ENGINEERING INVENTIONS.

A track lifter has been patented by Mr. James W. McDonald, of Winnipeg, Manitoba, Canada. The invention consists of one or more jacks attached to a plank and operated by levers, a device for raising the plank and jacks, and an automatic grip, all mounted on a hand car, and adapted for raising railroad tracks in repairing and constructing.

A boiler or tube covering has been patented by Mr. William M. Suhr, of New York city. It consists of a shell with solid annular strips resting on the boiler or tube, covered and placed a suitable distance apart from each other to form separate closed annular air spaces between the boiler or tube covered, the shell, and the strips.

A car coupling has been patented by Mr. John L. Setty, of North Uniontown, O. The invention consists of a sliding plate moved forward to come beneath the point of the coupling pin by the action of the lever employed to raise the pin, with other novel details, designed to make an automatic coupling, and one which may be used with other couplers.

A car coupling has been patented by Mr. Alexander H. Stephens, of Thompson's Station, Tenn. It is so constructed that an approaching link will strike a trip projection and adjust a grapple parallel with the drawbar, which latter is pushed back until held by a detent, with other details, whereby an automatic coupling and uncoupling of parts is effected without involving the necessity of the operator going between the cars.

A railway signal has been patented by Messrs. Clement P. Willshaw, of Brooklyn, N. Y., and Alexander Willshaw, of New York city. A shaft that operates a gong striking mechanism is so constructed as to automatically assume a position for striking the gong, in case the switch operating connections are broken or get out of position or release the switch, the signal being adapted to be sounded by passing trains.

A tunneling machine has been patented by Mr. Frank O. Brown, of New York city. It is a shell of plate iron bolted together, its forward end beveled with longest side upward, having an airtight transverse partition with man holes and pierced by a conveyer tube with spiral flange projecting beyond its forward end, with other novel features, whereby the machine can be forced forward through the ground and allow brickwork to be readily laid.

MISCELLANEOUS INVENTIONS.

A lining for refrigerators has been patented by Mr. John S. Fairly, of Charleston, S. C. The invention consists in the use of an insulating filling consisting of cottonseed hulls, and the making of a refrigerating package with such filling.

A wind wheel toy has been patented by Mr. Frank G. Gollon, of Hoboken, N. J. It is a device of tube in place of the stick on which a child's pin wheel is usually held, so arranged that the wheel may be revolved by blowing in the tube.

A mechanical toy for children has been patented by Mr. Peter J. Owens, of New York city. It consists of a rectangular oscillating tray mounted at a suitable incline upon a stand or support, with hinged strips, so that a ball starting from the bottom may be made to ascend to the top of the tray, when it will reach a return channel to conduct it again to the bottom.

A plumb level has been patented by Mr. Michael S. Weller, of Charlestown, W. Va. Combined with an index and pivot shaft is a tubular bearing having a glass lining, the device being an improvement on carpenters' levels where the spirit bulb is more commonly employed.

A music leaf turner has been patented by Mr. Louis L. White, of Portland, Oregon. It has a shaft, cogwheel, and a series of pinions carrying each a rod, a paper holding clip, and other features, making a convenient device for turning the leaves of sheet music rapidly and perfectly.

A ruling machine has been patented by Mr. James W. Dickieson, of Brooklyn, N. Y. It is for producing diagonal lines at any desired inclination over the usual ruling, to effect which the invention covers a construction involving a novel combination of parts and details.

A wagon box brace has been patented by Mr. Matt. F. Allen, of Nashville, Tenn. It is a double legged strap brace, with its legs perforated to receive fastening bolts or screws, so made as to hold the sides and bottom of the box more ~~firmly together~~, to keep them straight, and prevent the timber from warping.

A syringe attachment for bottles has been patented by Mr. Anaximander B. Tutton, of Sioux Falls, Dakota Ter. It is somade that when not in use a rubber cap covers the bottle, the tube and nozzle being sheathed therein, while the device furnishes a syringe and stopper for bottles or vials of any size.

A dry closet has been patented by Mr. George F. McMurry, of Eureka Springs, Ark. It is made of strong tin, sheet iron, or zinc, but light enough to be conveniently carried from room to room, and has some novel features, making it especially applicable for use in hospitals, prisons, and private dwellings.

A trunk lock hasp has been patented by Mr. William H. Plant, of Brooklyn, N. Y. It is of novel construction to the end that hasps so made will accommodate themselves to the shrinkage of the trunks, and allow their hooks to be readily inserted in the aperture of the lock, while being strong and durable.

A wagon axle nut has been patented by Mr. Frank O. Slanker, of Pomona, Cal. It has a gravitating dog eccentrically pivoted to the axle arm, to engage the interior of the wheel retaining nut, thus providing a simple and inexpensive device whereby the unscrewing and loss of the nut will be prevented.

A school desk has been patented by Mr. Joseph A. Wilson, of Hood River, Oregon. It has a novel combination of parts for holding the cover raised and for clamping a book or drawing thereto, at any desired angle, for more convenient use in reading, writing, drawing, etc.

A folding baby carriage has been patented by Mr. Charles Haller, of New York city. This invention covers various novel details of construction whereby a baby carriage so made can be completely folded, to be readily taken in and out of houses and up and down stairways, and be storedin a comparatively small space.

An ice planing and ridging machine has been patented by Mr. Stephen L. Smith, of St. Louis, Mo. It is for planing the snow and soft ice from the tops of ice blocks, and ridging the top faces so the blocks will not freeze together, being an improvement on a machine for this purpose formerly patented by the same inventor.

Artificial fruit making forms the subject of a patent issued to Marie Ginoris, of New York city. The process consists in forming a mould of the fruit to be imitated, covering the surface with cloth wet with cement, drying and removing the cloths and cementing together their edges with wire stem inserted, and painting the body.

A rein ring has been patented by Mr. Julius C. Hobbs, of Hobton, N. C. It consists of a grooved wheel or roller mounted in bearings formed in a frame of peculiar and novel construction, in which the line or rein may be readily inserted, when it will be prevented from being chafed, fretted, or worn by being rubbed.

Paper making devices form the subject of a patent issued to Messrs. Frederick W. Miller and John J. Newman, of Elkhart, Ind. They are to be made a part of a paper machine for applying paraffine, wax, or other substances to and incorporating them into and through a web of paper during the making and finishing, to make it waterproof, etc.

A bark mill has been patented by Mr. Benedict Ott, of La Crosse, Wis. It is of that class in which the bark is rapidly revolved by a carrier operating within a cylinder with radial openings and cutters, and it is made with sectional cylinders, so one can be repaired while the other is in use, and the mill thus practically run all the time.

A riding saddle has been patented by Mr. John W. Newman, of Decatur, Tex. This invention relates to devices intended for use in coupling or connecting girths to saddles where it is desirable to quickly adjust the saddle, as in stock countries, in case of a stampede of cattle, providing an efficientand economical construction therefor.

A truss has been patented by Messrs. Edward Williams, Jr., and Ralph M. Lashell, of Centralia, Pa. It consists of a rod or wire curved to encircle the body, having at the back two eyes carrying pads, with an adjusting strap and buckle, and at the front two or more loops inclosed by the truss pad, being designed as an efficient but inexpensive device.

A domestic hand press has been patented by Mr. John W. Condon, of Logansport, Ind. It is designed to facilitate pressing fruits, making jellies, etc., and has a base plate with vertical overhanging standard carrying a screw shaft which bears upon a platen to fit inside a perforated chamber, the parts being readily detachable for easy cleansing.

A self-fastening skate has been patented by Messrs. Eugene M. Florentin and Albert T. Falvey, of Taunton, Mass. The skate stock is a metal plate with a curved flange on its rear end, and clasps on its forward part which slide in keepers and are held apart by a spiral spring, with other novel features, whereby the skate will fasten itself to the shoe as soon as put on.

A plumber's trap has been patented by Mr. Frederick S. Gerstenberg, of Astoria, N. Y. It is a D-trap, open at one side, with a rabbet around the edge of its open side, a horizontal valve and weighted bell crank lever, to close the valve when there is little or no pressure of water, and so arranged that any pressure of sewer gas will tend to close the valve more firmly.

A machine for separating flaxseed has been patented by Mr. Jeremiah Bates, of Sherburne, Minn. It has a vibrating box with inclined sieve, the lower end forming a spout, a partition extending in an inclined direction reverse to that of the sieve, another partition extending under the sieve, and other novel features, for separating flaxseed according to its size.

An explosive compound has been patented by Mr. Max Bielefeldt, of Kalk, near Cologne, Germany. It consists of nitro-cellulose in a solution of nitrate of ammonia in water of ammonia, or of nitroglycerine and nitro-cellulose with nitrate of ammonia in water of ammonia, prepared after a special manner and with varying proportions for differences of explosive force.

A fire arm has been patented by Mr. Salvatore J. Buzzini, of New York city. It has novel means for securing the barrel in its place, and for its ready detachment and replacement, and for a more accurate return of the barrel to its normal position than is practicable when the barrel is secured to its place by screwing it into the stock, without having recourse to a gunsmith or other skilled artisan.

A lamp extinguisher has been patented by Mr. Jacob Philippi, of New York city. The construction is such that when the wick is turned down, a weight causes a plate to swing over the upper end of the wick tube, and the flame will be immediately extinguished, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A baker's oven has been patented by Mr. Solomon M. Raines, of Logansport, Ind. The grate is on a level with the bottom of the oven, a wall projecting upward between the bottom and the grate, and the vent pipe extends from directly over the grate to the outside of the oven, and thence across to the chimney, making an oven that is simple in construction and bakes rapidly.

A star time chart has been patented by Mr. Joseph B. Morse, of Brandon, Vt. It is a pivoted disk divided by radial lines into twelve equal spaces representing the months of the year, the twelve spaces being divided to form twenty-four spaces for the hours of the day, with a movable index, pointer, etc., for determining mean time by an observation of one of the circumpolar constellations and the pole star.

A band cutter and distributer for thrashing machines has been patented by Messrs. Benjamin F. Applegate and Benjamin F. Lagel, of New Albany, Ind. The feed board of the machine has a feeding chute with sloping bottom, and rotary band cutters extend across the chute, slotted spring guards being arranged over each cutter, on which guards the attendant places the bundles, so the bands will be cut, and at the same time pushes the bundles along the chute to the thrashing cylinder.

NEW BOOKS AND PUBLICATIONS.

KROEH'S DRILL BOOKS. III. The Pronunciation of French. IV. The French Verb. By Professor Charles F. Kroeh, Stevens Institute of Technology. Hoboken: Published by the author.

The French student is at present offered the choice of two methods—the conversational, in which he acquires a knowledge of the language simply by practice, or the grammatical, in which he devotes himself to the rules and structural part before attempting to converse. Both methods have their advocates. It depends largely upon the age and mental habits of the student which would be the more suitable, but it seems to us that a mixture of the two is the true method. We therefore find much to commend in Professor Kroeh's drill books, for he has endeavored to combine the ready facility of the one with the precision of the other. It is too often the case that the conjugation of the verbs is memorized as a whole, and the student finds it impossible to employ the proper person and tense when isolated, without an awkward pause. It is a distinguishing feature of these little text books that the idea is always inseparable from the words. To accomplish this, the verbs are taught by persons instead of tenses, which we can easily imagine will produce happier results than the older method of tabular instruction. The study in pronunciation will be found equally practicable.

INSECTS AFFECTING THE ORANGE. By H. G. Hubbard. With plates and wood cuts. Washington: Government Printing Office. 1885.

For nearly four years Mr. Hubbard has devoted his time to the study of the insects affecting the orange tree, and has given particular attention to practical experiments for counteracting their injuries. The trees belonging to the Citrus family are specially subject to the attack of insect pests, and so extensive are their ravages that it has been stated there are absolutely no orange trees in the whole State of Florida which are entirely free from their presence. The present report is a special one ordered by Congress, and has been prepared with the sole purpose of affording a practical guide to orange growers. While it is based almost entirely upon observations made in Florida, this being our largest orange-growing State, much of the information will be equally applicable to other districts undertaking the culture of the fruit. The work also contains several handsome colored plates and numerous wood cuts. Those desiring copies of the report should address the Commissioner of Agriculture, Washington, D. C.

THE SUBURBAN COTTAGE: ITS DESIGN AND CONSTRUCTION. By W. B. Tuthill. New York: William T. Comstock.

This is a brief treatise, intended to lay before the student the process of systematic design, and at the same time treat of elementary details in construction and finish. The scope of the volume is not a very wide one, but those who have the designing and building of summer houses will find here some important suggestions, and the author's views are set forth with great clearness.

THE NEW AGRICULTURE; OR, THE WATERS LED CAPTIVE. By A. N. Cole. New York: *The American Angler.*

The author describes in this volume a success which seems almost wonderful in overcoming the sterility of a forbidding location, and making his "home on the hillside," in Allegany County, N. Y., one of the most productive spots anywhere to be found. He has done this by a system of underground irrigation, which he has patented, whereby the natural length of the season is prolonged from forty to sixty days, the crop yield of everything grown is greatly increased, and the quality correspondingly improved.

FOOD MATERIALS AND THEIR ADULTERATIONS. By Ellen H. Richards. Boston: Estes & Lauriat.

The author is an instructor in sanitary chemistry in the Massachusetts Institute of Technology, and although this little volume is altogether too small for much of a statement of the subject, all that is here given is valuable, and presented in a plain and sensible manner.

Alpine Winter in its Medical Aspects is the title of an attractive pamphlet by Dr. A. Tucker Wise, touching the curative and health-giving properties of the air and springs of that locality for various kinds of invalids, the whole being written with especial reference to the facilities afforded in this way by the Hotel Kursaal de la Maloja.

A Directory of the Tanning and Boot and Shoe Trades, and the branches collateral thereto, forms a convenient and what would seem to be a specially useful volume to all connected with such business which has recently been issued from the press of the *Shoe and Leather Reporter*, New York city. It embraces the United States and Canada, together with the most prominent foreign houses.

Notes & Queries

HINTS TO CORRESPONDENTS.

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

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

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

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

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

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(1) M. W. writes: 1. I have not met with success in bleaching dark nettle-tree wood (Celtis australis), by using muriatic acid and water or calcium chloride, etc., at 3 to 4 atmospheres pressure. How can I bleach this dark wood? A. Saturate the wood as completely as possible with a clear solution of 17¼ ounces chloride of lime and 2 ounces soda crystals in 10½ pints water. In this liquid the wood is steeped for half an hour, if it does not appear to injure its texture. After this bleaching, it is immersed in a solution of sulphurous acid to remove all traces of chlorine, and then washed in pure water. The sulphurous acid, which may cling to the wood in spite of washing, does not appear to injure it, nor alter the colors which are applied. 2. What kind of cement is used by the ferule makers for brass and copper ferules to put on walking canes and whip sticks? How are they soldered? A. As a general thing, no cement is used, but you can use glue or shellac. See also "Cements," in SCIENTIFIC AMERICAN SUPPLEMENT, No. 158.

(2) E. S. F.—The force required to overcome gravity on an inclined plane=weight×height÷length. Thus an 800 ton schooner on a marine railway with an incline of 10 feet in 100 feet will require 80 tons force to overcome gravity, to which must be added the friction of the rollers. We do not apprehend the manner of pulley application you speak of, but suppose you have a leverage of 1 to 100 on the combination, which will make the force on the last turn of the rope about 1½ tons including friction.

(3) J. W. P. asks: What is meant by first, second, etc., dilutions, in homœopathy? A. The first dilution consists of one grain of the crude drug triturated with nine of milk sugar or dissolved in nine drops of alcohol. It is also called the first decimal attenuation. The second dilution or first centesimal dilution is one part of the drug mixed with 99 of the milk sugar or alcohol.

(4) T. W. S.—An excellent plan to polish brass consists in using oxalic acid and whiting mixed and applied wet, with brush, and brushed again when dry with soft plate brush, to polish with dry whiting. The oxalic acid removes the dirt and the whiting does the polishing.

(5) J. B. J. asks (1) the method used by engineers to determine whether the steam from a boiler is wet, saturated, or superheated. A. A dry cloth held in a jet of dry steam will not become moistened, or but very slightly; in wet steam it will soon become saturated. A moist cloth held in a jet of superheated steam will become dry. All these methods in which a jet of steam is tested are imperfect, because the air alters the condition of the steam. 2. How to determine the percentage of water in steam? A. By passing it through a condenser maintained at its own temperature, and collecting and weighing the water that accumulates. The steam that has passed must be separately condensed and its weight determined. 3. How many heat units in a pound of hydrogen? A. One pound of hydrogen in its combustion will raise the temperature of 34,000 pounds of water one degree Centigrade or one and four-fifths degrees Fahrenbeit.

(6) K. J. asks: 1. What is the opposite adjective of slippery? A. Sticky, adhesive. 2. Does the increased size of an animal or a person increase the sensibility of pain? A. It does not as far as we know. 3. Why does a person see sparks or flashes of light in the eyes when the head is struck or receives a sharp blow? A. Professor J. G. McKendrick, of Glasgow University, says: "A luminous sensation may be excited by various modes of irritation of the retina or optic nerve. Pressure, cutting, or electrical shocks may act as stiumuli, but the normal excitation is the influence of light on the retina." It is generally believed that it is the filaments of the optic nerves, and not the retina, that receive the effects of these abnormal disturbances.

(7) J. A. R. asks: What can I use for ink to print with a rubber stamp on hard wood and make it indelible, or so much so that by occasional washing it will not be easily effaced? A. We would recommend printer's ink, thinned down with turpentine.

(8) J. W. P.—Lozenges consist principally of powdered sugar, made into a mass with some glutinous liquid, such as gum arabic, thin isinglass size, etc., without the aid of heat, and dried. The lozenges mentioned by you are probably similar, and flavored with extract of wild cherry.

(9) J. D. asks: 1. To mix Venetian red paint with oil, what measure or weight of dry color should be used to the gallon of oil, to give the best satisfaction on weather-beaten boards of barns? Should the first and second coats be mixed the same? A. The proportions are about seven pounds of the dry color to six pounds of oil. The two coats are generally the same. 2. To reburnish a Darlot photo lens. A. The reburnishing of the lens will be a difficult operation, in the same way as the original grinding and burnishing. 3. Also to reblack the same inside. A. Use gum water and lampblack.

(10) F. S. W.—To clean marble, mix quicklime with strong lye, so as to form a mixture having the consistency of cream, and apply immediately with a brush. Let this composition be allowed to remain on a day or two and be then washed off with soap and water.

(11) T. E. writes: We have an exhaust fan belted direct from engine, and when run to high speed the belt flaps badly. Would a fly wheel set in same shaft as fan prevent the flapping? A. The flap in the belt may be due to the irregular motion of the engine, in which case a fly wheel could be better applied to the engine; or, if the engine has a small sized fly wheel, make one very much larger in diameter, but not necessarily heavier. It is the large diameter in a fly wheel that gives regularity of motion. We would not recommend a fly wheel on the fan until you are satisfied that the fan is at fault.

(12) J. K. B. asks a rule for finding strength or size of wrought iron sheets in water tanks or standpipes, say when diameter or area is given, and height or depth of water to be carried. For instance, thickness of plates needed for wrought iron tower, 25 feet diameter and 125 feet high. A. For the strength of the different sections of a water tower or stand pipe, proceed as in the case for the safe strength for boilers under various pressures, adding a requirement for supporting extra high towers. Thus you would have a hydrostatic pressure at the bottom of your tower equal to 53 pounds per square inch. You should provide for stability or safety, wear and tear by oxidation, and loss of strength by riveting, at least four times the above strain, or say 200 pounds, which, multiplied by the diameter in inches=300×200=60,000 pounds tension on each vertical inch of iron forming the sides at the bottom. As plate iron cannot be trusted over 45,000 pounds tensile strain, you will require not less than 1¼ inches for the above allowed strain. This, divided by 2 for the two sides, calls for the lower sheets to be ⅝ inch thick, say for 30 feet, ⅞ inch for the next 30 feet, ½ inch for the next, ⅞ inch for the next 30 feet, ⅜ inch for the next 20 feet, and ¼ inch for the last 15 feet. This will make a substantial tower for a lifetime.

(13) E. R. S. asks the best method of tempering an anvil. I have tried it once, and I cannot get it hard enough. I used a hardening compound, but it seemed not to affect it. A. We know of nothing better than giving the anvil a full cherry red heat and dipping sidewise, so that the bubbles of steam will clear the surface. It is the steam hanging on the under surface that prevents hardening.

(14) A. P. H.—Hard wood floors may be finished with beeswax or paraffine by rubbing the wax over the floor and burnishing it down with a leather pad. Floors are painted with various colors. Prince's metallic paint is a red oxide of iron. and is mixed with boiled linseed oil. It will make the floor red. Chrome yellow with a little Prince's metallic paint make a bright orange much in vogue for country houses. You will require no license for your boat on waters that are not commercial highways.

(15) Gyp.—Will you please inform me, by your paper, what gold is worth a carat, also the worth of fine sterling and coin silver, and the amount of alloy used in reducing both fine and sterling to coin? A. Gold is worth per ounce $20.67183; per carat in ounce, 1/24 of this sum. Silver varies in price continually. Coin silver and gold of this country contain 9/10 of the pure metal. Silver 999 fine is worth about $1.02 per ounce. Sterling gold or English coin gold contains 1½ gold, 1/12 alloy. Sterling silver or English coin silver contains 222 silver to 18 of copper. The values of the different alloys can be calculated from the above figures.

(16) O. A. asks: Why is the sun marked in our almanacs "fast" from April 15 to June 15 and from September 1 to December 25, and "slow" the remainder of the year, while the angle passed over by the radius vector is greatest January 1 and least July 1? A. The phenomenon of the fast and slow sun arises from two causes, viz., the unequal motion of the earth in its elliptic orbit and the obliquity of the ecliptic, which latter gives much the largest element in the variation of the sun's apparent motion. See Newcomb's and Holden's Astronomy.

(17) W. H. B. asks: 1. What will prevent worms from eating hickory handles? A. Most solutions adapted for this use are somewhat poisonous, and hence not adapted to handles. Creosoting or immersion in hot solution of carbolic acid with some pressure after thorough kiln drying would seem safe, and would be effectual provided it did not deteriorate the fiber of the wood. Linseed oil is recommended. See SCIENTIFIC AMERICAN, May 8, 1886, p. 289. 2. Will steaming them prevent it? A. Steaming will not prevent it, but will kill any that have begun operations.

(18) W. M. B. asks: 1. Can a quantity of well ground apples, occupying the space of 3 by 4 feet by 2½ or 3 inches thick, be pressed dry in half a minute? If so, what is the weight required? A. Cider presses cannot be worked quickly. It takes time for the apple juice to work out. The whole pressure should not be put on at once. 2. Can wood be finished to imitate marble? A. To some extent. 3. How are gun barrels flowered and lettered with silver and gold? A. Inlaying in gold and silver on gun barrels is done by etching the design with acid and undercutting the edges with a graver, then hammering the soft gold or silver into the design and dressing the surface with file and polisher.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined with the results stated.

C. H. G.—The sample is anocher or clay containing iron. It might be of value as a paint if burnt and ground in oil. In its present condition it is of no use; it lacks body, although apparently free from grit.—R. W. S.—The sample of clay sent is altogether too small to form any sort of an estimate concerning its value. As it is somewhat gritty, it can scarcely be used for anything except common purposes. If it will stand heat, it might be used in the manufacture of fireclay bricks.—F. M. B.—The specimen is syenite, similar in composition to the obelisk in Central Park, and consists of the minerals feldspar, hornblende, and quartz. It is of no value.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted,

April 27, 1886,

AND EACH BEARING THAT DATE.

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

Advertising device, W. J. Crane 340,701
Advertising sign, rural, J. G. Jory 340,788
Agricultural boiler, C. Hefft 340,576
Air heating and drying apparatus, S. N. Carvalho. 340,760
Air ship, steam, W. Patterson 340,610
Ale, etc., apparatus for drawing, R. Morrell 340,672
Amalgamator, B. S. Harbach 340,874
Animal trap, J. C. Gould 340,714
Axle nut, wagon, F. O. Slanker 340,736
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Balusters, posts, etc., manufacturing ornamental, F. Mankey 340,671
Bark mill, B. Ott 340,922
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Cloth cutting machine, J. Thomas 340,964
Coat, reversible, J. Lowenthal 340,885
Cock, gauge, T. B. Keim 340,582
Cock, stop and waste, J. M. McVey 340,807
Coffin cases, mould for making, W. R. Hassard 340,877
Collars, making, R. Butterworth 340,695
Colter, rolling, H. H. Butler 340,906
Combination lock, Elliotto McGarvey 340,942
Condenser for finisher cards, E. Wright 340,929
Convertible chair, N. Bartelle 340,754
Conveyer apparatus, H. Smith 340,633
Cooler. See Lead cooler.
Cordage, etc., machine for making, J. P. Tolman .. 340,835
Coupling. See Car coupling. Pipe coupling. Thill coupling. Whiffletree coupling.
Creamer, W. S. Mummery 340,920
Crusher. See Ore crusher.
Cultivator, H. C. Pratt 340,894
Cultivator, F. P. Warren 340,744
Cultivator and cotton chopper, T. J. Brown 340,933
Cultivator beam lifter, spring, W. J. Browne 340,551
Cultivator blade, B. F. Roberts 340,621
Cutter. See Vegetable cutter.
Dental pliers, E. T. Starr 340,896
Dental tool, C. H. Cannon 340,553
Dentist's chair, Johnston & Browne 340,787
Desk, school, J. A. Wilson 340,847
Die. See Rivet forming die.
Distilling or refining mineral oils, apparatus for, N. M. Henderson 340,878
Ditching machine, D. J. Powers 340,614
Domestic hand press, J. W. Condon 340,907
Door lock, sliding, H. E. Russel, Jr 340,620
Door mat, H. T. Windt 340,901
Doors and gates, check for, J. Glasscock 340,871
Doors for fire engine houses, device for fastening, opening, and holding, G. D. Walker 340,743
Drawing board, H. Howson 340,914
Drier. See Lumber drier.
Drilling machine, A. F. Prentice 340,615
Dry closet, G. F. McMurry 340,805
Electric current indicator, E. H. Amet 340,538
Electric machines, brush shifter for dynamo, E. H. Amet 340,539
Electric machines, commutator for dynamo, T. E. Adams 340,537
Electrical cut-out, J. M. Fairchild 340,868
Electrical distribution, multiple series system of, A. J. Holt 340,717
Electrical signaling apparatus, T. A. Edison 340,708
Elevator bucket, W. Mild 340,889
Eyeglasses, H. C. Sheppard 340,627
Fabric turfing implement, J. C. Rorick 340,895
Fan, S. Scheuer 340,622, 340,623
Felt foot wear, making, A. A. Hawley 340,667
Fence, J. T. Lesher 340,795
Fence post, W. W. Gage 340,568
Fencing, machine for making barbed, J. D. Curtis 340,939
Fencing strips, device for twisting and stretching, J. Stubbe 340,962
Fifth wheel, A. Buchholz 340,693
File, bill and letter, A. M. Slack 340,832
Fire alarm apparatus, C. D. Rogers 340,618
Firearm, breechloading, T. Nordenfelt 340,726
Fire escape, Hamlin & Smith 340,573
Fire escape ladder, A. H. Lorenze 340,797
Fire extinguisher, G. A. Morison 340,724
Fire extinguisher, W. Neracher 340,812
Fish plate lock, M. H. Devore 340,940
Flooring and sheathing, construction of, W. J. Conway 340,559
Flooring for balconies, A. H. Lorenze 340,796
Flush tank and siphon, B. Van Vraken 340,836
Fly screen, E. J. Webb 340,840
Frame. See Window frame.
Fruit, artificial, M. Ginoris 340,870
Fruit jar, H. E. Shaffer 340,625
Furnace. See Hot air furnace. Plumber's furnace.
Furnace, W. Kent 340,584
Furnace for burning fine coal, A. Hardt 340,781
Furnaces, gas and air port for regenerative, Hackney & Walles 340,873
Gauge. See Pressure gauge.
Gauge, Montgomery & Hatcher 340,592
Garment fastening, Walther & Supple 340,644
Gas burners, automatic cut-off for, E. A. Jukes 340,951
Gas generator, J. E. Smith 340,634
Gas, means for transportation and distribution of, T. P. Roberts 340,616
Gas regulator, A. Caldwell 340,696
Gas scrubber, W. R. Beal 340,543
Gate, C. B. Clark 340,861
Generator. See Gas generator.
Glass and other surfaces, ornamenting, E. L. Brown 340,550
Glove fastener, F. R. Baker 340,852
Governor, steam engine, G. H. Adam 340,652
Grafting implement, O. H. Congar 340,669, 340,700
Grain adjuster, E. F. Cripe 340,908
Grain separator, J. Bachman 340,752
Grate and feed water heater, hollow, D. Jones 340,916
Grinding machinery, J. D. Storie 340,637
Grinding mills, etc., feeding device for, M. O. Kasson 340,789