the most reliable sources of information at our command, they are only challenged by such bitter personalities and trifling evasions as those indulged in by your correspondent. Writing with evident animus, he can find nothing better to object to Stepniak's crushing indictment against the whole system of government in his country than a quibble as to whether a man who escapes from the prison hospital can be said to escape from prison (your readers will find a detailed account of Prince Peter Kropotkin's escape in Stepniak's 'Underground Russia'); and the obvious truism that polite circles at St. Petersburg profess ignorance of cruelties, their master desires to conceal.

Until some better evidence to the contrary than this is laid before us, we English lovers of liberty must consider the case against Russian despotism as proved; and we shall endeavor — not in hatred, but in love, toward the Russian people — to aid them by every means in our power in their heroic efforts to free themselves and their country. C. M. WILSON.

London, Dec. 27.

Ruminants of the Copper-River region, Alaska.

While on the Copper or Atnah River of Alaska, and its principal tributary the Chitina (*Chitty*, copper; *na*, river), I had occasion to learn something of the species of ruminants inhabiting the region. Of the Cervidae, only two species, as far as I had occasion to learn, exist; viz., the moose, Alces machlis, called by the natives tenáyga; and a form of the caribou, Rangifer tarandus, called by the natives honnâi.

Of the Bovidae, there were two species, one of which, called by the natives tebáy, I had occasion to carefully examine. It nearly resembled Dall's mountain sheep (Ovis canadensis Dalli, Nelson), "found in the mountains of Alaska and southward into British America." My party killed several of these animals, one of which, a ram, had horns twenty inches long and nearly straight. It was killed on a very high point, much above the timber-line, and in its fall was considerably crushed. The horns were similar in structure to those of the big-horn, but had very little curvature. I saw a spoon made from a tebáy's horn, which had a length of twenty-six inches, and measured five inches across the bowl. The natives informed me that some had much larger horns than the one that furnished material for this spoon. This may or may not be true.

The head of the tebáy was much like that of a Southdown ram, the muzzle much less sharp than that of Shaw's Ovis canadensis or Nelson's Ovis canadensis Dalli. The hair, as to kind, was in no respect different from that of the latter animal, but was of a uniform white color, and by no means dirty; in fact, was nearly as white as his surroundings of snow. From the best information obtainable, I would class it as an equal in size to the big-horn, and a relative of Dall's mountain sheep. The ram and one other tebáy were killed on the most northerly tributary of the Chitina, called by us Chitistone (Copper-stone) River, on account of the existence there of copper ore.

The natives informed us that a few miles below the junction of this tributary with the Chitina we could kill small tebáy, and four were obtained. Their heads were left on the mountains, but the body seemed identical with that of the Chitistone River specimens, though very much smaller. Why only small ones should be found at this place, in the latter part of April, I cannot say. The mountains here were not so high as farther to the east and north, where the large ones had been killed. The last tebáy seen or heard of by us were near the source of Copper River, on the divide between it and the Tananá River.

The other species of the family was a white animal whose pelt I frequently saw used in articles of wearing-apparel, and which, from its description, was probably the mountain goat, Mazama montana, found also on the head waters of the Yukon River and its upper tributaries. I saw some of these animals at the junction of the Copper and Chitina rivers, on the west banks of the former, but was unable to obtain them. H. T. ALLEN,

Lieut. 2d cavalry, U.S.A.

Washington, Jan. 2.

The festoon cloud.

In the *Philosophical magazine* for July, 1857, Mr. W. S. Jevons, then assayer at the Sydney branch of the royal mint, had an article on the cirrous form of cloud (vol. xiv. 22–35), and gave therein the best early account that I have met with of a peculiar form of cloud, since commonly called the 'festoon' or 'pocky' cloud. He says these forms are often to be seen on the under surface of dense cirro-stratus clouds, 'especially at the front or tail of a thunder-cloud.' Sometimes these dropping portions of cloud, or 'droplets,' as he calls them, seem to come into contact with dry air, when their well-defined form is destroyed, and a fibrous or fur-like appearance only remains. 'They appear to be truly portions of subsiding cloud.' An accompanying 'imaginary section of a thunder-cloud near Sydney' nicely illustrates their attitude, but not their form.

The earliest valuable figure of the festoon cloud is presented in an article by A. Mitchell, on weather prognostics in Scotland, in the Edinburgh *New philosophical journal* (xviii. 1863, 221), where it is copied from a drawing by the Rev. C. Clouston: it is probably the same figure that is given in a work by the latter author, 'An explanation of the popular weather prognostics of Scotland,' etc. (Edinburgh, 1867); but this I have not seen. The drawing shows the cloud to be distinctly convex downwards, the separate festoons being grouped together somewhat like the adjacent grapes on a bunch; and it is spoken of as a sure sign of stormy weather. Its relative rarity may be estimated from a note by Symons, the veteran English observer, in his *Meteorological magazine* for July, 1868. He first saw it early in the morning of a June day in 1858, just before a violent thunder-storm; then during the succeeding ten years he never saw it, or heard of its being seen, till he came upon the book above mentioned. He said it looked like 'bags of sand,' but does not refer to it as a falling cloud.

Poey, a lifelong student of cloud-forms, sent a brief note to *Nature* (Oct. 19, 1871, p. 489), in which he speaks of this cloud as a new form, and gives a rough figure of it: he considers it very rare, having seen it but twice in his life, both times suspended from the pallio-cirrus of thunder storms, — once in Washington, D.C.; again in Beloit, Wis. This note brought out several others; among them one signed 'J.,' evidently by Jevons, calling attention to his