sense a manual of color making, but it will be value it would be to the profession to have a found most useful by those who are called upon to be undertaken.

By William Neubecker. New York: David Williams Company. 1903. 16mo. Pp. 31. Price 25 cents. 1903.

required to cover a given surface in flat, hipped, or irregular-shaped roofs.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY AS AN AID TO DIAGNOSIS AND AS A THERAPEUTIC AGENT. By Francis H. Williams, M.D. New Francis H. Williams, M.D. New York: The Macmillan Company. 1903. 8vo. Pp. 757. 428 illustrations. Price, \$6.

No discovery of modern times has made a us, the first edition being exhausted in three the half-tones of radiographs are well executed. to the physician, but to the physicist as well. task in a most acceptable manner.

of Wire Men and Students. By W. C. Clinton, B.Sc. New York: E. P. Dutton & Co. 16mo. Pp. 179. Price, 60 cents net.

This little book is intended as an introduction to the art of indoor electric wiring as practised template erecting buildings, enabling them to in the fitting up of private houses, stores, etc., with lamps and bell circuits. Worked examples have been given where possible. The book is intended specially for the use of those preparing for the preliminary examination of the systems in use by the Fire Underwriters for City and Guilds of London Institute. We have determining rates are very complicated and are already expressed our opinion of the English puzzling to the lay mind, but with the aid examination system in this column. The prac- of this book the principles which underlie the tice is, of course, English, but it will prove use- formation of a rate will be understood. The ful as well to the American student. We re- work also deals with fire prevention and exgret to note that the title page has no date. tinction, special features of manufacturing All scientific books should be properly dated. risks, the writing of policies, the adjustment

AN INTRODUCTION TO THE STUDY OF TEXTILE DESIGN. By Aldred F. Barker. New York: E. P. Dutton & Co. 1903. 8vo. Pp. 211. Price, \$2.50.

A most admirable book. The primary object of this work is to show clearly how the special knowledge required in the textile industries may be co-ordinated into a truly educational discipline. The numerous plates and deence of Cloth Construction is particularly valu- portant, which is not properly dealt with. able. It is a book which should be in the hands of all those connected with mills.

THE PRINCIPAL SPECIES OF WOOD. Characteristic Properties. By Charles tracions. Price, \$5.

Henry Snow, C.E., Sc.D. New York: The eighth edition has been rewritten and John Wiley & Sons. 1903. 8vo. Pp. enlarged, which was rendered necessary by the 203. Price, \$3.50.

the text. It is intended for those who are not be said in praise of this admirable book which foresters or botanists, but who use woods or de- is a standard text book for engineers and en sire knowledge of their distinguishing proper- gineering students. It deals with the entire ties, therefore it will appeal especially to en- range of hydraulics, taking in the flow of gineers, but all who have occasion to use woods will find it of great value. Under "Live Oak," for instance, we find that the author deals water supply and water power, water wheels with Nomenclature, Locality, Features of Tree, Color, Appearance or Grain of Wood, Structural Qualities of Wood, Representative Uses of Wood, Weight of Seasoned Wood in Pounds per Cubic Foot, Modulus of Elasticity, Modulus of Rupture, Remarks, Other woods are treated in a similar manner.

FOREIGN TRADE REQUIREMENTS. New York: Lewis, Scribner & Co. 1903. 4to. Pp. 532. Price. \$10.

treatise covering the principal features of that examine pigments as a guide to the selection branch of enginering pertaining to the imof those which are suitable and the rejection of provements of rivers. This branch comprises a those which as a class, or through individual great variety of works: Locks and Dams for inferiority are unsuitable for the class of work Canalization, Dikes and Jetties for Concentrating and Controlling Streams and Bank Pro-EASY LESSONS IN ROOF MEASUREMENTS. Storage Reservoirs for the Prevention of Inuntection in Regularization, Levee Building and dations, and Dredging and Snagging for Keeping Channels during Times of Low Water. The object of the work is to provide in concise form Twelve short lessons on figuring from archi- a description of the various systems employed tects' or scale drawings the amount of material for bettering the condition of navigable streams, together with the methods usually adopted for their design and execution. It is an admirable contribution to engineering literature.

> STORAGE BATTERY ENGINEERING. By Lamar Lyndon, B.E., M.E. New York: McGraw Publishing Company. 1903. 8vo. Pp. 382. Price, \$3.

The evident and long unfulfilled need of a practical work on the storage battery, par- signs of maturity; curing the crop; curing ticularly adapted for electrical engineers who sheds; weight of crop; wintering onions; adticularly adapted for electrical engineers who more profound sensation than the discovery of are not chemists, and on the details of its the Roentgen rays, and it is fortunate that in-, engineering applications, has induced the prestead of being a scientific plaything it has been paration of this work which is intended to put to practical use in the diagnosis of disease, assist the practising engineer in designing, and as a remedial agent. In two years there installing, and maintaining battery equiphave been three editions of the volume before ments and to guide him in the selection of types of batteries and auxiliary apparatus best months. The descriptions of the apparatus and suited to the service which they are to permethods employed are clear and concise, and form and at the same time to impress on the technical public both the advantages and limi-The subject is treated in a scholarly way and tation of the storage battery in practice. The the book is one which we commend not only author has performed an extremely difficult

ELECTRIC WIRING. A Primer for the Use FIRE INSURANCE AND HOW TO BUILD. By Baker & Taylor Company. 1903. 8vo. Pp. 860. Price, \$5.

> It will prove a convenient book for architects, builders, and property owners who conmake inexpensive structural alterations which would secure lower insurance rates and save the burden of a lifelong insurance tax. The idea and plan of this book are excellent. The

> MODERN MEXICO'S STANDARD GUIDE TO THE CITY OF MEXICO AND VICINITY. Published by Robert S. Barrett. Published by "Modern Mexico," the City of Mexico and New York. 1902-3. 8vo. Pp. 186, profusely illustrated. Price, 50 cents.

An admirable guide which should prove in sign sheets are admirably engraved and printed dispensable to all tourists. The illustrations and the diagrams showing the principles upon are happily chosen, the plates have been well which textile machinery is based are the best; executed, and the printing is excellent. There we have ever seen. The chapter on the Sci- is not a feature of the city, important or unim-

TREATISE ON HYDRAULICS. By Mansfield Merriman. New York: J. Wiley & Sons. 1903. 8vo. Pp. 585. 192 illus-

many advances which have been made in hy-An excellent book, admirably illustrated by draulics since 1889, when the first edition of thirty-nine full-page plates and many figures in this treatise was issued. Too much cannot waters through orifices, tubes, pipes, and over weirs. It also deals with the flow of rivers, turbines, naval hydromechanics, and pumps and pumping.

> EXPERIMENTS ON THE FLEXURE OF BEAMS Resulting in the Discovery of New Laws of Failure by Buckling. By Albert E. Guy. New York: D. Van Nostrand Company. 1902. 12mo. Pp. 122. Price, \$1.25.

The study of the failure of beams by the 4to. Pp. 532. Price, \$10. buckling of the compression side has been This reference volume, which is published anstrangely neglected and now that it has been nually, contains complete information concernitaken up it proves to be the central fact ing the commercial countries of the world as and key to the entire subject when looked at to trade conditions, traveling salesmen, agencies, in the broadest sense. The analogy of the 

climatology in English-speaking countries. The work is a very important one, and this new edition is an excellent contribution to the literature of meteorology.

THE NEW ONION CULTURE. By T. Greinier. New York: Orange Judd Company. 1903. 16mo. Pp. 114. Price, 50 cents.

A complete guide in growing onions with the greatest profit, explaining the whys and wherefores. Clear and minute directions are given of how the plants are grown; the cold frame; seed bed; planting; fire hotbed, hotbeds heated by steam; cheap greenhouse for market gardeners; greenhouse heated by hot water; quantity of seed required; time of sowing; varieties; what soil to select; how to manure and prepare it; onions on muck soil; clean soil essential; how the plants are set in the ground; tillage as moisture preserver and weed killer; tools of tillage; when and how to harvest the crop; danger in delay; vantages and profits of the new way; estimation of cost and returns.

THE RESISTANCE AND POWER OF STEAM-SHIPS. By W. H. Atherton, M.Sc., and A. L. Mellanby, M.Sc. Manches-ter: The Technical Publishing Company, Ltd. 1903. 16mo. Pp. 200. Price, \$2.

Almost all the recognized methods of determining the engine power required to propel steamships are discussed in considerable detail, and examples of their application given. The subject of the fouling of ships has also been dealt with fully, because of its important Francis C. Moore. New York: The influence on the actual resistance of seagoing ships. The book will appeal to marine engineers and shipbuilders, and, in fact, to all who are interested in watching the development of steamships.

> A HAND BOOK ON THE STEAM ENGINE. With Special Reference to Small and Medium-Sized Engines. By Herman Haeder, C.E. Translated by H. J. P. Powles. London: Crosby Lockwood & Co. New York: D. Van Nostrand Company. 12mo. Pp. 458. 1,085 illustrations. Price, \$3.

> The present volume is profusely illustrated by very helpful engravings, and the number of tables is surprisingly large. The best Continental practice is given. The book shows the results of practical experience of engineers.

> TECHNICAL MYCOLOGY. The Utilization of Micro-organisms in the Arts and Manufactures. By Dr. Franz Lafar. Vol. II. Eumycetic Fermentation.
> Part I. London: Charles Griffin &
> Co., Ltd. Philadelphia: J. B. Lippincott Company. 1903. 8vo. Pp. 189. Price, \$4.

> A practical handbook on fermentation and fermented process for the use of brewers and distillers, analysts, technical and agricultural chemists, pharmacists, and all interested in the industries dependent on fermentation. The first volume dealt with Schizomycetic Fer-

> THE UTILITY OF AN ACADEMIC OR CLASSIC-AL EDUCATION FOR YOUNG MEN WHO HAVE TO EARN THEIR OWN LIVING AND WHO EXPECT TO PURSUE A COM-MERCIAL LIFE. An Investigation. By R. T. Crane. Chicago. 1903. 16mo. Pp. 109.

> SIMPLE SCIENTIFIC EXPERIMENTS. Aurel de Ratti. London: Dawbarn & Ward, Ltd. 1903, 16mo, Pp. 69. Price, 20 cents.

> INFORTUNI SUL LAVORO. MEZZI TECNICI PER PREVENIRLI. By Effren Magrini. Milan: Ulrico Hoepli. 1903. 16mo. Pp. 251. Price, 75 cents.

### INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending July 28, 1903,

AND EACH BEARING THAT DATE. | | See note at end of list about copies of these patents. |

at the three has we hely the connect the two by a formula. The benefit of the American exporter, the demand for it from England and Germany has been large, and this proves that the manufacturers of these countries are keenly alive to the extension of their foreign business. The work has been conscientiously done, and the book cannot but prove of great value.

The Improvements of Rivers. By E. Thomas and B. A. Watt. New York:

John Wiley & Sons. 1993. 4to. Pp. 35.6. 92 full-page and folding plates.

The second title is "A Treatise on the Methods Employed for Improving Streams for Open Navigation and for Navigation and for Navigation and for Navigation by Means of Locks and Dams." This is the first work of lick kind published in the English language, although engineers have long recognized the support of the extension of the teaching of scientific manner of the subtent to by a formula for long columns is, in fact, the full earth floxids, making playingtor of subtlings, paparatus for supplying cool, A. Slebert columnation of the provisite state of the whole subject.

Edictric hattery, H. Halsey. 734,480 for Scientific motor controlling means, R. Lundell 734,625 for wagon, P. Wallenstein of turning down spineles for wagon, P. Wallenstein of turnin

ı	Beer, apparatus for converting wort into,	
	Beer, apparatus for converting wort into, C. Spindler	734,985 734,519
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l	Blatsdell.  Bit. See Drill bit. Boiler tube cleaner, C. B. Risley Boiling or other machines, feeding device for, R. A. Stubbs Book trimming machine, Lowell & Williamson	734,613
l	Bolting or other machines, feeding device for. R. A. Stubbs	734,631
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l	Bookcase, sectional, A. J. Gilmour	734,537 734,825
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ļ	Bottle cap, H. D. Jones	734,754 734,561 734,545
i	Bottle filling machine, W. E. Brown	734,809
	Bottle, non-refiliable, F. Jost	734,881 734,924
i	R. W. McGowan	734,929
i	Box, A. Bauer Bracket, H. G. Voight	735,013 734,780
İ	Bracket holder, G. F. Price Brake head, J. J. Kinzer	734,948 734,568
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•	Brick or article, refractory, F. J. Tone Broom attachment, I. P. Kilgore	735,022 734.887
į	Bottle, non-refillable, I. Morgenroth. Bottle unstoppering device, aerated water, R. W. McGowan.  Bracket, H. G. Voight.  Bracket holder, G. F. Price.  Brake head, J. J. Kinzer.  Brake retainer, automatic driver, Hamilton & Holmes  Brake shoe, J. J. Kinzer.  Brake shoe, J. B. Perry.  Brick or article, refractory, F. J. Tone.  Broom attachment, I. P. Kilgore.  Broush pokers, machine for placing material in, C. W. Smith.  Brush, fountain, G. C. Madison.  Buckle, H. Engelman.  Burglar alarm, electric, S. Schwarzschild.  Burner globe holder, G. F. Klemm.  Butter molding machine, A. C. Dodge.  Buttonhole cutting and stitching machine,  E. B. Allen.  Camera stand, J. H. Smith.  Camera stand, J. H. Smith.  Can body making machine, E. Zeh.  Cannon, W. H. Vivian.  Car, bathing, H. Lemmermann.  Car and car truck bolster, Bush & Mc-  Cormick.  Car and car truck bolster, S. P. Bush.	734.625
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l	Burglar alarm, electric, S. Schwarzschild Burner globe holder, G. F. Klemm	734,967 734,569
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	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,793 734,554 734,984
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	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,554 734,984 734,674 734,957 734,860 734,876 734,833 734,502
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,793 734,554 734,984 734,622 734,957 734,860 734,876 734,733 734,502 734,505
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert. Clamp, E. J. Herbert. Clock, self winding electric, C. M. Crook. Clothes dricr, R. Shull. Clothes pin machinery, R. Richardi. Clothes pounder, S. Harper. Cluster switch, H. Hubbell. Clutch, J. H. Moss. Clutch, cone, A. C. Krebs. Clutch, planter, W. L. Beall. Cock, gas, G. A. Brachhausen. Coin holder, A. G. Bowen. Coke receiver and loader, J. M. McClellon. Collar turning and dampening device, C. C.	735,010 734,535 734,688 734,905 734,793 734,554 734,984 734,97 734,860 734,97 734,87 734,87 734,893 734,505 734,505 734,505 734,506 734,502
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert. Clamp, E. J. Herbert. Clock, self winding electric, C. M. Crook. Clothes dricr, R. Shull. Clothes pin machinery, R. Richardi. Clothes pounder, S. Harper. Clutch, Jonney, S. Harper. Clutch, J. H. Moss. Clutch, cone, A. C. Krebs. Clutch, planter, W. L. Beall. Cock, gas, G. A. Brachhausen. Coin holder, A. G. Bowen. Coin holder, A. G. Bowen. Collar turning and dampening device, C. C. Gridley Combing machine, C. F. Ainsworth and S.	735,010 734,535 734,688 734,993 734,554 734,984 734,967 734,860 734,876 734,876 734,502 734,502 734,502 734,502 734,592
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,793 734,554 734,984 734,674 734,860 734,873 734,502 734,505 734,505 734,505 734,505 734,505
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,993 734,554 734,984 734,967 734,860 734,876 734,876 734,502 734,502 734,502 734,502 734,592
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,793 734,984 734,674 734,674 734,674 734,893 734,502 734,893 734,502 734,502 734,502 734,502 734,502 734,502 734,552 734,552
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,876 734,652 734,652 734,565 734,576 734,687 734,687
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
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	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
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	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,795 734,795 734,795 734,893 734,893 734,502 734,505 734,806 734,806 734,852 734,562 734,562 734,576 734,536 734,536 734,536
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,984 734,984 734,984 734,984 734,876 734,893 734,893 734,893 734,505 734,505 734,505 734,505 734,507 734,893 734,652 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,505 734,507 734,707 734,707 734,707 734,707
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,965 734,787 734,898 734,984 734,984 734,876 734,876 734,893 734,893 734,893 734,506 734,576 734,776 734,782 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766 734,766
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,784 734,687 734,687 734,687 734,687 734,867 734,876 734,876 734,876 734,505 734,505 734,505 734,505 734,506 734,537 734,687 734,536 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688 734,688
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,905 734,785 734,785 734,867 734,867 734,867 734,867 734,867 734,867 734,867 734,505 734,505 734,505 734,505 734,536 734,638
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,984 734,984 734,984 734,984 734,893 734,893 734,893 734,893 734,505 734,506 734,506 734,507 734,893 734,652 734,506 734,507 734,893 734,652 734,506 734,507 734,652 734,506 734,507 734,507 734,657 734,657 734,507 734,507 734,657 734,507 734,657
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,984 734,984 734,984 734,984 734,893 734,893 734,893 734,893 734,505 734,506 734,506 734,507 734,893 734,652 734,506 734,507 734,893 734,652 734,506 734,507 734,652 734,506 734,507 734,507 734,657 734,657 734,507 734,507 734,657 734,507 734,657
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,984 734,984 734,984 734,984 734,893 734,893 734,893 734,893 734,505 734,506 734,506 734,507 734,893 734,652 734,506 734,507 734,893 734,652 734,506 734,507 734,652 734,506 734,507 734,507 734,657 734,657 734,507 734,507 734,657 734,507 734,657
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,536 734,688 734,984 734,984 734,984 734,893 734,893 734,893 734,893 734,554 734,652 734,565 734,576 734,576 734,576 734,576 734,576 734,576 734,576 734,577 734,688 734,686 734,789 734,686 734,789 734,686 734,789 734,686 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,887 734,887 734,887 734,887 734,887 734,887 734,887
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,536 734,688 734,984 734,984 734,984 734,893 734,893 734,893 734,893 734,554 734,652 734,565 734,576 734,576 734,576 734,576 734,576 734,576 734,576 734,577 734,688 734,686 734,789 734,686 734,789 734,686 734,789 734,686 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,886 734,887 734,887 734,887 734,887 734,887 734,887 734,887
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,536 734,688 734,984 734,984 734,984 734,984 734,876 734,893 734,893 734,893 734,506 734,576 734,893 734,506 734,576 734,506 734,576 734,506 734,57
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Cilamp, E. J. Herbert	735,010 734,535 734,688 734,965 734,783 734,554 734,884 734,887 734,893 734,893 734,893 734,554 734,556 734,576 734,576 734,576 734,576 734,576 734,577 734,652 734,576 734,576 734,577 734,652 734,576 734,577 734,653
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,535 734,688 734,965 734,783 734,554 734,884 734,887 734,893 734,893 734,893 734,554 734,556 734,576 734,576 734,576 734,576 734,576 734,577 734,652 734,576 734,576 734,577 734,652 734,576 734,577 734,653
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Circuit controller, W. W. Alexander. Clamp, E. J. Herbert	735,010 734,536 734,688 734,905 734,1688 734,1965 734,1866 734,1876
	Cigar cutter and mirror, Farley & Ballasch. Circuit closer, Long & Cofran. Circuit controller, W. W. Alexander. Cilamp, E. J. Herbert	735,010 734,536 734,688 734,965 734,783 734,554 734,898 734,622 734,876 734,893 734,893 734,893 734,556 734,576 734,576 734,576 734,576 734,576 734,577 734,652 734,576 734,577 734,652 734,576 734,577 734,652 734,577 734,653 734,655 734,762 734,655 734,762 734,655 734,762 734,655 734,762 734,655 734,763 734,655 734,763 734,655 734,763 734,655 734,763 734,655 734,763 734,655 734,763 734,655 734,763 734,655 734,763

Fence wire ratchet or tightener, Willmarth & Barnes	735,026
Fiber from leaves, machine for extracting, A. Parres	734.936
Filtering plates at apparatus for trans-	734,996 734,890
Fire alarm mechanism. Long & Cofran	734,898 734,906 734,605
Fireproof casing for elevator shafts, J. J.	734,602
Fishing reel brake mechanism Shakesneare	734,959 734,870
Fishing reel brake mechanism, Shakespeare & Marhoff	734,972 734,544
Floor, armored concrete, R. M. McDowall. Flour mill gearing attachment, Jorgensen	735,002 734,593
& Palmer  Flue cleaner, R. S. & C. M. Ruggles  Fluid extracting press, W. C. Marshall  Flushing device, drain pipe, J. H. Doyle  Flushing drain pipes, means for, J. H. Doyle  Fly paper holder, L. B. Truslow  Folding and creasing device H. R. Plimper	734,880 734,617 734,917
Flushing device, drain pipe, J. H. Doyle Flushing drain pipes, means for, J. H. Doyle	734,682 734,520
ton 2d	734,636 734,943
ton, 2d Foot, artificial, W. F. Mumberg Fountain, G. W. Hawes Fountain comb, J. R. Harrison	734,926 735,017 734,704
Frying fish. etc., means or apparatus for,	734,721
L. H. Stocks	734,630 734,743 734,626
A. Paul Fuel saving apparatus, C. Smith Fumes from ores, apparatus for producing	734,626 734,844
Fumes from ores, apparatus for producing and depositing, W. W. Fyfe	734,818 734,671
L. C. Scrymser	734,969
Gage. See Micrometer gage.	734,697
Gage. See Micrometer gage. Galvanic battery, R. Halsey Galvanic battery, D. L. Winters Game, W. A. Justice Game apparatus, F. C. Ring Game apparatus, F. E. Hunt Garment supporter, M. Bew Gas burner automatic cut off, L. F. Ducker	734,546 734,646 734,883 734.752
Game apparatus, F. C. Ring	734,752 734,877 734,504
Gas burner automatic cut off, L. F. Ducker Gas burners, attachment for Welsbach or	734,521
Garment supporter, M. Bew	734,668 735,035 734,986
Gas generator, acetylene, F. K. Roberts Gas generator, acetylene, H. A. F. B. H. Tonnies	734,616 734,634
Gas shut off, automatic, J. L. L. Krook Gaskets and applying them to sealing caps.	334,718
machines for forming, L. M. Keizer Gearing for lathes, etc., change speed, H. L. Flather	734,564 734,691
Ginning apparatus, J. T. Fuller	734,696 <sub>1</sub> 734,976 <sup>1</sup>
Gold from sea water, obtaining, J. F. Duke Governor, J. W. Neil	734,683 734,737
Grain cradle, J. C. Counts	735,029 734,672
Smith Grain separator and grader, B. F. Smith Grinding machine, P. A. Whitney Grinding machine, automatic, A. B. Landis Grinding machine, tool, J. S. Bancroft	734,983 734,761
Grinding machine, automatic, A. B. Landis Grinding machine, tool, J. S. Bancroft	734,643 734,897 734,799
Hammers for tinners' use, A. T. Nelson.	734,903 734,738
Hammers, throttle valve lock for pneumatic, C. H. Haeseler	734,700 734,528 734,507
Harvester, corn, R. B. Robbins	734,614 734,800
Hat machine, A. A. Whitney	734,642
C. C. G. Wolpers.  Hay carrier, elevated, S. Jacobs, reissue.  Heating apparatus, T. J. March.  Heating apparatus, T. H. Mayo.  Helx, electrical, R. Varley.  Hinge, awning, H. W. Hale.  Hinge shoe, T. Tribe.  Hook and eye, Utley & Newman.  Hopper, N. F. Palmer.  Horse grooming and shampooing machine,  A. & P. Bolund.	12,135 734,728 734,584
Helix, electrical, R. Varley	734,702
Hinge shoe, T. Tribe	734,635 734,777 734,740
	734,805
Hydrocarpons, treating mineral liquia, C. Hornbostel Lee making machine, H. G. Randall Igniters, manufacture of electric, De Dion & Bouton Lignition generator, electric, B. P. Remy. Incandescent burner can and mantle support.	734,710 734,748
Igniters, manufacture of electric, De Dion & Bouton	734,015 734,955
Ignition generator, electric, B. F. Remy. Incandescent burner cap and mantle support, T. R. Barnes Inking roller, H. M. Parham. Ironing board, J. A. Pierce. Ironing shirt bosoms, D. H. Benjamin. Journal bearing, I. Metzger. Knife. See Paring knife	734,656
Ironing shirt bosoms, D. H. Benjamin	734,656 734,741 734,941 734,503
Journal bearing, I. Metzger Knife. See Paring knife. Lace tipping machine, shoe. S. C. Shepard	134,923
Lace tipping machine, shoe, S. C. Shepard Lacing hook or stud setting machine, W. J. Coombs	104,040
Coombs Lamp, carbureting, W. S. Strowger Lamp cluster center, incandescent, H. Hubbell	734,772 734,875
Lamp cluster center, incandescent, H. Hubbell Lamp, electric arc, F. W. Gore. Lamp extinguisher, Nieto y Abelle & Gual y S. Juan. Lamps, machine for scaling incandescent, McBerty & Loveridge. Land roller, E. O. Lean. Lathe attachment, C. E. Brown. Leathe, roll turning, J. Thomas. Launch cover, Collamore & Kerst. Lead peroxid, manufacture of, E. Quendenfeldt Leaf support, automatic hinged, Schuehle	734,699 734,931
Lamps, machine for sealing incandescent, McBerty & Loveridge	734,734 734,900
Lathe attachment, C. E. BrownLathe, roll turning, J. Thomas	734,808 734,997
Launch cover, Collamore & Kerst Lead peroxid, manufacture of, E. Quenden- foldt	734,516 734,950
Lead peroxia, manufacture of, E. Quencenfeldt Leaf support, automatic hinged, Schuehle & Horn Leather cutting machine, sole, G. D. Clapp Leg, adjustable metal, J. Caesar. Letter opener, I. Minnich Linotype machine, Poe & Scharf. Linotype or other type casting machine, spacebar for, P. F. Jones. Liquid fuel burner, J. W. Neumann. Liquid separator, centrifugal, J. Melotte. Liquors, manufacture of fermented. J. Sch	734,757
Leather cutting machine, sole, G. D. Clapp Leg, adjustable metal, J. Caesar Letter opener. I. Minnich	734,819 734,509 734,590
Linotype machine, Poe & Scharf Linotype or other type casting machine,	734,590 734,746
Liquid fuel burner, J. W. Neumann	734,879 734,930 734,585
Diquid Separator, Centrifugar, S. Melotte	
Liquors, manufacture of fermented, J. Schneible Loading device. vehicle. Miner & Fitch	734,756 734,589
Liquors, manufacture of fermented, J. Schneible Loading device, vehicle, Miner & Fitch Lock Green & Carpenter Lock and latch hub, N. W. Crandall Lock matter being W. I. Littander.	734,756 734,589 734,541 734,824
Liquors, manufacture of fermented, J. Schneible Loading device, vehicle, Miner & Fitch. Lock, Green & Carpenter. Lock and latch hub, N. W. Crandall. Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper.	734,756 734,589 734,541 734,824 735,037 734,767
Liquors, manufacture of fermented, J. Schneible Loading device, vehicle, Miner & Fitch. Lock, Green & Carpenter. Lock and latch hub, N. W. Crandall. Loom pattern chain, W. J. Lutton. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean. Marking machine, E. M. Schantz. Massage apparatus, J. A. Reade, Jr	734,756 734,589 734,541 734,824 735,037 734,767 734,834 734,677 734,755 734,952
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr Measure, optician's, S. B. Millard. Measuring coal. etc. apparatus for. B.	734,756 734,589 734,541 734,824 735,037 734,767 734,834 734,677 734,755 734,952 734,730
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Leille Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T.	734,756 734,589 734,541 734,824 735,037 734,767 734,767 734,755 734,952 734,730
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper Lug, loose, M. Dean Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Leślie Mechanical instrument, L. Frechette Metals bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic	734,756 734,589 734,541 734,824 735,037 734,767 734,834 734,755 734,952 734,730 734,694 734,795
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, C. W. Stafford. Loom shedding mechanism, C. W. Stafford. Lug, loose, M. Dean Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Leslie Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Bur-	734,756 734,541 734,541 734,824 735,037 734,834 734,755 734,755 734,730 734,730 734,795
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, C. W. Stafford. Loom shedding mechanism, C. W. Stafford. Lug, loose, M. Dean Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Leslie Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Bur-	734,756 734,541 734,541 734,824 735,037 734,834 734,755 734,755 734,730 734,730 734,795
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter. Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean. Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Lefile Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Burwell Micrometer gage, F. O. Wells. Microscope, Bausch & Hommel. Milk tester, G. M. Luther. Milling and boring machine, combined, A. B. Snowden Moistening and sealing device, envelope, A.	734,756 734,581 734,551 734,551 734,824 735,037 734,823 734,677 734,755 734,901 734,901 734,786 734,786 734,786 734,786 734,786
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean. Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Lefile Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Burwell Microscope, Bausch & Hommel Milling and boring machine, combined, A. B. Snowden Moistening and sealing device, envelope, A. & B. Goldstein. Mower or reaper cutting apparatus, E. A.	734,756 734,589 734,541 734,824 735,937 734,834 734,952 734,952 734,961 734,796 734,796 734,796 734,796 734,796 734,796 734,796 734,796
neible Loading device, vehicle, Miner & Fitch Lock, Green & Carpenter. Lock and latch hub, N. W. Crandall Loom pattern chain, W. J. Lutton Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean. Marking machine, E. M. Schantz Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard Measuring coal, etc., apparatus for, B. Leslie Mechanical instrument, L. Frechette Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Bur- well Micrometer gage, F. O. Wells Micrometer gage, F. O. Wells Microscope, Bausch & Hommel. Milk tester, G. M. Luther. Milling and boring machine, combined, A. B. Snowden Moistening and sealing device, envelope, A. & B. Goldstein. Mower or reaper cutting apparatus, E. A. Johnston	734,756 734,589 734,589 734,541 735,937 734,834 734,952 734,736 734,795 734,795 734,795 734,795 734,795 734,725 734,725 734,856
neible Loading device, vehicle, Miner & Fitch. Lock, Green & Carpenter. Lock and latch hub, N. W. Crandall. Loom pattern chain, W. J. Lutton. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, G. W. Stafford. Loom shedding mechanism, C. H. Draper. Lug, loose, M. Dean. Marking machine, E. M. Schantz. Massage apparatus, J. A. Reade, Jr. Measure, optician's, S. B. Millard. Measuring coal, etc., apparatus for, B. Leslie Mechanical instrument, L. Frechette. Metal bars into sheets, reducing hot, T. V. Allis Metals from their compounds, electrolytic apparatus for recovering, Baker & Bur- well Micrometer gage, F. O. Wells. Microscope, Bausch & Hommel. Milk tester, G. M. Luther. Milling and boring machine, combined, A. B. Snowden Moistening and sealing device, envelope, A. & B. Goldstein. Mower or reaper cutting apparatus, E. A. Johnston Muffler, J. G. Heaslet. Muffler, rexhaust, C. C. Hill. Muffler, roll P. W. Peir.	734,756 734,589 734,541 734,824 735,937 734,736 734,952 734,736 734,796 734,796 734,796 734,796 734,74 734,74 734,74 734,86 734,87 734,86 734,74 734,86 734,74 734,86 734,74 734,86 734,74 734,86 734,74 734,86
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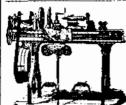
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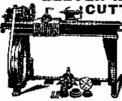


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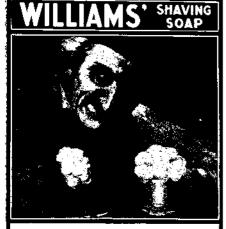


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	Toilet preparation, certain named, O. F.	,
	Woodward	40,818
	Typewriter and stamping ribbons, Indeliba	,0_0
	Manufacturing Company	40,817
	Manufacturing Company	,
i	Typewriter Company	40,834
۱	Washing compounds, J. Pvle & Sons	40,823
Į	Washing compounds, J. Pyle & Sons Washing machines, Benbow-Brammer Manu-	
į	facturing Company	40,833
۱	Watches, C. F. York	40,811
	Water supply tanks. Staples Valve Co	40.839
	Supply summe, Supples tarte Committee	- 0,000
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# LABELS.

' 1	"Baker's Pure Extract Vanilla," for ex-	
. [	tract vanilla, Baker Extract Co "Circle 'A' Brand," for ginger ale, Artesian	10,203
1	"Circle 'A' Brand," for ginger ale, Artesian	
٠.	Manufacturing & Bottling Co	10,202
٠.	"Clark's Absorbent Odorless Dress Shield,"	
1	for dress shields, J. H. Clark	10,201
٠.	"Dr. James English Cooling Powders," for	
Г :	powders, Dr. James English Cooling Pow-	
	ter & Remety Co	10,205
	"Mexican Disinfectant, Deodorizer & Germ-	
	icide," for disinfectant, deodorizer, and	
•	germicite, Mexican Disinfectant Co	
-	"Mister Skeeter, ' for a preparation to keep	
	away mosquitoes, P. C. Bilisoly	10,207
	"True Heart," for spirituous liquors, W. J.	
	Smith Co	10,204

## PRINTS.

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Grat	z				<u>.</u>	795
"Prussia	n Stock F	'ood,''	for sto	ck food,	Prus-	=00
sian	, Remedy	C0	E Donte		• • • • •	790
80-lan,	Ior a g	аше,	E. Dente	и		194

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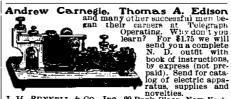


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