#### RECENTLY PATENTED INVENTIONS. Engineering.

STEAM ENGINE.-William F. and Eugene W. Cleveland, Rounthwaite, Manitoba, Canada. This is an engine of simple construction, designed to afford a higher than usual degree of efficiency by reducing to a minimum back pressure in the cylinder. It has a main and a supplementary exhaust pipe, the ends of the pipes being alongside each other, and the upper end of the main pipe extending above the upper end of the supplementary pipe, and creating suction over the latter, removing atmospheric pressure and securing a more prompt and perfect exhaust.

CONSTRUCTING SEWERS, SUBWAYS, ETC.—Harry P. McDonald, Louisville, Ky. This inventor provides an apparatus comprising a pair of telescopic shells, the rear one having an annular shoulder pressing against the line of the conduit, the sections being independently or simultaneously forced forward or in opposite directions. Means are provided for temporarily sheathing and applying a permanent cement lining, peculiarly arranged plunger or feed devices setting the sheathing and compressing the concrete as the sheathing and cutter carrying means are forced forward. A carrying mechanism is provided for removing the loose earth and bringing into position the concrete for lining.

GENERATING AND APPLYING VAPORS. -Oreon S. Rhodes, East Stroudsburg, Pa. This improvement is for the generation of vapors of volatile liquids and driving motors thereby, the boiler fluid being preferably a fixed oil boiling at a high temperature, giving great heat without corresponding pressure, and the vapor being generated from a volatile liquid combined with a soluble gas, a volatile liquid, or a liquefied gas. The boiler and engine form but one machine, both making use of the same boiler fluid, the construction being such that the fuel is utilized to the greatest advantage and the danger from explosion is reduced to a minimum.

#### Electrical,

ANTISPARKLE COMMUTATOR COM-POUND .- John R. Davis, New Iberia, La. To prevent sparkling at the commutator of a dynamo, this inventor provides, for application on the commutator, a compound containing a fatty substance mixed with a good conductor of electricity, the mixture being hardened by chalk. The compound is designed to reduce the wear of both the commutator and the brushes, while preserving a uniformly good contact, so as to obtain a steady flow of elec-

#### Mechanical.

WRENCH.-Matthew C. Gav and Joseph Heard, Arcadia, Fla. According to this improvement a fixed head and hinged jaw are detachably connected, so jaws for pipes or for nuts may be interchangeably used, the connection being so effected that the pivot portions of the hinged jaw are guided and slip longitudinally into their seats, moving with such seats in the tilting movements of the jaw. In one tool is thus afforded a pipe wrench and a nut wrench, the device being also simple, inexpensive and durable.

TACK MACHINE.—Russell Hathaway. Elbridge G. Paull, and Cyrus D. Hunt, Fairhaven, Mass This machine has two cams operating two levers carrying the leader and lazy knives, the cams actuating the leader knife and maintaining the lazy knife up and still while the edge of the plate is turning down, the improvements consisting principally in the form of the lazy cam, the form of the gripping cam, and the centering of the gripping lever. The machine is designed to be run at a high speed with good feeding of the plate, the following of its cam by the gripping lever, and diminution of the wear of the leader knife.

#### Agricultural

SICKLE BAR.-James Smith, Granite Canon, Wyoming. This invention provides for a construction of the cutter or sickle bar to materially lighten the draught in mowing grass and harvesting grain, the bar being so made that it may be used for trimming edges as well as for cutting grass. The bar has a series of overlapping disk cutters and means for rotating adjacent cutters in opposite directions and reversing the direction of rotation, each of the alternate cutters being adapted to co-operate with either of the cutters between which it is located.

PLANTER.-John W. Shore, Angola, Ind. This machine is adapted to plant two kinds of seed alternately if desired, the seed being delivered to a chute to conduct it to the ground, and the planting being uniform as to distances apart and the number of seeds or grains delivered at a time. The shoe carrying the chute makes the furrow and covers the seed, and also allows for the vertical adjustment of the chute, springs holding the shoe in yielding contact with the ground.

STAKE FOR PLANTS, FLOWERS OR TREES.—Theron N. Parker, Quick, Iowa. This is an improvement in devices for tagging plants, trees, etc., by florists, nurserymen and others. This stake has a number of wire legs whose upper ends sie twisted together, one of the lengths of wire extending up above the others and being bent at its upper end to encircle the stalk of the plant. A sheet metal tag is attached by wire to the cop bend.

#### Miscellaneous.

PHOTO-MECHANICAL PRINTING. - Edouard G. D. Deville, Ottawa, Canada. To change the continuous tones of an original into tones formed of black and white dots by a screen placed in fro it of the photographic plate, this inventor has devised a new kind of screen, furnished with alternate opaque and transparent squares, disposed like the squares of a chess board.

ADJUSTING BEAT OF CLOCK PENDU-LUMS .- Fred. F. Richey, Topeka, Kansas. This is a leveling attachment for a clock mechanism controlling the pendulum and verge to such an extent that it will act properly even though the clock should be considerably out of plumb. The device consists of a weighted swing-

ing frame of a novel character arranged to carry the verge, and is applicable to any form of clock mechanism It is simple, durable, and inexpensive

VACUUM PAN.—Alphouse F. Gaiennie, La Fourche, La. This invention provides an improved separator for use on evaporators to save liquid carried by the vapors, and for use in separating oil and grease from exhaust steam. The improvement consists principally in the placing of one or more cone-shaped plates in the path of the vapors, within a suitable casing, there being a receiving receptacle at the lower edge of each plate into which pass the liquids separated from the vaporsstriking the plates, such liquids being returned to the mass boiling in the evaporator.

CHOCOLATE DIPPERS - Cyprien Gousset, New York City. Two patents have been granted this inventor, one of which is for an appliance for dipping stick chocolate and other elongated forms of candy. It comprises a frame with cross wires formed into loops and transverse brace wires, forming a simple and inexpensive device which may be made to fit odd shapes and hold the sticks so that they may be readily dipped into a chocolate solution, the device holding a comparatively large quantity of candy. In the other dipper, comprising a frame with cross wires and series of rings, provision is made for securing and dipping a large quantity of creams at a time, the creams being so held that practically their entire surface is exposed while being dipped.

CLAMP FILING DEVICE.—Edward W. Farnham, Chicago, Ill. (C., B. & Q. R.R.) This is a file holder and binder in which the files are stacked on a tray provided with cord clamping devices, there being an independent cover with cord for winding around the holder, and one of the ends of the cord being removably secured in the clamping devices, which, with the cord-furnish a guide to retain the files in place. The device is a very simple and inexpensive one to facilitate compact and secure filing, and large orders for it have been placed by the railroad offices in Chicago.

MATTRESS HOLDER FOR BEDS - Elizabeth Calkins, St. Joseph, Mo. For holding the bedding, etc., in place, in folding beds when they are turned up, this inventor provides a simple and inexpensive construction, applicable to beds of all kinds and readily adjustable for different thicknesses of bedding. The holder is attached to the bed rail, and has jaws which engage the upper and lower sides of the bedding. The holder consists of two sections, one having a lug engaged by a pivoted notched locking plate on the other section, to hold the sections adjustably locked.

#### SCIENTIFIC AMERICAN

#### BUILDING EDITION

DECEMBER, 1895.-(No. 122.)

TABLE OF CONTENTS.

- 1. Elegant plate in colors showing a residence in the Colonial style recently erected at East Orange, N. J., at a cost complete of \$11,000. Three perspective elevations and floor plans, also an interior view. An excellent design well treated. S. W. Whittemore, architect, East Orange, N. J.
- 2. A Colonial house at Madison, N. J. Perspective ele
- 3. A Colonial dwelling at Montclair, N. J. Two perspective elevations and floor plans. Architect, W. E. Bloodgood, New York City. A unique design.
- 4. Two perspective elevations and floorplans of a house recently erected at Brick Church, N. J., at a cost of \$2,700 complete. A pleasing design. Architect, Mr. F. R. Hassman, Orange, N. J.
- 5. View of the new City Hall, Philadelphia, which has been erected at a cost of over \$20,000,000. The building is of white marble and covers four and a half acres. Is absolutely fireproof. The height of this building is 547 feet 316 inches, being, with two exceptions, the highest building on the earth. The exceptions being the Washington Monument and the Eiffel Tower. The next highest building on earth is the Cologne Cathedral, which is 510 feet.
- View of the facade of the magnificent new Boston Public Library, Boston. Architects, McKim, Mead & White. New York City. Architects, Mes
- 7. Residence at Bensonhurst-by-the-Sea, L. I. Two perspective elevations and floor plans. Cost complete, \$8,500. Architect, S. S. Covert, New York City.
- 8. Perspective elevations and floor plans of a cottage at Oakwood, S. I., recently erected at a cost of \$2,800 complete. An attractive design.
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Hinerals sent for examination should be distinctly

Vilicrals sent for examination should be distinctly

marked or labeled. (6682) I. J. C. asks for a formula for

giving a platinum finish on copper. A. The appearance of platinum may be given to copper by immersion in a bath composed of 134 pints hydrochloric acid, 71/2 ounces arsenic acid, and 11/4 ounces acetate of copper. The article must be cleaned before immersion, and left in the bath till it has the color of platinum,

(6683) A. W. F. asks how to make Ive on a small scale. A. Hickory ashes are the best for making common washing soft soap (when it is not desirable to use the potash lye), but those from sound becch, maple, or almost any kind of hard wood except oak, will answer well. A common barrel set upon an inclined platform makes a very good leach, but one made of boards set in a trough in V shape is to be preferred, for the strength of the ashes is better obtained, and it may be taken to pieces when not in use and laid up. First, in the bottom of the leach put a few sticks; over them spread a pieceof carpet or woolen cloth, which is much better than straw; put on a few inches of ashes and from 4 to 8 qt. lime; fill with ashes, moistened, and tamp down well-tamp the vation and floor plans. Cost complete \$5,500. Architects, Messrs. Child & De Goll, New York atrength of ashes in a barrel without removing them after a day's leaching, and mixing them up and replacing. The top should be first thrown off and new ashes added to make up the proper quantity. Use boiling water for second leaching. This lye should be sufficiently strong to float a potato

(6684) T. O'B. says: Can you give use a quick process for making vinegar? A. In this process dilute alcoholic liquor, to which one thousandth part of noney or extract of malt has been added, is caused to trickle down through a mass of beechwood shavings previously steeped in vinegar and contained in a vessel called a vinegar generator. It may consist of a large oak hogshead or harrel furnished with a loose lid or cover, a few inches below which is fitted a perforated shelf, having a number of small holes loosely filled with packthread about  $\sin$  inches long, knotted at the upper end to prevent their falling through. Several small glass tubes, long enough to project slightly above and below the shelf, are also fitted in perforations in the shelf to serve as air vents. The vessel at the lower part is pierced with eight or ten holes equally distributed around the sides at about 6 inches above the bottom to admit of the entrance of air. A small siphon tube, the upper curve of which is an inch below the air holes, serves to carry off the liquid as fast as it accumulates at the bottom. The alcoholic liquid, at a temperature of 75 degrees to 83 degrees Fah., is run in on the shelf and slowly trickles complete. An attractive design.

down through the holes by means of the packthread, dif
9. Miscellaneous Contents: Testing house pipes and fuses itself overthe shavings, slowly collects at the botdrains.—A combination bathtub and washstand, tom, and runs off by the siphon exit. The air enters by illustrated.—The permanence of modern dwellings the lower holes, passes freely through the shavings, and and public works.—An improved steam and hot escapes by the glass tubes. The temperature within the apparatus soon rises to about 100 degrees Fah, and remains stationary at this point, while the action goes on favorably. The liquid generally requires to be passed three or four times through the cask before its acetifica

(6685) J. B. asks: How much more nower, if any, would be required to propel a bicycle (safety) one mile, having a front sprocket wheel of 51/2 inches in diameter, 18 teeth, and with a rear sprocket wheel of 21% inches in diameter, 9 teeth, than one having both the front and rear sprocket wheels 51/2 inches in diameter, with 18 teeth each; large wheels, 28 inches in diameter, equal conditions prevailing, excepting as to time required? A. As power is derived from both pressure and velocity, the condition named in the relative sizes of the wheels will make no difference in the actual power required to drive the bicycle. The large wheel sprocket must run faster, and with itthe feet must make more treads with lighter pressure for a given distance than in the ordinary form as first named. The only value 

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#### INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

December 17, 1895,

#### AND EACH REARING THAT DATE.

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

	(See note at end of hist about copies of these patents.)
	Air brake, T. J. Hogan
	Air compressor, hydraulic, A. Kalthoff
	Ax die machine. P. Maber
	Selby
	Axle lubricater, car. A. Brauer
	Ballot box, registering, W. F. Gaul. 551,726  Band cutter and feeder, N. Cornish 551,432
	Band cutter and feeder, F. F. Landis
	Hatteries, renovating storage. J. Trowbridge 551,565 Battery. See Stamp battery.
	Bedstead, folding, M. E. Van Osdel
	Ax die machine. P. Maber Axle box for railway or like vehicles, Ladds & Sely Sely Sely Soly Soly Soly Soly Soly Soly Soly So
	Bicycle, W. C. Dunn
	Bicycle crank and pedal shield, R. Nicol, Jr
	Billet iron, H. H. Baker, T
	Block. See Building block. Pulley block.
	Boiler. See Steam boiler.
•	Boiler, L. Saunders
	Boilers, dry pan for steam, E. D. Meier 551,681
	Doeg
	Doeg.   551,596
:	Bolt dogging device, automatic, E. Stockwell 551.697 Bottle drip cup, J. M. Howard
	Bottle, mucilage, E. G. Bouton
	Bottle stopper, W. B. Stevens 551,413 Bottle stopper, L. E. Wheeler 551,424
	Bottle, muclage, E. G. Bouron. 551.524 Bottle, pon-refilable, H. J. Breeze. 551.552 Bottle stopper, W. B. Stevens. 551,473 Bottle stopper, E. B. Weeler. 551,424 Box. See Fallot box. beeler. 551,424 Bracket. See Biyde lamp bracket. Brake. See Air brake. Waxon brake. Car
	Brake staff handle, W. C. & J. T. Van Dillen 551.418 Brick or tile cutting machine, Penfield & Wallace 551,690
	Buckle, slide, Smith & Buchanan
	Buffer, adjustable, j. E. Bater. 551.742
	Burner. See Gas burner. Stove burner. Rutton, link E. R. Ajonier
	Brick or tile cutting machine, Penfield & Wallace 551,859 Brush, foot, J. Mellor
	Cable track, suspension, W. J. Brewer
	Calculating machine for weights and values, Yea- mans & Abbott
	Calendar, T. H. Hovenden
	Car brake and fender, combined, J. C. Walier 551,700 Car coupling, J. H. Senger
	Car coupling, A. Silhermann
1	Car door, H. C. Hatcher
	Car fender, J. Grant
	Car fender, G. H. Zane 551,521 Car fender, street, W. J. Hinphy 551,380
	Car propelled by gas motor engines, H. P. Holt 551,637 Car signal, E. Nelson
	Calculating machine for weights and values, Yeamans & Abbott.  Solution of the control of the co
1	Neson
	making, J. H. C. Bebnke
1	Card setting machine, S. & E. Beaumont
	Carrier, See Hay carrier. 551,516
1	Cartridge, blasting, P. A. Oliver
ļ	Cash registers, irregular number indicating
	device for, L. F. Brous
I	Centrifugal apparatus, F. G. N. Salenius 551,511
١	Check, conductor's excess, E. M. Tacy
1	Car. street railway, W. R. Dodson. 551,626 Cars, transmission of electricity to moving, T. Nesom. 551,621 Cars, transmission of electricity to moving, T. Nesom. 551,621 Cars, transmission of electricity to moving, T. Nesom. 551,621 Card setting machine. J. A. Groebil. 551,544 Card punching machine. J. A. Groebil. 551,646 Card setting machine. S. & E. Beaumont. 551,479 Card setting machine. J. A. Beaumont. 551,479 Card setting machine. J. A. Beaumont. 551,610 Carlinger wheel, J. E. Warner. 551,510 Carlinger blasting. P. A. Oliver. 551,520 Cash register. Irregular number indicating device for, L. F. Brous. 551,620 Cash registers. Irregular number indicating device for, L. F. Brous. 551,620 Carlingues. lock rod for card, D. E. Hunter. 551,530 Cement kiln. F. M. Lande. 551,530 Centrifugal apparatus, F. G. N. Salenius. 551,531 Check. conductor's excess. E. M. Tacy. 551,620 Churn, N. Packard. 551,622 Churn, centrifugal, R. E. Evenden. 551,622 Churn, centrifugal, R. E. Evenden. 551,622 Churn, centrifugal, R. E. Evenden. 551,622 Churn, centrifugal, R. Coates. 551,637 Clippers, hair, G. H. Coates. 551,637 Clippers, hair, G. H. Coates. 551,531 Cock, calendar, A. E. McCollum. 551,532 Cock rod supporter, stop, W. W. Beaumont. 551,531 Cock, calendar, A. E. McCollum. 551,531 Cock for vessels, sea, P. T. Perkins. 551,531 Cock for vessels, sea, P. T. Perkins. 551,531 Cock on supporter, stop, W. Wolt. 551,532 Cock rod
1	Churn, centrifug al. R. E. Evenden
	Cleaner. See Dish cleaner. Knife cleaner. Clippers, hair, G. H. Coates
1	Clipping machines, lubricating attachment for animal, J. W. Chandler
1	Clock, calendar, A. E. McCollum. 551.556 Clock, electric programme, F. Frien. 551.372
1	Cioset Dowl, H. Gill. 551,584 Ciutch, variable speed power, W. W. Beaumont. 551,571
	Cock, blow-off, D. B. Donnelly
1	Cock rod supporter, stop, W. Holt
1	Wardwell, Jr
1	Corsets, lacing cord fastener or detainer for, M. R. Barker. 551.356
1	Cotton press, F. A. Savile 551.452 Counter fixture, Walker & Baum 551.459
J	Coupling. See Car coupling. Pipe coupling. Crab trap, D. H. Hibbert
i	Crane, noisting and traveling cable, W. F. Brothers
1	Coupling. See Car coupling. Pipe coupling. Crab trap, D. H. Hibbert
	Current protector, strong, A. L. Joynes. 551,388
1	Curtain stretcher frame, G. A. ward 551,423
1	Cutter. See Band cutter.         561.526           Decorticating machine, Buist & Schmidt.         551.526           Dental furnace, vapor, B. Rein.         551.650           Detonator E. U. Wood.         551.519           Die, F. P. Davidson         551.529           Disc, portable, J. W. King.         551.541           Disch cleaner, H. O. Haggard         551.547           Disinfecting device, automatic, Taussig & Sheridan         551.564
1	Die. F. P. Davidson
1	Dish cleaner, H. D. Haggard
1	dan
١	Dolls, etc., composition for hands and feet for, G. Doebrich
	dan. 551,564 Display hook, W. J. Pitkin. 551,768 Dolla etc. composition for hands and feet for G. Doebrich. 551,509 Door check, T. Barnes. 551,569 Dough mixing and kneading machine, J. R. 551,472
	Phelps 551,447 Dowel setting machine, H. C. Doman. 551,531 Drill. See Percussion drill.
1	
1	Church 551.460 Electric light of Rider & Hencker 551.491
1	Electric lock, P & J. A. Meyer
I	House State

412	Scientific
Electric motor, F. E. Herdman	Railway rail and connection, J. Neafle
Tug speed of, K. Erckemeyer	Railway tie, metallic, O. R. Saint. 551,691 Railway tracks, construction of, W. Raymond 551,699 Railways, closed couduit system for electric, F. C. Esmond 551,637 Rake. See Hand rake. Reel. See Fishing reel. Hegrister. See Cash register.
cutting engine.         551,366           Engine, F. R. Cornwall         551,486           Engine steering gear, traction, F. F. Landis         551,486           Envelope fastener, W. Barnard         551,732           Evaporator, H. A. Merriam         551,732           Excelsior machine, J. A. Gray         551,693           Farm gate, J. Sweet         551,435           Eastening device for boxes, card cases, etc., C. H.	regulator. See Feedwater regulator. Heat regulator.
Heed	Rethrasher and elevator for tailings, F. F. Landis
Fence post, metallic, Ellis & Helfenberger. 551,583 Fender. See Car fender. 551,581 Firearm, box magazine, T. G. Bennett. 551,572 Firearm, box magazine, T. G. Bennett. 551,572 Firearm, magazine, W. Mason. 551,573 Fireplace beater for radiator systems, C. M. Robinson. 551,573 Fireplace, portable, W. E. Fitch. 551,551 Fireplace, portable, W. E. Fitch. 551,551 Fishing reel, H. W. Martin. 551,550 Fishing reel, G. H. Newell. 551,564 Flushing cistern, J. & W. J. Sberman. 551,514 Fork. See Lifting fork.	Scanoid extension A. Doonttie
Fireplace, portable, W. E. Fitch.       551,581, 551,582         Fishbook, E. H. Crane.       551,581, 551,582         Fishing reel, H. W. Martin.       551,581, 551,584         Fishing reel, G. H. Newell.       551,645         Flushing cistern, J. & W. J. Sherman.       551,514         Fork.       See Lifting fork.         Frame.       See Curtain stretcher frame.         Picture	Scissors for splicing purposes, J. A. Myers
frame. Fruit gatherer, Coulson & Reus	Sewing machine table, G. L. Gray
Ing. or other, A. Younger   551,708	Stamp battery, C. Rateigh,
Gas condenser, W. L. Church	Steam generator, water tube, E. D. Meler. 551,889 Stitching jack, A. R. Knadler. 551,389 Stone cutting engine, W. B. Murray. 551,687 Stop motion mechanism, self-registering, H. F. Straw 551,698 Stopper. See Bottle stopper. 551,698
rator. Gloves, etc., receptacle for, A. E. G. Schmidt 551,692 Grain separator, centrifugal, F. F. Landis. 551,492 Grate, fire, J. C. Birkhead 551,494 Grinding mill, C. R. Hudson 551,392	Stopper. See Bottle stopper.  Store service apparatus, J. T. Cowley
Guard lock, F. W. Mix. 551,835  Halter, H. L. & C. M. Green. 551,635  Hame book, S. H. Windley. 551,661  Hand rake, J. Murphy. 551,661  Harnow, corn, A. Downing. 551,475  Harrow, corn, A. Downing. 551,435	Store service apparatus J. H. Goodfellow.551,626, 551,527 Store service apparatus adjustable curve for, 51,824 Store service apparatus adjustable curve for, 51,824 Store burner, rss. I. Brooke
rator. Gloves, etc., receptacle for, A. E. G. Schmidt. 551,692 Grain separator. centrifugal, F. F. Landis. 551,492 Grate, fire, J. C. Birkbead. 551,492, 351,494 to 551,711 Grinding mill, C. R. Hudson. 551,392 Guard lock, F. W. Mix. 551,805 Haiter, H. L. & C. M. Green. 551,605 Hame book, S. H. Windley. 551,661 Hand rake, J. Murphy. 551,607 Harrow, corn, A. Downing. 551,475 Harrow, corn, A. Downing. 551,435 Harvester and shocker, corn, W. Mübrath. 551,495 Harvester, corn, C. H. Hall. 551,727 Hay carrier, J. G. & J. A. Piron. 551,474 Heat regulator, W. W. Wilcox Heater, L. S. Daniels. 551,528 Hoisting and conveying apparatus, T. S. Miller. 551,506	Tank. See Water tank. Teiephone exchange system, automatic, W. F. Lounsbury. Telephone receiver holder, F. W. Martland. 551,391 Telephone transmitter, T. Grissinger. 551,614 Teletyper, C. Spiro. 551,542 Thrashing machine separator attachment, C. E. 551,542
Hoisting and conveying apparatus, T. S. Miller. 551,506 Hoos, composition metal, C. E. Greene. 551,673 Hook. See Display hook. Fish book. Hame hook. Hop tearing apparatus, G. L. Jaeger. 551,677 Horseshoe, custifoned, H. H. Gribs. 551,407 Hub, vehicle, H. L. Shart. 551,407 Hub, vehicle, H. L. Shart. 551,407 Lee carrying device. W. Schildhauer. 551,512	Thrashing machine, P. E. Good. 551,542 Thrashing machine separator attachment, C. E. Maggard. Tire, bicycle, O'Neill & Haile. 551,471 Tire, bicycle, A. B. Shaw. 551,408 Tire for bicycles, pneumatic, F. Douglas. 551,533 Tire ticyten or W. S. Haile. 551,575
Irrigation. means for E. Newsom	Tire, vehicle, C. J. Wagener       551,481         Tool holder, C. L. Alexander       551,610         Track gage, Donovan & Beban       551,622         Tramway for hoisting and dumping apparatus, Bruce & Marcus       551,745         Transplanter, J. Walter       551,421
Kiin. See Cement kiin.  Kitchen cabinet, W. Swenson	Trassing machine, F. E. Good.  Thrashing machine separator attachment, C. E.  Maggard
Chapmar. 551,578 Ladder or other supporting device, step. H. Liefer. 551,448 Lamp, forced draught, R. Hitchcock 551,436 Lamp holder, magnetic electric, M. H. Collom 551,384 Lamp, incandescent electric, C. A. Beal 551,387 Latch, W. O. Hogaboom 551,480	Typewriting machine. W. P. Quentell
Land by electrolysis, apparatus for manufacturing white, Browne & Chaplin	Valve, engineer's trake, G. W. Hayden       551,378         Valve, float, J. W. Chamberlain       551,577         Valve, flushing, E. L. Powell       551,476         Valve system, air brake, H. Tabor       551,416         Vehicle body, M. Woodbull       551,708         Vehicles, traction mechanism for self propelling,       51,708
Lock. See Electric lock. Guard lock.  Lock, J. A. Hampel	C. W. Parks. 504,472 Velocipede, ice, F. J. Korff. 551,442 Velocipede, marine, G. F. Cremer. 551,367 Velocipede, rallway, J. Donovan. 551,623 Ventilator, C. Seewald. 551,603 Ventilator, L. Silberman 551,463 Vessels, stern frame and rudder for, J. R. Oldham 551,598
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Pocket, garment, J. M. Appelbaum. 551,429 Post. See Metalic post post post post biller, E. C. Schwingel. 551,513 Fowder and sht charger, W. N. Beardsley. 551,710 Powder and sht or obtaining motive, Fellows for obtaining motive, Fellows Precious metals, electrolytic process of obtaining. 551,648	Starchers, shirt. collar, and cuff. Weldon & Stites. 27.485 Wringers and mangles, American Wringer Com-
Pelatan & Cierici         551,648           Press. See Cotton press.         Printing machines, sheet gage for S. Whitlock         551,647           Printing machines, sheet gage for S. Whitlock         551,457           Propeller wheel, E. J. Parker         551,457           Pup block, H. Orrock         551,732           Pump, steam vacuum, E. I. Nichols         551,400	A printed copy of the specification and drawing of any parent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for
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	Railway tie. metallic. O. R. Saint	
43 20	Railway tracks, construction of, W. Raymond 551,649	
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88 5.3		
5.3	Reel. See Fishing reel. Register See Cash register	
	Register. See Cash register. Regulator. See Feedwater regulator. Heat	
66 93		
09 32 72	dis	
32	Ribbon holder, W. Straw	
93	ing bollow soft. H. G. Wolcott	
15	Ruling device, multiple, B. H. Toquet 551,659	
77	Salt shaker. H. F. Grav	
19 83	Sash holder, W. L. Bellinger	
183	Sash holder, W. E. Dowling	
81	Saw filing machine, J. C. Ballew	
72	Saw, folding log, A. R. Shaw	
933	Saw teeth, implement for dressing sides of, H. C.	
	Burnett	
51 39 82	Scissors for splicing purposes, J. A. Myers 551,555	
82	Screen operating mechanism, window, F. S.	
60 45	Retbrasher and elevator for tailings, F. F. Landis.  Ribbon holder, W. Straw.  Silvan hing hollow soft, H. G. Wolcott.  Silvan hing device, multiple, B. H. Toquet.  S51,741  Ruling device, multiple, B. H. Toquet.  S51,632  Safe door, H. C. Stockwell.  S51,633  Safe door, H. C. Stockwell.  S51,633  Sab holder, W. E. Dowling.  Sas holder, W. E. Dowling.  Sas holder, W. E. Dowling.  Saw, E. Viewegh.  S51,439  Saw, F. Viewegh.  S51,430  Saw Hing machine, J. C. Ballew.  S51,434  Saw folding log, A. R. Shaw.  S51,635  Saw teeth, implement for dressing sides of, H. C.  Burnett.  S51,718  Scarloid extension, A. Doolittle.  S51,434  Scissors for splicing purposes, J. A. Myers.  S51,553  Screen operating mechanism, window. F. S.  Leary.  Sewing machine table, G. L. Gray.  S51,634  Spantanis, See Car signal.  Signal, See Car signal.  Signal, T. E. Ward.  S51,640  Soap, making, E. J. T. Digby.  S51,232  Stamp bother and the part, combined, J. H. Kleine.  S51,431  Stamp battery, C. Raleigh.  S51,431  Stamp battery, C. Raleigh.  S51,432  Stamp bother and the part, combined, J. H. Kleine.  S51,433  Stamp battery, C. Raleigh.  S51,433  Stamp battery, C. Raleigh.  S51,433  Stamp battery, C. Raleigh.  S51,435  Stam boiler, A. R. Krotz.  S51,530  Steam boiler, A. R. Knadler.  S51,540  Steam boiler, A. R. Knadler.  S51,543  Stam penerator, water tube, E. D. Meler.  S51,543  Stone cutting engine, W. B. Murray.  S51,848	
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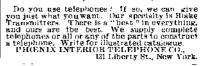


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