

Business and Personal.

The Charge for Insertion under this head is \$1 a Line.

Compound Propeller Pumps, for Mines, Quarries, Canals, and Irrigating purposes.

To Manufacturers and Amateurs—Solutions for covering all kinds of metals with different metal, either by Electro Plating or chemical process.

We make to Order Iron and Steel Drop Forgings of every description.

A machine that actually pays its cost in 30 days! Made by Humphrey Machine Co., Keene, N.H.

For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa.

Wanted—Circulars and Price Lists from Makers of small Water Motors, suitable for running light machinery.

Millstone Dressing Diamond Machines—Simple, effective, economical and durable.

English Patent for Sale or to Let on Royalty. Article made by Machinery very fast.

Wanted—A Partner with \$8,000 to \$12,000, in manufacturing a Patented article.

A thorough Machinist and Draughtsman, an experienced Foreman, desires employment.

For Sale—Good Machine Shop and Foundry Business, with Lease. Tools new and first class.

Experience and Capital want employment in Foundry and Machine Business.

For Sale—Two Steam Saw Mills and three Farms, by C. Bridgman, St. Cloud, Minn.

Wanted—Agents west and south. Asbestos Felting Co., 316 Front St., New York.

Lyman's Gear Chart, Price 50 cts. Address E. Lyman, C. E., New Haven, Conn.

"Boiler Scaling"—To C. C. Send your address to Barker & Co., Manufacturing Chemists, 211 Broad St., Richmond, Va.

Deane's Patent Steam Pump—for all purposes—Strictly first class and reliable.

Spinning Rings of a Superior Quality—Whitinsville Spinning Ring Co., Whitinsville, Mass.

Wanted—The Manufacture of "Specialties" made mostly of Wood. Sayer & Co., Meadville, Pa.

The Pickering Governor, Portland, Conn. Portable Engines 2d hand, thoroughly overhauled.

The Improved Hoadley Cut-off Engine—The Cheapest, Best, and Most Economical steam-power in the United States.

Mechanical Expert in Patent Cases. T. D. Stetson, 23 Murray St., New York.

Gas and Water Pipe, Wrought Iron. Send for price list to Bailey, Farrell & Co., Pittsburgh, Pa.

Forges—(Fan Blast), Portable and Stationary. Keystone Portable Forge Co., Philadelphia, Pa.

The "Scientific American" Office, New York, is fitted with the Miniature Electric Telegraph.

All Fruit-can Tools, Ferracute, Bridgeton, N.J. Brown's Coal-yard Quarry & Contractor's Apparatus.

For Solid Emery Wheels and Machinery, send to the Union Stone Co., Boston, Mass., for circular.

Lathes, Planers, Drills, Milling and Index Machines. Geo. S. Lincoln & Co., Hartford, Conn.

Hydraulic Presses and Jacks, new and second hand. E. Lyon, 470 Grand Street, New York.

Engines, Boilers, Pumps, Portable Engines Machinery Tools. I. H. Shearman, 45 Cortlandt St., N.Y.

For best Presses, Dies and Fruit Can Tools, Bliss & Williams, cor. of Plymouth & Jay, Brooklyn, N.Y.

Price only three dollars—The Tom Thumb Electric Telegraph. A compact working Telegraph apparatus.

Rue's "Little Giant" Injectors, Cheapest and Best Boiler Feeder in the market.

For Surface Planers, small size, and for Box Corner Grooving Machines, send to A. Davis, Lowell, Mass.

Best Philadelphia Oak Belting and Monitor Stitches. C. W. Arny, Manufacturer, 301 & 303 Cherry St., Philadelphia, Pa.

Buy Boulton's Paneling, Moulding, and Dovetailing Machine. Send for circular and sample of work.

B. C. Mach'y Co., Battle Creek, Mich., Box 227.



P. D. R. and several other correspondents will find full descriptions of lightning rods on the editorial pages of this issue.

G. W. B. asks: How can I polish meerschaum? A. Soak first in molten tallow, then in molten white wax, and then rub with a dry rag.

W. C. D. asks: Is there any difficulty in using a coiled pipe, of 1 1/2 or 2 inches diameter, as a water heater in a furnace?

B. B. B. asks: In a three mile boat race, would it take any longer to turn a stake boat at the end of the first mile and a half and return, than it would to row the three miles straight ahead?

J. G. asks: In what part of the world was the Garden of Eden? A. No one knows.

Is there anything produced that will keep coal dust cemented together so that it will stand burning to ashes before it will part? A. There are numerous patents for this purpose.

J. H. K. asks: I am engaged in an experiment that requires the use of a series of small bellows.

W. S. P. asks: If a piston were let fall 25 feet in such a manner that it would enter a tight cylinder, would the sudden compression heat the air within the cylinder?

What would be the pressure of air per square inch on the inside of a hollow casting one foot square, if being heated to a red heat after being filled with cold air at atmospheric pressure?

W. S. F. asks: When is the transit of Venus to take place? When was the last? When will be the next, or how often do such phenomena occur?

J. T. B. says: I have moved into a large frame house, which rests upon pillars four feet high, with lattice work between them.

H. A. W. says: You have been calling attention to the importance of educating the left side of the body and brain.

D. C. P. asks: Which will use the most coal, two high pressure engines, compounded, 12x8 inches, each cut off at half stroke, with 70 lbs. steam, with 150 revolutions per minute geared to a main shaft.

J. P. A. asks: What is pip among chickens? Is it injurious to the fowls? What is the hard substance on the end of chickens' tongues?

E. A. F. T. says: I have constructed a galvanic battery as follows: One cup of copper, 8 inches high and 6 inches in diameter.

C. W. G. says: I have discovered (near the waters of Hickory Creek, Texas), some bones of enormous size; they were cropping out of the bank.

M. E. P. says: Please inform me how to prepare pickles so that they will keep good and retain their green color?

C. C. M., Jr., says: I have just completed an electric machine, but it will not work, although every thing appears to be in good order.

P. J. H. asks: What is the effect of a daily application of rain water and ammonia to the hair?

N. D. T. asks: Is there any better substance for removing the organic impurities from cistern (rain) water than the permanganate of potash?

D. W. S. asks: 1. Will the copper lightning rod on my house injure the water in the well in which it terminates?

C. M. asks: In your issue of July 18, in answer to D. C. C., you have not stated how much niter is to be used.

J. E. S. asks: Is it a fact that the water 150 miles from the mouth of the Amazon river is suitable for drinking, or does it mix with the ocean and become brackish or salt?

What number of emery and what grade is most suitable for grinding molding tools? I make my tools on emery wheels from blanks made as planer knives are, that is, with steel faces and iron backing.

What would be the actual horse power of a locomotive, with two 18x26 inch cylinders, at 130 lbs. per inch, and 4 feet 6 inch drivers, making 20 miles per hour?

G. G. McC. asks: What degree of heat is necessary for the incubation or hatching of the egg of the common barn yard fowl?