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Heferences 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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Wilnerals sent for examination should be distinctly marked or labeled.

(7972) L. C. G. asks: 1. Where is the proper position for a violin bridge? Some say 13 inches from end of fingerboard, and some say opposite the notches in sound holes. Which is right? A. The usual position of a bridge on a violin is exactly between the small nicks marked in each sound hole. 2. What is the function of the sound-post and bass bar of a violin, and what is the rule for adjusting the former? A. The position of the sound post is usually 1/8 to 3/8 of an inch behind the right foot of the bridge, the distance being va riable according to the model of the instrument. If the violin be high built, the post requires to be nearer the bridge, that its action may be stronger, while flatmodeled instruments require the post to be set further away from the bridge. The sound post is the medium by which the vibratory powers of the instrument are set in motion, it gives support to the right side of the belly, it transmits vibrations and regulates the power and quality of the tone. The sound bar facilitates the vibration. 3. Would it be an advantage to wind the permanent magnets of a Clarke machine, as described in the SCIENTIFIC AMERICAN of December 3, 1881, and if so. how would you send the current through it—from a separate battery or switch off a part of the current from the machine? A. The machine in our issue of December 3, 1881, is a magneto generator. A dynamo with electromagnets is a better machine of course. If you wish to build a dynamo, you would better find plans for such a one as you wish and start new, rather than to attempt to alter a design as old as this one. A machine built in 1881 is a very ancient affair. 4. How would you determine the voltage and amperage of the foregoing? A. The voltage and amperes in a dynamo are found by a voluncter and an amperemeter. 5. Where can I procure a register of United States naval officers and vessels and their respective stations? A. 'The Army and Navy Journal gives the news of the service.

(7973) C. I. G. asks: 1. Can the electric furnace described in Scientific American Supple-MENT, August 27. 1898, be used on a 104 volt alternating current? A. The electric furnace can be used with any sort of current. 2. Do you publish an index of contents of the Scientific American Supplement, for a few years back? A. Yes.

(7974) W. C. M.—The preportions in the formula on page 186 of September 22, 1900, issue are about right. The two upper formulæ on page 92, August 11, would make solutions too dilute.

NEW BOOKS, ETC.

CYCLOPEDIA OF AMERICAN HORTICUL-TURE. By L. H. Bailey. Assisted by Wilhelm Miller, Ph.D. Illustrated with over 2,000 original drawings. In four volumes. E-M. New York: The Macmillan Company. London: Macmillan & Company. Limited. 1900. Quarto. Pp. 511 to 1054. Price

first volume of this work, and at that time we commented favorably upon the plan and scope of the work. 'The second volume does not differ materially from the first, except that the subject is now carried down as far as the letter M. Some of the illustrations are not quite so well reproduced as they might be, but on the whole the book is very satisfactory. The author seems to have a remarkable facility in knowing just what the reader wishes to obtain from a book of this kind. The volume is a

handsome one and would adorn any library. PRACTICAL CARRIAGE AND WAGON PAINTING. By M. C. Hillick. Chicago: The Western Painter. 1900. Pp. 161. Price \$1.

This is a full treatise on the painting of carriages, wagons and sleighs, embracing full and explicit directions for executing all kinds of work, including painting factory work, lettering, scrolling, ornamenting, varnish ing, etc., with many tested receipts and formulas. 'The book is profusely illustrated, and the new edition will prove of great value to all carriage painters, even though they may already be competent mechanics. The book contains many excellent designs.

THE ANTARCTIC REGIONS. By Dr. Karl Fricker. London: Swan Sonnen-schein & Company, Limited. New York: The Macmillan Company. 1900. 8vo. Pp. 292. Illustrated. Price \$3.

At the present time Antarctic exploration divides the field of interest with Arctic exploration. The fact that the extreme South is not at all well known lends more than ordinary interest to the subject. A number of expeditions are now on their way to discover, if possible. the South Pole. The book is very readable and is admirably illustrated.

INVENTIONS INDEX OF

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OCTOBER 2, 1900,

AND EACH BEARING THAT DATE.

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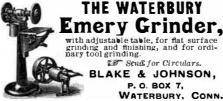
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	Log carriage, Miller & Larson Loom heddle attachment, O. Runge. Loom pickern echanism, E. M. Keffer.	659.036 658.961 659.072
	Lumber separating strip. C. Hass. Lumber stacking machine. R. Fullerton Mail bag gripping and delivering annaratus S. P.	658,770 658,770
	Lock. See Cover lock. Nut lock. Padlock. Sash lock. Trace lock. Lock. A. I. MacMaster Log carriage, Miller & Larson Loom heddle attachment, O. Runge. Loom picker niechanism, E. M. Keffer. Lobricator, Delaney & McCanita. Lumber separating strip. C. Hass. Lumber stacking machine. R. Fullerton. Mail bag gripping and delivering apparatus, S. R. Patten. Matting and drying apparatus, F. H. C. Mey Mane comb and brush, combined, C. Hub, born Ilahu. Manuscript holder, J. S. Downie.	659,098 659,957
	Massage apparatus, F. L. Ungethum	658,903
	Meal cake forming machine, A. Jones	658,987
	& McCarthy Meat extracts, preparing, S. Bergheim. Meat extracts, preparing, S. Bergheim. Methyl ether of anthramine acid and making same, H. & E. Erdmann. Micrometer indicator, J. Boulet. Mills See Grinding mill. Willing machine, E. Holz	658.769
	Micrometer indicator, J. Boulet	659,048 658,777 659,100
	Mill. See Grinding min. Milling machine, F. Holz. Moistener and liquid distributer, C. P. Smith Molds, apparatus for drawing patterns from, J. H. B. Bryan Money tray, J. H. Gray. Motion, means for transmitting, C. A. Ligo	658,973 658,910
	motor. See Automobile steam motor. Current motor.	
1	Music, books, etc., rack er support for, C. E. Stewart. Music chart, mechanical. S. B. Turner	658,878 659,113 659,014
f	Nail extractor, L. Maurice. Necktie holder, C. E. Senna. Nest trap attachment, J. J. Walsh Nut leak M. Stafford, J. J. Walsh	658,956 658,965 658,933 650,605
-	Oil and making same solidified mineral J A	0001001
	Just. Oil cup. D. E. Smith. Oil, desulfurizing petroleum, T. McGowan. Oil, extracting, N. B. Grege. Oil of insmin. artificial. A. Hosse.	659,159 658,857 658,948 659,948
	Open switch detector, J. M. McCauley Operating table, M. E. Scannell. Ore separator, W. J. & W. H. Goyne.	659.152 658.999 658.947
	ores or districegrated materials, mechanism for	658,921 658,807
	Oven, baking er roasting, H. C. Goodrich	658.813 658.840
	Padlock, permutation. A. Amess. Pail cover, J. H. Quackenbush. Pail, sap. A. A. Low. Paper folding or platting machine, M. Koch	
	(Continued on page 238)	500,313