

**Does YOUR line begin with**

# S

Salesmen	PAGES 13-26
Shipping Clerks	9-26
Station Agents	11
Steamships	13
Stenographers	8-25
Students	19
Supervisors	13

Above are the occupations beginning with **S** for which special Lead Pencils are found on the given pages in **Dixon's Pencil Guide**, a book of 32 pages, indexed by vocations. Whether you need a hard or a soft pencil, there is a Lead Pencil made for your occupation—just the same as if designed for you alone. The Guide can be had for the asking.

If your dealer doesn't keep Dixon's Pencils, send 16 cents for samples, worth double the money.

DEPT. W. JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N. J.

Food choppers, rotary, Landers, Fray & Clark	56,848
Food made from wheat, breakfast, Cream of Wheat Co.	56,821, 56,822
Gin, Weideman Co.	56,905
Gloves, leather, V. Perrin & Cie	56,878
Gluten feed and dried distillery slops, J. Marcus	56,850
Hair tonic, Dr. D. Jayne & Son	56,895
Hammers, Hibbard, Spencer, Bartlett & Co.	56,922
Hatchets, adzes, axes, and pocket knives, Wells & Nellegar Co.	56,938
Hay carriers, F. E. Myers & Brother	56,933
Hosiery of every description, Rubens & Meyer	56,935
Ice cream freezer, Richmond Cedar Works	56,945
Ironware, enameled, J. M. Kohler Sons Co.	56,925
Jeans, Jefferson Woolen Mills	56,928
Knitted shirts, drawers, vests, and pants, Fred W. Millington	56,920
Lard, Armour & Co.	56,864
Lead, white, National Lead Co.	56,815
Leather, shoe, A. Trostel & Sons	56,947
Locks, padlocks, and keys, Miller Lock Co.	56,851
Macaroni, spaghetti, and vermicelli, John B. Canepa Co.	56,828
Matches, safety, Jenkopings och Vulcans Tandsticksfabriksaktiebolag	56,897
Meat and vegetable choppers, rotary, Landers, Fray & Clark	56,930
Meats and lard, certain named, John P. Squire & Co.	56,929
Medicinal plasters, Alcock Manufacturing Co.	56,883
Medicine for women's diseases, J. H. Blake	56,886
Medicines, certain named, I. A. McKenney	56,899
Mustard, D. & L. Slade Co.	56,867
Oats, rolled and ground, H-O (Herby's Oatmeal) Co.	56,827
Oils, lubricating, Valvoline Oil Co.	56,816
Paints, mixed, Hibbard, Spencer, Bartlett & Co.	56,813
Perfumery, Jordan Marsh Co.	56,898
Perfumes, liquid and powdered, R. Hudson's Pharmacy	56,855
Pharmaceutical preparations, certain named, J. P. Johnson	56,896
Photographic film, sensitized, Eastman Kodak Co.	56,919
Pipe lengths, Central Foundry Co.	56,915
Razors and razor blades, Gillette Safety Razor Co.	56,921
Relishes, certain named, M. A. Gedney	56,849
Pickling Co.	56,829
Remedies for certain named diseases, L. M. Monteale	56,931
Remedy, anti-rheumatic and gout, S. Penny	56,877
Sauce, Gebhardt Chili Powder Co.	56,826
Saw and nail sets, Hibbard, Spencer, Bartlett & Co.	56,923
Shirtings, muslin, menims, and canton-flannel, cotton, Massachusetts Cotton Mills	56,875
Shirtings, sheetings, cambrics, and long cloth, G. Willis & Co.	56,939
Shoes, leather, J. G. Grieb & Sons	56,942, 56,947
Skin food in liquid form, F. Herb.	56,893
Soap, Fels & Co.	56,841
Stoves, burners, and ovens, gasolene or vapor, American Stove Co.	56,910
Tea, S. C. Smith & Co.	56,823
Telescopes, F. B. Warner	56,857
Thread, sewing, Jas. Chadwick & Bro.	56,842
Tires, rubber, Goodyear Tire & Rubber Co.	56,941
Tonic beverages, carbonated, Reavis Distributing Co.	56,879
Toiletries, Dr. D. Jayne & Son	56,870
Transfers, Jefferson Woolen Mills	56,871
Uniforms, naval, military, society, and theatrical, Wm. H. Herstmann Co.	56,838
Valves for radiators, air-vent, Norwall Manufacturing Co.	56,852
Veterinary medicine and liniment, C. E. Keough	56,845
Watch cases, Duerer Watch Case Mfg. Co.	56,890
Water, mineral, Manacea Water Co.	56,874
Waterproof preparation, liquid, W. H. H. Boylan	56,839
Whisky, Geo. Benz & Sons	56,868
Whisky, Hill, Thomson & Co.	56,869
Whisky, A. Overholt & Co.	56,876
Whisky, Chapin & Co.	56,891
Whisky, Francis Kelly & Co.	56,891
Whisky, J. Harbison	56,892
Whisky, B. J. Semmes & Co.	56,900
Whisky, Weidemann Co.	56,903, 56,904
Whisky, William Wolf & Co.	56,908
Whisky, Wm. Bergenthal Co.	56,909
Whisky, Boehmke Wine Co.	56,913
Whisky, Irish, Weidemann Co.	56,937
Whisky, Scotch, John Burke Importing Co.	56,872
Wine, Schlessinger & Bender	56,936
Wines, Wetmore, Bowen Co.	56,906
Wood preserving compound, chemical, American Wood Preserving Co.	56,859
Yeast, Aktienbrauerei zum Löwenbrau in Munchen	56,882

## THE ELECTION OF THE UNDERFEED FURNACE

YOU certainly want an administration of household economy, if you vote an Underfeed Furnace into your basement you elect to have a steady supply of clean, pure, economical heat. The Congressional tidal wave of political interest sweeping the country will subside, but from Maine to the Golden West an ever-increasing current of Underfeed testimony proclaims that the

### Peck-Williamson Underfeed Furnace Saves 1-2 to 2-3 on Coal Bills

It is a modern furnace that shows to greatest advantage when the tests are severest. Unlike the Old-fashioned Overfeed, the Underfeed is fed coal from below. All the fire is on top—turning smoke and gases, unused in other furnaces, into heat. Cheapest coal yields as much heat as highest grade anthracite. Figure out the difference in cost. It is yours, Dr. A. N. Witham, of Westbrook, Maine, writes:

"The Peck-Williamson Underfeed Furnace is more than satisfactory. I heated 13 rooms last winter with your largest size furnace at a cost of \$42, and we had CLEAN, PURE, STEADY heat all winter. I believe it is the most physiological system of heat yet devised for PURE AIR AND HEAT in our cold climate. I am glad to recommend it to my friends."

The illustration shows furnace without casing, cut out to show how coal is forced up under fire. Our Underfeed booklet illustrates and describes it fully. Let us send it to you, with facsimile letters from many satisfied users. Heating plans and services of our Engineering Department are yours—FREE. Write to-day, giving name of local dealer with whom you prefer to deal.

The Peck-Williamson Co., 351 W. 5th St., Cincinnati, O.  
Dealers. Write To-day for Our Attractive Proposition.

## WEBSTER'S INTERNATIONAL DICTIONARY

THE ONE GREAT STANDARD AUTHORITY.

Can it truly be said of any other book than WEBSTER'S INTERNATIONAL DICTIONARY that it is:—The Standard of the Federal and State Courts?—The Standard of the Govt. Printing Office?—The Basis of nearly all the Schoolbooks?—Indorsed by every State School Supt?—Universally recommended by College Presidents and Educators?—The Standard for over 90% of the Newspapers?

**UP TO DATE and RELIABLE.**  
2350 Pages. 5000 Illustrations.  
Should You Not Own Such a Book?

WEBSTER'S COLLEGIATE DICTIONARY. The largest of our abridgments. Regular and Thin Paper editions. Unsurpassed for elegance and convenience.  
116 PAGES and 1406 ILLUSTRATIONS.

Write for "The Story of a Book"—Free.  
G. & C. MERRIAM CO.,  
SPRINGFIELD, MASS., U. S. A.  
GET THE BEST.

# WANTED!

## MEN WITH IDEAS TO WORK OUT

However great his inventive genius, the man without technical training is compelled to blunder his way toward success.

The system of instruction of the International Correspondence Schools enables the student to avoid mistakes and obtain invaluable technical training in any of the occupations named below, without leaving home or loss of time from present occupation.

Mechanical Draughtsman, Civil Engineer, Chemist, Textile-Mill Supt., Electrician, Electrical Engineer, Mechanical Engineer, Telephone Engineer, Electrical Lighting Supt., Surveyor, Stationary Engineer, Building Contractor, Architectural Draughtsman, Architect, Bridge Engineer, Structural Engineer, Mining Engineer.

Write the I. C. S., stating line in which you need training, and you will receive valuable information in the particular subject in which you are interested.

INTERNATIONAL CORRESPONDENCE SCHOOLS,  
Box 942, Scranton, Pa.

## HARDERFOLD HYGIENIC UNDERWEAR

Inter-Air-Space System

Is two-fold throughout, affording protection against the vicissitudes of our variable climate to Invalids, Athletes, Professional Men, Merchants, Accountants

And all occupations in life, indoor or out.

Over Eleven Hundred Physicians have united in endorsing the sanitary excellence of the HARDERFOLD system of underclothing.

HARDERFOLD FABRIC CO.,  
163 River Street, Troy, N. Y.  
Send for catalogue

## Magnificent Chance for Investment

The owners of the American patents of the Magic Sphere offer to allow the first to be erected and run free of royalty until the cost of erecting shall have been paid, to be followed by a small royalty thereafter.

So much discussion has been caused by the wonderful effects of this sphere that it would prove a powerful amusement attraction.

For a complete description, drawings, etc., see the following numbers of the SCIENTIFIC AMERICAN: June 15, July 7, and August 11.

The Magic Sphere is the invention of Sir Hiram Maxim, whose name is sufficient to guarantee both success and patronage. Working drawings are now ready. Write at once to James C. Haynes, 58 Bromfield Street, Room 14, Boston, Mass.

## FACTORY MEN

We can help you to better earnings and better results by our course of instruction in Cost Accounting. Small cost—spare hours—easy payments. Let us tell you our plan. It costs nothing to investigate. Our students to-day hold the best places and manage the best factories. A postal will bring you the details.

INTERNATIONAL ACCOUNTANTS' SOCIETY, Inc.  
59 Fort St. W., Detroit, Mich.

## Start A Mail Order Business.

Acknowledged by shrewd business men one of the most pleasant and profitable business in the world. Stop working for others—big profits—money comes with orders—our plan for starting beginners is a sure winner and offers you a chance to get in business for yourself. Full particulars for stamp.

A. FRANKLIN-HOWARD CO., Kansas City, Mo.

## VENTRILOQUISM

Learned by any Man or Boy at home. Small cost. Send to-day 2-cent stamp for particulars and proof.

O. A. Smith, Room 105, 2040 Knoxville Ave., Peoria, Ill.

## INVENTORS

We manufacture METAL SPECIALTIES of all kinds, to order; largest equipment; lowest prices. Send sample or FREE model for low estimate and best expert advice FREE.

THE EAGLE TOOL CO., Dept. A, Cincinnati, O.

## NOVELTIES & PATENTED ARTICLES

MANUFACTURED BY CONTRACT, PUNCHING DIES, SPECIAL MACHINERY, E. KONIGSLOW STAMPING & TOOL WORKS, CLEVELAND, O.

## MASON'S NEW PAT. WHIP HOISTS

save expense and liability incident to Elevators. Adopted by principal storehouses in New York & Boston.

Manfd. by VOLNEY W. MASON & CO., Inc.  
Providence, R. I., U. S. A.

## Magical Apparatus.

Grand Book Catalogue. Over 700 engravings 25c. Parlor Tricks Catalogue, free.

MARTINKA & CO., Mrs., 493 Sixth Ave., New York.

## LEARN WATCHMAKING

We teach it thoroughly in as many months as it formerly took years. Does away with tedious apprenticeship. Money earned while studying. Positions secured. Easy terms. Send for catalog.

ST. LOUIS WATCHMAKING SCHOOL, St. Louis, Mo.

## FREE ILLUSTRATED BOOK

We will no longer send you unsolicited books, but we will place by which you can secure any of our catalogues absolutely free. Write to-day, enclosing this coupon, J. Andrus & Sons Co., 114 W. Water Street, Milwaukee, Wis.

## 10 "How To Make" Electrical Books

1. A 2-1/2 Light Dynamo, 2. A Motor, 3. A 1/2 H. P. Dynamo, 4. A Telephone, 5. A Talking Machine, 6. A 1/2 H. P. Spark Coil. Send for Complete List, Room 4, P. O. Box 2, Lynn, Mass.

## "How to Remember"

Free to Readers of this Publication

### Stop Forgetting

You are no greater intellectually than your memory. My course simple, inexpensive. Increases business capacity, social standing, gives an alert, ready memory for names, faces and business details. Develops will, conversation, speaking, etc. My booklet, "How to Remember," sent free.

DICKSON SCHOOL OF MEMORY, 700 Kimball Hall, Chicago

## A Nickel a Minute

can be made wherever there are crowds if one has a single

### PHOTOSCOPE

Takes pictures rapidly, develops and finishes them, all ready framed for a nickel. Makes fortunes for its owner. Is used in related work and glass cases. Particulars from

M. S. KLINE  
15 N. Division St., Buffalo, N. Y.

## SETS OF CASTINGS OF MODEL ENGINES

SEND 10¢ FOR 126 PAGE ILL. CATALOGUE. ALSO TOOLS, GEAR WHEELS & PARTS OF MODELS

GOODNOW & NIGHTMAN  
Removed to 132 Milk Street.

## 60 YEARS' EXPERIENCE

# PATENTS

TRADE MARKS DESIGNS COPYRIGHTS & C.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents. Patents taken through Munn & Co. receive special notice, without charge, in the

### Scientific American.

A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, \$3 a year; four months, \$1. Sold by all newsdealers.

MUNN & Co., 361 Broadway, New York  
Branch Office, 625 F St., Washington, D. C.

### LABELS.

"Carnation," for catsup, M. E. Stehrer	13,135
"Dr. Daniels' Veterinary Physic Ball," for medicine, Dr. A. C. Daniels	13,140
"Eagle," for paper bags, Crown-Columbia Pulp & Paper Co.	13,142
"El Ranchero," for cigars, W. J. Lytle	13,130
"John Taylor's Pork Roll," for pork roll, Taylor Prov. Co.	13,134
"Kee-Za," for tea, Cobb, Bates & Yerxa Co.	13,131
"Kee-Za," for coffee, Cobb, Bates & Yerxa Co.	13,132
"Madam Drake's Hair Restorer," for a hair restorer, Houseman's Pharmacy	13,139
"Magic Curler," for hair curlers, Magic Curler Co.	13,138
"Perfecta Massage Cream and Skin Food," for a massage cream and skin food, C. O. Rain	13,137
"Piedmont," for evaporated apples, Wallerstein Co.	13,133
"Reliance," for paper bags, Crown-Columbia Pulp & Paper Co.	13,141
"Sirenia," for whips, United States Whip Co.	13,144
"Snowflake," for paper bags, Crown-Columbia Pulp & Paper Co.	13,143
"The American Princesses' Roman and Grecian Massage Bath and Toilet Compounds," for toilet and massage compounds, E. H. Green	13,136

### PRINTS.

"Cream of Wheat," for a cereal breakfast food, Cream of Wheat Co.	1,819
"The Baxter Shoe," for shoes, Holland & O'Brien Shoe Co.	1,822
"The Manning Shoe," for shoes, Holland & O'Brien Shoe Co.	1,821
"Xmas Stocking," for Christmas stockings, Elms & Co.	1,820

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., 361 Broadway, New York.

Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list. For terms and further particulars address Munn & Co., 361 Broadway, New York.

**ELECTRIC LAUNCH MOTOR**—THE design in this paper is for a motor of unusual simplicity of construction, which can easily be built by an amateur at small cost. It is intended for a boat of about 24 feet over all and 4 feet 6 inches beam, drawing 18 inches, and is capable of propelling such craft at a speed of 7 miles per hour. Illustrated with 21 cuts. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 1202. Price 10 cents by mail, from this office and from all newsdealers.

## LET US BE YOUR FACTORY

WRITE FOR ESTIMATE ON ANY ARTICLE YOU WANT MANUFACTURED

STAMPINGS, MODELS, EXPER. WORK WRITE FOR FREE BOOKLET

THE GLOBE MACHINE & STAMPING CO.  
970 Hamilton St., Cleveland, O.

## Bad Water

DON'T DRINK

Our Filters Purify, Dendritic, Decolorize, Soften Free.

Bubbling Water Purifying Co.  
12 Murray St., New York

## "KNIPE" BALL BEARINGS

For thrust or weight or both. No fitting, just push them on. All sizes 1/4 in. Shaft and up. 10 cts. in Stamps for samples.

PRESSED STEEL MFG. CO., 545 The Bourse, Phila., Pa.

## AUTOMOBILE INSURANCE

Every owner of an Auto should insure his car against loss or damage, whether in actual riding or in transit. We fully insure you against such loss or damage, however sustained. Premiums low. Fulliest reliability.

H. W. BEALS, 76 William Street, New York

## GEORGE W. BROWN'S

Copliess Engines, Breweries and Bottling Machinery, THE FILTER MFG. CO., 899 Clinton St., Milwaukee, Wis.

## MODELS & EXPERIMENTAL WORK.

Inventions developed. Special Machinery

E. V. BAILLARD, 24 Frankfort Street, New York.

## RUBBER

Expert Manufacturers  
Fine Jobbing Work

PARKER, STEARNS & CO., 228-229 South Street, New York

## Dies, Tools, Models and Special Machinery

Metal Specialties and Stamping Manufacture

HOEFT & MOORE, Chicago, U. S. A.  
WORKS IN INDIA & FRANKLIN STREETS

## GEO. M. MAYER, 1131 MONADNOCK, CHICAGO

WORKING DRAWINGS

## DRYING MACHINES.

S. E. WORRELL  
Hannibal, Mo.

## SPECIALTIES & PATENTS BOUGHT AND SOLD

American Commerce & Specialty Co., Inc., 95 Dearborn St., Chicago

## Experimental & Model Work

Cir. & advice free. Wm. Gardam & Son, 45-51 Rose St., N.Y.

## Telegraphy

Circular free. Wonderful automatic teacher. 5 styles \$2 ap. OMNIGRAPH CO., Box 39, 89 Cortlandt St., New York.