

Such was the glorious spectacle as I entered the train. As we proceeded, the timid approach of twilight became more perceptible; the intense blue of the sky began to soften; the smaller stars, like little children, went first to rest; the sister-beams of the Pleiades soon melted together; but the bright constellations of the west and north remained unchanged. Steadily the wondrous transfiguration went on. Hands of angels, hidden from mortal eyes, shifted the scenery of the heavens; the glories of night dissolved into the glories of dawn.

The blue sky now turned more softly gray; the great watch-stars shut up their holy eyes; the east began to kindle. Faint streaks of purple soon blushed along the sky; the whole celestial concave was filled with the inflowing tides of the morning light, which came pouring down from above in one great ocean of radiance; till at length, as we reach the Blue Hills, a flash of purple fire blazed out from above the horizon, and turned the dewy tear-drops of flower and leaf into rubies and diamonds. In a few seconds the everlasting gates of the morning were thrown wide open, and the lord of day, arrayed in glories too severe for the gaze of man, began his state.

I do not wonder at the superstition of the ancient Magians, who in the morning of the world, went up to the hill-tops of Central Asia, and, ignorant of the true God, adored the most glorious work of His hand. But I am filled with amazement, when I am told, that in this enlightened age and in the heart of the Christian world, there are persons who can witness this daily manifestation of the power and wisdom of the Creator, and yet say in their hearts, "There is no God."

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## LETTERS AND QUESTIONS.

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Once more hot weather is settling upon us, and during the coming weeks many of you will take excursions, more or less extensive, either for business or pleasure—perhaps combining both.

If, in your journeyings, you meet with any incidents particularly interesting, you may afford a double pleasure by reproducing them in our columns. Keep your eye open, with that object in view, and you will personally enjoy the trip better than if you had no aim.

Many expressions have been received indicating pleasure derived from perusing the North-West letters which have already appeared, and there is no reason why others should not contribute. Our wishes are for the success of the rambles.

The answer to problem in last issue has been received, but as some do not appear to have caught the idea involved, we give the work.

"It is a principle established by geometry, that 'Circles are to each other as the squares of their diameters.' Now, as each man was to get one-fourth of the stone, the last man would have

a circle which would contain one-fourth as much as the whole stone. Then, as the whole stone is to one-quarter of the stone, so is the square of the diameter of the whole stone to the square of the diameter of the quarter stone; or, put in figures,  $1 : \frac{1}{4} :: 4^2 : x^2$ ; extracting the square root of each term, we get,  $1 : \frac{1}{2} :: 4 : x$ —that is,  $4 \times \frac{1}{2} \div 1 = 2$  ft., the diameter of the stone when last man gets it.

Editor TRIP HAMMER:

If it be correct that matter contracts by cooling, please explain why a bottle, filled with water and tightly corked, on exposure to a severe frost, will burst from the inside.

That all bodies expand on heating and contract on cooling, is a well established fact; but the principle operates within certain limits. By the continued withdrawal of heat from water, its density is increased and volume decreased, until the freezing-point is reached, when it commences to crystallize and expand, and the greater the cold the greater is the expansive force.

Try your hand on this one:

Where must I cross-cut a plank, twelve inches wide at one end and six inches at the other, twelve feet in length, so that half the lumber will be in each piece?

[This letter, just received by The Massey Manufacturing Company, was handed to us for publication at the last moment before going to press which accounts for its not being placed with other correspondence from the front.]

### LETTER FROM THE FRONT.

FORT PITT, N. W. T., June 18th, 1885.

To The Massey Mfg. Co., Toronto, Ont.:

GENTLEMEN,—I take great pleasure in thanking you for the extremely acceptable present you sent me. On my arrival at Fort Pitt this morning I was greatly surprised to find a box addressed to me, and I assure you I was in a position to do full justice to the good things it contained. The change from the rations we have been receiving was most refreshing. I must say, however, that the Government have been doing quite as well for us as could have been expected under all circumstances.

We have had quite an exciting and rapid journey—have travelled in coaches and on flat cars; in sleighs and in waggons; on steamboats and on rafts; on horseback and on foot;—so that our experience has taken in almost all kinds of locomotion known, except balloons. I was engaged in two battles—first at Fish Creek and then at Batoche, the latter encounter lasting four days. On the fourth day we made the charge on the pits, took Batoche and captured Riel. I will not occupy any more of your time, and thanking you again for your kindness will write no more at present.

Yours respectfully,

HERBERT BOOTH,

No. 1 Co. 10th Royal Grenadiers.