songs include those of the Arapaho, the Cheyenne, the Comanche, the Paiute, the Sioux, the Kiowa, the Wichita, the Delaware, and other Indian tribes. These volumes, published under the supervision of the Smithsonian Institution, form a valuable addition to any library in which the department of ethnology is specially repre-

THE CHEMISTRY OF POTTERY. By Karl Langenbeck. Easton, Pa.: The Chemical Publishing Company. Pp. By Karl The 197. Price \$2.

The superintendent of the Mosaic Tile Company, Zanesville, Ohio, former superintendent of Rookwood Pottery, and chemist of the American Eucaustic Tiling Company, in this little book presents mainly the results of his personal experience, as a more direct expression of the practical needs of the working potter. Only bodies and glazes are considered, colors and decorating generally not being within the limits the author has prescribed for himself, but the book is full of practical details, and is evidently very thorough, as to the making of all plain pottery, tiles and terra cotta.

United States Commission of Fish AND FISHERIES. John J. Brice, Commissioner. Part XXII. Report for year ending June 30, 1896. Washington: Government Printing Office. 1897.

One year's work of the National Fish Commission, a described in this report, is easily seen to be of great and growing importance. There are now twenty-two stations under the control of the commission, scattered over the country from Maine to Oregon, and by means of the cars and messengers of the commission there were distributed suring the year, in suitable public and private waters, 498,488,268 eggs, fry, yearlings and adults of various fishes. Among the species were-whitefish 189,740,000; lobsters, 97,079,000; shad, 93,481,500; salmon, 10,845,852; lake trout, 8,996,618; flatfish 8,472,000. Plants were made in all the States and Territories, and eggs were sent to representatives of foreign governments and fish cultural societies, from whom a have been received similar courtesies. A canvass of the fishing industries of the country has been a part of the work of the commission, from which it appears that in the interior waters of the country, not including the Great Lakes, some 12,000 persons find employment in the fresh water fish industry. At Boston and Gloucester, Mass, the most important centers of the fish business. these were discharged by American fishing vessels, during the calendar year 1895, 150,439,000 pounds of fish, valued at \$3,551,600.

INTRODUCTION TO THE STUDY OF ECONOMICS. By Charles Jesse Bullock, Ph.D. New York, Boston, Chicago: Silver, Burdett & Company. 1897. Pp. 511. Price \$1 28.

The work presents the principles of political economy in a clear, comprehensive manner and will leave the reader well informed upon all important topics. It is not only bread in scope, but is admirable in method and sound and clear cut in argument. Especial reference has been had throughout to American conditions, and amply illus trated by experience in our own country. It especially adapts the book to American students and gives them a knowledge of the important questions of the day as related to matters in which they have a close and abiding interest. While primarily intended for a text book in high schools, the author's clear acceptance of causes and effects of conditions and results will make this book very welcome to the average citizen who desires to make an intelligent study of economic problems.



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 sate 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.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

bouses manufacturing or carrying the same.

Special Written Information on matters of

personal rather than general interest cannot be expected without remuneration.

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

to may be had at the office. Price 10 cents each. **Books** referred to promptly supplied on receipt of

Minerals sent for examination should be distinctly marked or labeled.

sections for Ruhmkorff coil, six inch spark, also thickness of insulation between sections. I have read every book I could get on the subject, and they give nothing but very large or small coils. A. For a 6 inch spark the secondary coil should contain 12 pounds No. 36 copper ire silk covered. This may well be wound in 8 sections of 11/2 pounds each. A good way is to make a wooden spool with one side removable, on which to wind the sections. The interior diameter of the spool must fit the outside of the insulation of the primary, of course. The width of the spool will be determined by the length of your secondary. Ten to twelve inches is a suitable length with 14 inch core of primary. The insulation between the sections, if of ebonite, should be from 16 to 1/8 inch. Now, if you follow above dimensions, there will be 7 insulating disks between sections, occupying 3/8 inch. The two end pieces will perhaps be 1/2 inch each, leaving about 10 inches for the wire, or 11/4 inches for each section. When you have wound 11/2 pounds on a bobbin you will obtain the outside diameter of your coil, which of course depends very much on the evenness of the

let me know, through your Notes and Queries of the Sci-

ENTIFIC AMERICAN, the proper way to leave storage bat teries for a number of months? I have heard that if the cells are well charged and the solution then drawn off, they may be kept indefinitely. Is this true? A. When storage battery cells are not required for use, charge them fully, and discharge them at the usual rate for a short time, say a couple of hours. The plates should then be removed from the jars, rinsed in clear water, dried, and put away in a dry place. Before using again put the battery together and charge fully.

(7176) W. L. McK. says: Will you lease let me know how to stereotype type forms through your Notes and Queries? A. For information regarding stereotyping you are referred to Mr. Bolas exhaustive series of papers on the History and Art of Stereotyping, in Supplement, Nos. 773, 774, 790. Price ten cents each.

(7177) R. L. says: Will you please let me know, through your instructive weekly paper, the process of preparing natural plants, making them imperishable or everlasting? A. To preserve the natural color of plants, dissolve 1 part of salicylic acid in 600 parts alcohol. Heat the solution to boiling point in an evaporating dish and draw the plants slowly through it. Shake them to get rid of the superfluous moisture, and then draw between sheets of blotting paper under pressure in the ordinary manner. In all cases the blotting paper must be frequently renewed. It is said powdered boracic acid yields nearly as good results.

SCIENTIFIC AMERICAN BUILDING EDITION

JULY, 1897. - (No. 141.)

TABLE OF CONTENTS.

No. 1. Perspective elevation, in colors, and floor plans of a Colonial residence at Overbrook, Pa. A unique design. Mr. Thomas P. Lonsdale, architect, Philadelphia, Pa.

No. 2. Colorial house at Richmond Hill, N. Y., recently erected at a cost of \$4,200. Perspective view and floor plans. An attractive and pleasing design. Architects, Messrs. Haugaard Brothers, Richmond Hill, N. Y.

A residence, in the Colonial style, recently erected at Larchmont, N. Y., for Mr. William Murray, at a cost of \$7,700 complete. Two perspective elevations and floor plans. A pleasing design, with excellent interior arrangement. Mr. Frank A. Moore, architect, New York City.

A cottage at Prohibition Park, Staten Island, recently erected for Mr. August Mayer at a cost of \$2,250 complete. A very attractive design for a modern cottage of small dimensions. Perspective elevation and floor plans. Mr. John Winans, architect, Prohibition Park, Staten Island.

Wyandauk," the country residence of Lieut. Morton at Southampton, Long Island. A most excellent design in the Colonial style. Two perspective elevations and floor plans. Mr. James B. Lord, architect, New York City.

A modern dwelling at Binghamton, N. Y., re cently erected for Mr. William Mannis at a cost of \$3,000 complete. A good example of a suburban house. Two perspective elevations and floor plans. Messrs. T. Q. Lacey & Son, Binghamton, N. Y., architects.

No. 7. A Colonial residence at Ardmore, Pa., recently erected for Dr. Louis O. Lusson. Perspective elevation and floor plans. Messrs. Boyd & Boyd, architects, Philadelphia, Pa.

No. 8. A Colonial residence at Bensonhurst, LongIsland, recently erected for Mr. Thomas A. Ritson. Two perspective elevations and floor plans. A handsome design. Architects, Messrs. Parfitt Brothers, Brooklyn, N.Y.

No. 9. A residence at West Chester, Pa., recently erected for Dr. S. Hagerty. Perspective elevation and floor plans. A design with many excellent features. Mr. Edward S. Paxson, architect, Philadelphia.

No. 10. A residence at Attleboro, Mass., erected for E. P. Clafin, Esq., at a cost of \$5,500 complete. Anartistic and pleasing design. Messrs. George F. Barber & Company, architects, Knoxville,

No. 11. Perspective and interior view of the Walhalla of Ratisbon on the Danube. A costly reproduction of the Parthenon at Athens. This temple was erected at a cost of about \$6,000,000, and is devoted entirely to the display of busts of distinguished Germans.

No. 12. Design for a "cozy corner."

No. 13. View of the library of Mr. Henry L. Hotchkiss. New Haven, Conn.

(7174) C. W. asks for the dimensions of No. 14. Miscellaneous Contents: Fatalities to workmen. -Scaffolding.-Lime water in freezing weather. -How to make a cheap greenhouse.-Making floors warm .- Inexpensive country homes .-Improved sash lock, illustrated.—An improved door hanger, illustrated.—A novel wood working machine, illustrated. — Gray bricks. — Dixon's silica graphite paint.-A convenient gage for carpenters and builders, illustrated.

The Scientific American Building Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Thirtytwo large quarto pages, forming a large and splendic MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates and fine engravings, illustrating the mos interesting examples of Modern Architectural Construction and allied subjects. All who contemplate building or improving homes or structures of any kind, have in this handsome work an almost endless series of the latest and best examples from which to make selections thus saving time and money.

The Fullness, Richness, Cheapness and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural Publication in the world. Sold by (7175) A. H. H. asks: Will you please all newsdealers. MUNN & CO., Publishers,

361 Broadway, New York.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line.
Advertisements must be received at publication office as early as Thursday morning to appear in the follow-

Marine Iron Works. Chicago. Catalogue free. "U.S." Metal Polish. Indianapolis. Samples free Yankee Notions. Waterbury Button Co., Waterb'y, Ct For bridgeerectingengines. J. S. Mundy, Newark, N. J. Handle & Spoke Mchy. Ober Lathe Co., Chagrin Falls, O.

Improved Bicycle Machinery of every description The Garvin Machine Co., Spring and Varick Sts., N. Y.

Concrete Houses - cheaper than brick, superior to Ransome," 757 Monadnock Block, Chicago Machinery manufacturers, attention! Concrete and

mortar mixing mills. Exclusive rights for sale. "Ran some," 757 Monadnock Block, Chicago.

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.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

The Grawing Popularity of New England's Lakes. Some day there will arise a poet or writer who will do for New England's lakes what other poets have done for the famous lakes of Europe, and embalm their beauties and attractions in enduring verse or prose. The subject, as a whole, is one that has not yet been done full justice to in this respect; and, indeed, it is to be feared that the people of New England themselves are not fully awake to the value of this particular heritage that

Providence has bestowed upon them.

There is an indefinable charm attaching to these aqueous gems of our mountains and wildernesses that is slowly but surely beginning to impress itself upon the great vacation seeking public, and the lakeside resorts of New England are beginning to loom up as formidable rivals to the more extensively advertised, and hence more noted, seashore resorts.

Such glorious lakes, for instance, as Winnipesaukee, Asquam, Sunapee, Newfound, Spofford, Dublin or Willoughby, in New Hampshire, have already reached a secure and superior footing as summer resorts, and there are dozens of other lakes and lakelets—some of them near at hand, others more or less remote from the great centers of population-that are gradually coming into prominence in this way. Then, too, there are the myriad lakes of Maine and the glorious waterways of the Green Mountain State, all extending a bright and smiling welcome to those who prefer the poetry and semisolitude of a lakeside outing to the more vigorous atmosphere and restless spirit of the seashore. For those who enjoy the pleasure of "camping out," almost any of these places offers unrivaled facilities.

Columns might be written in praise and description of this department of outdoor summer life in New England, but the best medium of information to which the nand, but the best medium of information to which the reader can be referred is the attractive illustrated pamphlet, "Lakes and Streams," which will be sent on receipt of two cent stamp, on application to D. J. Flanders, General Passenger Agent, Boston & Maine Railroad, Boston.

137 Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 31 Broadway, New York. Free on application.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

JULY 6, 1897,

AND EACH BEARING THAT DATE.

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

Air brake mechanism, E. A. Trapp	585,927
Air compressing and cooling apparatus, J. Flindall	585,955
dall. Amalgamator and concentrator, T. G. Barlow- Massicks.	
Massicks. Arm rest for school chairs, etc., C. F. Haynes	585,913
Automatic wate D F Raker	585 881
Automatic switch, G. T. Pratt	585,890
Axle box, car. W. H. Hancock	585,753
Automatic gate, D. F. Baker. Automatic switch, G. T. Pratt. Axle box, car, W. H. Hancock. Axle box reaming machine, R. R. Spears.	585,715
Axles, means for securing vehicle irons to, T. L.	,
Axies, means for securing vehicle irons to, T. L. Baleties, machine for forming hooked heads on wire, G. Lebberger. Bandaging material, sterilizing and packing, F. Achenbach. Barrel diener, E. O. French. Barrel filler, W. A. Smith. Battery. See Electric storage or secondary bat- tery. Galvanic battery. Primary battery. Beaming attachment, O. W. Schaum.	585,735
Bale ties, machine for forming hooked heads on	
wire, G. Lenberger.	585,823
Bandaging material, sterinzing and packing, F.	EOE #45
Perrol cleaner F O French	505,040
Rerrol filler W A Smith	586 077
Battery See Electric storage or secondary bat-	000,011
tery. Galvanic battery. Primary battery.	
Secondary battery.	
Beaming attachment, O. W. Schaum	585,878
Bearing, roller, G. J. S. Collins	585,909
Bed, Iolaing table, P. T. South	585,754
Secondary Dattery. Beaming attachment, O. W. Schaum. Bearing, roller, G. J. S. Collins Bed, folding table, P. T. South. Bed, hot air and vapor, N. N. Hay. Bed, invelid?s H. A. Amas.	505,036
Ped lock A F Vernor	505,040
Rod spring C H McRrido	585 601
Bed, invalid's, H. A. Ames. Bed lock, A. E. Kenney Bed, spring, G. H. McBride. Bedsstead and frame, folding, H. A. Kean. Bedstead and mattress frame therefor, F. G.	585.846
Bedstead and mattress frame therefor, F. G.	,
Gale	585,666
Bell, bicycle, J. Ostermann	585,780
Bell striking mechanism, G. M. Stevens	585,718
Rievele W M Sutton	585 710
Bicycle foot rest. E. Mercier.	585,963
Bicycle handle bar, adjustable, H. Muir.	585,690
Bicycle rack, folding, A. F. Temple	585,722
Bedstead and mattress frame therefor, F. G. Gale. Bell, bicycle, J. Ostermanu. Bell striking mechanism, G. M. Stevens. Bicycle, W. M. Sutton. Bicycle foot rest, E. Mercier. Bicycle foot rest, E. Mercier. Bicycle handle bar, adjustable, H. Mufr. Bicycle rack, folding, A. F. Temple. Bicycle support, L. D. Brundage. Bicycle support, Crisp & Smith. Bicycle support, J. Judge.	585,739
Bicycle support, Crisp & Smith	585,910
Bicycle support, J. Judge. Bicycle support, A. S. Lang. Bicycle tilting saddle bar and seat post, C. Woos-	586 917
Bicycle tilting saddle bar and seat post. C. Woos-	300,011
ter.	585,858
ter. Blowpipes or brazers, burner for compound, W. Sams.	
Sams. Boat, life, R. & B. Bethke. Boiler. See Steam boiler. Vertical boiler. Boit. See Shear bolt.	586,066
Boat, life, R. & B. Bethke	585,903
Boller. See Steam boller. Vertical boller.	
Bone black, apparatus for decarbonizing, J. O.	
Donner	585,658
Bookbinder's tape, B. F. Kendig.	586,070
Book, Catholic prayer, L. Hunke	585,672
Rookholder, W. E. Warner	586,081
Book support, J. F. A. Spaet	585,714
Boring machine stud A I Jacobs	585,769
Boshing bars, etc., apparatus for, S. V. Huber	585,868
Bottle and stopper, W. J. Hope	586.038
Bottle, non-refillable, C. G. Norman	585,888
Bottle, non-refillable, L. N. Ralph	585,965
Bottle, non-refillable, C. N. Woodle	585,807
Bottle mranning machine H & Corden	505,740
Bottle, nursing, W. D. Butz	586 017
Box. See Mail box.	000,011
Bone black, apparatus for decarbonizing, J. O. Donner Bookbinder's tape, B. F. Kendig. Book, Catholic prayer, L. Hunke Book support, J. F. A. Spaet. Borer, angle, W. H. McCoy. Boring machine, stud, A. I. Jacobs. Boshing bars, etc., apparatus for, S. V. Huber. Bottle and stopper, W. J. Hope. Bottle, non-refillable, C. G. Norman. Bottle, non-refillable, C. M. Woodle. Bottle, unrsing, W. D. Butz Bottle wrapping machine, H. S. Gordon. Bottles, jars, etc., closure for, T. Diebold Box. See Mail box. Box. F. Bonheim	. 585.905
Box closure, Scott & Holey	585,709
Box covering machine, H. Inman	585,820
Box covering machine, A. H. Morrison	585,921
Box making machine, automatic, W. T. McRae.	. 585,887
Box. See Mail box. Box. F. Bonheim. Box covering machine, H. Inman. Box covering machine, H. H. Morrison. Box making machine, automatic, W. T. McRae. Brake. See Car brake. Fluid pressure brake. Wagon brake.	
AN WROTH DLUKE	

Browning apparetts for recovering weste gases	585,725
	585,900 585,701 586, 0 20
Bridge gate, F. Raasch Bridge, F. J. Ettinger. Broom attachment, F. Wittram Brush holder, H. Geisenhoner. Brush holder, H. Geisenhoner. Buoy whistle, E. C. Bates. Burial casket, H. T. Loomis.	585,897 585,746 586,008 585,882
Lamp burner. Oil burner.	586,071 585,792
Burning apparatus, liquid fuel, H. T. Russell Bustle, M. C. Hartman. Butter mould, D. E. Ballam Button fastener, eyeless or other, A. T. Miller	585,792 586, 0 34 585,811 585,994
Buttons or eyelets, machine for setting, E. Pringle. Calendar, memorandum, J. R. Wilson	585,832 585, 944 585,848
Maimiet. Car, boudoir, E. Flagg.	586,072 585,954 585,648
Malmfelt. Car, boudoir, E. Fjagg. Car brake, J. L. Black. Car brake, J. G. Schumann. Car coupling, R. H. Williams. Car fender, N. Kohler. Car fender, N. Weikly. Car platform and stem H. Schmidt.	585,985 585,806 585,871 585,729 585,793
Car render, J. N. Weikly. Car platform and step, H. Schmidt. Car step attachment, C. McLennon. Car step, extension J. A. Campbell. Car wheel grinding machine, D. C. Sweet.	585,729 585,793 585,692 586,012
Collins.	585,836 586,014
quard, V. Royle. Carpet cleaner, K. Girvin. Carriage, baby, L. G. Loye. Carriage, motor, J. F. Duryea. Cartriage loading implement, E. H. Cant. Case. See Packing case.	585,876 585,843 585,769
Carriage, motor, J. F. Duryea	585,769 586,084 586,013 585,996
Cash register and recorder, F. Woodbridge Cash segister and recorder, F. Woodbridge Casks, barrels, etc., apparatus for manufacturing wooden, J. Anthon Centrifugal separator, O. Linders China kiln, G. Jeffery Chopper. See Cotton chopper. Churn motor, W. P. Bliss	585,810 585,936 585,765
Chopper. See Cotton chopper. Churn motor, W. P. Bliss. Cigar lighting implement, A. H. Stevens.	585,837 585,893
Circuit closer, electropneumatic, B. C. Batcheller Clamp. See Singletree coupling clamp. Clapboard machine, P. Conway	585,647 585,741
ler. Clamp. See Singletree coupling clamp. Clampara machine. P. Conway. Cleaner. See Barrel cleaner. Carpet cleaner. Clothes line holder, A. Campbell. Clothes wringer, M. H. Griffin. Clutch, magnetic, A. De Bovet.	585,951 585,749 586,0 6 6
Clutch, magnetic, A. De Bovet. Coffee roaster, C. H. Duchring. Coin oper ated machine, L. A. Wright et al Collar fastener, horse, H. L. Quigley Combs, machine for manufacturing, F. W. Grell.	585,659 585,730 586, 0 56
& H. N. Gray.	585,818 585,911 585,693
Conveying apparatus, Miller & Delaney. Cooking apparatus, compartment, L. Moser. Cooking utensil, S. & Black. Corn holder, P. H. Reardon. Cotton chopper, E. George. Cotton samples, machine for wrapping, C. H.	585,964 585,922 586, 00 5 586, 0 58 585,747
	585,747 586, 6 65
Coupling. See Car coupling. Tbill coupling. Gradle, automatic, A. W. Peterson. Crucble and making same, R. W. Wallace. Cutout, automatic, C. N. Black.	585,852 585,993 585,904 586,057
Cutout, automatic, C. N. Black. Cycle driving mechanism, F. W. Quin. Dental engine handpiece, H. F. Jones. Datector. See Railway switch detector. Die. See Saddle seat die. Direct acting engine, W. A. Kidd.	586,057 585,845
	585,960 585,782
Drill. See Rock drill. Drill, H. Richter, Jr	585,943 586,064 585,934
byeing, etc., apparatus for, T. Halliwell. byeing horse, J. Knott. Egg beater, E. Reedy. Electric controller, A. F. Macdonald.	585,752 585,935 585,758 585,703 585,772
Leod	585,772 585,778
Electric machine brush holder, dynamo, R. Lun- dell	585,872 585,760 586,044
Electric switch, E. Oxiey. Electric wires or cables and making same, joint or splice for F. Schwedtmann.	586,029 586,075 585,707
Electrical conduit, armored, E. T. Greenfield. 555,888, Electricity meter, A. W. Staveley et al. Electromagnetic and mechanical brake, J. E.	585,864 585,892
Parker. Elevator. See Water elevator. Engine. See Direct acting engine. Gas engine. Steam engine.	585,937
Engine compensating device, F. Haselwander Engine starting mechanism, gas, S. Sr., & S. Col- ley. Jr.	585,755 585,952
Envelope fastening device, E. A. Goodchild Evaporating apparatus, A. M. Hugil et al. Eyeglasses, holder for adjustable guards for, F. L. Burrows.	585,816 585,819 585,813
L. Burrows. Fan, ventilating, C. H. Larmore. Farm gate, H. C. Gutermuth. Fastening for boots, shoes, corsets, etc., J. W. Denno.	585,655 585,655
Faucet, J. L. Sullivan	585,928
Fences, visible strip for wire, M. M. Shellaberger. Fender. See Car fender. Vehicle fender. Fertilizer distributer, L. C. Ellison. Fifth wheellock, wagon, C. W. Robinson.	586, 0 68 586,019
Firearm, breakdown, J. H. Brown. Flower pot support. W. D. Gridley.	585,860 585,931
Folder loader, D. J. Farthing. Foet rest and guard, W. Fehling. Fruit to receiving tanks, apparatus for crushing.	585,828 585,744 586,022
Fulling machine. J. W. Millet. Furnace. See Hot air furnace.	585,800 586,052 586,050
Galvanic battery J. Sully	585,667 585,855 585,781 586,085
Gas burner, L. Henkle. Gas burner heating apparatus, T. Guhring. Gas burner, incandescent, J. B. P. W. De Malberg Gas burner, self-closing, F. P. Barney.	585,932 585,919 585,902 585,651
Gas burner, self-closing, F. P. Barney. Gas engine, F. Burger. Gas engine, J. A. Charter. Gas exhausting apparatus, J. W. T. Olan Gas meter casing, Hopper & Milsted. Gas pressure regulator, A. Hall. Cota Sac Automatic rate	585,831 586,086
gate. Tilting gate.	586,089 585,016
Gear, shifting or reversing, H. Brinkmann Generator. See Power and heat generator.	585,784 585,649 585,803
Generator, E. P. Waggoner. Glycerin therefrom, refining glycerides and pro- ducing, Glatz & Lugo. Gold washing pan, F. Sletcher. Grader, prune, G. M. Peterson. Grain transfer systems, feeder for, F. J. Weber Gumming apparatus, W. H. Burland. Hair crimper, C. Burch.	585,844 585,989 585,695
Grain transfer systems, feeder for F. J. Weber Gumming apparatus, W. H. Burland Hair crimper, C. Burch	585,8 0 4 586, 0 10 586,0 0 9
Hair crimper, C. Burch. Handle covering, removable, J. F. Dickson. Handle fastener, T. E. Wilson. Harness hanger, A. B. McCoy. Harrow, A. V. Ryder.	585,657 585,857 585,776 585,941
Mavis	585,962 585,698 585,786
Hat plate holder, R. H. Inne s	585,761 585,796
heater. See reen water heater. Hot water	
Heaters, packing joint for, R. J. Schwab. Heddle frame, C. H. Niedner. Heel protector, T. P. Boulger. Helmet, Hopkins & Wright. Hemoglobinometer, H. Orford. Hinge, blind, W. Meserve. Hitching device, King & Myers. Holsting device, J. Cline. Holdback attachment for vehicles, J. Meskill. Horseshoe, A. J. Walker.	585,855 586,035 585,694 585,826
Hitching device, King & Myers. Hoisting device, J. Cline. Holdback attachment for vehicles, J. Meskill Horseshoe, A. J. Walker.	
Horseshoe, A. J. Walker. Horseshoe pad, M. Hallanan. Hose reel, E. Cliff. Hot air flurnace, H. H. Rice Hot water heater, J. Walther. Hydraulic motor, J. R. De Remer. Loe cream freezer, J. W. Hart.	586 030
Hydraulic motor, J. R. De Remer. lee cream freezer, J. W. Hart lee pick, W. B. Pollard.	586, 0 59 585,754