

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 This is for our information, and not for publication. 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. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(2558) W. H. asks where to get a book on steam yacht hull building, both in wood and sheet metal. A. We can supply you with "Steam Yachts and Launches, Their Machinery and Management," by Kunhardt. Price \$3. 2. Are iron hulls better than wood for fresh water? A. No. 3. Is steam cheaper than electricity for propelling a boat? A. Yes. 4. Which is the best propeller for speed—a three or four blade? A. Probably a three-blade propeller is better. 5. Is a five horse power engine too heavy for a 23 by 5 foot boat? If so, what is the proper size engine to drive said boat 12 to 14 miles per hour? A. A two horse power engine should be big enough. You cannot get such high speed. 6. What is the fastest time ever made in the United States by a 25 foot steam yacht? A. There is no reliable record. Anything over 10 miles an hour would be very fast.

(2559) M. A. T. asks (1) how to transfer photographs to glass and whether oil or water colors should be used. A. See full directions in SCIENTIFIC AMERICAN SUPPLEMENT, No. 657. 2. Will sas-afra used freely as a tea for a flesh reducer harm one in good health? A. Not unless used in excess. 3. What organ would it be likely to affect the most? A. Possibly the brain.

(2560) I. E. asks: Is there any composition which can be either melted by a gentle heat or by immersion in alcohol or turpentine sufficiently to allow of its being run into a mould and allowed to cool or evaporate, thus becoming solidified again, thereby answering the purpose desired? A. What is called pure gum rubber, which is lightly vulcanized, can be pressed hot into talc-coated moulds, and by a longer heating will, to a considerable extent, retain the shape. Otherwise for a temporary purpose printer's roll composition (see query 2427) might answer.

(2561) T. B. C. asks: Can you give in your correspondent's column a receipt for cleaning paint off inside woodwork other than sandpapering? A. Burning is often used, the paint being scraped off as it melts under the flame of a blast lamp. Try washing with caustic soda or potash dissolved in water and thickened, if necessary, with lime or whiting.

(2562) A. Constant Reader asks: Please tell me the composition of celluloid. A. It is in general terms an intimate mixture of nitrocellulose and camphor. It is described in answer to query 996. 2. Is that composition worked under patent? A. Yes. 3. How to unite it. A. A special cement is sold for the purpose. Possibly heat and pressure might answer your purpose.

(2563) E. G. H. asks: 1. What causes sal-ammoniac batteries to polarize? A. The depolarizer (binoxide of manganese) is a solid, and works very slowly. 2. Does in reality the positive brush of a dynamo have more to do than the negative? A. No. 3. Will a dynamo generate current in a vacuum? A. Yes; air has nothing to do with its action. 4. Can a chemist distinguish human blood from animal blood? A. Not with certainty.

(2564) J. B. W. asks for a receipt for making chamois skin (or leather) a conductor of electricity. A. Moisten with salt water, or thoroughly impregnate with fine graphite well rubbed in.

(2565) K. W. asks: What is the composition of smokeless gunpowder? A. A number of such have been invented. Sometimes the substitution of ammonium nitrate for potassium nitrate is the basis.

(2566) L. A. W. asks: What is the composition of a magnesium flash light powder without chlorate of potash? A. Magnesium 40 per cent. Permanganate of potassium 20 " Peroxide of barium 40 "

(2567) A. A. asks: 1. Has the soft iron wire of the armature core of motor to be of one length? A. It is immaterial whether the soft iron wire of the armature is of a single piece or a number of pieces. 2. I-shellac varnish gum shellac dissolved in alcohol? A. Yes.

(2568) M. P. asks: What decision was taken at the meeting appointed by N. Y. Postmaster-General, in Washington, D. C., on October 1, about the letter box wanted for dwellings? A. No decision as yet. 2. What metal and what material are non-conductors of heat? A. No metal; quicklime and zirconia are among the best. 3. I have a device for ruled blue paper, very simple; how can I proceed to have some profit of it? A. Patent and advertise; we should not look for a large profit.

(2569) J. A. C. writes: 1. I am using water in my house from a boiling spring (cold), and it coats the tea kettle with a deposit of lime or something of that nature, and it is now almost half an inch thick, and I find it difficult to remove. How can I remove it and how keep it from gathering again if possible? A. You can purify it by adding to it some lime water. Determine by experiment how much is needed. This addition will produce a white precipitate and will carry down all the lime. The water must then be allowed to

settle and clear. Do it a barrelful at a time. Once you determine the right amount to use per barrel, the principal work is done. 2. Do you consider such water unhealthy for one to drink? A. It is disputed. We incline to the belief that it is not necessarily injurious.

TO INVENTORS.

An experience of forty 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. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

October 28, 1890.

AND EACH BEARING THAT DATE.

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

Table listing inventions and their patent numbers. Includes entries like 'Adding machine, J. H. Schnarrenberger', 'Advertising device, H. A. Snyder', 'Air brake, F. L. Langberg', etc.

Table listing inventions and their patent numbers. Includes entries like 'Coupling, See Car coupling, Car and air brake coupling', 'Crane, H. Aiken', 'Crane, traveling, J. H. Bell', etc.

Table listing inventions and their patent numbers. Includes entries like 'Manger, corner, G. Hutter', 'Match safe, pincushion, and trap, combined, H. Brant', 'Measure indicator, round, Hipwell', etc.



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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 25 cents. In ordering please state the name and number of the inventor desired, and remit to Munn & Co., 351 Broadway, New York.

Canadian Patents may now be obtained by the inventors for any of the inventions named in the foregoing list. The cost is the same, at a cost of \$40 each. If complicated the cost will be a little more. For full instructions address Munn & Co., 351 Broadway, New York. Other foreign patents may also be obtained.

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**PROPOSALS.**

**Proposals for Harbor Improvements.** UNITED STATES ENGINEER OFFICE, No. 365 Milwaukee St., Milwaukee, Oct. 27, 1890.—Sealed proposals, in triplicate, will be received at this office until 12 o'clock, noon, November 26, 1890, and opened immediately thereafter, in the presence of bidders for the following harbor improvements: Menomonee River, Mich. & Wis., dredging about 200,000 cubic yards. Green Bay Harbor, Wis., dredging about 35,000 cubic yards. Kewaunee Harbor, Wis., pier extension, 300 feet, more or less. Manitowish Harbor, Wis., pier superstructure, 600 feet, more or less. Sheboygan Harbor, Wis., pier extension, 150 feet, more or less. Harbor of Refuge, Milwaukee Bay, Wis., break-water extension and superstructure, 400 feet, more or less. Racine Harbor, Wis., pier extension, 200 feet, more or less. Kenosha Harbor, Wis., pier extension, 150 feet, more or less. The attention of bidders is invited to the Acts of Congress, approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. Proposals will be accompanied by a guarantee that if the bid is accepted, contract will be entered into within 10 days after notice of acceptance. Preference will be given to materials and plant of domestic production and manufacture, conditions of quality and price (import duties included) being equal. For blank proposals and information apply to this office. The United States reserves the right to reject any or all bids. Proposals will be endorsed on the envelope, "Proposals for Menomonee River, Mich. and Wis.," or "Proposals for Harbor," and addressed to MAJOR CHAS. E. L. DAVIS, Corps of Engineers, U. S. Army.

**Proposals for Improving Entrance to Galveston Harbor.** U. S. ENGINEER OFFICE, Galveston, Texas, October 25, 1890.—Sealed proposals, in duplicate, will be received at this office, until 12 o'clock, noon, 9th meridian time, December 27, 1890, and then opened, for delivery of materials in place for improving the entrance to Galveston Harbor, Texas. Preference will be given to materials of domestic production or manufacture, conditions of quality and price (import duties included) being equal. The attention of bidders is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, U. S. Statutes at Large. For blank forms for proposals and all necessary information apply to MAJOR CHAS. J. ALLEN, Major, Corps of Engineers.

**Proposals for Constructing Steam Snagboat.** U. S. ENGINEER OFFICE, Savannah, Ga., Oct. 15, 1890.—Sealed proposals, in triplicate, for building a steam snagboat and for furnishing material and machinery for same, will be received at this office until 12 o'clock, m. city time, on the 20th day of November, 1890. The attention of bidders is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For necessary information apply to O. M. CARTER, 1st Lieut., Corps of Engineers, U. S. A.

**U. S. Engineer Office, 905 1-2 East Main St., Richmond, Va.** October 13, 1890.—Proposals for dredging and excavating rock from the channel of the James river, near Richmond, Va., for the construction of mattress dykes and jetties, will be received until noon of December 19, 1890, and opened at 10 o'clock, a. m., on the 20th day of December, 1890. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, p. 332, and Vol. 24, p. 414, Statutes at Large. Information can be had on application to Mr. C. P. E. BURGWYN, 905 1-2 East Main St., Richmond, Va. WM. P. CRAIGHILL, Col., Corps of Engineers, U. S. A.

**U. S. Engineer Office, Room 62, Army Building, New York.** October 23, 1890.—Sealed proposals, in triplicate, will be received at this office until 12 o'clock, noon, Monday, December 1, 1890, for the delivery at Sandy Hook, N. J., of 41,000 cubic yards of broken stone (granite, trap, or limestone) and 62,000 barrels of Rosendale cement. The attention of bidders is invited to Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, p. 332, and Vol. 24, p. 414, Statutes at Large. For full information apply to G. L. GILLESPIE, Lieut. Col. of Engineers.

**U. S. Engineer Office, Room 62, Army Building, New York.** October 15, 1890.—Sealed proposals, in triplicate, for dredging the channels in Newtown Creek, N. Y., Gowanus Bay, N. Y., and Raritan Bay, N. J., will be received at this office until 12 o'clock, noon, Friday, November 21, 1890. Aggregate amount available, \$215,425. The attention of bidders is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For specifications, blank forms, and all information, apply to the undersigned. G. L. GILLESPIE, Lieut. Col. of Engineers.

**U. S. Engineer Office, Room 62, Army Building, New York.** October 15, 1890.—Sealed proposals, in triplicate, for dredging Shell Reef, off North Street, and for blasting and dredging Middle Ground, off Sunken Meadow, East River, N. Y., will be received at this office until 12 o'clock, noon, Wednesday, November 19, 1890. Amount available, \$100,000. The attention of bidders is invited to Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For specifications, blank forms, and all information, apply to the undersigned. G. L. GILLESPIE, Lieut. Col. of Engineers.

**U. S. Engineer Office, Room 62, Army Building, New York.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until 12 o'clock, noon, Wednesday, November 26, 1890, for removing 500,000 cubic yards, more or less, of mud, earth, rock, old timber, etc., from the Harlem River, Spuyten Duyvil Creek, and from the cut through Dyckman's meadow, on the line of the Harlem River Improvement, and for furnishing the materials and workmanship for the construction of revetments for slopes of the sections (amount available, \$2,000,000). The attention of bidders is invited to Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For specifications, blank forms and all information, apply to the undersigned. G. L. GILLESPIE, Lieut. Col. of Engineers.

**U. S. Engineer Office, Room 90, 134 Van Buren St., Chicago, Ill.** October 20, 1890.—Sealed proposals, in triplicate, will be received at this office until 12 o'clock, noon, Wednesday, November 19, 1890, and opened immediately thereafter in the presence of bidders, for the following harbor improvements, viz: Dredging Calumet River, Illinois and Indiana. Dredging Calumet Harbor, Illinois. Proposals will be accompanied by a guarantee that if the bid is accepted, contract will be entered into within 10 days after notice of acceptance. The United States reserves the right to reject any or all bids. The attention of bidders is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For specifications, blank forms, and all other information, apply to the undersigned. CAPT. W. L. MARSHALL, Corps of Engineers, U. S. A.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of November 21, 1890, for the delivery of 10,000 tons, more or less, of rubble stone at Newburyport Harbor, Mass. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of November 21, 1890, for the delivery of 225,000 tons, more or less, of rubble stone, for the Harbor of Refuge, Sandy Bay, Cape Ann, Mass. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office, until noon of November 21, 1890, for dredging from Wintrop Harbor, Mass., 18,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of November 21, 1890, for dredging from the west end of Brewster Spit, Boston Harbor, Mass., 28,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of November 21, 1890, for dredging in Boston Harbor, Mass., 70,000 cubic yards of material, more or less. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** October 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of November 21, 1890, for dredging from Wintrop Harbor, Mass., 18,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from the channel leading to Nantasket Beach, Boston Harbor, Mass., 20,000 cubic yards, more or less, of material. Attention is invited to Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Lynn Harbor, Mass., 45,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Gloucester Harbor, Mass., 40,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Hingham Harbor, Mass., 20,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Manchester Harbor, Mass., 20,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Scituate Harbor, Mass., 30,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Plymouth Harbor, Mass., 15,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. For full information apply to S. M. MANSFIELD, Lieut. Col. of Engineers.

**U. S. Engineer Office, Boston, Mass.** Oct. 15, 1890.—Sealed proposals, in triplicate, will be received at this office until noon of Nov. 21, 1890, for dredging from Lynn Harbor, Mass., 45,000 cubic yards, more or less, of material. Attention is invited to the Acts of Congress approved Feb. 26, 1885, and Feb. 23, 1887, Vol. 23, page