### Business and Personal.

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Grindstone Frames-With cabinet base and all improvements. Send for circulars and prices. W. P. Davis. Rochester, N. Y.

Shingling gauge patent for sale. See page 28 Acme engine, 1 to 5 H. P. See adv. next issue

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## HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our

ro 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 This is for our information and not for publication.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.

In quiries 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 referres to may be had at the office. Price 16 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(4446) W. J. H. says: Please inform me if there is any way to prevent a boiler from priming. Would you advise using potatoes for removing scale. If so, would 20 pounds be more than advisable for a 60 horse power tubular boiler, cut small and dropped in in the steam drum? I would like to have your idea about using coal oil for removing scale in boilers. A The priming of a boiler may arise from incrusted tubes or dirty water, which lessens steam production, or possibly from overtaxing its capacity. Although potatoes are said to have been used for removing scale in boilers we have too little faith in their efficiency to recommend them. Coal oil has the tendency to gather the dirt into a cake, which is liable to settle on the fire sheet and injure the boiler. The easiest to obtain and cheapest boiler cleaner is the ordinary sal soda or crystallized washing soda. One half pound to a boiler horse power, dissolved in the feed water and pumped into the boiler where, after a day's boiling in the regular use of the boiler, it can be blown out by repeated filling up and blowing down three cocks at a time, while the boiler is running. Repeat and clean out the boiler.

(4447) H. M. T. asks: 1. If cocaine were applied to one spot of the body frequently, would it kill the nerves at that place? A. No. 2. What work on psychology would you recommend for the general reader? A. We recommend and can supply Sully's "Outlines of Psychology," price \$3 by mail post paid, also Munsell's " Psychology," price \$1.75.

(4448) T. H. says: 1. There is a spring coming out of a precipitous hill 250 feet from its base. It fills a 11/2 inch pipe. There is anxiety to know what horse power could be developed if it were brought to the base in a perpendicular pipe if properly handled. Also how much less would be the power if brought down in three perpendicular sections, that is a horizontal pive from the bottom of one to top of another? Also what horse power at a grade 221/2°. Has a hammer with a sharp screw thread in the eye for receiving the handle ever been known or is it now original? If distilling water will not remove the odor of volatile 

it? A. We cannot rate the power of a spring without knowing the quantity of water flowing in gallons or cubic feet per minute, or the length of the pipe and the vertical height of the spring above the point of discharge, which must be open to the full capacity of the pipe. A direct line of pipe down the slope of the hill will give the greatest efficiency over the other line, as stated. We have no knowledge of a hammer with a screw eye. Distillation purifies water by separating mineral and organic matter from the distillate. Odors if not eliminated by open boiling, may be absorbed by filtration through animal carbon.

(4449 H. B., Munich.—In regard to your numerous queries, we assure you that the United States naval authorites are thoroughly posted as to all the known improvements in naval armament, both for offence and defense. All the steel alloys have been tested and the nickel steel found to be the best for all purposes. The Mannesman tube process has not yet been made practicable for the great-gun tubes.

(4450) D. E. S., Eaton, O., says: Early in the spring of this year water works were put in operation here, the supply of water being taken from ten wells drilled 100 feet deep in a sandy loam near creek. The wells are cased up with iron pipe. Up to a month ago the water seemed as fine for drinking purposes as any I ever saw, being slightly soft. For the past month the water has been tasting bad and has been getting worse. When drawn out of the hydrant it strongly resembles milk in appearance. A glass full will clear in about two minutes, leaving no sediment. By holding the glass to the ear a singing noise similar to that produced by soda water is heard, and quite a vapor or steam will rise. By holding a lighted match in this vapor the flame will brighten up perceptibly. The water smells and tastes like oil. Is the water healthy, or how can we test it (some simple way) to find what i the matter with it? After the water settles an oily substance can be seen on the surface. Would the water in our wells be as healthy or more so than the hydrant water? Population 3,500, closely built, no sewers, land flat, too much so for cellars. Will the water likely improve? The county infirmary is located a half mile up the creek from the wells, with its sewer emptying into the creek. Would that contaminate the wells? A. The indications are that you have gas or oil at a lowerdepth than the wells, and that the pumping has drawn the gas or oil into the water stratum. The singing noise is probably the gas escaping from the water. The water may not be injurious or unhealthy, yet we cannot say that it is healthy, but the taste and smell condemn it. The sewage from the county infirmary will not contaminate the wells, as the filtration of the creek water through the soil will purify the water. We should judge the well water better than the hydrant water, provided that the wells are at a distance from water closets and cess pools. It is very doubtful if your deep well water improves. Probably a new set of wells nearer the creek and not so deep, say 50 feet, and at quite a distance apart, will give you better service. The filtrate from the creek is better than the present supply.

#### TO INVENTORS.

An experience of forty years, and the preparation of more than one hundred thousand applications for tents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office Scientific American, 361 Broadway, New York.

## INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

June 28, 1892.

# AND EACH BEARING THAT DATE

[See note at end of list about copies of these patents.]

	_
Addressing machine, F. D. Belknap	,
Alarm lock, R. G. Vassar	78,071
Ammonia, manufacturing nitrate of, R. S. Penni-	178 067
man Anchor, C. H. Eaton	178,067 177,745
Animal trap, H. J. Steiner	77,768
Axle lubricator, E. H. Benners	78,041
Axle washer, N. M. Brinkerhoff	HW 400
Axles of electrically-propelled vehicles, thrust	177,638
collar for, R. P. Osgood.	177,695
Barrel elevator, C. A. Sterling	77,874
Battery. See Secondary hattery. Voltaic body	177,975
battery.  Battery W. A. Childs	477,645
Bearing for screw nuts, ball, C. E. Brunthaver	177.C42
Bearing, roll, A. Paterson	177,062
Bed, folding, H. Stevenson Bed, sofa, W. Anderson Bee smoking apparatus, A. G. Hill	477,967 477,881
Bee smoking apparatus, A. G. Hill.	478,006
Bell gong, door, 7. P. Connell Bet stretcher, G. P. Kenehan Bicycle, S. E. Mosher. Bicycle stand, M. J. Russell Bicycle wheel, C. H. Metz.	78,060
Bicycle, S. E. Mosher	477,772 477,705
Bicycle wheel, C. H. Metz	478,064
Block. See Curbing block.	
Board. See Electrical keyboard. Boiler. See Steam boiler.	
Boiling and precipitating tower, G. E. Hanisch Bolster standard, L. G. Cook	477,755 477 650
Book, account, J. E. Ames.  Boomerang, C. H. Emerson	477,631
Boomerang gun, C. H. Emerson	477,748 477,747
Boomerang gun, C. H. Emerson  Boot or shoe fastening, W. E. Bennett  Boots or shoes, machine for inserting screw-	477,923
threaded wire into the soles of. L. Goddu.	
Box. See Letter box. Sheet metal box. Brake. See Car brake. Wagon brake.	410,000
Brake. See Car brake. Wagon brake.	477.057
Brake beam, J. Green	477,915
Bricks, Composition of matter for, A. S. Baker	477,632
Bridge gate, J. W. Rhodes	477,700 477,779

Burglar alarm systems, automatic test for, A.	Jacketed can,
Burglar alarm systems, automatic test for, A. Stromberg.       477,712         Butter cutter, L. Linkiewicz.       477,802         Button, G. Heuser.       477,802         Button, crochet, C. Kessler       477,802         Cable wad carrier pulley, M. H. Bronsdon       477,803         Cable traction mechanism, W. A. Butler       478,046         Cam, extension, B. F. White       477,978         Can. See Jacketed can.       477,703         Can cleaning maching to G. Roth       477,703	Joint. See R.
Button, crochet, C. Kessler	Kiln. See Bri Knife, N. P. N
Cam, extension, B. F. White	Beyer Knob attachu
Can. See Jacketed can.         477.703           Can cleaning machine, G. Roth.         477.703           Canning device, fruit, J. J. Isler         477.805           Car brake, D. L. Barnes.         477.922           Car brake, W. F. Gibbs.         477.942           Car coupling, Callaway & West.         477.942           Car, railway, Hoadley & Bemis.         477.932           Car window dust and cinder protector, E. B.         177.935           Carpet fastener, stair, T. H. Spurrier.         478.028           Carpet stretching device, J. T. Lemon.         477.802           Cartridge, J. M. Pollard.         478.020           Case. See Hat packing case.         288.           Cash indicator, register, and check printer, W. H.	Lacing string Lacing studs, Ladder hook,
Car brake, W. F. Gibbs. 478,003 Car brakes, slack adjuster for, G. L. Harvey. 477,842	Lamp, R. H. I
Car coupling, Callaway & West	Lamp, centra Lamp chimne Lamp, fount
Loomis. 477,948 Carpet fastener, stair, T. H. Spurrier. 478,028 Carpet fastener, stair, T. H. Spurrier. 478,028	Homan Lamp or cond Lamp socket,
Cart, dumping, L. Rodenhausen	Lamos, receu
Case. See Hat packing case. Cash indicator, register, and check printer, W. H.	lendo Lamps, wick Homan
Cash indicator, register, and check printer, W. H. Gilman. Cash register actuating device, G. Boemermann. 477,840 Catamenial sack, N. M. Dyer. Cement, etc., machine for applying, H. D. Stone. Chain coupling link, drive, C. E. Hart. Chain coupling link drive, C. E. Hart. Chain coupling link drive, C. E. Hart. 477,895 Change maker and check receiver, automatic electric, T. Mangan. 478,011 Charcoal kilns, argesting and extinguishing com-	Lantern, sign Lasting mach Latch, door, I
Cement, etc., machine for applying, H. D. Stone 478,031 Chain coupling link, drive, C. E. Hart	Latch, gate, I
Change maker and check receiver, automatic electric, T. Mangan	Lath bolter, J Lathe grindin ler Leather, skin
bustion in, A. Vickers	Knabe
cher	Knabe Letter box, W Lifting jack, C Lightning arr
Clasp. See Corset clasp. Cleaner. See Cistern cleaner. Dish cleaner. Flue cleaner.	Lock. See A Locomotive, Loom friction
Flue cleaner. Clock hand remover, G. E. Hollis	Loom weft st Lubricator.
Coin-controlled mechanism, Powell & Chandler. 477,871 Color grinding machine, H. J. Weckauf. 477,722	A. J. Shav Malt for brew
Column, structural, A. Coffin	Measuring ins Meat, preserv
Conveyer, pneumatic, E. McConnell. 477,892 Corset clasp, G. J. Pforr. 477,819	Meat, preserv Meat, preserv Meat rack, F. Meter. See C Mill. See Ro
Corters, a coominal pert for, A. L. Weeks. 478,970 Cotton press, J. L. Pridemore. 478,070 Counter, J. Gaetie. 478,002	MIIII ADDIIAIIC
Coupling. See Car coupling. Cup. See Sponge cup. Cup. See Sponge cup.	Motor, S. Pet Music leaf tu Musical instr Musical instr
Curbing block, street, S. A. Webb	Nail making I Necktie, H. H
cutter. Thread cutter.  Dental reflector and tongue guard, W. E. Andrews	
Dental reflector and tongue guard, W. E. Andrews 477,791 Desk tool table, G. Larsson. 477,762 Detector. See Pickpocket and coat thief detectors.	J. Christic Nut lock, J. I. Nut lock, S. C. Opera glass h Order ho her, Ore concentr
tor.  Dish cleaner, Harman & Polk	Order holder, Ore concentrated Ore concentrated
tor.  107.  108.	Organ, electri
Drawer, C. W. Nevel.       478,014         Dredging machine, C. H. Souther       477,827	Packing, met Packing, stea Pan. See Ste Paper stock
Drawer, G. W. Nevel.  177, 277  Dredging machine, C. H. Souther  177, 277  Dredging machine, C. H. Souther  177, 277  Drier, See Clothes drier.  Drinks, apparatus for dispensing, W. M. Fowler  177, 277  Dye, violet, Gnehm & Schmid.  178, 278  Electric alarm, S. M. Mathews.  177, 287  Electric conductor, C. T. Snedekor.  Electric conductor, composite, C. A. Mezger.  177, 287  Electric conductor, composite, C. A. Mezger.  177, 287  Electric current transformer, N. T. Wilcox.  Electric current transformer, N. T. Wilcox.  Electric lock, Hollar & Holmes.  Electric in machine, dyname, J. J. Wood.  177, 287  Electric regulating apparatus, J. M. Bradford.  177, 287  Electric switch, mast arm, T. Dillon.  177, 280  Electric switch, mast arm, T. Dillon.  177, 283  Electrode, secondary battery, H. G. Osburn.  Elevator see Barrel elevator.  Elevator, C. W. Baldwin.  178, 294  Elevator, P. Wright.  Elevator, P. Wright.  Elevator, P. Wright.  Elevator, See Fruit evaporator.  Evaporator. See Fruit evaporator.  Evaporator. See Fruit evaporator.  Evaporating and shoveling machine, E. Henne-  bery.  177, 333  Excavating and shoveling machine, E. Henne-	Partition, A. Passenger re
Electric alarm, S. M. Mathews	Pen, fountain Penholder, E Penmanship, Photographi
Electric conductor, composite, C. A. Mezger	Penmanship, Photographi Wood
Electric lock, Hollar & Holmes	Dhot ographic
Electric regulating apparatus, J. M. Bradford. 477,887 Electric switch, Pilkington & White. 477,869 Electric switch, mast arm, T. Dillon. 477,890	Piano, A. Ho Piano, N. Ma Pianoforte pe Picker. See Pickpocket a
Electrical keyboard, W. E. Blodgett	Pickpocket a Pigments, ma Pipe laying d
Elevator, See Barrel elevator. Elevator, C. W. Baldwin 478,040	Rose Pipe or flue h
Elevator, P. Wright	Planing mach Plant fender Planter guide
Engine, J. M. Andersen. 477,921 Evaporator. See Fruit evaporator.	Planting pur Plow point, (
bery	Plow, reversi Plow, truck o Pocketbook
Feed trough, G. W. Dunks	Poke, anima! Portable hou Power, applic
Engine, J. M. Andersen	Press. See C Printing and
Fence construction, G. F. St. John	Chambers Printing mac Crewell
Fender, See Plant fender. Filtering apparatus D. Williamson. 477,727	Printing pres
Fire indicator, M. W. Iles	Pump, plumb Pump, steam Punching fia
Fishing reel, T. Greason	Goertz Rack. See M
Flue cleaner, W. Pharr 477,957 Flue stopper, J. A. Brown 478,000	Rail and cros
Food articles, means for packing, H. Salzer. 477,849 Forge, blacksmith's, W. J. Ptomey. 477,699	Rail joint, A. Rail joint, M Railway car Nieuwenl
Fork. See Hay tedder fork. Frame. See Tile frame. Fruit evaporator. J. W. Doty	Railway cone Railway cone Railway cros
Fruit or vegetable cutter or grater, E. Samson 477,826 Fuel, artificial, H. Zahn	Railway cros
Smoke consuming furnace. Hot air furnace. Smoke consuming furnace. Furnace door opener, D. Curry	Railway, elec Railway exp
Gauge. See Surface gauge.  Garment hanger, C. W. Lauhin	Railway guai Railway rail, Railway rail
Gas meter, W. M. Milsted 477,910 Gas retort, A. Coze 477,834	Railway rail Railway rail
Gate. See Bridgegate. End gate.  Gate, F. E. R. Malke. 477,667  Gate. J. H. Tudor 478,036	Railway rail Railway rail Railway trac
Geological formations, apparatus for illustrating, D. M. Barringer. 477,633 Glass annealing oven, J. P. Whitney. 477,920	Railway trac Railway tie, Razor strop,
D. M. Barringer. Apparatus 10 must all 18 apparatus 19 apparatus	Reclining ch Recorder. S Reel. See F
Glass grinding machinery, R. Friedel	Reel. See F Refrigerator Refrigerator
Grain preparatory to grinding, process of and apparatus for dampening, Meier & Fritsche 477,909	Register. S Regulator.
Grain puriner, F. F. Maining 471,008 Grain separator, G. A. Schraud 477,783 Grape picker, Moore & Jory 477,952	Ring. See F Rolling mill, Roof, portal
Grate bar, J. Montgomery	Rubber shoe Rubber shoe
Gun, magazine, W. E. Loomis 477,666 Guu, magazine, A. Mercer 477,764	Sad iron, W. Safe, M. S. G Sash balance Sash fastene
Gun, spring, J. W. Atkinson. 477,852 Guns, shell extractor for bolt, P. Mauser. 477,671 Halter, A. E. Chambers, Jr. 477,644	Sash fastene Sash holder, Saw, cut-off, Saw guide, (
Hanger. See Door hanger. Garment hanger. Harrow or cultivator, Baker & Oborn	Saw guide, G
Hat bodies, seam for securing sweat bands to, W. P. Gammons, Jr	Sawing mach Scraper, cott Screws, lath
Hat noder and case, H. Stevenson	Scuttle and Secondary b Seed huller,
Hat polishing and cleaning machine, C. Simis	Sewing mac Sewing mac
Hay stacker, C. A. Purvis. 478,023 Hay stacker, F. W. Whitney 477,878	Sewing mach
Hat bodies, seam for securing sweat bands to, W. P. Gammons, Jr	Sewing mad tachmen Sewing swea
Hemp breaking and cleaning machine, J. Bresin. 477,794 Hitching device. C. Belle	Shearing ma
holder. Pennolder. Sash holder. Slip	Shears, J. H. Sheep box a
holder. Hook. See Ladder hook. Hook, H. S. Hart	man
Horse detacher, J. H. Lane. 477,664 Horse detacher, G. W. McAlister. 477,775 Horseshoe, G. Custer. 477,926 Horseshoe, F. A. Hoover. 477,626 Hose, reducer and nozzle for, C. R. Robinson. 477,824 Hot air furnace, J. W. Frizzel. 478,841	Sifting and
Horsesnoe, r. A. Hoover	Sign, street, Skirt, C. Col Sled, bob, R. Slip holder,
House. See Port able house. Huller. See Seed huller.	Slip holder,
House. See Port able house. Huller. See Seed huller. Ice pick. E. Wenigmann. 477,919 Indicator. See Cash indicator. Fire indicator. Indicat, blank with signature controlling, E. A.	Smoke const Spark arrest Spark arrest
Dubey. 477,744 Inkstand, P. W. Salias. 477,707 Insulating electric conductors A. V. Abbott. 477,707	Spool rough
Insulator, F. D. Goold	ford Square, cent
Irrigating laterals, machine for forming, A. J. Thompson. 478,034 Jack. See Lifting jack. Thill coupling jack.	Stacker, J. F

	Jarfastening, R. I. Patterson.  Joint. See Rail joint. Railway rail joint.  Keys, device for carrying, J. C. Taylor.  Kiln. See Brick kiln.	477,955 477,970
١	Knitting machines, electrical stop motion for, A.	477 OCC
	Knob attachment, Doebler & Bryant Lacing strings of shoes, eye for, W. Lang	477,586
-	Ladder, step, S. Keeling	477,843
	Lamp, fount for central draught lamps, W. C.	477,930
	Homan Lamp or conductor support, electric, C. Bell Lamp socket, incandescent, Smith & Foster Lamps, receptacle for portable electric, H. Molendo	477,864 477,984 477,786 477,810
Ì	Lamps wick reiser for central draught W C	
	Homan 477,882, Lantern, signal, J. H. Parsons 477,882, Lasting machine, A. E. Stirckler 477,788, Latch, door, H. D. Wheatley Latch, gate, A. R. Grimes Latch, reversible, A. A. Dovey	477,789 477,790 477,654 477,929
	Lath bolter, J. H. PetersonLathe grinding attachment, G. A. & O. W. Muel-	477,95 <b>6</b> 477,911
-	Leather, skins, etc., machine for coloring, C. Knabe. Letter box, W. H. Sheffield. Lifting jack, C. Morrill Lightning arrester, F. Haselwander.	477,761 477,964 477,771
		411,000
	Loom friction let-off motion, T. S. Brown Loom weft stop motion, Wyman & Clark Lubricator. See Axle lubricator.	
	A. J. Shaw. Malt for brewing, preparing, Richter & Schaefer	477,963
	Meat, preservation of, Laubheimer & Salzer. Meat, preserving, H. Salzer. Meat, preserving, H. Salzer. Meter. See Gas meter. Mill. See Rolling mill.	477,844 477,850 478,025
	Mill. See Rolling mill. Mill appliance, J. A. Potter Motor, S. Peterson	477,822 478,068
	Mill appliance, J. A. Potter. Motor, S. Peterson. Music leaf turner, E. Von Trautvetter. Musical instrument, key, C. E. Whitney. Musical instruments, vibrator for reed, H. Janes. Nail making machine, L. Goddu. Non-conducting covering for steampipes, etc., B.	477,828 477,830 477,661 478,054
	Necktie, H. Heath.  Non-conducting covering for steam pipes, etc., B.  J. Christie.	478,008 477,647 477,941
	Nut lock, J. D. Jolley Nut lock, S. C. Pettegrew  Opera glass holder, A. W. Buchbinder, Jr.  Order bolder, J. A. Thuge	. 477,941 . 478,019 . 477,643 . 478,035
1	Ore concentrator, H. F. Hicks	477,934 477,936 478,032
	Non-conducting covering for steam pipes, etc., B. J. Christie Nut lock, J. D. Jolley Nut lock, S. C. Pettegrew. Opera gi ass holder, A. W. Buch binder, Jr. Order ho Mer, J. A. Thuge. Ore concentrator, H. F. Hicks. Ore concentrator, E. A. Hockley Organ, electrical, R. P. Strand Packing, metallic rod, G. R. Dolf. Packing, steam joint, J. G. Broman. Pan. See Stew pan. Paper stock washer, W. Moorhouse. Partition, A. J. Wells. Passenger recorder for public vehicles, J. M. O'Kelly.	478,032 477,741 477,640
	Partition, A. J. Wells.  Passenger recorder for public vehicles, J. M. O'Kelly.	. 478,066 . 477,829 . 478,016
	O'Kelly Pen, fountain, C. E. Browning Penholder, E. N. Gifford Penmanship, system of, H. R. Fuller. Photographic paper holder and cutter, T. E. Wood.	. 478,016 . 477,854 . 478,073 . 477,653
	Photographic plate holder, A. E. Paige	477.696
	Piano, N. Marston. Pianoforte pedal, H. A. Hambloch	. 477,669
	Pickpocket and coat thief detector, J. F. Hurd Pigments, making white, J. Blair Pipe laying device, sewer, water, and drain, E. H. Rose	. 478.U24
	Pipe or flue header and expander, C. A. Frayer Planing machine, W. H. Doane Plant fender, R. Jones.	. 477,928
	Plant fender, R. Jones. Planter guide marker, corn, H. A. Behrns. Planting purposes, guide linefor, H. Nichols. Plow point, G. C. Westervelt. Plow, reversible, A. Pirch. Plow, truck or rice farm. J. A. Taylor, Jr.	. 477,983 . 477,776 . 477,723 . 477,912
	Pocketbook fastening, A. Goertz	477,798
	Power, application of differential, F. Burger  Press, See Cotton press, Printing press.  Printing and folding machine, combined, C	477,736
7	Chambers, Jr	. 477,886
1	Crewell Printing press, perfecting, J. C. Fowler. Protector. See Waistcoat protector. Pump, plumber's force, J. H. Lawless. Pump, steam, J. Maslin	. 477,808 . 477,949
	Pump, steam, J. Maslin Punching fiange plates, machine for, H. C. Jones Purse and pocketbook frame and catch, A Goertz. Rack. See Meat rack.	477,799
1	Rail and cross tie, combined, A. J. Moxham Rail joint, A. J. Moxham Rail joint, M. C. Niles	. 477,679 . 477,677 . 477,694
9		
3	Nieuwenhuys Railway conduit, cable, M. H. Bronsdon Railway conduit, electric, C. T. H. Schwieger Railway crossing, A. J. Moxham, 477,676, 477,681, 477,682, 477,685, 477,688 Railway crossings, frog or cross for, A. J. Mox	7, 477,689
3	Railway, electric, J. W. Bates.	477,734
2	Railway expansion rail, A. J. Moxham	i, 477,688 n 477,690 477,641
76	Railway rail curve, J. G. Jordan	. 477,501 ), 477,689 . 478,059 477,686
3	Railway track switch pieces, A. J. Mokham. Railway tie, A. J. Harrford. Razor strop, F. Kampfe, tal. Reamer, expanding, J. H. Phillips. Reclining Chair, C. C. Lockstaedt. Recorder. See Fassenger recorder.	478,058 477,902 478,069
097		
9	Refrigerator, V. Hoerschelmann	
323	Ring. See Fingerring. Hat packing ring. Rolling mill, J. A. Potter. Roof, portable, J. H. Rice. Rubber shoe, Fowell & Marshall. Rubber shoe, E. A. Saunders. Sad iron, W. Hunter Safa M. S. Coldernith	477,821 477,701 477,958
6 3 6	Rubber shoe, E. A. Saunders. Sad iron, W. Hunter. Safe, M. S. Goldsmith	477,958 477,851 477,660 477,800
2 1 4	Rubber shoe, E. A. Saunders. Sad iron, W. Hunter. Safe, M. S. Goldsmith Sash balance, A. Lang. Sash fastener, J. N. Euwer. Sash bolder, H. B. Hayes. Saw, cut-of, E. B. Hayes. Saw cut-of, E. B. Hayes. Saw guide, G. M. Hinkley. Sawmill pawl and ratchet, G. W. Stinebring. Sawing machine, F. M. Teeguarden. Scraper, cotton, McAlister & Waddell. Screws, lathe attachment for cutting, R. Norwe Scuttle and skylight, G. Weber.	477,891 477,891 477,750
2 9	Saw guide, G. M. Hinkley Sawmill pawl and ratchet, G. W. Stinebring Sawing machine, F. M. Teeguarden Saving machine, F. M. Teeguarden Saving machine, F. M. Teeguarden	477,861 477,710 477,972
9	Secondary battery, W. L. Silvey	477.91
8510	Senarator See Grain senarator	
9180	gett	411,034 t-
444	Gammons, Jr	. 477,89
*	Shears, J. H. Stratton	. 477,71
5456	man Sheet metal box, G. B. Cooper. Shutter fastener, M. F. Ten Eyck.	477,89 478,649 477,97
8441		11. 25 477,87 477,83
9	Smoke concuming furnace (1 & Pilor	477 79
4	Sponge cup for school desks, J. S. McClung	477,99 477,95 477,95
7 2 3 0	Spraying device for cooling beer, etc., C. C. Har ford.	477,83 1- 477,85
14	Stacker, J. Holman	477,98 477,88