

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion: about eight words to a line.

“U. S.” metal polish. Indianapolis. Samples free. For pile driving engines. J. S. Mundy, Newark, N. J. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

to a tyro, and if so, what is it? A. There are two excellent works on gas engines. Robinson's "Gas and Petroleum Engines," \$5.50, and Donkin's "Gas, Oil and Air Engines," \$6.50 by mail.

(6337) C. A. C. asks: 1. What is the safe carrying capacity of No. 30 silk-covered copper wire, such as is used in telegraph relays (in amperes)?

(6338) G. A. D. asks: Does the sun move? Is this earth perfectly round, or is it flattened at the poles? If so, how is it proved? A. The sun moves in space toward the constellation Hercules at the rate of about 16 miles per second.

(6339) C. H. H.—No one has the right to make a patented article for his own use without the consent of the patentee.

(6340) H. A. W. & Co. say: In Notes and Queries of SCIENTIFIC AMERICAN of December 1, J. J. H. asks, "How high above level of its source will an ordinary hydraulic ram raise water?"

(6341) R. L. H. asks: 1. In what number or numbers of the SCIENTIFIC AMERICAN SUPPLEMENT can I find directions for making instruments for the measurement of the following: Volts, amperes, ohms, and watts? A. See our SUPPLEMENT, Nos. 353, 398, 423, 440, 552, 554, 563, 603, 604, 618, 734, 811.

(6333) J. A. McC. asks: 1. Is there a single cylinder gas engine made to-day that receives an impulse at each stroke of the piston, or two to the revolution?

(6342) P. C. T. asks: 1. What make of storage battery can you recommend for charging by gravity cells? A. For storage batteries address some of the dealers who advertise in our columns.

(6343) L. A. F. asks: 1. How can the danger resulting from the falling of a private telephone wire onto a trolley wire be avoided? A. By guard wires placed over the trolley wires, or by good insulation on the telephone wire.

by resting on a brick, or completely invert it. It must be kept full of water.

(6344) W. S. asks: When sailing from New York to Montevideo does the compass point toward the south magnetic pole after crossing the equator?

TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere.

INDEX OF INVENTIONS.

For which Letters Patent of the United States were Granted

December 25, 1894,

AND EACH BEARING THAT DATE.

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

- Air brake signal apparatus, E. P. Bishop, Jr. 531,584
Alarm, burglar, C. W. Miles 531,552
Alarm, See Burglar alarm. Refrigerator leak alarm. 531,584

Notes & Queries

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.

(6335) W. A. P. writes: We had erected in our office a natural gas stove, giving it a 3/4 inch vent pipe; ever since there has been a continual dripping of fluid while the stove is lit.