

struction and direction of our dear co-laborer and faithful brother, President J. C. Keith, and will graduate with the class in the full course on the 29th of April. We expect to be present at that time, after which we will gather in and settle down to labor in the good work of Christian instruction on "Washington Hill."

H. J. McCusick, the general superintendent of the mail service for all the Pacific coast, taking in Oregon, Washington Territory, California, Nevada, Idaho, Utah, and the other adjacent territories, has been unceremoniously removed from his responsible position, and D. M. Wilder, of Chicago, has taken his place. It is said that Mr. McCusick was a faithful officer, but heavy is the head that wears the crown, and woe to the head that lays under the political quillotine. His friends must "bury the body at dead of night, with their lanterns dimly burning," while the enemy will bear the head away in triumph on the staff of political trickery, overhung with the drapery of party preferment. The exulting crowd will be assailed by the friends of the deposed, and soon all will be lost in the fog raised by the political battle; you will not know who are the striking nor who are struck, but when the fog has passed away the arms are grounded, you will see the successor firmly seated, and richly in the enjoyment of the emoluments of the office. "Heavy, heavy what hangs over your head."

The only way to be faithful in anything is to be faithful in everything. The only way to be faithful in great things is to be faithful in small things. When I was in college I engaged a countryman to bring me a load of wood in November at a certain price. November came, and the price of wood had risen. But on the appointed day my man arrived. I congratulated him on his punctuality. "Yes," he said, "I could have had two dollars more per cord for my wood at home. But I had promised to bring it to you, and so I shall be a poor sort of fellow if my word is not worth two dollars."—James Freeman Clark.

Grandma and Dot were looking at a book of engravings. "Battles of Bull Run," read grandma. Dot studied this picture very earnestly. "I don't see any bull!" she said.

*Educational Department.*

CONDUCTED BY PROF. J. D. HAWES.

All matter intended for this department should be handed or sent to Prof. J. D. Hawes, Monmouth, Oregon.

*Botany.*

How few there are in this land of grain, wood, flowers, grace, etc., who know anything of the nature, habits, growth and history of any of the plants that grow around them every day of the growing part of the year! The farmer sows his grain, and reaps it, cuts his hay and plants his vegetables from year to year, and finds out by experience that certain vegetables and grain need different modes of cultivating, and by trying found out what is needed and does it. All this needless experimenting could be done away with by the careful study of the plants themselves, and of the soil that is most adapted to them. The time is not far distant when agriculture, and horticulture will be studied as scientifically as any of the arts and sciences. The thoughtful student will not consider his education complete without a knowledge of the growth of timber, grain, vegetables, grass, flowers, etc., so that in the department of agriculture he may work scientifically and understandingly. There are numbers of people who have lived near a growth of timber all their precious lives who do not know a deciduous tree from any other tree nor yet know why one tree grows tall and slender and another very thick; and who do not know the names of half the flowers in their own windows. We write this much for the benefit of the husbandman whom we would like to see the most honored of the land. We would like to see, at least, an elementary course in Botany in all the higher grades of our public school, if for nothing else, the refining influence it has on the mind of young people.

*The Beauties of the Deep.*

We copy the following from that excellent work "Maury's physical Geography of the seas." It is an extract from that great German Geologist Schleide's.

We dive, says he, into the liquid crystal of the Indian Ocean, and it opens to us the most wondrous enchantments, reminding us of fairy tales in childhood's dreams. The strangely branching thickets bear living flowers. Dense masses of meandrias and astreas contrast with the leafy, cupshaped expan-

sions of the explanarias, the variously-ramified madreporas, which are spread out like fingers, now rise in trunklike branches, and now display the most elegant array of interlacing branches. The coloring surpasses everything; vivid green alternates with brown or yellow; rich tints of purple, from pale red-brown to the deepest blue. Brilliant rosy, yellow, or peach-colored Nul-lipores overgrow the decaying masses, and are themselves interwoven with the pearl-colored plates of the retiphores, resembling the most delicate ivory carvings. Close by wave the yellow and lilac fans, perforated like trellis work of the Gorgonias. The clear sand of the bottom is covered with the thousand strange form and tints of the sea-urchins and star-fishes. The leaf like flustras and escharas adhere like mosses and lichens to the branches of the corals; the yellow, green and purple-striped limpets cling like monstrous cochineal insects upon their trunks. Like gigantic cactus-blossoms, sparking in the most ardent colors, the sea anemones expand their crowns of tentacles upon the broken rocks, or more modestly embellished the flat bottom, looking like beds of variegated ranunculuses. Around the blossoms of the coral shrubs play the hummingbirds of the ocean, little fish sparkling with red or blue metallic glitter, or gleaming in golden green, or in the brightest silvery lustre. Softly, like the spirits of the deep, the delicate milkwhite or bluish bells of the jelly fishes float through this charmed world. Here the gleaming violet and gold-green Isabelle, and the flaming yellow, black, and vermilion-striped coquette, chase their prey; there the band-fish shoots snake-like through the thicket, like a long silver ribbon glittering with rosy and azure hues. Then comes the fabulous cuttle fish, decked in all the colors of the rainbow, but marked by no default outline, appearing and dis-appearing, inter-crossing, joining company and parting again, in most fantastic ways; and all this in the most rapid change, and amid the most wonderful play of light and shade, altered by every breath of wind, and every slight curling of the surface of the ocean. When day declines, and the shades of night lay hold upon the deep, this fantastic garden is lighted up in new splendor. Millions of glowing sparks, little microscopic medusas and crustaceans, dance like glow-worms through the gloom.

The sea feather, which by day-light is vermilion-colored, waves in a greenish phosphorescent light. Every corner of it is lustrous. Parts which by day were perhaps dull and brown, and retreated from the sight amid the universal brilliancy of color, are now radiant in the most wonderful play of green, yellow and red-light! and to complete the wonders of the enchanted night, the silver disk, six feet across, of the moonfish, moves slightly luminous, among the cloud of little sparkling stars. The most luxuriant vegetation of a tropical landscape cannot unfold as great wealth of form, while in the variety and splendor of color it would stand far behind this garden landscape, which is strangely composed exclusively of animals, and not of plants! for, characteristic as the luxuriant development of vegetation of the temperate zones is of the sea bottom, the fulness and multiplicity of the marine Fauna is just as prominent in the regions of the tropics.

*Mathematical Column.*

PROBLEM.

A man has two square fields. He puts as many sheep in each field as it is rods square. Had he made one field containing the same amount of land as the two it would have been just 80 rods square. How many sheep did he put in each field?

N. H. BUTLER.

SOLUTION.

We have just received one solution for the problem of three weeks ago. Probably more will see the point in the problem after noticing Mr. Jennings' solution, which is excellent. Net income \$1620 is 90 per cent. of gross income, making gross income \$1800 (on estate). The net income on bond is \$1687½ less than net income on estate or \$1603 12½. As there is 5 per cent. charges on the gross income on bonds the net income is 95 per cent of gross income, therefore gross income is \$1687.50 from bonds. The gross income equals 4½ per cent. of the face value of bonds. So face value of bonds is \$37,500 and 96 per cent. of this or \$36,000, the sum obtained for the estate. This divided by \$1800 or gross income for one year gives 20 years purchase—the refore 20 years.

A. C. JENNINGS.

Irving, Or.

"Think truly, and thy thought Shall be a fruitful seed."