| | | <u> </u> | · |
|--|----------------------|---|--------------------|
| Edge setting or burnishing machine, R. Ashe Electric machine regulator, dynamo, J. R. Finney. Electric signaling apparatus, H. W. Southworth | 267,859 | Packing, metallic rod, L. Katzenstein Paper making machines. method of and appara- | 267,750 |
| Electrical apparatus, commutator for, Peck & Chapman | 267,711 | tus for cleaning the wire web of. J. J. Manning. Paper perforating machine, W. C. Utley Paper scoring machine, A. E. Elmer | 267,730 |
| Elevator guard, automatic, R. P. Rankin Engine. See Hydrocarbon engine. Locomotive engine. Rotary engine. | | Paper trimming apparatus for the use of paper hangers, P. C. N. Pederson | 267,925 |
| Fan, exhaust J. E. Mills | 267.699 | Permutation lock, O. E. Pillard (r) | 10.246 |
| Faucet, self-closing, C. Whittaker | 267.734 267,733 | Beebe Photographic plaques, device for producing, H. Rocher | 267,720 |
| Feed water heater, G. Miles Feeding and watering stock in cars device for, A. D Tingley | | Photographic shield, E. B. Barker Picture exhibitor and receptacle, G. L. Jaeger Picture frame picture holder. M. W. Allen | 267,895 |
| Fence picket, W. Thomas | 267,948 267,701 | Pipe rings, machine for cutting sewer, R. W. Lyle. Planer, splint, B. F. Firman Planers, feed roller gear for wood, P. Stoerger | 267,990 |
| File holier and binder, newspaper, A. T. Dewey File. letter, M. Herzberg | 267.975 267,890 | Planter, hand corn, L. B. Chipman Planter, potato, E. P. & J. M. Karr | 267,775 267.899 |
| Fire escape, I. W. Lincoln | 267,696 | Plow, L. Schmidt | , |
| Brockway & Watts | 267,885 | Pocket. watch, I. Samuels | 267,967 |
| Fireproof material for ceilings, walls, safes, stoves, furnaces, bricks, etc., J. A. Moffitt | 267,755 | Post. See Fence post. Post hole digger, J. J. Armstrong Potato digger, C. G. Wiltse | 267,766 |
| Folding bench, table, and settee, R. B. W. Pinck- ney | 267,928 | Power. See Churn power. Press. See Baling press. | |
| Folding box, H. Ludlow | 267,689 | Pulley block, T. H. Ward | 267.715 |
| Fur and other goods, ornamenting, A. Mayer (r). Furnaces, feeding device for blast and other, W. H. Allen | 10,245 | Pumping apparatus, electric, Peck & Chapman Punch metal, D. Kennedy | 267,710 267,751 |
| Gauge. See Saw gauge. Surface gauge. Water gauge. | | Railway signal apparatus, electric, O. Gassett 267,978, | 267,979 |
| Garden rake, cast steel, C. T. Beebe (r) | | Railway tie, metallic, G. L. Putnam | |
| Gas burning apparatus, G. H. Burrows | | Reclining chair, D. B. Hartley | 267,748 |
| Gate, C. A. Wyman | | dard | 267 806 267,770 |
| Glass and metallic articles, manufacture of com- bined, A. W. Paull | | Refrigerator, C. Zimmer | • |
| Glass blowing and shaping apparatus, Wright & Mackie | | Speed and motion regulator. Relay, polarized, F. Anderson Ribbon reel, A. T. Cook | |
| Glass globes. shades, and other prticles. decorating, Nichols & Benas | | Ring. See Curtain pole ring. Rocking horse and cradle, J. A. Crandall | 267.678 |
| Glass mould and manufacture of glass signs, etc., T. B. Atterbury | | Roofing tile, Lane & Woodworth | 267,983 |
| Glycerine from fatty matter, extracting, V. Litzelmann | | Rotary engine, C. F. Cory | 267,838 |
| for separating, J. T. Long | 267,697 | Saw drag, J. Russell, Jrsaw filing machine, J. Palm | 267,721 267.756 |
| SchaefferGold from its ores, process of and apparatus for extracting, A. De Figaniere | 267,842 | Saw gauge, rip. T. A. McDonald | 267,923 267,776 |
| Governor, F. Anderson | 267 936 | Scraper, road, A. Woolsey | |
| Grain drill and cultivator, J. J. Clayton | 267.671 267,985 | Secondary battery, J. R. Finney Secondary battery, E. T. Starr | 267,804 |
| Grate, L. BannisterGrate, fire. E. F. Johnson | 267.737 267,896 | Sewing machine and musical instrument, com- bined, Garvie & Wood | 267,874 |
| Grinding mill. P. Tanvez | | Sewing machine. boot and shoe, M. H. Pearson Sewing machine brake, automatic, T. E. Baden Shifting seat, G. H. Hutton | 267,968 |
| Hame fastener, Minor & Hennessey | 267,788 j | Shingle metallic roofing, C. Comstock | 267,845 |
| Harrow, sulky, B. F. Rix | 267.718 | Shoe horn, J. M. Brown | 267,668 |
| Heater. See Feed water heater. Hinges, making, G. C. Thomas | 267,809 | Sizing and coloring fabrics, apparatus for, M. Free | 267,902 |
| Book holder. Crayon or lead holder. File holder. Firearm holder. Picture frame picture holder. | | Speculum, L.C. Law | |
| Hopple, C. J. Gustaveson | | Adler | 267,818 |
| Horseshoe, G. W. Fenley, Sr | 267.855 267,946 | iron stand. Ironing stand. Station indicator, J. V. Ryerson | 267,941 |
| Ice boxes. alarm catch basin for, H. Fuhrmann Indicator. See Bilge water indicator. Station indicator. | 267,870 | Steam boilers, purifying natural waters for use in, C. B. Dudley | |
| Injector. oil and water, O. H. Jewell | 267,692 | Steam generator, J. C. Stead | 267,831 |
| | 267,857 | Stirrup, saddle, S. L. Shallenberger | 267.728 267,961 |
| Key. See Telegraph key. Key slots, broach for making, W. H. Taylor | ' | Stone burning kiln, artificial, A. Baumann | 267,661 j |
| Kiln. See Stone burning kiln. Knitting machine, M. Marshall | | Folsom | 267,911 |
| Ladger, trussed, F. S. Seagrave | 267,691 | Stoves, furnaces, etc., grate section and fire bed for, W. McClave | 267,910 |
| Line and reeling attachment, safety, W. Mackey. Link, W. Burton | 267, 909 267,834 | Surface gauge. H. Avery | 267,799 |
| Liquid vessel. T. Houston Liquors, process of and apparatus for purifying and maturing, I. B. Cushing | | Swinging and sliding gate, J. Wadleigh | 267952 |
| Lock. See Nut lock. Permutation lock. Locomotive engine, H. F. Shaw Loom, Crompton & Wyman | | Tag, animal E. G. Queen Telegraph key, J. T. Guthrie Telegraph line, underground, C. H. Hansen | 267,878 |
| Loom for weaving broad silk goods, Crompton & Wyman | 267,777 | Telegraph sounder, J. H. Bunnetl | 267,833 |
| Lubricant, J. B. Norris Lumber rafts, landing floating, D. W. McElroy Measuring machine, T. A. Bell | 267,795 267.826 | Telephone exchange and apparatus therefor, H. Lartigue Telephone, mechanical, H. T. Johnson | 267,897 |
| Measuring machine, cloth, Kleppinger & Naylor. Meats, apparatus for preserving. A. Fowler Meats, curing and preserving, A. Fowler | 267 685 | Telephone system, Jackson & Cole Teilurian, G. Rudholzner Thill coupling, W. Johnston | 267.940 |
| Mechanical movement, W. H. Golding | 267,875 267,955 | Thill coupling, T. M. Richardson | 267,937 |
| Middlings purifier. F. Prinz | | Tie. See Bale tie. Railway tie. Tile blocks. process of and machinery for making, G. Elbreg | |
| Mould. See Glass mould. Ingot mould. Motion, device for converting reciprocating into rotary, J. H. Chase | 267,835 | Tile machine, G. Elbreg | 267,760 |
| Motion, mechanism for converting rotaryinto re- ciprocating, J. J. Kieferle | , - | Top, child's spinning, F. A. Fouts | 267 865 267,867 |
| Nails, tacks, etc., facilitating the cutting of, S. R. Foster | 267.864 | Toy locomotive. Richtel & Stever | 267,939 |

| | American. | |
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| | | _ |
| | Trains, apparatus for controlling the movement | 18 |
| | of, E. N. Dickerson, Jr 267,681 | |
| | Trap. See Animal trap. Steam trap. | Ι, |
| | Trap, R. Clarke | : 1 |
| | Tree. See Gig tree. | 3 |
| | Truck, W. Z. Brown | ı l |
| | Truck, A. B. Reeves | |
| | Type case cabinet, J. S. Hoerner 267,690 | |
| | Universal angular knuckle joint, E. Mignault 267.706 | |
| | Universal joint, Deyo & Carman | |
| | | |
| | Valve. See Float valve. | 1 |
| | Valve, balanced, M. M. Sanders | |
| | Valve, balanced steam, S. E. Jarvis 267,791 | |
| | Valve gear for escillating engines, H. F. Shaw 267,725 | |
| | Vehicle, side bar, J. A. Snell | |
| | Vehicle spring, C. W. Saladee | |
| | Ventilator, M. H. Dorgan 267,741 | |
| | Ventilator or chimney cap, L. F. Betts 267,829 | Ü |
| | Vise, bench, T. Reno | |
| | Wagon brake, A. D. Bertier 267,828 | |
| | Washing machine, boiler, L. S. Betzer 267,969 | |
| | Watch hands, J. W. Bell 267,824 | |
| | Water closet, M. Hogan 267,786 | |
| | Water cooler ice bumper, J. J. Savage 267,722 | ¦ ε |
| | Water gauge and alarm P V Dwyer 267 780 | . / |
| | Water motor, J. Coates | 1 |
| | Water wheel, J. Comly | و ا |
| | Water wheel, H. Van De Water (r) | 11.00 |
| | Water wheel, turbine. W. B. Farrar | |
| į | 117 6 00 | Ι, |
| | Wax from paraffine oil, separating, S. W. Kirk 267,752 | |
| | Weather strip, Fields & Mayfield | į |
| | Wells and tanks, safety attachment for oil, M. A. | 1 |
| | Lanagan 267,903 | į a |
| | Wells between the flows of oil, preventing thees- | :1 |
| | cape of gas from oil, C. H. McKee 267,796 | İ |
| i | wheel. See Car wheel. Water wheel. | 1. |
| | Winding shell for calico, etc., A. M. Ackerman 267,817 | |
| | Window, U. H. Balcom | , C |
| | Yeast, preparing bakers', Goll & Spinner 267,686 | ' e |
| | | ' a |
| | DESIGNS. | Ċ |
| | DESIGNS. | i ` |
| | Billiard table, R. Herman | _ |
| | Carpet, H. Horan | ħ |
| | Carpet, J. I'egel | 0 |
| | Chain swivel. watch, J. J. Horton | |
| | Corset, J. Hilborn | f |
| | Embroidery, H. Bosshardt | 1 |
| | Fireplace, W. C. Peet | f |
| | | - |
| | Type, printing, H. H. Thorp | : |
| | Wall ornament, L. G. Collins 13,439 | |
| | | 8 |
| | TRADE MARKS. | . 1 |
| | IRADE MARKS, | l i |
| | Beverages, such as lager, weiss beer, and all car- | ıd |
| | bonated drinks, Eagle Bottling Works 9,817 | id |
| | Brandy, Martell & Co 9,836 | i a |
| | | |

| 1 | Beverages, such as lager, weiss beer, and all car- | |
|----|--|-------|
| | bonated drinks, Eagle Bottling Works | 9,817 |
| | Brandy, Martell & Co | 9,836 |
| 1 | Candy, Puck Manufacturing Company | 9,839 |
| • | Cards, playing, New York Consolidated Card Com- | |
| 1 | pany | 9.825 |
| 1 | Cigars, Wiggenhorn Bros | 9,832 |
| 3 | Lard and butter substitute, W. Butcher's Sons | |
| 1 | 9,815, | 9,816 |
| | Lard substitute, W. Butcher's Sons | |
| 5 | Malt extract, Kepler Malt Extract Company (Lim- | |
| ١. | ited) | |
| 1 | Medical compounds, Kepler Malt Extract Com- | ., |
| 5 | pany (Limited) | 9.834 |
| • | Medicated preparation of cinnamon, B. L. Living- | 0,00 |
| • | ston | 9 829 |
| | Needles, Wolff & Knippenberg | |
|) | Paints and painters' supplies, A. W. Strauss & Co | |
| | Pens, steel and other, Turner & Harrison | |
| 1 | Pianofortes and parts thereof, Steinway & Sons | 0,044 |
| ı | 9,820. | 9 891 |
| ١ļ | Pistols, revolving cylinder, Merwin, Hulbert & Co | |
| 1 | Soap. Procter & Gamble9,826 to | |
| Į | Soaps, candles, oils, and lard, Procter & Gamble | |
| ļ | Tobacco and cigarettes, chewing and smoking, J. | 0,000 |
| 1 | Hancock | 0.010 |
| | Hanoua | 9,010 |

Wine, champagne, G. H. Mumm & Co...... 9,837 English Patents Issued to Americans.

From November 7, 1882, to November 10, 1882, inclusive. Bottling machine, J. Mills, Terre Haute. Ind. Cocks for casks, etc., J. Schaefer, New York city. Coupling for hose, E. Nunan, San Francisco, Cal. Electric signal apparatus (2) Standard Time Company, New Haven, Conn.

Envelopes, manufacture of, A. C. Fletcher, New York

Grain cleaning machine, L. Gathman, Chicago, Ill Insulating compound for electric wires, R. G. Waring et al., Pittsburg, Pa

Paper boxes, manufacture of, H. H. Rogers, Brooklyn,

N. Y. Printing press, W. G. Walker, Madison, Wis. Reeling silk, etc., J. M. Grant, Hartford, Conn. Tellurian, J. Spicer. Taylor's Island, Md. Tool holder, J. F. Allen. Brooklyn, N. Y.

Wire for fastening bottle stoppers, manufacture of, O. R. Chaplin, Boston, Mass.

NEW BOOKS AND PUBLICATIONS.

LEXIQUE DE LA LANGUE IROQUOISE. Par J. Cuoq. Montreal: J. Chaplean & Fils. \$2.

For thirty years the venerable author has been in ctive service as missionary among the Iroquois and Algonomies of Oka, on the Lake of the Two Mountains. near Montreal. His knowledge of these tongues is full amine improvant in an interest to the present work embraces; I. Iroquois for Inventors. roots: II. Derivatives and compounds: III. Supplementary notes; IV. Appendices, and many curious and 18 interesting foot notes. It is to be hoped that the author's life may be spared for the completion of a corresponding dictionary of the Algonquin tongue, which he has in hand.

EISENBAHN TECHNIK (REPERTORY OF THE TECHNICAL LITERATURE OF RAIL-WAYS). By Franz Woas. Years 1880 and 1881. Berlin: Julius Springer, 1882. 260 pages.

Consists of a general index-or reference book to the English, American, French, and German technical periodical literature relating to railways. It is divided into five chapters, named respectively: "The Railway Systems;" "The Building of Railways;" "The Rolling Stock;" "The Repair of Railways;" and "The Run-ning of Railways." Each chapter is divided into sections, and each section into certain subdivisions; so that, for instance, if a person is desirous of finding the 3 current literature on tunnels, he will find all the refer-

complete list of all the articles relating to tunnels in the several technical periodical publications for the years 1880 and 1881, as the repertory comprises only these two years. In the same manner, articles relating to any other subject matter in the railway line can be found in this repertory. This work is of great service to engineers, builders, publishers, and others, as it saves much time in searching reading matter in regard to certain subjects, and facilitates obtaining a thorough knowledge of all that has been published in relation to the said subject.



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We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

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Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identi-

(1) S. M. B. writes: A common year consists of 365 days 5 hours 48 minutes and 49 seconds. Now, as every fourth year contains 366 days, which is leap year, it is supposed, of course, that the extra day takes up the surplus time over 365 days, which it does, and 44 minutes and 44 seconds over. Now, in a certain number of years this shortage of time would make a day. How is that loss of time accounted for? A. One day is dropped every 400 years. All even centuries are divisible by 4, and would naturally be "leap years; "but to correct the deficiency mentioned the centuries divisible by 400 are not leap years, i. e., 1800 and 1900 are leap years, but the year 2000 will not be a

(2) W. M. B. asks: 1. Is not the violent ejectment of sparks from a locomotive caused by the excessive force of the exhaust across the face of the flue sheet? A. Yes. 2. Would not the draught be the same if there were no stack; the stack only serving to carry the steam and smoke above the line of sight? A. No, for very little pressure of airwould be produced on the fuel in the furnace.

(3) W. L. H. asks: How many horse power is an engine 18x24, 110 revolutions per minute, pressure in cylinder 60 pounds? I say 164 horse power; am I right? A. It is 163 horse power after deducting 20 per cent for losses by friction, etc; 60 pounds pressure in the boiler does not give 60 pounds pressure in the cylinder; this pressure you must ascertain by the indicator.

(4) H. D. C. asks: 1. What is the exact formula for calculating the strength of steam boilers, the tensile strength being known? A. P=pounds pressure per square inch; D=diameter of boiler in inches; T=thickness of plates in inches; c=tensile strength of plates in pounds per square inch; then the formula is $T = \frac{D P}{2c}$ or P D = 2Tc; but if the tensile strength of the iron is taken in the body of the plate or sheet, it must be borne in mind that the single riveted seams are only 0.50 and the double riveted seams 0.70 of the strength of the solid plate. 2 Also are steel boilers preferable to iron boilers, and why? I find it hard to learn anything about boilers in that important direction, as I have not the facilities for getting the information, nor do I know where to seek for it. A. Yes because they are stronger in proportion to thickness of plates, and the plates more homogeneous in their character Obtain "Wilson on Steam Boilers." or "Nichols's Practical Boiler Maker," for information, or consult the rules of government inspectors.

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