NEW BOOKS AND PUBLICATIONS.

ENGLISH AND AMERICAN RAILROADS COMPARED. By Edward Bates Dorsey, C.E. New York: John Wiley & Sons. 1887. Pp. 142.

This book contains an essay for which the Norman gold medal was awarded by the American Society of Civil Engineers. The least we can say of it is that the medal was most worthily bestowed. The work is an exhaustive review of financial and other data of English and American railroads, a summary statement of the good and bad points of both, and a general comparison of results. As regards work done by given amount of rolling stock, locomotives, etc., the comparison is largely in favor of the American system. Yet the author condemns the weak points of American practice without hesitation. Especially does he speak of the lack of the block system. This is to his mind, and very properly, a sine qua non of good railroad work. The narrowness of the English cars is quite striking. Owing to the construction of their stone station plat forms, bridges, etc., the car bodies cannot be widened. Hence the Pullman cars are much narrower than with us. The story of an American engineer receiving 2,000 guineas for two hours and a half testimony before a parliamentary committee has, to the patriotic practitioner, a very pleasant sound. We commend the book to all interested in the railroads of the world.

ELEMENTS OF MODERN CHEMISTRY. By Adolphe Wurtz. Third American edition. Translated and edited by edition. Translated and edited by Wm. H. Greene, M.D. 132 illustrations. Philadelphia: J. B. Lippincott Co. 1887. Pp. 770.

This admirable little work is well worthy of its distinguished author. It gives in clear and intelligible order the modern views of chemistry, representing about such a work as the well known Fownes' Chemistry. It is, according to the author, designed as a text book, but few chemists are not at frequent intervals indebted to such manuals as a quick and ready reference in the course of their work. Mendelejeff's law and the other recent chemical discoveries or theories find a place in it. The division and arrangement is the regulation one, beginning with hydrogen and going on through the elements, metalloids, and metals, to organic chemistry. This is fully treated, and forms a most valuable part of the work. The illustrations are, to a great extent, the familiar ones, but they form quite an essential portion of the book.

WITHIN AND WITHOUT. Chicago Thompson Gill, Manager C. Publishing Co. 1887. Pp. 318.

This is a novel supposed to touch upon philosophy. legal ethics, and re ligion. It is in four parts, and seems to be very brightly written. We are not prepared to give an elaborate opinion on the author's views, which we find summarized in the introductory pages.



HINTS TO CORRESPONDENTS.

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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 Writton 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.

Winerals sent for examination should be distinctly marked or labeled.

- (1) C. S.—The fine standard rules, calipers, and scales of steel for machinists' use have their divisions cut in a dividing engine, the cutter being similar to a diamond lathe tool. It is only the cheap squares and scales that are stamped. A few scales and tape measures are printed and bit with acid. These are readily recognized on inspection.
- for flanges: To equal parts of white lead and dry oxide of iron (Prince's metallic paint) add their bulk if not disconnected when not in use. of fine cast iron borings (sifted); mix and knead, with ; the mass a stiff putty. Lay this under the flange about can be cut or sawed without breaking or chipping. A. three-sixteenths inch thick, draw the flange down with | The process of cutting china and pottery is the same to a solid bearing. Rust joints are only made in socket | CAN SUPPLEMENT, No. 318. Use a thin wheel of copjoints, or in places where the borings can be driven per, as illustrated, for sawing. with a calking tool.
- protecting a 1 inch steam pipe laid underground. A. you might be interested in the way you can make a nice-A wooden box 4 inches in diameter inside for 1 inch looking hall lamp out of a tin can, such as you will find pipe, coated with tar or asphalt, with notched cleats in any grocery store; they are used to put up all kinds of every 12 feet to retain the pipe in the center of the spices in, and are made very nice, and just the right size, box. Fill in around the pipe loosely with mineral 12×7 . Where the cover comes off, make a band of tin to facilitate repairs if ever found necessary. Lay ltar make you a door in one side for 50 cents, and then cut paper over the joints of cover.
- Jamaica ginger, retaining the strong aroma of the ginger? A. By shaking the fluid extract with % its weight 1 took a round awl or any sharp-pointed instrument, ble essence of lemon prepared, so that when diluted and hung glass pendants on the bottom, and then withwater and sirup it retains the strong aroma of bronzed the can, and you would not know but what I face of the water and sirup? A. Take fresh lemon peel, dollar and fifty cents and a few hours' work evenings. which, after removing the white, pulpy portion and grinding, is macerated with dilute alcohol.

holes in the broken surface of the tooth, drive in some wooden pegs, and build up the tooth with plaster. After setting it can be readily shaved to shape, which powder and leaf with a piece of cotton wool if not obtained at the first effort, more plaster can be added and the surplus shaved off to make the tooth perfect. When finished, varnish with shellac as with other patterns.

- (6) J. W. P. asks about the process of annealing cast iron, and whether it can be done on a small scale to advantage. A. Castings of moderate to very small size, that are hard, can be readily annealed by packing in a cast iron box or a blacklead crucible, with burnt core sand or old moulding sand mixed with a little pulverized charcoal. Heat to a full red in a forge fire or furnace if convenient. Retain the red heat for an hour or two, according to hardness of castings; then allow to cool slowly by covering the fire and allowing it to die out. A few trials will suggest the pro per time for keeping up the heat.
- (7) A. T. W.—The elevation of the outer ail does not compensate for the difference in length of the outer and inner rail on a curve. Generally, in a free run around a curve, the inner wheel slips because the centrifugal force throws the flange of the oute wheel hard against the outer rail, producing additional friction and pressure upon the outer rail. This may be reversed when, by slow speed, the engine has a live puli on the train when rounding a curve; then the wheels are pulled hard against the inner rail, and the centrifugal force is not equivalent to the draught of the
- (8) T. E. C. asks: 1. Is there any way to remove the nickel from brass articles that were imperfectly plated? A. The only way is to refinish. Acids will roughen the surface. 2. How to "snell" brass. A. Do not know the term. 3. How many minerals are known to science, and which is the most valuable? A Several thousand. The diamond is most valuable If you mean metals, there are 54 elements counted as metallic, though scientists do not all agree as to several
- (9) O. T. asks: What is there that will keep a liquid made of egg and acid phosphate without changing the taste? A. Add a small quantity of salicylic acid.
- (10) J. R. W. desires a good receipt to clear the voice and remove temporary hoarseness caused from speaking and singing. A. Take of beeswax two drachms, copaiba three drachms, powder of licorice root four drachms; melt the copaiba balsam with the wax in a new earthen pipkin; when melted, remove them from the fire, and mix in the powder; make the pills of three grains each. Two of these pills to be taken occasionally three or four times a day.
- (11) W. L. R. asks: 1. What is the greatest perpendicular height that water can be raised with a suction pump? A. About 28 feet is all that can ordinarily be depended upon, 33 feet being about the ultimate limit. 2. How many cubic inches are there in one gallon, and is the American gallon or imperial gallon used for measuring capacity of tanks? A. A standard gallon U. S. = 231 cubic inches, and is equivalent to the old English wine gallon. The imperial gallon is not recognized in the United States. It is 277.274 cubic inches.
- (12) J. W. S. asks about how many tons of coal the Cunard steamer Umbria consumes per day. A. About 350 tons.
- (13) G. W. L. asks: 1. Is there any paint for buoys, so that they can be seen when dark A. You can try luminous paint. 2. What can I apply to a rope to keep it from rotting? A. Dissolve 1 pourd zinc sulphate in 40 gallons of water and t en add 1 pound of sal soda. After these ingredients are dissolved add 2 ounces of tartaric acid. Soak the rope in this solution for 24 hours, and then dry without wringing.
- (14) H. P. asks whether a steam horse power is equal to three actual horse power. A. The actual working power of a horse varies ver much. Experiments give from 1/8 to 3/4 of the assigned horse power of 33,000 pounds raised 1 foot per minute as the usual work of horses. Steam engines are counted according to the theoretical horse power, and frequently exceed their rating even on this basis.
- (15) W. M. S. asks: 1. How is steam carried between the cars for steam heating? A. By (2) P. G.—For metallic putty joints rubber hose, with a coupling made for steam pressure. 2. Does it freeze between the cars? A. No; it would
- (16) W. E. G. asks if there is any prothe hands, adding boiled lineced oil sufficient to make cess by which china and pottery of any description the bolts, hammering the flange all around to bring it as for glass, which you will find in Scientific Ameri-
- (17) C G B writes: I have gained many (3) A. W. M. asks the best method of valuable suggestions from your paper, and I thought wool or pulverized charcoal, and cover without nailing, about 2 inches wide. Cut out nicks. Any tinsmith will out each side and put in glass plates such as are used for (4) P. J. F. asks: How is the resinous butter plates or sauce plates. I had a friend who and foreign matter precipitated in alcoholic solution of painted mine in imitation of stained glass, and the effect is very beautiful when the light is placed inside. Then of magnesium carbonate and filtering. 2. How is solu- and punched little holes all round in a fancy design, lemons without the essence or oil floating on the sur-paid \$12 for my lamp, and all this lamp cost was one
- (18) W. H. D. asks how to emboss on silk with gold or silver leaf with a warm stamp with-(5) J. M. H.-For restoring the broken outstainingsilk. A. Dust the surface of the silk with teeth of a gear for the purpose of a pattern, we think | finely pulverized gamboge, through a sieve made by there is nothing cheaper or easier worked to the re-stretching the finest cambric over a short tube of paste-

quired form than plaster of Paris. Drill a few small board or tin. Heat the stamp and take up the gold or Cremator or apparatus for burning refuse, J. silver foil and press upon the surface. The silk should lie upon a hard cushion. Afterward dust off the loose

TO INVENTORS.

An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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October 18, 1887,

AND EACH BEARING THAT DATE.

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| İ | Dredger, A. K. Stone | |
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| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tage holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. | 871,902 871,903 871,606 871,729 871,817 871,576 371,766 371,674 371,568 371,789 371,634 371,753 10,874 871,784 |
| | Hay loading machine, M. H. Arnold et al | 871,902 871,903 871,606 871,729 871,817 871,576 371,766 371,674 371,568 371,789 371,634 371,753 10,874 871,784 |
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| | Hay loading machine, M. H. Arnold et al | 871,902 871,903 871,608 871,729 871,817 871,547 371,706 371,674 371,568 371,789 371,634 371,784 871,784 871,784 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tag holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Sta- tion indicator. Ingot for the manufacture of compound metallic | 871,902 871,903 871,608 871,729 871,817 871,547 371,664 371,568 371,684 371,789 371,634 371,784 871,784 871,784 871,784 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, mackine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Hoisting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tug holder. Telepbone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Station indicator. Ingot mould, S. R. Wilson. Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. | 871,902 871,903 871,698 571,729 871,817 871,573 371,706 371,568 371,568 371,789 371,634 371,753 10,874 571,789 871,896 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Trage holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indi- cator. Musical transposition indicator. Sta- tion indicator. Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. | 871,902 871,903 871,698 571,729 871,817 871,573 371,706 371,568 371,568 371,789 371,634 371,753 10,874 571,789 871,896 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, mackine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Hoisting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tug holder. Telepbone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Station indicator. Ingot mould, S. R. Wilson. Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. | 871,902 871,903 871,608 871,729 871,817 871,547 371,706 371,674 371,568 371,768 371,784 371,784 871,784 871,784 871,787 871,719 871,717 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Trage holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hub attaching device. A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Station indicator. Ingot mould, S. R. Wilson Ingot for the manufacture of compound metallet tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. Key, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. | 871,902 871,903 871,608 871,729 871,817 871,547 371,706 371,674 371,568 371,768 371,784 371,784 871,784 871,784 871,787 871,719 871,717 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tag holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indi- cator. Musical transposition indicator. Sta- tion indicator. Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. Key, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Knit fabric and knitting the same, widened tubu- lar, W. Esty. | 871,902 871,903 871,608 871,729 871,817 871,537 371,706 371,568 371,768 371,768 371,784 871,784 871,784 871,784 871,784 871,784 871,719 871,717 |
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| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tag holder. Telepbone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Station indicator. Ingot mould, S. R. Wilson Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. Key, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Knit fabric and knitting the same, widened tubular, W. Esty. Knit fabric, widened tubular, W. Esty. Knitting machine, W. Esty. Knitting machine, W. Esty. Knitting machines, yarn carrier for, W. Esty. | 871,902 871,903 871,608 871,729 871,817 871,537 371,706 371,568 371,763 371,763 371,763 371,784 871,784 871,784 871,787 871,717 871,717 871,717 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown | 871,902 871,903 871,608 871,729 871,817 871,547 871,568 871,766 871,568 871,768 871,634 871,784 871,784 871,784 871,787 871,717 871,717 871,717 871,566 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown | 871,902 871,903 871,608 871,729 871,817 871,547 871,568 871,766 871,568 871,768 871,634 871,784 871,784 871,784 871,787 871,717 871,717 871,717 871,566 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tag holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson. Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indi- cator. Musical transposition indicator. Sta- tion indicator. Ingot mould, S. R. Wilson. Ingot for the manufacture of compound metallic tubes, T. S. Very. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. Key, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Knit fabric and knitting the same, widened tubu- lar, W. Esty. Knitting machine, W. Esty | 871,902 871,903 871,608 871,729 871,817 871,547 371,568 371,568 371,769 371,634 371,634 371,634 371,784 871,784 871,784 871,784 871,717 871,717 871,717 871,824 371,565 871,566 871,566 871,567 871,568 871,568 871,568 871,568 871,569 871,570 |
| | Hay loading machine, M. H. Arnold et al. Head rest, E. T. Brown. Heel stiffeners, machine for forming, E. Andrews Hinge, telescopic bag stay, C. Reinisch. Hog ring, A. Decker. Holsting apparatus, dumping mechanism for, W. H. Ewing. Holder. See Horseshoe holder. Photographic plate holder Sash holder. Shade or globe holder. Tag holder. Telephone holder. Tool holder. Trace holder. Hook. See Picture hook. Snap hook. Horseshoe, A. W. Robertson Horseshoe holder, J. G. G. Schonthaler. Hose coupling, R. F. Gerald. Hub attaching device, A. F. C. Garbin (r). Hydrocarbon furnace, O. D. Orvis. Incrustation, preventing, W. B. Moore. Indicator. See Car indicator. Electrical indicator. Musical transposition indicator. Station indicator. Ingot mould, S. R. Wilson Ingot for the manufacture of compound metallic tubes, T. S. Very. Inkstand cap, J. A. Stege. Jack. See Wagon jack. Jar. See Fruit jar. Joint. See Railway foint. Key, G. B. Cowles. Keys and key blanks, making, G. B. Cowles. Knit fabric and knitting the same, widened tubular, W. Esty. Knit fabric and knitting the same, widened tubular, W. Esty. Knitting machines, yarn carrier for, W. Esty. Lamp burner, S. W. Lambertson. Lamp gallery, H. A. Walker Lamps, socket and key for incandescent, J. J. Fisher. Lantern, J. W. Murphy. Lantern tops, catch for hinged, F. Kaczerowski. | 871,902 871,903 871,608 871,729 871,817 871,537 371,664 371,568 371,769 371,634 371,784 871,784 871,784 871,784 871,717 871,717 871,717 871,717 871,824 871,865 871,566 871,567 871,567 871,568 871,568 871,569 871,569 871,569 871,570 871,570 871,570 871,870 871,894 871,894 871,894 871,894 871,894 871,894 871,894 871,894 871,894 871,894 871,896 871,570 871,570 871,570 871,896 871,896 |
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| Railways, horizontal curve construction for cable, H. M. Lane | Stove, heating, Mages & Garbutt |
| Railways, rail splice for, W. H. Hoffman 371,584 Ratchet drill, A. L. Stanford 371,858 | Type, W. W. Jackson 17,797 Type, font of printing, E. Lauschke 17,800, 17,801 |
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| • | Soidering tool, Wagandt & Hull | 371 BOR | |
| 6 | Spring. See Vehicle spring. | 011,000 | |
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| ٠, | Square, try, J. N. Draughon | 371 970 | |
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| | Street sweeping vehicle, T. Wright | 371,909 | |
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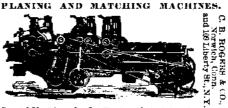
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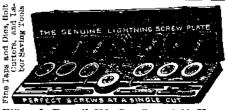
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