ENGINEERING INVENTIONS.

A high and low water indicator has been patented by Mr. John C. Paimer, of Hamilton, Ont., Canada. It consists of a vessel having boiler connections, a float, guide rod, and levers, so arranged that when the water rises or falls beyond certain points the levers will be moved to sound the whistle, and thus promote the more safe management of steam boilers.

A car coupling has been patented by Mr. William E. Samuel, of Fairfield, Neb. This coupling has an automatically operating cock connecting with the steam and air brakes, so that when the cars are coupled, and the speed of the locomotive suddenly checked so that the bumpers come together, joints are made whereby the tubes of the several cars are connected for a sufficient length of time to apply the steam or air brakes.

AGRICULTURAL INVENTIONS.

A hand seed drill has been patented by Mr. Frank H. Chesebro, of South Haven, Mich. The seed box has a sliding plate with a discharge opening, and is connected by a bent lever and a rod with an elbow lever pivoted to a handle of the drill, in connection with a furrow opening spout, the device being designed to promote convenience and accuracy in the drilling of small seeds.

A potato digger has been patented by Mr. Frank M. Thorn, of Orchard Park, N. Y. It consists of a vertically adjustable double mould board plow between two broad tread wheels, the axis of each wheel so fixed to the plow frame that as the machine advances the contents of the potato hills will be conveyed by the mould boards into the broad rims of the wheels, by which they are elevated and deposited by gravity on a sifter or separator or upon the ground behind the

MISCELLANEOUS INVENTIONS.

A watch charm has been patented by Mr. Cornelius H. Davis, of Philipsburg, Pa. It consists of a pendant and a spinning top removably securcd thereto, so that the latter can be easily attached and detached, making an ornament and toy combined.

A surgical instrument has been patented by Mr. James Somers, of Moro, Oregon. It provides an instrument for certain kinds of amputations, so that the blood vessels and arteries will be twisted together before they are severed, and thus prevent hæmorrhage without cauterization or tying.

Thomas J. Haslam, of Dublin, Ireland. It is for holding the runner to which the stirrup strap is secured, and is made to hold the runner firmly under ordinary use, but so that it will become detached automatically when the rider is thrown or falls from his horse.

A cotton packer has been patented by Mr. Alfred Hart, of San Marcos, Texas. This device is designed to receive the cotton from the condenser, after ginning, and pack it in a box preparatory to being pressed and tied into a bale, and embraces novel features whereby the work may be done automatically.

A bed and bedstead has been patented by Messrs. Andrew Smith and George H. Albers, of Sellwood, Oregon. There are transverse rollers at the head and foot carrying an endless belt for supporting th bedding, there being also a drawer in the foot end of the bedstead, with hinged leaf and sliding boards.

An eaves trough fastening has been paso made that a readily accessible singleuppernut, in the form of a thumbscrew, serves to secure the hanger to a cross bar and to provide for adjustment of the trough free from all liability of detachment or loss of the nut.

A stand or casing for bottles has been tenons, and at the bottom a spring cushion, and is to | ture of coca, fluid extract of tolu, fluid extract of hops, be used in combination with a bottle having longitudinal grooves in opposite sides.

A horse collar has been patented by Mr. Henry Brooks, of Brooklyn, Ohio. Its main lining, or portion coming in contact with the animal, is of felt, and contains within a canvas or other wrapper a suitable filling, which is prevented by the soft nature of the felt lining from gathering into wads or lumps

A washing machine has been patented by Mr. Morgan L. Grover, of Lavalle, Wis. This invention provides a rocking clothes box or tub, in which the clothes are placed with hot soapsuds and washed by being thrown from one end to the other by rocking the

A carpet stretcher and tacker has been patented by Mr. George M. Brandon, of Harveyville, Pa. Combined with a series of sharp points extended from a suitable handle is a projecting head and spring for holding a tack over a slot between the points, so the carpet Mr. Fred W. Sensiba, of Talbot, Mich. This invention the tack is driven.

A cartridge loader has been patented by Messrs. Jacob D. McKenney and Thomas W. Brown, of Chattanooga, Tenn. Combined with the body of the shell loader are powder and shot hoppers arranged to be brought alternately under a suitable aperture, with such an arrangement of slides as will allow of readily increasing or diminishing the charge.

A churn has been patented by Mr. Allin Cockrell, of Lamar, Mo. It has a shaft and a tubular shaft surrounding it, each operating blades in oppo site directions in the cream box or tub, and the arrangement is such that the cream, buttermilk, etc., are drained off from the butter by a perforated bottom and a perforated tube.

A fabric measuring machine has been patented by Mr. John W. Kruger, of Litchfield, Minn. It is adapted for measuring goods of different widths. and will wind and unwind cloth accurately at the same time as measuring, the machine covering a special combination of rollers, fabric holding devices, and other parts and details,

A cravat fastener has been patented by Mr. John Adams, of Montrose, Col. It consists of been patented by Mr. Anson M. Otis, of York, Neb. A a piece of rubber or other elastic material, having an tank is suitably suspended from one end of a lever, opening with radial slits extending therefrom to the which carries a weight on the other end, the weight shield of the cravat, so that the collar button or stud greater than the empty tank but less than a full one, may be pressed through the opening to attach the cra- making a device for automatically stopping the flow of vat in place

A wash tub, sink, or other vessel made when the tank 18 full. of cement has been patented by Mr. Carl Wesely, of West New York, N. J. This invention covers the making of such vessels with their angles and corners and upper edges faced with metal strips embedded in the cement or compound forming the vessel, to promote strength and durability.

A school desk has been patented by Mr. William P. Conner, of Bloomsburg, Pa. The desk has two leg frames on which the back of the seat and the cial details, for strengthening such desks and simplifying their construction.

A vehicle shaft support has been patented by Mr. James F. Pace, of Simsborough, La. It consists essentially in a bar adapted to be pivoted at one end to the front of a wagon, and formed on its free | clothes. end with a forward projecting hook, a spring for throwing the bar into a vertical position against the wagon front, and a catch plate to be applied to the front.

A needle for Jacquard looms has been patented by Mr. Andreas Mutter, of Paterson, N. J. The needle has a longitudinal slot, on the bottom of which rests a spiral spring, with a plate at its end adapted to if a needle is forced againsta Jacquard card its end will not punch or perforate it.

A turpentine hacker has been patented by Mr. Walter Watson, of Fayetteville, N. C. The its length, and its end rounded, bent, and screw-threaded, combined with a handle having apertures, to receive and firmly hold the shank of the hacker throughout its length.

A pencil case and sharpener has been patented by Mr. Greenleaf A. Wilbur, of Skowhegan, Me. The pencil case is open at both ends, a rubber or eraser to be placed in one end, and so the pencil may be passed point first into the other end, the case having a side slot in which a sharpener may be held, the device thus affording protection to the point of the pencil and the means of readily sharpening it.

A gate spring has been patented by Messrs. Miles Kious and William A. Morton, of A saddle bar has been patented by Mr. | Le Roy, Kan. The action of the spring is such as to close the gate until the latter is opened so wide that the staple passes the hinge center, when the strain of the spring is on the opposite side of the hinge pin, and the gate is held open, while in the other cases it is automatically closed.

> A ball and socket hinge has been patented by Mr. Albert G. Rockfellow, of Ashland, Oregon. With the use of a screw shank the construction is intended to protect the hinge completely from the weather, and from the lodgment of grit and dirt, thus prolonging the life of the hinge and at the same time giving a gate on which it is used the inclination that makes it self-closing.

A carpet stretcher has been patented by Mr. Joseph S. Ingham, of Academy Corners, Pa. A bar having a sliding cross bar carrying teeth is so combined with a pulley, rope, winding post, lever, and clamp, that the carpet can be stretched to the desired tented by Mr. Olin Harley, of South Whitley, Ind. It is position and so held until tacked, the invention being an improvement on a former patented invention of the same inventor.

A compound for treating tobacco has been patented by Mr. Adolph Gloeser, of West St. Paul, Minn. It is for cigars and smoking and chewing patented by Messrs. Camille S. Bleton and Adolphe tobacco, to destroy or neutralize its injurious proper-Maleville, of Paris, France. It has inwardly projecting ties and render it more agreeable, and consists of tinc essence of lemon, and apple cider, incertain designated

> A running gear for vehicles has been patented by Messrs. Alexander K. Wilson and Benjamin F. Holder, of Valdosta, Ga. By this construction the head block is located vertically over the front axle, and the or keeper, and curved bar of the head block forming a fifth wheel.

> A fruit drier has been patented by Mr. John G. McNaughton, of Marion, N. C. Combined with u series of Dans, each having two bottoms forming a steam compartment between them, are steam spreaders forming an arched passage closed at the bottom and finely perforated at the top, so controlling the entrance and exit of the steam that the full heat is exhausted before its escape.

> covers a special construction whereby cranes for holding mail pouches at the sides of railway tracks, to be taken therefrom by a passing train, are made to automatically swing into a position parallel with the track when the pouch is pulled out, so the crane will then be out of the way of the cars.

> An underskirt has been patented by Mr. Jacob Mayer, of New York city. By this invention the yoke and body of the skirt are made of one piece of material, with folded darts in front and curved side and back seams and curved placket, to make a corsetfitting skirt without waste, slightly padding the figure in front, and preventing the outlines of the front points of the corset from showing through the dress.

> An implement used in the manufacture son, of New Cumberland, W. Va. It consists of an adjustable cylindrical holder to be employed in soldering the edges and bottoms, and adapted to hold articles of different diameters, with self-adjusting bearings and a

A water regulator for windmills has water into a tank or throwing a windmill out of gear

A split pulley has been patented by Messrs, Harrison Underwood and Charles Schweizer, of New York city. Combined with two half pulley sections is a split rim or band secured to and surrounding them, with bolts for clamping them on the shaft and for holding the ends of the band together, making a pulley which can be easily placed and firmly locked on the shaft.

A washing machine has been patented box of the desk are held, the back of the seat also form-ing the back of the desk box, with numerous other spe-Combined with a rotary cylinder having longitudinal slits in its periphery are buckets secured within the cylinder adjacent to and in front of the slits, with backward curved rear sides, the device being adapted to be placed in a common tub for washing clothes, and continually dipping up water and pouring it upon the

A feed regulator for hemp drawing and spinning machines has been patented by Mr. George Davis, of Elizabeth, N. J. The condenser standard ha an arm, and the brake strap has an arm with a suspended weight and a projecting pin, whereby the parts are connected and the movements of the condenser standrests a spiral spring, with a plate at its end adapted to ard are made to control the drive pulley of the machine, slide vertically between the sides of the groove, so that and thus regulate the delivery of the sliver to the con-

A self-acting solar reflector has been patented by Mr. Heinrich A. W. Braune, of Valparaiso, Ind. The invention consists in a guide and a fixed hacking blade has a shank of flat form for a portion of piece for changing the inclination of the mirror as it revolves, with devices for adjusting the inclination of the longitudinal horizontal axis of the mirror to the longitudinal horizontal axis of the revolving frame, and keep a beam of light continually in the same position in relation to the lens of the solar camera.

A water elevator has been patented by Mr. Justus W. Thorp, of Dayton, Washington Ter. A lifting screw is hung from its upper end and supported on anti-friction rollers, dispensing with a lov bearing, and there are universally jointed shaft con-nections from the driving gearing of the screw to a water wheel in the stream from which the water is lifted by the screw, the invention being calculated to facilitate hydraulic mining.

A machine for boring gun barrels has been patented by Messrs. Herman H. Hackman and Theophiel P. Walter, of Vincennes, Ind. It is made with an expansible and hollow boring tool, and a guide bar clamped to the working carriage and passing through the boring tool, its bar, and the gun barrel, to govern the diameter and shape of the bore, with other special features, so that the work may be done by unskilled labor and the barrels will have great precision.

A water elevator has been patented by Mr. Benjamin J. Hewitt, of Manton, Mich. Over well curb is placed a shaft having a loosely mounted shifting pulley, around which is coiled a rope with buckets at its ends, one bucket enough heavier than the other to overbalance the latter and its contents, in connection with which is a weight so arranged that the full bucket may always be lifted by moving the pulley one way or the other on its shaft with a lever.

A tension regulator for the let-off motions of looms has been patented by Mr. Arthur Middleton, Jr., of Pelzer, S. C. The construction is such that to the reduction of the size of the roll of warp on the beam, thus giving the warp the same tension from the beginning to the finish of the roll without the help of an

An apparatus for and method of making and raising salt brine from deep salt veins forms the subject of two patents issued to Mr. John Peters, of Haverstraw, N. Y. The invention covers an arrangement of outside pumping machinery to force water into deep wells in salt deposits, where it will dissolve salt by contact and become brine, and to expel the latter from the well by pressure, thus doing away with inside weight of the body is borne directly on such axle, the pumping machinery, and allowing of the use of a use of the king bolt being avoided, and the reach, guide, natural orartificial head or pressure of water near the mouth of the well to dispense with the force pump.

A wind motor has been patented by Mr. Frank S. McKibben, of Tacoma, Washington Ter. Combined with an upright structure carrying a revolving platform a shaft is journaled with two cranks at right angles to each other, with a wind wheel on the shaft, connecting rods connecting the [two cranks, with various other novel features, whereby the motion will always be transmitted vertically, and the top platform may revolve without affecting the devices for transmitting motion.

A money drawer and recorder has been patented by Mr. Alphonso S. Keating, of Corry, Pa. This invention affords means for automatically giving a signal when the drawer is opened, with certain devices for automatically feeding a strip or sheet of paper over the top of a box in front of the drawer, on which to note expenditures, etc. The same inventor has also patented a cash recorder, with devices for showing when the register has been opened, and various novel features for facilitating the correct keeping of the cash

A process of and apparatus for making vax and paraffine paper forms the subject of three pat ents issued to Mr. Edward G. Sparks, of New York city. These several inventions all cover different apparatus for passing paper through melted wax or paraffine in such way that both surfaces shall be thoroughly of cans, etc., has been patented by Mr. Hiram G. Fil- coated therewith, all superfluous wax scraped off, and the surfaces, if desired, be afterward brushed with a polishing roll, the body of the paper not being filled diseases. Complete restoration to health, vigor, and with the wax, thus making a saving in the cost of the manufacture of such paper, while either side of the pamphlet, with full information, terms, etc., mailed paper may be applied for the ordinary uses indiffer. handle on the interior of the holder to withdraw it from paper may be applied for the ordinary uses indiffer-

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If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., Scientific American patent agency, 36l Broadway, New York.

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Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 46. Providence Steam Engine Co., Providence, R. I., are sole builders of the "Improved Greene Engine."

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HINTS TO CORRESPONDENTS.

(1) J. R. B. asks: 1. What effect has kerosene oil on metals? A. No effect. 2. Does it soften

(2) H. M. L. writes: I have made an layers of fine wire, and each layer is insulated by a ipulative process? A. There are various cements emlayer of tissue paper; the current is interrupted by an ployed in making emery and corundum wheels. Corelectro-magnet. A child could bear the current at full undum wheels to be used with water are generally strength. I would like to know how to make it stronger, are often made with glue only as a cement. Rubber bundle of wires in, the current increases; and if I put a steel rod in, it is still stronger; the spark it gives is hardly perceptible. I use a Grenet battery. A. It is (12) J. E. H. writes: 1. Given: two hot paraffin.

thenature of a loadstone? A. Loadstone is a variety of magnetic iron ore. 2. Where can I obtain such a stone? A. From any dealer in mineral specimens. 3. What is circuit in ohms: a sympathetic magnetic needle? A. There is no such thing. 4. When the needle on a dial is attracted to a certain point by a loadstone, would a sympathetic needle on another dial placed at a considerable distance from the first move to a corresponding position on its own dial? A. No.

(4) J. C. N. asks: 1. For electro gold plating how long should an article remain in the bath to receive a good heavy coating of gold? For example, take a silver dollar; how long should it remain in the bath to receive one dollar's worth of gold, with a single cell Smee battery, size of zinc plates 31/2x7 inches, heat of bath 160° Fah.? A. This depends on the strength of the gilding solution, the size of the anode, and the condition of the battery. The usual method of determining the amount of gold deposited in a given time is to weigh the cathode before gilding, and from time to time during the process. 2. Also, how often should it be taken out and brushed over with pumicestone or sand? A. It should be taken out and scratch-brushed soon after the first immersion, and a short time before the finish. 3. Can you give me the formula for making mercuric nitrate? A. You can make it by dissolving mercury in strong nitric acid. Another method is to saturate strong nitric acid, diluted with an equal measure of water, with oxide of mercury.

(5) H. M. N. asks (1) the reason why astronomers think the sun is not stationary? A. By observing a great number of stars, it has been as certained that the solar system is moving toward the constellation Hercules. 2. Where can I find the sun's motions treated at length, with the supposed reasons assigned for the same? A. Newcomb's Popular Astronomy will give you information on this subject.

(6) C. E. A. asks. will it be pract to light my plating room by electricity. My dynamo has capacity to run 200 gallons solution. A. It is probable that your machine generates a current of low electromotive force, and is therefore not adapted to electric lighting.

(7) J. J. W. writes: There is considerable discussion in this shop as to what is known as India rubber, or pure rubber. I claim it is a popular name for caoutchouc, while others claim that it means gutta percha. As we all bank on the Scientific AMERICAN, we have agreed to lay the matter before you, and accept your decision as final. A. You are right. Gutta percha is a different gum.

(8) R. T. M. writes: A gentleman not long ago asked whether a yacht would sail in a calm if a bellows sufficiently large to fill her sails were operated by steam, on board. The person to whom the question was addressed answered, "Not an inch." I differed with him, and held that the yacht would move backward. We cannot convince each other. Will you have the kindness to answer in your correspondence column? A. The yacht would not be moved by the action of the wind from the bellows on the sails. The Box. See Letter box. Match box. Paper box.

reactionary effect of the wind might move the boat backward as you suggest, and this effect would be reater without the sails.

(9) E. J. C. writes: Please describe how the drop shutter on amiunciators and burglar alarms is made and operated. A. The drop, a, is pivoted to a

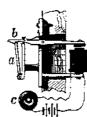


plate attached to or formed upon the main frame, the plate having on its face the name or number. The drop is held in a slightly inclined position by the catch on the end of the lever, b this end of the lever being held down by a spring. The opposite end of the lever carries an armature, below which is located the magnet, which is in circuit with the battery and the

push button, c. By pushing the button, c, the magnet is rendered active, and the armature is pulled down, raising the opposite end of the lever, b, releasing the drop, a, which thus falls of its own gravity. The action

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

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

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

Special Information requests on matters of personal rather than general interest, and requests for Prompt Answers by Letter, should be accompanied with remittance of \$1 to \$5, according to the subject, as we cannot be expected to perform such service without remuneration.

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

Minerals sent for examination should be distinctly marked or labeled. the work is to be done; 300° to 310° Fah. is about the right temperature for quick work. Consult Supple-MENT, Nos. 249, 251, and 252 for information on rubber manufacture

(11) J. W. S. asks: What ingredients induction coil; it is 3 inches long, and 11/2 inches in are used with corundum in making wheels and other diameter; it is wound with 4 layers of heavy and 13 forms for grinding and reducing metals, and the man-(vulcanized), water glass, and oxychloride of zinc are also used.

probable that the resistance of your electro-magnetic in inch achromatic objectives, properly corrected, one of terrupter, together with the primary wire of your coil, is five, the other six feet focal distance, which will make toogreat. Either add another cell of battery or use the better telescope? A. For comet seeking and simisome other form of interrupter. It is possible that lar uses, the short focus; for other work, the long focus your insulation may not be perfect enough; if so, you We think the long focus would be preferable for general can improve it by soaking the coil for some time in use. 2. By what method is the focal distance of compound eyepieces determined? A. Consult Supplement, (3) W. A. S. writes: 1. Wishing to try No. 399. 3. Can the eyepieces of a microscope be used an experiment, I should like to know through your for a telescope? A. Yes. 4. What is the meaning of valuable paper, the Scientific American: 1. What is No. 399. 3. Can the eyepieces of a microscope be used A. The unit of the current. It is found by dividing the electromotive force in volts by the resistance of the

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September 29, 1885,

AND EACH BEARING THAT DATE.

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ţ	Beer ventilator, Vehr & Kirby		
ł	Belt catch, L. Oswald.		
i	Bicycle saddle, F. G. Burley		ı
١	Billiard table cushion, H. W. Collender (r)		ľ
ł	Binder, temporary, O. Bloch		
١	Bit. See Bridle bit. Metal boring bit.	0.01,000	
ļ	Blind, sliding window, R. M. Clapp327,235,	227 226	
1	Block. See Sawmill head block.	1	i
i	Blotter, hand, A. Hadley	297 957	
i	Blotter holder, automatic, A. Ross		
į	Boiler. See Heating boiler. Steam boiler. Wash	J21,002	
÷	boiler.	(٠
•	Boiler, L. H. Prentice	327 016	
	Boiler furnace, steam, Henderson & Bergland		
;	Bolt operating device, L. G. Moulton		
í	Bottle drink register, G. Weitzel		
ŀ	Bottle, mucilage, E. R. Cahoone		
	Bottle stand or casing, Bleton & Muleville		
١	Bottle stopper, W. Painter		
1	Bottle washer, T. Davies		
1	Bowl, wash, H. C. Lowrie.		
•	DOWI, WARM, IL, U. LIUWITE	U#1,U#	

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	Bracket. See Shelving bracket.		E
e	Brake. See Air brake. Brick machine, S. P. Babcock Bridge gate or guard, P. Ryan		E
V B	Bridges, signal gate for draw, D. B. Fisk	326,965	E
a d	Brush, revolving, J. Schmidt	327,323	E
e	Burning fuel, apparatus for, R. E. Burns	326,947	E
а	Dubbon, 1. It. Hyde, Ji	327,442	E
e),	Button, E. Kuhn	327,102	E
d)-	Buttons, attaching, J. Mathison	327, 291	E
n)-	Cable, anti-induction, H. C. Spalding,		El
n e	Cabled and uncabled conductors, junction between, E. T. Gilliland		E
t,	Camp chair or hammock, adjustable, A. O. Hub-		E
e n	Cans, etc., implement used in the manufacture of,		El
e d	. C4 b b M SIZ C13	326,951	E
e	Car coupling, F. R. Butterfield	327,0 66	El
s n	Car coupling, J. Phelps	326,014	E
y	Car coupling, W. E. Samuel Car coupling, B. H. Tyson		El
s r	Car, railway, Loring & Jewett	327,093	. El
l	Car, stock, J. A. Parker	327,305	E
8	Car wheel, L. R. Faught	327,150	E
l, h	Cars, switching wheel for street, H. C. Lowriz	327,293	E
e :-	Carbon holder, H. H. Levett	327,282	E
r		327,171	Ey Fa
S	Carriage and wagon jack, H. Midwood Carriage, baby, J. F. Colby	326,954	Fe Fe
r -	Carriage bolts, die for forming, C. W. Root Carrier. See Hay carrier.		Fe Fe
-	Cart, road, Rehkopf & Rogers	327,185	Fe Fe Fe
y 8	Cartridge shells, machine for polishing, W. Mason		
r e	Cash recorder, A. S. Keating	327.147	Fi
1	Casting hollow motal hodies with a non-oxidig	327,033	1
f	Casting machines, nipple plate for type, Gabel & Guelpa.		Fi:
e -	Cement, etc., washtub, sink, or other vessel made of, C. Wesely		Fi:
1	Centrifugal reel, Smith & Dickey327 332, Chair. See Adjustable chair. Camp chair. Fold-	327,333	Fi
•	ing chair. Opera chair. Reclining chair. Channel flaplaying machine, O. Gilmore		Fi
i f	Charm, watch, C. H. Davis	327, 058	Fo
? e	Chisel shoe, Reinhard, Sr., & Kalanquin	326,936	Fo Fo Fr
е	Clamp. See Railway rail clamp. Clasp. See Garment clasp. Garment supporter	021,221	Fr
	clasp. Clip. See Paper clip. Vehicle spring clip.		Fu
•	Clothes tongs, D. Worthington	327,049 326,995	Ga
,	Cock, self-packing and self-grinding, Martignoni & Carpey	327,001	Ga Ga
	Coffee roaster, S. Stewart	326,985	Ga Ga Ge
	Coin changer's box, D. R. Ford	327,156	Ģe
	Comb, Thormann & Von Bonhorst	327,356	Ge
	Compasses, azimuth attachment to, W. S. Thux- ter		Ge Gi
- :	Conductor hook, J. Leadley	327,424	Gla
3	Conveying apparatus, T. E. Proctor et al		Gla
	Cooler. See Molasses cooler. Water cooler. Cork, siphon, J. Low		Go Go
	Cot, folding, C. J. Baker	327,055	Go
	Cotton press, G. McGovern	327,297	Gr
7	Coupling. See Car coupling. Pipe coupling. Cravat fastener, J. Adams	327,216	Gr Gr
1	Creamer, centrifugal, O. Lamm, Jr Cultivator, W. H. Traphagen	327,090 327,358	
;	Curtain fixture, R. R. Brouner	3 27,37 8 3 27,287	
Ĺ	Cut-off rain water spout for cisterns, filtering, J. E. Burdge	326,945	Ha Ha Ha
,	Cutter head, B. R. Hand. Cutter head, F. Holland.	327,392	
	Damper regulator, automatic, J. Burge Damper regulator, automatic, J. E. Spencer	327,132	Ha
	Dead centers and starting flywheels, device for overcoming, O. B. Thompson	1	Ha
	Dental broaches, etc., machine for barbing, R. B. Donaldson	;	Ha
3	Dental chairs, electrical attachment for, C. A. Eisenhart		
	Dental engine hand piece coupling, A. W. Browne.	326,942	Ha
	Desk, school, W. P. Conner Die. See Forging die. Steel die. Dieger See Potato dieger	527,242 - [Ha Ha
	Digger. See Potato digger. Disinfecting apparatus, R. Henneberg Door and shutter fastener, J. T. & N. R. Yarnall.		Ha Ha
; 	Door securing device Cloud & Voct	327,450	Ha Ha
•	Door shield, M. Camp. Doubletree, P. W. Leffler.	327,228	He He
	Draughting case, student's, W. R. Briggs	3 27. 22 6 ¦	He Hi
	Drawer and recorder, money, A. S. Keating		Hir
1	drier. Drill. See Seed drill.		Hir Hir
	Drill, G. Richardson	ŀ	Ho Ho
	Heap	327,005	Ho Ho
1	Electric cable. H. C. Spalding327.492, 3		0

	Electric cable, composite, H. C. Spalding	327,472
	Electric cable, subterranean, H. C. Spalding	327,483
376 112	Electric circuit, H. C. Spalding327,495, Electric circuit safety device, H. C. Spalding,	, 327,497
965	327,498 to	327,500
139	Electric conductor, subterranean, H. C. Spald-	
323 130	Electric conductor, underground, H. C. Spald-	327,480
166	ing	527,4 80
947 455	Electric conductors, underground conduit for, G. S. Cox	
442	Electric current meter, J. J. Green	327,39
992 102	Electrical cable, H. C. Spalding	
116	Electrical cable, anti-induction, H. C. Spalding Electrical cable, compound, H. C. Spalding,	021,40C
291	327,459,	
972	Electrical cable, multiplex, H. C. Spalding Electrical cable, submarine, H. C. Spalding	327,473
190	Electrical circuit, H. C. Spalding	327,496
080	Electrical circuits, safety device for, E. Thomson Electrical conductor, H. C. Spalding	
48	Electrical conductor splice, H. C. Spalding	
	Electrical conductor, underground, H. C. Spald-	
441	ing Electrical conductors, apparatus for laying un-	. 521,95.
247	derground lines of, H. C. Spalding	327,478
951` 430	Electrical conductors from the heat of subter- ranean steam pipes, protecting, H. C. Spald-	
DEG	ing	327,468
387	Electrical conductors, pipe for underground, H.	907 475
014 0 1 8	C. Spalding Electrical conductors underground, protecting,	
197	H. C. Spalding	327,463
124 506	Elevator. See Tobacco elevator. Water elevator.	•
93	Elevator indicator, Q. N. Evans	327,075
072 305	Elevators and inclined railways, safety attachment for, F. Wittram	297 040
289	Elevators, automatic feeder and register for bar-	
150	rel, J. Meyer	327,007
)41 293	Engine. See Steam engine. Exercising apparatus P. E. McDonnell	327.40
95	Exhibitor for articles of mechandise, Marshall &	
282 202	Howze	327,000
302 171	Expansion joint, J. Letzkus Eyeleting machine, H. H. Cummings	
31	Fastener, G. W. Mohrstadt	327,009
)96 9 54	Feed rack, 'H. S. Crabtree Feeder, safety stock, J. E. Boach	
54	Feeder, time stock, T. L. Bissell	327,062
110	Fence, J. H. Crain	
)19 85	Fence post and wire fastening, E. C. Jones Fence, wire, C. W. Weld	327,208
	Fertilizer, L. Haas	327,256
	File for preserving prescriptions, B. H. Colby File, letter, L. L. Ferris	
176	File, letter, F. M. Rand	327,310
47		1107 DOF
33	D. Burton	
	Firearm, A. Hyde	326,986
79	Fire escape, L. A. H. Engelke	
99	Fire escape, W. Robinson	327,342
33	Fire extinguishing apparatus, T. Evans	
-	Fireplace, open, D. E. Jones Fish line float, C. Palm	
81	Flask. See Moulder's flask.	
45 ; 158 ;	Fluid diaphragm meter, R. Deuel	
312	Forging dies, H. P. Phipps	
36 : 41	Fork. See Agricultural fork. Grappling fork. Frame. See Sewing machine quilting frame.	
72.1	Frame. See Sewing machine quilting frame. Fruit drier, J. G. McNaughton	327,006
	Fuel and air, apparatus for mixing liquid, J.W.	
	& F. R. Hoard	
49	Furnace. See Boiler furnace.	
95 ¦	Garment clasp, C. B. Weeks	327,363 327,367
101	Gas, apparatus for making, W. P. Elliott	326,959
44 85	Gate. See Bridge gate. Gate spring, Kious & Morton	297 445
11	Gear cutting machine, A. Swasey	
56	Gears, device for starting the dead wheel in muti-	•
77 56	lated, M. M. Hooton	
72		226,984
	F. Cochrane	527,240
51 İ	F. Cochrane	527,240 327,446
51 79	F. Cochrane	527,240 327,446 327,360
79 24	F. Cochrane	527,240 327,446 327,360 327,348
79 24 08	F. Cochrane	527,240 327,446 327,360 327,348
79 24 08 02	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, srew collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and	527,240 327,446 327,360 327,348 327,538 327,406
79 24 08 02 01	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young	527,240 327,446 327,360 327,348 327,338 327,406 327,426
79 24 08 02 01 42 55	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington	\$27,240 \$27,446 \$27,360 \$27,348 \$27,338 \$27,406 \$27,426 \$26,983 \$27,128
79 24 08 02 01 42 55	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, szrew collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton	\$27,240 \$27,446 \$27,360 \$27,348 \$27,538 \$27,406 \$26,988 \$27,128 \$27,086
79 24 08 02 01 42 55	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for, Spruce & Tonks Glasware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray	327,240 327,446 327,360 327,348 327,406 327,406 327,426 326,983 327,128 327,086 327,390
79 24 08 02 01 42 55 59 97	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, szrew collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert	\$27,240 \$27,446 \$27,360 \$27,348 \$27,338 \$27,406 \$27,426 \$26,983 \$27,128 \$27,086 \$27,390 \$27,061 \$27,050
79 24 08 02 01 42 55 59	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, szrew collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert	\$27,240 \$27,446 \$27,360 \$27,348 \$27,338 \$27,406 \$27,426 \$26,983 \$27,128 \$27,086 \$27,390 \$27,061 \$27,050
79 24 08 02 01 42 55 59 97 112	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain socurer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman &	527,240 327,446 327,360 327,360 327,360 327,406 327,426 326,988 327,128 327,086 327,061 327,050 327,050 327,501
79 24 08 02 01 42 55 59 97 112	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant	527,240 327,446 327,360 327,360 327,360 327,406 327,426 326,988 327,128 327,086 327,061 327,050 327,050 327,501
79 24 08 02 01 42 555 16 59 97 12 58 78 78 78	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter. Hame fastener, F. A. Hake Hame fastener, F. A. Hake Hame fastener, S. Killebrew	\$27,240 \$27,360 \$27,360 \$27,360 \$27,360 \$27,426 \$27,426 \$27,426 \$27,128 \$27,086 \$27,086 \$27,050 \$27,050 \$27,050 \$27,501 \$27,160 \$27,160 \$27,150 \$27,150 \$27,150
79 24 08 02 01 442 555 597 112 16 90 588	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton. Grain socurer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis	\$27,240 \$27,360 \$27,360 \$27,360 \$27,360 \$27,426 \$27,426 \$27,128 \$27,128 \$27,086 \$27,390 \$27,050 \$26,953 \$27,160 \$27,160 \$27,160 \$27,177 \$27,181
79 24 08 02 01 42 55 59 12 58 78 87 45 92 92	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle.	\$27,240 \$27,360 \$27,360 \$27,360 \$27,360 \$27,426 \$27,426 \$27,128 \$27,128 \$27,086 \$27,390 \$27,050 \$26,953 \$27,160 \$27,160 \$27,160 \$27,177 \$27,181
79 24 08 02 01 42 55 59 71 12 16 16 17 18 18 18 18 18 18 18	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant. Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, F. A. Hake Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel. Handle. See Saw handle. Valve handle.	527,240 327,446 327,56 327,348 327,406 327,426 327,426 327,426 327,030 327,030 327,030 327,030 327,530 327,530 327,530 327,170 327,170 327,181 327,062
79 24 08 02 01 42 55 59 12 58 78 87 45 92 92	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle.	527,240 327,446 327,348 327,348 327,406 327,426 326,983 327,056 327,050 327,051 327,051 327,151 327,152 327,172 327,173 327,052 327,173 327,052 327,173 327,052
79 24 08 002 01 42 555 59 97 12 16 90 58 87 45 92 883 32 37	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Hamner, drop, W. Hassel Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harness loop, T. Barrett Harney, B. F. Rix	527,240 327,446 327,349 327,348 327,338 327,406 327,426 327,061 327,061 327,061 327,17,160 327,17,160 327,17,17,181 327,17,181 327,062 327,37,17,181 327,17,181 327,17,181 327,17,181 327,17,181 327,17,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181 327,181
79 24 08 02 01 42 55 59 97 12 16 58 78 87 45 92 83 32	P. Cochrane Gearing, chain, H. Knowlton Grider, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness M. W. Amer Harrow, B. F. Rix Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton	527,240 327,446 327,348 327,348 327,426 326,932 327,086 327,128 327,066 327,259 327,176 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150 327,150
79 24 08 002 01 42 555 59 97 12 16 90 58 87 45 92 883 32 37	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harness loop, T. Barrett Harnow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby	527,240 327,446 327,349 327,348 327,406 327,426 327,060 327,060 327,250 327,15
79 24 68 602 602 603	P. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam. E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain soreen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, eversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanners, M. W. Amer Harness, M. W. Amer Harness, M. W. Amer Harnow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman Harvesting machine dropping cradle, J. Hornsby et al.	527,240 327,446 327,348 327,348 327,436 327,426 327,426 327,128 327,030 327,253 327,128 327,12
79 24 08 02 01 42 55 99 71 16 90 16 90 90 90 90 90 90 90 90 90 90 90 90 90	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen, S. H. Bills Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas Hat brims, finishing or binding, the edges of, J.	527,240 327,446 327,349 327,348 327,348 327,426 327,926 327,128 327,128 327,120 327,130
79 24 208 202 201 202 202 203 20	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter. Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis. Hammer, drop, W. Hassel. Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness hoop, T. Barrett Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman Harvester, corn, G. H. Kunsman Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas	527,240 327,446 327,349 327,348 327,348 327,426 327,926 327,128 327,128 327,120 327,130
79 24 208 002 01 42 555 5997 12 558 78 78 887 45 655 657 6	P. Cochrane Gearing, chain, H. Knowlton Grider, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills. Grain screen, S. H. Bills Grain screen, S. H. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, S. Killebrew Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harnews, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or curling, Arnold & Thomp-	527,240 327,446 327,348 327,348 327,406 327,426 327,056 327,050 327,051 327,151 327,152 327,162 327,163 327,163 327,163 327,163 327,164 327,164 327,164 327,062 327,062 327,163 327,353
79 24 24 26 26 26 26 26 26	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam. E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton. Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator. F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hammer, eversible harness, L. Lewis Hammer, Grop, W. Hassel Hanness, M. W. Amer Harness, M. W. Amer Harness loop, T. Barrett Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, Arnold & Thompson Hat flanging apparatus, L. G. Williams	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,358 \$27,466 \$27,369 \$27,061 \$27,061 \$27,061 \$27,161 \$27,161 \$27,162 \$27,062 \$27,302 \$27,302 \$27,002 \$27,002 \$27,002 \$27,002 \$27,003 \$27,00
79 24 24 26 27 27 27 27 27 27 27	P. Cochrane Gearing, chain, H. Knowlton Grider, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, Arnold & Thompson Hat frame and body, J. L. Kendall	527,240 327,446 327,348 327,348 327,426 327,426 327,036 327,128 327,030 327,253 327,161 327,151 327,151 327,152 327,163 327,153 327,163 327,173
79 79 79 79 79 79 79 79	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain scouer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hamner, reversible harness, L. Lewis Hanner, See Boor hanger. Harness, M. W. Amer Harrows, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al. Hat brims, finishing or binding, the edges of, J. Thomas Hat trims, machine for curling, Arnold & Thompson Hat frame and body, J. L. Kendall Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,466 \$27,369 \$27,061 \$27,061 \$27,061 \$27,061 \$27,161 \$27,161 \$27,161 \$27,162 \$27,170 \$27,161 \$27,162 \$27,062 \$27,062 \$27,062 \$27,063 \$27,062 \$27,062 \$27,063 \$27,06
79 79 79 79 79 79 79 79	P. Cochrane Gearing, chain, H. Knowlton Grider, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, Arnold & Thompson Hat frame and body, J. L. Kendall Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,348 \$27,348 \$27,348 \$27,348 \$27,426 \$27,128 \$27,020 \$27,128 \$27,128 \$27,128 \$27,128 \$27,128 \$27,128 \$27,128 \$27,020 \$27,340 \$27,354
79 79 79 79 79 79 79 79	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, S. Killebrew Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness N. W. Amer Harness N. W. Amer Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, machine for curling, Arnold & Thompson Hat frame and body, J. L. Kendall Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,343 \$27,343 \$27,343 \$27,343 \$27,406 \$27,126 \$27,126 \$27,126 \$27,127 \$27,151 \$27,161 \$27,062 \$27,265 \$27,177 \$27,181 \$27,082 \$27,265 \$27,176 \$27,363 \$27,020 \$27,364 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363 \$27,363
79 24 68 69 69 69 69 69 69 69	P. Cochrane. Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for. Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington. Grain binder, M. M. Hooton Grain scourer, G. B. Gray. Grain screen, S. H. Bills. Grain screen, S. H. Bills. Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant. Gun barrels, machine for boring, Hackman & Walter. Hame fastener, F. A. Hake. Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis. Handle. See Saw handle. Valve handle. Hangers. See Door hanger. Harness loop, T. Barrett. Harrow, B. F. Rix. Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman. Hat vesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas. Hat brims, finishing or binding, the edges of, J. Thomas. Hat brims, machine for curling, Arnold & Thomp- son. Hat frame and body, J. L. Kendall. Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,353 \$27,456 \$27,656 \$27,760 \$27,16
79 24 08 02 01 42 555 16 90 17 45 97 18 97 18 97 18 97 18 97 18 97 18 97 18 98 18 98 18 98 18 98 18 98 18 98 18 98 18 98 18 98 18 18 18 18 18 18 18 18 18 18 18 18 18	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glass wessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington. Grain binder, M. M. Hooton. Grain binder, M. M. Hooton. Grain screen, S. H. Bills. Grain screen, S. H. Bills. Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter. Hame fastener, F. A. Hake Hame fastener, S. Killebrew. Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel. Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harnews, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas. Hat brims, finishing or binding, Arnold & Thompson Hat paring machine, Tweedy & Yule	527,240 327,446 327,349 327,343 327,343 327,343 327,350 327,350 327,050 327,250 327,150 327,151 327,161 327,062 327,250 327,250 327,27,360 327,360 327,360 327,360 327,360 327,360 327,360 327,360 327,360 327,360 327,361 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363 327,363
79 24 68 69 69 69 69 69 69 69	P. Cochrane. Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for. Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington. Grain binder, M. M. Hooton Grain scourer, G. B. Gray. Grain screen, S. H. Bills. Grain screen, S. H. Bills. Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant. Gun barrels, machine for boring, Hackman & Walter. Hame fastener, F. A. Hake. Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis. Handle. See Saw handle. Valve handle. Hangers. See Door hanger. Harness loop, T. Barrett. Harrow, B. F. Rix. Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman. Hat vesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas. Hat brims, finishing or binding, the edges of, J. Thomas. Hat brims, machine for curling, Arnold & Thomp- son. Hat frame and body, J. L. Kendall. Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,360 \$27,426 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,120 \$27,230 \$27,200 \$27,200 \$27,200 \$27,354 \$27,354 \$27,353 \$27,354 \$27,354 \$27,353 \$27,451 \$27,451 \$27,453 \$27,451 \$27,453 \$27,453 \$27,451 \$27,453 \$27,454 \$27,45
79 79 79 79 79 79 79 79	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for, Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton Grain border, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harness loop, T. Barrett Harnw, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, Arnold & Thompson Hat paring machine, Tweedy & Yule	527,240 327,446 327,348 327,348 327,348 327,426 327,426 327,128 327,020 327,257 327,151 327,152 327,162 327,252 327,020 327,340 327,354
779 24 48 600 60 60 60 60 60 60 60 60 60 60 60 60	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for. Spruce & Tonks. Glass vessel, screw collar for. Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine, P. Armington Grain binder, M. M. Hooton Grain binder, M. M. Hooton Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, S. Killebrew Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness, M. W. Amer Harness loop, T. Barrett Harnew booth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, machine for curling, Arnold & Thompson Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,360 \$27,426 \$27,127 \$27,134 \$27,135 \$27,136 \$27,354 \$27,35
779 24 68 600 600 600 600 600 600 600 600 600	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness loop, T. Barrett Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, machine for curling, Arnold & Thompson Hat frame and body, J. L. Kendall Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,360 \$27,426 \$27,127 \$27,134 \$27,135 \$27,136 \$27,354 \$27,35
79 24 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	F. Cochrane. Gearing, chain, H. Knowlton. Girder, J. Vanes. Glass ornamentation for imitation of fine polished stone, T. E. Strickland. Glass vessel, screw collar for, Spruce & Tonks. Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington. Grain binder, M. M. Hooton. Grain binder, M. M. Hooton. Grain screen, S. H. Bills. Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter. Hame fastener, S. Killebrew. Hame, reversible harness, L. Lewis Hammer, drop, W. Hassel. Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness N. W. Amer. Harness loop, T. Barrett. Harnw, B. F. Rix. Harrow tooth, spring, L. J. Stanton Harvesting machine dropping cradle, J. Hornsby et al. Hat, J. Thomas. Hat brims, finishing or binding, the edges of, J. Thomas. Hat brims, machine for curling, Arnold & Thompson Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,406 \$27,406 \$27,10
79 24 68 60 02 02 02 02 02 02 02 02 02 02 02 02 02	F. Cochrane Gearing, chain, H. Knowlton Girder, J. Vanes Glass ornamentation for imitation of fine polished stone, T. E. Strickland Glass vessel, screw collar for. Spruce & Tonks Glassware, crimping device for, J. Northwood Gold, silver, etc., composition for cleaning and polishing, O. W. Young Governor, electric steam, E. H. Amet Governor, steam engine. P. Armington Grain binder, M. M. Hooton Grain scourer, G. B. Gray Grain screen, S. H. Bills Grain screen, S. H. Bills Grain screen or separator, F. Wulfert Grappling fork, M. W. Chamberlain Grinding mill, wet, T. L. Sturtevant Gun barrels, machine for boring, Hackman & Walter Hame fastener, F. A. Hake Hame fastener, S. Killebrew Hame, reversible harness, L. Lewis Handle. See Saw handle. Valve handle. Hanger. See Door hanger. Harness loop, T. Barrett Harrow, B. F. Rix Harrow tooth, spring, L. J. Stanton Harvester, corn, G. H. Kunsman Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, finishing or binding, the edges of, J. Thomas Hat brims, machine for curling, Arnold & Thompson Hat frame and body, J. L. Kendall Hat paring machine, Tweedy & Yule	\$27,240 \$27,446 \$27,349 \$27,348 \$27,348 \$27,348 \$27,348 \$27,406 \$27,406 \$27,10