CHAPTER I.


ROUTES TO CALIFORNIA AND OREGON.

Emigrants or others desiring to make the overland journey to the Pacific should bear in mind that there are several different routes which may be traveled with wagons, each having its advocates in persons directly or indirectly interested in attracting the tide of emigration and travel over them.

Information concerning these routes coming from strangers living or owning property near them, from agents of steam-boats or railways, or from other persons connected with transportation companies, should be received with great caution, and never without corroborating evidence from disinterested sources.

There is no doubt that each one of these roads has its advantages and disadvantages, but a judicious selection must depend chiefly upon the following considerations, namely, the locality form whence the individual is to take his departure, the season of the year when he desires to commence his journey, the character of his means of transportation, and the point upon the Pacific coast that he wishes to reach.

Persons living in the Northeastern States can, with about equal facility and dispatch, reach the eastern terminus of any one of the routes they may select by means of public transport. And, as animals are much cheaper upon the frontier than in the Eastern States, they should purchase their teams at or near the point where the overland journey is to commence.

Those living in the Northwestern States, having their own teams, and wishing to go to any point north of San Francisco, will of course make choice of the route which takes its departure from the Missouri River.

Those who live in the middle Western States, having their own means of transportation, and going to any point upon the Pacific coast, should take one of the middle routes.

Others, who reside in the extreme Southwest, and whose destination is south of San Francisco, should travel the southern road running through Texas, which is the only one practicable for comfortable winter travel. The grass upon a great portion of this route is green during the entire winter, and snow seldom covers it. This roads leaves the Gulf coast at Powder-horn, on Matagorda Bay, which point is difficult of access by land from the north, but may be reached by steamers from New Orleans five times a week.
There are stores at Powder-horn and Indianola where the traveler can obtain most of the articles necessary for his journey, but I would recommend him to supply himself before leaving New Orleans with every thing he requires with the exception of animals, which he will find cheaper in Texas.

This road has received a large amount of travel since 1849, is well tracked and defined, and, excepting about twenty miles of "hog wallow prairie" near Powder-horn, it is an excellent road for carriages and wagons. It passes through a settled country for 250 miles, and within this section supplies can be had at reasonable rates.

At Victoria and San Antonio many fine stores will be found, well supplied with large stocks of goods, embracing all the articles the traveler will require.

The next route to the north is that over which the semi-weekly mail to California passes, and which for a great portion of the way to New Mexico, I traveled and recommended in 1849. This road leaves the Arkansas River at Fort Smith, to which point steamers run during the seasons of high water in the winter and spring.

Supplies of all descriptions necessary for the overland journey may be procured at Fort Smith, or at Van Buren on the opposite side of the Arkansas. Horses and cattle are cheap here. The road, on leaving Fort Smith, passes through the Choctaw and Chickasaw country for 180 miles, then crosses Red River by ferry-boat at Preston, and runs through the border settlements of northern Texas for 150 miles, within which distances supplies may be procured at moderate prices.

This road is accessible to persons desiring to make the entire journey with their own transportation from Tennessee or Mississippi, by crossing the Mississippi River at Little Rock, and thence through Washington County, intersecting the road at Preston. It may also be reached by taking steamers up Red River to Shreveport or Jefferson, from either of which places there are roads running through a populated country, and intersecting the Fort Smith road near Preston.

This road also unites with the San Antonio road at El Paso, and from that point they pass together over the mountains to Fort Yuma and to San Francisco in California.

Another road leaves Fort Smith and runs up the south side of the Canadian River to Santa Fe and Albuquerque in New Mexico.

This route is set down upon most of the maps of the present day as having been discovered and explored by various persons, but my own name seems to have been carefully excluded from the list. Whether this omission has been intentional or not, I leave for the authors to determine. I shall merely remark that I had the command and entire direction of an expedition which in 1849 discovered, explored, located, and marked out this identical wagon road from Fort Smith, Arkansas, to Santa Fe, New Mexico, and that this road for the greater portion of the distance, is the same that has been since recommended for a Pacific railway.

This road, near Albuquerque, unites with Captain Whipple's and Lieutenant Beall's route to California.
Another road, which takes its departure from Fort Smith and passes through the Cherokee country, is called the "Cherokee Trail." It crosses Grand River at Fort Gibson, and runs a little north of west to the Verdigris River, thence up the valley of this stream on the north side for 80 miles, when it crosses the river, and, taking a northwest course, strikes the Arkansas River near old Fort Mann, on the Santa Fe trace; thence it passes near the base of Pike's Peak, and follows down Cherry Creek from its source to its confluence with the South Platte, and from these over the mountains into Utah, and on to California via Fort Bridger and Salt Lake City.

For persons who desire to go from the Southern States to the gold diggings in the vicinity of Cherry Creek, this route is shorter by some 300 miles than that from Fort Smith via Fort Leavenworth. It is said to be an excellent road, and well supplied with the requisites for encamping. It has been traveled by large parties of California emigrants for several years, and is well tracked and defined.

The grass upon all the roads leaving Fort Smith is sufficiently advanced to afford sustenance to animals by the first of April, and from this time until winter sets in it is abundant. The next route on the north leaves the Missouri River at Westport, Leavenworth City, Atcheson, or from other towns above, between either of which points and St. Louis steamers ply during the entire summer season.

The necessary outfit of supplies can always be procured at any of the starting-points on the Missouri River at moderate rates.

This is the great emigrant route from Missouri to California and Oregon, over which so many thousands have traveled within the past few years. The track is broad, well worn, and can not be mistaken. It has received the major part of the Mormon emigration, and was traversed by the army in its march to Utah in 1857.

At the point where this road crosses the South Platte River, Lieutenant Bryan's road branches off to the left, leading through Bridger's Pass, and thence to Fort Bridger. The Fort Kearney route to the gold region near Pike's Peak also leaves the emigrant road at this place and runs up the South Platte.

From Fort Bridger there are two roads that may be traveled with wagons in the direction of California; one passing Salt Lake City, and the other running down Bear River to Soda Springs, intersecting the Salt Lake City road at the City of Rocks. Near Soda Springs the Oregon road turns to the right, passing Fort Hall, and thence down Snake River to Fort Wallah-Wallah. Unless travelers have business in Salt Lake Valley, I would advise them to take the Bear River route, as it is much shorter, and better in every respect. The road, on leaving the Missouri River, passes for 150 miles through a settled country where grain can be purchased cheap, and there are several stores in this section where most of the articles required by travelers can be obtained.

Many persons who have had much experience in prairie traveling prefer leaving the Missouri River in March or April, and feeding grain to their animals until the new grass appears. The roads become muddy and heavy after the spring rains set in, and by starting out early the worst part of the road will be passed over before the ground becomes wet and soft. This plan, however, should never be attempted unless the
animals are well supplied with grain, and kept in good condition. They will eat the old grass in the spring, but it does not, in this climate, as in Utah and New Mexico, afford them sufficient sustenance.

The grass, after the 1st of May, is good and abundant upon this road as far as the South Pass, from whence there is a section of about 50 miles where it is scarce; there is also a scarcity upon the desert beyond the sink of the Humboldt. As large numbers of cattle pass over the road annually, they soon consume all the grass in these barren localities, and such as pass late in the season are likely to suffer greatly, and oftentimes perish from starvation. When I came over the road in August, 1858, I seldom found myself out of sight of dead cattle for 500 miles along the road, and this was an unusually favorable year for grass, and before the main body of animals had passed for that season.

Upon the head of the Sweetwater River, and west of the South Pass, alkaline springs are met with, which are exceedingly poisonous to cattle and horses. They can readily be detected by the yellowish-red color of the grass growing around them. Animals should never be allowed to graze near them or to drink the water.

ORGANIZATION OF COMPANIES.

After a particular route has been selected to make the journey across the plains, and the requisite number have arrived at the eastern terminus, their first business should be to organize themselves into a company and elect a commander. The company should be of sufficient magnitude to herd and guard animals, and for protection against Indians.

From 50 to 70 men, properly armed and equipped, will be enough for these purposes, and any greater number only makes the movements of the party more cumbersome and tardy.

In the selection of the captain, good judgment, integrity of purpose, and practical experience are the essential requisites, and these are indispensable to the harmony and consolidation of the association. His duty should be to direct the order of march, the time of starting and halting, to select the camps, detail and give orders to guards, and, indeed, to control and superintend all movements of the company.

An obligation should then be drawn up and signed by all the members of the association, wherein each one should bind himself to abide in all cases by the orders and decisions of the captain, and to aid him by every means in his power in the execution of his duties; and they should also obligate themselves to aid each other, so as to make the individual interests of each member the common concern of the whole company. To insure this, a fund should be raised for the purchase of extra animals to supply the places of those which may give out or die on the road; and if the wagon or team of a particular member should fail and have to be abandoned, the company should obligate themselves to transport his luggage, and the captain should see that he has his share of transportation equal with any other member. Thus it will be made the interest of every member of the company to watch over and protect the property of others as well as his own.
In case of failure on the part of any one to comply with the obligations imposed by the articles of agreement after they have been duly executed, the company should of course have the power to punish the delinquent member, and, if necessary, to exclude him from all the benefits of the association.

On such a journey as this, there is much to interest and amuse one who is fond of picturesque scenery, and of wild life in its most primitive aspect, yet no one should attempt it without anticipating many rough knocks and much hard labor; every one must expect to do his share of duty faithfully and without a murmur.

On long and arduous expeditions men are apt to become irritable and ill-natured, and oftentimes fancy they have more labor imposed upon them than their comrades, and that the person who directs the march is partial to his favorites, etc. That man who exercises the greatest forbearance under such circumstances, who is cheerful, slow to take up quarrels, and endeavors to reconcile difficulties among his companions is deserving of all praise, and will, without doubt, contribute largely to the success and comfort of an expedition.

The advantages of an association such as I have mentioned are manifestly numerous. The animals can be herded together and guarded by the different members of the company in rotation, thereby securing to all the opportunities of sleep and rest. Besides, this is the only way to resist depredations of the Indians, and to prevent their stampeding and driving off animals; and much more efficiency is secured in every respect, especially in crossing streams, repairing roads, etc., etc.

Unless a systematic organization be adopted, it is impossible for a party of any magnitude to travel in company for any great length of time, and for all the members to agree upon the same arrangements in marching, camping, etc. I have several times observed, where this has been attempted, that discords and dissensions sooner or later arose which invariably resulted in breaking up and separating the company.

When a captain has once been chosen, he should be sustained in all his decisions unless he commit some manifest outrage, when a majority of the company can always remove him, and put a more competent man in his place. Sometimes men may be selected who, upon trial, do not come up to the anticipations of those who have placed them in power, and other men will exhibit, during the course of the march, more capacity. Under these circumstances it will not be unwise to make a change, the first election having been distinctly provisional.

**WAGONS AND TEAMS.**

A company having been organized, the first interest is to procure a proper outfit of transportation and supplies for the contemplated journey.

Wagons should be of the simplest possible construction -- strong, light, and made of well-seasoned timber, especially the wheels, as the atmosphere, in the elevated and arid region over which they have to pass, is so exceedingly dry during the summer months that unless the wood-work is thoroughly seasoned, they will require constant repairs to prevent them from falling to pieces.
Wheels made of the bois-d'arc, or Osage orangewood, are the best for the plains, as they shrink but little, and seldom want repairing. As, however, this wood is not easily procured in the Northern states, white oak answers a very good purpose if well seasoned.

Spring wagons made in Concord, New Hampshire, are used to transport passengers and the mails upon some of the routes across the plains, and they are said, by those who have used them, to be much superior to any others. They are made of the close-grained oak that grows in a high northern latitude, and well seasoned.

The pole of the wagon should have a joint where it enters the hounds, to prevent the weight from coming upon it and breaking the hounds in passing short and abrupt holes in the road.

The perch or coupling-pole should be shifting or movable, as, in the event of the loss of a wheel, an axle, or other accident rendering it necessary to abandon the wagon, a temporary cart may be constructed out of the remaining portion. The tires should be examined just before commencing the journey, and if not perfectly snug, reset.

One of the chief causes of accidents to carriages upon the plains arises from the nuts coming off the numerous bolts that secure the running gearing. To prevent this, the ends of all the bolts should be riveted; it is seldom necessary to take them off, and when this is required the ends of the bolts may easily be filed away.

Wagons with six mules should never, on a long journey over the prairies, be loaded with over 2000 pounds, unless grain is transported, when an additional thousand pounds may be taken, provided it is fed out daily to the team. When grass constitutes the only forage, 2000 pounds is deemed a sufficient load. I regard our government wagons as unnecessarily heavy for six mules. There is sufficient material in them to sustain a burden of 4000 pounds, but they are seldom loaded with more than half that weight. Every wagon should be furnished with substantial bows and double osnaburg covers, to protect its contents from the sun and weather.

There has been much discussion regarding the relative merits of mules and oxen for prairie traveling, and the question is yet far from being settled. Upon good firm roads, in a populated country, where grain can be procured, I should unquestionably give the preference to mules, as they travel faster, and endure the heat of the summer much better than oxen; and if the journey be not over 1000 miles, and the grass abundant, even without grain, I think mules would be preferable. But when the march is to extend 1500 or 2000 miles, or over a rough sandy or muddy road, I believe young oxen will endure better than mules; they will, if properly managed, keep in better condition, and perform the journey in an equally brief space of time. Besides, they are much more economical, a team of six mules costing six hundred dollars, while an eight-ox team only costs upon the frontier about two hundred dollars. Oxen are much less liable to be stampeded and driven off by Indians, and can be pursued and overtaken by horsemen; and, finally, they can, if necessary, be used for beef.

In Africa oxen are used as saddle animals, and it is said that they perform good service in this way. This will probably be regarded by our people as a very undignified and singular method of locomotion, but, in the absence of any other means of
transportation upon a long journey, a saddle-ox might be found serviceable.

Andersson, in his work on Southeastern Africa, says: "A short, strong stick, of peculiar shape, is forced through the cartilage of the nose of the ox and to either end of this stick is attached (in bridle fashion) a tough leathern thong. From the extreme tenderness of the nose he is now more easily managed." "Hans presented me with an ox called 'Spring,' which I afterward rode upward of two thousand miles. On the day of our departure he mounted us all on oxen, and a curious sight it was to see some of the men take their seats who had never before ridden on ox-back. It is impossible to guide an ox as one would guide a horse, for in the attempt to do so you would instantly jerk the stick out of his nose, which at once deprives you of every control over the beast; but by pulling both sides of the bridles at the same time, and toward the side you wish his to take, he is easily managed.*

*A ring instead of the stick put through the cartilage so the nose would obviate this difficulty.---AUTHOR.

Your seat is not less awkward and difficult; for the skin of the ox, unlike that of the horse, is loose, and notwithstanding your saddle may be tightly girthed, you keep rocking to and fro like a child in a cradle. A few days, however, enables a person to acquire a certain steadiness, and long habit will do the rest."

"Ox traveling, when once a man becomes accustomed to it, is not so disagreeable as might be expected, particularly if one succeeds in obtaining a tractable animal. On emergencies, an ox can be made to proceed at a tolerable quick pace; for, though his walk is only about three miles an hour at an average, he may be made to perform double that distance in the same time. Mr. Galton once accomplished 24 miles in four hours, and that, too, through heavy sand!"

Cows will be found very useful upon long journeys when the rate of travel is slow, as they furnish milk, and in emergencies they may be worked in wagons. I once saw a small cow yoked beside a large ox, and driven about six hundred miles attached to a loaded wagon, and she performed her part equally well with the ox. It has been by no means a unusual thing for emigrant travelers to work cows in their teams.

The inhabitants of Pembina, on Red River, work a single ox harnessed in shafts like a horse, and they transport a thousand pounds in a rude cart made entirely of wood, without a particle of iron. One man drives and takes the entire charge of eight and ten of these teams upon long journeys. This is certainly a very economical method of transportation.

STORES AND PROVISIONS.

Supplies for a march should be put up in the most secure, compact and portable shape.

Bacon should be packed in strong sacks of a hundred pounds each; or, in very hot climates, put in boxes and surrounded with bran, which in a great measure prevents the fat from melting away.
If pork be used, in order to avoid transporting about forty per cent. of useless weight, it should be taken out of the barrels and packed like the bacon; then so placed in the bottom of the wagons as to keep it cool. The pork, if well cured, will keep several months in this way, but bacon is preferable.

Flour should be packed in stout double canvas sacks well sewed, a hundred pounds in each sack.

Butter may be preserved by boiling it thoroughly, and skimming off the scum as it raises to the top until it is quite clear like oil. It is then placed in canisters and soldered up. This mode of preserving butter has been adopted in the hot climate of southern Texas, and it found to keep sweet for a great length of time, and its flavor is but little impaired by the process.

Sugar may be well secured in India-rubber or gutta-percha sacks, or so placed in the wagon as not to risk getting wet.

Desiccated or dried vegetables are almost equal to the fresh, and are put up in such a compact and portable form as easily to be transported over the plains. They have been extensively used in the Crimean war, and by our own army in Utah, and have been very generally approved. They are prepared by cutting the fresh vegetables into thin slices and subjecting them to a very powerful press, which removes the juice and leaves a solid cake, which, after having been thoroughly dried in an oven, becomes almost as hard as a rock. A small piece of this, about half the size of a man's hand, when boiled, swells up so as to fill a vegetable dish, and is sufficient for four men. It is believed that the antiscorbutic properties of vegetables are not impaired by the desiccation, and they will keep for years if not exposed to dampness. Canned vegetables are very good for campaigning, but are not so portable as when put up in the other form. The desiccated vegetables used in our army have been prepared by Chollet and Co., 46 Rue Richer, Paris. There is an agency for them in New York. I regard these compressed vegetables as the best preparation for prairie traveling that has yet been discovered. A single ration weighs, before being boiled, only an ounce, and a cubic yard contains 16,000 rations. In making up their outfit for the plains, men are very prone to overload their teams with a great variety of useless articles. It is a good rule to carry nothing more than is absolutely necessary for use upon the journey. One can not expect, with the limited allowance of transportation that emigrants usually have, to indulge in luxuries upon such expeditions, and articles for use in California can be purchased there at less cost than that of overland transport.

The allowance of provisions for men in marching should be much greater than when they take no exercise. The army ration I have always found insufficient for soldiers who perform hard service, yet it is ample for them when in quarters.

The following table shows the amount of subsistence consumed per day by each man of Dr. Rae's party, in his spring journey to the Arctic regions of North America in 1854:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pemmican</td>
<td>1.25 lbs.</td>
</tr>
<tr>
<td>Biscuit</td>
<td>0.25 &quot;</td>
</tr>
<tr>
<td>Edward's preserved potatoes</td>
<td>0.10 &quot;</td>
</tr>
<tr>
<td>Flour</td>
<td>0.33 &quot;</td>
</tr>
</tbody>
</table>
This allowance of a little over two pounds of the most nutritious food was found barely sufficient to subsist the men in that cold climate.

The pemmican, which constitutes almost the entire diet of the Fur Company's men in the Northwest, is prepared as follows: The buffalo meat is cut into thin flakes, and hung up to dry in the sun or before a slow fire; it is then pounded between two stones and reduced to a powder; this powder is placed in a bag of the animal's hide, with the hair on the outside; melted grease is then poured into it, and the bag sewn up. It can be eaten raw, and many prefer it so. Mixed with a little flour and boiled, it is a very wholesome and exceedingly nutritious food, and will keep fresh for a long time.

I would advise all persons who travel for any considerable time through a country where they can procure no vegetables to carry with them some antiscorbutics, and if they can not transport desiccated or canned vegetables, citric acid answers a good purpose, and is very portable. When mixed with sugar and water, with a few drops of the essence of lemon, it is difficult to distinguish it from lemonade. Wild onions are excellent as antiscorbutics; also wild grapes and greens. An infusion of hemlock leaves is also said to be an antidote to scurvy.

The most portable and simple preparation of subsistence that I know of, and which is used extensively by the Mexicans and Indians, is called "cold flour." It is made by parching corn, and pounding it in a mortar to the consistency of coarse meal; a little sugar and cinnamon added makes it quite palatable. When the traveler becomes hungry or thirsty, a little of the flour is mixed with water and drunk. It is an excellent article for a traveler who desires to go the greatest length of time upon the smallest amount of transportation. It is said that half a bushel is sufficient to subsist a man thirty days.

Persons undergoing severe labor, and driven to great extremities for food, will derive sustenance from various sources that would never to occur to them under ordinary circumstances. In passing over the Rocky Mountains during the winter of 1857-8, our supplies of provisions were entirely consumed eighteen days before reaching the first settlements in New Mexico, and we were obliged to resort to a variety of expedients to supply the deficiency. Our poor mules were fast failing and dropping down from exhaustion in the deep snows, and our only dependence for the means of sustaining life was upon these starved animals as they became unserviceable and could go no farther. We had no salt, sugar, coffee, or tobacco, which, at a time when men are performing the severest labor that the human system is capable of enduring, was a great privation. In this destitute condition we found a substitute for tobacco in the bark of the red willow, which grows upon many of the mountain streams in that vicinity. The outer bark is first removed with a knife, after which the inner bark is scraped up into ridges around the sticks, and held in the fire until it is thoroughly roasted, when it is taken off the stick, pulverized in the hand, and is ready for smoking. It has the narcotic properties of the tobacco, and is quite agreeable to the taste and smell. The sumach leaf is also used by the Indians in the same way, and has a similar taste to the willow bark. A decoction of the dried wild or horse mint, which we found abundant under the snow, was quite palatable, and answered instead of
coffee. It dries up in that climate, but does not lose its flavor. We suffered greatly for the want of salt, but, by burning the outside of our mule steaks, and sprinkling a little gunpowder upon them, it did not require a very extensive stretch of the imagination to fancy the presence of both salt and pepper. We tried the meat of horse, colt, and mules, all of which were in a starved condition, and of course not very tender, juicy, or nutritious. We consumed the enormous amount of from five to six pounds of this meat per man daily, but continued to grow weak and thin, until, at the expiration of twelve days, we were able to perform but little labor, and were continually craving for meat.

The allowance of provisions for each grown person, to make the journey from the Missouri River to California, should suffice for 110 days. The following is deemed requisite, viz.: 150 lbs. of flour, or its equivalent in hard bread; 25 lbs. of bacon or pork, and enough fresh beef to be driven on the hoof to make up the meat component of the ration; 15 lbs. of coffee, and 25 lbs. of sugar; also a quantity of saleratus or yeast powders for making bread, and salt and pepper.

These are the chief articles of subsistence necessary for the trip, and they should be used with economy, reserving a good portion for the western half of the journey. Heretofore many of the California emigrants have improvidently exhausted their stocks of provisions before reaching their journey's end, and have, in many cases, been obliged to pay the most exorbitant prices in making up the deficiency.

It is true that if person choose to pass through Salt Lake City, and the Mormons happen to be in an amiable mood, supplies may sometimes be procured from them; but those who have visited them well know how little reliance is to be placed upon their hospitality or spirit of accommodation.

I once traveled with a party of New Yorkers en route to California. They were perfectly ignorant of every thing relating to this kind of campaigning, and had overloaded their wagons with almost every thing except the very articles most important and necessary; the consequence was, that they exhausted their teams, and were obliged to throw away the greater part of their loading. They soon learned that Champagne, East India sweetmeats,,olives, etc., etc., were not the most useful articles for a prairie tour.

CLOTHING.

A suitable dress for prairie traveling is of great import to health and comfort. Cotton or linen fabrics do not sufficiently protect the body against the direct rays of the sun at midday, nor against rains or sudden changes of temperature. Wool, being a non-conductor, is the best material for this mode of locomotion, and should always be adopted for the plains. The coat should be short and stout, the shirt of red or blue flannel, such as can be found in almost all the shops on the frontier: this, in warm weather, answers for an outside garment. The pants should be of thick and soft woolen material, and it is well to have them re-enforced on the inside, where they come in contact with the saddle, with soft buckskin, which makes them more durable and comfortable.

Woolen socks and stout boots, coming up well at the knees, and made large, so as
Woolen socks and stout boots, coming up well at the knees, and made large, so as to admit the pants, will be found the best for horsemen, and they guard against rattlesnake bites.

In traveling through deep snow during very cold weather in winter, moccasins are preferable to boots or shoes, as being more pliable, and allowing a freer circulation of the blood. In crossing the Rocky Mountains in the winter, the weather being intensely cold, I wore two pairs of woolen socks, and a square piece of thick blanket sufficient to cover the feet and ankles, over which were drawn a pair of thick buckskin moccasins, and the whole enveloped in a pair of buffalo-skin boots with the hair inside, made open in the front and tied with buckskin strings. At the same time I wore a pair of elkskin pants, which most effectually prevented the air from penetrating to the skin, and made an excellent defense against brush and thorns.

My men, who were dressed in the regulation clothing, wore out their pants and shoes before we reached the summit of the mountains, and many of them had their feet badly frozen in consequence. They mended their shoes with pieces of leather cut from the saddle-skirts as long as they lasted, and, when this material was gone, they covered the entire shoe with green bevee or mule hide, drawn together and sewed upon the top, with the hair inside, which protected the upper as well as the sole leather. This sewing was done with an awl and buckskin strings. These simple expedients contributed greatly to the comfort of the party; and, indeed, I am by no means sure that they did not, in our straitened condition, without the transportation necessary for carrying disabled men, save the lives of some of them. Without the awl and buckskins we should have been unable to have repaired the shoes. They should never be forgotten in making up the outfit for a prairie expedition.

We also experienced great inconvenience and pain by the reflection of the sun's rays from the snow upon our eyes, and some of the party became nearly snow-blind. Green or blue glasses, inclosed in a wire net-work, are an effectual protection to the eyes; but in the absence of these, the skin around the eyes and upon the nose should be blackened with wet powder or charcoal, which will afford great relief.

In the summer season shoes are much better for footmen than boots, as they are lighter, and do not cramp the ankles; the soles should be broad, so as to allow a square, firm tread, without distorting or pinching the feet.

The following list of articles is deemed a sufficient outfit of one man upon a three months' expedition, viz.:

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>2 blue or red flannel overshirts, open in front, with buttons.</td>
</tr>
<tr>
<td>2 woolen undershirts.</td>
</tr>
<tr>
<td>2 pairs thick cotton drawers.</td>
</tr>
<tr>
<td>4 pairs woolen socks.</td>
</tr>
<tr>
<td>2 pairs cotton socks.</td>
</tr>
<tr>
<td>4 colored silk handkerchiefs.</td>
</tr>
<tr>
<td>2 pairs stout shoes, for footmen.</td>
</tr>
<tr>
<td>1 pair boots, for horsemen.</td>
</tr>
<tr>
<td>1 pair shoes, for horsemen.</td>
</tr>
<tr>
<td>3 towels.</td>
</tr>
<tr>
<td>1 gutta percha poncho.</td>
</tr>
<tr>
<td>1 broad-brimmed hat of soft felt.</td>
</tr>
<tr>
<td>1 comb and brush.</td>
</tr>
</tbody>
</table>
2 tooth-brushes.
1 pound Castile soap.
3 pounds bar soap for washing clothes.
1 belt-knife and small whetstone.
Stout linen thread, large needles, a bit of beeswax, a few buttons, paper of pins, and a thimble, all contained in a small buckskin or stout cloth bag.

The foregoing articles, with the coat and overcoat, complete the wardrobe.

CAMP EQUIPAGE.

The bedding for each person should consist of two blankets, a comforter, and a pillow, and a gutta percha or painted canvas cloth to spread beneath the bed upon the ground, and to contain it when rolled up for transportation.

Every mess of six or eight persons will require a wrought-iron camp kettle, large enough for boiling meat and making soup; a coffee-pot and cups of heavy tin, with the handles riveted on; tin plates, frying and bake pans of wrought iron, the latter for baking bread and roasting coffee. Also a mess pan of heavy tin or wrought iron for mixing bread and other culinary purposes; knives, forks, and spoons; an extra camp kettle; tin or gutta percha bucket for water -- wood, being liable to shrink and fall to pieces, is not deemed suitable; an axe, hatchet, and spade will also be needed, with a mallet for driving picket-pins. Matches should be carried in bottles and corked tight, so as to exclude the moisture.

A little blue mass, quinine, opium, and some cathartic medicine, put up in doses for adults, will suffice for the medicine chest.

Each ox wagon should be provided with a covered tar-bucket, filled with a mixture of tar or resin and grease, two bows extra, six S's, and six open links for repairing chains. Every set of six wagons should have a tongue, coupling pole, king-bolt, and pair of hounds extra.

Every set of six mule wagons should be furnished with five pairs of hames, two double trees, four whipple-trees, and two pairs of lead bars extra.

Two lariats will be needed for every horse and mule, as one generally wears out before reaching the end of a long journey. They will be found useful in crossing deep streams, and in letting wagons down steep hills and mountains; also in repairing broken wagons. Lariats made of hemp are the best.

One of the most indispensable articles to the outfit of the prairie traveler is buckskin. For repairing harness, saddles, bridles, and numerous other purposes of daily necessity, the awl and buckskin will be found in constant requisition.

ARMS.

Every man who goes into the Indian country should be armed with a rifle and revolver, and he should never, either in camp or out of it, lose sight of them. When not on the march, they should be placed in such a position that they can be seized at
an instant's warning; and when moving about outside the camp, the revolver should
invariably be worn in the belt, as the person does not know at what moment they may
have a use for it.

A great diversity of opinion obtains regarding the kind of rifle that is the most
efficient and best adapted to Indian warfare, and the question is perhaps as yet from
being settled to the satisfaction of all. A large majority of men prefer the breech-
loading arm, but there are those who still adhere tenaciously to the old-fashioned
muzzle-loading rifle as preferable to any of the modern inventions. Among these may
be mentioned the border hunters and mountainers, who can not be persuaded to use
any other than the Hawkins rifle, for the reason that they know nothing about the
merits of any others. My own experience has forced me to the conclusion that the
breech-loading arm possesses great advantages over the muzzle-loading, for the
reason that it can be charged and fired with much greater rapidity.

Colt's revolving pistol is very generally admitted, both in Europe and America, to
be the most efficient arm of its kind known at the present day. As the same principles
are involved in the fabrication of his breech-loading rifle as are found in the pistol, the
conviction to me is irresistible, that, if one arm is worthy of consideration, the other is
equally so. For my own part, I look upon Colt's new patent rifles as a most excellent
arm for border services. It gives six shots in more rapid succession than any other rifle
I know of, and these, if properly expended, are oftentimes sufficient to decide a
contest; moreover, it is the most reliable and certain weapon to fire that I have ever
used, and I can not resist the force of my conviction that, if I were alone upon the
prairies, and expected an attack from a body of Indians, I am not acquainted with any
arm I would as soon have in my hands as this.

The army and navy revolvers have both been used in our army, but the officers are
not united in opinion in regard to their relative merits. I prefer the large army size, for
reasons which will be given hereafter.