## RECENTLY PATENTED INVENTIONS. Mechanical,

SETTING ENGINE VALVES .- Frederick W. Williams, Minneapolis, Minn. This is a device for alternately adjusting and holding in position the lost motion of valve gearing during the process of setting the valves and eccentrics, the invention consisting of springs adapted to exert a pressure on the valve alternately in both directions in line with the travel of the

MECHANICAL MOVEMENT. — William C. Eich, Harmonsburg, Pa. Combined with a shaft on which is a series of ratchet collars is a parallel shaft on which a series of pawl-carrying levers is journaled, a drive shaft having disks with projections adapted to engage the levers alternately, with other novel features, whereby a shaft may be continuously operated by means of a leverage to give greatly increased power.

FLOUR BOLTING APPARATUS.—Victor Monnier, Grafton, North Dakota. This invention covers an improvement in vertical centrifugal bolting mills, the apparatus including a series of horizontal revolving disks arranged one above another and a like series of revolving screens or bolts surrounding them, while a series of annular tubes is located at lower points thau the disks and exteriorly of the screens.

#### Electrical.

COMMUTATOR TRUER. - David Mc-Genniss, Amsterdam, N. Y. A pair of adjustable guides is fitted to the brush-holding arm of a commutator, a sliding rod is fitted to the guides, and a plute carried by the sliding rod is furnished with the desired character of abrading or cutting surface, forming a simple attachment for truing the commutators of dynamo-electric machines or motors worn by the friction of the brushes and the action of the current.

#### Agricultural.

LEVELER FOR HARROWS.-Lorenzo D. Corser, Ebensburg, Pa. This is an auxiliary device for use in connection with a harrow, and capable of adjustment with regard to the ground surface engaged to level all mequalities after the harrow teeth have operated on the plowed ground, the depth of the toothed en gagement of the harrow with the soil being also controlled by improved means.

CHURN. — John F. Adams, Aledo, Ill. This is an improvement in churns having vertically reciprocating dashers, the churn also heing provided with means for regulating the temperature of its contents while in use, and for ascertaining the exact temperature of the cream within the churn during the churning process.

## Miscellaneous.

STOP WATCH. - Charles Schlatter. Hoboken, N. J. This invention is designed to simplify and improve the starting and stopping mechanism of stop watches, and consists in combining with the main wheels of the stop movement the wheel of the seconds hand staff or fourth wheel staff and the wheel on the staff of the stop hand, an intermediate wheel or wheels being arranged to be oscillated to put the stop movement in and out of action.

ILLUMINATED CLOCK. - Austin A. Dubois, Brooklyn, N. Y. In this clock a dial is mounted on an hour haud tube and a lamp rests on the dial, the lamp globe having the hours of the day thereon, and the lamp and globe being rotated by the clock mechanism, when the time is indicated by a stationary hand on the outside of the globe, the clock being also

TIME RECORDER. - Francis E. Tyng Irvington, N. Y. This is a device designed to easily and accurately record the hours of labor of a large number of people, and has a cylinder with time card on a suitable shaft, a dial plate connected by gear with the cylinder, a frame on shafts above the cylinder provided with means for marking the time card, and a clock movement connected with the frame, it being designed that in using the invention each employe shall have a particular number corresponding with a number on the time card and on the dial plate.

BALLOT BOX.—Calvin Jackson, Jacksonwald, Pa. This box has two compartments, one to hold the hulk of the hallots and the other to receive ballots cast, communication between the two compartments being controlled ar a transfer mechanism for shifting the ballots in single succession from the main compartment to the receiving compartment, the box being designed to facilitate balloting in secret by clubs, societies, etc.

- Lizzie F. Wood, West AERATOR Lebanon, N. H. This is a portable device having a receiver near the top of a standard, the receiver having numerous small perforations, while lower on the standard are pans, also provided with perforations, for the aeration of warm and fresh milk, to facilitate cooling it and cause a rapid separation of the cream, the device being also applicable for other purposes, as the cooling and straining of sirups, the aging of liquors, etc.

ANIMAL COLLAR. — Gustav R. Sagels dorff. Medford, Wis. This collar is formed of a light and cheaply manufactured chain which can be readily locked and unlocked, and is provided with a middle piece adapted to support a bell.

HORSE DETACHER.—David F. Sloan, Mattapan, Mass. This is a device adapted for attachment to any shaft, whereby the driver may readily sever all connection between the harness and the shaft. allowing the animal to escape, while the shafts will be held up and may be controlled to guide the vehicle till it stops, provision being also made for dispensing with the ordinary traces and whiffletree.

SPOOL RACK.—Charles H. Lewy, New York City. This is an attachment for sewing machines.

consisting of a rotatable table adapted to contain a number of spools, each capable of independent rotation, while the spools cannot be removed except by one having the key of the locking device, although the empty spools may be quickly and convenientlyremoved and filled spools substituted therefor.

KITCHEN CABINET. - Henry C. Arm strong, David E. Bigelow, and George L. Osborn, Ashland, Wis. This is a combination device for holding flour and sifting it, with the spices and other ingredients used in making bread and pastry, also providing a bake board and the implements needed, and an adjustably supported table hinged to let down at the side of the cabinet when not in use.

TRUNK AND BED. - George W. Snaman, Jr., Allegheny, Pa. This is a convertible device adapted to form a compact folding bedstead for use by parties camping out, while capable of holding the bedding and articles of personal wear when changed into the form of a trunk, a removable covering or screen being also provided to shield the occupant from attacks

CUFF HOLDER. - Asa A. Mehaffev. Poplar Bluff, Mo. This invention provides a slidhaving a spring clamping finger, a epring catch with lugs attached to it, and a body having a slot and notches, making an improved device for attaching cuffs to coat sleeves insead of to the shirt sleeves.

DEVICE TO TEST CIGARS. - Gabriel Balbin, Brooklyn, N. Y. This invention provides a holder adapted to receive the tips of cigars, from which connection is made to a rear chamber and the latter connected with a suction apparatus, whereby a uniform suction may be employed upon the cigars, that the manufacturer may judge of the burning qualities of different tobaccos

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

#### NEW BOOKS AND PUBLICATIONS.

THE LOCOMOTIVE. New Series. Vol. XI. The Hartford Steam Boiler Inspection and Insurance Co., Hartford, Conn. 1890. Pp. 194. Illustrated.

This is the bound volume of a little periodical published monthly in the interest of boiler users. It conains much practical and interesting matter on boiler explosions, practice and construction.

MAPS OF THE UNITED STATES, SHOW-IN THE CENTRAL STATION PLANTS AND ELECTRIC RAILWAYS AND SYSTEMS IN OPERATION. The Thomson-Houston Electric Boston, Mass. 1891. Pp. 93.

These are a series of skeleton maps showing the location and type of electric stations all over the United States. The proponderance is largely in favor of the Thomson-Houston system.

MIXED METALS OR METALLIC ALLOYS.

By Arthur H. Hiorns. London:

Macmillan & Co. New York. 1890.

Pp. xvi, 384. Price \$1.50.

The subject of alloys is one which has, in recent years, acquired a new impulse on account of the new combinations of metals. It has been brought before the public by recent lecturers and by the introduction of new alloys into engineering practice, such as aluminum bronze, manganese bronze, and other compounds of that class. The present book is well up to the times, treating of the last modifications of metallic mixtures, and with the numerous tables of analyses and illustrations as required, forms a valuable addition to technological literature.

RUBBER HAND STAMPS, AND THE MANIPULATION OF RUBBER. By T. O'Conor Sloane, A.M., E.M., Ph.D. New York; Norman W. Henley & Co. 1891. Price \$1.

Probably thousands of young people have first at tempted the doing of a little business on their own account by making rubber hand stamps and finding customers therefor among their neighbors. It is somewhat in the same line as the work of amateur printers, of whom there are so many in every section, but the detail connected with the making of stamps is more simple, and a moderate degree of success is easily attained with but little labor and a very small outlay. To all such beginners this book gives full details on all points, and it also has a great deal more, giving in a concise and simple form the elements of nearly everything it is necessary to understand for a commencement in any branch of the India rubber manufacture. The making of other small artiles of rubber, and of the hekoto aph, or copying pad, together with a variety of specia inks and cements, is also set forth in a manner designed to be readily understood, the explanations being plain and simple. The author has had an extended experience as a lecturer, and understands the art of presenting facts and describing processes in an interest ing and attractive manner.

A TREATISE ON ELECTRO-METALLUR Y.
By Walter G. McMillan. London: Charles Griffin & Company. Philadelphia: J. B. Lippincott Company. 1891. Pp. xvi, 387. Price \$3.50.

The trade is naticularly addressed in this work, and he requirements of electrotypers and electroplaters are all fully taken into view. Among the details of the different branches of the practice, electric conductivity, units of measurements, switch and resistance boards electro-chemical equivalents, battery connections, and Ohm's law illustrated mark the more scientific part of the work, and useful tables add to the value of this department. In the practical portion, every detail liable to be wanted by the actual operator is fully considered. An excellent glossary of substances and an index nearly 27 pages in length are features—the latter one worthy of , matic feed drills for light work, 1/2 in. holes and less. 1891 | Scientific American of what has been discovered special notice.

## Special.

## Successful Life.



JOHN P. LOVELL, President of the

#### JOHN P. LOVELL ARMS CO.

In the many thousand homes where the Scientific AMERICAN is read each week there are perhaps hundreds of thousands of young people growing into manhood and womanhood who should not fail to know some of the leading features which make up a successful business life. Every city and town has its examples, with which some are familiar, but seldom has a life been so marked with the fruits of integrity and uprightness, and a suc cess become so widely known, as in the person of Mr. John P. Lovell, who recently celebrated the golden an-niversary of his establishment in the business now known as the John P. Lovell Arms Company, in Boston Some of the best business men of our country have recognized the characteristics which have led to this man's success, and a brief account of his life may inspire many a young man to follow the example which not only leads to personal happiness, but successfulness and

only leads to personal happiness, but successfulness and a benefit to the world.

Mr. Lovell was born in East Braintree, July 25, 1820. At the age of eleven he left school and went to work in a cotton factory. One year later his mother opened a boarding house in Boston, and John had another year of schooling. With this scant equipment, but with an indomitable determination to succeed, this boy of thirteen entered into the arena of life's battle.

The years that followed found the lad making a noble fight against the disadvantages with which he was surrounded. After an eventful life in various lines of trade, he settled down to the gunsmith business in the employ of A. B. Fairbanks, to whom he became apprenticed at a weekly salary of \$2, with \$25 yearly allowance for clothes, and a raise of fifty cents per week and \$10 per year additional clothing allowance for each succeeding year until the age of twenty—ene.

The qualities which in later years developed the man of large enterprise and unswerving Integrity took firm root in the gunsmith boy, and Mr. Fairbanks was so gratified with his success that, when John was twenty years of age, the old gentleman voluntarily took him in as a partner, with ene-half interest. At this time Jehn had not a dollar in the world.

Thus, fifty years ago, was formed the firm which to-day is represented by the great house of John P. Levell Arms Co., whose business radiates throughout the world.

John's profit for the first yearwas \$700. In 1841 Mr. Fairbanks and Leonard Grover entering the firm

is represented by the great house of John P. Levell Arms Co., whose business radiates throughout the world.

John's profit for the first yearwas \$700. In 1841 Mr. Fairbanks died, and Leonard Grover entering, the firm became Grover & Lovell. In 1844 John P. Lovell bought out his partner's share, and with renewed zeal pushed his business toward the high mark of success which he had set before himself in his youth. As the years sped by, his name and fame traveled from city to city. Through the ranks of the sporting goods dealers of America he hewed his way from the lowest to the high feet securely planted on the high ground towhich in boyhood days, when pour and unknown, his ambition had aspired. His family had grown up around him in the intervening years, and he now beheld his sons, developed into men. ready to assist him in his old age to carry to a further success the enterprise begun years before. The John P. Lovell Arms Company was then formed, with J. P. Lovell Arms Company was then formed, with J. P. Lovell, Director; H. L. Lovell, Treasurer; Thos. P. Lovell, Director; H. L. Lovells, 1874 the business was removed to the present spacings buildings in Boston, which are located in the business center of the city.

Here daily may be seen John P. Lovell, no longer the young man whose steps are elastic in the pursuit of lotty ambitions, but John P. Lovell the man of years, who has trodden life's pathway through both the bitter and the sweet, and has emerged from its shadows and contests a man of success, both in the development of mealth and of character.

It is in viewing old age where the years have been spent in integrity of action that we behold the sum of many virtues, the fruits of which are a peaceful and eonarted whiter sustained by a rich harvest, the seeds of which were planted and perseveringly watered in youth.

tented winter sustained by a rich harvest, the seeds of which were planted and perseveringly watered in youth.

The lesson to be learned is not in the accumulation of wealth alone, but in the possession of those sterling qualities of integrity and manhood which command the universal respect of man. These lives are examples to set before the young men of America, lights to guide them in safety on a road which has many a dark and dangerous path into which they may stumble, unless the silumination from other lives points them clearly to the straight road of unblemished integrity.

# Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion: about eight words to a line Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

For Sale-New and second hand iron-working ma-Acme engine, 1 to 5 H. P. See adv. next issue.

Presses & Dies. Ferracute Mach. Co , Bridgeton. N. J. Burnham standard turbine. Burnham Bros., York, Pa.

Best Ice and Refrigerating Machines made by David Boyle, Chicago, Ill. 155 machines in satisfactory use.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York. Screwmachines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York, Tight and Slack Barrel Machinery a specialty. John Freenwood & Co., Rochester. N.Y. See illus. adv., p. 13.

Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 26 to 36 Rodney St., Brooklyn, N. V. The best book for electricians and beginners in elec tricity is "Experimental Science," by Geo. M. Hopkins By mail, \$4; Munn & Co., publishers, 36] Broadway, N. Y. For Sale Chean. One Horizontal Slide Valve Engine.

For the original Bogardus Universal Eccentric Mill.

inch cylinder, 16 inch stroke, with pulley, with assortment shafting, pulleys, steam pump, 10x5x14. Address H. T. Bartlett, 200 Lewis Street, New York.

The Dwight Slate Machine Co., of Hartford, Conn., and brightening. "Bude light." catalogue free.

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 be ar in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

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

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

Books referred to promptly supplied on receipt of price.

Withereals sent for examination should be distinctly.

price.

Minerals sent for examination should be distinctly marked or labeled.

(2927) L. E. M. asks if, in the using of pearl agate ware, it becomes dangerous after the lining peels off? A. We believe not. All ordinary agate ware made on an iron hasis, and is quite innocuous under all circumstances, and we presume the same applies to the special agate ware you mention.

(2928) A. W. B. writes: Last spring I onstructed a cement cistern for storing maple sap. The sirupmade from this sap was dark colored and had a strong taste. Was it the fault of the cistern? If so, what can I paint it with that will obviate the difficulty? A. It is very doubtful if the cistern had anything to do with your trouble. If it had, the trouble will probably cease. The taste and odor of the sugar would reveal to some extent the cause.

(2929) A. O. writes: I have a very nice meerschaum pipe, which has commenced tocolor very irregularly. Can you give me some remedy employed by pipe experts for removing the nicotine and restoring it to its original color, white? A. Wrap in a cloth and heat in an oven or over a stove to about 300° Fah. Do not apply a high heat.

(2930) W. D. B. asks: What is the best and cheapest formula for blue fire ? A. The well known Bengal light is thus made; Saltpeter 6 parts, sulphur 2 parts, sulphide of antimony 1 part. Each must be separately powdered if necessary and then intimately mixed. The light is only bluish. The following is advantageous, as not containing sulphur: Ammoniacal sulphate of copper 6 parts, chlorate of potash 6 parts, powdered shellac 1 part.

(2931) J. W. D. asks: Please inform me if there are six steamships that use between 300 and 400 tons of coal in 24 hours. A. Here are six: The Etruria, Umbria, Teutonic, City of Paris, City of New York, City of Rome.

(2932) R. M. T. writes: In your answers o querists (No. 2867) you do not give the proportions of boric acid in alcohol. Please name them. excess. Add more than the alcohol will dissolve and shake the bottle from time to time.

(2933) A. B. C. asks: Of what is chalk composed? How is it made into the square hlocks such as are used on billiard tables, that is, how mixed? A. Chalk is a mineral composed of carbon dioxide and calcium oxide (lime). It is worked by cutting into the desired shape. No heating, baking, or solution is

(2934) G. I. L. asks whether there is an oil manufactured which is thin enough to allow air bubbles to rise through it rapidly and which does not vaporize much when placed in a vacuum. It also cannot be too expensive. A. Use good kerosene or mineral sperm.

(2935) I. S. M. asks: 1. Can the motor lescribed in Supplement, No. 641, be converted into a dynamo by a different connection of the wires? And if so, what will be the order of wiring? A. Use a cast iron field magnet, and wind both armature and field magnet with finer wire, say No. 22 or No. 24. 2. Can the dynamo described in SUPPLEMENT, No. 161, be converted into a motor by altering the connections, and if so, by what arrangement? A. The dynamo described in Supplement, No. 161, will run well as a motor with a suitable current. 3. Is not the power of a motor due to the attractive and repulsive powers of the magnets in armature and field? A. Yes.

(2936) W. E. T. asks: How can I make nd use the salt water bath in making a copying pad? A. Dissolve 2 ounces commo, salt in 1 pint of water, and use in outer vessel of a glue pot. Place gelatine mixture in the inner vessel.

(2937) E. L. M.—The World's Columbian close in October, 1893, but there will be a preliminary celebration in October, 1892, to mark the 400th anniversary of the New World discovery by Columbus, in 1492. The best time to visit the fair, in a general way, for one living at a long distance from Chicago, will probably be about the last of August or early in September, 1893, after the usual period of hottest sammer weather, and when all matters pertaining to the management of the exhibition have become settled .-- IT During several hundred years many of the best informed men in the world have been looking for the discovery of a practical method of navigating the air; we are not very confident that it will now be achieved at an early day, yet the possibilities of success in this direction seem to be steadily increasing with the new discoveries of every year.

(2938) C. E. E. asks: 1. Has there been nything yet found to make the flame of a kerosene light more brilliant than the oil itself can produce? A. Camphor is sometimes added, but it is not very effectual. A jet of oxygen can be used, with the effect of whitening and brightening the flame. This is the well known 2. Will you give an account in the thus far in the Antartic seas toward the South

pole? A. But little has been observed there. The is a continent probably, and there are volcanoes, one least an active one. The prospects for an expeditio thither are now very favorable

(2939) J. B. G. asks how to treat water that has alkali in it so that it will not taste of the alkali and be fit to use for drinking. A. It depends on the alkaline matter which is present. Boiling is sometime efficacious, or the same result may be attained by adding the proper amount, to be determined for each case, of lime water. Its effects on the system, if used withou treatment, cannot be told without analysis, and eve then they will vary with different persons.

(2940) W. H. M.-The number of fee per ohm of copper wire of the sizes given is as follow (Am. W.G.):

No.	14	16	20	22
Feet per ohm.	380 51	239.32	94.65	59.53
No.	25	28	32	36
Feet per ohm.	29 69	14.81	5.86	2.35

(2941) A Reader asks if soap has eve been successfully made from petroleum and soda. A. has never been done. Petroleum oil can be mixed wit soap, but will not serve as a basis.

(2942) W. A. K. asks for an article tha is pliable yet tough, similar to rubber, that will stan hot water or steam. A. Leather will stand for som time. A proper grade of India rubber would be best.

(2943) L. K. P. asks if there is any acid of any kind used in the making of ice, so that the would be any remaining in the ice. If so, what kind it, and is it injurious to a person using the ice? A. N Any chemicals used are kept absolutely separate fro the ice. Artificial ice is perfectly healthy and pure.

#### TO INVENTORS.

An experience of forty years, and the preparation more than one hundred thousand applications for  $\boldsymbol{p}$ tents at home and abroad, enable us to understand th laws and practice on both continents, and to possess u equaled facilities for procuring patents everywhere. synopsis of the patent laws of the United States and foreign countries may be had on application, and perso contemplating the securing of patents, either at home abroad, are invited to write to this office for price which are low, in accordance with the times and our e tensive facilities for conducting the business. Addre MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broa

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on i	Cleaner. See Flue cleaner. Clipper, hair, R. C. Wright. Clock, independent electric, W. S. Scales Clock, secondary electric, W. S. Scales Clocks, pendulum adjustment for, F. M. Wake-	448.901 448.993 448.993	Lanterns, dissolving shutter for magic, J. Shan- non Latch, gate, W. E. Tyler Latch, sliding door, G. A. Colton Lathe, G. H. Bennett Lathe for turning shafts, E. W. Jones. Leggin, C. R. Macomber	449,070 449,055	1 8
	Clocks, pendulum adjustment for, F. M. Wake- man Closet. See Wash-out closet. Water closet.	449,016	Lathe for turning shafts, E. W. Jones Leggin, C. R. Macomber	448,764 448,819	
er di,	11 Trus abinary material, machine for replocking,	448.834	Leggin, C. R. Macomber Line tightener, C. H. Pettay Liniment, P. F. Perria Lock. See Door lock. Nut lock. Seal lock. Sup-	449,085 448,728	5
he ies	Clutch, friction, G. W. Drake Clutch, friction, Holmes & Tompkins. Cock, locking stop, H. F. Wilson Coffee, compound for coating roasted, F. Menown Coffee mill, A. E. Phillis Coffin fastener, J. E. Everiss Coke oven plant, A. C. Cocbran Concrete floors, illuminating panel in, E. L. Ran-	448,777 448,921	Lock. See Door lock. Nut lock. Seal lock. Supporting lock. Till lock.  Lock, C. E. A. A. Deny Lock, W. Jacobs Lock, W. A. McCann Locks, key guide for k. W. Mix. Locumptive engine, Peacock & Lange Log turner, Mills & Zimmerman. Loom dobby, G. Parker Lubricator, W. P. Miller Lumber carrier, A. T. Kelliher Mail bags, device for catching and delivering, W. Burks	448.912	
ng	Cock, locking stop, H. F. Wilson Coffee, compound for coating roasted, F. Menown Coffee mill. A. E. Phillis	448,702 448,660 449,086	Lock, M. Jacobs Lock, W. A. McCann Locks, key guide for. F. W. Mix	443,986 445,981	
of ut	Coffin fastener, J. E. Everiss Coke oven plant, A. C. Cocbran	448,946 448,636	Locomotive engine, Peacock & Lange.  Log turner, Mills & Zimmerman	448.927 448662	į
en	some	448,993	Lubricator, W. P. Miller Lumber carrier, A. T. Kelliher	448,785 448,766	1
et	Some Cooler. See Milk cooler. Coop, chicken, C. A. Harp Copyholder, W. J. Still Copying press, W. Hastie. Cord, machine for making ornamental, A. W. Durr Corra haelier, O. E. Davidson	448,959 449,010	Mail bags, device for catching and delivering, W. Burks	448.709	•
ws	Cord, machine for making ornamental, A. W. Durr	449,038	Manure spreader, D. B. Merrell Massage apparatus, A. Kahn Matrix making machine, C. L., Redfield	445,883 448,994	. :
	Corn sheller, O. E. Davidson. Corset clasp, F. I. Bowles Corset clasp, F. B. Spooner	448,941 448,631	Mats or gratings, machine for making, H. Beis-	448.706	. }
	Cotton or hav elevator Draffin & Nelson	448,641	Measuring alternating electric currents. O. B.	449,034	
ا	coupling. See Car coupling. Finge and conar coupling. Hose coupling. Pipe coupling.		Shallenberger	443,001	;
er :	Crochet machine feeding mechanism, J. M. Mer-	449,007	Metal slitting machine, C. H. Perkins	448,944 449,057	;
It ith.	row Crocheting machine, G. D. Munsing Crusher. See Ore crusher.		Metallic facing for buildings, L. L. Sagendorph  Metallic facing plate, L. L. Sagendorph  Meter. See Electric meter. Fluid meter. Gas		Ι,
j			meter. See Bleetric meter. Find meter. Oas meter. Milk cooler, W. Wightman		
at nd	making, W. R. Comings Curtain fixture, F. H. Bassett Curtain guide, window, A. M. Haswell. Cutter. See Tobacco cutter.	448,625 449,042	Mill. See Coffee mill. Fanning mill. Mill appliance, H. Aiken Mining machine coal H. R. Wyman	448,623	P
me	Delivering articles in exchange for coin, automatic machine for, S. S. Allin		Mill appliance, H. Aiken Mining machine, cal, H. B. Wyman Moulding machine, cal, H. B. Wyman Moulding machine, Cooke Monor chauferent speeds, means for transmit-	448,987 448,637	ľ
: 4			Motion at different speeds, means for transmit- ting, C. B. Cottrell	448,776	ij
ld ere	• Meara. Dials, machine for enameling small, T. F. Sheridan Direct-acting engine, C. C. Worthington	418,734	Mower, lawn, W, Storey Mucilage holder, W. O. Nelson	448.866 448.665	
lis Vo.	Disintegrating and separating apparatus, J. P. & O. G. Burnham	418,744	tong, C. B. Cottrell  Mower attach mert, lawn, C. C. Maxwell  Mower, lawn, W. Storey  Mucilage holder, W. O. Nelson  Musical instruments, shell for, J. Heald  Nut lock, M. S. Alexander  Nut, lock up, S. F. Clouser.	448.797 449.023 449.060	
om	O. G. Burnham Display frame, G. Marty Display frame, G. Marty Display frame, G. Marty Door check, B. Rentz Door check, pneumatic, O, Seely Door lock, sliding, O. P. Hix Drawing board, Smallwood & Smith Drawing board, meridian, J. B. McElroy. Drawing board, meridian, J. B. McElroy. Drawing board, Smallwood & Smith	448,976 448,811	Nut., fock up. S. F. Clouser.  dometer, J. S. Hilliard  Ore concentrator, G. D. Husemann  Ore crusher and sizer, Ireland & Stanhope  Ore rime, G. H. (hick  Overflow and waste pipe. H. F. Stowell  Overshoe attachment, M. M. Beeman	448 716 448,961	9
	Door check, B. Kentz	448,757 445,889 448,651	Ore crusher and sizer, Ireland & Stannope Ore riffle, G. H. (hick	449,(196 448,710 448,762	
	Drawing board, Smallwood & Smith Drawing board, meridian, J. B. McElroy.	449.0 <b>0</b> 6 449.049	Overshoe attachment, M. M. Beeman	448,842 448,756	ŀ
of	Drier. See Fruit drier.	220,000	Pan. See Bed pan. Grinding and amalgamating	110.012	ľ
pa- the	Drying board, M. H. Fogarty Electric circuits, waterproof combined coupling and cut-out for, F. Shlaudeman	448 951	pan. Paper box, collapsible, F. V. Bowman Paper box, knockdown, E. M. Scott. Paper ciamp, J. B. McGirr Parcel strap, F. H. Ioveless Parer and corer, fruit, W. A. C. Oaks Partution, fireproof, C. W. White. Pavement, street, J. Lynch Pen, fountain, H. M. Cronkhite Pen, fountain, H. W. Moore	448,813 448,824	ľ
nn- A	Electric contact device r. A. Perret	148,009	Parcel strap, F. H. Loveless	448.657 449.050	
all ons	Electric currents, meter for alternating, D. B. Sballenberger	449.003	Partition, fireproof, C. W. White Payement, street, J. Lynch	449,019 448,658	ľ
	Electric lighting system, E. H. Johnson Electric line wires, support for, H. C. Wirt	449,044 448.703	Pen, fountain, M. W. Moore Pen holder, pen nib, extractor, and paper knife,	448,885	
ex-	Electric machine, dynamo, S. E. Nutting Electric meter, E. Thomson	448,666 448,894 448,681	Pen holder, pen nib, extractor, and paper knife, combined, T. B. A. Chamberlam Pencil, lead, R. H. Franklin	448,933 449,040 448,723	
ess ad-	Electric wire connector, F. Schlaudeman	448,698 448,680	Pencil sharpener, J. D. Mills	448,839	
_	Electric lighting system, E. H. Johnson Electric line wires, support for, H. C. Wirt. Electric machine, dynamo, S. E. Nutting Electric meter, K. Thorison Electric motors, speed regulator for, S. H. Short. Electric switch, D. B. Turner Electric wire connector, F. Schlaudeman Electrical heater, J. V. Capek	448,792 448,980	Edison.  Phonographs, turning-offdevice for, T. A. Edison Photographic roll holder, H. G. Ramsperger	448,781	
S	Electrolyte for galvanic batteries, J. J. Collins Elevator. See Cotton or hay elevator. Portable elevator.		Planos, tone-sustaining device for, A. Pferdner	418.887	
_	Elevator, C. R. Pratt	448,788 448,699	Picture frame, J. F. McBride Pictures on glass, implement for mounting, R, H. L. Talcott Pipe. See Overflow and waste pipe.	448,692	i
	Emery wheel dresser, revolving, Palmer & Ryder Engine. See Carding engine. Direct-acting en- gine. Gas engine. Locomotive engine. Steam	. 448,787	Pipe. See Overflow and waste pipe.  Pipe coupling, F. Kaiser	448,765 448,966	
	Excelsior machine. V. L. Williams	449,097	Planter, corn, Godden & Whitehurst	448,649 448,943	
E.	Extractor. See Stump extractor. Fan, Ames & Grier. Fanning mill, J. S. Shafer.	449,025 448,809	Pipe. See Overnow and waste pipe. Pipe coupling, P. C. Lawless Pianter, corn, Godden & Whitehurst Planter, disk corn, C. H. & H. L. Dooley. Plotter, V. H. Smith Plow, J. E. & E. M. Mitchell Plow and pulverizer, combined, J. C. & W. N. Arrington Polishing machine, H. Trost. Portable elevator, N. Anderson.	448,740	:
s.)	ran, Ames & Grier Fanning mill, J. S. Shafer Fare book, railway, S. F. Stevens Feedwater heater and purifier, W. A. Morse. Fence post, E. D. Watkins Fifth wheel, wakon, A. B. Bishop File or portfolio, J. J. Hanlon Filters, antiseptic air vent and overflow for, C. G. Purdy Fincer rung, C. Staiger.	448,984 449,018	Polishing machine, II. Trost	449.059 449.026	
0:32	Fif th wheel, wagon, A. B. Bishop	448,843 448,816	Post. See Fence post. Press. See Copying press. Pressure reducer for steam or other fluids, E. C.		
827 859	Purdy Finger ring, C. Staiger.	448,671 448,892	Fasoldt  Printing machine, C. B. Cottrell  Printing machine, chromatic, C. W. Dickinson  Printing machine, physics machanism A. Fasol	449,071 448,775	
759 6 <b>4</b> 0	Finger ring, C. Staiger Fire alarm signal box, W. F. Singer Flange and collar coupling, J. J. Hogan Flour receiver and sifter, W. H. Reynolds.	448.717 448,673	Printing presses, back-up motion for, J. H.	110,110	
,791 ,886	Flower holder, J. Martin	. 448,975 . 449,080 . 449,009		448.938	
674 8 <b>30</b> 964	Fine cleaner, J. T. Mackay.  Fluid meter, rotary, Sporton & White Flush tank, S. W. Miller Fodder binder, C. W. Gillis Fodder carrier, W. R. Harrison Fork rolling machine, J. B. Phillips Frame, See Disniya frame, Picture frame.	449,083 449,072	Printing presses, stone protector for lithographic, J. Eberle		
	Fork rolling machine, J. B. Phillips Frame. See Display frame. Picture frame.	419,058	Propelling boats, apparatus for vessels, J. Wirth Propelling boats, apparatus for, k. Batjer Protector. See Check protector. Electrical protector. Tree protector.	448,771	i
.847	Fruit drier, A. Conkin.  Furnace. See Boiler or other furnace. Gas furnace. Hot air furnace.	448,846	Pump gas compression W S Brewer	448,129	ı
,078 .047 .691	Gauge. See Surface rauge. Galvanic battery, C. J. Hirlimann	448.798	Pump, vacuum, A. Berrenberg Pumps, regulator for windmill, P. A. Myers Pumping natural gas, system of, J. N. Pew.	449,066 448,985 448,670	
953	Gas engine, O. Kosztovits. Gas engine, E. Narjot	. 448.924 . 448,989	Puzzle, L. M. Lyon Rack. See Display rack.	140,011	ı
.960 750	Gas urnace, Gipin & Elliot Gas meter. A. Ehebald Gate, G. W. Smith	. 448,533 . 448,643 . 449,091	Radiator, G. C. & L. R. Blackmore Rail joint support, J. T. Richardson Rails, joint or other fastening for tramway, R.		11.
,701 ,774 ,000	Glass sealing apparatus, plate, J. M. Howard Gopher trap, L. A. Syverud	449,013 449,011	Railway alarm signal, Jones & Scott Railway brake operating by air pressure or vac-	449,033	
862	Grain drills, hopper and shoe for, W. F. Hoyt Graining roller, W. H. Landon	448,861 449,079	num, E. Hartmann Railway circuit for signaling and controlling		
	Grate, J. Heisheim Grate, L. W Clayton Grater, culinary, B. H. Cook	. 449,029 . 448,634 . 448,794	Railway circuit for signaling and controlling trains, F. K. Kinsman. Railway, electric, T. A. Edison. Railway, electric, R. M. Huuter.	448,751 448,778 448,653	!
808	Gauge. See Surface kauge. Galvanic battery, C. J. Hirlimann. Game apparatus, S. W. Clarke. Gas engine, C. Kosztovits. Gas engine, E. Narjot Gas iturnace. Gilpin & Elliot Gas meter. A. Ehebald Gate, G. W. Smith Glass sealing apparatus, plate, J. M. Howard. Gopher trap, L. A. Syverud Grain drills, H. J. Phelps. Graint, College and Shoe for, W. F. Hoyt. Graning roller, W. H. Landon Grate, L. W. Clayton Grate, L. W. Clayton Grate, L. W. Clayton Grater, culinary, B. H. Cook, Grinding and amalgamating pan, W. Roberts. Gripper finger, E. J. Megill Guard. See Cattle guard. Gun, quick firing, E. Von Skoda	448,731 448,753	Railway rail and sleeper or stringer, L. Bergmark Railway signal, E. C. Carter Railway signal torch, W. C. Beckwith		
.064 .854	Guard. See Cattle Ruard. Gun, quick firing. E. Von Skoda	448.841 448.689	Railway switch, antomatic, kase & Borden Railway switch, antomatic, kase & Borden Railway trolley, electric, R. Eickemeyer	448,906 448,923 448,831	;
,687	G un, quick firing. E. Von Skoda Hand drill, J.F. Steward. Handle. See Brush handle. Hanger. See Type bar hanger. Harness, N. H. Fetherman	440 990	Railways, electric signaling apparatus for ED. Graff Railways, overhead crossing appliance for elec-		- 1
	Harness, At. H. Fetterman Harness attachment, G. A. Harris Harvester, corn, Treadwell & Black Hay rake, J. M. Paronto Heater. See Electrical heater. Feedwater	. 448,763 . 448,697	tric, I. H. Farnham Rake. See Hay rake.	448,711	
.929 .720 .940	i i cateri.		Razors, composition for sharpening, L. C. Maurer Reel. See Hose reel. Register. See Cash register.		
089 022	Heating apparatus, electric, M. W. Dewey Heating apparatus, steam, B. Cavanagh. Hoisting and conveying apparatus, C. W. Nason, Hoisting apparatus, reversing and brake mechan	448,879 448,932	Register. See Cash register. Rheostat, adjustable, S. H. Short		1
,061 ,724	Hoisting apparatus, reversing and brake mechanism for C. A. Case	. <b>448,90</b> 9	Road making and repairing machine, M. G. Bunnell Rock drill, electric, W. M. Schlesinger	448.708	
,667 ,809 ,015	ism for, C. A. Case Holder. See Copy holder. Flower holder. Mucil- age holder. Pen holder. Photograpic rol holder. Spool holder. Stereotype plate hold		Roller. See Graining roller. Roller mills, etc., feed regulator for, C. A. Corey. Rolling girder rails, rolls for, H. W. Thomas		
696 848	Hook. See Checkrein hook,		ing and finishing H. Rormann	448 873	Ш
973 796 092	Hooping wooden vessels, T. K. Parrish. Horseshoe bars, manufacture of, C. H. Perkins. Horseshoe blank and blank bar, C. H. Perkins,	449,051	Rope socket, P. Yorke	448.902 448,903	1
,949 ,949	449.65. Horseshoe blank bar, C. H. Perkins	, 449,056 , 449,055	Hope, Jr Sail, G. Skir.ner	448,922 449,0 <b>6</b> 4	į
.014	Perkins Horseshoe, hoof spreading, W. Tory	. 449,052 . 448,736	W. J. Maddox Sash fastener, J. C. Howe.	448.721 448.882	
.769 .704 .910	Hose coupling for street washers, G. W. Tinsley. Hose reel, swinging, W. F. Bowers	. 448,694 . 449,033	Sail, G. Skifner Sandpapering, rubbing, and polishing machine, W. J. Maddox Sash fastener, J. C. Howe. Sash, tennis, E. W. Whittaker. Saw, circular, T. L. Slaughter Saw setting machine, L. L. Northup Sawing machine, band, D. C. Markham Scale grain, G. C. Klagg	449,005 448,742	!
.030 .839 .683	Hose supporter, C. C. Shelby	. 448,768 . 448,783 448,797	Sawing machine, band, D. C. Markham	448,761 448,761	
.098 3,840	Horseshoe blank bars, die roll for making, C. H. Perkins. Horseshoe, hoof spreading, W. Tory. Hose coupling, G. W. Tinsley. Hose coupling for street washers, G. W. Tinsley. Hose reel, swinging, W. F. Bowers. Hose supporter, C. C. Shelby. Hot air furnace. Kernain, Jr., & Landers. Hydrant, S. H. Orwig tee cream freezer, F. B. Cochran. Indicator. See Klectrical indicator. Station in dicator.	448,935	Scale, weighing and price, Ozias & Canby. Screen. See Ore screen. Window screen.	448,837	į
.849 .088		440 050	2 2 2	448,638 449,037 448,700	i.
1.087 1.978 1.979	Insulator, electric, Granan & Gannane. Insulator for electrical conductor for mines, F A. Pocock Ironing machine, L. H. Watson. Ironing table, L. W. Miller. Journal bearing, M. A. Andrews	. 448.838 . 448.898 . 448.661	Seat. See Vehicle jump seat. Velocipede seat. Sewerage system. J. C. McGowan Sewing machine, buttonhole, J. Q. A. Houghton.	220,000	٠.
.992 931	Journal bearing, M. A. Andrews	. 448,871 . 448,826	Sewing machine tuck marker. E. J. Toof	449.07.5 448.695	
,855	Knitted fabrics, treating tubular, W. A. Harder	449 917	Shatt locking device, F. G. McColm		
,082 3.937	Knob, door, J. Trickel Ladder, step, J. C. Gardner	448,954 448,737 448,648	Sheller. See Corn sheller. Shirt. C. Benger. Shirt starching machine, Herndon & Buckland Sifter, coal, E. W. Humphreys.	448,812 448 715	!
.:345 . <b>8</b> 81	Knob, door, J. Trickel Ladder, step, J. C. Gardner Lamp, Argand, Atwood & Tobey. Lamp chimneys, heating attachment for, W. F Kinger	448,851	Sifter, coal, E. W. Humphreys Signal. See Railway signal. Railway alarm signal.	448,818	1
,629 1.8 <b>0</b> 4	Lamp cover, incandescent, E. T. Mueller Lamp filament, incandescent electric, G. Erlwein	448,741	Silicate compound, M. W. Beylikgy Sleigh runner, J. Radley	448,754	:
1,652 1,880 1,705 1, <b>04</b> 5	Lamp filament, incandescent electric, Erlwein &			448,656	:
0.045 3,948 0.073	Heller Lamp filament, incandescent electric. F. G. A Heller Lamp for electric railway cars, Smith & Pfingat.	448,920	Speed controlling device, W. C. Baird. Speod controlling device, W. C. Baird. Speod bolder, E. S. Jackson Stallion shield, I. W. Benedict Stallion sheld, I. W. Benedict Stamp, electric time Martindale & Malmbork Stamp, hand, H. Howard.	449.063 448,799 448.757	
	Lamps, adjustable stand for, F. Beilmann Lantern, tubular, F. K. Wright	449,028	Stamp, electric time Martindale & Malmborg Stamp, hand, H. Howard	449.081 449.076	, 1

١	Lanterns, dissolving shutter for magic, J. Shan-		Stap
ļ	non	448,825 448,755	
ı	Latch, sliding door, G. A. Colton	449,070	Stat
l	Lathe for turning shafts, E. W. Jones	448,764	Stea
l	Latch, gate, W. E. Tyler Latch, sliding door, G. A. Colton Lathe, G. H. Bennett Lathe for turning shafts, E. W. Jones. Leggin, C. R. Macomber Line tightener, C. H. Pettay Liniment, P. F. Perrin Lock, See Door lock. Nut lock. Seal lock. Sup- porting lock. Till lock. Lock, C. E. A. A. Deny Lock, M. Jacobs Lock, W. A. McCann Locks, Key guide for, F. W. Mix Locomotive engine. Peacock & Lange. Log turner, Mills & Zimmerman. Loom dobby, G. Parker Lubricator, W. P. Miller Lumber carrier, A. T. Kelliher Mail bags, device for catching and delivering, W. Burks	449,085	Stea
ļ	Lock. See Door lock. Nut lock. Seal lock. Sup-	448,728	Stee
ļ	porting lock. Till lock. Lock, C. E. A. A. Deny	448.912	
	Lock, M. Jacobs	449,077	Ster Ston Ston
!	Locks, key guide for, F. W. Mix	445,981	Ston Stor
	Log turner, Mills & Zimmerman	448662	Stov
	Lubricator, W. P. Miller	448.785	Stop
!	Mail bags, device for catching and delivering, W.	148,766	Stov
l	Burks	448.709 448.884	Stre
	Manure spreader, D. B. Merrell Massage apparatus, A. Kahn Matrix making machine, C. L., Redfield.	445,883 448,994	Sup
			Surf
	heim Measure, flexible scale, A. S. Adler Measure, scale, E. T. Burrowes Measuring alternating electric currents, O. B. Shallenberger.	448.805	Swit
	Measuring alternating electric currents, O. B.	449,034	Tab Tan Tele
			Tele
	Metal, apparatus for removing gases from, Dur- fee & Wittman  Metal slitting machine, C. H. Perkins  Metal slitting machine, C. H. Segondoreh	448.914	Tele
	Metal slitting machine, C. H. Perkins	449,057	Tele Thi Thr
	Metallic facing plate, L. L. Sagendorph	448,733	Tid
	meter		Tre.
	Milk cooler, W. Wightman Mill. See Coffee mill. Fanning mill.	440,000	Tile Till Tim
	Mill appliance, H. Aiken annia Mill appliance, H. Aiken Mining machine, oal, H. B. Wyman Moulding machine, J. E. McCanna. Money changed the Cocke. Mothor at deferent speeds, means for transmit-	448,829	Tire
i	Moulding machine, J. E. McCanna Money changer, H. G. Cooke	448,987 448,637	Tire Tob
	Motion at different speeds, means for transmit-	448.776	Tob Tob
	Mower attach ment, lawn, C. C. Maxwell	419.977	Tob Tob Toil
ļ	Mucilage holder, W. O. Nelson	448.66.5	Too
į	Nut lock, M. S. Alexander	449 023	Tra Tre
į	odometer, J. S. Hilliard	448 716	Tri
	Ore concentrator, G. D. Husemann	448,961 449,096	Tub
į	Ore screen, T. J. Grier	448,710 448,762	Tur
į	Motion at different speeds, means for transmitting, C. B. Cottrell Mower attachment, lawn, C. C. Maxwell Mower, lawn, W. Storey Mucilage holder, W. O. Nelson Musical instruments, shell for, J. Heald Nut lock, M. S. Alexander Nut, lock up, S. F. Clouser.  - dometer, J. S. Hilliard Ore concentrator, G. D. Husemann Ore crysher and sizer, Ireland & Stanhope Ore riffle, G. H. (hick Ore screen, T. J. Grier Overshow and waste pipe, H. F. Stowell Overshoe attachment, M. M. Beeman Oyster tongs, J. B. Tawes Pan. See Bed pan. Grinding and amalgamating	448,842 448,756	Tur Tur Typ
	Oyster tongs, J. B. Tawes Pan. See Bed pan. Grinding and amalgamating	449.012	Тур Тур
	pan.  Beneral ber cellensible F V Rowman	448 913	Тур
	Paper box, knockdown, E. M. Scott.	448,824	Typ Typ
	Parcel strap, F. H. Loveless	448.657	Typ
	Parer and corer, fruit, W. A. C. Oaks Partition, fireproof, C. W. White	449.050 449.019	T'yp T'yp
	Pavement, street, J. Lynch	448,658 448,93 <b>9</b>	Vac
	Pen, fountain, M. W. Moore  Pen holder, pen nib, extractor, and paper knife.	448,885	Val Val
	pan:  paper box, collapsible, F. V. Bowman  paper box, knockdown, E. M. Scott.  Paper camp, J. B. McGirr  Pareel strap, F. H. Joy eless.  Parer and corer, fruit, W. A. C. Oaks  Partution, fireproof, C. W. White.  Pavement, street, J. Lynch  Pen, fountain, M. W. Moore  Pen, fountain, M. W. Moore  Pen holder, pen nib, extractor, and paper knife, combined, T. B. A. Chamberlain  Pencil, lead, K. H. Franklin.  Pencil sharpener, J. D. Mills.  Pencil sharpener, F. W. Sabel.  Phonogram blanks, device for turning of, T. A. Edison.	448,933	Veg
	Pencil shar pener, J. D. Mills	448,723	Vel Vel
	Phonogram blanks, device for turning of, T. A.	445,839	Ver
	Edison  Honographs, turning-offdevice for, T. A. Edison  Photographic roll holder, H. G. Ramsperger.  Plano attachment, C. L. E. Lugen, wehl  Planos, tone-sustaining device for, A. Pferdner.  Picture frame, J. F. McBride  Pictures on glass, implement for mounting, R. H.  L. Talcott.	448.780 448,781	<b>V</b> et
	Photographic roll holder, H. G. Ramsperger   Piano attachment, C. L. E. Lugen, wehl	448,801 449,048	Vel
	Pianos, tone-sustaining device for, A. Pferdner	448,887 448,821	V el
	Pictures on glass, implement for mounting, R. H. L. Talcott.  Pipe. See Overflow and waste pipe.	448,692	V el
	Pipe coupling, P. C. Lawless	448.960	Wa
	Planter, disk corn, C. H. & H. L. Dooley	448,943	Wa Wa Wa
	Pipe coupling, P. Kaiser Pipe coupling, P. C. Lawless Planter, corn, Godden & Whitehurst Planter, disk corn, C. H. & H. L. Dooley. Plotter, V. H. Smith Plow, J. E. & E. M. Mitchell Plow and pulverizer, combined, J. C. & W. N.	. 448.685 . 448,740	Wa
	Plow and pulverizer. combined, J. C. & W. N. Arrington	448,770	Wa
	Arrington Polishing machine, H. Trost. Portable elevator, N. Anderson.	449.059 449.026	
	Post. See Kence post.		Wat
	Press. See Copying press.  Pressure reducer for steam or other fluids, E. C.  Fasoldt	449,071	W e
	Fasoldt Printing machine, C. B. Cottrell Printing machine, chromatic, C. W. Dickinson Printing machine inking mechanism, A, Fayol	448,775 446,807	Wh
	Printing machine inking mechanism, A, Fayol	448,749	Wit
	Printing presses, back-up motion for, J. H. Cranston	448.938	Wir Wir Wir
	Printing presses, paper cutting mechanism for,  _ L. E. Brookes	448,806	Wir
	Printing presses, stone protector for lithographic, J. Eberle		Wir
	Propelling apparatus for vessels, J. Wirth	448,810 448,771	Wre
	Protector. See Check protector. Electrical protector. Tree protector.		Wre
	Pulley block, J. L. Reed	41X X74	
	Pump, vacuum, A. Berrenberg	449,066	
	Pumping natural gas, system of, J. N. Pew	448,670	Bic
•	Pump, vacuum, A. Berrenberg. Pumps, regulator for windmill, P. A. Myers. Pumping natural gas, system of, J. N. Pew. Puzzle, L. M. Lyon. Rack. See Display rack.	440.020	Bra
	Rail joint support, J. T. Richardson	448,630 448,750	Cen
	Viol	449,033	COL
	Railway alarm signal, Jones & Scott	448,000	
	num, E. Hartmann	448,833	I Rim
	trains, F. K. Kinsman Railway, electric, T. A. Edison Railway, electric, R. M. Hunter Railway rail and sleeper or stringer, L. Bergmaik	448,751 448,778	Flo
	Railway, electric, R. M. Hunter Railway rail and sleeper or stringer. L. Bergmark	448,653 448,628	Jew
	Ranway signal, E. C. Carter	448.773 448.90¢	Mus
	Railway signal torch, W. C. Beckwith Railway switch, antomatic, Kase & Borden Railway trolley, electric, R. Eickemeyer	448 923 448,831	Ren
	Rail ways, electric signaling apparatus for, E D. Graff	448,856	Ret
	Doilmore orarboad arcsuing appliance for alog-	448 711	Ren
			Ren
,	Reel. See Hose reel.	vn1 U4	Rib
,	Register. See Cash register. Rheostat, adjustable, S. H. Short	448.682	
,	Ring. See Finger ring. Road making and repairing machine, M. G. Bun-	440 ***	Shi
)	nell Rock drill, electric, W. M. Schlesinger	448,708 449, <b>0</b> 90	Spo
	Roller. See Graining roller.		1 _
	Roller mills, etc., feed regulator for, C. A. Corey. Rolling girder rails, rolls for, H. W. Thomas Roofing fabrics, apparatus for coating or saturat-	•	Bug
)	ing and finishing H. Rormann	44H H73	Tin
l	Rope clamp, P. Yorke Rope socket, P. Yorke Ruling machine, steel and lithograph plate, J.	448,901	Toy Wa
	Hope, Jr	448,922 449 0 <b>4</b> 4	. •••
	Sandpapering, rubbing, and polishing machine, W. J. Maddox	440 701	
;	Sash fastener, J. C. Howe	448.882	
	Sandpapering, rubbing, and polishing machine, W. J. Maddox Sash fastener, J. C. Howe Sash, tennis, E. W. Whittaker Saw, circular, T. L. Slaughter Saw setting machine, L. L. Northup Sawing machine, band, D. C. Markham Scale, grain, G. C. Flagg Scale, wiching and proce. J. W. Culmer	419,005	!! Bot
	Sawing machine, band, D. C. Markham	448,659	Car Car
1	Scale, weighing and price, J. W. Culmer	448,761 448,911	Car
•	Scale, weighing and price, J. W. Culmer. Scale, weighing and price, Ozias & Canby. Screen. See Ore screen. Window screen. Screw cutting machine, H. E. Coy. Screw, wood, G. T. Chapman. Scal lock, W. Walker. Seat. See Vehicle jump seat. Velocipede seat. Sewerage system. J. C. McGowan Sewing machine, buttonhole, J. Q. A. Houghton, 449,074	448,837	Car
i	Screw cutting machine, H. E. Coy	448,638 449,037	Car
;	Seal lock, W. Walker Seat. See Vehicle jump seat. Velocinede sent	448,700	Cul
3	Sewerage system, J. C. McGowan	. 448,988	Flo
	Coming machine tuck marker P 1 Poof	440 002	1 11 11 11
	Shaft, flexible, J. S. Campbell Shaft locking device F. C. McColm	449,068	Hai   Oil
į	Shaft, flexible, J. S. Campbell Shaft locking device, F. G. McColm Shelf bracket, etc., combined, M. Heffernan Sheller. See Corn sheller. Shirt. C. Benger Shirt starching machine, Herndon & Buckland Sifter, coal, E. W. Humphreys Signal, See Bailway signal Bailway alarm sif-	448,919	Pla Spo Tile
	Shirt C. Benger	4.8,812	Tile
ĺ	Sifter, coal, E. W. Humphreys	. 448,715 . 448,818	A
)	nal.		iggn
l	Silicate compound, M. W. Beylikgy	448,772 448,754	cen
;	Soap compressing and stamping machine, Lawton	1	Wat
Į	& Mergenthal  Spark arrester for smoke pipes, Hale & Duringer  Speed controlling device, W. C. Baira  Spool holder, E. S. Jackson  Stallion shield, I. W. Benedict.	448,918 449,063	lnv
ì	Spool holder, E. S. Jackson	. 448,799	gon

İ	Stamps sold and canceled etc. register for J. M.	·- · · · · · · · · · ·
1	Stand Soo Switch stand	448,645
	Station indicator, F. Moore	448.982 448.983
	Steam boiler, J. J. Tonkin Steam engine, F. M. Garland	448.567 448.917
	Steam, method of and apparatus for generating, B. Fales	448.947
	Stereotype plate holder, H. Fietsch, Jr.	449,039
	Stone, artificial building, E. H. Lewis	448,968 448,928
i	Stone, manufacture of artificial, J. L. Rowland	448.575 448.747
١	Stovepipe thimble, E. G. West	449,060 448 652
	Stoves, box or casing for street car, J. Spear	449,008
	448,814. Stereotype plate holder, H. Fietsch, Jr. Stone, artificial, E. C. Brice Stone, artificial building, E. H. Lewis Stone channeler, Scates & Woods Stone, manufacture of artificial, J. L. Rowland Stove, gas, E. Bourne Stove, pas, E. Bourne Stove, pas, E. Bourne Stove, pas, C. M. Hollingsworth. Stove, box or casing, for street car, J. Spear Strap, See Parcel strap, Street cleaning machine, H. R. Wolfe Supporter, See Hose supporter. Supporting lock, automatic, J. A. Lounsbury	448.900 449.041
	Supporter. See Hose supporter. Supporting lock. automatic, J. A. Lounsbury	448.970
	Surface gauge, G. E. Neuberth Switch. See Electric switch. Railway switch. Switch stand, J. H. Wallace	448,863
:	Switch stand, J. H. Wallace	449,017
i	Table. See Ironing table. Tank. See Flush tank. Water tank. Telegraph, T. A. Edison	448 779
i	Telegraph, I. A. B. Gison Telegraph pole brace, H. Ogden Telephone transmitter, T. Oeyan Telephonic auditory apparatus, G. V. Benjamin Thill coupling, P. Broadbooks Thrashing machines, attachment for the separators of L. & A. V. Gray Tidy holder, P. G. Leistner The, See Bale Ite.	448,786 448,726
	Telephonic auditory apparatus, G. V. Benjamin	448.627
	Thrashing machines, attachment for the separa-	145 057
	Tidy holder, P. G. Leistner Tie. See Bale tie.	418,967
إ	Tile for couplings, J. Lynch	448,972 448,952
	The. See Bale tie. The for couplings, J. Lynch Till lock, C. T. Jearless Time alarm, electric, J. J. Gallagher Tire for cycles, wheel, J. B. Dunlop (r). Tire, wheel, W. E. Bartlett Tobacco cutter, pocket, H. T. Reed Tobacco gum or retainer, J. T. Ashworth. Tobacco sunfer, P. J. Bernard Tobacco sunfer, P. J. Bernard Tobacco sunfer, P. J. Bernard Tobacco sutstitute, L. H. Miller Toilet case, Moore & Garrard Tooth, artificial, J. F. Wright Toothpick, C. C. Freeman Trap. See Gopher trap. Trap. See Gopher trap. Tree protector, fruit, W. T. Yandow. Trimmer. See Wick trimmer. Tubular recept acles, machine for ornamenting, Sheffield & Sinclair.  Turilly recept acles, machine for ornamenting.	448,712
	Tire, wheel, W. E. Bartlett Tobacco cutter, pocket, H. T. Reed	448,793 448,672
	Tobacco gum or retainer, J. T. Ashworth	418,746
	Tobacco substitute, L. H. Miller	448,925
,	Tooth, artificial, J. F. Wright	448,745
	Trap. See Gopher trap.	418 738
5	Trimmer. See Wick trimmer.	448.590
	Tubular recept acles, machine for ornamenting,	418 678
	Turfing implement, C. K. Coe	448.845
	Type bar hanger, G. F. Stillman	418,690
•	Type bar hanger, G. F. Stillman.  Type founder's matrix, A. F. Allen  Type setting or composing machine, Standiford & Hyers.	448,735
	Typewriting machine, Clinton & McNamara Typewriting machine, M. Fisher Typewriting machine, G. I Francis. Typewriting machine, J. Richardsoo. Typewriting machine, H. A. Wright. Typewriting machines, type leverand hanger for, W. H. Broggs.	448,934
,	Typewriting machine, G. 1 Francis  Typewriting machine, I Richardson	448,646
5	Typewriting machine, H. A. Wright	449,021
	Vacuum angina I A Drett	1101010
	Valve for steam engines, balanced, H. Canfield	448,876 448, <b>6</b> 26
,	Valve for steam engines, balanced, H. Canfield Valve, steam, G. S. Bell Vegetables or fruits, apparatus for scalding, T. Van Kannel Velnde brake, E. Enderes	448 895
3	Velucie brake, E. Enderes Velucie jump seat, C. Comstock Velucies, combined step and fender for, A. McCulloch	448 895 448.913 449.095
, 1	Vehicles, combined step and fender for. A. McCulloch.	449 084
ĺ	Vehicles, horse detacher for, C. J. Walser Vehicles, thill support for, J. J. Barker	445.897 449.027
3	Velocipede, F. C. Foster	448,952 448,655
l	V elocipede saddle, W., l. Edwards V elocipede seat, Lloyd & Priest	448.739 448.959
:	Vehicles, combined step and fender for. A. Wehicles, combined step and fender for. A. McCulloch. Vehicles, borse detacher for, C. J. Walser. Vehicles, thill support for, J. J. Barker Velocipede, F. C. Foster Velocipede, F. C. Foster Velocipede, F. C. Foster Velocipede, S. L. B. Jeffery Velocipede saddle, W. J. Edwards. Velocipede saddle, W. J. Edwards. Velocipedes, steering device for, R. W. Riess. Wagons, platform spring for road, C. W. Saladee. Washer. See Window washer. Wash-out closet, porcelain, J. Reid Washing machine, G. H. Jantz. Watch, stem winding and setting, A. Chopard. Watches, jewel support for balance staffs of, J. Villon Water back, J. Regnolds. Water closets, atomizer for, C. Lightbody. Water closets, flushing tank for, F. L. Mentel. Water tank, F. F. Wilcox Weather strip, W. C. Rockwell Wheel. See Car wheel. Fifth whee!. Winding drum E. N. Wickes.	448,850 448,790
5	Washer. See Window washer. Wash-out closet, porcelain, J. Reid	448,864
•	Washing machine, G. H. Jantz	448 654 448,877
)	Watches, jewel support for balance staffs of J.	448,930
)	Villon Water back, J. Reynolds	448.896 448,995
;	Water closets, J. G. Bryan Water closets, atomizer for, C. Lightbody	448,908 448,784
	Water closets, flushing tank for, F. L. Mentel. Water tank, F. F. Wilcox	448,80 <b>0</b> 448,870
ļ	weather strip, w. U. Kockwell	448,997
	Wick trimmer, C. Roseberry	448,789
,	Windlass, ship, E. H. Whitney	448,868 448,828
5	Window screen, J. Knowles	11,154 448.965
í	Wire cloth drying apparatus, P. L. Salmon	448,888
i	Wire stretcher, J. B. Cleaveland.	448,635
ĺ	Wheel. See Car wheel. Fifth wheel. Whip, F. Grant Wick trimmer, C. Roseberry. Winding drum, E. N. Wickes. Windlass, ship, E. H. Whitney. Window, O. M. Edwards (r) Window screen, I. Knowles Window washer, J. W. Dixon. Wire cloth drying apparatus, P. L. Salmon. Wire rope, making clamps for, P. Yorke. Wire stretther, J. B. Cleaveland. Wrench, See Bicycle spoke mipple wrench. Wrench, Ilaberthur & Stowell. Zinc, refining, J. W. Richards.	448.958
ا		445,502
	TRADE MARKS.	
)		e
	Bicycle Manufacturing Company	19,220
j	Cement, E. Lloyd	19,228
	pany	. 19,211
3	Bicycles, tricycles, and parts thereof, Eagl Bicycle Manufacturing Company Brads, 11. Newman Cement, E. Lloyd Cotton fabrics, Eddystone Manufacturing Company Cutlery, including shears, scissors, and razor Northfield Kinfe Company Disinfectant, Alvarez Disinfectants Company	. 19,215 . 19,227

Bicycles, tricycles, and parts thereof, Eagle
Bicycle Manufacturing Company
Braids, H. Newman 19,216
Cament F Lloyd
Cement, E. Lloyd
nong 10.911
pany 19,211 Cutlery, including shears, scissors, and razors,
Cutiery, including snears, scissors, and razors,
Northfield Knife Company 19,215
Disinfectant, Alvarez Disinfectants Company 19,227
Emulsions and like preparations, Scott & Bowne 19,225
Extracts for foods, flavoring, J. T. Gilbert 19.214
Flour and meal, H. W. Fry 19.212 Games, puzzles, and toys, W. R. Graham 19.205
Games, puzzles, and toys, W. R. Graham 19,205
Jewelry, imitation diamond, B. E. Arons 19.200
Malt liquors, A. M. Rickerby 19,207, 19,208
Mustard, Tode Bros 19.229
Mustard, Tode Bros 19,229 Remedies, certain named, Warren-Brown Com-
nang 10 918 10 910
pany
Remedy for the cure of stomach, blood, liver, and
kidney troubles, R. H. Andrews
Remedy for rheumatism, neuralgia, and similar
nemetry for friedmatism, helfraigh, and similar
ailments, R. H. Andrews
Remedy for the blood, J. Potter & Co 19,217
Ribbons, Giron Freres 19,213
Rubber for use in dentistry, vulcanizable, James,
warker & Co 19,226
Rubber for use in dentistry, vulcanizable, James, Walker & Co. 19,226 Salve, corn, N. W. Stiles 19,210
Shirts, drawers, pantaloons, overalls, iersevs, sus-
penders, and neckties. L. B. Sinith 19,209
Spoons, forks and articles known as flat ware, H.
M. Hill & Co 19,221
M. Hill & Co
Kimball & Son
Sugar, phosphate for use in manufacturing, Provi-
dent Chemical Works
Tin and terne plates, J. Williams & Co 19.230
Tin and terne plates, J. Williams & Co
Watch cases, Brooklyn Watch Case Company 19,203
Worsted and muslin garments, underwear, and
knit goods, Russ, Eveleth & Ingalls 19.224
W 10Hum 111111111111111111111111111111111111

# DESIGNS.

Bottle, H. Coleman, Jr	20,629
Carpet, R. F. Doherty	20,592
Carpet, J. L. Folsom	20,593
Carpet, J. B. Moffat	20,596
Carpet, 11. W. Parton	20,612
Carpet, P. Pignot	20,618
Carpet, G. J. stengel	20,624
Carpet, W. Thomas	2-1.628
Cuff, F. R. Lewis	20.634
Cultain or portiere, A. Markgraf	20.637
Dish, C. E. Haviland20,631 to	20,633
Flower frame, N. Steffens	
Handle for spoons, etc., W. B. Durgin	20,591
Handle for spoons, etc., L. R. Horton	20,595
Handle for spoons, etc., F. H. Sloan	20,625
Oil can casing, A. J. Duncan	20.639
Plate, etc., C. E. Haviland	
Spoon, etc., C. Osborne	20,636
Tile, rooting, G. H. Babcock	20,635
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