

ring, where the public generally can get a chance to see it. If possible the affair should start off with a march past of the prize winning stock, horses and cattle, if the judging is done in time, and exhibitors should be compelled to parade their stock. Most fair visitors spend only the afternoon on the grounds. At the bulk of fairs they would have a job finding the prize winners of any class if they did wish to see them, and where a stock parade is managed properly, the various classes marched past in order, the visitor, if he doesn't have a chance to inspect the animals closely, knows at least that he has seen the best of the stock, and is better satisfied than he would be if he tried to look the exhibit over at closer range, and found the bulk of it hidden away under horse blankets. If there are races, and we believe some sort of a racing program should be put in at every show, no matter how small, have a man in charge who can start a race without wearying the spectators to desperation. At country fairs racing should be confined exclusively to local horses. Nothing is gained by bringing in a band of circuit horses to make a gateway with the purses. Local men in most cases, will put up equally as good a performance, and the fact that both men and horses are known in the community adds interest to the event. A couple of hours of racing in an afternoon is sufficient. Between heats other events can be pulled off. At fairs in the old land leaping classes are much in favor as an attraction. Jumping the hurdles is a perfectly legitimate adjunct to a show where horses of any kind are exhibited. It is possibly a feature more popular with the public than any other horse attraction. They are able to follow it or think they can which is all the same thing. Hurdle jumping might not be possible at some shows out here but at quite a number a little of it could be worked in. Leaping classes should be arranged for horses ridden by both gentlemen and ladies.

At purely agricultural fairs there are a number of horse events that can be pulled off with ordinary farm horses. In this country where farm outfits consist ordinarily of four or more horses, four and six in hand classes could be arranged, the judging being done in the ring. For the ladies there may be harnessing and driving contests. There can be hitching competitions, drawing contests and prizes for the best matched, best groomed and best trapped teams. A drawing contest makes a very interesting feature if it can be pulled off at a good time. Then there are walking races, backing contests and such like to no end. We believe there is nothing in the line of attractions for agricultural fairs more popular than events in which horses play the prominent part. Most people like to have you believe they can appreciate good horses and most of us unwittingly admire good horsemanship. A baseball or football match, if the competing teams are any good and don't require all afternoon to play a game, are all right. But attractions of this kind should be secondary to such as we have just enumerated.

There are plenty of admirable features that can be introduced into the amusement program of fairs. The important point is to have what is provided in this line of a high order and not attempt to have too much of it. If things are not allowed to drag and everything goes off in time the crowd will be amused without being wearied. The program should not be extended much beyond five o'clock. Let the people get started for home early, if you have another day's fair, and they are more likely to return next day. Most people are sufficiently amused with a three hour's program any way.

H. OSCAR SHELDON.

Trailing the Hardy Alfalfa.

W. P. Kirkwood, in the April *World's Work*, tells an entrancing story of the work of Professor Hansen, of the South Dakota Experiment Station, the wizard of American agriculture, in discovering and inventing fruits and forage to withstand sub-zero weather. The portion that refers to the Professors trans-Asiatic journey in search of a hardy strain of alfalfa, is interesting enough to be repeated.

In 1897, when Professor Hansen had just advanced the preliminary work of his campaign for the occupation of the North by small fruits to a promising point, Secretary Wilson, of the National Department of Agriculture, began to put into execution a plan to explore the four corners of the earth for plants and animals adapted to the needs of the various sections of the United States. He called upon Professor Hansen to go to Europe and Western and Central Asia in quest of drouth-resisting and cold-resisting plants. He gave the professor a free hand. Much of the wild region which the plant explorer was to traverse—the heart of Asia—had been explored but little by travellers and the professor knew he was going on no midsummer's picnic. But, as he himself says, "possible hardships were forgotten in the eager quest."

Landing at Hamburg, he hastened to St. Petersburg and thence southeastward to Nijni Novgorod, the scene of Russia's great annual fair, to which are carried the agricultural and manufactured products of both Russia and Asia—the very place to look for new material. Following down the Volga some distance, he turned eastward to the Ural Mountains, nature's battlements between Europe and Asia, finding on the way farms worked by hardy camels, imported from the East. Then he turned westward again and crossed the great plain of South-Central

Russia to Kief. From Kief he went to Odessa, on the Black Sea, and thence by way of the Crimea, to Transcaucasia, "the land of Noah's Ark," that storm centre of contact between Europe and Asia. Crossing the Caspian Sea, he plunged into the land of the Turkoman. By this time, though hampered by an interpreter, he had developed the art of agricultural inquiry to a high degree. Almost every man or every group of men were subjected to an agricultural catechism. It was not long before the professor was hot on the trail which he knew was likely to prove of the utmost significance.

This was a trail of hardy alfalfa. All whom the professor met, army officers particularly, were closely questioned as to this forage. Horses even were "approached on the subject," and the provender they were eating in the market-places and at post-road stations was examined. And still onward across the Oxus (now the Amu Daria) River led the trail, the same that was followed by Alexander the Great more than a score of centuries ago. On alfalfa, the explorer found, Central Asiatic civilization had existed for centuries, and what would sustain a semi-civilization in the East he knew would be an immensely valuable adjunct to the products of a fully civilized people in the West. The Northern African alfalfa, carried by the Spanish into South America three centuries ago and thence northward into California, had been shown again and again to be unfit for the prairies of the Northwest. It would freeze out in severe winter with many millions as the aggregate loss. But here was a chance that a thoroughly hardy alfalfa might be found—a variety insured to drouth and cold through thousands of years of natural methods of cross-breeding. So the professor followed on across the land of the half-civilized Turkoman, through Bokhara, into Turkestan and to its capital Tashkent, where he found an alfalfa bazaar which bore the marks of great age. And still the signs pointed northward and eastward; without a thought of turning back, he pressed on, stopping now and then for needed rest or to question some Turkestan plowman with camels hitched to crude implements centuries behind the times, as viewed by Western standards.

A THOUSAND MILES IN A TARANTASS

The journey was made in a tarantass, a four wheeler with no springs, the bed being on long wooden poles, making a bone-racking vehicle somewhat resembling in appearance a modern buckboard. It was anything but a comfortable conveyance for a 1,300 mile jaunt, but it was the best to be had for the purpose, and then there was the alfalfa to lure the traveller on. Following for hundreds of miles along the Tian-Shan range of mountains between Turkestan and China, Professor Hansen finally crossed the range into China, bringing up at the ancient city of Kuldja, in the Province of Ili. He had traced the blue-flowered alfalfa to the very doors of Chinese temples in the heart of Asia. He was a thousand miles from a railroad, and had gone for months without letters from home, and he was in a land where the speech was utterly unknown to him—at least three removes as things stood from anything he could understand. In order to carry on his inquiries, he had to have three interpreters, one to translate Chinese into Tartar, another to make Tartar over into Russian, and a third to reduce Russian to German, with which he was familiar. "Yes, alfalfa grew farther to the northward at Kopal," he was told. Back across the rugged Tian-Shan range he hurried. Winter was coming on, and there was no time to be lost. So he kept his post-horses moving.

At Kopal he did find alfalfa. It grew out on the wide steppes, where the Kirghiz Tartars pitched their strange camps, amid a sparse vegetation. But there, 45 degrees and 10 minutes north latitude, and 79 degrees east longitude, winter, that foe against which Professor Hansen had allied himself with the vegetable kingdom, swooped down on him in a vicious attack; and it seemed for a time that the attack away off there in Asia would defeat temporarily, at least, the cause of the plant kingdom in North-Central America by causing the premature death of the man. But winter reckoned not of his endurance and determined purpose. He had travelled 1,300 miles by wagon when snow put an end to his search for seeds and he decided not to go back over his wagon route, but to take sledges and push on almost due northward 700 miles to Omsk, on the Trans-Siberian Railroad. It was a hazardous thing to do as the event proved, almost costing the professor his life as the price of having traced alfalfa to a latitude more northern than that of the capital of Minnesota and almost as far east of Greenwich as South Dakota is west. He had scarcely set out on his 700-mile sledge-ride before a violent blizzard swept down upon him out of the cruel North, and his Tartar drivers got lost on the treacherous steppes. When morning broke the storm subsided a little, and the little company found a post house at Sergiopol, with shelter and warmth, if not over-appetizing food. Pneumonia threatened the professor and compelled him to lie at the little military hospital at Sergiopol for a week. Then, impatient of further delay, he pushed on. But the sting of exposure had gone further than he supposed, and before he had gone far he was compelled to halt—this time at Semipalatinsk, where he made the intimate acquaintance of a poultice of lard and turpentine which showed the strength of its affection by blistering his chest. Then, after a terrific drive of three day and nights without stop except to change horse, he reached Omsk. He hastened by train to

Bremen, by way of Moscow, and there took ship for home.

The net result of this trip was first of all, the tracing of alfalfa to a latitude much more northern than any in which Americans had known it to grow, then the shipment of five carloads of seeds and plants of many kinds to the Department of Agriculture at Washington, including the first importation of Turkestan alfalfa into this country.

The journey, in the estimation of the professor, paid and paid abundantly, but that the northern limit of the alfalfa belt in Asia had been reached was by no means certain. Indeed, there was convincing evidence that that limit had not been found, for near Kopal an army officer had said that he had seen the plant at Zaisansk, a considerable distance northeastward of Kopal. The professor was anxious to go back and take up the broken trail. Who could tell but that he might be able to find the great forage plant hardened by natural processes through thousands of years in far northern regions, justifying the hope that the whole great central plain of North America, from Nebraska to Hudson Bay, could be made an alfalfa-bearing region? But wars and rumors of wars served to postpone the proposed second trip for nearly a decade.

THE THIRD TRIP ACROSS ASIA

Then one day came the announcement that he was again to take up that trail, and it came dramatically enough. At the dedication of the South Dakota State Fair at Huron, in 1905, Secretary Wilson made the chief address, and in the course of that address, without warning to Professor Hansen, who was sitting near, he said that the alfalfa explorations were to be resumed, and that the professor was to go again to Asia.

The troubles in Russia were at a high heat, and they extended over into Siberia. To go into Siberia therefore, meant no inconsiderable risk. But the explorer did not temporize. He would go as far as he could—until some insurmountable obstacle put an end to progress. He at once crossed to Helsingfors. In the harbor there he saw battleships stripped for action. The outlook was not promising, but he went on, and despite evil omens on every hand he reached Omsk in safety.

Without going southward to Kopal, he began his quest for alfalfa along the Trans-Siberian railroad. Receiving encouragement, he took to the open steppes to demand of Nature her secret. The season was already far advanced. Snow lay upon the ground, and there was no time to waste. Then, one afternoon, out on the bleak plains, the man made his great discovery. He found, even in that high altitude, a wild alfalfa. It was not the blue-flowered alfalfa of Turkestan, but a yellow-flowered variety. Subsequent investigation was the means of bringing a "wonderful new thing to light." As Professor Hansen tells it, it was this:

"Where the blue-flowered alfalfa stops, three yellow-flowered species are found, extending from one thousand to two thousand miles northward, and clear across Siberia, approximately between parallels fifty and sixty-four north latitude. As these species grow freely in dry districts, they point to the extension of the alfalfa belt on this continent from Nebraska northward as far as men will care to farm—even to the Hudson Bay district."

The moment of the discovery of the first yellow-flowered alfalfa out on the wind-swept Siberian steppes, after nine years of waiting, was one of intense feeling and suppressed excitement for the explorer. A more demonstrative man would have thrown his hat in the air and spent his energies in shouting. Professor Hansen, on the contrary, set to work gathering all the plants that he could find, and he put his driver at like work. All the seed found then and afterward as he moved eastward from wild plants. The Siberians had used the plant for hay for centuries, but with immense areas of wild land on which to draw had done nothing toward its cultivation. Recently, however, in places they have been encouraging Nature to give a larger supply.

At Irkutsk Professor Hansen found a load of the hay in market, and supposed, of course, that he would be able to buy plenty of seed. Not a seed could he get, though, and he went back to the owners of the hay, Mongolian Buriats, bought their load, and set a group of market idlers at picking out the seed by hand. The little coin of the realm, of which the professor always carried a supply, proved a sufficient "discourager of hesitancy."

But the finding of the plant did not end the discoveries relating to alfalfa. Inquiry showed that the yellow-flowered and the blue-flowered alfalfa belts overlapped, and that on the overlaps grew natural hybrids of the two, suggesting immense possibilities in artificial culture in America to get just the kind of alfalfa suited to any given district.

None of the seed derived from the original supplies brought back after the first discoveries by way of Japan, has yet been distributed. Experiment stations, under the direction of the Government Bureau of Agriculture, are making extensive tests and, until these have been thoroughly sifted, no seed will be given to the public. Results obtained at Brookings and elsewhere, however, give promise that when the Government is ready to make announcements they will be of a most satisfactory sort, and mean the pushing of the extra-profitable farming belt much farther northward. Professor Hansen does not say this, but it is plain to be seen that he is not disappointed with the results obtained, and from that fact the large inference is natural and easy.