

when the Rigi scheme was first broached, it had been satisfactorily demonstrated that a railway having a grade of as much as one in three was not only possible but perfectly practicable. At the outset the Swiss engineers met with but small encouragement, but they persevered in their plan, and this year had the satisfaction of seeing their efforts crowned with success.

The starting point of the road is Vitznau, a small village on the edge of Lake Lucerne, nearly opposite Mount Pilatus. From here the train runs up a gradual incline, through tunnels hollowed in the solid rock, across breakneck chasms, the incline gradually increasing until it reaches 1 in 4, the steepest grade throughout the whole line. The road bed of this extraordinary structure runs mainly over the rock, except in such places where trestle-work, as shown in the annexed illustration, is necessary, for crossing chasms, and for connecting a low with higher level. The ties are of oak, and the rails, of the ordinary pattern, are set on longitudinal timbers. In the middle of this track a third longitudinal timber is securely fastened, and surmounted with a heavy rack or ladder, of wrought iron, into which steel pinions work from the engine and car, the motive power being a locomotive engine working through countershafts and pinions into this fixed track. Iron pendulants from the engine and car, with flanges turning under the longitudinal timbers, prevent the possibility of the train being lifted from the track by wind or other force, and by a combination of atmospheric brakes and brake straps on the pinion shafts the train can be stopped under all emergencies.

The engine is placed below the car and retains this position both in the ascent and descent. It has an upright boiler and horizontal cylinders. Its ordinary speed is about equal to the trotting of a horse.

The car is oblong, much the shape of an English railway carriage, but with seats upon the roof as well as inside, arranged so as to retain a horizontal position on the steepest grades. The car has accommodation for eighty one persons.

CORRESPONDENCE.

GENERAL DUCROT.

To the Editor of the "CANADIAN ILLUSTRATED NEWS."

SIR,—In the war summary of your last number, you refer to Gen. Ducrot as the officer who broke his parole at Sedan. I am aware that this charge has been extensively circulated through the press, but the General has written a defence, which, so far as I know, has not been published in this country. Will you allow me to repeat it?

General Ducrot states that he would not in any way be a party to the capitulation of Sedan. He did not deliver up his sword, which he sent to Paris through a trusty aide-de-camp; and he refused to sign a paper whereby he would oblige himself not to serve against Prussia during the war. The only promise he made was to report himself at Pont-le-Mousson, the town on the Moselle used by the Prussians as a general depot for the transportation of prisoners to Germany. The General did report himself at that place, but, once there, resolved to escape, and did so through infinite peril.

These facts are given by the General in a letter to Trochu, who replied that he needed no such statement to vindicate the character of one whom he knew so well. Trochu added, however, that since Ducrot had made the declaration he would enclose it in a letter of his own to the King of Prussia.

General Ducrot is one of the noblest officers of the French army. For forty years his name has been enrolled in its annals. Before impugning the honour of such a man, should we not look for better testimony than that of the *Kölnische Zeitung*?

I am, &c.,

AMERICAN.

December 11, 1870.

THE FARM.

To the Editor of the CANADIAN ILLUSTRATED NEWS.

SIR,—Ever since its organization, our Local Legislature has made great efforts to encourage colonization and emigration. It has spared neither time nor money to secure to our Province these two important elements of progress. It has voted annually hundreds of thousands of dollars to colonization proper; it is granting millions of dollars, or their equivalent, to wooden and other railways, which are so many more facilities towards extending colonization; it publishes and distributes through its agents thousands of pamphlets, with a view of attracting emigration to this country. And yet, all this important and costly work would be of no avail were it proved, as many persons pretend it is, that farming in this Province is the least profitable of all occupations, and that, as a rule, the revenue of Canadian farmers barely exceeds the value of their manual labour. It behoves the Council of Agriculture for the Province of Quebec to direct the progress of agriculture in such a way that no doubt can exist as to the advantages we possess of soil and climate, and even nearness to market, in comparison to the West. It must also teach farmers near cities, as well as in the remotest districts, how to derive from their farms the greatest net profit.

For years back the establishment of truly model farms, where farmers could have constantly before their eyes examples of the most profitable and best managed farms, has been the greatest desire of our most enlightened and public-spirited men. But to find a sufficient number of persons capable and willing to conduct these farms as they should be, without risk of failure, appeared next to impossible. However, the Council hopes to obtain more certain and perhaps equally good results by offering premiums for the best cultivated farms in every county and every parish. Regulations have been carefully drawn, so that persons chosen to decide between competitors will know on what grounds to base their awards. These competitions, which are to begin next year, will no doubt create amongst farmers a spirit of emulation, causing them to study and practice improved modes of farming, and will thus be of such importance in their results that it becomes the duty of influential men living in the country to do all in their power to secure the success of this measure.

The Council of Agriculture has honoured me with a request that I should visit as many counties as possible, for the purpose of giving lectures on agriculture, and of explaining, when necessary, the regulations passed by the Board relating to these competitions between farmers. With a view of fulfilling this honourable, but to me very difficult mission, I intend to visit the headquarters of County Agricultural Societies during the winter; of this due notice will be given, when I will have

much pleasure in meeting all persons interested in the matter. But as it is impossible to pass through every parish, I beg leave to use your columns to ask the assistance of all your readers, and especially those from the country, in this work, which can be truly called a national one. May their efforts secure for this Province those improvements in agriculture which have made of bleak and unfavourable Scotland one of the best farmed countries in the world.

To remove any possible misunderstanding as to the conditions of these competitions, allow me to state that next year every Agricultural Society shall offer five prizes, viz.: \$50, \$40, \$30, \$20, and \$10, for the best managed farms in the County. The Council moreover desires that prizes be also offered for the best managed farms in each parish. As the Legislature votes annually about \$650 to each County Society, provided a subscription of \$200 be raised in the County, they will have abundant funds to offer prizes of \$40 or \$50 in each parish, besides what may be required for incidental expenses. Now, what should be done would be to secure in each parish at least ten members to the County Society, who should lose no time in preparing themselves to obtain the prizes to be awarded to the best farmers.

All members of the County Society, whose farms exceed 50 acres, and who grow at least one-half acre of root crops besides potatoes, have a right to compete both for the parish and for the county prizes. Special prizes may be offered for smaller farms.

It strikes me that local and other Municipal Councils might also vote a comparatively small sum, which would no doubt tend to stimulate efforts, and secure in consequence better farming practices in their locality.

As the rules which judges must follow in making their awards are of great interest, you would confer a favour by reprinting them.

I remain, &c.,

EDWD. BARNARD, JR.,

Editor of *La Semaine Agricole*.

BARBAROSSA.

THE FAMOUS GERMAN LEGEND OF REDBEARD.

This old fancy of the German balladists has assumed new interest from its being revived by German journalists, on occasion of the unification of the Fatherland, just now about to be finally consummated. The *Gazette* (Montreal) had an apt reference to this subject a few days ago. There is only one slight discrepancy. The grotto of Frederick Barbarossa is under the Untersberg, near Salzburg, in Austria. But Austria is out of the Bund. How about that? The following is a literal rendering of the celebrated original by Franz Ruckert.

The ancient Barbarossa, the Kaiser Frederick.

Lies spell-bound beneath the earth, in a castle damp and bleak.

He is not dead, but liveth, though he stirs not night or day.
For sleep has set her signet on his lashes long and gray.

He walketh there as boldly as in his lordliest prime.
And will return among us in his own good time.

The chair is ivory-mounted which the Kaiser sitteth in.
The table is of marble whereon he rests his chin.

His beard, no longer flaxen, has turned to fiery red,
And through the table growth whereon he leans his head.

In dreams his brow he noddeth, and his eye, half open, blinks.
And through the long drawn cavern at his faithful pigmy winks.

In dreams he tells the pigmy: "Go, look abroad if still
Thou seest, O dwarf, the ravens loud fluttering on the hill.

And if the ancient ravens still hover darkling there,
Then must I slumber spell-bound 'till for a hundred year."

JOHN LESPERANCE.

"GENERAL" CLUSERET.

The *Pall Mall Gazette* gives the following account of this somewhat notorious character:

"We obtain some particulars of the career of the *soi-disant* 'General' Cluseret from a German Correspondent's narrative, supplemented by American sources of information. Cluseret originally held a commission in the 8th French Chasseurs, but appears to have seen no service. He was compelled to leave the army shortly before the Italian campaign of 1859, having been charged with complicity in the intrigues of Italian refugees in France. It would seem from this that he has from the first been connected with ultra-revolutionary movements. At any rate he joined the Sicilian expedition of 1860 as one of Garibaldi's numerous and cosmopolitan staff. He carried his commission and a letter of recommendation to America when soldiers and adventurers of all sorts were flocking there in 1861, and was for a short time in the field as a colonel, attached to Fremont's staff, during the brief and unfortunate command of that soldier-politician in West Virginia. Lincoln accepted Fremont's recommendation of Cluseret for the brevet of a brigadier, but the Senate, which was growing scrupulous over the supposed services of volunteer officers, especially of those of foreigners, refused to confirm the nomination. Fremont being superseded by Hooker, Cluseret retired with his patron and devoted his energies to pushing the claims of Fremont for the next Presidency in a weekly paper established under his own editorship in New York, and called the *New Nation*. When Fremont's name was withdrawn from the contest in 1864, the funds of the *New Nation* were withdrawn also, and its editor was left without employment; but in the following year he and his newspaper again appeared, advocating the secret arming of the blacks, and the conversion of the remainder of the struggle in the South into a simple war of races. This, however, was too strong a diet for the stomachs of even the out and-out Abolitionists, and the *New Nation* again failed. A private mission to Juarez in Mexico was the next occupation of this agitator, and he appeared later as a representative of the 'Loyalists of the South' in their pretended Convention of Philadelphia at the close of 1866. Fenian intrigues were his next resort, and through some of these he succeeded in getting sent over from New York with a nominal mission from the Governor of that State, but with the personal conduct of plots contrived by the leaders there against English rule in Ireland. He is said to have visited Ireland in 1867, and certainly at Paris he showed a commission as Commander-in-Chief of the Fenian army that was to be. Within the last three years he had been heard of in Paris, Brussels, and London, always in connection with the most irreconcilable members of the Red faction. It will be seen that there are not many coincidences to connect the runaway hero of Lyons with Mr. Disraeli's anonymous

General, who, we earnestly trust, is just now throwing his full energies and tried powers into the very practical business of reorganizing that Turkish army among which Lothair last saw him.

CHESS.

The game we present below (recently contested in the Quebec Chess Club) excited considerable interest among the amateurs of the sister city.

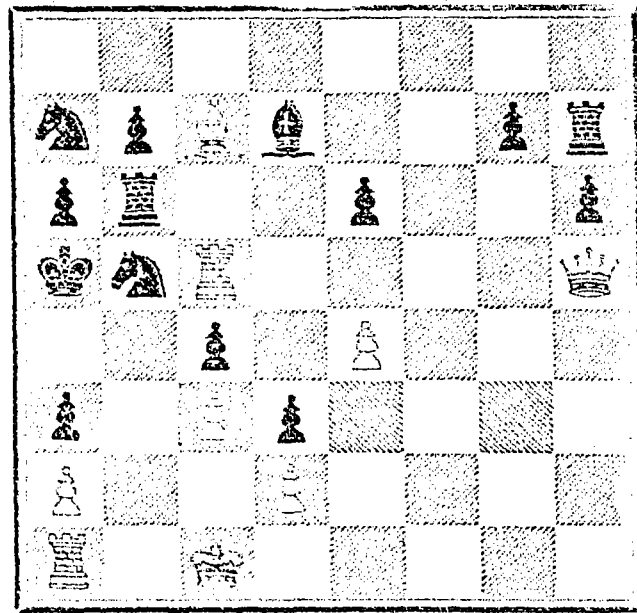
GIUOCO PIANO.

White.	Black.
Mr. C. G. (of Montreal Club.)	Mr. J. W. (of Quebec Club.)
1. P. to K. 4th.	P. to K. 4th.
2. K. Kt. to B. 3rd.	Q. Kt. to B. 3rd.
3. B. to B. 4th.	B. to B. 4th.
4. Castles.	P. to Q. 3rd.
5. P. to Q. R. 3rd.	P. to Q. R. 3rd.
6. P. to K. R. 3rd.	K. Kt. to B. 3rd.
7. Q. Kt. to B. 3rd.	Castles.
8. P. to Q. 3rd.	P. to K. R. 3rd.
9. B. to Q. 2nd.	Q. Kt. to K. 2nd.
10. K. Kt. to R. 4th.	B. to K. 3rd.
11. B. to R. 2nd.	B. takes B.
12. Kt. takes B.	K. to R. 2nd.
13. P. to Q. B. 3rd.	P. to Q. B. 3rd.
14. K. to R. sq.	B. to Kt. 3rd.
15. P. to K. B. 4th.	P. takes P.
16. R. takes P.	Q. Kt. to K. Kt. 3rd.
17. Kt. takes Kt.	P. takes Kt.
18. Kt. to Kt. 4th.	Kt. to K. R. 4th.
19. R. takes R.	Q. takes R.
20. Q. to K. B. 3rd.	Q. takes Q.
21. P. takes Q.	R. to K. B. sq.
22. K. to Kt. 2nd.	P. to K. Kt. 4th.
23. R. to K. sq.	K. to Kt. sq.
24. P. to Q. 4th.	R. to K. sq.
25. Kt. to Q. 3rd.	B. to B. 2nd.
26. P. to Q. B. 4th.	P. to Q. Kt. 3rd.
27. P. to Q. Kt. 4th.	K. to B. 2nd.
28. P. to Q. B. 5th.	Kt. P. takes P.
29. Q. P. takes P.	R. to Q. sq.
30. P. takes P.	R. takes P.
31. Kt. to K. 5th, ch.	K. to Kt. sq.
32. Kt. to Q. B. 4th.	R. to Q. 5th.
33. K. to B. 2nd.	R. to Q. 5th.
34. R. to Q. B. sq.	Kt. to B. 3rd.
35. K. to his 2nd.	R. to Q. 2nd.
36. Kt. to R. 5th.	R. takes Kt.
37. P. takes B.	R. to Q. B. 2nd.

The game was drawn after several more moves. *Black* has had a slight superiority in position; we leave our readers to determine whether or not it was sufficient to ensure a victory.

PROBLEM No. 23.

BLACK.



WHITE.

White to play, and mate in four moves.

Temperature in the shade, and Barometer indications for the week ending Monday, Dec. 12, 1870, observed by John Underhill, Optician to the Medical Faculty of McGill University, 299 Notre Dame Street.

	9 A. M.	1 P. M.	6 P. M.
Tuesday, Dec. 6.	36°	33°	31°
Wednesday, " 7.	32°	31°	30°
Thursday, " 8.	31°	32°	30°
Friday, " 9.	28°	33°	30°
Saturday, " 10.	22°	24°	22°
Sunday, " 11.	20°	28°	26°
Monday, " 12.	34°	35°	33°

	MAX.	MIN.	MEAN
Tuesday, Dec. 6.	35°	26°	30° 5
Wednesday, " 7.	32°	24°	28°
Thursday, " 8.	33°	25°	29°
Friday, " 9.	35°	23°	29°
Saturday, " 10.	26°	18°	22°
Sunday, " 11.	30°	15°	22° 5
Monday, " 12.	36°	23°	29° 5

Aneroid Barometer compensated and corrected.

	9 A. M.	1 P. M.	6 P. M.
Tuesday, Dec. 6.	29.83	29.76	29.92
Wednesday, " 7.	30.13	30.15	30.03
Thursday, " 8.	29.85	29.88	29.99
Friday, " 9.	31.29	30.35	30.35
Saturday, " 10.	30.42	30.44	30.53
Sunday, " 11.	30.70	30.73	30.68
Monday, " 12.	30.50	30.35	30.22