

disheartened *en route* by another spear from Williams. Not yet beat, however, he stood at bay in the water, turning to face every attack, and meeting his assailant half-way like a true duelist. It was a turn of sharp practice now, as one after another rushed by him, manœuvring their horses so as to deliver the spear and yet avoid the charge; but it was a fight that could not last. Assailed on every side, he gradually sank under the repeated thrusts, till his last efforts showed only the will without the power.

Bristling all over with embedded spears, at length the poor brute lay down fighting to the last, with the dying satisfaction, however, of having left his marks on three horses. A fine 'tusk' he was, measuring 37 inches. On looking at our horses, I found both my saddle-girths cut, one right through, the other nearly, and a lung but not deep cut on the horse's near forearm. Williams and Westwood fared worse, Williams' horse having been cut in three places; but, though severely, neither dangerously.

CONCERNING SHETLANDERS.

The Shetland and Orkney Islands belonged to Norway until 1165, when, as history informs us, "They were impledged to James III, of Scotland, as a part of the dowry given with his queen," for about that time he was married to Princess Margaret of Denmark. It is added that "these islands were never redeemed." Shetlanders are a small, active and hardy people, very genial, too, and distinguished, whether rich or poor, for very industrious habits. No less are they noted for intense love of country.

Much of the farm work is carried on by the women of the household. Fields and gardens are their great delight. They are adept in cinary loom, and spin, weave and make up stores of household linen and flannels. No less successfully do they cut and make all family clothing, and as well pride themselves upon the number of bags of stockings, thick and warm, which they exhibit to neighbors and friends with intense satisfaction. Taste and thoughtfulness develop many bright touches of ornamentation. But the maidens own wit must devise the outlining, her own dainty touch accomplish the needlework. Shops full of beautiful patterns and gay lined materials are unknown joys in Shetland. The flowers of the field and the trees of the wood must furnish not only patterns, but the coloring needed for the wools and threads. Every maiden must be her own purveyor for every pigment needed.

The great luxury of the peasant women is tea-drinking. This article, brought from distant ports, would be beyond their means unless secured by exchange, and is said to be a universal means of payment for little services rendered. An errand involving hours of travel will be cheerfully accomplished for "one drawing" of the yearned-for refreshment, and this may be said of many household services. Skillful spinners will gladly "give many turns to the wheel" for a complement of the delicious beverage.

Sheep are largely a source of trade to farmers of these islands: the mutton is dark in color and of fine flavor, the fleece is soft and of such delicate texture that from it may be spun a thread as filmy as daintiest cambric; 1,000 yards are often spun from one ounce of wool, each thread being three fold, thus making 3,000 yards in all. Stockings knit from this can be drawn through a finger ring, and for such delicate hosiery two guineas per pair, and even more, are often paid. Within a few years more and more of this exquisite thread is used in making shawls, pure white or dark gray, which command very high prices; they are like cobwebs for delicacy and lightness.

What the camel is to an Arab, the sure-footed, tough-fibered pony is to the Shetlander. One familiar with their customs has said that, though bred on the wild heath, the "sheltie," as the ponies are sometimes called, can be tamed in one night. The hunter, throwing his lasso with skill, secures a frisky colt, and for twenty-four hours keeps him a prisoner. The small creature hears no other voice than his master's; the hunter feeds and caresses him, and gradually the terrible restlessness subsides.

Hereafter he becomes a docile, affectionate burden bearer and companion. He needs no stable, and has a happy faculty of enjoying whatever he finds to eat. A dun-colored "sheltie" of exquisite symmetry, seen by a tourist, could stand under a dining-table, and a little lady could seat herself upon its back without lifting her feet from the ground. They are favorites for the saddle, and many are sent to other countries for the pleasure of ladies and children.—*Harper's Bazaar*.

INDIA AS A WHEAT PRODUCER.

The report of U. S. Consul-General Bonham, at Calcutta, British India, treats at length of the wheat interests of that country. The area devoted to wheat in 1886 was about 27,500,000 acres, and the total yield 289,000,000 bushels. As compared with the wheat of the Pacific coast, the Indian wheat is inferior, but when exported to Europe it is mixed and ground with wheat of a superior quality, by which process a fair marketable grade of flour is obtained. The method of cultivating the soil is in the main the same as it was centuries ago, and there seems to be great difficulty in inducing the farmer to invest in modern agricultural implements, and yet with all the simple and primitive methods the Indian farmers can, in the opinion of the Consul-General, successfully compete with those of the United States in the production of wheat. This is due to the fact that the Indian farmer's outfit represents a capital of not more than \$40 or \$50, and his hired help works, feeds, and clothes himself on about \$2.50 a month. A table is annexed, showing that the export of wheat from British India has increased from 300,000 cwt. in 1868 to 21,000,000 cwt. in 1886, and that the increase of 1886 over 1885 amounts to about 5,000,000 cwt.

The Consul-General says that some of his predecessors have claimed that the United States has nothing to fear from India as a competitor in the production of wheat. In this view he does not concur, and believes that to-

day India is second only to the United States in wheat-growing. Furthermore, wheat-growing in India is yet in its infancy, and further development depends principally upon the means of transportation to the seaboard. He fears that with the cheap native labor of India, and the constantly growing facilities for transportation the United States will find her a formidable competitor as a producer of wheat.

INDUSTRIAL NOTES.

The classes in industrial drawing at the Art School are being well patronized, and the benefits that are sure to accrue are incalculable. Heretofore the artisan has had no means at his command whereby he could improve his condition, or be taught how to make use of the artistic talents latent in his disposition. The Art School has opened to him the door by which he may attain to the highest results, and he has not been slow to take advantage of it. In all cases there is hardly likely to be found talent sufficient to raise above mediocrity, but every artisan will be improved in artistic skill who has the wisdom to take advantage of a course at the Art School.

The present has been an unusually busy season in the building line in Halifax. Dalhousie College and the new City Hall have been the largest buildings under construction. Many new and handsome private residences have been erected, and old promises have been rebuilt and enlarged.

Brick-layers, masons, stone cutters, plasterers and carpenters have been in demand, and have had steady work at good wages.

This is a healthy sign, as when mechanics and artisans find steady employment a large amount of cash is put in circulation, and retailers of all descriptions are generally benefitted.

One notable improvement in the city is the general awakening to the fact that paint adds much to the external appearance of the place, and if the next season witnesses as many improvements in this respect as the past, the term "dingy city" will no longer apply to Halifax.

That Amherst is fully abreast of the times is made evident by the fact that its enterprising townsmen, in addition to putting in the electric light, are also erecting a central heating station. The Amherst light and heat company, composed entirely of Amherst men, has just been formed, and it is the intention of the company to light the town with the electric light, and heat stores, churches, hotels, &c., from a central station which Rhodes, Curry & Co. are now building. Robb & Sons are putting in engine and boiler, and S. G. Chambers, of Truro, has the contract for dynamo and wires. It is expected to have the light in operation in a few weeks. The idea of a central heating station from which buildings may be heated is an excellent one, and its application to Halifax would prove most beneficial. As the metropolitan city of the province Halifax should take the lead in introducing all improvements, but Amherst has evidently got the start in this instance.

During the last twelve years, a great change has taken place in England in the application of steam power for factories, especially in those devoted to the spinning and weaving of cotton. Formerly, a heavy and slow running pair of beam engines, transmitting their power through the factory by cumbersome gearing, was considered the acme of perfection. About thirty years ago, horizontal engines came more into use, partly on account of their first cost being less, and partly because it was imagined there would be greater immunity from expensive breakdowns. Opinion was much divided about the relative merits of beam and horizontal engines. It was observed, however, when money was no object, that the old beam engine carried the day. Now, the quick running engine has come to the front again, rendered indispensable by the substitution of rope driving for the old heavy gearing. It is only fair to say that the idea sprang from the mode of driving by belts, so much used by the Americans. The English took another step in front of the Americans by using ropes instead of belts. The advantages of rope driving were soon apparent in the vastly better turning of the machinery. This is especially felt in mule spinning fine numbers. The indicated horsepower to turn the same number of spindles is slightly greater with ropes than with gearing. This may be accounted for in more friction from the higher piston speed of the engines, and in the friction of the ropes as they leave the grooves. Cotton ropes from 1½ inches to 2½ inches answer the best.

A first-class job of engines to turn 1,200 indicated horse-power would be comprised in the following particulars: Boiler pressure, 190 lbs. per sq. inch. Triple expansion vertical engines with automatic cut-off motion applied to high-pressure valve. Ports and pipes large enough to enable not less than 99 lbs. of steam to be on the piston at the initial point of the stroke. The three cylinders, 25, 36 and 50 inches respectively, to be steam jacketed. Stroke, 4 feet. 75 revolutions, giving a piston speed of 600 feet per minute. Drum, 25 feet in diameter, to carry 25 2½ in. cotton ropes, running nearly 6,000 feet per minute. Crank shaft and pins to be hollow, made of Whitworth's fluid compressed steel. Particular attention to balancing the engines, which must be accurately tested. The steam would be supplied by 5 double-flued Lancashire boilers, containing 5 conical Galloway tubes in each flue. Each boiler fed by Proctor's mechanical stoker. Length of boilers 30 feet, and 8 feet in diameter, constructed of the best mild steel. Attached to these, would be a Green's Economizer, containing 460 pipes.

Long experience has taught users of steam power in England that no form of boiler comes half the good qualities possessed by a simple double-flued Lancashire boiler, supplemented by a good draught and a good economizer.