AUTOMATIC PIPE-COUPLING.—C. O. COLE, Whatcom, Wash. Mr. Cole's invention relates to pipe-couplings for connecting air, steam, or other pipes of cars in a train with each other to form continuous pipe-lines. The object is to provide a coupler which is completely automatic in operation and insures a firm coupling of the pipes for the various lines without danger of leakage, allows automatic uncoupling on moving the uncoupled cars apart, and permits a manually-controlled relase of the coupling members by the operator.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

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The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

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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.

Inquiry No. 5473.—For a machine for hulling strawberries.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 5474.—For makers of working model engines.

WANTED.—Man capable of taking charge of factory making special machinery, who can also take $2,000 or $3,000 interest in established plant. N. B. Harrington & Co., 106 Broadway, Buffalo, N. Y.

Inquiry No. 5475.—For manufacturers of glass novelties.

Manufacturers: We can satisfactorily represent and handle your account. Correspondence invited. Welhener-Patrick Company, Manufacturers' Agents, 172 Washington Street. Chicago.

Inquiry No. 5476.—For makers of hollow brass wire.

FOREMAN WANTED.—A thoroughly capable man to take charge of brass shop employing about fifteen men. Must be between 30 and 40 years of age, married. Reply by letter only, stating experience and references to Wm. H. Wilkinson Co., West Medway, Mass.

Inquiry No. 5477.—For makers of handles for artists' pencils, also parties making the machinery for making the same.

Inquiry No. 5478.—For manufacturers of or dealers in a patent dishwasher.

Inquiry No. 5479.—For machinery for making cotton batting.

Inquiry No. 5480.—For the manufacturers of the cigar lighter which was patented by Clyde J. Coleman, or makers of any other electric lighter.

Inquiry No. 5481.—For manufacturers of metal, nickel or aluminium egg shells.

Inquiry No. 5482.—For automatic vending machines for selling liquors.

Inquiry No. 5483.—Wanted, to purchase a hardware store.

Inquiry No. 5484.—For machines for perforating paper patterns.

Inquiry No. 5485.—For manufacturers of metal garter trimmings, as hooks, slides, supporters and non-elastic garter web.

Inquiry No. 5486.—For makers of paper chair bottoms, imitation leather chair bottoms, also fiber and other material used for the same.

Notes and 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.

References to former articles or answers should give date 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.

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(9380) L. E. G. asks: 1. How is a hand lead marked; that is, how are the marks and deeps laid off and how shown, also length of line? A. Sounding leads are generally laid off in fathoms below 5 and at 7, 10, 13, 17 and 20 fathoms, which latter is the usual length of the line with from 7 to 11 pounds weight. Deep-sea lines are usually 200 fathoms in length with 28-pound weights and marked at each 2 to 10 fathoms with leather and bunting tags so combined as to readily measure the fathoms as the line passes out. 2. How is a hand log marked? What is distance between marks, in feet or inches, on a log line to be used with a 30-second sand glass, or a 15-second sand glass? A. The hand log line is usually 150 fathoms long and should have 10 fathoms between chip and first knot for stray line. With a 30-inch glass the knot tags are 50 feet 8.03 inches apart and indicate sea miles or knots per hour. With a 15-inch glass the knot tags should be at one-half the above distance parts. 3. How is a 4 or 8 point bearing taken to tell distance of ship from land; that is, taken from bow to beam, or beam to quarter? A. The bow to beam or beam to quarter, or better, from bow to stern, may be taken as a measured base line and the angle of each end simultaneously taken from a shore mark, from which a triangle computation will give the distance. 4. What is the best material for a marine compass needle—ordinary soft iron or Norway iron? The compass cards I wish to use are 6 inches diameter and 1-32 inch thick pasteboard. Would needle 6x¼x 1/16 inch be about right size? Being a marine compass, needle will be glued fast to card, of course. A. A compass needle should be made of tool steel, hardened and tempered. The card should be drawn on fine drawing paper and pasted to a thin piece of mica. Fasten to the needle with small lead rivets.

(9381) H. F. H. asks: Is the althea the true "Rose of Sharon"? Or which is the true or original "Rose of Sharon" mentioned in the Bible? Some claim the althea, others narcissus, and some again *Scilla maritima*. Is there any place where a person could get a copy of the flower as it grew or grows on the plains of Sharon? A. The article upon the "Rose of Sharon" in Smith's "Bible Dictionary" begins: "There is much difference of opinion as to the particular flower intended." If this is the case we cannot decide. There are no pictures dating back to the time of the writing of the Canticles, and no way whatever of determining the species of plant denoted by the name.

(9382) A. M. W. asks: A trolley car leaves the track a few feet. The trolley pole can reach the overhead wire. In running it back upon the tracks, the conductor made a connection between the rail and car wheel with the iron rod used to turn the switch: was it of any use? With a stated current carried by trolley wire, will the motors of a car show more power by having the rails of the track wired together, or is the bonding of the rails to prevent damage by the return current to other structures? A. The intention is to use the rails of the street-car lines for a return circuit of the current to the dynamo. If the rails are well bonded together this will result. If they are loosely connected the current will leak off and go by some easier path. On the way, it will take to pipes, water and gas, and destroy them. The bonding is to keep the return current in its proper place. When the conductor used a bar of iron to connect the rail to the wheel of the derailed car, he closed the circuit between the motor and the return path in the track, thus enabling the motor to get power from the line. With the earth connection only the resistance would be too high to allow enough current to flow to run the motor.

(9383) R. S. L. asks: Is it not a fact that the battleships and armored cruisers of our navy are built and are building without armored smokestacks? Are not the extremely lofty stacks of our later construction designed to obviate the necessity of forced draft? Would not these tall stacks be immediately riddled in an engagement, and thus deprive the vessel of a large part of her steam power when most