

the compression of the eggshell, and as the down on the chick dries, it fluffs out and adds to the apparent size. It may be that in individual instances they double in weight, but it is far from true as a general rule. We have known cases where the reverse was true. Where too much moisture has been kept in the incubator, the egg does not dry down enough, and the chicks hatch in a swollen, puffy condition. During the first day the surplus water in them evaporates, so that they shrink, and weigh less than when they were hatched. It may be true, too, that when there has been too little moisture in the incubator, and the eggs have been dried down too much, the chick will absorb moisture after being hatched and so increase in weight. Where the chick has been hatched under a hen, or where the conditions of moisture have been kept just right in the incubator, there will be very little, if any, change in weight during the first day. 2. A hard-boiled egg weighs quite a bit more than a raw egg. Where does it get the extra weight? A. The shell of an egg is very porous, and moisture and air also pass through it without difficulty. Hence in boiling water is absorbed by the egg, and this increases the weight of the egg. 3. Why does sap run up the tree? A. Sap is carried up a tree by osmotic pressure and capillarity, chiefly. The evaporation from the leaves tends to assist the flow during the season when the leaves are on the trees. These matters are explained in textbooks of physics.

(9614) R. A. asks: Would you please explain to me if a magnetic needle would show any greater resistance to turning out of directions if it was made much longer, if it had a large surface, or if it was made with electro-magnets. A. A long magnetic needle swings more slowly than a short one, and one with a larger surface in a vertical direction is resisted by the air more than a flat needle. It makes no difference to the swing whether the needle is a permanent or an electro-magnet.

(9615) M. S. asks: Is it not the tendency of a bullet fired from a rifle to ascend until it has spent its force? A. A bullet is a falling body, and descends by gravity after it leaves the gun, just as if it were dropped through the air. For this reason a bullet will not hit a target if the gun is aimed directly at the target. The sights of the rifle are so adjusted as to point the gun above the target to such an extent that the bullet will curve up above the target and down to the target when it has flown for the time required for the bullet to pass from the gun to the target. This curving increases as the distance from gun to target increases. A ball from a gun fired in a level line does not curve upward or ascend till it has spent its force. If it were so, there could be no science of gunnery.

(9616) H. H. A. asks: Kindly answer the following question: Does the date change between points on opposite sides of the 180 deg. meridian, or is it merely nautical reckoning that recognizes the date line? A. The date changes at any place when the line or meridian of midnight passes over that place. The date is constantly changing all the way around the earth during the twenty-four hours of any day. The international date line is a line which is very nearly coincident with the 180th meridian. To the east of that line the date is always one day later than on the west of that line. Night covers half of the world all the time. The meridian through the middle of the night is moving all the time around the earth. On the east of that meridian there is one day, on the west of that meridian there is another. A day is dying on the west side of that meridian, a new day is coming on the east. At eleven at night in your place, the line of midnight is one hour to the east of you. The day has one hour left. The next day is only one hour away to the east. In an hour it has reached you and passes over your head, speeding west ceaselessly, around and around the earth. However, when a ship passes the 180th meridian, it changes its date, since it has passed out of one day into another.

(9617) E. A. W. asks: 1. Why does a condenser increase the current in an induction coil, and is one necessary in wireless telegraphy? A. The condenser suppresses the spark which would be produced on the closing of the primary circuit of an induction coil and intensifies the spark upon the breaking of the primary circuit. All coils which are to throw sparks must have condensers. Hence one must be used in wireless telegraphy. The full action of the condenser is given in answer to Query 8184, Vol. 84, No. 20, which we send for ten cents. 2. Could a spark coil such as are used on gasoline engines be used instead of an induction coil? A. If the spark coil of the gasoline engine has a primary and a secondary winding and condenser, it may be used to send wireless signals for a short distance. 3. How large a coil and how many batteries would be needed in a wireless outfit between two places 500 feet apart? A. We should not advise any one to experiment with wireless telegraphy over any short distance even without having a coil capable of giving an inch spark. 4. Which is best in a wireless telegraph receiver—a coherer containing carbon granules connected directly with the battery and a telephone receiver, or a coherer containing nickel or brass filings with a decoherer and connected with a relay which operates a sounder? A. The co-

A JAPANESE VICTORY

Capt. SKINNER tells how BRAINS and SKILL will always overcome mere Brute Force.

Japanese Strategy—The Flank Attack

against the individual or an army—and the ever successful

APPLICATION of the UNEXPECTED revealing

ALL THE SECRETS OF JIU-JITSU

The Wonderful Japanese Method

of attack and self-defense, by which the WEAK defeat the STRONG. The complete course, in



BOY TAKING A FALL OUT OF A BIG BULLY

one volume, by Capt. Harry H. Skinner, 12mo, cloth, nearly 100 photo-illustrations. By mail, \$1.

CAPT. SKINNER'S BOOK is the OFFICIAL TREATISE of this wonderful system.

It has been selected by the United States Navy Department for instruction of the crews on our War Vessels, and orders have

been issued by the Government Authorities at Washington to have this book placed in all the libraries. It is now used by the Officers and men of the U. S. Army and Navy as well as the Police Departments of New York, London and other large cities.

PRESIDENT ROOSEVELT, our most distinguished exponent of Jiu-Jitsu, says the art is worth more in every way than all of our athletics combined.—Review of Reviews.

THE U. S. GOVERNMENT has adopted this Science as a part of the instruction at Annapolis Naval Academy and West Point Military School.

Jiu-Jitsu, by Capt. Skinner, described with simple eloquence, enriched with many photographs from life. Handsomely printed.—New York American.

Jiu-Jitsu—Capt. Skinner gives clear, careful explanations of all the various positions.—New York World.

Capt. Skinner's book is a comprehensive work in letterpress and pictures of this remarkable science.—Tribune.

The reading of this book is all that is necessary to make any man, woman or boy master of all the secrets of JIU-JITSU.

Japan Publishing Co.

Dept. E, American Tract Society Building, New York, N. Y.

"Star" Foot and Power Screw Cutting Lathes
Automatic Cross Feed
FOR FINE, ACCURATE WORK
Send for Catalogue B.
SENECA FALLS MFG. CO.
695 Water Street,
Seneca Falls, N. Y., U. S. A.

ENGINE & FOOT MACHINE SHOP OUTFITS
LATHES TOOLS AND SUPPLIES
SEBASTIAN LATHES CO. CINCINNATI, O.

Veeder Counters
Price \$1.00
to register reciprocating movements or revolutions. Cut full size.
Booklet Free
VEEDER MFG. CO.
Hartford, Conn.
Cyclometers, Odometers, Tachometers, Counters and Fine Castings.

THE NICKEL PLATE ROAD BETWEEN NEW YORK AND BOSTON, AND CLEVELAND, FT. WAYNE AND CHICAGO

Lowest rates and elegant equipment makes this a favorite route between the above points. Through sleepers. Unexcelled dining car service. Individual club meals 35 cents to \$1.00 each. Also a la Carte. Full information on application to R. E. Payne, General Agent, 291 Main St., Buffalo, N. Y., or A. W. Ecclestone, D. P. A., 385 Broadway, New York City.

ANATOMY OF THE AUTOMOBILE

By "DR. DYKE"

Contains full descriptions and detailed mechanical drawings of all standard American automobiles and several types of foreign cars. DIAGRAMS OF ELECTRICAL CONNECTIONS. Full descriptions and drawings of successful air ships. THREE BOOKS IN ONE. Over 700 pages and 200 illustrations. Invaluable to auto owner, operator, repairman, agent and intending purchaser. Price, postpaid, \$2.50. Send for our catalogue of auto supplies.

A. L. DYKE AUTO SUPPLY CO.
Olive and Walton Streets. St. Louis, Mo.

Electrical Engineering

and Experimental Work of Every Description
We have every facility for producing first-class work promptly. Our factory is equipped with modern machinery throughout.
C. F. SPLITDORF
Engineering Dept. 17-27 Vandewater St., N. Y. City

PATTON'S SUN-PROOF PAINTS
are guaranteed to outwear all other paints. Send for free book about paint.
PATTON PAINT CO.
227 Lake St., Milwaukee, Wis.

THE MIDGET DYNAMO OR MOTOR
Price as shown \$7.50
Without Hand Power \$4.50
Price includes full instructions for the care of the machine and for performing 35 IMPORTANT EXPERIMENTS.
This machine has been on the market over ten years and has been gradually developed to its present state of perfection.
ELBRIDGE ELECTRICAL MFG. CO.
Water St., ELBRIDGE, N. Y., U. S. A.

ORIGINAL BARNES Upright Drills
Positive Feed
10 to 50-inch Swing
Send for Drill Catalogue.
W. F. & JNO. BARNES CO.
(Established 1872)
1999 Ruby St., Rockford, Ill.

The Right Kind of a Motor
on land or water. Salisbury Double Cylinder Motor 4 1/2 x 5. Water Jacket Cylinders and Head, Aluminum Crank Case, Self-Oiling, Nickel Steel Valves, Forged Steel Shaft. Salisbury Motors are Reliable. Prices moderate.
Send for Catalogue.
BUFFALO ENGINE CO., Mfrs.
272-274 Michigan St., Buffalo, N. Y.

THE HARRINGTON & KING PERFORATING CO.
PERFORATED METALS OF EVERY DESCRIPTION FOR ALL USES.
SCREENS OF ALL KINDS.
225 NORTH UNION ST. CHICAGO, ILL.

WOLVERINE SELF STARTING AND REVERSING Gasoline Marine Engines
3 to 18 horse power. Launches 18 to 75 ft. Write for catalogue.
WOLVERINE MOTOR WORKS
Grand Rapids, Mich., U. S. A.
Brooklyn office, 97 2nd St.

15 Days' Trial on This MARINE ENGINE
No Cash Payment required. We pay freight distance 100 miles. Spark plugs \$1.50, guaranteed 95 days; also Second-hand Engines.
M'DONALD & ERICKSON
34 W. Randolph St., Chicago.

herer should contain metallic filings, and be provided with a tapper to decohere the filings. 5. Does there have to be a spark in the secondary coil to make the Hertzian waves? A. The Hertzian waves are produced by the surging of the discharges of an induction coil, or some other electric discharge of similar character. Lightning produces them. 6. Can a magneto generator be used in a transmitter? A. A magneto cannot be used as a transmitter unless it can be used to send current through the primary of the induction coil, and they are not usually wound for any such purpose. 7. What size of wire is usually used in winding electric bells? A. Any size of wire may be used upon an electric bell which will allow current enough to pass to magnetize the core of the magnet and thus ring the bell. To ring through great resistance a fine wire, No. 30 to 36, is commonly employed, and as many as 1,000 ohms may be wound on the spools. 8. If a meteor is heated by friction with the air, how is it heated when it is out in space? A. A meteor is not heated on the outside of the earth's atmosphere. In external space the temperature is supposed to be in the neighborhood of absolute zero, and all small bodies there must be as cold as the place in which they are.

NEW BOOKS, ETC.

HOW TO KNOW THE STARRY HEAVENS. An Invitation to the Study of Suns and Worlds. By Edward Irving. New York: Frederick A. Stokes Company, 1904. 12mo.; pp. 313. Price, \$2.

This book is a popular introduction to the study of astronomy, and in its pages will be found a careful selection of the most typical, interesting, and instructive facts and theories known so far concerning the universe. These are described and illustrated in a way that will make them attractive, not only to the general reader and beginner, but also to persons having a more advanced knowledge of the subject. The idea of the author in writing this book (which is the first of a series dealing with the sciences of astronomy, biology, and sociology) is to give a bird's eye view of the subject without the confusion of too many details. The figures given in the work are mostly in round numbers, and while they may not be absolutely accurate, they are fairly so. Within the twenty-five chapters of the book such subjects are dealt with as the Construction and Dimensions of the Universe and Principles Utilized in Measuring It; Kepler's Three Laws; Galileo's Laws of Motion; Newton's Laws of Gravitation; the Nebular Hypothesis, and many theories and discoveries regarding it, as well as the various Modifications of the Nebular Theory; the Apparent Motions of the Heavenly Bodies, as Shown by Observation, and the Rival Theories to Explain Such Apparent Motions; Some Problems Used in Celestial Measurements; the Principles and Applications of the Spectroscope; Lunar Geology and Geography and Igneous Forces on the Moon and Elsewhere. The book is very completely illustrated with no less than 128 full-page illustrations and 121 smaller cuts, besides a number of colored charts. Many of the half-tones are from excellent photographs of the heavens obtained in the various leading observatories. Altogether, this book forms one of the best popular treatises which has yet come to hand.

PRACTICAL ELECTRIC-LIGHT FITTING. By F. C. Allsop. New York: The Macmillan Company, 1905. 12mo.; pp. 283; 242 illustrations. Price, \$1.50.

This work, which is now in the sixth edition, forms a treatise on the wiring and fitting up of buildings deriving current from central station mains, and the laying down of private installations. It is a thoroughly practical treatise for fitters and others who require plain, practical instruction and diagrams, rather than abstruse mathematical formulæ. All forms of switches, cut-outs, lamps, meters, heaters, storage batteries, dynamos, etc., used in electric lighting are described in detail, and full descriptions, illustrated with diagrams, are given regarding the wiring of buildings.

UNCOOKED FOODS AND HOW TO USE THEM. By Mr. and Mrs. Eugene Christian. New York: The Health Culture Company, 1904. 12mo.; pp. 246. Price, \$1.

This book is a treatise on how to get the highest form of animal energy from food. It opens with a general consideration of the food question, and the various products, such as cereals, fruits, nuts, milk, etc., are discussed and comparative tables of food values, time of digestion, etc., are given. The effects of cooking upon various kinds of food are set forth in full, the authors claiming that the application of heat in the cooking of food destroys some of the vital and organic food elements by rendering them inorganic. Many of these elements are needed in building up the system and maintaining the bodily and mental health. The book tells how to begin the use of uncooked foods, and discusses their proper use under various conditions. About 200 receipts for the preparation of fruits, cereals, vegetables, nuts, salads, cakes, puddings, sauces, etc., together with a seven days' menu, are given; and these show very clearly how much can be done in the way of setting an attractive table with purely uncooked foods.

IN CASE OF Accident
IT IS GOOD POLICY
to have for immediate use Our U. S. Emergency Case

Containing all necessary appliances and remedies. Sterilized and antiseptic. Neatly arranged in beautiful handy metal case—with full instructions for "first aids to the injured." Indispensable to the traveller, autoist, workshop and the home. Sent to any address upon receipt of \$1.00.

U. S. EMERGENCY CASE CO.
Utica New York
AGENTS WANTED

SAVE MONEY on AUTO SUPPLIES

We charge ordinary business advance on wholesale cost—much less than the usual "fancy" prices. Your money back if you want it, too.

The Whole Market before you in our catalogue. Send for it and order from your easy chair.

POST & LESTER CO.
48 Sargent St., Hartford, Ct.
Largest Importers of Foreign Made Equipment.

A
\$40.00
Search-light only \$20.80

Genuine Bayech & Lomb lens mirror. Front 7 in. dia. Quality the finest. Try lamp 10 days; if not satisfied, your money back. Lamp catalog on request.

Save Time and Money

Progressive business men use **BATES Hand Numbering Machine**

It prints numbers consecutively, duplicates or repeats—changed instantly or turning pointer. To learn how it will save for you, send for booklet 48 no.

BATES MFG. CO., 31 Union Sq., New York
Chicago—304 Wabash Avenue
Factory, Orange, N. J.

MOVING PICTURE MACHINES
Films. Stereopticons. Views.

If you contemplate going into the public entertainment business, write for catalogue No. 9, which gives detailed information and prices of Moving Picture Machines, Films, Stereopticons and Views. We offer dependable apparatus and views only, no second-hand goods for sale. Responsible parties using our machines can rent moving picture films for one night's use.

KLEINE OPTICAL CO.
52 State Street, Chicago, Ill.

THE MIETZ & WEISS KEROSENE and GAS ENGINE

burns KEROSENE cheaper and safer than gasoline. Automatic, simple, reliable. No electric battery or flame used. Perfect regulation. Belted or directly coupled to dynamo for electric lighting, charging storage batteries, pumping and all power purposes.

A. MIETZ,
128-138 1/2 Street, New York.
ADOPTED BY U. S. GOVERNMENT. Highest Award, direct coupled Generator Set, Paris Exposition, 1900, Gold Medal, Pan American Exposition, 1901, S. C. Exposition, 1902, Gold Medal and Special Diploma has been awarded to the Mietz & Weiss Oil Engine at the Louisiana Purchase Exposition at St. Louis, 1904.

Automobile Tires

All new and first class, contracted for before the raise in price, and you are offered the benefit.

32 x 3 1/2 inch single tube, \$12.50
32 x 3 1/2 " " " " " " 18.50
30 x 3 " " " " " " 20.00

Every accessory and part for an automobile builder or user equally low. You miss it if you don't get our large FREE Catalogue.

J. H. NEUSTADT CO., St. Louis, Mo.

"Saved \$80 Per Day in Fuel"
by means of
The Dean Boiler Tube Cleaner.

This is one of the thousands of cases in which this Cleaner has made wonderful savings by removing heat-consuming scale from the tube of both types of boilers. Write for our treatise on "Economy in the Boiler Room."

THE WM. B. PIERCE CO.
319 Washington Street, Buffalo, N. Y.

How To Increase Your Business

READ carefully, every week, the **Business and Personal Wants** column in the **Scientific American**

This week it will be found on page 310.

Some week you will be likely to find an inquiry for something that you manufacture or deal in. A prompt reply may bring an order.

Watch it Carefully

How TO MIX PAINTS. By C. Godfrey. New York: The Industrial Publication Company, 1904. 12mo.; pp. 64. Price, 50 cents.

This small book gives simple and clear directions for the mixing of paints so as to obtain various shades and tints that may be found desirable for house painting and the like. Besides the above information, there are notes on color harmony, shades, and tints, the use and care of brushes, etc. The book will be found useful by both amateurs and men in the trade.

JIU-JITSU. The Wonderful Japanese Method of Attack and Self-Defense. By Captain Harry H. Skinner. New York: The Japan Publishing Company, 1904. 8vo.; pp. 118. Price, \$1.

This much-talked-of Japanese method of self-defense without the aid of weapons is here illustrated by sixty-five photographs, which were posed for by B. H. Kuwashima, of Columbia University. Each illustration is described in simple language in such a way that the amateur, by studying the illustrations in connection with the diagram showing the muscles, bones, and arteries of the human body, can soon learn to perform the various tricks described. The fact that the United States government has taken up Jiu-Jitsu, and taught it to the naval and military students at Annapolis and West Point, shows that it is a method of self-defense which can be relied on, and which gives confidence to the person who knows it sufficiently well to be able to use it in emergencies.

PRELIMINARY REPORT OF THE OHIO CO-OPERATIVE TOPOGRAPHIC SURVEY. By C. E. Sherman, Inspector.

This report is printed by the State of Ohio for gratuitous distribution. The survey is being carried on in connection with the United States Geological Survey, and the survey sheets of the different towns may be had from the Director of the latter survey at Washington, D. C., for five cents each. The report gives the legislation that was passed with reference to this survey, and some of the preliminary work that was done.

A HANDBOOK FOR SUPERINTENDENTS OF CONSTRUCTION, ARCHITECTS, BUILDERS, AND BUILDING INSPECTORS. By H. G. Richey. New York: John Wiley & Sons, 1905. 16mo.; pp. 742; 357 figures. Price, \$4.

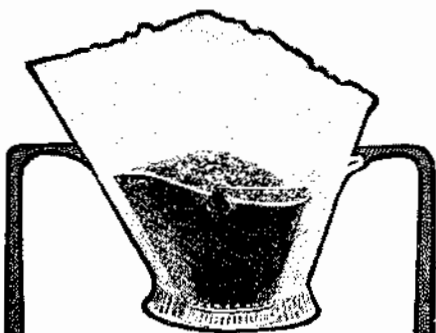
This book is one of the best pocket handbooks for builders, carpenters, contractors, and superintendents of construction which we have seen. It starts with the building of foundations of various sorts, and follows this with information on stone laying, setting, and cutting; marble and slate work; brickwork, brick-laying, and paving. Concrete construction, fireproof construction, and fire protection of buildings are discussed in Part III. Part IV deals with lathing and plastering; carpentry; plumbing; tin and sheet-metal work; painting, glazing, and paper hanging; iron work, electric wiring, and heating. The laying out of work, mensuration, and drawing are discussed, as are also hydraulics and the strength of various materials. The book is completed by various engineering formulas and tables that always come handy to the engineer. It is thoroughly up-to-date in every particular.

STRENGTH AND ELASTICITY OF STRUCTURAL MEMBERS. By R. J. Woods, M.E. New York: Longmans, Green & Co., 1904. 8vo.; pp. 310. Price, \$3.65.

This book is a very complete textbook for students of engineering. It is extremely practical in character, and the methods described are simple and concise, and involve only a fair knowledge of elementary mathematics. All kinds of forces, stresses, and the way they affect girders, beams, retaining walls, riveted joints, etc., are thoroughly described, and the mathematics relating to them are given. Not the least useful are the chapters on cantilever and suspension bridges. The book will be found useful by all students in engineering, and also to men engaged in all kinds of engineering work.

INDEX OF INVENTIONS
For which Letters Patent of the United States were Issued
for the Week Ending
April 4, 1905
AND EACH BEARING THAT DATE
[See note at end of list about copies of these patents.]

Adding and recording machine, C. B. Garrett	786,493
Adding machine, H. Eberhardt	786,490
Adjustable and reclining chair, A. J. Nuss	786,308
Air brake system, A. C. Richards	786,383
Album or book and stand therefor, J. S. Desmarais	786,271
Ammunition wagon or limber, W. Mayer	786,452
Annealing furnace, J. Hughes	786,565
Annealing furnace, non-oxidizing, C. F. Kenworthy	786,365
Asphalt cutting machine, H. Schumacher	786,522
Automobile or bicycle wheel, O. R. Van Doren	786,612
Awning, C. J. Truemper	786,327
Baling press, D. M. Bass	786,714
Banjo bridge, L. A. Callan	786,425
Basket, hoop picking, F. W. Craver	786,487
Bean picker, H. G. Hubbell	786,291
Bearing, H. M. Smith	786,357
Bearing, hanger, ball, W. S. Rogers	786,315
Beef Dress, corned, K. C. Hieber	786,438



1/3 the cost

For Coal (even less in many cases) is the claim made for the Peck-Williamson UNDERFEED Furnace.

This claim is made by—
Well known people—
Living in the coldest sections—
After the severest tests.

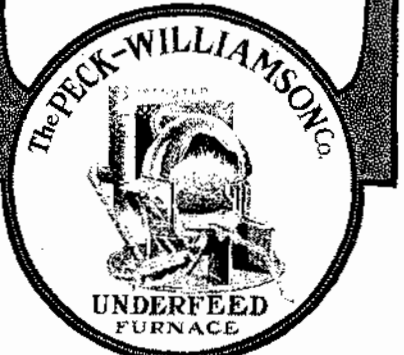
A recent correspondent, referring to our UNDERFEED, stated:
"I have used it for the past two winters, heating ten rooms and an upper hall at a cost of \$35 per annum."

Hundreds of such letters come to us.

In the Peck-Williamson UNDERFEED Furnace a ton of cheapest grade of coal is made to produce as much heat as a ton of the most costly grades; the coal is fed from below and the fire is on top; the rational way; the gases and smoke do not escape up the chimney as they do in ordinary furnaces, but are consumed as they pass up through the fire; immunity from gas, smoke and dirt; less ashes and no clinkers; simple and strong in construction, easy to operate.

Let us send you FREE our UNDERFEED Book and fac-simile voluntary letters proving every claim we make.

The Peck-Williamson Co., 351 W. 5th St., Cincinnati, O.
Dealers are invited to write for our very attractive proposition.



DURABILITY

Fox Typewriter

On account of its perfected and superior mechanical construction a Fox will outlast any other typewriter. Repairs cost practically nothing, an important feature enjoyed by the Fox alone.

Write for particulars concerning our free trial plan, and also our 1905 catalogue just out.

Old machines taken in part payment, and easy terms given.

We want dealers for unoccupied territory. Write for our liberal proposition.

FOX TYPEWRITER CO.
Exclusive U.S. and Foreign
826-810 Front St. Grand Rapids, Mich.

The R. & C. Magnetic Liquid Indicator
SHOWS AT A GLANCE
the amount of LIQUID in a tank. For Motor Car tanks, Motor Boat tanks, Storage tanks, etc. Gasoline, Oil or Water. Operated under PRESSURE—or gravity feed. Absolutely reliable and guaranteed.

Can be applied to the Filler Opening of Motor Car tanks in place of ordinary Cap, or separate. For Motor Car tanks, or any tank up to 16 in. in DEPTH

Price, \$5.00

Write for full description and illustrations. Manufactured exclusively by the **R. & C. INDICATOR CO., Inc.**
BRIDGEPORT CONN., U. S. A.

BABBITT METALS.—SIX IMPORTANT FORMULAS. SCIENTIFIC AMERICAN SUPPLEMENT 1123. Price 10 cents. For sale by Munn & Co. and all news-dealers. Send for catalogue.

Every Gas Engine User should learn about the **Apple Automobile Sparker**. Easily attached. No more belt, battery or commutator troubles. Increases power and speeds. For any kind of ignition apparatus write The Dayton Electrical Mfg. Co. 98 Beaver Bldg. Dayton, Ohio.

Beer, manufacturing non-alcoholic, V. Lapp	786,771
Beet chopper, E. Bell	786,258
Belt, F. Mueller	786,375
Belt tightener, W. G. Gaum	786,354
Belt tightener, Lanning & Tusia	786,851
Berry box, O. H. Schmalz	786,605
Binders, locking mechanism for the operating devices of loose leaf, H. J. Moore	786,583
Block, See Building block	
Boiler incrustation preventing device, F. Weimar	786,781
Boiler or like furnace, steam, G. R. Hislop	786,764
Boilers, combined safety attachment and fue cleaner for steam, J. W. Norton	786,511
Book, poll tax receipt, Exline & Bourke	786,743
Bootee, O. P. Hurd	786,644
Bottle, R. G. Julien	786,295
Bottle holder, ink, L. H. Keller	786,768
Bottle shipping case, Wright & Miller	786,705
Bottle stopper, C. Dorn	786,735
Bottle stopper extractor, C. F. Garimaldi	786,492
Bottle washing machine, J. Angeletti	786,255
Bottle washing machine, A. Forbes	786,747
Box, J. J. Pelski	786,674
Box fastener, A. T. Gruse	786,299
Brake shoe, J. F. Morrison	786,373
Brake shoe, W. M. Simpson	786,465
Brick trimming tool, S. C. Campaigne	786,344
Briquet machine, H. E. Marsh	786,773
Brooch, vest, G. D. Turner	786,628
Brush corn fiber, A. J. Middleton	786,579
Brush making machine, A. Vanderveld	786,537
Buckle, cotton bale tie, J. E. Fleener	786,744
Buckle, cross line, Rath & Kvech	786,463
Building block, C. J. W. Hayes	786,762
Button, badge, G. H. Brooks	786,262
Cabinet, E. A. Carlson	786,483
Calculating machine, H. Goldman	786,282
Calendar, Ball & Ritz	786,618
Camera, photographic, G. Hassell	786,562
Camera stand, E. A. Steetzer	786,530
Can body making machine, G. Weiger	786,302
Can testing apparatus, H. C. Black	786,404
Can topping machine, H. C. Black	786,403
Canning machine, Feerg & Hall	786,351
Cane or umbrella attachment, F. Grey	786,755
Cautechouc, manufacture of a substitute for, H. Spatz	786,527
Car brake, mining, J. C. Jones	786,361
Car door, grain, C. L. Robbins	786,314
Car haul, L. J. Robb	786,517
Car safe, sleeping, J. Dawson	786,270
Car safety guard, street, A. Willard	786,303
Car wheel, fram, G. T. Bond	786,405
Car with drop ends, low side gondola, J. M. Hansen	786,356
Carving platter meat holder, H. G. Chamberlin	786,546
Casing spear, J. J. Brewster	786,480
Cash register, A. Miszewski	786,304
Cash register, J. P. Cleal	786,346
Cash register, F. C. Osborn	786,377
Chair spring back, C. J. Travers	786,326
Chisel, treating and utilizing, E. C. Parsons	786,595
Churn dasher, S. C. Simons	786,525
Churn, rotating or centrifugal, E. A. Nordlinch	786,459
Cigar cutter, J. T. Paterson	786,514
Cinder, apparatus for spraying blast furnace, W. Lessing	786,573
Circuit closing and breaking device, W. J. Murdock	786,589
Clothes holding device, L. Ismer	786,645
Clutch, magnetic, H. H. Cutler	786,294
Clutch mechanism, J. M. Joy	786,294
Clutch or speed accelerator, magnetic, H. H. Cutler	786,425
Coal drawing machine, F. D. Bufum	786,623
Coking oven, J. M. Sullivan	786,694
Column support and sill fastener, combination, D. F. Hutten	786,497
Comb, See Currycomb	
Compression lubricator, automatic, D. B. Williams	786,702
Computing machine, automatic, A. D. Genesee	786,281
Concrete beam protection, A. L. A. Himmelwright	786,289
Concrete block making apparatus, hollow, W. G. Hughes	786,566
Concrete building block molding machine, W. L. Dow	786,272
Concrete steel columns, form for constructing, L. F. Brayton	786,622
Concrete structure, E. S. Keefer	786,648
Condenser and leak-coil, combined, W. W. Massie	786,578
Conversation tube, A. W. Nicholls	786,455
Conveyor, G. F. Zimmer	786,337
Conveyor, E. A. Hallam	786,643
Conveying apparatus, T. S. Miller	786,510
Cop tube, S. W. Wardwell	786,698
Corn husking and shredding machine feed mechanism, J. W. Paige	786,460
Corn husking implement, J. A. Wentz	786,709
Corn husking machine, J. W. Paige	786,461
Corn picker and husker, E. Haack	786,685
Corset, E. Savary	786,685
Couch, Old & Walker	786,594
Couch, G. C. Hartshorn	786,709
Crane, gantree, W. R. Kales	786,362
Crib, folding, M. C. Collier	786,730
Cultivator, A. H. Kopperud, reissue	12,336
Currents, means for rectifying alternating, R. Siegfried	786,320
Currycomb, R. T. Gillespie	786,751
Curtain and drapery support, J. M. Spencer	786,408
Curtain fixture, E. F. Egan	786,482
Curtain hanger, J. J. Cochran	786,729
Cuspider lifter, W. J. Enz	786,270
Cut off, water, T. H. Parker	786,671
Cutting stick, Schwarz & Lowe	786,606
Cylinder ring, self adjusting, M. J. Kilroy	786,446
Dental engine attachment, J. E. Morgan	786,662
Dental floss holder, C. M. Rawlins	786,678
Denture, artificial, E. W. Forgye	786,748
Denture making apparatus, G. P. Franklin	786,279
Developing tray, N. Cartmel	786,266
Diaper support, C. L. Christian	786,728
Die for cutting contiguous fasteners, R. B. Lewis	786,504
Die mechanism for cutting contiguous fasteners, R. B. Lewis	786,503
Dish cleaning table attachment, A. R. Beal	786,402
Display cabinet, Douglass & Farg	786,737
Display rack or holder, P. Beralzheimer	786,719
Display stand, advancing shelf, Williams & Mayer	786,540
Door chuck, F. Stumpf	786,532
Door closer and holder, J. J. Jett	786,498
Door latching device, safety exit, G. E. Redden	786,680
Door locking mechanism, folding, J. W. Jones	786,569
Door opening or closing apparatus, L. Ives	786,360
Door stop, Moran & Johnson	786,585
Door stop, adjustable, G. H. Wolf	786,782
Door stop and holder, combined, D. H. Devreux	786,430
Drawer, knockdown, F. O. Anderson	786,398
Dress suit case, H. A. Pike	786,312
Drop light attachment, G. F. Bryan	786,543
Drum and cymbal bearing or actuating contrivance, combined, G. W. Clements	786,486
Dumb bell, G. H. Shepherd	786,318
Duplicating apparatus, stencil, A. E. Dick	786,633
Dye, blue-red, azo, Julius & Fussenegger	786,767
Electric heater, Brown & Holmes	786,542
Electric heater and manufacturing same, M. C. Beebe	786,257
Electric meter bearing, de Lancy & Smith	786,396
Electric motor control, W. D. Stivers	786,323
Electric motor control system, A. C. Eastwood	786,635
Electric motor controller, T. E. Barnum	786,401
Electric motor controlling apparatus, L. G. Nilson	786,775
Electric motor controlling system, H. H. Cutler	786,423
Electric motors, system of controlling one or more, H. H. Cutler	786,424
Electrical condenser, P. H. Thomas	786,325
Electrode for arc lamps and making same, I. L. Roberts	786,518
Electroplating apparatus, Fethoff	786,578
Elevator gate, W. N. Phillimore	786,311
Elevator pilot valve, hydraulic, T. Larsson	786,652
Elevator controlling mechanism, T. Larsson	786,653
Elevator valve mechanism, hydraulic, T. Larsson	786,654
Engine and boiler, combined, D. M. Small	786,321
Envelop fastener, E. J. Stevenot	786,692