may be a lawn mower, a wheelbarrow, a garden cultivator, a rake, etc.

WOODEN STOPPLES.-Randolph F. Radebaugh, Tacoma, Washington. This invention provides a simple, practical and inexpensive process of and apparatus for treating bottle stopples and bungs in a large way, to remove their resinous and gummy matters by means of a strong alkaline solution, they being then subjected to steam or hot water to remove the alkali, and treated with glycerine to soften and maintain their moist and flexible condition, being finally filled with paraffine or wax to render them impervious to liquids.

BURIAL CASKET HANDLE,-Lyman E. Woodard, Owosso, Mich. Novel hinge joints are provided by this inventor for connection with wooden caskets and wooden escutcheons that are ornamental bases for the arms of drop handles. The joints are adapted to receive the weight strain and transfer it to the clamped connections of the hinges with the walls of the casket, thus avoiding undue pressure on the escutcheons and affording strong and direct connections for the handles with the casket.

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 1895 edition of the annual directory volume published by the Shoe and Leather Reporter has been issued. Great pains are taken to make this one of the most complete of any of the trade directories published, and it covers avery large field, including manufacturers of and dealers in boots and shoes, leather, findings, harness, hides, wool, furs, machinery, and about all the commodities pertaining to the shoe and leather industry in the United States and Canada, besides names of leading houses in the trade in other parts of the world. The volume has over 700 pages, and the first fifty pages are allotted to facts and statistics of special importance from a trade point of view.

SCIENTIFIC AMERICAN BUILDING EDITION

MARCH, 1895.-(No. 113.)

TABLE OF CONTENTS

- 1. Elegant plate in colors showing a cottage at Moun Vernon, N. Y., three perspective elevations and floor plans. Mr. H. R. Rapelye, architect, Mount Vernon, N. Y. An attractive design.
- 2. "The Gables," a half timbered cottagerecently completed at Glen Ridge, N. J. Perspective elevation and floor plan. Mr. Charles E. Miller, architect, New York City.
- 3. A cottage at Great Diamond Island, Me., recently erected for H. M. Bailey, Esq., two perspective elevations and floor plans. A unique design for an island cottage. Mr. Jno. C. Stevens, architect, Portland, Me.
- 4. A dwelling at Armour Villa Park, N. Y., recently erected for J. E. Kent, Esq., at a cost of \$5,200 complete, two perspective elevations and floor plans. A very picturesque design.
- 5. A colonial cottage at New Rochelle, N. Y., recently erected for C. W. Howland, Esq., two perspective elevations and floor plans. Mr. G. K. Thompson, architect, New York City A unique example of a modern dwelling.
- 6. The residence of Charles N. Marvin, Esq., at Montclair, N. J. A design successfully treated in the Flemish style. Two perspective elevations and floor plans. Mr. A. V. Porter, architect, Brooklyn, N. Y.
- 7. A fine Colonial house at Elizabeth, N. J., recently completed for Henry A. Haines, Esq. Perspective elevation and floor plans. Architects, Messrs Child & De Goll, New York City.
- 8. A residence at Flatbush, L. I., recently erected for C. H Wheeler, Esq., at a cost of \$11,000 complete. Two perspective elevations and floor plans. Architect, Mr. J. G. Richardson, Flatbush, L. I. An attractive design.
- 9. A cottage at Plainfield, N. J., erected for Chas. H. Lyman, Esq., at a cost of \$5,000 complete. Two persective elevations and floor plans. Architect, Mr. W. H. Clum, Plainfield, N. J. A picturesque
- 10. An elegant house at Scranton, Pa., erected at a cost of \$15,000 complete. Two perspective elevations and floor plans. Architect, Mr. E. G. W. Dietrich, New York City.
- 11. Engraving showing the new building of "The Bank tempt it. We have no data on the subject. 4. What for Savings," recently erected on 22d Street, New York City. Mr. C. L. W. Eidlitz, architect, New York City.
- 12. Foundation piers of the American Surety Company's building, New York City. Four illustrations, showing the most advanced methods of caisson construction for city buildings.
- 13. Miscellaneous contents -An automatic gas saving governor, illustrated.-Heating a residence with open grates, illustrated.-Arranging effective interior, illustrated.

The Scientific American Building 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 ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

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The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail. \$4; Munn & Co., publishers, 36 Broadway, N.Y. For the original Bogardus Universal Eccentric Mill Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 26 to 36 Rodney St., Brooklyn, N. Y.

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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 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.

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Minerals sent for examination should be distinctly

Minerals sent for examination should be distinctly marked or labeled.

(6453) D. R. asks: 1. Can the field magnets of the motor described in "Experimental Science" be made of cast iron and wound with No. 16 wire, the same as if made of Russian iron? A. Yes. 2. I have the armature of the motorcompleted, but find that it will not rest in any position; how may I fix it? A. Possibly you can balance it by lead. It may not be sufficiently out of balance to do any harm. 3. If the motor were used as a dynamo, how many volts and amperes would it develop, and if run as a motor how many volts are required to run it, battery power? A. It is not adapted for use as a dynamo. It runs with about 7 volts and 5 to 10 amperes. 4. What acid or acids are used in a copper plating bath to give the bright effect, using blue vitriol? A. Various baths are used; the practice is often adopted of removing the partly plated articles and scratch-brushing, and then replacing in the bath. No bright copper bath is given in the manuals

(6454) R. L. H. asks: 1. Will you please tell me which of the following conditions determine the number of volts and which the number of amperes gen ereted in dynamo: a. The weight of iron in the field magnet. b. The number of turns of wire on field magnet. c. The number of turns of wire on armature. d. Size of wire used. e. The speed at which the dynamo is run. A. A definite division cannot be made. In general a and d are ampereage dimensions, and the others are voltage dimensions: but all are interconnected. 2. Will old iron that is slightly rusty do as well for the field magnet of a small dynamo as new? A. Yes, except that the rust unless shellacked or removed invites and produces further corrosion of parts. 3. How can I convert the dynamo in SUPPLEMENT, No. 161, into a machine generating a large quantity but of low E. M. F.? What is the quantity and E. M. F. thus obtained? A. Wind with wire of larger diameter. We advise you not to atkind of cotton thread is suitable for insulating magnet wire? A. Any kind will answer. 5. Why is shellac used on the coils of electrical apparatus? A. To protect from moisture. 6. Supposing two bars of iron, each one foot long and wrapped with the same number of turns of wire, the first being 1 inch thick and the second 2 inches, which would be the stronger magnet? A. Other things being equal, the thick one will be far the stronger.

(6455) C. R. S. writes: I have six Leclanche cells of battery for ringing door bells and lighting gas; they don't work any more. I broke one open, found what appeared to be gray iron and carbon chip. What is the material, and can I wash it and use it over again, or will soaking a few days in hot water and then drying them again do any good? A. You cannot. By pouring a strong solution of potassium permanganate into the porous cup without emptying it you may effect an improvement. The best plan is to get new cups. They are charged with manganese binoxide and carbon or graphite.

(6456) J. N. M. asks: 1. If soft annealed steel wire will work as the core of the armature of the motor described in No. 641. A. It is almost impossible to get iron wire here, as steel has taken its place in the

manufacture of tube, plate, and wire work. 2. Will a laminated core of No. 16 sheet of the dimensions of the wire core answer as well as the wire? A. We answer both questions affirmatively-use the steel wire or the laminated sheet armature.

(6457) W. W. writes: I wish to put an eight or ten 16 candle power dynamo in a room 40 feet the same room, but at the opposite end, some 20 feet from dynamo? What size wire would it require for 100 light dynamo, 16 candle power each, to make a circuit of about five or six hundred yards? Also what horse power engine would it require to run the 100 light incandescent dynamo? A. Our best advice to you is not to put the dynamo in the same room with your watch movements. For one hundred 16 candle power 110 volt lamps use No. 5 wire for original leads, reducing in size as lamps are taken off it. Allow 10 horse power to run it.

(6458) B. F. asks: 1. In winding the ondary wire of an induction coil in sections how thick should the sections be? A. The thinner the better; half an inch is very good practice. 2. How thick should the rubber washers be to insulate the sections. The coil is to be 8 inches long, with % inch core. A. 1 to 1/2 inch. 3. Have you any publication of the SCIENTIFIC AMERI-CAN OF SUPPLEMENT in which induction coils are de scribed? I have Supplement, Nos. 160 and 229. A. See our Supplement, Nos. 74, 166, and Scientific AMERICAN, Nos. 10 and 14, vol. 66. We have no special information as to the battery named.

(6459) F. A. R. asks: By what preparation or means may I electrically insulate the surface of copper by a thin coating of some kind, like a varnish or oxide, so as to resist the passage of a current of about 15 amperes, and that will stand a heat of about 1000° C. without melting or being dissociated, or lessening its insulating qualitymaterially ? A. You must have the copper enameled. This will effect the object if the enamel is of high enough melting point. There will be trouble in getting such.

(6460) A. L. H. asks the reason for having and the action of the permanent magnet in alternating current bells, polarized bells. A. If the armature were not polarized, both ends would be equally attracted, whatever the direction of the current might be. By polarizing the armature so that both ends are of one polarity and the center is of opposite polarity each end is attracted by a pole respectively or is repelled thereby according to the direction of the current. This gives the rocking motion with an alternating current, which causes the ringing. See Poole's "Telephone Handbook," \$1 by mail.

(6461) Bristletail or Silver Fish.-Mr. H. M. Webster, of Providence, R. I., inquires about a little creature called in that neighborhood the "slick," about 1/2 inch in length, which runs like "a streak." He finds them in different parts of his house, especially in the bath tub. He also inquires whether they originated from some hickory or white oak which has been stored in the cellar for some three years. He mentions also that his house is always warm and dry. The animal is undoubtedly one of the bristletails or silver fish, and, in all probability, Lepisma saccharina, which is very commonly found on book bindings and in clothing, though it also sometimes injures silks and other fabrics. This particular species is almost uniformly silvery gray in color. Lepisma domestica is a white, hairy species, spotted with black, and is more often found in dry places, and this may be the species your correspondent alludes to. Both these agile creatures have long setiform antennæ, six legs near the anterior portion of the body, aad three long anal stylets. The use of pyrethrum pow der, if fresh, will be the most effective means of repelling these insects. They have no particular connection with the wood stored in the cellar, and do no harm bevond that already mentioned.-Answered by Professor C. V. Riley.

(6462) C. S. asks: 1. Is rain water filtered through 4 inch brick wall (as in ordinary cistern construction) quite fit for drinking purposes? Is it as good as "hard" driven well water? Also, d scribe simple tests for hardness of water. A. Such rain water should be perfectly good, and probably safer than well water. Test for hardness with soap, seeing how much of a standard solution of soap in rain water has to be added to the sample to produce a lather. 2. Does typhoid fever always result from germs in drinking water, and can germs be filtered out or destroyed by distillation? A. Not necessarily; distillation would make the water safe. 3. Does electricity cure rheumatism, and if so, is it by dissolving crystallized uric acid, which accumulates at the seat of pain, and in this case what becomes of the acid? Will it not appear again elsewhere, and perhaps cause other more serious trouble? A. Any cure effected we would attribute to action on the nervous system. You take too much for granted in your statement of cause. 4. Is ordinary arc lamp carbon at all good for telephone purposes? A. Yes. 5. Could I carbonize hard coal (anthracite) by bringing it to a white heat in a closed vessel, and must it be packed in charcoal during process? A. It would have little effect on it. It should be protected from the air during the process. coal is not necessary if this is done. 6. What determines the ampere hour capacity of storage batteries? A. Trial and experiment. 7. Have you SUPPLEMENTS on "Zinc Plating by the Dipping Process, on a Commercial Scale"? If not, can you furnish book on the subject, and what price? Also have you SUPPLEMENTS or book on "Simple Yet Efficient Alternating Motor Construction "? A. For articles on galvanizing, see Supplement, Nos. 285, 833, 851, 911, 912, and 994. Articles on alternating current, motors, 601, 692, 717, 763 and 944.

(6463) T. F. C. asks: 1. Why does not gravity battery polarize? A. Because the negative plate has no hydrogen set free on its surface. Copper is deposited there, and this is its own material. 2. What is the chemistry of bread making? A. The sugar of the mixture undergoes vinous fermentation, and the carbon dioxide set free makes the bread light. 3. What reactions take place in the explosion of gunpowder? A. They are very complicated. In general the carbon is oxidized to carbon dioxide and the sulphur to sulphur oxides at the expense of the oxygen of the potassium nitrate. 4. How is the weight of a lever eliminated? A. By making both sides of equal moment.

TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons long; would it have any effect on watch movements in contemplating the securing of patents, either at home or abroad, are invited to write to this office for process which are low, in accordance with the times and our *% tensive 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

March 19, 1895,

AND EACH BEARING THAT DATE.

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

Coal drilling machine, C. S. Sheppard. 535,934 Coaster, P. Boytou. 535,938 Cock, angle, Cooper & Ferris. 535,938 Cock, angle, W. J. Waldron. 536,038 Cock, angle, W. J. Waldron. 536,036 Cock, ball, W. H. Rawe. 535,322 Comb. E. J. Miller. 535,934 Componistor, wire, N. Ratchford. 535,931 Componistor, wire, N. Ratchford. 535,931 Componist machines, manufacture of controllers for, F. A. Johnson. 536,149 Cone adjustment, F. H. Richards. 535,839 Confectionery cooling apparatus, A. Horn. 535,839 Cooker, steam feed, H. A. Kuwitzky. 535,839 Cooker, steam feed, H. A. Kuwitzky. 535,830 Couton apparatus for handling lint, D. M. Camp- Hose coupling. Sprocket, wheel coupling. 536,145 Coupling. See Air brake coupling. Car coupling. Cuniversal coupling. Whiffietree coupling. Cuniversal coupling. Whiffietree coupling. 536,145 Couton for attachment, U. A. Cleveland. 536,130 Cultivator attachment, U. A. Cleveland. 536,360 Cut-off, automatic. N. Lombard. 536,361 Cut-off, automatic. N. Lombard. 536,362 Cut-off, autom	l	[See note at the of not about copies of view paterior,
Arb Duarce. E. J. Sarboret. Alt Drake coupling. L. Sennett. 586,002 Air brake coupling. L. Sennett. 586,003 Air brake coupling. L. Sennett. 586,003 Air brake coupling. L. Sennett. 586,004 Alt ships, means for propelling/guiding, and consultation. 586,004 Alt ships, means for propelling. Suiding, and consultation. Awning T. & W. W. Coldwell. Thrompson. 586,007 Awning T. & W. W. Coldwell. Thrompson. 586,007 Bailing press, S. M. Neely. 586,007 Back. Leachable foot rest and table for, C. Donaid. 686,007 Beds, detachable foot rest and table for, C. Bootald. 687,007 Beds, detachable foot rest and table for, C. Bootald. 687,007 Birt ughterer. A. E. Price. 688,042 Bicycle bandle bar, G. K. Kelsea. 586,007 Birt gelevel, wood rimmed, Levedahl & Webb. 586,008 Bicycle support, J. R. Crunkleton. 586,008 Birt gelevel, wood rimmed, Levedahl & Webb. 586,008 Birt gelevel, wood rimmed, Levedahl & Webb. 586,008 Birt gelevel, wood rimmed, Levedahl & Webb. 586,008 Birt stock extensible. 586,008 Book bolder and advertising device, C. L. Whipp. 586,008 Book bolder and advertising device, C. L. Whipp. 586,008 Book bolder and advertising device, C. L. Whipp. 586,008 Book bolder and advertising device, C. L. Whipp. 586,008 Book bolder and advertising device, C. L. Whipp. 586,008 Bridge, draw, N. C. Jessup. 586,008 Bridge, draw, N.	١	Accumulator plate, G. R. Blot
Alarm. See Vehicle alarm. Ammunition hoist, Noble & Brankston	I	phuric, E. J. Barbier
Alarm. See Vehicle alarm. Ammunition hoist, Noble & Brankston	١	Air brak, car, J. S. Trott
Ammunition hoist, Noble & Branstson	١	Air ships, means for propelling, guiding, and controlling, D. C. Funcheon
Bedstead brace, W. S. Payne		Alarm. See Vehicle alarm. Ammunition hoist, Noble & Brankston 536,154
Bedstead brace, W. S. Payne		Awning, T. & W. II. Coldwell
Bedstead brace, W. S. Payne		Axle lubricator, vehicle, H. B. Eareeksen
Bedstead brace, W. S. Payne		Band tightener, D. L. Croft. 536,814 Bath tub, A. G. Ward 536,110
Bedstead brace, W. S. Payne		Beds, base for reversible folding, G. Brand 535,886 Beds, detachable foot rest and table for, C.
Bicycle bandle bar, G. R. Kelsea. Bicycle support. J. R. Crunkleton. Bicycle wheel, wood rimmed, Levedahl & Webb. Binders, endless conveyer device for automatic self. C. Whitney. Bit stock. Whitney. Bit stock. A. Whitney. Bit stock. Extensible. Worthington & Wheeler. Self. 10 Whitney. Bit stock. Extensible. Worthington & Wheeler. Self. 10 Blackboard, composition, G. S. Mayhew. SS, 875 Block. See Building block. Bild stock. See Building block. Bild stock. See Building block. Boller, G. A. Anderson. Solier dome, steam, W. H. Page. Solier of A. Anderson. Solier spring, N. L. Holmes. Solier solier dome, steam, W. H. Page. Solier solier spring, N. L. Holmes. Solier solier spring, N. L. Holmes. Book Endler and advertising device. C. L. Whipp. Ple. Sox. See Paper box. Box machine, M. Eschenbeck. Box machine, M. Eschenbeck. Box machine, M. Eschenbeck. Box machine safety attachment. A. A. Theatian. Solier and advertising device. C. L. Whipp. Solier and advertising device. C. L. Whipp. Brake. See Air brake. Car brake. E. R. Pelling, Brake. Brake. See Air brake. Solier spring, N. C. Jessup. Brake. See Air brake. Brake. See Air brake. Brake. See Air brake. Solier spring, M. C. Jessup. Brake. See Air brake. Brake. See Air brake. Solier spring, M. C. Jessup. Brake. See Air brake. Brake. See Air brake. Brake. See Air brake. Solier spring, M. C. Jessup. Brake. See Air brake. Solier spring, M. C. Jessup. Brake. See Air brake. Brake. See Air brake. Solier spring, M. C. Jessup. Brake. See Air brake. Brake. See Air brake. Brake. See Air brake. Solier spring, M. S. Shall spring, Solier spring		Donald
self, C. Waitney. Binocular, H. A. Sawyer. S55,875 Bit stock extensible. Worthington & Wheeler. Bit stock extensible. Worthington & Wheeler. S65,971 Bit stock extensible. Worthington & Wheeler. S66,971 Block See Building block. Boiler, See Steam boiler. Boiler, A. Anderson. S66,971 Boiler of A. Anderson. S66,971 Boiler of A. Anderson. Boiler stept device. Steam. W. Christensen. S65,970 Book boider and advertising device, C. L. Whipple. Book boider and advertising device, C. L. Whipple. Box See Paper box. Box macbine, M. Eschenbeck. Box macbine, M. Eschenbeck. Box and the steam of the see R. L. See, 191 Box See Paper box. Box and the see See Air brake. Box and the see See Air brake. S66,944 Box and the see See Air brake. S67,970 Brake. S67,970 Brake. S68,970 Brake. S78,970 S78,9		Bicycle bandle bar, G. K. Kelsea
self, C. Waitney. Binocular, H. A. Sawyer. S55,875 Bit stock extensible. Worthington & Wheeler. Bit stock extensible. Worthington & Wheeler. S65,971 Bit stock extensible. Worthington & Wheeler. S66,971 Block See Building block. Boiler, See Steam boiler. Boiler, A. Anderson. S66,971 Boiler of A. Anderson. S66,971 Boiler of A. Anderson. Boiler stept device. Steam. W. Christensen. S65,970 Book boider and advertising device, C. L. Whipple. Book boider and advertising device, C. L. Whipple. Box See Paper box. Box macbine, M. Eschenbeck. Box macbine, M. Eschenbeck. Box and the steam of the see R. L. See, 191 Box See Paper box. Box and the see See Air brake. Box and the see See Air brake. S66,944 Box and the see See Air brake. S67,970 Brake. S67,970 Brake. S68,970 Brake. S78,970 S78,9		Bicycle saddle, W. B. Buckley 536,013 Bicycle shoe, C. L. Cushman 535,316
self, C. Waitney. Binocular, H. A. Sawyer. S55,875 Bit stock extensible. Worthington & Wheeler. Bit stock extensible. Worthington & Wheeler. S65,971 Bit stock extensible. Worthington & Wheeler. S66,971 Block See Building block. Boiler, See Steam boiler. Boiler, A. Anderson. S66,971 Boiler of A. Anderson. S66,971 Boiler of A. Anderson. Boiler stept device. Steam. W. Christensen. S65,970 Book boider and advertising device, C. L. Whipple. Book boider and advertising device, C. L. Whipple. Box See Paper box. Box macbine, M. Eschenbeck. Box macbine, M. Eschenbeck. Box and the steam of the see R. L. See, 191 Box See Paper box. Box and the see See Air brake. Box and the see See Air brake. S66,944 Box and the see See Air brake. S67,970 Brake. S67,970 Brake. S68,970 Brake. S78,970 S78,9		Bicycle support, J. R. Crunkleton. 556,133 Bicycle wheel, wood rimmed, Levedahl & Webb. 536,059
Bilade istal delingiation, C. S. May hew seeds. Bilade istal holding device, N. P. Taylor. S55,971 Block. See Building block. Boiler, G. A. Anderson. Boiler dene, steam, W. H. Page. Boiler setty device. Steam V. Christensen. S56,04 Boiler setty device. Steam V. Christensen. S56,04 Bone cutting machine, J. Poulson. S55,970 Box. See Paper box. Box machine, M. Eschischnent, A. A. Rhentan. S66,04 Box. See Paper box. Box machine, M. Eschischnent, A. A. Rhentan. S66,04 Boxes, manufacture of sardine or like, E. R. Pelliter. S67,04 Boxes, manufacture of sardine or like, E. R. Pelliter. Brake. See Air brake. Car brake. Sleigh brake. Bridge, draw, N. C. Jessup. Bradge gate, automatic, W. F. Clausen. S55,955 Brake. See Air brake. Car brake. Bilding, draw, N. C. Jessup. Bradge gate, automatic, W. F. Clausen. S56,955 Butter printing machine, H. Atwood. Butter printing machine, H. Atwood. Butten machines. etc., freeding device for, C. Radolfer. Butter printing machine, H. Atwood. S55,956 Butter printing machine, H. Atwood. Butten machines. etc., freeding device for, C. Radolfer. Cam, A. S. Russell. S58,972 Can opener. C. E. Andrews. Car brake, railway, I. C. Deverje. Car coupling, T. Q. Am strong. Car coupling, T. Q. Am strong. Car coupling, T. A. Sissom. Car coupling, T. Gaskins. Car coupling, C. H. Smith. Cars, auta pressure brake mechanism forrailway, B. G. Soc. St. St. Cars, auta pressure brake mechanism forrailway, B. K. McLood. Cars, apparatus for automatically limiting speed of electric, L. S. Wright. Cars, auta pressure brake mechanism forrailway, B. F. Teal. Cars, auta pressure brake mechanism forrailway, B. F. Teal. Cars, auta pressure brake mechanism forrailway, B. Soc. Soc. Soc. Soc. Soc. Soc. Soc. Soc	ı	Binders, endless conveyer device for automatic self, C. Whitney
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Bioder, See Manne Boller, See School Boller dome, steam, W. H. Page School Boller dome, steam, W. H. Page School Boller dome, steam, W. H. Page School Boller and advertising device, C. L. Whip-Boller safety device, steam, W. Christensen. School Boller safety device, steam, W. Christensen. School Boller and advertising device, C. L. Whip-Boller, S. Boller, S. School Boller and advertising device, C. L. Whip-Boller, S. School Boller and advertising device, C. L. Whip-Boller, S. School Box machine, M. Eschenbeck. Box machine safety attachment, A. A. Rheutan. School Box machine safety attachment, A. A. Rheutan. School Box machine, M. Eschenbeck. Box machine, M. Eschenbeck. Brake. See Air brake. Car brake. Sleigh Bridge, draw, N. C. Jessup. School Broke, S. Z. Quint. School Broke, S. Z. Z. G. Z. Quint. School Broke, S. Z. Z. G. G. Z.		Blackboard, composition, G. S. Mayhew
Box See Paper box. Box machine M. Bschenbeck. Box machine safety attachment. A. A. Rheutan. Söc,044 Bridge, draw, N. C. Jessup		Block. See Building block.
Box See Paper box. Box machine M. Bschenbeck. Box machine safety attachment. A. A. Rheutan. Söc,044 Bridge, draw, N. C. Jessup		Boiler, G. A. Anderson
Box See Paper box. Box machine M. Bschenbeck. Box machine safety attachment. A. A. Rheutan. Söc,044 Bridge, draw, N. C. Jessup	I	Boiler safety device, steam, W. Christensen 536,128
Box See Paper box. Box machine M. Bschenbeck. Box machine safety attachment. A. A. Rheutan. Söc,044 Bridge, draw, N. C. Jessup		Bone cutting machine, J. Poulson
Bricke, See Air brake, Car brake, Sleigh Bricke, See Air brake, Car brake, Sleigh Bridge, draw, N. C. Jessup		ple
Bricke, See Air brake, Car brake, Sleigh Bricke, See Air brake, Car brake, Sleigh Bridge, draw, N. C. Jessup	,	Box machine, M. Eschenbeck
Brake. See Air brake. Car brake. Sleigh brake. Bridge, draw, N. C. Jessup. Bridge, draw, N. C. Jessup. Bridge, draw, N. C. Jessup. Söc. 23 Broech pin, G. Key. Söc. 23 Broech pin, G. Key. Söc. 23 Buldding bor. Soc. 25 Bulter S. Nativel. Söc. 25 Bulter Bridge, draw, N. C. Jessup. Söc. 25 Butter printing machines. Butter machines. etc. feeding device for, C. Radeliffe. Button shell feeding mechanism, Wooster & Scuart. Scuart. Scuart. Soc. 25 Button shell feeding mechanism, Wooster & Scuart. Scuart. Scuart. Soc. 26 Button shell feeding mechanism, Wooster & Scuart. Scuart. Soc. 26 Button shell feeding mechanism, Wooster & Scuart. Scuart. Scuart. Soc. 26 Button shell feeding mechanism, Wooster & Scuart. Scuart. Soc. 26 Car brake, railway, J. C. Deverle. Söc. 23 Car convertible, B. Lowenberg. Söc. 26 Car convertible, B. Lowenberg. Söc. 26 Car coupling, T. Gaskins. Soc. 26 Car coupling, J. A. Skilman. Söc. 26 Car coupling, J. A. Selsom. Soc. 36 Car coupling, J. F. Stevenson. Soc. 36 Car coupling, J. F. Stevenson. Soc. 36 Car, silway, J. F. Stevenson.		Boxes, manufacture of sardine of fixe, E. R. Fei-
Bridge, draw, N. C. Jessup		Brake. See Air brake. Car brake. Sleigh
Stuart		Bridge, draw, N. C. Jessup
Stuart		Brooch pin, G. Key. 536,833 Buckle, S. Z. Ouint 537,043
Stuart		Building b lock, S. E. Kierolf
Stuart		Butter printing machine, H. Atwood
Car brake, railway, J. M. Skillman. S35,867 Car, convertible, B. Lowenberg. S35,867 Car, convertible, B. Lowenberg. S35,867 Car coupling, J. P. Am stroms. S36,075, S36,138 Car coupling, T. Gaskins. S36,075, S36,139 Car coupling, J. A. Sissom. S36,075, S36,139 Car coupling, C. H. Smith. S36,075 Car coupling, C. H. Smith. S36,052 Car coupling, C. H. Smith. S36,052 Car coupling, C. H. Smith. S36,052 Car, copen railway, D. K. McLeod. S36,039 Car, railway, J. F. Stevenson. S36,055 Cars, apparatus for antomatically limiting speed of electric, L. S. Wright. S36,055 Cars, fluid pressure brake mechanism forrallway, B. F. Teal. S36,106 Cars, steam pipe coupling for heating railway, F. Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson. S36,107 Carriage, cradle, and sled, combined baby, F. H. De Tray. S35,907 Carpet stretcher and jack, H. F. Jackson. S36,104 Cartiage, cradle, and sled, combined baby, F. H. De Tray. S35,908 Cartifidge reloading tool, D. A. Ripley. S35,908 Cartifidge reloading tool, D. A. Ripley. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S35,908 Catamenial sack, P. W. Dautrich. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S35,908 Cbain, machine for automatically making wire. C. F. Smith. S35,901 Chair. See Reclining chair. Cbart, dress, W. J. Marshall. S35,931 Chair. See Reclining chair. Cbart, dress, W. J. Marshall. S35,932 Chopper. See Meat and vegetable chopper. Chute, roller, E. W. Fuller. S36,045 Cock, angle, Cooper & Ferris. S35,045 Cock, angle, Cooper & Ferris. S35,045 Cock, ball, W. H. Rawe. S35,245 Cooper, See Meat and vegetable chopper. S35,032 Cock, angle, W. J. Waldron. S35,032 Cock		Radcliffe
Car brake, railway, J. M. Skillman. S35,867 Car, convertible, B. Lowenberg. S35,867 Car, convertible, B. Lowenberg. S35,867 Car coupling, J. P. Am stroms. S36,075, S36,138 Car coupling, T. Gaskins. S36,075, S36,139 Car coupling, J. A. Sissom. S36,075, S36,139 Car coupling, C. H. Smith. S36,075 Car coupling, C. H. Smith. S36,052 Car coupling, C. H. Smith. S36,052 Car coupling, C. H. Smith. S36,052 Car, copen railway, D. K. McLeod. S36,039 Car, railway, J. F. Stevenson. S36,055 Cars, apparatus for antomatically limiting speed of electric, L. S. Wright. S36,055 Cars, fluid pressure brake mechanism forrallway, B. F. Teal. S36,106 Cars, steam pipe coupling for heating railway, F. Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson. S36,107 Carriage, cradle, and sled, combined baby, F. H. De Tray. S35,907 Carpet stretcher and jack, H. F. Jackson. S36,104 Cartiage, cradle, and sled, combined baby, F. H. De Tray. S35,908 Cartifidge reloading tool, D. A. Ripley. S35,908 Cartifidge reloading tool, D. A. Ripley. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S35,908 Catamenial sack, P. W. Dautrich. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S36,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney. S35,908 Cbain, machine for automatically making wire. C. F. Smith. S35,901 Chair. See Reclining chair. Cbart, dress, W. J. Marshall. S35,931 Chair. See Reclining chair. Cbart, dress, W. J. Marshall. S35,932 Chopper. See Meat and vegetable chopper. Chute, roller, E. W. Fuller. S36,045 Cock, angle, Cooper & Ferris. S35,045 Cock, angle, Cooper & Ferris. S35,045 Cock, ball, W. H. Rawe. S35,245 Cooper, See Meat and vegetable chopper. S35,032 Cock, angle, W. J. Waldron. S35,032 Cock		Stuart
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Can opener, C. E. Andrews
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Car brake, railway, I. M. Skillman
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Car coupling, J. P. Amstrong. 535,881 Car coupling, T. Gaskins. 536,075, 536,139
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Car coupling, W. L. Gelston. 536,028 Car coupling, J. A. Sissom. 536,051
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Car coupling, C. H. Smith
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson		Car, railway, J. F. Stevenson
Kementzy, Jr. Carpet stretcher and jack, H. F. Jackson	ı	of electric, L. S. Wright
Carpet stretcher and jack, H. F. Jackson, 536,148 Carriage, cradle, and sled, combined baby, F. H. De Tracy, S. & M. A. Gurney, 535,943 Cart. road, C. S. & M. A. Gurney, 535,048 Cartriage, reloading tool, D. A. Ripley, 536,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carney, 536,045 Casing cleaning machine, Kieker & Coger, 536,049 Catament al sack, P. W. Dautrich, 536,040 Cbain, machine for automatically making wire, C. F. Smith. 535,941 Chair. See Reclining chair. 535,941 Chair. See Reclining chair. 536,941 Check bit, overdraw, J. Carter. 536,048 Check bit, overdraw, J. Carter. 536,048 Check bit, overdraw, J. Carter. 536,048 Check provision, C. L. Smith. 535,941 Check provision, C. L. Smith. 535,941 Check provision, C. L. Smith. 536,048 Cleaver, butcher's, F. J. Lowness. 536,543 Clippers, C. Carletton. W. Hughes. 536,146 Cleaver, butcher's, F. J. Lowness. 536,543 Cook, angle, Cooper & Ferris. 535,542 Cooster, P. Boyton. 535,543 Cook, angle, Cooper & Ferris. 535,543 Cook, angle, W. J. Waldron. 535,543 Cook, angle, W. J. Waldron. 535,543 Cook, angle, W. J. Waldron. 535,543 Compensator, wire, N. Ratchford. 535,543 Compensator, wire, N. Ratchford. 535,543 Confectionery cooling apparatus, A. Horn. 535,543 Cook, steam feed, H. A. Kuwitzky. 535,941 Could apparatus for handling lint, D. M. Campbell. Could apparatus for handling lint, D. M. Campbell. Could apparatus for handling lint, D. M. Campbell. Coulding. See Air brake coupling. Car coupling. Universal coupling. Whiffetree coupling. Curter motor, atternating, Hutin & Leblan. 536,136 Cutter gaze, rotary, Spyder & Pitske. 536,130 Cutter gaze, rotary, Spyder & Pitske. 536,130 Dental appliance, C. W. Barney. 536,031 Dental appliance, C. W. Barney. 536,032 Door lock, sliding, Lubbe & Keating. 535,592 Door and means for closing same, sliding, Doyen & 535,932 Dortan trap, J. A. Thomas. 535,932 Dortan trap, J. A. Thomas. 535,932 Dortan apparatus, A. Hinze. 535,931 Drier. See Lumber drier. 535,932 Drier. See Lumber drier.		B. F. Teal
Cart, road, C. S. & M. A. Gurney. 535,946 Cartiridge reloading tool D. A. Ripley. 536,045 Case. See Burial case. File case. Cash register, indicator, recorder, and check printer, T. Carnesine, Kieker & Coser. 536,049 Catament al sack, P. W. Daurich Casing cleaning machine Kieker & Coser. 536,049 Catament al sack, P. W. Daurich C. F. Smith. 536,049 Chair. See Reciting Cair. 536,040 Chair. 546,040 Check bit. overday and vegetable chopper. 536,040 Check District Carnette Medical Carnette Carnette machine, W. Hughes. 536,040 Cleaver, butcher's, F. J. Lowndes. 536,040 Clippers. C. Carletton. 586,140 Colock, electric programme, F. Frick. 535,941 Cook, electric programme, F. Frick. 535,942 Conster. P. Boyton. 535,942 Conster. P. Boyton. 535,943 Cock, angle, W. J. Waldron. 586,153 Cock, angle, W. J. Waldron. 586,153 Cock, angle, W. J. Waldron. 586,153 Cock, angle, W. J. Waldron. 586,164 Composing machines, manufacture of controllers for, F. A. Johnson. 535,941 Conder, steam feed, H. A. Kuwitzky. 535,942 Conspectionery cooling apparatus, A. Horn. 535,843 Cock, angle, W. J. Waldron. 586,149 Cooler. See Water Cooler. 600 Coupling. See Air brake coupling. Car coupling. 100 Coupling. See Air brake coupling. Car coupling. 100 Coupling. See Air brake coupling. Car coupling. 100 Current motor, alternating, Hutin & Leblan. 536,130 Cuttivator attachment, U. A. Cleveland. 536,130 Cuttivator attachmen		Carpet stretcher and jack, H. F. Jackson 536,148
Cash regreter, induced, fectorier, and cases printer, T. Carney. Casing cleaning machine, Kleker & Coger		De Tray
Cash regreter, induced, fectorier, and cases printer, T. Carney. Casing cleaning machine, Kleker & Coger		Cartridge reloading tool, D. A. Ripley
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Case. See Burial case. File case. Cash register, indicator, recorder, and check
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Casing cleaning machine, Kleker & Coger. 536,949
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	l	Chain, machine for automatically making wire,
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Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Check bit. overdraw, J. Carter. 536.068 Chest, provision, C. L. Smith 535,926
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	ı	Chopper. See Meat and vegetable chopper. Chute. roller. E. W. Fuller. 536.074
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Cigarette machine, W. Hughes
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 586,130 Cultivator disk, J. R. Newton. 586,094 Current motor, alternating, Hutin & Leblanc 586,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	_	Clippers. C. Carleton
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	,	Coal drilling machine, C. S. Sheppard. 535,924 Coaster, P. Boyton. 535,938
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Cock, angle, Cooper & Ferris. 535.813 Cock, angle, W. J. Waldron. 536,053
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Cork, ball, W. H. Rawe
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092		Compensator, wire, N. Ratchiord
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	•	Confectioners collections 535,859
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	,	Cooker, steam feed, H. A. Kuwitzky
Couping. See Air brake couping. Hose couping. Sprecket wheel couping. Universal couping. Whiffletree couping. Crumb remover, J. B. O. Shevill. 536,050 Cultivator attachment, U. A. Cleveland 536,130 Cultivator disk, J. R. Newton. 536,094 Current motor, alternating, Hutin & Leblanc 536,092 Cupinfor, W. J. Shilling, Jr. 536,925 Cut-off, automatic. N. Lombard 535,932 Cut-off, automatic. N. Lombard 536,092	ı	Cotton. apparatus for handling lint, D. M. Campbell
Hose coupling. Spreaket wheel coupling. Universal coupling. Whiffletree coupling. Crumb remover, J. B. O. Shevill. Clitivator attachment, U. A. Cleveland. Sac. 130 Cultivator disk, J. R. Newton. Current motor, alternating, Hutin & Leblanc. Sac. 236 Cuspidor, W. J. Shilling, Jr. Cuspidor, W. J. Shilling, Jr. Cuspidor, W. J. Shilling, Jr. Cutter gaze, rotary, Spyder & Pitske. Sac. 133 Dental appliance, C. W. Barney. Dental regulating pliers, E. H. Angle. Door lock, Sidding, Lubbe & Keating. Sac. 255, 262 Door and means for closings same, Sidding, Doyen. & Didion. Door lock, sliding, Lubbe & Keating. Sac. 255, 262 Dredging or excavating apparatus, C. W. Hunt. Sac. 255, 262 Dredging or excavating apparatus, C. W. Hunt. Sac. 263 Dredging or excavating apparatus, C. W. Hunt. Sac. 263 Dreili. See Rock drill. Drill for boring metal, Brearley & Overend. Sac. 263 Erg beater, J. V. Ebel. Sac. 263 Electric appliances, protective device for, J. J. O'Connell. Electric lights, etc., cord adjuster for. M. B. Hodd. Elevator apparatus, W. J. Greenhough. Sac. 132 Elevator apparatus, W. J. Greenhough. Sac. 133 Elevator apparatus, W. J. Greenhough. Sac. 136 Elevator operating mechanism, E. M. Fraser. Sac. 137 Engine driving gear, road, H. H. Blake. Sac. 335, 337	5	Coupling See Air brake coupling Car coupling
Crumb remover, J. B. O. Shevill		Hose coupling. Sprecket wheel coupling.
Cultivator disk, J. R. Newton	3	Crumb remover, J. B. O. Shevill
Cuspidor, W. J. Shilling, Jr. 536,352 Cut-off, automatic. N. Lombard 535,352 Cut-off, automatic. N. Lombard 535,352 Cutter gaze, rotary, Spyder & Pitske 535,352 Dental appliance, C. W. Barney 536,103 Dental appliance, C. W. Barney 536,103 Dental regulating pliers, E. H. Angle 536,103 Device for assisting infirm persons, A. Eustis 536,103 Door lock of closints same, sliding, Doyen 6 Diddion 536,582 Door and means for closints same, Siding, Doyen 535,582 Dredging or excavating apparatus, C. W. Hunt 535,581 Dredging or excavating apparatus, C. W. Hunt 535,561 Dreill. See Rock drill. Drill for boring metal, Brearley & Overend 535,582 Dyeing apparatus, A. Hinze 535,582 Dyeing apparatus, A. Hinze 535,582 Dynamometer, B. F. Perkins 536,138 Elge beater, J. V. Ebel 536,138 Elge beater, J. V. Ebel 536,138 Electric appliances, protective device for, J. J. O'Connell. Electric conductors, tip for flexible, C. H. M. Grown of the conductors of the c	1	Cultivator disk, J. R. Newton
Cutter gage, rotary, Snyder & Pitske, 595,103 Dental appliance, U. W. Barney, 592,007 Dental regulating pilers, E. H. Angle, 536,165 Device for assisting infirm persons, A. Eustis., 536,165 Door nad means for closints same, sliding, Doyen, & Diddion, 525,829 Door lock, sliding, Lubbe & Keating, 535,829 Droteging or excavating apparatus, C. W. Hunt., 535,851 Dredging or excavating apparatus, C. W. Hunt., 535,851 Driell, See Hock drill, Drill for boring metal, Brearley & Overend, 535,862 Dyeing apparatus, A. Hinze, 535,862 Dynamometer, B. F. Perkins, 536,136 Elgg beater, J. V. Ebel, 536,035 Elgg beater, J. V. Ebel, 536,035 Electric appliances, protective device for, J. J. O'Connell, 536,035 Electric lights, etc., cord adjuster for, M. B. Hodd., 536,133 Elevator apparatus, W. J. Greenhough, 536,142 Elevator apparatus, W. J. Greenhough, 536,143 Elevator apparatus, W. J. Greenhough, 536,143 Elevator apparatus, W. J. Greenhough, 536,143 Elevator operating mechanism, E. M. Fraser, 536,161 Engine, See Gas engine, Petroleum or oil engine, Rotary engine, Steam engine, Engine driving gear, road, H. H. Blake, 535,937	2	Cuspidor, W. J. Shilling, Jr. 536,925 Cut-off, automatic, N. Lombard 535,969
Dental regulating pilers, E. H. Angle Device for assisting infirm persons, A. Eustis 535,255 Door and means for closing same, sliding, Doyen & Diddion Door lock, sliding, Lubbe & Keating 535,832 Drodesing or excavating apparatus, C. W. Hunt 535,851 Dredsing or excavating apparatus, C. W. Hunt 535,851 Driel. See Rock drill. Drill for boring metal, Brearley & Overend 535,361 Dyeins apparatus, A. Hinze 535,852 Dynamometer, B. F. Perkins 535,852 Dynamometer, B. F. Perkins 536,035 Elgg beater, J. V. Ebel 536,035 Elge beater, J. V. Ebel 536,035 Electric appliances, protective device for, J. J. O'Connell 536,035 Electric lights, etc., cord adjuster for, M. B. Hodd 536,133 Elevator apparatus, W. J. Greenhough 536,133 Elevator apparatus, W. J. Greenhough 536,134 Elevator operating mechanism, E. M. Fraser 536,015 Elevator operating mechanism, E. M. Fraser 536,016 End gate, way on, H. Steeck 536,161 Engine See Gas engine, Petroleum or oil engine, Rotary engine, Steam engine, Engine driving gear, road, H. H. Blake 535,337	,	Cutter gage, rotary, Spyder & Pitske. 536,103 Dental appliance, C. W. Barney. 532,007
Doer and means for closing same, sliding, Doyen A Didion Door lock, sliding, Lubbe & Keating S55,822 Door lock, sliding, Lubbe & Keating S55,825 Dradzing or excavating apparatus, C. W. Hunt. S55,851 Dredzing or excavating apparatus, C. W. Hunt. S55,852 Dredzing or excavating apparatus, C. W. Hunt. S55,852 Drill. See Rock drill. Drill for boring metal, Brearley & Overend. S55,852 Dyeing apparatus, A. Hinze. S55,852 Dynamometer, B. F. Perkins. S56,852 Eng beater, J. V. Ebel. S68,133 Electric appliances, protective device for, J. J. O'Connell. S60,035 Electric conductors, tip for flexible, C. H. McCelvoy. McElevoy. S60,153 Electric lights, etc., cord adjuster for, M. B. Hood. Elevator apparatus, W. J. Greenhough. S60,143 Elevator rapparatus, W. J. Greenhough. S60,143 Elevator rapparatus, W. J. Greenhough. S60,143 Elevator operating mechanism, E. M. Fraser. S58,001 Elovator operating mechanism, E. M. Fraser. S58,001 Ending. See Gas engine. Petroleum or oil engine. Engine driving gear, road, H. H. Blake. S55,937		Dental regulating pliers, E. H. Angle 536,166 Device for assisting infirm persons. A. Eustis 525,825
Door lock, sliding, Lubbe & Keating		Door and means for closing same, sliding, Doyen & Didion 535.821
Dredging or excavating apparatus, C. W. Hunt. 535,951 Drier. See Lumber drier. Prill. See Bock drill. Drill for boring metal, Brearley & Overend. 535,339 Dveing apparatus, A. Hinze. 535,932 Dynanometer, B. F. Perkins. 535,858 Ezg beater, J. V. Ebel 536,136 Electric appliances, protective device for, J. J. O'Connell. 536,095 Electric cenductors, tip for flexible, C. H. McEvoy Electric cenductors, tip for flexible, C. H. McEvoy Electric cenductors, tip for flexible, C. H. Electric lights, etc., cord adjuster for, M. B. Hodd. Electromagnetic signal, T. Spencer 536,133 Elevator apparatus, W. J. Greenhough 536,133 Elevator controller and door lock, T. F. Scott. 536,133 Elevator vate, C. F. Sullivan, E. M. Fraser 535,401 Elevator operating mechanism, E. M. Fraser 535,401 End gate, way oo, H. Steeck, Engine. See Gas engine. Petroleum or oil engine. Rotary engine. Steam engine. Engine driving gear, road, H. H. Blake. 535,937	•	Door lock, sliding, Lubbe & Keating
Drill See Kock Grill. Drill for boring metal, Brearley & Overend. 535,939 lyeing apparatus, A. Hinze. 535,939 lyeing apparatus, A. Hinze. 535,836 Eg beater, J. V. Ebel. 60 Connell. 60 Connell. 60 Connell. 60 Electric appliances, protective device for, J. J. 61 Electric conductors, tip for flexible, C. H. 636,153 63 Electric lights, etc., cord adjuster for, M. B. 64,163 63 Electromagnetic signal, T. Spencer. 64 Elevator apparatus, W. J. Greenhough. 65 Elevator controller and door lock, T. F. Scott. 65 Elevator vate, C. F. Sullivan, 65 Elevator operating mechanism, E. M. Fraser. 65 End gate, way og, H. Steeck. 65 Engine. See Gas engine. Petroleum or oil engine. 65 Engine driving gear, road, H. H. Blake. 65 S5,937		Drier. See Lumber drier.
Dynamometer, B. F. Perkins. 535,836 Erg beater, J. V. Ebel. 536,136 Electric appliances, protective device for, J. J. O'Connell. 536,035 Electric appliances, protective device for, J. J. O'Connell. 536,035 Electric conductors, tip for flexible, C. H. McEvoy. 536,153 Electric lights, etc., cord adjuster for, M. B. 536,153 Electric lights, etc., cord adjuster for, M. B. 536,163 Elevator apparatus, W. J. Greenhough. 536,138 Elevator controller and door lock, T. F. Scott. 536,635 Elevator vate, C. F. Sullivan, E. M. Fraser. 535,436 End gate, way oo, H. Steeck. 536,611 Engine. See Gas engine. Petroleum or oil engine. Rotary engine. Steam engine. Engine driving gear, road, H. H. Blake. 535,937		Drill for boring metal, Brearley & Overend 535,939
Egg peater, J. V. Egel. Belectric appliances, protective device for, J. J. O'Connell. Electric conductors, tip for flexible, C. H. McEvoy. Electric lights, etc., cord adjuster for, M. B. Hood. Electromagnetic signal, T. Spencer		Dynamometer, B. F. Perkins. 535,892 Dynamometer, B. F. Perkins. 535,866
Electric conductors, tip for flexible, C. H. McEvoy. 586,085 McEvoy. 586,103 Electric lights, etc., cord adjuster for, M. B. Hood. 586,103 Electromagnetic signal, T. Spencer. 586,104 Elevator apparatus, W. J. Greenhough. 586,104 Elevator controller and door lock, T. F. Scott. 585,683 Elevator operating mechanism, E. M. Fraser. 535,001 Engine. Rotary engine. Steam engine. Engine driving gear, road, H. H. Blake. 535,937		Electric appliances, protective device for, J. J.
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Electromagnetic signal, T. Spencer. 538, 104 Elevator apparatus, W. J. Greenhough. 536, 104 Elevator controller and door lock, T. F. Scott. 536,583 Elevator Fate, C. F. Sullivan. 536,503 Elevator operating mechanism, E. M. Fraser. 535,046 End gate, war on, H. Steeck. Etroleum or oil engine. See Gas engine. Petroleum or oil engine. Rotary engine. Steam engine. Engine driving gear, road, H. H. Blake. 535,937		Electric lights, etc., cord adjuster for, M. B.
Elevator controller and door lock, T. F. Scott \$36,832 Elevator gate, C. F. Sullivan		Electromagnetic signal, T. Spencer
Elevator operating mechanism, E. M. Fraser		Elevator controller and door lock, T. F. Scott 536,863
Engine. See Gas engine. Petroleum or oil engine. Rotary engine. Steam engine. Engine driving gear, road, H. H. Blake 535,937		Elevator operating mechanism, E. M. Fraser 585,946 End gate, was on, H. Steeck 526,161
Engine driving gear, road, H. H. Blake 535,937		Engine. See Gas engine. Petroleum or oil engine. Rotary engine. Steam engine.
		Engine driving gear, road, H. H. Blake 535,937