origiu. Meteoric iron is perfectly malleable and may b readily worked in a forge and put to the same use a manufactured iron.]

(27) G. G. G. writes: 1. I am making an induction coil according to directions given in SUPPLE MENT, No. 160, page 2548. How can I tip the screw which presses against the vibrating spring, with pla tinum? A. By drilling the end of the screw and driv ing in a short piece of platinum wire. 2. What is vu canite? A. Hard rubber. 3. Could not the cylinder o the commutator be made of hard wood? A. Yes 4. How many sheets of tin foil should be used for th condenser? What size should they be? A. About 50 make them a third larger than the dimensions given 5. Will common lead foil do, or should they be pur tin? A. Tin foil is best; ordinary tin foil will answer It need not be made of absolutely pure tin.

(28) W. M. G. writes: 1. In your Supple MENTS the figures of magneto-electric machines, induc tion coils, etc., are marked "half size." Do you mean exactly half size, or that the dimensions each way ar one half as large as the original? A. The latter. 2. Abou what would be the weight of the Nos. 16 and 18 wire for the magneto-electric machine described in Supplement No. 161? A. About 2 lb. No. 16 and 1/2 lb. No. 18. 3 Should the cores for the large magnets be of wrought or cast iron? A. They would be better of wrought iron but cast iron magnets are easier made and will answe

(29) C. A. B. asks: Does the piston in a rapidly running reciprocating engine stop at the end of each stroke? A. The piston of all reciprocating en gines stops at the end of each stroke, otherwise the movement could not be reversed.

(30) F. K. asks how to make a waterproof coating for cloth. A. Dissolve gum caoutchouc in ex cess of a bisulphide of carbon containing six per cent o absolute alcohol, concentrated by evaporation, awa from the fire, as the mixture is quite inflammable.

(31) W. T. D. asks what will remove stain from kalsomined ceilings. In this country we put up a great many ceilings made out of brown muslin. The roof not being waterproof will leak on them and stain them, and rekalsomining them will not cover up the stain. A. Muslin may be bleached by soaking it in solu tion of bleaching powder.dipping afterward in sulphurie acid diluted with 10 parts of water, and then rinsing in plenty of cold water. 2. What will make muslin water proof? A. See answer to F. K., above.

(32) G. P. P. asks: 1. How can carbon be soldered to brass or copper so as not to hinder the pass age of electricity? A. By the process known as gal vanic soldering, or you may copper your carbon by electro deposition and afterward solder the coppered surface to the brass. 2. How can a resonator be mad by the use of which a Bell telephone can be heard in any part of a room 12 feet square? A. We know o nothing better than a plain funnel or trumpet similar to an ear trumpet.

(33) W. H. K. asks: Can you inform me what the preparation to polish ladies' leghorn hats consists of, as is used by straw hat manufacturers, and hove to prepare and use it? A. An ammoniacal solution o bleached lac, is employed by some makers, we believe

(34) E. H. N. writes: In a school room near by a new oak floor was laid last August. In the fall a few drops of ink were spilled on the floor, and to remove it oxalic acid in solution was applied, removing the stain where it was, but apparently leaving a kind of "halo" of darkness on the edges of the place wher the acid was applied. More acid on this spread the inky matter, until, by successive applications, the color had spread all over the room. A peculiarity of the appearance is the bringing out of black color in places which seemed to have been cleared when water is spilled or sprinkled on the floor By what means can the black be removed? A Use a little strong hydrochloric (muriatic) acid then plenty of water; afterward dry and oil the floor.

(35) F. R. W. writes: An old photographer tells me that he at one time used bichromate of potash for a positive bath, exposing the paper through the negative for just a moment, and then using a de veloper which brought out the picture beautifully. He has since forgotten the name of his developer, and can not do the same thing over. Can you tell me wha would develop the picture in such a case? A. Exposthe print to the vapor of aniline (oil). The bichromate should be mixed with a trace of phosphoric acid. Also, if there is anything that will stick India rubber to leather, so that neither weather nor usage will separate them? A. Try a cement composed of equal parts of guttapercha and pitch,

[OFFICIAL.]

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Letters Patent of the United States were Granted in the Week Ending

January 6, 1880.

AND EACH BEARING THAT DATE

Those marked (r) are reissued patents.

A complete copy of any patent in the annexed list, in cluding both the specifications and drawings, or an patent issued since 1867, will be furnished from this office for one dollar. In ordering please state the number an date of the patent desired, and remit to Munn & Co., Park Row, New York city.

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	Chairs, E F. Reed 11,557
	Crocheted fabric, C. M. Graves 11,558
	Gimp, J. Graham
۱	Gimp, J. H. Thorp
ı	Knit fabrics. C. E. Bean
	Oil cloth, C. T. & V. E. Meyer11,554 to 11,556
ı	Woven fabric, E. Maertens
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}	Paper machine, W. E. Phelps 223,381	From December 19 to December 30, 1879, inclusive.
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Guns. E. G. Parkhurst, Hartford. Conn.
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