

BOOKS RECEIVED.

[In sending books for notice in the *Journal*, publishers are requested, for the information of the reader, as well as for their own advantage, to give the price. This announcement by title will be followed, in most cases, by a review, which will appear at the earliest opportunity.]

- North, S. N. D. *The Wool Book*. Boston: Rockwell & Churchill. 1892. 16mo.
- Peabody, C. H. *Valve Gears for Steam Engines*. New York: J. Wiley & Sons. 1892. 8vo. \$2.50.
- Picon, R. V. *Distribution de l'Électricité par usines centrale*. Paris: Gauthier-Villars. 1892. 12mo. 3 francs.
- Railway Official's Directory. Chicago: *Railway Age*. 1892. 32mo.
- Tesla, N. *Experiments with Alternate Currents of High Potential and High Frequency*. New York: W. J. Johnston Company. 1892. 16mo. \$1.
- Witz, A. *Thermo-dynamique à l'usage des Ingenieurs*. Paris: Gauthier-Villars. 1892. 12mo. 3 francs.
- Alheilig, M. *Recette, Conservation et Travail des Bois*. Paris: Gauthier-Villars. 1892. 12mo. 3 francs.
- Duhem, P. *Leçons sur l'Électricité et le Magnetisme. Tome 3. Les Courants Linéaires*. Paris: Gauthiers-Villars. 1892. 8vo. 15 francs.

TABULATED RESULTS OF THE LAUFFEN-FRANKFORT TRANSMISSION.

We quote from the issue of June 17, 1892, of the (London) *Electrician*, the tabulated results of the famous Lauffen-Frankfort transmission of some 300 horse-power by means of high potential currents through a distance of about 109 miles.

The difference of potential on the line varied from 25,000 to 30,000 volts. The plant, which is only to be regarded as an experimental one, and notwithstanding the difficulties to be overcome, was able to show, as the result of some seventeen runs, an average efficiency between turbines and consuming apparatus of 73.3 per cent. Such figures show the wonderful efficiency of the electrical transmission of power as compared with any other method.

Table I, gives the results for the Lauffen-Frankfort transmission. Table II gives the results of a shorter transmission circuit of only one and one-fourth miles. The average total efficiency of eight runs in the latter case was 83.1 per cent.

The measurements in the first case were made by Profs. Dietrich, Stenger, Teichmann, Voit and Weber, Drs. Heins and Kopp, and Messrs. Nizzola and Schmoller. Those in the second case were made by Prof. Brauer, Dr. Wirtz, and Messrs. Friesse, Stapelfeldt and César. E. J. H.

TABLE I.—LAUFFEN TO FRANKFORT.

Time.	Horse-power Supplied by Turbine.*	Output of Dynamo.	Efficiency of Dynamo.	Output of Primary Transformer.	Efficiency of Primary Transformer.	Loss in Conductor.	Energy Supplied to Secondary Transformer.	Energy Delivered by Secondary Transformer.	Efficiency of Secondary Transformer.	Efficiency between Dynamo and Consuming Apparatus.	Efficiency between Turbines and Consuming Apparatus.	Weather.
Oct. 11th.—	1.30 to 1.45.	108.1	0.894	horse-power	0.947	horse-power	95.1	89.5	0.941	per cent.	per cent.	Bright, Dry.
Oct. 12th.—	1.50 to 2.0.	121.1	0.894	102.4	0.947	7.3	100.7	82.4	0.941	82.6	74.0	Cloudy.
Oct. 13th.—	1.35 to 1.45.	114.4	0.900	108.7	0.950	8.1	100.9	95.3	0.944	82.9	74.9	Rain at Times.
Oct. 14th.—	1.50 to 2.0.	127.5	0.890	109.0	0.950	8.1	70.5	71.4	0.944	82.4	71.9	Rain till Noon.
Oct. 15th.—	2.10 to 2.20.	97.3	0.884	81.5	0.939	5.0	81.7	76.3	0.933	81.6	72.1	
Oct. 16th.—	9.50 to 10.0.	105.9	0.881	87.7	0.940	6.0	81.8	76.4	0.934	81.7	72.2	
Oct. 17th.—	10.45 to 10.15.	105.8	0.881	87.7	0.940	5.8	120.0	114.0	0.930	81.8	75.1	
Oct. 18th.—	10.35 to 10.55.	131.8	0.916	124.8	0.955	12.9	120.2	114.2	0.950	82.0	75.3	
Oct. 19th.—	11.00 to 11.10.	139.7	0.916	132.7	0.961	12.5	150.7	144.2	0.957	79.1	74.1	
Oct. 20th.—	11.35 to 11.45.	194.7	0.935	175.1	0.961	24.4	152.4	145.8	0.957	78.8	73.9	
Oct. 21st.—	12.30 to 12.40.	197.4	0.935	177.5	0.961	25.2	91.7	86.2	0.940	82.0	73.3	
Oct. 22nd.—	1.35 to 1.40.	171.6	0.862	99.2	0.946	7.5	87.6	82.2	0.938	81.9	72.9	Dry.
Oct. 23rd.—	1.45 to 1.55.	112.7	0.888	94.5	0.944	6.9	58.0	53.5	0.922	80.0	68.5	
Oct. 24th.—	2.30 to 2.40.	78.2	0.845	61.1	0.925	3.1	145.3	138.9	0.956	77.8	72.8	Rain in Evening.
Oct. 25th.—	10.53 to 11.3.	100.7	0.933	79.8	0.960	25.5	145.3	138.9	0.956	78.1	73.1	Morning.
Oct. 26th.—	11.5 to 11.15.	177.3	0.933	170.2	0.960	24.9	145.3	138.9	0.956	78.1	73.2	
Oct. 27th.—	11.20 to 11.30.	189.7	0.933	169.9	0.960	24.6	145.3	138.9	0.956	78.1	73.2	

* The energy taken by exciter is included.

TABLE II.—PALMENGARTEN TO FRANKFORT EXHIBITION.

PRIMARY STATION. DYNAMO BY DEUTSCHE ELEKTRICITÄTSWERKE AACHEN.				SECONDARY MACHINE. MOTOR BY DEUTSCHE ELEKTRICITÄTSWERKE AACHEN.				Total Efficiency.
Volts at Terminals.	Current in Amperes.	Total Output, Watts.	Revolutions per Minute.	Volts at Terminals.	Current in Amperes.	Energy Absorbed by Motor.	Revolutions per Minute.	
1,197	13.95	15,442	531	1,045	13.95	14,578	379	83.10
1,124	12.90	15,624	510	1,043	13.90	14,464	375	83.30
977	10.55	10,307	528	932	10.55	9,832	358	84.70
972	10.75	10,664	566	957	10.75	9,955	361	82.70
1,068	10.00	10,911	527	934	10.90	10,181	364	81.40
970	9.70	9,468	537	834	9.70	8,720	402	94.70
946	9.65	9,189	538	846	9.65	8,531	392	88.70
941	9.65	9,681	530	846	9.65	8,646	400	88.40
194	1.50	231	580	175	1.50	20,259	4.31	84.89
							running light.	