

The World's Production of Wine.

According to the Moniteur Vinicole, the world's wine production for 1896 and 1897, by countries, was as follows:

Countries.	1897. Gallons.	1896. Gallons.
France.....	874,713,420	1,179,811,520
Algers.....	115,402,560	107,001,000
Tunis.....	2,377,800	2,509,900
Italy.....	685,836,780	569,958,660
Spain.....	510,338,000	471,068,600
Portugal.....	66,050,000	86,657,600
Azores, Canary and Madeira Islands ..	6,605,000	8,454,400
Austria.....	49,556,000	66,050,000
Hungary.....	31,704,000	43,593,000
Germany.....	55,482,000	82,166,200
Russia.....	66,050,000	76,618,000
Switzerland.....	33,025,000	39,630,000
Turkey and Cyprus.....	49,556,000	80,581,000
Greece.....	31,704,000	56,803,000
Bulgaria.....	28,797,800	35,931,200
Servia.....	24,306,400	29,062,000
Roumania.....	85,544,000	198,150,000
United States	30,303,740	17,965,600
Mexico.....	1,585,200	1,849,400
Argentine Republic.....	38,044,800	42,007,800
Chile.....	73,976,000	45,706,600
Brazil.....	10,303,800	12,549,500
Cape Colony.....	5,151,900	2,377,800
Persia.....	660,500	845,440
Australia.....	2,404,220	4,955,600
Total production.....	2,843,478,920	3,262,103,820

If these statistics are authentic, the wine production of the world decreased immensely during 1897, which hardly seems true. France, Hungary, Russia, Roumania, and Australia all contributed to the decrease, while the output in the United States greatly exceeded that of the previous year.

English Trolley Lines.

Within the next few months there will be several new electric trolley tramways opened for traffic in England. So far as length, etc., are concerned, the lines are of no particular importance, but from other points of view they are important, for upon their success or failure may depend the equipment of many miles of way. The lines to which we refer are mainly short experimental sections, two or three miles long, which are being equipped on the overhead trolley system by municipal authorities, who are desirous of changing the complete town tramways over to mechanical power, but are not altogether convinced as to the best form of traction to adopt. The corporations of Liverpool, Glasgow, Sheffield, Bradford, Hull, are all equipping short lines with the trolley. At Liverpool cars from America and Germany will be put in operation, and in addition to these a special design of car is to be made in the neighborhood of Liverpool, so that nothing may be left undone to have everything right in this respect. In each of the other towns mentioned the preparation of track, erection and equipment of power house, and so forth is being pushed forward energetically. At Plymouth also the municipality is at work in the same direction, while at Halifax and Middlesbrough lines are in so forward a state that any week may now see their completion.

Most of these towns have in a greater or lesser degree had recourse to American plant, either for inside or outside work, much to the disappointment of the English contractor. But it seems that more than usual importance attaches to a line which has just been completed between the towns of Kidderminster and Stourport, on account of the fact that the plant and machinery are all of English make and the undertaking has been from first to last carried out by an English firm, i. e., the Brush Electrical Engineering Company, of London. The power plant comprises Babcock & Wilcox boilers, "Universal" type, single crank compound type steam engines, direct-coupled six-pole generators with Mordey's new chord winding and notched armature. The switchboard is split up into the usual panels, main station, generator, feeder, and Board of Trade. The track is single throughout, of 3 feet 6 inches gage. The power station is a mile from Kidderminster and three and a half miles from Stourport, making the line four and a half miles long. Owing to certain difficulties on the route, the Dickinson side trolley is employed. A main feeder cable goes to Kidderminster, and also one to Stourport. The cars, which have Brill cantilever type trucks, are fitted with two 15 B. H. P. four-pole motors of the ironclad type. The line is the first of many similar tramways to be equipped by the British Electric Traction Company, which is stated to have over \$15,000,000 of such undertakings in progress—either negotiating or constructing.

Owing to the numerous delays which arise in complying with the various legislative requirements when applying for tramway powers, many schemes are being promoted as light electric railways, and in this way the powers are secured much more promptly. Opposition to the overhead wire is not dead yet, for quite recently one or two good schemes have been abandoned purely on account of the opposition raised on this score. The London County Council has long pledged itself to resist the overhead wire, and this has led to several schemes, which are now under consideration, for districts which are just outside the London County Councils jurisdiction area.

SPIRIT SLATE WRITING AND KINDRED PHENOMENA.—V.

BY W. E. ROBINSON.

There is still another style of slate writing which is used to good advantage by some mediums. It consists of two slates hinged together, making a double slate. It has two holes in the frame opposite to the hinges, through which a tape or cord can be run and tied and sealed to the slates. (Fig. 11.) The writing is

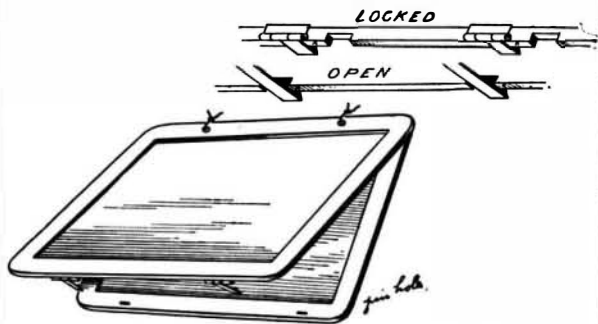


Fig. 11.—THE FALSE HINGE SLATE.

placed upon the inside, owing to the fact that a half of each hinge is screwed to one slate; the other half is made fast to a little projecting piece in which there is a slight notch. These projecting pieces enter corresponding holes in the other slate, in which there is concealed a spring bolt, which engages these catches of the hinge. When it is desired to open the slate for the purpose of writing upon it, the bolt is lifted back by means of a pin pushed through a hole in the end of the frame, as indicated in the engraving.

The following is a method by which writing can be made to appear on a slate on which a person has

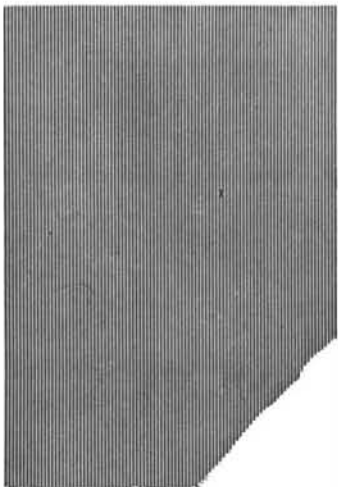


Fig. 12.—THE INTERRUPTED FLAP.

placed his initials in one corner. The slate is then placed with that side downward on the table, and shortly afterward, on turning it over, it is found completely covered with writing, and the signature of the visitor proves there has been no exchange of the slate. The method of obtaining this effect is unique. The writing is already on the slate, but hidden from view by the false flap, but with the corner missing from it. (Fig. 12.) The cleverness of the trick is in this corner. After the medium closes both slates, he says he will just draw a chalk mark down in the corner of the slate, wherein the gentleman is to place his signature. He



Fig. 13.—READING QUESTIONS BY MEANS OF MIRRORS.

really draws the chalk mark on the slate proper, but close to the edge of the missing corner of the flap, thus disguising the line of demarkation between the slate and the flap, and after the flap is dropped into the slate, of course, this mark of the signature still remains.

Another interesting test is as follows: A person writes a question on the slate, and places it face down on the table when the medium is not looking. The latter now takes his seat at the table, places one hand

on the slate, as also does the skeptic; the other hand is placed on the medium's forehead. With the disengaged hand the medium now proceeds to write on the upper surface of the slate. When he has finished, the communication is read, and it is found to be a correct answer to the question on the opposite side of the slate. To perform this seeming impossibility, the medium has to employ a table containing a trap smaller than the frame of the slate. When the slate is placed on the table, the medium shifts it over this trap and the trap is then open, and by means of mirrors in the body of the table the writing is reflected to the very place where the medium is sitting, and it is easy to then give an answer to the question. Fig. 13 shows the nature of the device. Double mirrors are used, in order to cause the reverse writing on the mirror to be again reversed.

With this trick the present series of articles comes to a close. There has been so much interest exhibited by our readers in these exposés of slate writing that the publishers of the SCIENTIFIC AMERICAN have decided to publish the entire manuscript in book form. Only a portion of it has been published in the five articles which have been devoted to it. The work will be published within a month, and it will contain a large number of other tricks used by mediums to deceive their audiences. It will include, in addition to all of the slate writing devices which have been illustrated, many which we have not shown. There will also be chapters on mind reading of all kinds and kindred phenomena, mental magic, table lifting and spirit rapping, spiritualistic ties, post tests, handcuffs, spirit collars, seances, etc. A number of new stage illusions will also be given.

Our New Cruiser "Albany."

The Navy Department is anxious to get the protected cruiser "Albany" in American waters, and an examination is being made to ascertain whether there would be any impropriety in asking the British government to release the vessel before the war is officially ended. Spain may possibly object to favorable action on the request by Great Britain, taking the ground that while hostilities have ceased by agreement, the war is still technically in progress. The "Albany" is not entirely completed, but she is in a condition to make the voyage across the Atlantic. The "Albany" was built by the Armstrong Company at their shipyard on the Tyne for the Brazilian navy, and she was christened "Almirante Abreuil." The United States government purchased her from Brazil before the war with Spain, and she was renamed the "Albany." Her sister ship is the "Amazonas," which did such satisfactory work at Santiago and elsewhere under her new name "New Orleans." Our government did not wish to purchase the "Albany," because she was not nearly finished, but Brazil would not sell the "Amazonas" unless the other vessel was also taken. The "Albany" will make a welcome addition to our navy.

The Current Supplement.

The current SUPPLEMENT, No. 1192, contains a large number of interesting papers. The front page shows a spirited portrait of Emperor William in the uniform designed by himself for his journey to Palestine. "The Uniform of the French Army" describes the latest accouterments of the soldier, which are regarded by military authorities as being eminently satisfactory. "The Graphophone at Omdurman" illustrates the use of this instrument in the heart of Africa. "Lightning on a Kite Wire" describes some interesting experiments which have been carried out by the officers of the Weather Bureau. "Portland Cement Industry of the World" is an important paper by Bernard L. Green. "German Blacksmith's Art" describes the manufacture of wrought iron gates, lamps, etc. That the Germans excel in blacksmith work has been abundantly shown by the magnificent gates which gave access to the German section in the Liberal Arts building in Chicago, at the Fair in 1893. "Inebriety and its Cure Among the Ancients" is a curious article by William L. Brown. Prof. Weldon's paper, read before the British Association, is concluded in this number, and the "Advance of Psychology," by Prof. J. McKeen Cattell, is also given in this issue.

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