

# The WATER BEARER

By J. ALLAN DUNN

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"RIMROCK TRAIL"

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## HERO AND HEROINE

Here's a new kind of story of the West—a romance of hydraulic engineering. Mining, ranching, lumbering and railroad building have been the favorite subjects of the fictionists and many a good story have they given us. Here's a new kind of hero—a young New Englander born under the zodiac sign of Aquarius and destined to be in very truth a "Water Bearer." The heroine is a "native daughter" of California. And around the water-bearing exploit of the Eastern man and the Western girl revolve fascinating adventures "by flood and field" and a story of true love that runs far from smoothly at times. As for the author—why, he's J. Allan Dunn, whose Western stories have deservedly won for him a wide popularity. And here East meets West—and a stirring romance grows out of the meeting.

## CHAPTER I

### The Canyon

Caleb Warner conscientiously fished every foot of the likeliest-looking hole he had seen on Hermanos creek, but there came no rise, no eager tug, no submerged gleam of a rainbow's shimmering flank.

He waded ashore, put up rod and tackle, climbed through the thick, tall ferns and brambly undergrowth to the narrow trail and turned upstream. All the day was his, the next, for that matter, and he fancied the fishing would be better higher up. Caleb walked with his coat tucked between the slings of his creel, his shirt open at the throat; lean, long, well-shoudered and slender-flanked, tanned of skin, springy of action, generally good to look at. By the canons of moving pictures and magazine illustrations he was not handsome. New England ancestry had made him too aquiline of feature, but he had youth and strength, his gray eyes were clear, his forehead high to his straight, close-cropped hair, his lips clean-cut and his chin well forward, not too narrow. His general make-up was typically American, Yankee-American, unmarred by inbreeding.

Below him Hermanos creek sang, half hidden by the undergrowth. His economic, New England brain saw potentiality going to waste. In Massachusetts Hermanos creek would long ago have been harnessed. Mills and factories would have sprung up along its banks. Here was water for steam, for turbines, for commercial and domestic use, for irrigation; all unused, its energy seemingly doomed, for there was a peculiar thing about the creek that Caleb, as an engineer, had noted. Contrary to the habit of most well-mannered watercourses, its volume diminished as it flowed.

He was twenty-seven, six years out of the college chrysalis that he had spun at Columbia. He had served in the war, hard, practical service in tasks that were low-grade but necessary, the crude, swift work of building and repairing war-roads and bridges, and in it Caleb Warner had, in large measure, found himself. He had acquired initiative, resource, command of men, if nothing else. And he had come out unscathed, unwounded, ungnashed, reduced to an acme of coordination, sane mind and sound body. He had been granted wider horizons. So he had come west to find his oyster—and to open it.

Swiftly the woody cave of the canyon became a tunnel, the creek now far below him in a water-chiseled gorge. The tunnel became a gut. A suspension bridge, a shivery thing of wire rope and short planks, anchored with wire cables to high walls of rock, crossed the gorge. It shook under his tread and hung trembling as he stepped midway to look at the gush of compressed water surging through the gap, twenty feet down. There were signs on the rock that at times the creek rose close to the flooring.

Before him, to the south, lay Hermanos valley, a green bowl lipped by rolling hills, their crests bronzed by the summer sun, blazoned with great patches of golden poppies, with clumps of purple lupine, the lower slopes furred thick with wild oats waving in the wind, oats as high as Caleb's head, a shimmering sea of emerald and silver.

He stood for a while undecided whether to adventure on to the waterfall or to stay where he was until it was time to fish down the canyon with the hope of better results than the three trout his persistence had lured from the creek. He had a book tucked into his pocket but he was not tired. And he had lunched an hour before. The view held him. Looking down, he saw that the stream was a vagrant, that in the rains, one bed was not enough to convey its waters. A second course, now dry and partly grown over, erratically paralleled the actual creek. Willows bordered it.

Along this idle water-track, racing so fast it seemed a gray streak, head down, brush lowered, a coyote ran at top speed, pursued, not hunting, covering ground at a frantic pace, pressed to its utmost by fear.

After it, perhaps fifty yards away

but gaining at every bound, sped a gallant, beautiful hound, white-coated, taper-muzzled, bearing its tail like a great plume, overhauling the coyote with tremendous leaps, going at a terrific rate, yet so smoothly that its speed seemed effortless—a Russian wolfhound.

Beyond the willow fringe came her mate, bound for bound, level with the bitch, unseen, though perhaps not unknown to the coyote.

Then, from a slicker growth of trees, outmatched but traveling fast, a pinto flashed into Caleb's view, a boy crouched low on the withers, welded to the horse, urging it on.

Caleb thrilled to the chase as it swept on beneath him, admiring the horsemanship of the figure in breeches, puttees and fluttering blouse, a little envious of it.

"Gad, he can ride," he muttered. A cap blew off, a long tress of chestnut hair, ruddy as a flame, whipped out, was reached for and tucked in by its owner, only to stream errant again. The boy was a girl!

The bitch was almost up with the coyote, the dog, watchful through the gaps in the willows, came circling in, jaws agape, ready for the kill. The coyote made a last desperate effort. The bitch, with one enormous leap, came abreast. She lunged, her white neck like a snake's for speed and sinuousness, her teeth clamping down on the forefoot of the coyote. Caleb saw the latter checked, tumbling, heard a broken snarl of defiance, and then the second hound sprang in a white gleam of fury, too swiftly for him to catch the action. Its powerful jaws, bred for the work, crunched through the vertebrae of the coyote's neck. The hunt was ended.

The girl rode up at a gallop, checked the pony in midstride and slid to the turf while the two hounds thrust their muzzle at her. With one



The Boy Was a Girl.

hand she patted them while with the other she strove to coil up her hair, now fairly down her shoulders, reaching to her belt.

"Good boy, Saratof! Good girl, Siva!"

Caleb heard her faintly but plainly and shouted down his own meed of applause. He had left most of his innate reserve behind him in Europe and the stir of the hunt still held him.

"Bully for both of them!" he cried and waved his hat as the girl looked up. She smiled, waved back an ungloved hand at him in western friendliness, and finished the up-twisting of her hair without embarrassment. Caleb started down through the oats. He loved dogs. He did not know so much about girls. But this one seemed different. And he had left the conventions behind in Massachusetts.

She smiled at him again as he came out on the level, half waded, half jumped the creek and went toward her. The wolfhounds looked at him with their dark brown eyes, sniffed, accepted his pats and turned their heads away, pointedly aloof. The girl laughed at his evident chagrin.

"They are disdainful beasts, my boyzols," she said. "You must excuse them."

"They are marvelous runners. I did not suppose anything could over-haul a coyote. But it hardly seemed fair to you there on the hill. Two to one, I mean."

She looked at him quizzically. She was frankly surveying him. He noted that she was about six inches shorter than he was—which made her five feet six—that she was at once slim and rounded, that she had a short straight nose and a mouth that was neither small nor large, neither full-lipped nor narrow, a round chin, a dimple in one cheek, and that her eyes were the exact color of the lupines. Also that there was no nonsense about her. A part of Caleb's curriculum, a majority of his experience, had consisted in the training of his powers of observation. In the brief glances he had permitted himself he had done very well.

"There are not very many coyotes where you come from?" she queried.

"How do you know?" She laughed and he added that and her teeth to the catalogue. Both were, to his taste, perfect.

"How do I know? I am sure now. Does anyone but a Yankee reply to a question with another one?"

"Yank! Are you a southerner?"

"There you go again. Wait. I must answer your charge against my dogs. If you think it was not sporting to set Saratof and Siva against one coyote, how about my helpless calf that was butchered last night? And half a dozen others this summer. And a colt! There are probably fifty coyotes who make this valley their lair. Gabilan shelters scores of them. And these two have accounted for nine of them. It is sheer justice, administered mercifully. The coyote always has the start. It is killed instantly, not worried, not touched afterward. My boyzols don't eat carrion."

"Acquitted," answered Caleb. "I beg your pardons. I am a Yankee from Massachusetts. I am a civil engineer come west to seek my fortune. My name is Caleb Warner. I live in Golden and I was recommended to Hermanos creek for trout fishing."

She had a trick of looking through long lashes that was a bit unfair. Caleb thought. But they did not hide a twinkle that lurked behind them.

"Did you catch any trout, Mr. Warner?" she asked. He showed her his basket.

"We have trout in New England," he said. "I was hoping to do better later in the afternoon. Did you say you were from the South?"

"I am a Californian." He was certain that she knew he had hoped she would give him her name in return. "The best fishing is in the canyon back of the waterfall at the head of our valley," she said. "You can easily climb the cliff."

"You own it? The valley?" She opened her eyes a bit in acknowledgment of his persistence and speed to take the opening.

"My father does. His name is Clinton." She had evaded it cleverly. Miss Clinton. That was as far as she would go. Caleb bowed to his defeat.

"Well, then, Miss Clinton, do you think your father would have any objection to my fishing through his meadows, later, after I have been above the fall?"

"I am quite sure he would not. Perhaps you would like to meet him? The house is not very far from here," Caleb laughed and she with him.

"I should be delighted," she said. "And I am very glad to have met you Miss Clinton." She took his hand and shook it as a boy might have shaken it. More strongly, with fingers that were firm and cool. There was nothing of coquetry about her. Her suggestion that Caleb meet her father held, he felt, no hint of flirtation. It showed that she liked him, a little, sufficiently to dispense a measure of hospitality that he had come to recognize as a western attribute.

"The house is there," she said, pointing. "Back of those eucalypts. Father planted them for a wind-break."

The girl had left the pinto pony standing with its reins hanging straight from bit to soil, an effective halting. Now she placed them about its neck, their buckle back of the saddle-horn and, as she and Caleb walked along the stream toward the house the pony followed as closely and sedately as the wolfhounds.

Evidently Miss Clinton is what we Americans call "a nice girl," with individual attractions. Does the Yankee measure up?

(TO BE CONTINUED.)

## Colonies Classified

In 1690 the American colonies were divided under the following classifications: Royal, proprietary and republican. The classification is based upon the three different methods by which their governors obtained office. At this date the following colonies were royal: New Hampshire, Massachusetts, New York, Virginia and Maryland (temporarily). The proprietary colonies were Pennsylvania, Delaware, New Jersey and the Carolinas. Of the latter group only the first two remained proprietary. The rest became royal, while Maryland was restored to the Baltimore family. Rhode Island and Connecticut alone retained their elective governors and so may be classed as republican.

## Transmitting Light Rays

The bureau of standards says that the transmission factor of smooth clear glass is about 92 per cent in perpendicular incident light, the loss being that reflected at the two surfaces. The amount of light transmitted varies with the angle of incidence and the refractive index of the glass. The reflector will absorb from 10 to 30 per cent of the light incident upon it, depending upon its surface.

# DAIRY FACTS

## CARING FOR COW AT CALVING TIME

Many of the complications and losses which occur in connection with calving can be prevented by taking a few precautions, asserts Fred Gauntt, herdsman for the college of agriculture, Rutgers university.

Let the cow be dry from four to six weeks before calving, to give her a rest and prepare her for the next lactation period.

Ten days before calving time put her in a clean, roomy box-stall that has been thoroughly disinfected and supplied with plenty of bedding.

The ration should be light and bulky, containing two parts of bran and two parts of ground oats with one part of linseed oil meal and about two tablespoonfuls of a good live-stock tonic.

At calving time keep a close watch on the animal. If the cow needs help, care should be taken that the person in charge first thoroughly washes his hands in warm water which contains some good disinfectant, such as lysol, and soap. After birth see that the calf's throat is cleaned of mucus and that breathing is started.

With an ordinary pair of scissors cut the naval cord and disinfect with iodine. Give the new calf colostrum milk (the cow's first milk) as soon as possible from a 16-ounce nursing bottle with nipple attached, as this milk is nature's disease preventive. Next remove any cold drinking water from the stall and give the cow warm water to drink.

After four to five hours give the cow a hot sloppy bran mash, blanket her and leave her.

If after forty-eight hours the placenta has not appeared it should be removed, but only by an experienced person. The cow's ration at first should be the same as before calving time, and then gradually changed over to the regular milking ration. Keep the cow just a little grain hungry for the first two weeks, but give her all the hay she will eat.

In order to avoid a cold or milk fever, keep the cow away from wind and do not turn her out on the wet ground to lie down.

## Dairyman Must Supply Water to Produce Milk

The dairyman who watered his milk would soon be condemned, but water must be supplied to the cows before the milk is manufactured by them or no milk will be produced.

More than 87 per cent of milk is water and a cow will consume about three pounds of water for every pound of milk she produces. To maintain efficiency in production cows must have available an ample supply of water at all seasons of the year.

In winter the water supply is especially important and it must be borne in mind that warm water is necessary. If the cow functions properly as a milk factory. According to G. A. Williams of Purdue university the simple tank heater is very efficient in providing water of the right temperature and is easily and inexpensively operated. The temperature most desirable and the one producing the best results is that ranging between 60 degrees and 80 degrees Fahrenheit.

## Feeding of Minerals

One of the best dairymen considers the feeding of minerals so important that he does not leave the matter to his cows, but adds, twice daily, four ounces of a mixture to the grain feed. In addition to this he gives five drops of tincture of iodine twice a week to each cow during the last sixty days of her pregnancy. Since he has followed this practice he has not had an abortion nor have his calves been troubled with goitre.

## Dairy Hints

Calves should have plenty of fresh water even though they are getting milk.

Going at it blind in dairying can not pay—plan your work, then work the plan.

Iowa ranks fourth among the states of the Union in number of cow testing associations.

The mere fact that an animal has a pedigree, is not always sufficient reason for raising it.

The farmer who has both milk cows and green pastures of any sort should plan to bring them together.

More contented cows would make more contented farmers.

The hand separator that is not properly adjusted is stealing part of your profits.

The kind of mineral mixture dairy cows need will depend upon the feed they are getting. In addition to salt one of the principal minerals needed is lime. The best way for the cow to get lime needed is in legume hay such as alfalfa, clover or soy-bean hay.

# Horticultural News

## HOME ORCHARD IS SADLY NEGLECTED

For every apple tree bearing a good crop it is safe to say that more than a thousand have been planted and allowed to die because of diseases and neglect, it is estimated by Dr. H. W. Anderson, associate chief of pomological pathology at the college of agriculture, University of Illinois. If any out of the thousands do survive the diseases they are allowed to become a menace to neighboring commercial orchards which are cared for properly, he said. Better by far that all home orchards should be destroyed than that they should be allowed to breed diseases and insects to infest commercial orchards which represent the investment of fortunes, he believes.

"All of our common fruits suffer each year from numerous diseases. These are due to a variety of causes, such as fungi, bacteria and weather and soil conditions. In some years, such as the past, when dry weather prevails during the spring and early summer, the diseases are few, while in a year of normal rainfall or an excessive rainfall in the spring months, fruit crops that are not carefully protected by sprays are a total failure on account of the numerous diseases.

"Spraying is usually effective in controlling diseases, but some of the bacterial diseases such as fire blight of apple and pear have never been successfully controlled. Spraying, however, unless properly done, is of little value and under any condition is expensive. To those having small farm orchards, the cost of spray apparatus and the time required to make the applications render this method of control highly impractical. Farmers and city dwellers with small plantings have realized this, as evidenced by the neglected orchards and small fruit plantations observed in every section of the state.

"Roadside marketing, however, has made it possible for those who have the advantage of such markets to grow small plantations of trees and other fruits and make them pay. Since spraying operations are costly, these growers should make every effort to reduce their expenses by proper attention to other factors which will reduce the amount of injury.

"When the time comes to spray, study the problem of the type of spray apparatus which will be needed not only when the orchard is young but several years after it comes into bearing. Buy only the best type of spray apparatus. On this point you should consult your experiment station experts. Know what you are spraying for and study the varieties. Much expense can be saved in this way, for it will be found that certain of the varieties never scab or blotch or mildew.

"Some plan of co-operation with other growers in the neighborhood can often be put into effect so that a 'spray ring' can be formed and much better apparatus can be purchased. This problem should be carefully studied, since spray rings have not proved successful in many cases, due to lack of efficient organization.

"New spray materials recommended by the manufacturers should never be tried without first consulting the experient station. Many of these are not only more expensive but are less efficient than well-known and tried preparations."

## Black Raspberries Are Different From the Red

Black raspberries are different from the reds in more ways than one; different in color and in flavor of fruit; the bush is larger and more spreading in habit; therefore, the plants require more room. Set two and one-half to three feet in the row and rows about six feet apart. The plants each consist of a shaggy bunch of fine roots with a short piece of stem in the center, which is of no importance at all, surrounded by dormant buds which will push up and make fine strong shoots for next year, if—and listen closely to this if you will surely fail. These buds must not be buried deeply in planting or they will never appear above ground and you will lose what you paid for the plants plus your time. Cover the roots, of course, but leave the bud center close to the surface covered with not more than an inch of loose soil, or set the whole plant three or four inches below the surface, being careful not to cover the buds too deeply. As the shoots grow, hoeing and cultivating will fill the hole.

Before the end of the season, the shoots, three or four of them, will reach a height of three to four feet, each one dividing into two or more branches. The stronger ones should be staked and tied to prevent breaking by wind or in cultivating.

## Repair Grape Trellises

A vineyard chore which should have attention in the early spring is the repair of the grape trellises. Missing staples should be replaced, though not driven so tightly as to pinch the wires, and the wires tightened. Loose posts should be firmed down and rotted ones replaced. The strain due to heavy cane growth and the pressure of winds is great on the trellis in a good vineyard and much fruit may be saved by caring for it. Canes usually are tied with square or granny knots.

# POULTRY

## DIRECTIONS FOR SETTING A FOWL

In setting a hen the first thing is to make the nest. A box should be so arranged that the front can be closed and the hen shut onto the nest. The nesting material may be of fine hay or straw. There should be a sufficient quantity to fill the corners. Make the nest nearly flat, a little lower in the center.

See that the hen has been broody and stays on her nest two or three days before she is given her new nest, and always move her at night. Put her carefully on the nest. For the first 24 hours close the front of the box. After a day or two, according to the disposition which she shows on the nest, remove the nest eggs and give her from eleven to thirteen eggs, according to the season of the year.

After the first 24 hours see that the hen leaves the nest at least once a day for food and water. Whole corn makes the best feed. Keep a dust box in the pen. Keep grit and fresh water before them at all times.

Set several hens at a time if possible, as the eggs can be tested about the seventh day. Remove the eggs that do not show a good germ. Take the eggs from one hen and replace these and start her on fresh eggs.

Always give the hen a dusting with some good lice powder before placing the eggs under her, and sprinkle a good quantity in the nest material. Give her a dusting again in ten days and also another dusting a few days before the hatch is due.—E. J. Peterson, North Dakota Agricultural college.

## Cleanliness Essential in Growing Chickens

Next to proper feeding there is nothing so essential in growing chicks to vigorous, profitable layers and breeders as cleanliness. Be sure the feed is of the highest quality and not moldy, dusty or damp.

If wet mashers are fed, care should be taken not to feed leftovers as a wet mash will soon sour or mold. Mix only enough for one feeding at a time and if there is any left, feed it either to the mature fowls at once or give it to the hogs. Be sure the troughs or boards that the wet mash is fed on are kept clean. No matter how sour or moldy the mash may be, the chicks will eat it if they are hungry enough and bowel trouble will be the inevitable result.

The litter should never be allowed to become damp as nothing will cause brooder pneumonia quicker. When the chicks are first put in the brooder house or under the hover, an inch and a half of litter will be enough, but as they get old enough to really scratch, the depth of the litter will have to be increased to seven or eight inches.

The milk fountains or vessels should be washed every day and thoroughly sterilized throughout the summer. The water fountains should also be washed frequently and care be taken to give the chicks clean, fresh water every day.

## Poultry Hints

Do not place the incubator up against the walls. Let the air circulate freely around it.

Alfalfa is one of the best vitamin-containing feeds for the hen. When a high grade of alfalfa leaf meal can be obtained, the amount equal to 10 per cent of the mash mixture can be fed.

Early pullets are the most profitable because they begin to produce eggs in the fall and lay through the winter season. As everybody knows, the fall and early winter eggs always bring profitable prices.

The poultry business was not intended for persons who become discouraged easily, or at trifles. Beginners are liable to make a good many mistakes, but these if looked at in the right light, though they tend to stimulate one.

One disadvantage of the early chick is the cold weather, making extra heat necessary for chicks.

Market only strictly fresh eggs. If you find any that you are in the least doubtful about, put them in the basket for home use, where they can be looked after.

Although promiscuous and yearly additions of new blood is undesirable, an occasional introduction is advantageous where the poultryman does not have time to trapnest his stock.

The early hatched chicks, if the pullets are kept for egg production, are most likely to make good egg producers.

An egg is two-thirds water, and nothing contributes more to high egg production than a constant and abundant supply of water.

Emden and Toulouse geese are the best commercial breeds; standard weights, 30 pounds for the gander and 18 for the goose and young gander, 16 for young geese.