defining fundamental units, then the general laws of electricity are given and illustrated by simple mathematics. Many of the illustrations are sketchy and show the point directly. The illustrations of voltmeters, ammeters, etc., are numerous and show the principal types. As the reader proceeds, dynamos, motors, and the various systems of distribution are described. A series of valuable rules are given in the last part. The work abounds with questions and has a good index. The series will prove a valuable addition to any electrical

SCIENTIFIC AMERICAN

BUILDING EDITION

SEPTEMBER, 1893.-(No. 95.)

TABLE OF CONTENTS

- 1. Elegant plate in colors, showing a residence at Greenwich, Conn., erected for Miss E. L. Kirtland. Floor plans and two perspective elevations. An excellent design. Mr. W. S. Knowles, architect, New York City.
- 2. Plate in colors showing the Queen Anne residence of W. H. McKnight, at Springfield, Mass., erected at a cost of \$11,500 complete. Perspective views and floor plans. An attractive design.
- A colonial dwelling erected at Rutherford, N. J. Perspective view and floor plans. A model design. Cost \$3,476 complete. Mr. H. G. Ten Eyck, architect, Newark, N. J.
- A cottage erected at Bridgeport, Conn., at a cost of \$2,775 complete. Floor plans, perspective view, etc. Mr. A. M. Jenks, architect, Brooklyn, N. Y. An excellent design.
- Engraving and floor plans of a Queen Anne dwelling recently erected for W. Q. Taylor, Esq., near Boston, Mass. Samuel J. Brown, architect, Boston. Mass.
- A cottage at Allston, Mass., erected at a cost of \$2,500. Floor plans and perspective view. A pleasing de-
- sign. Mr. A. W. Pease, architect, Boston, Mass. 7. Floor plans and perspective elevation of a cottage at Allston, Mass., costing about \$2,000. Mr. A. W.
- 8. A tasteful design for a smithy or blacksmith shop. Illustration of a new English villa at Worcester.
- 10. View of an Italian courtyard.

Pease, architect, New York.

- 11. The Fifth Avenue Theater, New York. View showing a section of the proscenium arch and a portion of the family circle, also an engraving of the old Fifth Avenue Theater, burned in 1891.
- Miscellaneous contents: Wood pavements. ing floors.—Tropical roofs.—Purification of air.— Seasoning stone.—Stone under the microscope. tanks, illustrated.—Larsen's improved refrigerator, quality, per hour for five horse power. illustrated.—The New York Aquarium.—Adjustable bevel-band saw machine, illustrated.-United States pitch pine industry.—The Cook patent levels, illustrated. - The Howard combination heaters, illustrated.

The Scientific American Architects and Builders Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITEC-TURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

The Fullness, Richness, Cheapness, and Convenience of this work have won for it the Largest Circulation tion of the bowl, as also of the mount and top, the spout of any Architectural Publication in the world. Sold by day on an average? A. From 105,000 to 160,000; the MUNN & CO., PUBLISHERS,

861 Broadway, New York.

Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to a ppear in the following week's issue

Order pattern letters & figures from the largest variety. H. W. Knight & Son, Seneca Falls, N.Y., drawer 1115. "U. S." metal polish. Indianapolis. Samples free.

Best Handle Mach'y. Trevor Mfg. Co., Lockport, N.Y. Wm. Jessop & Sons have a handsome display of steel in Mining building at the World's Fair.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York. Stow flexible shaft. Invented and manufactured by Stow Mfg. Co., Binghamton, N. Y. See adv., page 192. Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

Centrifugal Pumps for paper and pulpmills. Irrigating and sand pumping plants. Irvin Van Wie, Syracuse, N. Y. Emerson, Smith & Co., Ltd., Beaver Falls, Pa., will send Sawyer's Hand Book on Circulars and Band Saws free to any address.

High Speed Engines—Single Cylinder and Compound, for all electrical and manufacturing uses. Watertown Steam Engine Co., Watertown, N. Y.

Split Pulleys at Low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Perforated Metals of all kinds and for all purposes, general or special. Address, stating requirements, The Harrington & King Perforating Co., Chicago.

For Sale.-Fully equipped chemical and bacteriological laboratories; incorporated, entensively advertised. Address W. A. C., 465 The Rookery, Chicago.

The best book for electricians and beginners tricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N. Y.

Patent Electric Vise. What is claimed, is time saving. No turning cf handle to bring jaws to the work, simply one sliding movement. Capital Mach. Tool Co., Auburn,

Competent persons who desire agencies for a new popular book, of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361 Broadway, New York.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of

to may be had at the office. Price 10 cents eacn. **Books** referred to promptly supplied on receipt of

Minerals sent for examination should be distinctly marked or labeled.

(5366) A. Y. writes: A recent test for pressure of our village water works, a Shaffer-Buden-berg gauge being used, indicated 180 pounds, for which I claim the head in feet should be not less than 425. A party employed as foreman in the construction of these works, and who thereby has acquired a quasi-reputation in our midst as an authority upon hydraulic matters, asserts that the head is only about 250 feet, that the high pressure is owing to the careful manner in which the pipes were laid, as avoiding angles or deflections. Will you kindly set at rest this country store controversy, and possibly educate this engineer? A. The hydrostatic head due to the gauge pressure is 414 pounds per square inch. If the gauge is located at some distance from the source, the friction head should also be added to the gauge pressure, which may carry, the pressure up to your figure. The careful manner of avoiding curves would lessen the otherwise friction head, but could not make it less than the static head at the point of gauge connection

(5367) A. L. asks: What kind of paste causes paper to adhere to an iron pulley? Also, if you please give answer to my last question of three or four weeks ago, viz., how many cubic feet of natural gas an hour it takes to run a five horse powerengine? A. Use the best light glue that is tough in bending the pieces. as a coating for iron and other metals.—White in When made up thick for use, add a half gill of clear exhouse painting. — Ontario metallic paint.—Deaden-tract of oak or hemlock bark or a solution of tannic acid. Mix and use at once. The pulley should be cleaned and scratched on the face with a file to make the glue take a Housekeepers should remember. — The Climax stronger hold. Moisten the paper and put on a number solar water heater, illustrated -Roofs and roof of thicknesses, gluing each layer. It will require about covering.—Litharge cement. — Tower supported 600 cubic feet of natural gas, according to its heating

(5368) A. C. asks some simple way to silverplate a spot on a cornet without the aid of electricity, and please state whether or not the same will put a coat on a surface covered with black lead. A. Silver plating that has been worn off by handling can only be renewed, other than by electro-plating, by rubbing the spots with moistened salts of silver, made with nitrate silver 2 parts, salt 2 parts, cream of tartar 14 parts, pulverize and mix. The black-leaded surface can be silvered by cleaning off the black lead.

(5369) W. W. S. says: 1. Up to the present time how many peoplehave attended the World's Fair according to the tickets sold? A. To August 28, the number of paid admissions has been 9.529,332. 2. About how many people attend the World's Fair every average is probably 120,000 each. Sunday pulls down the general average. 3. If you were going to guess on

the number of people that will attend the World's Fair while it is open, what would be one of your guesses? A 15,000,000 to 16,000,000.

(5370) J. T. S. writes: Will you please let me know of a preparation for cleaning brass? A Oxalic acid dissolved in water and mixed to a paste with any polishing, as tripoli, rotten stone or rouge. See "Sci entific American Cyclopedia of Receipts" for severa pages of polishing receipts, \$5 mailed.

(5371). A. E. T.—Wind your field mag net and armature with No. 24 wire. We do not think the motor you are making will answer for clock winding because it has dead centers and will not start. It will b better for you to make a three-pole armature, or bette yet, to make a small machine like that described in Sur PLEMENT, No. 783.

(5372) W. H.—You can make a dynamo to furnish 20 volts by following the instructions given in SUPPLEMENT, No. 600, except as to the winding of th armature. You will need to wind the armature with No 16 wire. If you desire to make a smaller dynamo for that voltage, make it two-thirds the dimensions given in the article referred to, using the same winding.

(5373) L. L. H.—The shape of the wais of the field magnet is practically immaterial; there is however, a slight advantage in using a cylindrical fiel magnet, as that form permits of using the shortest lengt of wire for a given number of ampere turns.

(5374) B. H. C. writes: I wish you would answer W. H. C.'s question (5282), issue of Angue 19, more explicitly. Why are nails called penny, a three penny, four penny, etc.? A. The term penny when used to mark the size of nails, is supposed to be corruption of pound. Thus a 3 penny nail was such that 1,000 of them weighed 3 pounds, a 4 penny such the 1,000 weighed 4 pounds, and so on.

(5375) E. W. H.—To cure body lic use mercurial ointment.

(5376) W. H. D. asks: 1. The prope mixture to make of air and 74° gasoline to get the great est force from explosion. A. For 1 part by weight naphtha of 0.74 sp. gr. use 20 parts of air. This giv about 1 fluid ounce of aphtha for 2,000 cubic inches air. 2. Why will a gasoline engine work stronger using gasoline than using manufactured gas? A. Gasoline for a given bulk has higher heating power than common ga 3. What is the cost of an ordinary hydrometer? A. cents upward. 4. Where can a glass boiler be procure such as are used for showing steam currents, etc? Address our advertisers dealing in scientific instrumen 5. Why is there such a great difference between the i dicated and the actual horse power of gasoline engine and what is the cost of operating these engines with gas hne at 15 cents per gallon? A. No real indicated hor power for a gas engine is used in rating; the stated figure is arbitrary, hence the difference arises. For cost operating address the manufacturers.

TO INVENTORS.

An experience of forty-four years, and the preparatio of more than one hundred thousand applications for presents at home and abroad, enable us to understand it laws and practice on both continents, and to possess us equaled facilities for procuring patents everywhere, synopsis of the patent laws of the United States and a for eign countries may be had on application, and persoon templating the securing of patents, either at home abroad, are invited to write to this office for price which are low, in accordance with the times and our extensive facilities for conducting the business. Addrew MUNN & CO., office Scientific American, 361 Broad way, New York.

INDEX OF INVENTION

For which Letters Patent of the United States were Granted

September 12, 1893,

AND EACH BEARING THAT DAT [See note at end of list about copies of these patents

wards wards (1) and the state of the state o

-;		
ir¦ į	Car coupling, E. W. Seitz	Lo Lu
.	(ST 88fet V st fachment Riching & Gerhart	Lu Lu
ا	Car wheel, J. Lemman. 504.882 Car wheel, J. Rolling 504.730 Carbon, electric are lamp, R. McManus504.815, 304.845	Ma Me
작	Carding ongine E & W H Crowther 501 968	Me
h	Carding engines, feed roll weighting device for, W.P. Canning. Carpet sweeper, Newbigging & Worz. Carriage, F. W. Zimmer. 505,015	Me Me
i-	Carpet sweeper, Newbigging & Worz	Me Me
"	Cart, road, J. B. Armstrong	M i
۰.	Cartridge implement, T. M. Pierce	Mi
k	Cartridge shell crimper, G. D. Hunter	Mo
_	Charge, H. Maxim 504,736 Case. See Card case. Cubbrella case. Cat barrier, G. S. Niles 504,744 Catheter, O. De Pezzer 504,744	Μα
e e	Catheter, O. De Pezzer. 504,744	Nu
	Centering, preparing, and countersinking bars, stude, etc., machine for, W. Webster 505,013	Oil
-	studs, etc., machine for, W. Webster	Or
0	Chopper. See Cotton chopper. Chuck, P. W. Reck. 504,939	Pa Pa Pa
	Churn, J. C. Budd	Pa Pa
ne D.	Churn, R. D. Moon 594,737 Churn, E. W. Settle 504,833 Cigarette making machine, J. R. Williams 594,738	Pa
or	Cistern cover, Menefee & Ertel 505,055 Clamp. See Work holding clamp. Cloth stretching and calendering machine, W. P.	Pa Pa
n	Cloth stretching and calendering machine, W. P. Mather 504,927	Pa Pa Pe
أي	Obstance lime O. D. Albant 605 010	Pe
st	Clutch or counling magnetic G. A. Brown 505 025	Pe
ld !	Clutching mechanism, G. E. Witherell 504,770 Cock, compression stop and waste, T. C. Dalton. 501,865 Coffee pot, S. Geldbrant 555,642	Pe Pia Pia
th	Cook, compression stop and waste, T. C. Datton. 505,002 Coffee pot, S. Geldbrant. 505,002 Coiled bars or rods, machine for separating, Sterling & Wilson. 505,071 Colter, L. S. Bailey. 505,018	Pi Pi Pi
	Comb, H. G. Guild	
u	Commutator brush holder, R. N. Bayles	Pi Pl Pl
et ; as	Communator of user solution in the states of the solution of the content of the solution of th	
у,	Cotton chopper, J. D. Schoffeld 504,756 Cotton gin roller, W. Dearborn 504,775	Pr Po
a		Pe
at i	Crate, knockdown, J. Myers. 505,061 Cream puff filling machine, L. J. Anger. 504,857 Cultivator blade, B. F. Darby. 504,969	Pr Pr
į	Crate, knockdown, J. Myers 555,081 Cream puff filling machine, L. J. Anger 504,857 Oultivator blade, B. F. Darby 504,969 Cut-out, G. H. Prentice 504,938 Cutter. See Band cutter. Biscuit cutter. Stalk	Pi
e į	cutter. Tube cutter. Dental bracket, A. B. Elmorr	Pı Pı
i	Dental engine hand piece, S. H. Brooks	Pt
er.	Derailing switch W. Wharton Jr 505.076	Pu
of	Display rack, C. Frankel 534,916	R
'es .	Ditching machine, Hughes & Hull 534,728 Door check and spring, G. E. Dudley 504,826	R
of	Door check and spring, G. E. Dudley	R
ng	Dough mixer, T. Gaskins. 604.873 Drawing board tilting device, L. P. Streeter. 344.371 Dredge, hydraulie, A. W. Robinson. 504.750	R
88.		R
25	Drying machine, J. K. Proctor. 504,747 Dust pan, A. L. Hollander. 504,878 Dyeing etc., apparatus for, H. Schwabe. 504,768 Electric conductors, automatic safety joint for, 505,089	R
ed, [†] A .	Electric conductors, automatic safety joint for,	R
ts.	J. H. Curry	R
in-	Electric motors, switch for controlling, H. Saw-	R
80-	yer	R
rse	Electric motors, switch for governing, E. F. Ramien. 505,063 Electric switchboard, F. W. Mount 504,753 Electric switchboard, F. W. Mount 504,751 Electrolytic cell, T. Craney 504,753 Electrolytic dishinagun, A. Brener 504,753 Elevator door, R. T. Crane, 504,854 Engine, Seel Carding ongline, Compoundengine, Hydrocarbon engine.	R
of	Electrolytic cell, T. Craney 504,774	R
	Elevator door, R. T. Crane	R
-	Hydrocarbon engine. Engine operated by the explosion of combustible	l R
	Hydrocarbon engine. Engine operated by the explosion of combustible mixtures, W. Hornsby st. al. 504,807 Engine steering mechanism, traction, J. H. 504,807	R
on Da-	Stevenson	8
he in-		S
all	Fence post driver, H. Vobach. 504,762 Fence, wire, A. E. Cody. 504,762	8000
ons or es	Fence post driver, H. Vobach. 504,762 Fence, wire, A. E. Cody. 504,762 File, J. W. Hine. 504,763 Fire escape, L. A. H. Engelke. 604,808 Fire extinguisher and alarm, automatic, E. Liv-	100
2X- 288	Fire method of and apparetus for extinguish-	8
ad-	Fins, H. P. Weldig apparatus 100 Extinguisms 100, 1	88
_	Flashlight burners, combined charger, reflector, and smoke arrester for, S. M. Williams 504,955	. 8
S	Flax straw, cleaner and reducer for crude. J. T. Smith 505.063	8
	Folding chair, W. A. Wright	999
	Game apparatus, F. N. Carpenter	999
	Gas burner, fuel, J. B. Wallace	8
	Gases under high pressure for power, apparatus for using G. H. Chappell	8
E.	Flastraw, cleaner and reducer for crude, J. T. Sun Bartraw, cleaner and reducer for crude, J. T. Sun Bartraw, C. S.	99999
E.	Gate, H.D. Herrington 504 78: Gate Taylor & Walters 505 005 Gate fastener T A Carraher 504 805	İğ
6.]	Gate fastener, T. A. Carraher. 50,885 Godevil, H. Hall 50,735 Gong, electro-mechanical, F. M. Dunn 50,832 Gong or call bell, N. J. Busby 54,765	18
919	Gong or call bell, N. J. Busby 504,705 Governor, engine, R. H. Thurston 504,953	8
,980	Grain, nuts, etc., machine for scouring and clean- ing, Tinkham & Sims	8
002	Grinding mill, J. Thompson	8
,859 ,811	Gun machine R.J. Gatling	89
,797 ,933	Hammer and hatchet, combination, U. Bronk 504.906 Harmonica, M. Ams	200
,855 ,816		18
787	Hat Iron, portable, A. E. McDonald. 54,818 Hay rake and loader, C. A. Fleming. 54,818	999
,983 ,990	Hatron, portable, A. E. McDonald	5020
,715 ,810	Brady 504.96 Heel attaching machine, H. A. Webster 505.076	20.00
,030	Heel burnishing machine, H. M. Loomer	8
,053	Hinge, W. H. Hart	1
,891	Hoisting, method of and machinery for, E. Rey- nolds 504,94	
,778 ,902 ,721	Hominy mill, R. G. Jenckes	; <u>7</u>
.902		
,900	Horseshoe calk, S. Robinson 504,54 Hot water heater, J. Thorp 504,55 Hydrocarbon engine, A. Gray 544,72 Jee creeper, J. Carr 504,718	1
,870 ,888 ,007	Ice machine. J. Kurtz	7
.007 .957 .834		2
,701	101Dt.	1
	Journal, axle, C. W. Reniff	7
,896 ,049	Knife for cutting or scoring pasteboard, Saltzkorn	.]
.854	& Nicolai (r)	
741	Knitting machine sinker or web holder. S. S. Cook. 504.88 Knurling fixture. G. E. With erell 604.78 Ladder, extension, L. C. The fel. 505.07	
., . 24		. 1

ermerrena.	
Loom stop motion, Gaunt & Wild	W
Loom stop motion, Gaunt & Wild	**************************************
Mail bag fastening, Z. B. Hendrix 505, b45 Measuring apparatus, electric, C. H. Rudd. 504, 754 Measuring distances and solving the competence.	W
problems, instrument for, E. Falletti. 504,879 Merry-go-round, H. S. Moore. 54,839 Merry-go-round, H. S. Moore.	W
Metry-go-round, H. S. Moore	W
Mill Coo Crinding mill Homing mill Wind-	\w/w
milli. Holmiy mil. Wildering machine, J. A. Brandon	W
Motor. See Multiphase motor. Spring motor. Motor, D. E. Myers	(w :
Nut lock, E. E. Poole 504,999 Nut tapping machine, T. S. Disston 504,971	
Oil can, C. W. Proctor	Ba
Ores, extracting metals from, Calboun & Beam 504,706 Pail making mechanism, G. W. Laraway	Ca Cl Cc Cc Ga
Pan. See Amalgamating pan. Dust pan. Paper box, folding. W. H. Cook	In
Paper for making transfer pictures, H. De Grou- silliers	La Pa Pi Pi
	Pi
Paper, ornamenting mechanism, S. Wheeler	Sp
Penholder, J. B. Geissinger]
Piano, J. W. Macý	A
Pipes, device for protecting steam, R. C. Forsyth 504,871 Planter, corn, W. E. Matthew. 504,929	Ci
Planter, seed, 1. Y. Palmer	H
Plows, propelling attachment for garden, S. F. Cruli 504,712	K
Pocket book or case, H. Meyer	M
Plows propelling attachment for garden, S. F.	Q
Printer's drying rack, H. T. Koerner 504,885 Printing press paper folding machine atta chment,	R St
T. C. Dexter. 504,825 Pulley block, self-tripping, C. Matheson. 504,928 Pump curb, W. Kegler. 505,047 Pump, grvity, W. A. Hartt. 504,922 Pump valvo, direct-acting steam, M. Misic. 504,822 Puzzle, T. H. Appar. 504,842 Pyroxyline solvent and its compound, C. L. Borg-	S
rump, grivity, W. A. Harit. 504,522 Pump valvo, direct-acting steam, M. Misic. 504,844 Puzzle, T. H. Angar. 504,844	T
шеует оогу	T
Rack. See Chimney rack. Display rack. Printer's drying rack. Rail joint, J. H. Crosby	-
Railway, conduit electric, C. O. Ehlert	18 18 25
Railway frog, N. W. Boyd	B
Railway rail joint, F. Herman	' ∵ v
Railway switch, W. Wharton, Jr	li ir
Railway trains, automatic reversing device for, W. Weaver	Y Y
drying rack. Rall joint, J. H. Croeby. 504,711 Rallway, conduit electric, C. O. Ehlert 505,681 Rallway, conduit electric, E. D. Dilert 505,681 Rallway roossing alarm, C. T. Frasher 504,712 Rallway froe, N. W. Boyd 506,022, 505,022 Rallway froe, D. H. Fitzgerald 506,022, 505,022 Rallway rall chair, F. P. Reilly 500,812 Rallway rall chair, F. P. Reilly 500,812 Rallway rall plont, F. Herman 604,871 Rallway rall plont, F. Herman 604,877 Rallway switch, street, P. J. Boris 505,019, 505,020 Rallway te, N. Benjamin 505,019, 505,020 Rallway trains, automatic reversing device for, 64,707 Rallway trains, automatic reversing device for, 64,707 Rallway trains, automatic reversing device for, 64,708 Rake. Bee Hay rake. Recorder. See Time recorder. Recording device for calculators, etc., W. S. Burroughs.	1
Toughs 506,071 Reflecting and refracting radiant energy, device for E.C. Obmart. Refrigerator, C. H. Fox 504,891 Register, See Billiard register. Door register.	<u>'</u> -
Refrigerator, C. H. Fox	Ī
Downloton Coo Decomes nomicton	[-
Roller. See Shade roller. Roofing, sheet metal, W. C. Berger	L
Respirator, mask C. B. Konig	g a
Sawing machine, band, E. C. Mershon. 505.08	ו ע
Scale, weighing, C. C. Miller	<u> </u>
Scythe, J. Badertsher. 504,77: Seat, G. A. Ennis. 64,911 Separator. See Liquid separator. Ore sepa-	\$ t
Sewing machine, P. L. Cox	<u> </u>
Sewing machine, E. Smith 504,79. Sewing machine attachment holder, J. M. Greist. 504.87.	
Sewing machine tuck marker, J. M. Greist 504,805 Sewing machines, wide hemmer for, A. S. Simons 504,905	7 1
Shade roller, spring, A. E. Dennis 504,97 Shade supporter, window, S. T. Stuver 504,95 Shatting Aovits C. W. & M. G. Gillette	
rator. Sewing machine, P. L. Cox	, o 4
Sheet metal, machinery for pressing or stamping boats from, W. Heslop. 504.87 Shelving, store, F. A. Anthony. 505.01 Shutter fastener, A. F. Gustafson 504.92 Signal device, electric, C. R. Piggins 504.72 Signal device, electric, C. H. Rudd 504.75 Skewer for closing fowls, T. R. Fischer 504.75 Skewer for closi	8 8
Shutter fastener, A. F. Gustafson	5
Skewer for closing fowls, T. R. Fischer. 504,77 Sleigh, C. G. Regustrom. 504,94	<u> </u>
Sleigh, C. G. Regustrom	ا ا د
Spinning machine separator mechanism, E. M.	* <i>4</i>
Spinning machine traveler ring, H. L. Peirce 504,39	"
F. Molie. 5648.1 Spinning spindle, self-balancing, E. E. Bradley. 56488 Spool carrier stop mechanism, A. Bayler. 564,88 Spring motor, F. Briggs. 564,89 Spring motor, W. Howard. 564,89 Spring hotor, W. Howard. 564,89 Stalk cutter, Musler & Burford. 564,89 Stalk cutter, Musler & Burford. 564,89 Still retort, J. Freel. 564,89 Still retort, J. Freel. 564,89 Stove ovens, adjustable grate for, W. L. Hinds. 564,89 Supporting bracket, S. R. Scottron. 505,00 Switch. See Derailing swifeb. Railway switch. Telephone switch. 504,99 Switch stand, R. H. Canfield. 564,99	5
Spring motor, F. Briggs. 504, 30 Spring motor, W. Howard. 504,80	8
Stalk curter, Muellor & Burford 504,98 Step, folding, H. J. Climer 504,96	6
Still retort, J. Freel. 504,91 Stool, milking, O. A. Moody. 504,99 Stove overs, adjustable grate for, W. L. Hinda. 504,83	$\begin{bmatrix} 7 \\ 2 \end{bmatrix}$
Supporting bracket, S. R. Scottron	ğ 5
Switch stand, R. H. Canfield	4
Switch. See Beralling switch. Telephone switch. Switch stand, R. H. Canfield	11 i g .
Beecher. 504,90 Telegraph, printing, Linville & Hettmansperger. 504,75 Telephone switch, J. Steiner. 505,70 Telephone transmitter, J. A. Brown 504,80 Thrashing machine feeding attachment, H. A. Stottenberg. 504,80	200
Thrashing machine feeding attachment, H. A. Stoltenberg	0
Tile. See Metallic tie. Railway tie. Tile construction, illuminating, H. Haustein 505,04 Time recorder electric C. E. Ongley.	4
Stottenberg. 504.36 Tie. See Metallic tie. Railway tie. Tile construction, illuminating, H. Haustein. 505.04 Time recorder, electric, C. E. Ongley. 505.06 Tire, pneumatic, F. H. Sprang. 504.75 Tire pump, pneumatic, F. Veith. 504.87 Tire pump, pneumatic, F. Veith. 504.87	3 ! 3]
Tires, woven fabric for wheel, J. Lyall	2
Bowman 504,73 Track jack, J. McMurrin 504,93 Tran, See Animal tran	19
Traveling bag, A. C. Krick. 504,8 Traveling bag, R. Ponickau. 504,8 Trolley beed J. P. Medder. 504,8	0
Truck, motor, J. A. Brill 504,8 Truss, J. A. Hopkins 504,8	10 17
Tube cutter, F. Jungmann. 504,71 Tubular boiler, B. F. Edg r. 505,01 Typewriting machine. T. J. Downing 2017	16 16 13
Typewriting machine, H. W. Merritt	8
1 ypewriung macmine, G. B. Webb	15 14
Umbrella support, W. Fanckboner. 504,7 Umbrella support, M. Light 504,8 Valve J. Jeannotte	13
Valve, faucet, Schneider & Foley 504,7 Valve, radiator air, G. E. Dixon 504,9	55 72
vaut 107 cenings, bridges. etc., J. Melan	72
Bowman 501, Track jack J. McMurrin 504, St. Track jack J. McMurrin 504, St. Track jack J. McMurrin 504, St. Track jack J. A. Krick 504, St. Traveling bag, R. Ponickau 504, St. Traveling bag, R. Ponickau 504, St. Trolley bead, J. P. Maddox 504, Truck, motor, J. A. Brill 504, St. Truck, motor, J. A. Brill 504, St. Truck jack jack jack jack jack jack jack ja	56 18 91
Wagnu brake, J. Krieg W Fping or beaming machine. R. Simons. 594.7 Washer finishing machine, K. Frucht. 594.8 Washing machine, E. G. Minnemeyer. 594.9	30 89

٠.		
1	Washing machine, J. Shaffer	504,946
	Washing machine, E. L. Wallace	504,763
١	Watch, stop, H. A. Lugrin	505.052
i	Watertight lining, D. Furgeson	505.041
	Wheel. See Car wheel.	,
	Whiffletree, C. S. Wells	M4.822
	Whiffletree hook, O. C. Joyce	504.925
	Whistle, W. Ely	504 716
	Windmill, A. H. Neller	504 994
ı	Window, C. Hibberd	504,006
	Window bead fastener, H. A. Green	KO4 020
	Wire fabric machine, A. L. Kitselman	504,004
•	Wire tightener C. I. Cline	EOF 000
	Wire tightener, G. J. Cline	504,029
		004,865
	Woodworking machines, adjustable roller for, C.	
	O. Mook	604,932
	Work holding clamp, W. J. Avey	604,960
	Wrench, A. Anderson	504,698
	ĺ	
	DEGLONG	

DESIGNS.

ŝ١		
Q١	Badge, G. A. Schlechter	22,777
9	Badge, G. A. Schlechter Bookmark, J. Best	22,775
8 1 6 1 3	Carpet, W. F. Brown	22.772
6	Clock case, J. H. Zeilin	22 702
1		
₹.	Condiment holder, A. Steffin	22.781
v	Cooking pan, covered, A. B. Conde	22.782
	Gas burner frame, L. Casemere	22 784
4	Inkstand, A. W. McNeil	
n	Inkstand, A. w. steren	22,110
	Lavatory or sink Lap, W. Bunting, Jr	22,785
	Lavatory or sink trap, W. Bunting, Jr	22,774
57	Pincushion, F. Ratcliff	22,776
15	Plate. A. Hache	99,790
77	Plate, A. Hache	22,100
	Radiator, Williams & Ambrose	
- 1	Spoon, etc., F. A. Dawling	22,778
	Spoons, etc., handle for, R. Rhodes.	22,779
ŧO.	Spoons, etc., handle for, R. Rhodes	99 796

TRADE MADES

TRADE MARKS.
Antiseptic for destroying insects, fungi, and the like, Farbenfabriken, vormals Fr Bayer & Co. 2,806 (Igarettes, American Tobacco Company. 22,606 Gresse, belt, G. W. Southwick. 23,605 Hose and belting, rubber and textile, Boston Woven Hose and Rubber Company. 25,598 Knitted shawis, Schlottmann & Co. 25,597 Medicine for expelling tapeworms, R. Phillips. 23,600 Milk, fluid or dairy, New York Condensed Milk Needles, sewing machine and hand sewing, Na-
tional Needle Company
Oranges and lemons, L. Contencin & Son
Remedy for diseases of the kidneys and liver. F.
Fenn 23,511 Salves and cintments, W. H. Lockwood 2007
Soap for family, laundry, and mill use, J. E. Noble 23,600
Teeth, preparation for the painless extraction of.
Teeth, preparation for the painless extraction of, G. L. Grier
Toilet articles and preparations, including soap,
Derfumed, V. Klotz
Toilet articles and preparations, including soap, perfumed, V. Klotz. 23.599 Toulc of malt and hops, Hospital Tonic Co. 23.693 Toys, R. Roach. 23,696
20,54 24 24040241111111111111111111111111111

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued. since 1863 will be furnished from this office for 25 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway, New York.

Canadian parents may now be obtained by the in-rentors for any of the inventions named in the fore-coing list, provided they are simple, at accost of \$40 each if complicated the cost will be a little more. For full instructions address Munn & Co., 361 Broedway, New York. Other foreign parents may also be obtained.

Mdvertisements.

ORDINARY RATES.

Inside Page. each insertion - - 75 cents a line Buck Page. each insertion - - - - \$1.00 a line For some classes of Advertisements, Special and Higher rates are required.

The above are charges per agate line—about eight words per line. This notice shows the width of the line, and is set in agate type. Eugravings may head advertisements at the same rate per agate line, by measurement, as the letter press. Advertisements must be received at Publication Office as early as Thursday morning to appear in the following week's issue.

Patent Foot Power Machinery, a Complete Outfits.

Wood or Metal workers without steam power can successfully compete with the large slope, by using our New Line large slope, by using our New latest and most improved for gracifical Shop Use, also for Industrial Schools, Home Training, etc. Catalogue free.

Seneca Fai's Mfg. Co. 636 Water Street, Seneca Fails N. Y.



IMPROVED LATHES MODERN ENGINE LATHES DESIGNS Also Foot Lathes, Tools and Supplies. Catalogue Free Sebastian Lathe Co. 1240-122 Culvert Alfect.



PRESS, \$8
Under the state of th

SCIENTIFIC AMERICAN SUPPLEMENT. Any desired back number of the SCIENTIFIC AMERICAN SUPPLEMENT can be had at this office for cents. Also to be had of newsdealers in all parts of

