Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

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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 This is for our information and not for publication.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.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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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.

(7227) J. R asks: How many layers of No. 20 double-covered magnet wire shall I use to wind ring armature for dynamo core 4⅜ in. in diameter, 4 in. long, with 2¼ in. hole, composed of 23 washers, with writing paper between, all turned true and bored out? It will take about 300 turns of wire for the first layer and a few more for the next ones. What size wire shall I use for field winding, the magnet waists being 5½ in. long by 1½ in. thick, composed of sheet iron bolted together and faced up smooth? I would like to run the machine in shunt or series, if it would be better. A. For the armature use 200 turns. The number in each coil will depend on the number of commutator bars. For the field use about 1,000 turns No. 26 wire, if shunt wound. We have assumed the voltage to be 110 and the speed to be 1,600 turns per minute.

(7228) P. M. N. says: Can you inform me if there is a process other than the chalk plate by which pen and ink drawings may be reproduced for newspaper work? If so, is it more complicated and expensive? I wish to find a way to make my newspaper cuts in the simplest, cheapest and most expeditious manner, and desire to install the process in the office. Kindly let me know if there is any way of doing this, and oblige. A. We do not know of any process other than the chalk plate for producing cheap newspaper cuts. The process of photo-engraving is largely used by the New York daily papers. The effect is better than that of the chalk plate. It will be necessary to purchase some books on the subject, as Anderson's "Photo-Engraving," $5; Schraubstadter's "Photo-Engraving and Copy of Photo-Engraving," $3.25; Farquhar's "Grammar of Photo-Engraving," $2; Jenkins' "Photo-Engraving," $2, which we mail at the prices mentioned. SUPPLEMENT No. 720, mailed on receipt of 10 cents, contains formulas for working the chalk process.

(7229) F. B. H. writes: I am an old reader of your valuable paper, and I want to ask a few questions in regard to the eight light dynamo described in SUPPLEMENT, vol. xxiv, No. 600. My question is this: Can I double the drawings in every respect and get an operative machine? I mean one, if well constructed, that would answer as well as the eight light machine. If any changes are needful, please state what they are. Be sure to state size of wire for armature and field magnets, the winding being the same as in the eight light machine. Should I double the length and diameter of armature? To be short, if I were to double or multiply by 2 all the measurements given, would my machine be out of proportion? A. The sizes given in the drawings of the eight light dynamo can be doubled. This makes the machine 4 times as large. If it is wound with the same sizes and number of turns of wire as the original, it will have the same current in amperes, but 4 times the voltage. If the field is made larger, the armature should be increased in the same degree. Now, if you also use wires twice as thick, but have the same number of turns, the carrying capacity in amperes will be increased 4 times, and the total output of the machine will be 16 times as great. In place of No. 20 wires use No. 14 on armature. In place of No. 18 wire use No. 12 on field.

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 unequaled 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.

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OCTOBER 26, 1897,

AND EACH BEARING THAT DATE.

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SPECIAL HISTORY CLUB For NOVEMBER

The purpose of the Club has been highly commended on all sides. One letter, which stands for many others, comes from the Hon. WM. T. HARRIS, LL.D., U. S. Commissioner of Education. Dr. Harris, after warmly praising the library itself, says:

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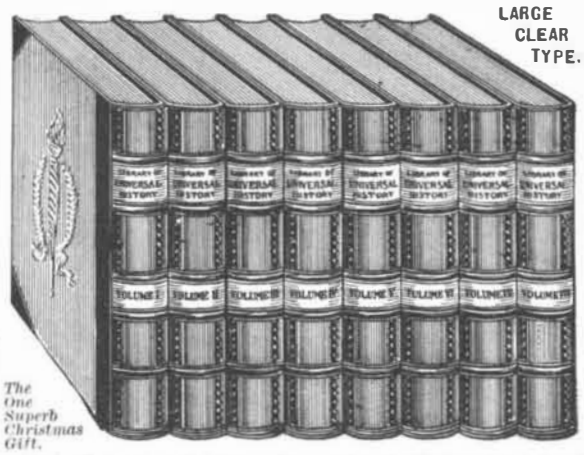

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