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TANGLED SKEIN

MRS. ALEXANDER

CHAPTER XXI—(Continued.)

"Do you blame me, Paul?" she murmured, at length regaining her voice.

"Blame you!"—he paused, looking down on the small brown head leaning against him, and stroking back the wavy hair from her brow—"how could I blame you, dear? After all, it was only just to our poor Mabel to let her husband see the truth of her heart."

Dorothy made a slight effort to release herself, but Paul's close, gentle hold did not relax. "What an infernal villain Egerton has been!" he continued. "I should like to shoot him myself! and we must not attack him! I must do my best to keep Callander quiet; the scandal of such a fracas would be too hideous to incur; even you can see the cruel construction the world would put on it."

"I do, Paul," she returned, extricating herself from him, and leaning against the back of her chair. "For poor Mabel's sake, we must let her murderer go free."

"Her murderer?" he repeated. "What do you mean?"

"Do you not see that he was her murderer, either with his own hand or that of his emissary, the Spaniard?"

"Dorothy! How do you come to suspect him of being such a monster?" exclaimed Standish, gazing at her, amazed.

"Did I not tell you I heard him threaten to crush out her life if she preferred her husband to him, only a few days before her murder? And she never saw him alone after."

"But you forget he had not seen the letter avowing her intention of breaking with him."

"She had written before to the same effect, and he took no notice."

"Still, I never for a moment can believe that he, an English gentleman, would do so foul a deed!"

"I believe it. Look at his conduct, his extraordinary grief and avoidance of us all."

"Conscience, remorse for the guilt he had already incurred, might account."

"No, Paul. He is guilty. I had a stormy interview with him just before he went to Spain, when I accused him, wildly and incoherently enough, and though he denied it, he did so in a half-hearted way. Remember, his blood is not all English. That unpleasant detective suspects him, too. I understand his hints about the peculiar difficulties of the case. Oh, it is all too like a hideous nightmare. It has almost driven me wild to be obliged to see the base, cruel destroyer of my sweet sister."

"There is something queer about that fellow Dilon's mode of dealing with the case. Still, I cannot for a moment accept your theory. I wish you had not adopted it; it must have added considerably to the horrors you have so bravely endured in silence. Dorothy, you are a true-hearted woman, to have locked all this into your heart. I would trust my life with you. I shall never call you a child or little Dorothy again. You have attained a mental stature that forbids either, only my dear Dorothy you will always be." He took and kissed her hand, holding it awhile. "Right or wrong, guilty or not," he resumed, "I must keep Callander from encountering Egerton. Shall I go to see him? It will be an infinite relief to feel that he is all right with me again. Shall I go?"

"I almost think you had better not; he sent word by Collins this morning that he has a great deal of writing to get through, and as he told me he was going to write to you, you had better wait for his letter. I feel it very hard, Paul, to see Mrs. Callander; she has embittered all our lives."

"She is a mischief-making, implacable she-devil!" cried Standish, with energy. "By heaven, I don't think I shall ever speak to her again! Were it not for you, Dorothy, I should tax her with the infamous slander of myself."

"Do not mind me. I do not care to hold with her, except for Henrietta's sake. And, oh, Paul! Henrietta wants to know so much what I had to talk to you about. I would rather not tell her all"—hesitatingly.

"No; certainly not," promptly. "I will tell her that it was poor Callander's confession of his mother's insinuation against me that you wished to explain. Leave it to me—and, Dorothy, I shall write to Egerton. I shall let him know that we fully understand the dastardly part he has played, and shall warn him that he has to reckon with Callander."

"I think I heard Henrietta come in. Will you see her alone, Paul? I do not think I could bear to talk any more to any one."

"Go and lie down and rest, then. I will see Henrietta and explain matters, as I said I would. Try and compose yourself. Remember, I am always at your service. I wish I could do more for you, my sweet ward."

"Thank you. Good-by for the present."

"I shall see you this evening, probably. I am not sure that I shall not go and see Callander. It might be some comfort to him, poor fellow."

CHAPTER XXII.

It was a wild, stormy evening when Standish, having dispatched a solitary meal at his club, returned to his own abode to await the appearance of Dillon, the detective.

He had not long to wait. A few minutes after eight Dillon was shown in.

"Good evening, sir," he said, in a grave, important tone.

Standish fancied there was a triumphant gleam in his light gray eyes.

"Good evening, Dillon. I am looking forward with curiosity to your communication. Sit down."

"Hope you'll be satisfied, sir!" said Dillon, drawing a chair and taking out a small note book, which he laid before him on the table. "I have done my best, but it has been a difficult job, and I did not feel at liberty to speak until I had my chain of evidence complete. If you'll allow me, I'll begin at the beginning."

We need not follow the detective's details, as most of them are already known to the reader. Coming down to his investigation of the death chamber, he said: "I observed, on the outside of her door, a little splash, a mere speck, of blood, low down near the floor, and a speck near the handle, which those dunderheads, the police, had not detected. You see, they were all so taken up with the notion that the murderer came in from outside, that they never looked into the interior of the room itself except to search the poor servants' boxes, I believe! Besides these, I picked up, half under the bed, where, no doubt, it had been pushed by some of the feet that trod there, this bit of a silver ornament." He drew it from an inner pocket, and laid it before Standish, who stared at it with distressed eyes.

"You don't happen to have seen it before, Mr. Standish?"

"No, certainly not," replied Standish sharply, while he thought with dismay of Dorothy's description of the broken silver shell with the half-holes at one side.

"Well, sir, I thought you might have seen it. I showed it once to Miss Wynn, and she said she had never seen it before, though her eyes didn't back her up! That little bit of silver has given me a deal of trouble. I have hunted to and fro to find the other bit of it, but I did at last."

"For heaven's sake, go on!" cried Standish. "What have you discovered? Whom do you suspect?"

"Hear me out," replied Dillon, sitting upright, and assuming a more earnest look. "I made up my mind when I rubbed away those sparks of blood, that someone in the house did the deed, someone to whom the poor lady was accustomed, whose presence did not disturb her, or frighten her, who would come in and out, and knew the ways of the place, where the ladder was kept, and how long it would be before any one would come to find her stiff and stark! Those strange sailors would never have dared to come into a house with a master and two men sleeping in it! No, sir; the hand that struck the blow was her husband's!"

"You are raving!" exclaimed Standish.

"No, I am not, sir. Listen! From many a trifling indication I got out of Collins, and the old nurse, I believe the unfortunate man was eaten up with jealousy. The more I watched him—and I have shadowed him for months—the more convinced I grew that, in some mad fit, he put an end to her, and then tried to mislead us all by laying that ladder on to the window ledge!"

"It is impossible!" ejaculated Standish.

"No, it ain't! Jealousy is the undermining thing out. It works like rats through a wall, gnawing and gnawing for many a long day unheard, till all at once its ugly head gets out to the light to kill and to destroy! Ah, Mr. Standish, the biggest lot of cruel deeds I have traced home took me straight to jealousy!"

Standish stared at him with blank, bewildered eyes.

"Well, though I was pretty sure it was he as did the deed, it was very hard to get proof. I followed him pretty close; wherever he went I was by him in some disguise or another, and an awful time he has had of it. From all I can see, I'd say hanging is a trifle to what he has gone through! Still I could never get a glimpse of any knife that had ornaments on the sheath answering to this. Another thing puzzled me—he always kept in with Egerton. I got to see Egerton more than once, but he was uncommon haughty and snuff-the-moon in his ways. I wasn't good enough to touch with a pair of tongs—Oh, dear, no! I'd have rather proved him guilty than the other poor fellow. Latterly I've begun to think he suspects the truth. Anyhow, after waiting and watching, I got what I wanted at last.

"When Colonel Callander came back from the Continent the other day, I began to hang about, and pay a visit now and again to that respectable, civil-spoken man, Mr. Collins, and one morning I found him packing up the Colonel's duds, so I sat down and discoursed with him a bit, watching him sorting the things. Presently he came to pistols and a queer, long, narrow, foreign looking knife, with an inlaid handle, and shell-like bits of silver stuck on to the sheath. It was uncommon like the queer sort of weapons hung up in Mr. Egerton's rooms, but the ornaments were different. I took it to the light to examine it, with my back to Mr. Collins, and tried this bit where one of the ornaments was jagged and broken. It fitted perfectly, thoroughly!"

"Still——" urged Standish, starting up and moving restlessly to the fireplace.

"One moment," said Dillon, raising his hand. "The man who had seen the figure carrying the ladder, I ought to mention, in conversing with me, said it was a broader, larger man than Egerton, though, about his height. Last of all," he continued, speaking more quickly, "I followed the Colonel to Fordsea, where he wandered about on land and sea. He was always going off in a boat with that old tar—you know him!—or else he'd be off, striding so fast that there was no keeping up with him, to the little churchyard by the hillside, with a basket of flowers for the grave. At last I hired a dog-cart, and used to drive past as if quite on my own business. He never noticed! Twice I saw him outside groping under some gorse bushes that grew above the low wall. You know the wide view there is all around. Not a soul was to be seen stirring. I drove past, and waited under a piece of broken bank a little further on. I told the boy I had with me to hold the reins, as I wanted to gather some of the ferns about there, and I gradually got my head over the bank, and saw the Colonel coming slowly down the road. I watched till he disappeared on his way back, then I went on picking 'specimens' here and there, till I came pretty nigh where I had watched him stooping down. Not a soul was to be seen. When I was there in the autumn time, there used to be bits of boys herding sheep and goats, but there were none now. When I got about the part where I had noticed the Colonel, I looked well around under the bushes, and at last I came upon a spot where the grass looked a bit disturbed and mixed with mould, as if someone had been digging for roots. I took the bearings of it and went away back to Fordsea with enough leaves and twigs to set up a botanist. Very early next morning I found the Colonel was going off to London, so I bought a trowel, and then I watched him start off in the train. As soon as I saw him safe I trudged away to the place I had marked. I would take no one with me. It was easy to dig, for the soil had been lately stirred, and scarce a foot below the surface I came to a gold chain and locket, then a bracelet, then I picked out three or four rings, then a gold bangle all messed with mould. There are more there, but these are enough for me."

He took a brown paper parcel from his pocket, and opening it carefully, displayed the trinkets, soiled and bent.

Standish took up and examined each. He was stunned, yet did not let himself go. Dillon was not the man to whom one should make an unguarded admission.

"Your extraordinary ingenuity has unearthed an extraordinary story," he said at length. "The circumstantial evidence against Colonel Callander is of course very strong, but it is not conclusive."

"Perhaps not," returned Dillon, carelessly, "still I think there is enough to justify me in applying to the Eastport magistrates for the reward, and detailing my reasons for asking it."

"No doubt," rejoined Standish, coolly, seeing Dillon's drift, while the revolving consequences of publicity rushed into his mind. "I do not suppose Colonel Callander's family would wish to rob you of a reward which you have so justly earned by your zeal and perseverance, though certainly I little anticipated the curious direction your inquiries have taken! Your own experience must have shown you how misleading circumstantial evidence very often is; further search might show a different side to the story!—suppose I promise you another thousand if, by your trained skill and natural acuteness, you discover any other solution to the mystery?"

"Look here, Mr. Standish," said the detective impatiently, "you are a little too exacting. Why should I work any harder for that second thousand than I have done? The more we seek, the worse the case will be against your friend. The best piece of service you can do him and all the family is to keep it all dark. I don't believe the poor fellow is quite right in the upper story. Take a day to think over it—and if you won't seal my lips with a second thousand, why, I'll make sure of the first through the magistrates of Eastport."

Paul's heart thrilled with painful pity, when he thought of what the man's terrible sufferings must have been! But was Dillon right in his conclusion? Was there not a loophole of escape somewhere from the ghastly conviction that Callander was the murderer? and that he should have suspected him—Paul—of having been so base as to tamper with his own ward's fidelity to her husband!

(To be continued.)

HISTORY OF ICE-MAKING.

Unique Methods Followed by the Ancients.

The most ancient method of making ice is practiced in India. Holes are made in the ground, dry straw is put at the bottom of these, and on it, at the close of the day, are placed pans of water, which are left until the next morning, when the ice that is found within the pans is collected. This industry is carried on only in districts where the ground is dry and will readily absorb the vapor given off from the water in the pans. The freezing, of course, is due to the great amount of heat absorbed by the vapor in passing from its liquid to its gaseous form.

Another process was practiced in the days of ancient Rome, when the wealthy are said to have had their wines cooled by having the bottles placed in water into which saltpetre was thrown, the bottles being the while rotated.

Dr. Cullen, in 1755, discovered that the evaporation of water could be facilitated by the removal of the pressure of the atmosphere, and that by doing this water could be frozen. Nairn, in 1777, discovered that sulphuric acid would absorb the vapor of water if placed in a second vessel separate from that containing the water, but connected with it. This discovery he put to use in 1810 by constructing an apparatus for absorbing the vapor of the water that it was desired to cool or freeze. This apparatus greatly facilitated the freezing operations of a vacuum freezing machine.

Jacob Perkins was the father of what is now known as the compression system, having invented the first machine of the kind in 1834, and, as these machines, improved, are at the present day more in use than any other, a description of Perkins' patent may be of interest. His apparatus consisted of an insulated vessel, in which was inclosed a second vessel containing ether; a vapor pump, a worm and wormtub, a tube between the second vessel and the pump, another between the pump and the worm, a third between the worm and the bottom of the ether vessel, and the necessary valves.

As afterwards constructed, the apparatus was made up of a jacketed pan, within which was the water to be cooled; an insulated box, in which was placed the pan; a pump to extract the vapor from the jacket; a worm in which the vapor was condensed after it left the pump; a worm-tub containing cold water to cool the worm, and by means of the latter the vapor within it; and pipes connecting the top of the pan jacket to the pump, the pump with the upper end of the worm, and the lower end of the worm with the under side of the pan jacket. The refrigerating agent used with this apparatus was one derived from the destructive distillation of caoutchouc. James Harrison improved upon Jacob Perkins' apparatus in 1856, and it has been further improved by many others since.—Cassier's Monthly.

It is said that one pound of butter gives a working force equal to that of five pounds of beef, nine pounds of potatoes or twelve pounds of milk.

Useful Hints.

Grease may be removed from woolen goods by sponging it with strong cold coffee.

Fine laces may be cleaned by being packed in wheat flour and allowed to remain 24 hours.

If a shirt bosom or any other article has been scorched in ironing lay it where the bright sunshine will fall directly upon it.

Black silk may be renovated by a thorough sponging with stale beer, placed between newspapers and pressed with a hot iron.

It is well to keep a small paint brush convenient for dusting the crevices in furniture, and all spots that cannot be reached with the dust cloth.

Apply powdered alum to a fever sore. This will prevent it from becoming very unsightly or noticeable.

Self-righteousness never has any mercy on itself or anybody else.

—America contains 81,000 oil wells.

—Since the introduction in 1894 of the serum treatment of diphtheria, the mortality from that disease has declined in Vienna from 11.2 per cent. to only 3.65 of all cases.

—A whale recently captured in Arctic waters was found to have imbedded in its side a harpoon belonging to a whaling vessel that had been out of service nearly half a century.

—While building the railway up the Swiss Gorner Grat, about 10,000 feet above sea level, it was ascertained that the altitude and mountain sickness reduced the laboring capacity of the men by one-third.

Every man is valued in this world as he shows by his conduct that he wishes to be valued.

THE NAME ON THE TRUNK.

Played an Important Part in the Life of a Boy.

The two men were passing along Seventh street where a trunk store had debouched upon the sidewalk, so to speak, and on one of the trunks sitting conspicuously front was a name written in good black letters.

"I never see a trunk marked that way and set out in front of a store that I am not reminded of an experience that once came under my notice," said the elder man. "When I was a lad of 15 I had a cousin about my own age, who was the apple of his father's eye, and a very fine chap he was, too. He was an only son and a lad of spirit, and before he knew the world at all he had fallen into evil company. He got no better up to the time he was 17, when he disappeared suddenly and mysteriously, and his broken-hearted father had every reason to believe that a gang of gamblers and thieves had got him into their clutches and were going to use him for their own purposes. My uncle immediately set out for St. Louis—he lived in the western part of Missouri—as it was believed one of the gang had come from there, though the headquarters were in New York. A clue was picked up in St. Louis, but was lost two days later, and my uncle had given up hope and was on his way to the depot to take the train home again, when he passed a trunk store, as we have done, and a trunk sat out in front with his son's name on it. He nearly fainted when he saw it, but managed to get into the place and ask a question or two, and then he sat down and waited, as they told him the owner had said he would call for it. But he did not come, and my uncle stayed until the store was locked up, and he was there again in the morning at daylight, waiting for it to open again. At 9 o'clock his son came in, and when the young fellow saw his father the better part of him asserted itself, and before he knew what he was about he had flung himself into his arms and was crying like a baby. You see, the boy was all right, and the bad in him lost its grip for an instant under the sudden assertion of nature. The father had a talk with him right there, and showed him the true character of his new friends, and the boy showed how green he was when he had his own name written on his new trunk and never thought to tell the dealer not to put it out where it might give him away. Well, the end of the whole matter was the boy went home with his father, and his narrow escape from becoming a criminal taught him a lesson which made a man of him, and he has been the Governor of a Southern State and will one day be a United States Senator, for he is worth half a million and is in a fair way to double it."—Washington Star.

SCIENCE AND INVENTION

In 1808 Sir Humphrey Davy made the first electric light; it was not adapted to commercial use, however. Electric lamps were made in France early in the fifties, certainly before 1853. The exact date seems not to be known. Edison adapted the incandescent light to commercial use.

China grass is cultivated in Japan for the purpose of manufacturing paper and twine. In order to maintain its price at a uniform figure and keep down competition large companies have been formed to supply the necessary instructions for growing them. The farmers are bound to return the crops at a fixed price.

The government of Belgium has offered a reward of 50,000 francs (nearly $10,000) for the invention of a match paste containing no phosphorus. The competition is open to citizens and subjects of all nations. It is required that the matches shall ignite when scratched on any surface, including cloth, but that they shall not ignite readily by friction, so as to be dangerous when carried in the pocket.

It is proposed in Germany that the various expeditions expected shortly to visit the Antarctic regions should carry with them scientic kites, by means of which the upper atmosphere may be explored. In this way, it is thought, not only could the temperature prevailing at a great height around the poles be more accurately learned, but light would also be thrown on the direction of the air-currents, and if photographic apparatus were sent up with the kites, additional knowledge of the parts of the surface not otherwise obtainable might result.

The immediate cause of volcanic action is now believed to be superheated steam. Aside from the water which percolates through fissures from the surface there is a great quantity enclosed in instertices of deep-lying and ancient strata, which is liberated at times in consequence of shrinkage stresses. It may be freed in other ways, too. At a depth of ten miles there is a temperature of from 700 degrees to 1,000 degrees F., and it is probably five times as hot as this at five times the depth. Water turns to steam at 212 degrees in the open air, and if it suddenly vaporizes at these high temperatures in the interior of the earth, the pressures that result are nearly equal to that of gunpowder.

The science of sociology explains many curious questions which might at first glance appear to have no foundation in reason. The practice of dharna in India, for instance, has recently been the subject of special study by Dr. S. R. Steinmetz. This custom is many centuries old, and seems difficult to explain. When a debtor fails to pay his debts, his creditor goes and sits before his door, and remains there, refusing to eat a morsel until he is paid. If the debtor does not pay, the creditor will actually starve himself to death. It would seem at first sight that a really heartless doctor might not be moved in this manner; but the usefulness of the custom becomes at once apparent when it is known that if the creditor actually does die of starvation in front of his debtor's door, the latter is held guilty of murder, and after the manner of the country, the family of the dead man are entitled to kill the debtor on sight.

Mental Astigmatism.

To illustrate the kind of lapse of reasoning power that great inventors are known to suffer from and which Sir Isaac Newton was under the influence of when he cut one hole in a wall to let a cat pass through and then a small hole for the kitten to use, an old story in the life of Morse has been revived. Long before he invented the telegraph, Morse was known to the officers of the patent office as a persistent applicant for patents. When his great invention of "distance writing" was about completed, he wanted the Baltimore and Ohio Railway Company to try it. To get rid of him the president of the road turned him over to a subordinate. This official was struck with the beauty of the invention, and became so interested in it that he sat up half the night discussing it with its inventor. At length, Morse confessed that there was only one thing which baffled him. "As long as the railroad runs," he said, "where poles may be erected, it will be easy sail, but when we come to the big bridges, what is to be done then? We can't erect poles across the stream, and without them the wire would sag, and perhaps break from its own weight. I confess I don't know what to do. Can't you suggest a way out of the difficulty?" "Why don't you fasten the wires to the bridge?" asked his companion, without a moment's hesitation. For a moment Morse gazed at him with open mouth, and then exclaimed: "Why not, indeed. Why, I never thought of that. It's the very way." The layman's tip put the finishing touch to the work of the great inventor, and thus wires came to be strung on bridges when crossing large streams.

Rain in Cuba.

A sudden pattering in the trees, a sudden darkening in big spots of the white canvas, and down came the tropical rain.

How it rained!

Like waves breaking; great heavy blebs of water volleying at you like bullets from a machine gun.

Men who were ten yards from their tents were wet through before they gained shelter.

In five minutes the camp was under water; on the slopes were rushing torrents; on the levels were deep swirling pools. Down the trunks of the trees the water poured in cataracts. From the lower edge of every tent it flowed in a broad stream. The men, drawing up the corners of their rubber blankets so as to keep the flood away from themselves and their belongings, crouched under their tents and shivered.

It rained for two hours without stopping. In the first half hour every man in camp was wet through, so that many of them took off their wet clothes and stood naked in the rain for the remainder of the time.

The sun came out again soon after, hotter than ever, and the damp earth steamed till the camp was an open air vapor bath.

But blaze away as the sun might, the ground never got dry again that day, and at night we turned in shivering with the damp earth striking cold through the rubber sheet and the blanket. Pity the poor devils now who, when they were marching in the sunshine, threw away their rubber sheet and the blanket.—London Chronicle.

Curiously Worded.

Curiously worded advertisements, which are funny without intent, are common in the London papers, it would seem. One paper recently offered a prize for the best collection of such announcements, and the following is the result:

"Annual sale now on. Don't go elsewhere to be cheated—come in here."

"A lady wants to sell her piano, as she is going abroad in a strong iron frame."

"For Sale—A pianoforte, the property of a musician with carved legs."

"Wanted—A room for two gentlemen about thirty feet long and twenty feet broad."

"Lost—A collie dog by a man on Saturday evening answering to Jim with a brass collar round his neck and muzzle."

"Wanted—By a respectable girl, her passage to New York; willing to take care of children and a good sailor."

"Mr. Brown, furrier, begs to announce that he will make up gowns, capes, etc., for ladies out of their own skins."

"Wanted—An organist and a boy to blow the same."

"Wanted—A boy to be partly outside and partly behind the counter."

"To be disposed of, a mail phaeton, the property of a gentleman with a movable headpiece as good as new."

CALIFORNIA MINERS' MONEY.

Kind of Coin They Used Before San Francisco Mint Was Established.

This is a "Big River bit." In the days before the mint was established in San Francisco it was a current coin among the miners. It represents $50. It is an eighth of an inch thick, octagonal in form, its largest diameter being one and five-eighths inches.

"BIG RIVER BIT."

There are some people so afraid they will be fooled, that they refuse to believe the truth.

Farm Notes.

Clay makes a better stable floor than planks, for it contains a little dampness which conduces to good feet, and the horse finds irregularities in its surface, and by placing the heels on the higher surface the tendons are relaxed, giving them needed rest, while in plank floors the slant is backward, making the animal stand with the tendons always on a strain.

Many of the wild blackberries would, if cultivated, prove superior to those now used, and would no doubt be hardier. Cultivation may improve the wild berry and entirely change its characteristics, the fruit being better and larger, while the advantages of the native variety are retained. There are thousands of blackberry vines along the roadsides that contain prizes if attention was given their selection and cultivation.

Experiments in feeding and in computing the value of eggs show that if no estimate is made for labor one dozen eggs can be produced at a cost of about six cents for food, or about half a cent per egg. If all of the food allowed to hens was converted into eggs the profit on a dozen eggs would be large, even when prices are very low, but much depends on whether the hens convert the food into eggs, flesh or support of the bodies.

It will cost more to purchase thoroughbred stock than to grade up a common herd or flock, but the improvement will be much more rapid and a larger profit derived. It may require several years to gradually improve a common herd until it nearly reaches the excellence of the pure breeds, but the farmer who desires to do so should save time by beginning with the thoroughbreds. Time is money on the farm as well as in other pursuits.

Butter is a product that does not impoverish the farm. A ton of butter does not remove over 50 cents' worth of plant food from the farm. Being mostly carbonaceous, it is produced from that element of the plants which is derived from the air through the functions of the leaves. The farm that is devoted to the production of butter, and on which skimmed milk is used for pigs, will improve in fertility every year.

A quart of bran mixed with a peck of cooked turnips will give better results than when the same proportions of bran or turnips are fed separately, for the reason that the turnips are composed mostly of water and the mixture is more complete as a food, while the bran is better digested when fed with the bulky food. Variety in feeding conduces to health, and the less valuable foods become more valuable by mixing them with substances that are more concentrated and nutritious.

It is doubtful if farmers who have kept the mutton breeds of sheep complain that "sheep do not pay." It is the long adherence to the fine-wool varieties and the use of scrubs that cause failure. The markets are not well supplied with choice mutton, such as may be found on English stalls, and when attention is given to this fact there will be a profit. In fact farmers who have kept mutton breeds find that young lambs alone give large profits.

Only about 25 per cent. of the food consumed by a cow is utilized for producing milk, the remainder going to the support of the cow and into the manure heap. This estimate of 25 per cent. however, does not apply to all food or to all cows. There are cows with better digestive capacity than others, but all cows must be maintained from the food eaten, for which reason one good cow will give a larger profit than two cows that are inferior, as the cost of support of two cows is greater than for one.

Late tomatoes can be had until the weather is somewhat cold if a rude tent or shelter, made of cotton cloth, is placed over the vines, so as to protect them from frost. A few vines treated in this manner will cost but little. The covering will only be required at night

Labor Notes.

Vanilla brings into Mexico $1,000,000 or more per annum.

World's annual coffee production is 1,600,000,000 pounds.

California yields 25 per cent. of the world's quicksilver.

The cheapest bread in England is worth 7½ cents a pound loaf.

One pound of sheep's wool is capable of producing one yard of cloth.

A scheme is on foot to take a large colony of Canadians to Mexico.

This year's income in Oregon from grain, hops and wool is $14,000,000.

Camden, Me., manufactures more ships' anchors than any other place in America.

Ninety-five per cent. of the railway tracks in the country are laid with steel rails.

More steel is used in the manufacture of pens than in all the sword and gun factories in the world.

Last year 45 vessels of different kinds were constructed at Osaka, Japan, four of them being steel armored.

In Mexico two crops of corn and of beans can be raised annually, while vegetables grow the year round.

Alabama produced 947,831 tons of pig iron last year, while the output of Tennessee aggregated 272,730 tons.

It is reported that a new 5000-spindle cotton mill will be built at Chapel Hill, N. C. T. F. Lloyd is interested.

All states collect taxes from the liquor traffic, except California, where it all goes to the counties and municipalities.

The American Consul at Aden says that there is a good demand in Arabia for clocks of the kind costing from $8 to $10.

It is reported that Paul B. Patten, of Salem, Mass., has a contract for the manufacture of cotton gins, to be shipped to Russia.

The taxable property of Oklahoma is given in at $40,623, 816 in 1898, showing an increase over the previous year of almost $10,000,000.

A Chilian company is to put on a new line of steamers from San Francisco via Panama to South American coast ports, touching at all the Mexican way ports.

China has undeveloped petroleum lands covering an area of 50,000 square miles, and coal and iron over 21,000 square miles. The coal formation alone has been estimated at 13,470 miles.

All of the air-brake appliances we see upon the trains through the country are manufactured in Pittsburg. One plant has an annual capacity for turning out air-brakes for 250,000 freight cars, 6000 passenger cars and 10,000 locomotives.

The capital stock of the California cotton mills, Oakland, Cal., has been increased to $800,000, in order that the capacity of the manufactory may be enlarged. The fact has been demonstrated that cotton goods can be profitably manufactured in California.

Work has begun on the railway extension from Ameca to Tequilla, Mex., the merchants of the latter town having raised a bonus of $30,000 for the road. It is said the merchants of Tepic will raise $100,000 to get the road extended to that city.

—American pulp making machinery is gaining considerable headway in Scandinavia.

—Investigations made officially in Illinois show that a pound includes 2,185,000 seeds of blue grass, 1,421,900 of timothy, 863,000 of white clover, 152,000 of red clover and 243,000 of alfalfa.

SERMONS OF THE DAY

Subject: "Across the Continent"—Spiritual Thoughts Suggested While Viewing Scenes of Majesty and Grandeur Wrought by the Hand of God.

TEXTS: "Streams in the desert."—Isaiah xxxv., 6. "He toucheth the hills and they smoke."—Psalms civ., 32.

My first text means irrigation. It means the waters of the Himalaya, or the Pyrenees, or the Sierra Nevadas poured through canals and aqueducts for the fertilization of the valleys. It means the process by which the last mile of American barrenness will be made an apple orchard, or an orange grove, or a wheat field, or a cotton plantation, or a vineyard—"streams in the desert." My second text means a volcano like Vesuvius or Cotopaxi, or it means the geysers of Yellowstone Park or of California. You see a hill calm and still, and for ages immovable, but the Lord out of the heavens puts His finger on the top of it, and from it rise thick and impressive vapors: "He toucheth the hills and they smoke!"

Although my journey across the continent this summer was for the eighth time, more and more am I impressed with the divine hand in its construction, and with its greatness and grandeur, and more and more am I thrilled with the fact that it is all to be irrigated, glorified and Edenized. What a change from the time when Daniel Webster on yonder Captoline Hill said to the American Senate in regard to the centre of this continent, and to the regions on the Pacific Coast: "What do you want with this vast, worthless area, this region of savages and wild beasts, of deserts and cactus, of shifting sands and prairie dogs? To what use could we ever put these great deserts or these great mountains, impenetrable and covered with eternal snow? What can we ever hope to do with the Western coast, rock-bound, cheerless and uninviting, and not a harbor on it? I will never vote one cent from the public treasury to place the Pacific coast one inch nearer Boston than it now is." What a mistake the great statesman made when he said that! All who have crossed the continent realize that the States on the Pacific Ocean will have quite as grand opportunities as the States on the Atlantic, and all this realm from sea to sea to be the Lord's cultivated possession.

Do you know what, in some respects, is the most remarkable thing between the Atlantic and Pacific? It is the figure of a cross on a mountain in Colorado. It is called the "Mount of the Holy Cross." A horizontal crevice filled with perpetual snow, and a perpendicular crevice filled with snow, but both the horizontal line and the perpendicular line so marked, so bold, so significant, so unmistakable, that all who pass in the daytime within many miles are compelled to see it. There are some figures, some contours, some mountain appearances that you gradually make out after your attention is called to them. So a man's face on the rocks in the White Mountains, so an Indian maiden's form cut in the granite of the Adirondacks. So a city in the moving clouds. Yet you have to look under the pointing of your friend or guide for some time before you can see the similarity. But the first instant you glance at this side of the mountain in Colorado, you cry out: "Ashore with the cross!" Do you say that this geological inscription just happens so? No! That cross on the Colorado mountain is not a human device, or an accident of nature, or the freak of an earthquake. The hand of God cut it there and set it up for the nation to look at, as Moses lifted the brazen serpent before the cross of wood was set up on the bluff back of Jerusalem, or set up at some time since that assassination, I believe the Creator meant it to suggest the most notable event in all the history of this planet, and He hung it there over the heart of the continent which never owned an acre or an inch of ground on this planet. For that reason I protest against something I heard and saw this summer and other summers in Montana and Oregon and Wyoming and Idaho and Colorado and California. They have given devilistic names to many places in the West and Northwest.

As soon as you get in Yellowstone Park or California you have pointed out to you places cursed with such names as "The Devil's Slide," "The Devil's Kitchen," "The Devil's Thumb," "The Devil's Pulpit," "The Devil's Mush-Pot," "The Devil's Tea-Kettle," "The Devil's Saw-Mill," "The Devil's Machine-Shop," "The Devil's Gate," and so on. Now it is very much needed that geological surveyor or Congressional Committee or group of distinguished guests go through Montana and Wyoming and California and Colorado Idaho and give other names to these places. All these regions belong to the Lord, and to a Christian nation; and away with such Plutonic nomenclature! But how is this continent to be gospelized? The pulpit and a Christian printing-press harnessed together will be the mightiest team for the best plough. Not by the power of cold, formalistic theology; not by ecclesiastical technicalities. I am sick of them, and the world is sick of them. But it will be done by the warm-hearted, sympathetic presentation of the fact that Christ is ready to pardon all our sins, and heal all our wounds, and save us both for this world and the next. Let your religion of glaciers track off and fall into the Gulf Stream and get melted. Take all your creeds of all denominations and melt them down into common phraseology and put in only scriptural phraseology, and you will see how quick the people will jump after them.

On the Columbia River we saw the salmon jump clear out of the water in different places, I suppose for the purpose of getting the insects. And if when we want to fish for men and we only have the right kind of bait, they will spring out above the flood of their sins and sorrows to reach it. The Young Men's Christian Associations of America will also do part of the work. They are going to take the young men of this nation for God. These institutions seem to be filled with God and man than ever before. Business men and capitalists are awaking to the fact that they can do nothing better in the way of living beneficence or in last will and testament than to do what Mr. Marquand did for Brooklyn when he made the Young Men's Christian palace possible. These institutions will get our young men all over the land into a stampede for heaven. Thus we will all in some way help on the work, you with your ten talents, I with five, somebody else with three. It is estimated that to irrigate the arid and desert lands of America as they ought to be irrigated, it will cost about one hundred million dollars to gather the waters into reservoirs. As much contribution and effort as that would irrigate with Gospel influences all the waste places of this continent. Let us by prayer and contribution and right living all help to fill the reservoirs. You will carry a bucket, and you a cup, and even a thimbleful would help. And after a while God will send the floods of mercy so gathered, pouring down over all the land, and some of us on earth and some of us in heaven will sing with Isaiah, "In the wilderness waters have broken out, and streams in the desert," and with David, "There is a river the streams whereof shall make glad the city of God." Oh, fill up the reservoirs! America for God!

—Of the nearly 2,000,000 inhabitants of Berlin only 42,000 have an annual income of over $750.

—It is reported that rats climb the orange trees of southern Italy and suck the blood oranges.

—The egg is currency in South Africa's interior.

—Condensed eggs are prepared in Passan, Bavaria. First the eggs are dried, then reduced to a fine powder, which is placed in air-tight cans. Thus a most nutritious food is compressed into smallest possible space.

—How fast can a bee fly? A hive on the roof of a train was carried at the rate of thirty miles an hour before the bees were left behind.

—A novel sort of window glass has been invented. Persons on the inside of the house can see through it, but it is opaque to those on the outside.

seems a great gulch let down into the eternities. Masonry by an omnipotent trowel. Yellow! You never saw yellow unless you saw it there. Red! You never saw red unless you saw it there. Violet! You never saw violet unless you saw it there. Triumphant banners of color. In a cathedral of basalt, Sunrise and Sunset married by the setting of rainbow ring.

Gothic arches, Corinthian capitals, and Egyptian basilicas built before human architecture was born. Huge fortifications of granite constructed before war forged its first cannon. Gibraltars and Sebastopols that never can be taken. Thrones on which no one but the King of heaven and earth ever sat. Fount of waters at which the hills are baptized, while the giant cliffs stand around as sponsors. For thousands of years before that scene was unveiled to human sight, the elements were busy, and the geysers were hewing away with their hot chisel, and glaciers were pounding with their cold hammers, and hurricanes were cleaving with their lightning strokes, and hailstones giving the finishing touches, and after all these forces of nature had done their best, in our century the curtain dropped, and the world had a new and divinely inspired revelation, the Old Testament written on papyrus, the New Testament written on parchment, and this last Testament written on the rocks.

Standing there in the Grand Canon of the Yellowstone Park for the most part we held our peace, but after awhile it flashed upon me with such power I could not help but say to my comrades: "What a hall this would be for the last Judgment!" See that mighty cascade with the rainbows at the foot of it? Those waters congealed and transfixed with the agitations of that day, what a place they would make for the shining feet of a Judge of quick and dead! And those rainbows look now like the crowns to be cast at His feet. At the bottom of this great canon is a floor on which the nations of the earth might stand, and all up and down these galleries of rock the nations of heaven might sit. And what reverberation of archangels' trumpet there would be through all these gorges and from these caverns and over all these heights. Why should not the greatest of all the days the world shall ever see close until the grandest scenery Omnipotence ever built?

I have said these things about the magnitude of the continent, and given you a few specimens of some of its wonders, to let you know the comprehensiveness of Christ's dominion when He takes possession of this continent. Besides that, the salvation of this continent means the salvation of Asia, for we are only thirty-six miles from Asia at the northwest. Only Behring Strait separates us from Asia, and these will be spanned by a great bridge. The thirty-six miles of water between these two continents are not all deep sea, but have three islands, and there are also shoals which will allow piers of bridges, and for the most of the way the water is only about twenty fathoms deep.

The America-Asiatic bridge which will get span those straits will make America, Asia, Europe and Africa one continent. So, you see, America evangelized, Asia will be evangelized. Europe taking Asia from one side and America taking it from the other side. Your children will cross that bridge. So America and Asia and Europe all one, what subtraction from the pangs of seasickness! and the prophecies in Revelation will be fulfilled, "there shall be no more sea." But do I mean literally that this American continent is going to be all gospelized? I do. Christopher Columbus, when he went ashore from the Santa Maria, and his second brother Alonzo, when he went ashore from the Pinta, and his third brother Vincent, when he went ashore from the Nina, took possession of this country in the name of the Father and the Son and the Holy Ghost. Satan has no more right to this country than I have to your pocket-book. To hear him talk on the roof of the temple, where he proposed to give Christ the kingdoms of this world and the glory