Meanwhile the other three men were working hard at alluvial digging, in order to gain enough of money to pay for the machine, as it was being constructed. They also cut a very long mill-race along the mountain sides to supply the water-wheel; for the motive power was to be obtained entirely from the mountain streams, and steam-engines were out of the question.

When the machinery, in pieces, was brought to the town of Jamieson, about twenty miles to the north of Woods Point, an unexpected difficulty arose. No "packers" would undertake to convey it over the ranges. They said it would be absurd to expect that horses, with a load of two hundredweight each, could keep their footing on the sides of these mountains. The four diggers were therefore obliged to procure horses and to convey the machinery themselves. This work alone occupied them over three months; it was fully a year, from the commencement, before they had the machine erected, and yet the whole weight did not exceed three tons.

Having thus surmounted every obstacle, they gave to their rerf the name of the "Morning Star;" and very soon it justified the name, for the brilliancy of its results for a year or two quite eclipsed all the other gold mines of the colony. The little clumsy machine, with wooden shanks to the stampers, with a wooden fly-wheel, and driven by an old-fashioned water engine, turned out more gold than the large steam-driven batteries of Ballarat and Sandhurst.

At first the M'Dougals kept these splendid results a great secret. A wild and lawless population had followed their footsteps up the mountains; and in such a place there could be no protection but in secrecy. The partners therefore carefully concealed their good fortune from every one, and hid all their gold in secluded places, among the thick scrub.

At night time, they stole out from the settlement, and, taking the gold with them, they made their way by moonlight over the ranges, to a little hut, that was erected beyond the roughest country. Here a horse was kept in readiness to convey one of them, with his precious cargo, on to Jamieson.

Up to the end of 1866, the produce of the claim of M'Dougal and Company amounted to over £164,000, and several adjoining claims had also yielded extraordinary returns.

THE STORY OF THE PARACHUTE.

A SHORT narration of the origin of the parachute may be interesting to our readers.

The parachute commonly in use is nothing more or less than a huge umbrella, presenting a surface of sufficient dimensions to experience from the air a resistance equal to the weight of descent, in moving through the fluid at a velocity not exceeding that of the shock which a person can sustain without danger or injury. Consequently, in the East, where the umbrella has been from the earliest ages in familiar use, it appears to have been occasionally employed by vaulters, to enable them to jump safely from great heights. Father Loubère, in his curious account of Siam, relates that a person famous in that country for his dexterity, used to divert the king and court by the extraordinary leaps he took, having two umbrellas, with long slender handles, fastened to his girdle.

Blanchard was the first person who constructed a parachute to act as a safety-guard to the aëronaut in case of

any accident. During an excursion he made from Lille, in 1875, when he traversed, without stopping, a distance of 300 miles, he let down a parachute with a basket fastened to it containing a dog, which he suffered to fall from a great height, and which reached the ground in safety.

The first parachute descent, however, was made by Jacques Garnerin, on October 22, 1797, in the Park of Monçeau. De la Lande, the celebrated astronomer, has furnished a detailed and highly interesting account of this foolish experiment.

Garnerin resided in London during the short peace of 1802, and made two ascents with his balloon, in the second of which he let himself fall, at an amazing height, with a parachute. After cutting himself away, he floated over Marylebone and Somers' Town, and fell in a field near St. Pancras Old Church. The oscillation was so great, that he was thrown out of the parachute, and narrowly escaped death. The next person who tried the dangerous experiment was his niece, Eliza Garnerin, who descended several times in safety.

The next experimentalist was a person of the name of Cocking, who ended his days in a manner unworthy his talents, through a series of lamentable mistakes. His parachute was constructed on the opposite principle, of a wedge-like form, and was intended to cleave through the air, instead of offering a resistance to it. It has not yet been proved that the principle was wrong, but the defect lay in the weakness of the materials employed in the formation of the parachute.

On July 29, 1837, Mr. Cocking ascended in his new parachute, attached to the Great Nassau Balloon. Mr. Cocking liberated himself from the balloon, the parachute collapsed and fell, at a frightful rate, into a field near Lea, where poor Cocking was found with an awful wound on his right temple. He never spoke, but died almost immediately afterwards. It is much to be regretted that the descent was ever allowed to take place. The aëronauts themselves were for some time in a state of imminent peril. Immediately the parachute was cut away, the balloon ascended with frightful velocity, owing to the ascending power it necessarily gained by being freed from a weight of nearly 500 pounds; and had it not been that the aëronauts applied their mouths to the air-bags previously provided, they must have been suffocated by the escaping gas. When the reaction took place, the balloon had lost all its buoyancy, and fell, rather than descended, to the ground.

Mr. Hampton was the next person who attempted the experiment, and made three descents in a parachute in succession without injury. Undeterred by the awful fate of his predecessor, this gentleman determined on making a parachute descent which should prove the correctness of the theory, and the Montpelier Gardens at Cheltenham were selected as the scene of the exploit. Owing to the censure which attached to the proprietors of the Vauxhall Gardens, for permitting Cocking's ascent, th e owners of the Gardens at Cheltenham would not suffer the experiment to be made, and Mr. Hampton was obliged to have recourse to stratagem. As he was permitted to display his parachute in the manner he intended to use it, the idea suddenly flashed across his mind that he could carry out his long nursed wishes. He suddenly cut the rope which kept him down, and went off, to the astonishment of the spectators: the last cheering sound that reached his ears being—"He will be killed to a dead certainty!"

After attaining an altitude of nearly two miles, Mr. Hampton proceeded to cut the rope that held him attached to the balloon. He paused for a second or two, as he remembered it would soon be life or death with him, but at length

drew his knife across the rope. The first feelings he experienced were both unpleasant and alarming; his eyes and the top of his head appeared to be forced upwards, but this passed off in a few seconds, and his feelings subsequently became pleasant rather than disagreeable.

So steady and slow was the descent that the parachute appeared to be stationary. Mr. Hampton remembered that a bag of ballast was fastened beneath the car: he stooped over and upset the sand; he also noted by his watch the time he occupied in descending. The earth seemed coming up to him rapidly, the parachute indicated its approach to *terra firma* by a slight oscillation, and he presently struck the ground in the centre of a field.

Mr. Hampton repeated the experiment twice in London, though on both occasions with considerable danger to himself, the first time falling on a tree in Kensington Gardens, the second on a house.

After this experiment there was a lull in the parachute folly until recently, when Madame Poitevin startled the metropolis from its propriety by her perilous escapes both of life and limb.

Although considerable ingenuity was displayed in the plan of expanding the parachute by the sudden discharge of gas from the balloon; still the very fact of a woman being exposed to such danger by her husband will, we trust, hereafter prevent Englishmen from countenancing such an exhibition by their presence.

THE TROUT AND THE CHAR.

PERFECTLY distinct from the salmon, and next in estimation, is the salmon-trout *(Salmo trutta)*. It is migratory, like the salmon, but never attains to so large a size, averaging only a few pounds' weight, though one of seventeen pounds was once seen by Mr. Yarrell. It is now a permanent resident in a fresh-water lake of Lismore, one of the Hebrides.

Vast quantities of salmon-trout are sent to the London market from Scotland, and many persons regard them as young salmon.

In some of the rivers of Scotland and England the bull-trout, or whitling *(Salmo eriox)*, is very common; it is as large, or nearly so, as the salmon, but its flesh, which when in season is of a pale orange colour, is not held in much estimation. Very few are ever sent to the London market. The local names of Norway trout, round-tail, sea trout, Warkworth trout, and coquet trout, are referrible to this fish.

The clear streams, the swift gravelly rivers, and the pure fresh-water lakes of the British islands, all abound more or less with that delicate fish, the common trout *(Salmo fario)*, respecting which anglers, from Izaak Walton downwards, have written so much, each giving preference to the fish of different rivers according to his fancy. Walton praises the "swift, shallow, clear, pleasant brooks" of Hampshire, with their "store of trouts." Cotton exalts the Dove, the Wye, the Derwent, and the Lathkin of Derbyshire. But perhaps finer trout are nowhere to be found than those in the Thames, about the weirs of Hampton Court and Chertsey, about Pangbourne, above Reading, and in the deep pools above Oxford. We have seen Thames trout between eleven and twelve pounds' weight, but some of fourteen or fifteen pounds' weight are occasionally taken,