to hold sheets of any standard dimensions is provided.

BOTTLE .- A. FRIEDMANN, Shreveport, La. In this case the object of the invention is the provision of a new and improved bottle of novel features and parts adapted to be readily destroyed when emptied of its contents, to prevent reuse of the bottle by any unauthorized and unscrupulous persons.

WINDOW-SCREEN.-W. A. CASSIDY, Fort Worth, Texas. The object of the invention in this instance is the provision of novel details of construction for a screen, that afford means for the escape of insects, prevent their free; entrance, and also provide novel means for slidably connecting the screen with the casement of a window in a superior manner.

MEANS FOR REMOVING SAND-BARS. E. H. Allman, Mobile, Ala. The apparatus is adapted for use in removing sand-bars beneath the water where there is a sufficient current to wash away the sand loosened by the apparatus. A series of plows are employed for furrowing the sand, the same attached to beams cally in a framework secured to a scow or other floats and projecting beyond the bow and adjusted and supported by special mechanism. a clear ornamental field. It is also adapted for use in finding and removing torpedo cables or conductors.

DIE FOR PRODUCING ARTICLES FROM PLASTIC MATERIALS .-- L. STEINBERGER, New York, N. Y. The object in this improvement is to produce by molding perforated in sulating-strips having both vertical and slanting holes in an efficient manner and to obtain a positive uniformity in location of holes and their given diameters. Vertical holes are adapted for receiving fastening devices, slanting holes are intended for receiving wires or cables. The insulating-strip is attached to the cable-box in a manner to prevent rain or moisture entering the box.

HANGER.-G. NISSENSON, New York, N. Y. This hanger is intended for supporting pipes, electric wires, electric lamps, and the like from ceilings and other supports in buildings. The object of the invention is to provide a hanger very ornamental in appearance, and arranged for convenient attachment to the supporting structure such as iron and wooden floor-beams. The device may be used as a junction-box for electric connections.

DENTAL-PLATE MOLD .- O. E. DRISCOLL, Charlottesville, Va. In the present instance he invention is in the nature of a mold to be used in molding plates for artificial teeth after the impression has been taken. It consists of a palate portion made in two sections of metal fitting together, the inner section of which is made one of an interchangeable series, each having an arch of different beight to be selected and used according to the shape of the particular impression.

CONVEYER .- J. G. DELANEY, New York, N. Y. The invention has reference to an improvement in hoisting and conveying devices. The device is applied to a conveyer in which a cable is used as the trackway, although the invention may be applied to any form of hoisting and conveying apparatus in which a carriage is employed running upon a trackway, whether that way be a cable or other flexible member or is composed of rigid bars or beams.

HOISTING AND CONVEYING DEVICE .-J. G. DELANEY, New York, N. Y. This improvement is applied to a cableway, although it may be employed as well in connection with any form of tramway. The draft of the hoisting-chain is always kept in a direct line beneath the trackway rope and there is no side strain tending to pull the chain off the wheel. Draft is always central, the power constant. A chain of sufficient length brings in loads from great distances on either side of the line of cableway, thus increasing its efficiency. The guide rollers each side of the chain are not needed after the chain becomes strained, as then the carriage swings so that the draft is central.

SPOOL HOLDER AND CASE.-M. MAAS and F. RICAUD, Baton Rouge, La. The purpose of the invention is the provision of a compact case for receiving, holding, and protecting spools or reels of ribbon, tape, or like material, he body of the case being revoluble upon its support, and also to provide a perfect system for automatically measuring the material as it s drawn out from the case through suitable openings therein.

OBSERVATION-WHEEL.—D. W. BLAIR, Perth Amboy, N. J. Mr. Blair's invention re-'ates to observation-wheels, his more particuar object being to produce such a type of wheel as will afford amusement and recreation Passengers going forward only a few yards: Inquiry No. 5278.—For a machine for stamping or imprinting names on pencils.

Passengers going forward only a few yards: Inquiry No. 5279.—For makers of anhydrous and will have the sensation of traversing a great aqua ammonia, also machinery for making the same. distance, the device thus acting to some extent as an illusion apparatus.

object in this instance is to provide a reed paper for making cigarettes. horn or trumpet the tone of which may be regulated at will. It has been sought to attain this by providing a reed-adjusting member chine for grinding or cutting "spermaceti,"

drying. The invention is applicable in various attached to the reed and projecting beyond other arts, as will be apparent to skilled me- the reed-box, so that the member may be chanics. The improvements reside in features grasped and the reed manipulated according of the construction by which a rack of large to the tone desired. Mr. Gebert provides a capacity compared to its size and adjustable born in which this regulation of the reed may be effected by the tongue and lips whereby a much more delicate action is attained and a neat, compact instrument provided.

> DESK.-O. C. DORNEY, Allentown, Pa. Mr. Dorney's invention pertains to improvements in desks designed to be used in school-rooms, libraries or the like; and the object is to provide a desk of simple construction that may be readily and quickly adjusted as to height and baving all conveniences for a person in reading, writing or study.

KNOCKDOWN CHAIR.-E. BEHN, New York, N. Y. In this patent the improvement refers to chairs or seats that have detachable legs, and has for its object to provide novel details of construction for a chair which affords means for the quick and convenient detachment of the legs from the seat of the chair and for securing them thereto in a reliable manner when the chair is to be set up for

#### Designs.

DESIGN FOR HAMMOCK-CLOTH.-D. W. which are pendent from and adjustable verti- Shover, New York, N. Y. The design in this case is intended to produce an attractive effect by running bands mainly of checker-board stern. The framework is peculiarly construct, pattern across parallel cords. The plain and ed and arranged, and the plow-standards are other bands are irregularly spaced and present

> Note.-Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

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Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 5. 61. For machinery for the manufacture of hard-wood round, double-pointed tooth picks.

AUTOS.-Duryea Power Co., Reading, Pa.

Inquiry No. 5262. - For makers of sand-lime brick machinery, also makers of Corless engines.

For logging engines. J. S. Mundy, Newark, N. J. Inquiry No. 5263.—For a machine for renovating feathers.

"U. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 5264.—For dealers in black diamonds for dressing emery wheels.

Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St. Chagrin Falls, ..

Inquiry No. 5265.-For dealers in machinery for making butter tubs. Sawmill machinery and outfits manufactured by the

Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 5266.—For manufacturers of machinery and outfits for canning factories.

FOR SALE.-Patent No. 745.090. Letter-opening machine. Can be seen in use. H. C. Zenke, 316 State St., | ries the outgoing current, and how may this be Brooklyn, New York.

Send for new and complete catalogue of Scientific

and other Books for sale by Munn & Co., 361 Broadway New York. Free on application Inquiry No. 5268.-For makers of compressed paper articles.

The largest manufacturer in the world of merry-go rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan. Inquiry No. 5269.—For machinery for making line.

The celebrated "Hornsby-Akroyd" Patent Safety Oil

Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street. New York. Inquiry No. 5270.-For manufacturers of mills.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 5271.—For soap-making machinery and outfits.

In buying or selling patents money may be saved and time gained by writing Chas. A Scott 705 Granite Building, Rochester, New York. Highest references,

FOR SALE.-Canadian patent on garment fasteners The most advantageous metnod of holding ladies skirts, shirt-waists and belts, or supporting men's Inexpensive to manufacture. G. Schmitt. Monongahela Club Pittsburg, Pa.

Inquiry No. 5273.—For the manufacturers of the "Ecco" dry batteries and searchlights.

Inquiry No. 5274.—For a traction engine of about 10 h. p., suitable for climbing steep grades.

Inquiry No. 5275.—For makers of gutta percha novelties, and chased or corrugated soft rubber tubes. Inquiry No. 5276.—For a machine for separating field peas from pea rims. Inquiry No. 5277.-For a steel wheel with U-iron apokes.

Inquiry No. 5280.—For builders of canoes or pleasure boats.

HORN.—W. Gebert, Trenton, N. J. The for slicing, pulping and grating Cassava roots.



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.

nyers wishing to purchase any article not adver-tised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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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.

(9326) J. F. S. says: I have been! called on to investigate a peculiar case which has puzzled me, and I would ask your advice on the same. The case in question is a house which seems to be a veritable frictional machine. By walking on the carpet a spark can be produced by bringing the finger near any metal substance, whether grounded or not, such as a brass tack in furniture, picture frames, etc. If this condition existed to a small extent, nothing would be said, but it is to such an extent as to be very objectionable. The house is heated by a hot-air furnace, and everything about the house is very dry. I have stantly filled with water, as I believe that the moisture produced will tend to allow the charge to neutralize itself. Two persons coming in contact with each other produce a spark. Can Electrical Engineering. An Elementary you suggest a remedy for this, or something which will make it less pronounced? If so, you will oblige a constant reader of Scientific AMERICAN. A. It is most likely that moistening the air of the house which you describe will free its occupants from the trouble with static electricity. We have no other suggestion to make. Moisture is relied upon to cure this condition, which is universal at this season of the year.

(9327) H. G. A. asks. 1. In a recent issue you explained how to demagnetize a watch with direct current. Will you explain fully how this may be done with alternating current? A. A watch may be demagnetized by an alternating current by sending the current through an electromagnet, and holding the watch near the wire core of the magnet. Now turn the watch over and over as you slowly remove it from the field of the magnet, till it is quite out of the sphere of influence. 2. In a direct-current electric plant I understand the current flows continually in the same direction through the circuit. Which wire carknown at the dynamo? A. The current is be bought of dealers in electrical supplies. 3. tions with banks, firms, or individuals in for-lf the armature of an alternator runs 1,500 eign countries. R. P. M. and is surrounded by ten field in in Lehrbuch Der Baumaterialienkunde nets, would the alternations be 15,000 per minute, or would the current only change five times per revolution, as the magnets must be in pairs? A. At 1,500 turns per minute with ten field magnets, an alternator will bave 15,000 alternations per minute, and half as many cycles per minute.

materials used.

slowly. I found a loose gland on one of the but much more rapid. What can I do to a whole, the work bears the mark of the same remedy this matter? A. The hammer or rattle accuracy and thoroughness that characterized of steam in the water back, which in passing had the pleasure of reviewing some time  $\epsilon g$ ). into the boiler condenses suddenly, producing the hammer action. The noise from open faucets is caused by looseness of the valve in the faucet. The remedy for the first is less fire or the use of more hot water or its waste by drawing off. For the latter use solid plug faucets or valves without loose disks. 2. What size fuse wire should be used in connection with a 5-ampere 100 to 110-volt wattmeter? A. Fuse wire if of lead should be 2 inches long, No. 16 wire gage or 1-20 inch diameter. 3. Why do our hot-water pipes freeze before the A MANUAL OF MECHANICAL DRAWING. By cold water pipes when they are both in the same place and subject to the same cold? A. The water in the hot-water pipe is free of air. which is discharged by heating, and the pure

water freezes quicker than the cold or aerated

(9330) W. J. H. asks: Can you give me the names of the ingredients of a light which is confined in a bottle, as used in the powder magazines in France? Not being exposed to the air, it lessens the danger of explosion. When dim it is replenished by a supply of fresh air by removing cork of bettle. A. The light to which you refer is probably produced by phosphureted oil. A piece of dry phosphorus about the size of a pea is placed in a test tube, and a little pure olive oil poured upon it. The tube is held in a water bath till the oil is heated above the melting point of the phosphorus. Now shake the tube till the oil will take up more phosphorus. After the oil is cooled, put it into a glass-stoppered bottle. When the small quantity of oil in the bottle is shaken about so as to coat the sides of the bottle, a good amount of light is given, and when this becomes dim it may be made luminous again by removing the stopper and admitting fresh air, te care in handling phosphorus.

### NEW BOOKS, ETC.

TABLES GIVING THE LENGTHS OF BARS FOR SKYLIGHTS AND RAFTERS FOR ROOFS. By H. Collier Smith. New York: David Williams Company. 1903. 18mo. Pp. 84. Price \$2.

The author of these tables is a practical sheet-metal worker of many years' experience in the manufacture of skylights. In order to save time during the day, he devoted his leisure hours in the evenings, for several years, to computing tables, from which the length of bars for any ordinary pitch of skylight could be copied, and thus avoid the loss of time and chance of error involved in working out the suggested keeping water pan in furnace con- length of bars for each separate skylight during the rush and stress of working hours. A labor-saving book of this nature is invaluable to these in the business.

> Textbook. By E. Rosenberg. Translated by W. W. Haldane Gee, B.Sc., and Carl Kinzbrunner. New York: John Wiley & Sons. 1903. 8vo. Pp. 267. Price \$1.50.

The present book will be distinctly helpful to less advanced students of electrical engineering in English-speaking countries. It is the work of an electrical engineer, and is written from an engineering standpoint. The explanation of principles is particularly clear. In polyphase work the author has been specially careful to make his explanation easy to follow. Particular attention has been given to alternating currents. The diagrams are very clear, and this new book will certainly prove belpful to the young electrical engineer.

International Exchange. Its Terms, Parts, Operations, and Scope. By Anthony W. Margraff. Chicago: Fergus Printing Company. 1903. 8vo. Pp. 299.

The exporter and importer can, with the present textbook and the daily journals, quoting the rates for interest in the financial centers of the world, readily determine the ap-Inquiry No. 5267.—For manufacturers of poultry taken to flow out from the positive pole of a proximate value of any foreign bill of excepting. direct-current dynamo and return to the nega-change. The examples which are given are tive pole. The positive pole may be found by admirable, and the book can be safely recoma voltmeter or by a pole detector. The secon mended to all those who have financial transac-

> ZUM GEBRAUCHE AN TECHNISCHEN Hochschulen und zum Selbtstudium. Von Max Foerster. Heft 1. Die Natürlichen Gesteine. Mit Einer Tafel. Leipzig: Verlag von Wilhelm Engelmann. 1903. 8vo. Price \$2.

The book which lies before us discusses struc-(9328) C. A. R. asks: What power or tural materials, and is intended for civil engivoltage, if any, has a gravity battery, the jar neers and architects. The first volume issued of which is 6 inches x 8 inches and has a 3. is devoted to a treatment of natural stones. pound zinc? A. A gravity cell in good con. The author has laid particular stress upon the dition will have from 1.07 to 1.10 volts. The adoption of a scientific nomenclature, as well size of the jar and the plates has no effect as upon the physical and chemical constituency on the voltage, which depends only upon the of the various stones. Prof. Foerster holds, and holds rightly, that only by this means is it (9329) F. A. B. writes: We are much possible to obtain anything like a definite knowledge of the composition, structure, and duratroubled with water hammer in the hot-water pipes. It can sometimes be stopped by turning A chapter of the book is devoted to testing on the bot water and then turning it off very methods and processes of determining the resistance of structural materials. The various faucets the other day. When I tightened this applications of structural materials are also gland, the water hammer became very faint discussed in a coherent manner. Considered as in house pipes may be due to the generation Foerster's Handbook of Engineering, which we The Photogram. Vol. X. London: Davbarn & Ward, Ltd. 1903. 8vo. Pp.

The Photogram is always a most welcome visitor. The present volume, which consists of the numbers for 1903, is filled with useful

information. The artistic presentation of

good examples of up-to-date photography will be appreciated. The photographs chosen for reproduction are particularly well selected.

Philip D. Johnston. New York: David Williams Company. 1903. Oblong 8vo. 69 plates. Price \$2. Of the making of books on mechanical draw-

ing there seems to be no end, but the present volume is a most admirable treatise. be specially appreciated by those who have to learn mechanical drawing at home. The author's selection of typical examples is most excellent. It is a thoroughly safe book.

We have received from the American School of Correspondence at Armour Institute of Technology, Chicago, Ill., the first number of a new periodical issued by the school, called the Technical World. The magazine promises to become a valuable addition to technical magazine literature. This first number contains an excellent article by Prof. R. A. Millikan, on Radium, and general discussions of such subjects as wireless telegraphy, current science and industry, new things in engineer ing, and great technical schools. A consulting department tells instructive things about control of electric lights, comparative weight of motors, transferring heat to boilers, and the like.

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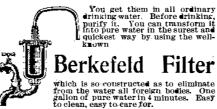
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# MIND the MICROBES



C	American	
	Cosking machine, dough, Betz & Seibel Cosking utensil, H. M. Horine Corn huskers and shredders, spreading roll for, J. H. Pitkin Cotton chopper and cultivator, combined, N. Langford Cow tail holder, P. Young Cracker case, W. T. Magness Crib, C. Hollis Cultivator, J. R. Jones Cultivator, W. L. Eddy Current distribution, system of alternating, E. R. Gill	754,278 754,310
7	Corn huskers and shredders, spreading roll for, J. H. Pitkin	754,158
	N. Langford	753,890
	Cracker case, W. T. Magness	754,033 754,326
3	Cultivator, J. R. Jones	754,140 753,983
_	Current distribution, system of alternating,	754,130
_	Current transformation, alternating, Hutin	_
	& Leblanc Current transfermation, system of alternat-	754,371
	ing, Hutin & Leblanc. Curtain fixture, J. W. Patersen. Curtain pole, A. R. Harmany. Cut-off, automatic water gage, J. H. Cuningham	754,372 754,404
	Cut-off, automatic water gage, J. H. Cun-	754,136
_	Cutting machine, W. Dietmann	754,200 754,055
C :	Desk, pertable, T. Cram	753,870 753,858 754,232 753,900
s-	Demestic beiler, H. A. Miller	753,900
(Ŧ	Door check, and closer, J. Bardsley	753,997 753,838 754,219
er iy it	Door securer, F. E. Wiesner	754,219 754,267 753,998
e-	Dough break, W. H. Scott  Dress shield, C. A. Pienkowsky.	754,096 754,234 754,321
lt	Cut-off, automatic water gage, J. H. Cun- ingham Cutting machine, W. Dietmann. Damper, J. E. Frenning. Desk, portable, T. Cram Distillation apparatus, wood, C. M. Palmer. Domestic beller, H. A. Miller. Doer check, J. C. Moore Doer check and closer, J. Bardsley. Doer guard, B. D. Jones Doer securer, F. E. Wiesner Doer spring, J. C. Moore Dough break, W. H. Scott Dress shield, C. A. Pienkswsky Drilling machine, W. F. Koeppen Tilling machine, automatic multiple, F. J. Nutting Drum, C. A. Strembers	754,321
n-	Nutting  Prum, C. A. Stremberg	753,905 754,101
	Drying line holder, O. A. Pfleger Dusting frame, portable, J. R. Mauran	754,089 753,993 754,264
št.	Dye and making same, anthracene, H. Weltz Dye and making same, aze, Julius & Fus-	754,264
	senegger Electric cable fault locator, D. E. Wise-	754,315
3	Electric machine, N. A. Christensen	754,402 753,954
te	Electric signal, J. E. Feller	754,124 754,208 753,881 754,380
i- e-	Electric switch, N. Marshall754,378 to	754,380
t,	Drum, C. A. Strømberg. Drying line helder, O. A. Pfleger Dusting frame, portable, J. R. Mauran. Dye and making same, anthracene, H. Weltz Dye and making same, azo. Julius & Fus- senegger Electric cable fault locator, D. E. Wise- man Electric motor, D. P. Burdon Electric import, D. P. Burdon Electric signal, J. E. Feller. Electric switch, N. Marshall	754,111
i-	Feet	753,866 754,114
e O	Foot Blectreds, preparing, G. J. Atkins.  Electromagnet, W. D. Gregory  Engine, J. A. Becher	754,114 753,879
v	Engine, J. A. Becher Engine muffler, gasolene, Brockway & Meckensturm Engine regulating device, M. Mutel Engines, gas engine attachment for steam, H. B. Nicodemus Engines, means for cylinder lubrication of internal combustion, A. P. Brush Envelop, J. A. Walsh Envelop, A. Bushnell, Jr. Envelop, P. Davales Envelop, Fastener, A. A. Rheutan Envelop, twin, A. G. Jones Erasers, machine for cleaning blackboard, J. A. Jones	754,277
\	Engine regulating device, M. Mutel	753,845 754,601
	H. B. Nicedemus	754,385
:	internal combustion, A. P. Brush	$754,121 \\ 753,943$
1	Envelop, A. Bushnell, Jr	754,048 754,201
	Envelop fastener, A. A. Rheutan Envelop, twin, A. G. Jones	754,201 754,239 754,373
	Erasers, machine for cleaning blackboard, J. A. Jones	754,220
_	Erasers, machine for cleaning blackboard, J. A. Jones Exhibitor, changable, A. & A. C. Bechtold. Fabric, W. S. Silicecks Fastening and suspension device, E. M. Lewis	754,190 754,098
),	Lewis	754,323
Ī	Lewis Fastening device, metal, G. C. Wyland Faucet, water, M. Pitt Feed bag, T. L. Hawkins	754,344 754,205
y u	Feed water, purifying, J. B. L. Destembes.	753,860 754,389
9. i-	Fence post V. E. Lerch Fence post V. E. Randall	753,892 753,913
p,	Fence post, J. Scheidler	753,923 754,119
g. k	Feed wag, T. L. Hawkins Feed water, purifying, J. B. L. Destembes. Fence, W. C. Reinmiller Fence post, M. E. Lerch Fence post, V. E. Randall Fence post, V. E. Randall Fince post, J. Scheidler	753,849 754,296
-		
	A. Olson Fire escape. J. M. Stafford	754,005 753,930
	Fire extinguishing apparatus. automatic,	754,037
o <b>h</b>	Fire kindler, R. Hager	753,897 754,062 754,210
ıt	Firepreef blind, E. H. McCloud	754,210 754,002
ı.	A. Olsen Fire escape. J. M. Stafford Fire extinguisher, G. A. Anderson Fire extinguishing apparatus. automatic, H. F. Maxim Fire kindler, R. Hager Firearm, A. Fyrberg Fireproof blind, E. H. McCloud Fireproof covering for columns, etc., A. L. A. Himmelwright Fireproofing and insulating structure, O. F.	754,064
	Zahn Fish hook, B. S. Scott	754,109 754,349
-	Zahn Fish heek, B. S. Scett Fishpele line eye attachment, F. W. Reth. Fleering end joint, M. A. Hayward Fleers, etc., appliance for cleansing, J. S. Stewert Wellace	754,094
- <sub> </sub>	Floors, etc., appliance for cleansing, J. S. Stewart-Wallace Flower bulbs are grown, fitting for vessels in which, A. Simpson Flowers, vines, etc., machine for manufacture artificial. H. J. McVein	754,254
é	Flower bulbs are grown, fitting for vessels in which, A. Simpson	754,248
&	Flowers, vines, etc., machine for manufac-	774004

Cutting machine, W. Dietmann	754,055	
Damper, J. E. Frenning Desk, portable, T. Cram	753,870 753,858	
Distillation apparatus, wood, C. M. Palmer.	754,232 753. <b>9</b> 00	71
Deer check, J. C. Meere	753,997	_
Cutting machine, W. Dietmann.  Damper, J. E. Frenning.  Desk, pertable, T. Cram  Distillation apparatus, wood, C. M. Palmer.  Domestic boiler, H. A. Miller.  Door check, J. C. Moore  Door check and closer, J. Bardsley.  Door guard, B. D. Jones  Door securer, F. E. Wiesner  Door spring, J. C. Moore  Dough break, W. H. Scott  Dress shield, C. A. Pienkowsky.  Drilling machine, W. F. Koeppen  Drilling machine, automatic multiple, F. J.  Nutting	754,21 <b>9</b>	U
Door securer, F. E. Wiesner	754,267 753, <b>998</b>	an Yo
Dough break, W. H. Scott	754,0 <b>9</b> 6	sto bu
Drilling machine, W. F. Keeppen	754,321	••
Drilling machine, automatic multiple, F. J. Nutting Drum, C. A. Stromberg	753, <del>9</del> 05	Q -
Drum, C. A. Stromberg	754,101	Sa: Re
Dusting frame, portable, J. R. Mauran	754,089 753,993	tin
Dye and making same, anthracene, H. Weltz Dye and making same, aze, Julius & Fus-	754,264	NIA
Senegger	754,315	GE
Drum, C. A. Strømberg Drying line holder, O. A. Pfleger Dusting frame, portable, J. R. Mauran. Dye and making same, anthracene, H. Well- Dye and making same, aze, Julius & Fus- seneggr Electric cable fault locator, D. E. Wise- man Electric machine, N. A. Christensen. Electric moter, D. P. Burden Electric signal, J. E. Feller. Electric signal, J. E. Feller. Electric saps switch, G. W. Hart. Electric witch, N. Marshall 754,378 to Electric wires in buildings, junction box for, B. W. Allen Electrical machine brush holder, W. H.	754,402	i
Electric machine, N. A. Christensen Electric motor, D. P. Burdon	753, <b>9</b> 54 754,124	
Electric signal, J. E. Feller	754,208 753,881	
Electric switch, N. Marshall754,378 to	753,881 754,380	
B. W. Allen	754,111	
B. W. Allen Electrical machine brush holder, W. H. Foot	753,866	
Foot Foot Machine Study Health Machine Study Health Machine See Blowing engine. Engine J. A. Becher Engine J. A. Becher Bengine J. Beckensturm Engine regulating device, M. Mutel Engine assessment for steam estrachment for steam	754,114 753,879	بآيا
Engine. See Blowing engine.	754.077	•
Engine, J. A. Becher	754,277	
Meckensturm Engine regulating device, M. Mutel	753,845 754,661	T
Engines, gas engine attachment for steam, H. B. Nicodemus	754,385	<b>₩</b>
Engines, means for cylinder lubrication of	194,389	Po
internal combustion, A. P. Brush Envelop, J. A. Walsh	754,121 753, <b>9</b> 43	an
Envelop, A. Bushnell, Jr	754,048	An
Envelop fastener, A. A. Rheutan	754,201 754,239 754,373	An
Envelop, twin, A. G. Jones Erasers, machine for cleaning blackboard.	194,373	80
J. A. Jones	754,220 754,1 <b>9</b> 0	
Fabric, W. S. Sillcocks	754,098	ر
H. B. Nicedemits  Engines, means for cylinder lubrication of internal combustion, A. P. Brush.  Envelop, J. A. Walsh.  Envelop, J. A. Walsh.  Envelop, B. Baynell, Jr.  Envelop, P. Bayalos  Envelop, fastener, A. A. Rheutan  Envelop, twin, A. G. Jones  Erasers, machine for cleaning blackboard, J. A. Jones  Exhibitor, changeable, A. & A. C. Bechtele,  Cabric, W. S. Sillcocks  Fastening and suspension device, E. M.  Fastening and suspension device, E. M.  Fastening device, metal, G. C. Wyland.  Faucet, water, M. Pitt  Feed bag, T. L. Hawkins  Feed water, purifying, J. B. L. Destembes.	754,323	1
Faucet, water, M. Pitt	753, <b>9</b> 50 754,344	1
Feed bag, T. L. Hawkins	754,305	1
Feed war, T. L. Hawkins Feed water, purifying, J. B. L. Destembes. Fence, W. C. Reinmiller Fence post, W. E. Lerch Fence post, V. E. Randall Fence post, J. Scheidler Filter Filter, water, Fereman & Lightfoot Filtering material, S. G. Derham Fire alarm or temperature annunciator, J.	753,860 754,389	Ply
Fence post, M. E. Lerch	753,892 753,913 753,923	: ''
Fence post, J. Scheidler 753,922,	753,923 754,119	E
File, will, G. L. Burgess	753,849	
Cliver, water, Foreman & Lightfoot Filtering material, S. G. Derham	754,296 754,053	
Fire alarm or temperature annunciator, J.	754.005	3
Fire escape. J. M. Stafferd	754,005 753,930	
Fire extinguisher, G. A. Anderson Fire extinguishing apparatus. automatic,	754,037	
H. F. Maxim Fire kindler, R. Hager	753,897 754,062	
Firearm, A. Fyrberg	754,210	•
Fireproof covering for columns, etc., A.	754,002	-
I. A Himmelwright	754,064	
Firepreeding and insulating structure. O. F.	.0.,001	Į-
Cire alarm or temperature annunciator, J. A. Olson  A. Olson  Fire escape. J. M. Stafford  Fire extinguishing apparatus. automatic, H. F. Maxim  Fire kindler, R. Hager  Firearm, A. Fyrberg  Fireproof blind, E. H. McCloud.  Fireproof covering for columns, etc., A. L. A. Himmelwright  Fireproofing and insulating structure, O. F. Zahn  Fireproof by S. Scatt.	754,109	li
Firepreeding and insulating structure, O. F. Zahn Zahn Fish heek, B. S. Scett Cishpele line eye attachment, F. W. Reth.	754,109 754,349 754,094	
Firepreefing and insulating structure, O. F. Zahn Zahn Fish hoek, B. S. Scott Fishpole line eye attachment, F. W. Roth. Flooring end joint, M. A. Hayward Floors, etc., appliance for cleansing, J.	754,109 754,349 754,094 754,215	
Firepreefing and insulating structure, O. F. Zahn Zahn Fish hoek, B. S. Scott Fishpole line eye attachment, F. W. Roth. Flooring end joint, M. A. Hayward Floors, etc., appliance for cleansing, J. S. Stewart-Wallace	754,109 754,349 754,094 754,215 754,254	
Firepreefing and insulating structure, O. F. Zahn Zahn Fish hoek, B. S. Scett Fishpele line eye attachment, F. W. Reth. Flooring end joint, M. A. Hayward. Floors, etc., appliance for cleansing, J. S. Stewart-Wallace Flower bulbs are grown, fitting for vessels in which, A. Simpsen	754,109 754,349 754,094 754,215 754,254 754,248	
Firepreefing and insulating structure, O. F. Zahn Zahn Fish hoek, B. S. Scott Fishpele line eye attachment, F. W. Roth. Flooring end joint, M. A. Hayward. Floors, etc., appliance for cleansing, J. S. Stewart-Wallace S Stewart-Wallace in which, A. Simpson Flowers wines, etc., machine for manufacturing artificial, H. L. McKain	754,109 754,349 754,094 754,215 754,254 754,248 754,084	
Firepreefing and insulating structure, O. F. Zahn  Pish heek, B. S. Scett  Pish heek, B. S. Scett  Pish per structure, C. S. Schwart-Wallace  Fiewer bulbs are grewn, fitting fer vessels in which, A. Simpson  Flowers, vines, etc., machine fer manufacturing artificial, H. L. McKain.  Pish tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.	754,109 754,349 754,094 754,215 754,254 754,248 754,084 754,247 754,108	The second secon
Firepreefing and insulating structure, O. F. Zahn Fish heek, B. S. Scett Fish peek, B. S. Scett Fishpele line eye attachment, F. W. Reth. Fleering end joint, M. A. Hayward. Fleers, etc., appliance for cleansing, J. S. Stewart-Wallace Flewer bulbs are grown, fitting for vessels in which, A. Simpson Flowers, vines, etc., machine for manufacturing artificial, H. L. McKain. Flush tank apparatus, Seager & Kelly. Folding bracket, L. W. Tucker Fleed chapter, Snew & Warner.	754,109 754,349 754,994 754,215 754,254 754,248 754,248 754,084 754,247 754,105 754,249	1
Firebreefing and insulating structure, O. F. Zahn Fish heek, B. S. Scett Fish heek, B. S. Scett Fishpele line eye attachment, F. W. Reth. Fleering end joint, M. A. Hayward. Fleering end joint, M. A. Hayward. Fleers, etc., appliance for cleansing, J. S. Stewart-Wallace Flewer bulbs are grown, fitting for vessels in which, A. Simpsen Flowers, wines, etc., machine for manufacturing artificial, H. L. McKain. Flush tank apparatus, Seager & Kelly Felding bracket, L. W. Tucker Foed chepper, Snew & Warner Fruit picker, F. C. Hewell Fur skins, machine for remeving hairs frem,	754,109 754,349 754,094 754,215 754,254 754,248 754,084 754,084 754,249 753,885	1
Firebreefing and insulating structure, O. F. Zahn Fish heek, B. S. Scett Fish heek, B. S. Scett Fish pole line eye attachment, F. W. Reth. Fleering end joint, M. A. Hayward. Fleering end joint, M. A. Hayward. S. Stewart-Wallace Flewer bulbs are grown, fitting fer vessels in which, A. Simpsen Flowers, wines, etc., machine fer manufacturing artificial, H. L. McKain. Flush tank apparatus, Seager & Kelly. Felding bracket, L. W. Tucker. Futt picker, F. C. Hewell Fur skins, machine fer remeving hairs frem, T. C. Mills	754,109 754,349 754,094 754,215 754,254 754,248 754,248 754,247 754,105 754,249 753,885 754,382	1
Firepreefing and insulating structure, O. F. Zahn Fish hoek, B. S. Scett Fish hoek, B. S. Scett Fish pole line eye attachment, F. W. Reth. Floering end joint, M. A. Hayward. Floeris, etc., appliance for cleansing, J. S. Stewart-Wallace Flower bulbs are grown, fitting for vessels in which, A. Simpson. Flowers, vines, etc., machine for manufacturing artificial, H. L. McKain. Flush tank apparatus, Seager & Kelly. Folding bracket, L. W. Tucker. Folding bracket, L. W. Tucker. Fruit picker, F. C. Hewell Fur skins, machine for removing hairs from, T. C. Mills. T. C. Mills. T. T. C. Mills.	754,109 754,349 754,094 754,215 754,254 754,248 754,248 754,247 754,108 754,249 754,249 754,382 754,382 754,151	Test Control
Firebreefing and insulating structure, O. F. Zahn Fish heek, B. S. Scett Fish heek, B. S. Scett Fishpele line eye attachment, F. W. Reth. Fleering end joint, M. A. Hayward. Fleering end joint, M. A. Hayward. S. Stewart-Wallace Flewer bulbs are grown, fitting for vessels in which, A. Simpsen Flowers, vines, etc., machine for manufacturing artificial, H. L. McKain. Flush tank apparatus, Seager & Kelly. Felding bracket, L. W. Tucker. Fordit picker, F. C. Hewell Fur skins, machine for remeving hairs from, T. C. Mills Furnaces, device for adding combustion in beiler, E. R. Lewis Furnaces, etc., reversing valve for regenerative, C. G. Atha	754,109 754,349 754,215 754,254 754,254 754,247 754,084 754,249 754,249 753,885 754,382 754,151 754,272	Test Control
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	1
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	The state of the s
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	The state of the s
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	nes Are
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	Are W
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	nes Are
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	Are W
Fish nook, B. S. Scott  (Fishpole line eye attachment, F. W. Roth.  Flooring end joint, M. A. Hayward.  Floors, etc., appliance for cleansing, J.  S. Stewart-Wallace  Flower bulbs are grown, fitting for vessels  in which, A. Simpson  Flowers, vines, etc., machine for manufac-  turing artificial, H. L. McKain.  Flush tank apparatus, Seager & Kelly  Felding bracket, L. W. Tucker.  Food chopper, Snow & Warner  Fur skins, machine for removing hairs from,  T. C. Mills  Furnaces, device for aiding combustion in  boiler, E. R. Lewis  Furnaces, etc., reversing valve for regenerative, C. G. Atha  Bame apparatus, S. E. Wharton	754,349 754,094 754,215 754,254 754,248 754,084 754,108 754,108 754,249 753,885 754,382 754,151 754,272 753,946	Are W
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