

under a 12-foot head of water, is coupled directly to a dynamo of the multiple current or rotation current type. The turbine makes, at ordinary speed, 30 revolutions per minute, and the dynamo five times that number. This produces a three-phase rotation current, whose three components have, in technical phrase, "an electro-motive force of 50 volts and 14,000 amperes each, giving an output available for transmission equal to 200 kilowatts." From the generator, strong cables lead to a switch board provided with the ordinary measuring instruments for current and motive force, and thence into a transformer specially constructed for this purpose. Besides the large dynamo, a continuous-current machine, operated by a special turbine, serves as an exciter for the principal generator. In the transformer the current is converted into one intensely high pressure and small strength. For the reason that the air is not a component insulator for currents of high intensity, the transformer is immersed in a large, closed tank filled with oil. The converted current, having now a motive force of 1,500 volts at 12 to 13 amperes, is transmitted from Lauffen to Frankfurt on three light, naked copper wires, 4 mm. in diameter, strung upon poles 25 feet in height and 190 feet apart. They are hung upon porcelain insulators, each of which is provided with one or more troughs filled with oil. The copper wire conductors necessary for the experiment are 430 miles in length, and weigh 132,000 lbs.

DRAUGHTS-CHECKERS

All communications to this department should be addressed *directly* to the Checker Editor, W. Forsyth, 36 Grafton Street.

NEWS.

The *Pittsburg Chronicle Telegraph* says:—"The members of the Polytechnic Institute, London, England, at a recent meeting passed resolutions looking toward the formation of clubs for the purpose of visiting the United States during the World's Fair. As a large number of members are checker experts, including Teeshelot, Strudwick, Freeman, Jordan, Hill and many others of ability, in all likelihood we will have an opportunity of seeing a few of our British cousins during the exposition."

SOLUTION.

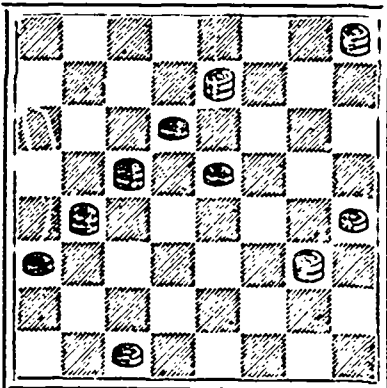
PROBLEM 262.—The position was: Black men 1, 5, 23, king 14; white men 13, 21, kings 7, 15; white to play and win.

13 9 14-18 10 6 21-25
23-27 21 17 1-10 32 27
15 10 5-21 7 32 w. w. ns

PROBLEM No. 264.

A stroke problem for beginners; suggested by one in the *West Lothian Courier* by Mr. Hughes.

Black men 10, 15, 21, kings 14, 17.



White men 20, 30, kings 4, 7, 24.
Black to play and win.

GAME No. 158. "Denny."

Played at Shubenacadie, Jan. 29, 1892, between Messrs. Joseph Francis and J. A. McHaffey, both of that town. Contributed by Mr. T. B. Lynch.

10-14 6-9 11-16 a-19-24
24-20 25 21 20 11 28 19
7-10 1-6 8-22 11-16
27 24 21 17 27 23 20 11
3-7 9-13 4-8 7-22
22 17 32 27 23 18 14 10
14-18 13-22 8-11 5-14
23 14 26 17 24 20 18 9
9-18 6-10 10-15 23-26

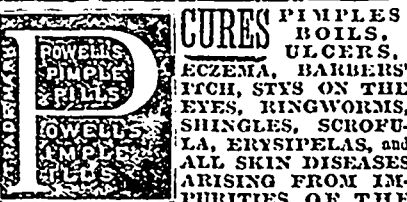
17 14 30 25 17 13 10 6
10-17 18-22 15-19 26-30
21 14 25 18 13 9 6 1
drawn.

a At first sight 12-16 seems a winning move, but white can reply with 9 6, 2-9, 18 15, and draw at least. But we doubt if white can draw against 19-23, 28 24, 23-26, 18 15, 11-18, 29 25, 22-29, 31 15 and black must win.



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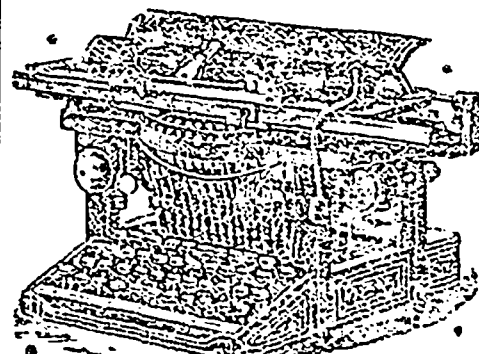
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ASSINIBOIA. SASKATCHEWAN.

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